## Ministry of Natural Resources Confirmation Letter

#### Ministry of Natural Resources

#### Ministère des Richesses naturelles



Renewable Energy Operations Team P.O.Box 7000 300 Water Street 4<sup>th</sup> Floor, South Tower Peterborough, Ontario K9J 8M5

February 13, 2012

St. Columban Energy LP Suite 440 Livingston Place, South Tower 222-3<sup>rd</sup> Avenue SW Calgary, AB T2P 0B4

### RE: Addendum to Natural Heritage Assessment Confirmation for St. Columban Wind Project

Dear José Menéndez,

The Ministry of Natural Resources (MNR) has received the Natural Heritage Assessment and Environmental Impact Study dated February 2012 that describes modifications to the St. Columban project location. The changes to the project location were made subsequent to MNR's confirmation letter of the Natural Heritage Assessment dated August 29, 2011.

Upon review of the modifications to the project location and the additional Natural Heritage Assessment information received, the MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met.

Please add this letter as an addendum to the confirmation letter issued August 29, 2011 for the St. Columban Wind Project. Should any changes be made to the proposed project that would alter the NHA, MNR may need to undertake additional review of the NHA.

Be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements Document*. These approvals are required prior to the construction of your renewable energy facility.

If you wish to discuss any part of this confirmation or additional comments provided, please contact me at jim.beal@ontario.ca or 705-755-3203.

Sincerely,

Jim Beal

Renewable Energy Provincial Field Program Coordinator Regional Operations Division Ministry of Natural Resources

- cc. Ian Hagman, District Manager, MNR Guelph District
- cc. Heather Riddell, Renewable Energy Planning Ecologist, MNR Aylmer District cc. Amy Cameron, A/Renewable Energy Field Advisor, MNR REOT cc. Narren Santos, Environmental Assessment and Approvals Branch, MOE

# Natural Heritage Assessment and Environmental Impact Study ADDENDUM



## ST. COLUMBAN WIND PROJECT NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY ADDENDUM

File No. 160960649 February 2012

Prepared for.

St. Columban Energy LP Suite 440 Livingston Place, South Tower 222-3<sup>rd</sup> Avenue SW Calgary, AB T2P 0B4

Prepared by:

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#### ST. COLUMBAN WIND PROJECT

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#### 1.0 Introduction

#### 1.1 PROJECT OVERVIEW

St. Columban Energy LP is proposing to develop, construct, and operate the 33 megawatt (MW) St. Columban Wind Project (the Project) in the Municipality of Huron East (Huron East), Municipality of Morris-Turnberry (Morris-Turnberry), and Township of Howick (Howick), County of Huron (Huron County), in response to the Government of Ontario's initiative to promote the development of renewable electricity in the province.

The basic components of the Project include:

- 15 Siemens SWT 2.3-101/SWT 2.3-113 wind turbine generators with a maximum installed nameplate capacity of 33 MW. To be conservative, two turbine models were assessed as part of the Renewable Energy Approval (REA) process the SWT 2.3-113 (113m blade span) and the SWT 2.3-101 (101m blade span). For the noise assessment, the SWT 2.3-101 was assessed, due to its higher noise level. For potential impacts to the natural environment, and property line setback assessments, the SWT 2.3-113 was assessed, due to its longer blade length. This conservative approach ensured the 'worst case scenario' was assessed;
- A 34.5 kV underground power line collector system;
- A 27.6 kV underground power line collector system;
- Turbine access roads;
- Crane pads;
- Two connection points to the existing HONI system;
- Two un-serviced electrical control buildings;
- A 34.5 kV approximately 43 kilometer (km) underground electrical interconnection line;
   and.
- A 44 kV/34.5 kV 15/20 MVA transformer station.

Temporary components during construction include work and storage areas at the turbine locations and along the underground electrical interconnection line. The electrical power line collector system will transport the electricity generated from the Project to connection points to the Hydro One Networks Inc. (HONI) local distribution system.

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The St. Columban Wind Project Natural Heritage Assessment and Environmental Impact Study (NHA/EIS) was submitted to the Ministry of Natural Resources (MNR) on July 15, 2011. An NHA Confirmation Letter was issued for the St. Columban Wind Project by the MNR Peterborough Office on August 29, 2011. Since issuance of the Confirmation Letter, a proposed underground electrical interconnection line component has been added.

The overall Project Study Area is comprised of two sections – the Wind Project Study Area and the Interconnection Line Study Area. The Wind Project Study Area is bordered on the north by Winthrop Road, on the south by Huron Road/Highway 8, on the east to the west of Perth Road 180 and on the west by Maple Line. In addition, the Interconnection Line Study Area includes the path along which an approximately 43 km underground electrical interconnection line is proposed to extend from the Wind Project to a transformer station and one of two connection points to the existing HONI electrical distribution system.

This addendum to the NHA will consider assessment of the proposed underground electrical interconnection line. References to "Project Study Area" for the purposes of this addendum are for the underground electrical interconnection line Study Area. Please refer to the NHA/EIS for the Wind Project Study Area for discussion of features relating to the wind project.

The proposed Project Location for this report includes all parts of the land in, on or over which the Project is proposed (the 'construction area' for the Project). The proposed Project Location and Project Study Areas are shown in Appendix A, Figures 1-3.

St. Columban Energy LP retained Stantec Consulting Ltd. (Stantec) to prepare the REA application with input from Zephyr North Ltd., and Archaeological Services Inc. The REA application is a requirement under Ontario Regulation 359/09 - Renewable Energy Approvals under Part V.0.1 of the Act of the *Environmental Protection Act* (O. Reg. 359/09). According to subsection 6(3) of O. Reg. 359/09, the Project is classified as a Class 4 Wind Facility and will follow the requirements identified in O. Reg. 359/09 for such a facility.

This NHA/EIS Addendum has been prepared in accordance with O. Reg. 359/09 and is one component of the REA application for the Project.

#### 1.2 RATIONALE FOR THE ADDENDUM

This addendum is submitted as a supplement to the St. Columban Wind Project NHA/EIS and should be read in association with REA reports submitted as part of the REA application for the Project. The current addendum document has been prepared to provide clarification to the MNR with respect to a change in the Project Layout regarding the underground electrical interconnection line.

The initial NHA/EIS was submitted to Ministry of Natural Resources (MNR) on July 15, 2011. An NHA Confirmation Letter was issued for the St. Columban Wind Project by the MNR Peterborough Office on August 29, 2011. Since issuance of the Confirmation Letter, St.

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Columban Energy LP has assumed responsibility for the construction and operation of the electrical interconnection line, which will be buried in municipal road allowances. Potential impacts of construction, operation, and decommissioning of this line are assessed in the current REA application.

This addendum is comprised of an NHA/EIS for the addition of the approximately 43 km of underground electrical interconnection line within the municipal road right-of-way (ROW):

- Additional Records Review
- Amended Site Investigation Methodology and Results
- Additional Evaluation of Significance
- Additional EIS impacts and mitigation

#### 1.3 REPORT REQUIREMENTS

This NHA/EIS addendum is intended to satisfy the requirements outlined within O. Reg. 359/09 (s. 24 through 28, 37 and 38) and is to be submitted as a component of the REA application. The addition to the Project Study Area (underground electrical interconnection line) is not located within the Niagara Escarpment Plan, the Oak Ridges Moraine Conservation Plan Area or the Protected Countryside of the Greenbelt Plan.

Generally, an NHA is required to determine whether any of the following features exist in and/or within 120 m of the Project Location (construction area for the Project):

- Wetlands;
- Coastal wetlands;
- Life Science Areas of Natural and Scientific Interest (ANSIs):
- Earth Science ANSIs (within 50 m);
- Valleylands;
- Woodlands;
- Wildlife habitat; and,
- Provincial parks and conservation reserves.

This report identifies the existence and boundaries of all natural features in and within 120 m of the underground electrical interconnection line based on a review of background records and

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on-site field investigations. As the Project Location for the underground electrical interconnection line is within 120 m of natural features, this report provides an evaluation of significance for each identified feature based on either an existing MNR designation of the feature or by using evaluation criteria or procedures established or accepted by the MNR.

If the Project extends into the 120 m Zone of Investigation for any of the identified significant features (50 m of a provincially significant Earth Science ANSI, 120 m for all other specified natural features) an EIS is required that identifies and assesses any negative environmental effects and identifies mitigation measures (O. Reg. 359/09, s.38).

The results of the NHA and its Addendum must be consolidated into a report and submitted to MNR for confirmation in advance of submission of the REA application to the Ministry of the Environment (MOE). Written confirmation from the MNR, as well as any written comments received from the MNR, must be submitted along with the NHA and EIS Addendum to the MOE as part of the REA application.

#### 1.4 GUIDANCE DOCUMENTS

During the preparation of this report, several guidance documents were referenced to ensure compliance with current standards and agency requirements. These documents include:

- Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, July 2011)
- Bats and Bat Habitats Guideline for Renewable Energy Projects (MNR, 2011)
- Draft Birds and Bird Habitats Guideline for Renewable Energy Projects (MNR, 2010) (Draft posted to EBR on November 5, 2010)
- Natural Heritage Reference Manual (MNR, 2010)
- Significant Wildlife Habitat Technical Guide (MNR, 2000)
- Significant Wildlife Habitat Decision Support System (MNR, 2000)
- Ontario Wetland Evaluation System, Southern Manual (MNR, 2002)

#### NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY

#### 2.0 Records Review

#### 2.1 METHODS

This records review report was prepared in accordance with O. Reg. 359/09, s. 25 (3).

Background data were collected and reviewed to identify natural features located in, or within, 120 m of the Project Location. Documents reviewed and agencies contacted as part of the records review included but were not limited to:

#### **Federal**

• Species at Risk Act (SARA), Schedule 1 (Environment Canada, 2009).

#### **Provincial**

- Ministry of Natural Resources. MNR provided background information on natural heritage features and species at risk for the Electrical Interconnection Line Study Area on November 15, 2011.
- Natural Heritage Information Centre (NHIC) database. 2011. Natural Areas and Species records search. Biodiversity explorer, http://nhic.mnr.gov.on.ca. MNR, Peterborough. Accessed November, 2011.
- Ministry of Natural Resources. 2011. Land Information Ontario (LIO) digital mapping of natural heritage features.
- Natural Heritage Assessment Guide for Renewable Energy Projects (MNR, July 2011).
- Renewable Energy Atlas (2010) Bat hibernacula mapping.
- Ontario Parks Planning and Management Information http://www.ontarioparks.com/english/plan-res.html

#### **Conservation Authority**

 Maitland Valley Conservation Authority (MVCA) – contacted January 20, 2012 and February 2, 2012 (no reply received as of Feb. 3, 2012).

#### **Local Municipal Government**

- Huron East Official Plan. 2009
- Municipality of Morris-Turnberry Official Plan. 2006

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Howick Township Official Plan. 2010

#### Other data sources

- Important Bird Areas database (Bird Studies Canada and BirdLife International, undated)
- Audubon Society Christmas Bird Count database
- Ontbirds Archives (monitoring for spring, fall and summer sightings)
- Various wildlife atlases (birds, mammals, herpetofauna)

A summary of agencies contacted, information requested and responses received is provided in **Table 2.1, Appendix B**.

The information received from each source and the manner in which it was used to identify natural features, provincial parks or conservation reserves that exist within 120 m of the Project Location (50 m for Earth Science ANSIs) is detailed below (**Section 2.2**).

#### 2.2 RESULTS

A review of available background information has indicated the presence of known natural features occurring within the Project Study Area. The results of the records review were used to determine whether the Project Location is in a natural feature, within 50 m of an Earth Science ANSI, or within 120 m of other natural features (as defined in **Section 1.3**) (**Figures 2.1 – 2.5**, **Appendix A**).

#### 2.2.1 Wetlands

A review of LIO mapping (MNR, 2011), the NHIC database (2011), correspondence with MNR (personal communication November 2011) and the municipal Official Plans (OP) (Huron East 2009, Morris-Turnberry 2006, and Howick 2010) indicated seven wetlands within the Project Study Area (**Figures 2.1 – 2.5, Appendix A**).

#### 2.2.1.1 Provincially Significant

One provincially significant wetland (PSW) was identified in or within 120 m of the Project Location through the record review.

#### Wroxeter Complex

This PSW complex is comprised of 18 individual wetlands composed entirely of swamp. Maples, black ash, yellow birch and willow species are found throughout this complex. The Wroxeter Complex provides winter cover for wildlife. This wetland is located within 120 m of the Project Location. It is not located in the Project Location.

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#### 2.2.1.2 Locally Significant Wetlands

Six locally significant wetlands (LSWs) were identified in or within 120 m of the Project Location through the record review.

#### Grey South Complex

A LSW comprised of six individual wetlands composed entirely of swamp. The Grey South Wetland Complex is located within 120 m of the Project Location. It is not located in the Project Location.

#### Central Grey Complex

A LSW complex comprised of five individual wetlands composed entirely of swamp. Vegetation throughout the complex consists of deciduous and coniferous tree cover. The Central Grey Wetland Complex is located within 120 m of the Project Location. It is not located in the Project Location.

#### Hall Drain Headwater

A LSW complex comprised of four individual wetlands composed entirely of swamp. The Hall Drain Headwater complex is located within 120 m of the Project Location. It is not located in the Project Location.

#### Sixth Concession Drain Complex

A LSW complex comprised of four individual wetlands composed entirely of swamp. Vegetation is predominantly deciduous tree cover with some coniferous tree cover throughout this complex. The Sixth Concession Drain Wetland is located within 120 m of the Project Location. It is not located in the Project Location.

#### Jamestown Complex

A LSW complex comprised of two individual wetlands composed entirely of swamp. Vegetation is predominantly deciduous tree cover with some coniferous tree cover throughout this complex. Jamestown Wetland Complex is located within 120 m of the Project Location. It is not located in the Project Location.

#### Molesworth Complex

A LSW complex comprised of 15 individual wetlands composed entirely of swamp. Molesworth Wetland Complex is located within 120 m of the Project Location. It is not located in the Project Location.

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#### 2.2.1.3 Unevaluated Wetlands

No unevaluated wetlands were identified in or within 120 m of the Project Location through the records review.

#### **Summary**

Seven wetlands (one PSW and six LSWs) were identified within 120 m of the Project Location through the records review. No wetlands were identified within the Project Location.

#### 2.2.2 Areas of Natural and Scientific Interest

MNR identifies two types of ANSIs; Life Science and Earth Science (NHRM, 2010). Life Science ANSIs are significant representative areas of Ontario's biodiversity and natural landscapes, while Earth Science ANSIs are geological in nature and consist of some of the more significant representative examples of the bedrock, fossils and landforms in Ontario.

There are no Earth Science ANSIs located within 50m of the Project Location.

One regionally significant Life Science ANSI was identified in and within 120 m of the Project Location through the records review.

Wroxeter Swamp

A regionally significant life science ANSI composed of a widespread lowland swamp situated on muck deposits, separated by various drumlins. Wroxeter Swamp covers approximately 400 ha, with portions located in and within 120 m of the Project Location. MNR records (November 15, 2011) indicate that this feature is in the Project Location (**Figures 2.1 – 2.5, Appendix A**). Site investigations will confirm the ANSIs boundaries within 120 m of the Project Location.

#### 2.2.3 Valleylands

Valleylands are natural areas that occur in a valley or other landform depression with water flowing through or standing for some period of the year (NHRM, 2010). Topographic mapping indicates that the Project Location is flat with little change in elevation. Hazard lands can be used to help identify the presence of valleylands. A number of water crossings associated with the proposed underground electrical interconnection line indicates the potential of valleylands being present; however, no known valleylands were identified in or within 120 m of the Project Location through the records review.

#### 2.2.4 Woodlands

The Project Study Area is located within the Huron-Ontario section of the Great Lakes – St. Lawrence Forest Region (Rowe, 1972). This section covers much of southwestern Ontario, the northern boundary of which is generally coincident with the Precambrian Shield. Sugar maple

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and beech are common over the entire section, with associates such as basswood, white and red ash, yellow birch, red maple, red, white, black and bur oaks, aspen species, butternut, bitternut hickory, hop-hornbeam, black cherry, sycamore and black walnut. In lowlands, other hardwood species can be found, such as blue-beech, silver maple, red and rock elm, black ash and eastern white cedar. Coniferous species including eastern red cedar, eastern white pine, eastern hemlock and balsam fir can be found amongst hardwood species where appropriate conditions are present.

Forest cover in the Maitland Watershed is approximately 16.5% (Econundrum, 2009). MNR's LIO mapping (2011) and aerial photography indicate the Project Study Area is predominately agricultural.

The Huron East OP (2009) defines significant woodlands based on a combination of size, shape, linkages, diversity of vegetation types, and any unique attributes, as well as their economic and social values. This is consistent with criteria outlined in the NHRM (2010). Definitions of significant woodlands for both Howick Township and Municipality of Morris-Turnberry are not available.

The majority of the wooded areas within the Project Study Area are small, isolated and fragmented. Though most wooded areas are located outside of the Zone of Investigation, 18 woodlands were identified within 120 m Zone of Investigation. No woodlands occur in the Project Location (**Figures 2.1 – 2.5, Appendix A**).

#### 2.2.5 Provincial Parks and Conservation Reserves

There were no provincial parks or conservation reserves identified in or within 120 m of the Project Location through the records review (NHIC, 2010; Ontario Parks 2010).

#### 2.2.6 Wildlife and Wildlife Habitat

Wildlife habitat is defined as an area where plants, animals and other organisms live, including areas where species concentrate at a vulnerable point in their life cycle and that are important to migratory and non-migratory species (O.Reg 359/09; NHRM, 2010). These are grouped into four categories (i.e., seasonal concentration areas, rare vegetation communities or specialized habitats, movement corridors and habitats of species of conservation concern).

MNR has scoped the candidate significant wildlife habitats within 120 m of certain project components based on the potential for that project component to affect the use of the habitat by wildlife (MNR, July 2011). Winter Deer Yards are present within 120 m of the Project Location. A list of candidate species of conservation concern was also provided by MNR. The locations of all other candidate significant wildlife habitats are not known; however, a site investigation will be completed to determine the presence/absence of candidate significant wildlife habitat.

#### Winter Deer Yards

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Deer yards are areas of key winter habitat for white-tailed deer identified and designated by MNR. They usually consist of a core area of coniferous forest, which provides shelter from snow and wind, adjacent to an area of deciduous forest or other foraging habitat. White-tailed deer are known to occur in the vicinity of the Study Area (Dobbyn, 1994).

MNR has identified a deer wintering area within 120 m of the Project Location (**Figures 2.1 – 2.5, Appendix A**). The Wroxeter Complex is also a deer wintering area (stratum 2) as defined in the Significant Wildlife Habitat Technical Guide (SWHTG) (MNR, 2000). A deer wintering area (stratum 2) is the area occupied by deer in early winter or occasionally all winter during mild winters. A mild winter occurs when the snow cover in the area is light and fluffy and less than 30 cm.

The area was surveyed aerially in 1984, 1987, 1988 and 1999 with deer present in all years. Winter deer yard data were reviewed by the Area Biologist (M. Malhiot) in 2005.

#### **Species of Conservation Concern**

NHIC (2011), wildlife atlases, and information provided by MNR (personal communication November 15, 2011) were used to identify historic records of species of conservation concern that occur in the vicinity of the Study Area. Wildlife species that would be considered of conservation concern (i.e. special concern, low s-ranks), and whose presence would be assessed within an evaluation of candidate significant wildlife habitat in the Study Area are listed in **Table 2.2 (Appendix B)**. This list of potential species at risk and their habitat requirements was cross referenced with habitat mapping, aerial photography and vegetation classifications to determine the suitability of the Study Area to support them.

Within the context of O. Reg. 359/09, endangered and threatened species are addressed as part of MNR's *Approval and Permitting Requirements Document for Renewable Energy Projects* (APRD) requirements (September 2009). Information required as part of these requirements is being submitted to MNR as part of the **St. Columban APRD Report** (separate cover). Where this information indicates that approvals or permits are required, these will be addressed separately through the applicable statute and its permitting process.

#### 2.3 SUMMARY

A summary of known natural features as identified through the record review is provided in **Table 2.3, Appendix B**.

The following known natural features occur within 120 m of the Project Location:

- Wetlands 7
- Woodlands 18
- Wintering deer yards 1

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In addition, the presence/absence of the following features will be determined during site investigation:

- Valleylands
- Candidate Significant Wildlife Habitat, including:
  - Habitats of Seasonal Concentrations of Animals
  - Rare Vegetation Communities or Specialized Habitats for Wildlife
  - Habitats of Species of Conservation Concern
  - Animal movement corridors

#### NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY

#### 3.0 Site Investigation

Site investigations were conducted in accordance with O. Reg. 359/09, s. 26 (1), Natural Heritage Site Investigation. This report is prepared in accordance with s. 26 (3) with guidance provided from the *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNR, July 2011).

Site investigations in support of this report were completed with the purpose of confirming the status and boundaries of natural features identified through the records review and identifying any additional features (**Section 3.1**). Data collected during the records review concerning natural features and species occurrences were used to guide the scope and direction of site investigations. The extent of the site investigation program and type of field surveys included in the program is directly reflective of the extent of natural features that are identified within the revised Project Study Area. The St. Columban underground electrical interconnection line is sited entirely within the municipal road ROW.

MNR was consulted for a data request for the St. Columban Wind Project Underground Electrical Interconnection Line Addendum (November 1, 2011). MNR provided background data on natural features and species of conservation concern on November 15, 2011 (**Table 2.1, Appendix B**).

A map showing the boundaries of all natural features located within 120 m of the Project Location, the location and type of each natural feature, and the distance from the Project Location to the natural feature boundaries is provided in **Figures 2.1 – 2.5 (Appendix A)**.

#### 3.1 METHODS

A field investigation to assess vegetation communities within 120 m of the Project Location was conducted on September 20 and 22 and October 24, 2011.

Field surveys undertaken detail current conditions in and within 120 m of the Project Location. The location of all field investigations was based on the information about the Project lands and layout that was current at the time of the respective survey. Dates, times, duration, field personnel and weather for each field survey are presented in **Table 3.1** (**Appendix B**). Where available, curricula vitae for each person involved in conducting site investigations are provided in **Appendix F**.

#### **Alternative Site Investigation**

Under Part IV, Section 26(1.1) of the REA Regulation, an alternative investigation may be conducted if the applicant determines that it is not reasonable to visit a site (a part of air, land or water within 120 m of the Project Location) to conduct a site investigation. An alternative

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investigation must verify the accuracy of the Records Review Report while identifying any additional natural features not identified through the records review.

Because the transmission corridor is proposed along an existing open right of way and no negative environmental impacts are anticipated through the development of the transmission line, an alternative site investigation was determined to be reasonable for this portion of the natural heritage assessment. Lands within 120 m were assessed using roadside surveys.

#### 3.1.1 Vegetation Community and Vascular Plants Assessment

Roadside fall botanical inventories and Ecological Land Classification (ELC) of the vegetation communities in the Project Study Area were conducted on September 20 and 22 and October 24, 2011. Survey times, weather conditions and field personnel are summarized in **Table 3.1**, **Appendix B**.

Vegetation communities were delineated on aerial photographs and checked in the field. Vascular plant species lists were recorded separately for each community. Community characterizations were then based on the ELC system (Lee et al., 1998). English colloquial names and scientific binominals of plant species generally follow Newmaster et al. (1998). Plant species were considered rare if designated provincially as S1 (critically imperiled), S2 (imperiled) or S3 (vulnerable). Species having a high coefficient of conservatism (9 or 10) as designated by Oldham et al. (1995) were also considered species of note.

#### 3.1.2 Wetland Confirmation and Delineation

Site investigations were undertaken September 20 and 22 and October 24, 2011 to confirm the presence and extent of wetland communities that occur within 120 m of the Project Location. Wetland communities were identified and delineated in the field and assessed using desktop methodologies outlined by Ontario Wetland Evaluation System (OWES) Southern Manual protocol (OMNR, 2002), by an OWES certified surveyor. Desktop analysis of the wetland assessments of those wetlands within 120 m of the Project Location were completed on November 8, 18, 24, 25 and 29, 2011.

Survey dates, times, weather conditions and field personnel are summarized in **Table 3.1**, **Appendix B**.

#### 3.1.3 Woodlands

The limits of all woodlands that occur, or partially occur, within 120 m of the Project Location were delineated through aerial photo interpretation. Information regarding woodland size, linkages and ecological function was collected as best as possible during roadside ELC surveys and through Geographical Information System (GIS) analysis. Treed areas identified during vegetation surveys were compared to the definition of woodlands provided in O. Reg. 359/09 to delineate the limits of "woodlands".

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Vegetation communities and plant species inventories were collected for each woodland occurring within 120 m of the underground electrical interconnection line during roadside field investigations on September 20 and 22 and October 24, 2011. Roadside surveys are considered sufficient for these field investigations because the underground electrical interconnection line is sited entirely within the municipal road ROW, allowing the field investigation to focus on the exact Project Location.

#### 3.1.4 Wildlife and Wildlife Habitat

Surveys to determine the presence of habitat that would support seasonal concentrations areas, rare vegetation communities, specialized habitats for wildlife, animal movement corridors and habitat for species of conservation concern as outlined in the Significant Wildlife Habitat Technical Guide (MNR, 2000) were conducted on September 20 and 22 and October 24, 2011. ELC information was cross referenced to determine if candidate significant wildlife habitat was present in and within 120 m of the Project Location.

Appendix D of the Natural Heritage Assessment Guide (MNR 2011) provides a process for identifying and addressing significant wildlife habitat. Any candidate significant wildlife habitat must be identified at the Project Location, its boundaries delineated, and determined whether any part of the Project Location is proposed within the boundary of a candidate significant wildlife habitat. Candidate significant wildlife habitat required to be identified within 120 m of the Project Location is based on the project component. Only Winter Deer Yards are required to be identified within 120 m of underground lines (as indicated by the X in Table 16 of Appendix D). For each candidate significant wildlife habitat identified at the Project Location and within 120 m of the project components listed in Table 16, the feature must be evaluated to determine significance of the habitat.

Habitats listed in Table 16 of Appendix D which are not required to be identified for a particular project component, but may exist within 120 m of that component, must be described as "Generalized Candidate Significant Wildlife Habitat". It is not required that these habitats be listed individually. All wildlife habitat features (with the exception of winter deer yards) are considered generalized candidate significant wildlife habitat within 120 m of underground lines (as indicated by no X in Table 16 of Appendix D). Generalized Candidate Significant Wildlife Habitat within 120 m of the Project Location must be treated as significant and this must be indicated in the Evaluation of Significance Report.

Therefore, specific emphasis was placed on determining whether the critical habitat features required to support winter deer yards or species of conservation concern (as identified through the records review) are present within the Project Study Area. All field surveys in the Project Study Area were conducted by qualified ecologists and are used as a means of recording all wildlife observed on site. Survey times, weather conditions and field personnel are summarized in **Table 3.1**, **Appendix B** for all field investigations noted below.

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#### Winter Deer Yards

Delineating and mapping of winter deer yards is the responsibility of the Ministry of Natural Resources. This information was obtained through Land Information Ontario. No additional field work was required to identify or delineate the habitat for winter deer yards.

#### **Species of Conservation Concern**

Habitat provided within the Project Study Area was assessed for its suitability to support historic species of conservation concern that have been known to occur within the vicinity of the Project Study Area. Details regarding species' habitat preference and likelihood of presence are discussed in **Table 2.2, Appendix B**.

#### 3.2 RESULTS

A summary of the corrections to the features, or potentially occurring features, identified through the records review as a result of the Site Investigation program is outlined in **Table 3.2**, **Appendix B**. **Figures 2.1 – 2.5** (**Appendix A**) show the boundaries located within 120 m of the Project Location of natural features (location and type) and the distance from the Project Location to the closest point of the natural feature boundary. **Table 3.3**, **Appendix B** provides precise distances from the Project Location to the nearest point of the natural feature boundary. Field forms for the site investigation are provided in **Appendix C**.

All natural features are outside of, or adjacent to, the Project Location. No natural features are found in the Project Location, because the underground electrical interconnection line is sited in the municipal road ROW.

The Project Location, and associated 120 m is comprised primarily of actively cultivated cropland (corn, soybean and hay). Natural habitat within 120 m of the Project Location consists of deciduous forest, swamp, marshes and hedgerows (**Figures 2.1 – 2.5, Appendix A**).

Vegetation communities occurring within 120 m of the Project Location, as identified by field investigations, are described in **Table 3.4** (**Appendix B**) and shown on **Figures 3.1 – 3.5** (**Appendix A**).

A list of vascular plant species occurring from the Project Study Area is provided in **Appendix D**. Field notes are provided in **Appendix C**.

#### 3.2.1 Vegetation Community and Vascular Plants Assessment

Within the Project Location and 120 m Zone of Investigation, 31 species of vascular plants were recorded. Of that number, 22 species (71%) are native and nine species are exotic. Many of the exotic species exist primarily in anthropogenic communities, such as roadsides, forest edges and open habitat. All of the native species are ranked S5 (secure in Ontario). A complete

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list of vascular plant species recorded in the Study Area is provided in **Appendix D**. The vegetation communities found within the Study Area are described in **Table 3.4**, **Appendix B** and shown on **Figures 3.1 – 3.5**, **Appendix A**.

Site investigations identified twenty-four discrete naturally-vegetated features within 120 m of the Project Location. Each feature has been assigned a unique identification number (**Table 3.5, Appendix B**; **Figures 2.1 – 2.5, Appendix A**) which serves as a point of reference for the discussions that follow in the next sections.

#### 3.2.2 Wetlands

Wetlands in the Project Study Area are typically swamp maple or poplar and ash swamps. Descriptions of these features can be found in **Tables 3.4 and 3.5**, **Appendix B**.

#### 3.2.2.1 Provincially Significant Wetlands

One PSW community was identified during field investigations (feature 28) and boundaries were confirmed. No corrections are required to the records review (**Table 3.2, Appendix B**). This feature will be carried forward to the Evaluation of Significance Report and identified as a known provincially significant wetland.

#### 3.2.2.2 Locally Significant Wetlands

Six LSW communities were identified during field investigations (features 13, 14, 19, 20, 22, 24). Boundary changes were necessary for these wetlands; however, these wetlands remain LSWs (pers. corr. MNR, January, 2012) (**Table 3.2, Appendix B**). No evaluation of significance is required.

#### 3.2.2.3 Unevaluated Wetlands

No unevaluated wetlands were identified in or within 120 m of the Project Location through the records review.

#### 3.2.2.4 Additional Wetlands

Fourteen additional wetland units, not identified by MNR or LIO (2011), were identified within the 120 m Zone of Investigation during field investigations (Stantec, 2011). Deciduous swamps, reed-canary grass marshes and cattail marshes were identified in features 8, 10, 11, 12, 13, 15, 18, 19, 20, 21, 23, 24, 25 and 31. Details for each wetland feature are provided in **Table 3.5**, **Appendix B**.

Corrections made to the records review for additional wetlands 8, 10, 11, 12, 15, 18, 21, 23, 25 and 31 as a result of the site investigations are summarized in **Table 3.2** (**Appendix B**). An evaluation of significance is required for each of these wetlands (**Section 4.1.1**).

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#### 3.2.3 Areas of Natural and Scientific Interest (ANSIs)

One regionally significant Life Science ANSI was identified within 120 m of the Project Location through the records review. Site investigations confirmed its presence.

No corrections were required to the results of the record review as a result of the site investigation (**Table 3.2**, **Appendix B**). No evaluation of significance is required for regionally significant Life Science ANSIs.

#### 3.2.4 Valleylands

Valleylands are linear natural areas that occur in a valley or other landform depression with water flowing through or standing for some period of the year (NHRM, 2010). Section 8.3 of the NHRM (2010) was used as a guide for the identification of valleylands within the Project Study Area. Site investigations confirmed that the topography of the Project Study Area is generally flat.

No corrections were required to the results of the record review as a result of the site investigation (**Table 3.2**, **Appendix B**). No evaluation of significance is required.

#### 3.2.5 Woodlands

Woodland communities in the Project Study Area typically represent deciduous forest and deciduous swamp (**Figures 2.1 – 2.5, Appendix A; Table 3.5, Appendix B**).

A total of 18 significant woodlands (features 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30) were identified within 120 m of the Project Location according to the records review (LIO, 2011; OP, 2009). Site investigations confirmed the presence of 19 woodlands (9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30) within 120 m of the Project Location and confirmed that no woodlands are in the Project Location.

One additional woodland was identified during field investigations (feature 16). Corrections made to the records review for woodlands as a result of site investigations are summarized in **Table 3.2 (Appendix B)**. An evaluation of significance is required for feature 16 (**Section 4.1.2**).

#### 3.2.6 Wildlife and Wildlife Habitat

#### 3.2.6.1 Candidate Significant Wildlife Habitat

#### Winter Deer Yards

Winter deer yards are identified by the MNR. One feature, 28, was identified as a winter deer yard within 120 m of the Project Location through the records review. Site investigations confirmed the boundaries of this habitat.

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No corrections were required to the results of the record review as a result of the site investigation (**Table 3.2**, **Appendix B**). This feature will be carried forward to the Evaluation of Significance Report and identified as a known significant wildlife habitat (**Section 4.1.3.1**).

#### 3.2.6.2 Generalized Candidate Significant Wildlife Habitat

According to Appendix D (MNR, July 2011), generalized candidate significant wildlife habitat (GCSWH) within 120 m of the Project Location is assumed to be present and must be treated as significant (**Section 4.1.3.2**). Prior to categorizing a habitat feature as GCSWH, there must be potential for the habitat to exist based on landscape and geography. **Table 3.6, Appendix B** identifies the potential for wildlife habitats listed in Table 16 of Appendix D to exist within 120 m of the proposed underground transmission line.

#### 3.3 SITE INVESTIGATION RESULTS SUMMARY

The identification of natural features in the records review and as confirmed through the site investigation program is provided in **Table 3.5**, **Appendix B**. Corrections made to the records review are provided in **Table 3.2**, **Appendix B**.

The following natural features were identified or confirmed through site investigations as occurring within 120 m of the Project Location and require an evaluation of significance:

- Wetlands (in features 8, 10, 11, 12, 15, 18, 21, 23, 25 and 31);
- Woodlands (in feature 16);
- Candidate significant wildlife habitat winter deer yards (in feature 28); and,
- Generalized candidate significant wildlife habitat.

#### 3.4 QUALIFICATIONS

Personnel responsible for conducting the site investigation are listed in **Table 3.1**, **Appendix B**. Where available, curricula vitae are provided in **Appendix E**.

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#### 4.0 Evaluation of Significance

Natural heritage information collected from the records review and site investigations was analyzed to determine the significance and sensitivity of existing ecological features and functions. For all natural features existing in, or within 120 m of, the Project Location, a determination was made of whether the natural feature is provincially significant, significant, not provincially significant or not significant.

Wetlands and Life Science ANSIs were determined to be provincially significant if they have been identified as such by MNR.

Valleylands, wildlife habitat and woodlands were considered to be significant if MNR has identified them as such or when evaluated as significant using procedures established by MNR.

Global, national and provincial status of wildlife and plants was provided by the NHIC (November, 2011). Status rankings are primarily based on the number of occurrences within each respective jurisdiction.

Provincial designations for special concern species were obtained from the most recent Committee on the Status of Species at Risk in Ontario (COSSARO) assessments. Federally, designations for endangered, threatened and special concern species were obtained from the most recent Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessments and the schedules of the *Species at Risk Act* (SARA) were used to determine species protection.

Within the context of O. Reg. 359/09, endangered and threatened species are addressed as part of MNR's APRD requirements (September 2009). Information required as part of these requirements is being submitted to MNR as part of the St. Columban APRD Report (separate cover). Where this information indicates that approvals or permits are required these will be addressed separately through the applicable statute and its permitting process.

The following natural features were identified or confirmed through site investigations as occurring within 120m of the Project Location and require an evaluation of significance:

- Wetlands (in features 8, 10, 11, 12, 15, 18, 21, 23, 25, and 31);
- Woodlands (in feature 16);
- Candidate significant wildlife habitat winter deer yards (in feature 28); and,
- Generalized candidate significant wildlife habitat.

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These are shown on **Figures 2.1 – 2.5**, **Appendix A**. Specific methods used in the evaluation of significance for each type of natural feature are detailed below.

#### 4.1.1 Wetlands

#### 4.1.1.1 Methods

A method for Wetland Characteristics and Ecological Functions Assessment (WCEFA) was developed by the MNR to provide a set of evaluation criteria focused on wetland attributes relevant to the completion of an EIS for renewable energy projects. The criteria to be evaluated are presented in Appendix C of the *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNR, July 2011).

Wetlands that occur within the 120 m Study Area will be assessed using the WCEFA to determine potential impacts of construction activities related to renewable energy projects and their associated project components such as underground electrical interconnection lines.

Where the aforementioned wetland communities extend outside of the 120 m, they will be included in the assessment to ensure accurate documentation of the features and functions. Only wetland communities contiguous with those inside the 120 m Study Area will be assessed.

Data were collected through desktop procedures (e.g. aerial photograph interpretation) and onsite field investigations conducted from the property boundary. The criteria and procedures found within Appendix C of the Draft *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNR, July 2011) are based on sections of the OWES – Southern Edition (MNR, 2002). Although this procedure does not evaluate the significance of these wetlands, it provides a procedure by which the significance of these wetlands can be assumed and their functions assessed based on the criteria established within the OWES manual. Specifically, these criteria were addressed in the following manner:

#### **Biological Component**

<u>Wetland Size</u>: This figure will be based on the overall size of the contiguous wetland, including areas that are within but extend outside of 120m zone. Data will be based on field surveys and/or aerial photo interpretation. (OWES Section 1.3)

<u>Wetland Type</u>: The dominant wetland type in the contiguous unit will be listed. Data will be based on field surveys and/or aerial photo interpretation. (OWES Section 1.1.2)

<u>Site Type</u>: The wetland site type will be stated. Data will be based on field surveys and/or aerial photo interpretation. (OWES Section 1.1.3)

<u>Vegetation Communities</u>: Each vegetation community in the contiguous unit will be listed, based on the requirements of OWES. Data will be based on field surveys where possible. (OWES Section 1.2.2)

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<u>Proximity to Other Wetlands</u>: The approximate distance to the next closest wetland unit will be provided. Data will be based on field surveys and/or aerial photo interpretation. (OWES Section 1.2.4)

<u>Interspersion</u>: An estimate of the total number of interspersion points will be provided, with consideration given to the scale of the map and complexity of the wetland type delineations. The interspersion number will be provided in the Table. Data will be based on field surveys and/or aerial photo interpretation. (OWES Section 1.2.5)

<u>Open Water Types</u>: The open water type number (page 52 of the OWES manual) will be listed in the Table; data will be based on field surveys and/or aerial photo interpretation. (OWES Section 1.2.6)

#### **Hydrological Component**

<u>Flood Attenuation</u>: The general proximity of the wetland within the local watershed will be stated, indicating if it is headwater, mid-reach, or river-mouth. An estimate of the catchment area will also be provided, either based on Digital Elevation Mapping, or topographic map interpretation.

Water Quality Improvement (Short Term):

- Watershed Improvement Factor (WIF) this is based on presence/absence of specific site types (i.e. riverine, lacustrine wetlands at lake inflow or outflow; or palustrine wetlands with inflow isolated wetlands, or palustrine wetlands with no inflow or lacustrine wetlands on lake shoreline. The data will be derived from field surveys where possible [OWES Section 3.2.1.1]):
- Adjacent and Watershed Land Use (LUF) estimated percent of land use and land use type (i.e. agricultural, urban or forested) was included for the catchment (data derived from field surveys where possible [OWES Section 3.2.1.2]):
- Pollutant Uptake Factor (PUT) this is based on the single most dominant vegetation form observed within the wetland community (data derived from field surveys where possible [OWES Section 3.2.1.3]), described as:
  - high proportion of emergent, submergent, and/or floating vegetation.
  - a high proportion of live trees, shrubs, herbs, or mosses.
  - a high proportion of wetland with little or no vegetation.

Water Quality Improvement (Long Term Nutrient Trap): Wetlands with a retentive capacity for nutrients (e.g., those with organic soils) provide protection for recharging groundwater. A characterization of wetland type and soil conditions is provided. Data was based on field surveys where possible, or soil series mapping (OWES Section 3.2.2):

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- Water Quality Improvement (Groundwater Discharge): OWES establishes eight wetland
  features that provide evidence of discharge, where the evaluator must make
  observations on as many of the features as possible (OWES Section 3.2.3). Where
  available, data indicative of groundwater discharge was provided.
- Shoreline Erosion Control: Shoreline wetlands provide a measure of protection from shoreline erosion caused by flowing water or waves. A description of the dominant shoreline vegetation was provided based on field surveys and/or aerial photo interpretation (OWES Section 3.4):
- Groundwater Recharge (Site Type): Site type was included based on field surveys where possible (OWES Section 3.5.1):
- Groundwater Recharge (Soils): Soil type was indicated for each wetland unit, based on county soil mapping. (OWES Section 3.5.2)

#### **Special Features**

Species Rarity: All rare species observed during field surveys or species known to be present were documented and listed in the WCEFA results table (Table 2.3). Data was based on field surveys, review of background materials (including existing wetland evaluations), and correspondence with agencies where possible (OWES Section 4.1.2).

Significant Features and Habitats: All significant features and habitats present in the wetland were documented and listed in the Table. Features/Habitat of interest include Colonial Waterbird Habitat, Winter Wildlife Cover, Waterfowl Staging and/or Moulting Areas, Waterfowl Breeding, and Migratory Passerine, Shorebird, or Raptor Stopover Areas. Data will be based on field surveys, background data, and correspondence with agencies where possible (OWES Section 4.2). The extensive field and background data gathered for the Project, with respect to avian wildlife, was reviewed as part of the assessment of significant features and habitats. Information on significant deeryards, obtained from LIO mapping, was also reviewed.

Fish Habitat: OWES (guided by the Canada Fisheries Act) states that the presence of individual species of fish is not scored. Instead, fish habitat values are based on presence spawning and nursery habitat, and presence of staging and migration habitat. An indication of presence/absence was provided, as well as its hydro-period (i.e., permanent or intermittent). (OWES Section 4.2.6)

#### 4.1.1.2 Results

Additional wetland units, not currently evaluated by MNR, were confirmed within features 8, 10, 11, 12, 15, 18, 21, 23, 25 and 31. Wetlands identified by MNR are considered significant.

All wetlands were assessed according to the WCEFA described above. Results are provided in **Table 4.1**, **Appendix B**. In accordance with Appendix C of the Natural Heritage Assessment

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Guide for Renewable Energy Projects (MNR, July 2011), these features are conservatively treated as provincially significant for the purposes of this report and are included within the EIS.

No wetlands are found in the Project Location. Additional wetlands, which are considered provincially significant for the purposes of this report, occurring within 120 m of the Project Location include features 8, 10, 11, 12, 15, 18, 21, 23, 25 and 31. These are shown on **Figures 4.1 – 4.5, Appendix A**. Provincially significant wetlands within 120 m of the Project Location require an EIS.

#### 4.1.2 Woodlands

The Study Area falls within Huron County. Significant woodlands are defined and mapped in the Huron East OP (2009). Eighteen woodlands within 120 m of the Project Location are significant (Huron East OP, 2009). An assessment of woodland significance was applied to one woodland (feature 16), which was not previously identified as significant within 120 m of the Project Location, using the NHRM (2010). Results from this assessment determined that this feature is significant for the purposes of this report (**Table 4.2, Appendix B**).

No woodlands are found within the Project Location; 19 woodlands (in features 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30) are found within 120 m of the Project Location (**Table 3.5, Appendix B**). All 19 woodlands found within 120 m of the Project Location are considered significant.

Significant woodlands found within 120 m of the Project Location are shown on **Figures 4.1 – 4.5**, **Appendix A**. Significant woodlands within 120 m of the Project Location require an EIS.

#### 4.1.3 Wildlife and Wildlife Habitat

Correspondence with MNR (November 15, 2011) and the SWHTG (MNR, 2000) was used to help decide what areas and features should be considered candidate significant wildlife habitat (**Section 3.2.6**). An analysis of the results of the site investigations determined that the following candidate significant wildlife habitat features are present within 120 m of the Project Location, requiring an evaluation of significance:

- Candidate significant wildlife habitat: winter deer yards feature 28:
- Generalized candidate significant wildlife habitat.

#### 4.1.3.1 Candidate Significant Wildlife Habitat

#### Winter Deer Yards

As a result of the records review and site investigations, one feature (feature 28) confirmed within 120 m of the Project Location, was identified as candidate significant wildlife habitat for wintering deer (Figure 1, Appendix D, MNR, July 2011). No candidate significant wildlife habitat

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wintering deer was identified in the Project Location. Significant wildlife habitat in the form of wintering deer yards (feature 28) found within 120 m of the Project Location is shown on **Figures 4.1 – 4.5, Appendix A** and requires an EIS.

#### 4.1.3.2 Generalized Candidate Significant Wildlife Habitat

According to Appendix D (MNR, July 2011), generalized candidate significant wildlife habitat within 120 m of the Project Location must be treated as significant and requires an EIS (**Table 3.6, Appendix B**).

#### 4.2 SUMMARY

This NHA was undertaken to identify natural features found in, and within 120 m of, the Project Location and evaluate their significance. This report has been prepared in accordance with O. Reg. 359/09 s.24-27.

Based on an assessment of background information and the results of roadside field investigations, the following significant natural features were located within 120 m of the Project Location, requiring an EIS under O. Reg. 359/09 s.38:

- Provincially significant wetlands (features 8, 10, 11, 12, 15, 18, 21, 23, 25, 28 and 31);
- Significant woodlands (features 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30);
- Significant wildlife habitat: winter deer yards (feature 28); and,
- Generalized significant wildlife habitat.

An EIS is required to identify and assess any negative environmental effects and develop mitigation measures to the above-noted significant features that occur within 120 m of the Project Location. No natural features are present in the Project Location.

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#### 4.3 DATES OF THE BEGINNING AND COMPLETION OF THE EVALUATION

The dates of the beginning and completion of the evaluation of significance are provided in **Table 3.1, Appendix B**. These dates include both field investigations and desktop analyses (WCEFA).

#### 4.4 QUALIFICATIONS

The following Stantec personnel were responsible for the application of evaluation criteria and procedures:

- Shannon Catton, Terrestrial Ecologist and Natural Heritage Coordinator
- James Leslie, Terrestrial Ecologist (wetland evaluation)

Curricula vitae are provided in **Appendix F**.

#### 5.0 Environmental Impact Study

The NHRM (MNR, 2010), the SWHTG (MNR, 2000), the SWHTG Decision Support System (SWHTGDSS; MNR undated) and the *Natural Heritage Assessment Guide for Renewable Energy Projects* (MNR, July 2011) were used to assist in the evaluation of impacts and mitigation measures.

The primary mitigation measure employed to reduce impacts to natural features and functions was avoidance; construction design decisions made during the development of the Project Layout considered minimizing impacts to natural features, wildlife and wildlife habitat. The Project is sited predominately within the municipal road ROW. No natural habitat removal is required for the underground electrical interconnection line.

#### 5.1 PROJECT FOOTPRINT OVERVIEW

St. Columban Energy LP is proposing to develop the Project in Huron East, Morris-Turnberry, and Howick, Huron County, in response to the Government of Ontario's initiative to promote the development of renewable electricity in the province.

The NHA/EIS was submitted to MNR July 15, 2011. An NHA Confirmation Letter was issued for the St. Columban Wind Project by the MNR Peterborough Office on August 29, 2011. Since issuance of the Confirmation Letter, a proposed underground electrical interconnection line component has been added.

The overall Project Study Area is comprised of two sections – the Wind Project Study Area and the Interconnection Line Study Area. The Wind Project Study Area is bordered on the north by Winthrop Road, on the south by Huron Road/Highway 8, on the east to the west of Perth Road 180 and on the west by Maple Line. In addition, the Interconnection Line Study Area includes the path along which an approximately 43 km underground electrical interconnection line is proposed to extend from the Wind Project to a transformer station and one of two connection points to the existing HONI electrical distribution system.

The Interconnection Line Study Area follows municipal roads in the Municipalities of Huron East and Morris-Turnberry, and the Township of Howick: Manley Line; Canada Company Road; Beechwood Line; Blyth Road/Perth Line 55; McNabb Line; Browntown Road; Johnston Line; Centre Line Road; and McDonald Line to the proposed transformer station location at the southeast intersection of McDonald Line and Gough Road.

The proposed Project Location for this report includes all parts of the land in, on or over which the Project is proposed (the 'buildable area' for the Project). The proposed Project Location and Project Study Area are shown in **Appendix A, Figure 1**.

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The Project Location is sited entirely within municipal road ROW. It will be buried approximately 1.2 m deep and will be constructed over a 12-week period (August-November) in 2013.

St. Columban Energy LP retained Stantec to prepare the REA application with input from Zephyr North Ltd., and Archaeological Services Inc. The REA application is a requirement under O. Reg. 359/09. According to subsection 6.(3) of O. Reg. 359/09, the Project is classified as a Class 4 Wind Facility and will follow the requirements identified in O. Reg. 359/09 for such a facility.

This NHA/EIS Addendum has been prepared in accordance with O. Reg. 359/09 and is one component of the REA application for the Project.

All components of the Project and the associated 120 m Zone of Investigation in relation to significant natural features are shown on **Figures 4.1 – 4.5, Appendix A**.

No significant natural features are found in the Project Location.

As noted in **Section 4.2**, the following significant features occur within 120 m of the Project Location:

- Provincially significant wetlands (features 8, 10, 11, 12, 15, 18, 21, 23,25, 28 and 31);
- Significant woodlands (features 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30);
- Significant wildlife habitat: winter deer yards (feature 28); and,
- Generalized significant wildlife habitat.

The Project Location is not permitted in a provincially significant southern wetland (O. Reg. 359/09). Projects may be sited within 120 m of a provincially significant southern wetland and in, or within 120 m of a significant valleyland, significant woodland or significant wildlife habitat if an EIS is prepared that identifies and addresses any negative environmental effects on the feature and identifies mitigation measures.

Given the diversity of natural heritage features, some of the features qualify as significant under multiple designations. For example, significant woodland is also considered generalized significant wildlife habitat. Where a feature is considered significant for multiple natural heritage designations, the impacts and mitigation as they relate to each designation are discussed within the analysis of impacts to the feature provided below.

Significant features found within 120 m of the Project Location are provided below (no features are found in the Project Location).

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Feature Number	Significant Natural Features	Project Component(s) located in Project Location	Distance of Underground Electrical Interconection Line to nearest point of Natural Feature located within 120 m
Feature 8	<ul> <li>Provincially significant wetland</li> </ul>	None	>0.1 m
Feature 9	Significant woodland	None	52.36 m
Feature 10	<ul><li>Provincially significant wetland</li><li>Significant woodland</li></ul>	None	94.35 m
Feature 11	<ul><li>Provincially significant wetland</li><li>Significant woodland</li></ul>	None	>0.1 m
Feature 12	<ul><li>Provincially significant wetland</li><li>Significant woodland</li></ul>	None	1.32 m
Feature 13	Significant woodland	None	>0.1 m
Feature 14	Significant woodland	None	2.8 m
Feature 15	<ul> <li>Provincially significant wetland</li> </ul>	None	>0.1 m
Feature 16	Significant woodland	None	>0.1 m
Feature 17	<ul> <li>Significant woodland</li> </ul>	None	>0.1 m
Feature 18	<ul><li>Provincially significant wetland</li><li>Significant woodland</li></ul>	None	49.5 m
Feature 19	Significant woodland	None	>0.1 m
Feature 20	Significant woodland	None	>0.1 m
Feature 21	<ul> <li>Provincially significant wetland</li> <li>Significant woodland</li> </ul>	None	>0.1 m
Feature 22	Significant woodland	None	>0.1 m
Feature 23	Provincially significant wetland	None	>0.1 m
Feature 24	Significant woodland	None	>0.1 m
Feature 25	<ul> <li>Provincially significant wetland</li> </ul>	None	>0.1 m
Feature 26	Significant woodland	None	19.32 m
Feature 27	Significant woodland	None	>0.1 m
Feature 28	<ul> <li>Provincially significant wetland</li> <li>Significant woodland</li> <li>Winter deer yard</li> </ul>	None	>0.1 m
Feature 29	Significant woodland	None	>0.1 m
Feature 30	Significant woodland	None	88.84 m
Feature 31	<ul> <li>Provincially significant wetland</li> </ul>	None	>0.1 m

An analysis of the potential impacts and proposed mitigation measures for each of these features is provided below.

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A synthesis of all potential impacts and proposed mitigation measures for the Project is provided in **Table 5.1**, **Appendix B**.

# 5.2 SIGNIFICANT WETLANDS

There are 11 wetlands (features 8, 10, 11, 12, 15, 18, 21, 23, 25, 28 and 31) within 120 m of the Project Location that were evaluated or assumed as provincially significant using provincial guidance.

No direct loss of wetland habitat is proposed for the Project.

A summary of the potential impacts and mitigation measures for those significant wetlands within 120 m of the Project Location is provided in **Table 5.1**, **Appendix B**. Wetlands have been grouped according to potential Project effects (i.e. by Project components) and are discussed below.

The following Project components are within 120 m of significant wetlands:

Project Component	Wetland Features < 120 m	Distance of Features
Underground Line (Underground	11 wetlands (features 8, 10, 11, 12, 15,	Range of >0.1 m to 49.5 m
Electrical Interconnection Line)	18, 21, 23, 25, 28 and 31)	

# 5.2.1 Wetlands within 120 m of the Project Location

### 5.2.1.1 Potential Effects

As all components of the Project are sited outside wetland boundaries; there will be no direct loss of wetland habitat or function as a result of the construction and operation of the underground electrical interconnection line. There will be no clearing of trees in or near the features that could result in desiccation or drying. Indirect impacts resulting from construction activities, such as dust generation, sedimentation, and erosion are expected to be short term, temporary in duration and mitigable through the use of standard site control measures. During construction, there will be a temporary increase in traffic and the potential for accidental spills.

Though construction activities are proposed adjacent to some natural features, there will be no vegetation clearing or construction within any natural feature; no section of the Project Location is located in the natural feature. The majority of each individual wetland unit occurs more than 120 m from the Project Location, with a relatively small portion closest to the Project Location. Research indicates that impacts from development activities do not generally extend to distances beyond 120 m (NHRM, 2010), and burying an electrical interconnection line underground, outside of a natural feature is not anticipated to have any negative impacts if standard mitigation measures are applied (discussed below).

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Changes in surface water drainage can affect wetlands. No grading for the installation of the underground electrical interconnection line is required, and therefore no changes to groundwater flow are anticipated.

# 5.2.1.2 Proposed Mitigation

Avoidance was the main strategy used to minimize impacts to wetland habitat within 120 m of the Project Location. All Project components are sited within the municipal road ROW, outside the feature boundaries. The assessment and development of mitigation measures has been based on the entire road ROW, and the exact side of the road will be determined during the municipal consultation process under the REA. Mitigation is dependent on proximity to construction activities – if construction is on the same side of the road as the feature, mitigation will be applied – if not, no mitigation is required. Standard best management practises should be applied to all construction activities:

- No development is permitted within the wetland boundary.
- Directional boring will occur where heavily vegetated (ie. trees and shrubs) wetlands are immediately adjacent to the road ROW to avoid damage to treed vegetation (applies to features 12 and 15).
  - Applies to feature 12 if the underground electrical interconnection line is installed on the west side of McNabb Line (see Figure 4.2, Appendix A)
  - Applies to feature 15 if the underground electrical interconnection line is installed on the east side of McNabb Line (see Figure 4.3, Appendix A)
- Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.
- All refuelling should occur well away from the wetlands. In the event of an accidental spill, the MOE Spills Action Centre should be contacted and emergency spill procedures implemented immediately.
- Any fuel storage and activities with the potential for contamination should occur in properly protected and sealed areas.

Mitigation measures specific to wetlands are outlined in **Table 5.1** (**Appendix B**).

# 5.2.1.3 Net Effects

Limiting construction activities within the municipal road ROW will ensure that there is no disruption of wetland function and no net loss of wetland area. The mitigation measures described above will ensure no adverse effects to the wetland during construction.

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# 5.3 SIGNIFICANT WOODLANDS

There are 19 woodlands (features 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30) within the 120 m Zone of Investigation around the Project Location that were confirmed or evaluated as significant using provincial guidance.

No direct loss of woodland habitat is proposed for the Project.

A summary of the potential impacts and mitigation measures for those significant woodlands within 120 m of the Project Location is provided in **Table 5.1**, **Appendix B**. Woodlands have been grouped according to potential Project effects (i.e. by Project components) and are discussed below.

The following Project components are within 120 m of significant woodlands:

Project Component	Woodland Features < 120 m	Distance of Features
Underground Line (Underground Electrical Interconnection Line)	19 woodlands (features 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29 and 30)	Range of >0.1 m to 94.35 m

# 5.3.1 Woodlands within 120 m of the Project Location

### 5.3.1.1 Potential Effects

As all components of the Project are sited outside the woodland boundaries, there will be no direct loss of woodland habitat or function as a result of the underground electrical interconnection line. No new edge will be created. Setbacks for the underground electrical interconnection line range from adjacent to the natural feature to 94 m to the closest woodland edge (**Table 5.1, Appendix B**).

Indirect impacts resulting from construction activities, such as dust generation, sedimentation and erosion are expected to be minimal and mitigable through the use of standard site control measures.

Woodlands provide habitat function for various wildlife species, including many species of forest breeding birds. Disturbance from construction of the underground electrical interconnection line has the potential to affect habitat use of woodlands by birds; however, with the temporary duration of the construction of the underground electrical interconnection line (4 weeks) during the anticipated construction window of August to November, 2013, it is anticipated that there will be no long-term negative effects. These potential effects, mitigation measures and net effects are discussed in detail in **Section 5.5**.

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# 5.3.1.2 Proposed Mitigation

Avoidance was the main strategy used to minimize impacts to woodland habitat within 120 m of the Project Location. All components of the Project are sited within the municipal road ROW, outside the feature boundaries. Standard best management practises should be applied to all construction activities:

- Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.
- All refuelling activities should occur well away from the wetland. In the event of an
  accidental spill, the MOE Spills Action Centre should be contacted and emergency spill
  procedures implemented immediately.
- Any fuel storage and activities with the potential for contamination should occur in properly protected and sealed areas.

Mitigation measures specific to woodlands are outlined in Table 5.1 (Appendix B).

### 5.3.1.3 Net Effects

Limiting construction activities within the municipal road ROW will limit potential effects on woodlands from the underground electrical interconnection line; combined with effective proposed mitigation measures, there would be minimal to no effects from the Project on these woodlands.

### 5.4 CANDIDATE SIGNIFICANT WILDLIFE HABITAT

#### 5.4.1 Winter Deer Yards

There is one feature that contains significant wildlife habitat (winter deer yards) (feature 28) within the 120 m Zone of Investigation around the Project Location.

No direct loss of winter deer yard habitat is proposed for the Project.

A summary of the potential impacts and mitigation measures for this significant winter deer yard within 120 m of the Project Location is provided in **Table 5.1**, **Appendix B**.

The following Project components are within 120 m of winter deer yards:

Project Component	Winter Deer Yard < 120 m	Distance of Features
Underground Line (Underground Electrical Interconnection Line)	Feature 28	Adjacent , >0.1 m

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# 5.4.2 Significant Wildlife Habitat – Winter Deer Yards within 120 m of the Project Location

#### 5.4.2.1 Potential Effects

As all components of the Project are sited outside the habitat, within municipal road ROW, there will be no direct loss of habitat or function as a result of the Project. Indirect impacts resulting from construction activities, such as dust generation, sedimentation and erosion are expected to be short term, temporary in duration and mitigable through the use of standard site control measures. During construction, there will be increased traffic and the potential for accidental spills.

Construction activities are proposed adjacent to feature 28, but the side of the road has not yet been determined. The majority of the deer yard occurs more than 120 m from the Project Location. Research indicates that impacts from development activities do not generally extend to distances beyond 120 m (NHRM, 2010).

There will be no clearing of trees in or near the feature that could result in desiccation or drying.

Given the temporary (i.e., one season or less) disturbance of increased traffic activity (four weeks) and avoidance of construction during the winter deer season (anticipated construction dates are August to November, 2013), the potential short-term and long-term effects to winter deer populations are anticipated to be minimal to non-existent.

# 5.4.2.2 Proposed Mitigation

Avoidance was the main strategy used to minimize impacts to the deer winter yard within 120 m of the Project Location. All components of the Project are sited outside the feature boundaries, within the municipal road ROW. Standard best management practises should be applied to all construction activities:

- Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.
- All refuelling activities should occur well away from the deer yard. In the event of an
  accidental spill, the MOE Spills Action Centre should be contacted and emergency spill
  procedures implemented immediately.
- Any fuel storage and activities with the potential for contamination should occur in properly protected and sealed areas.

Mitigation measures are outlined in **Table 5.1** (**Appendix B**).

### ST. COLUMBAN WIND PROJECT

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### 5.4.2.3 Net Effects

The temporary disturbance and anticipated construction date (August to November, 2013) will ensure that there is no disturbance to deer, disruption of habitat function and no net loss of habitat area. The mitigation measures described above will ensure no adverse effects to the winter deer yard during construction.

# 5.5 GENERALIZED CANDIDATE SIGNIFICANT WILDLIFE HABITAT

# 5.5.1 Generalized Significant Wildlife Habitat within 120 m of the Project Location

#### 5.5.1.1 Potential Effects

As all components of the Project are sited outside the habitat in municipal road ROW, there will be no direct loss of habitat or function as a result of the Project (**Table 3.6, Appendix B**). Indirect impacts resulting from construction activities, such as dust generation, sedimentation and erosion are expected to be short term, temporary in duration and mitigable through the use of standard site control measures. During construction, there will be increased traffic and the potential for accidental spills.

There will be no clearing of trees in or near features that could result in desiccation or drying.

During construction of the underground electrical interconnection line, traffic will vary in intensity as the construction phase progresses. Given the temporary (i.e., one breeding season or less) nature of the increased traffic activity (four weeks) within the anticipated construction window of August to November, 2013 and the erection of barrier fencing (ie. silt fencing), the risk of increased mortality to wildlife during construction is considered low. Some limited mortality is possible; however, the potential long-term effects to wildlife populations from this mortality and from barrier effects are anticipated to be minimal.

# 5.5.1.2 Proposed Mitigation

Avoidance was the main strategy used to minimize impacts to general wildlife habitat within 120 m of the Project Location. All components of the Project are sited outside the feature boundaries. Standard best management practises should be applied to all construction activities:

- Inspectors will ensure construction vehicles and personnel stay within the construction envelope, thereby limiting the disturbance of natural vegetation.
- All refuelling should occur well away from the generalized significant wildlife habitat. In the event of an accidental spill, the MOE Spills Action Centre should be contacted and emergency spill procedures implemented immediately.

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- Any fuel storage and activities with the potential for contamination should occur in properly protected and sealed areas.
- Silt barriers to be erected along feature edges that occur within 30 m of construction work to ensure prevention of wildlife access and work zone should be walked through prior to fencing installation to flush out any wildlife.
- Construction machinery should be checked daily prior to operating machinery.
- Observation of any snakes or turtles within the work zone should not be handled prior to contacting MNR.

Mitigation measures are outlined in **Table 5.1** (Appendix B).

### 5.5.1.3 Net Effects

The temporary construction activities of the underground electrical interconnection line, and the fact that no construction will occur within any habitat features, will ensure that there is no disruption of habitat function and no net loss of habitat area. The mitigation measures described above will ensure no adverse effects to general wildlife habitat during construction.

# 5.6 SUMMARY OF IMPACTS AND MITIGATION

**Tables 5.1** and **5.2 (Appendix B)** summarize the general impacts, suggested mitigation measures and application to minimize and mitigate the potential negative impacts to significant natural heritage features associated with the planning, design and construction of the proposed Project.

# 5.7 ENVIRONMENTAL EFFECTS MONITORING PLAN

The proposed underground transmission route does not require any additions to the Environmental Effects Monitoring Plan (EEMP) as there are no expected residual impacts to the natural features within 120 m of the proposed transmission route. The EEMP was addressed in the previously approved Natural Heritage Assessment Report and is not further addressed as part of this addendum. The EEMP, in respect of birds and bats, will be prepared in accordance with the Ministry of Natural Resources:

- Birds and Bird Habitats: Guidelines for Wind Power Projects
- Bats and Bat Habitats: Guidelines for Wind Power Projects

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#### 5.8 **CONSTRUCTION MONITORING**

Construction monitoring to demonstrate how any negative environmental effects identified in the EIS will be mitigated is required as part of the REA Application. This information is contained within the Construction Plan Report (under separate cover). This includes incorporation of all mitigation measures identified through the EIS and Tables 5.1 and 5.2 to ensure minimal to no adverse effects occur to the Project Study Area.

# ST. COLUMBAN WIND PROJECT

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY

#### 6.0 **Conclusions**

This NHA and EIS Addendum for the St. Columban Underground Electrical Interconnection Line Project has been prepared in accordance with O.Reg 359/09, s. 24-28 and 37-38.

Once the identified protective, mitigation and compensation measures are applied to the environmental features discussed above, the construction of the Project is expected to have acceptable net negative effects on the significant features and functions identified through the NHA process. All construction mitigation measures addressed in this report will also be implemented in the Construction Report (under separate cover).

Stantec Consulting Ltd. prepared this NHA and EIS Addendum for St. Columban Energy LP for the St. Columban Underground Electrical Interconnection Line Project Addendum. St. Columban Energy LP is committed to implementing the appropriate protection and mitigation measures as they apply to the construction and operation of the proposed Project.

Respectfully submitted,

STANTEC CONSULTING LTD

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Terrestrial Ecologist/Natural Heritage

Coordinator

Nicole Kopysh

Project Manager/Terrestrial Ecologist

### NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY

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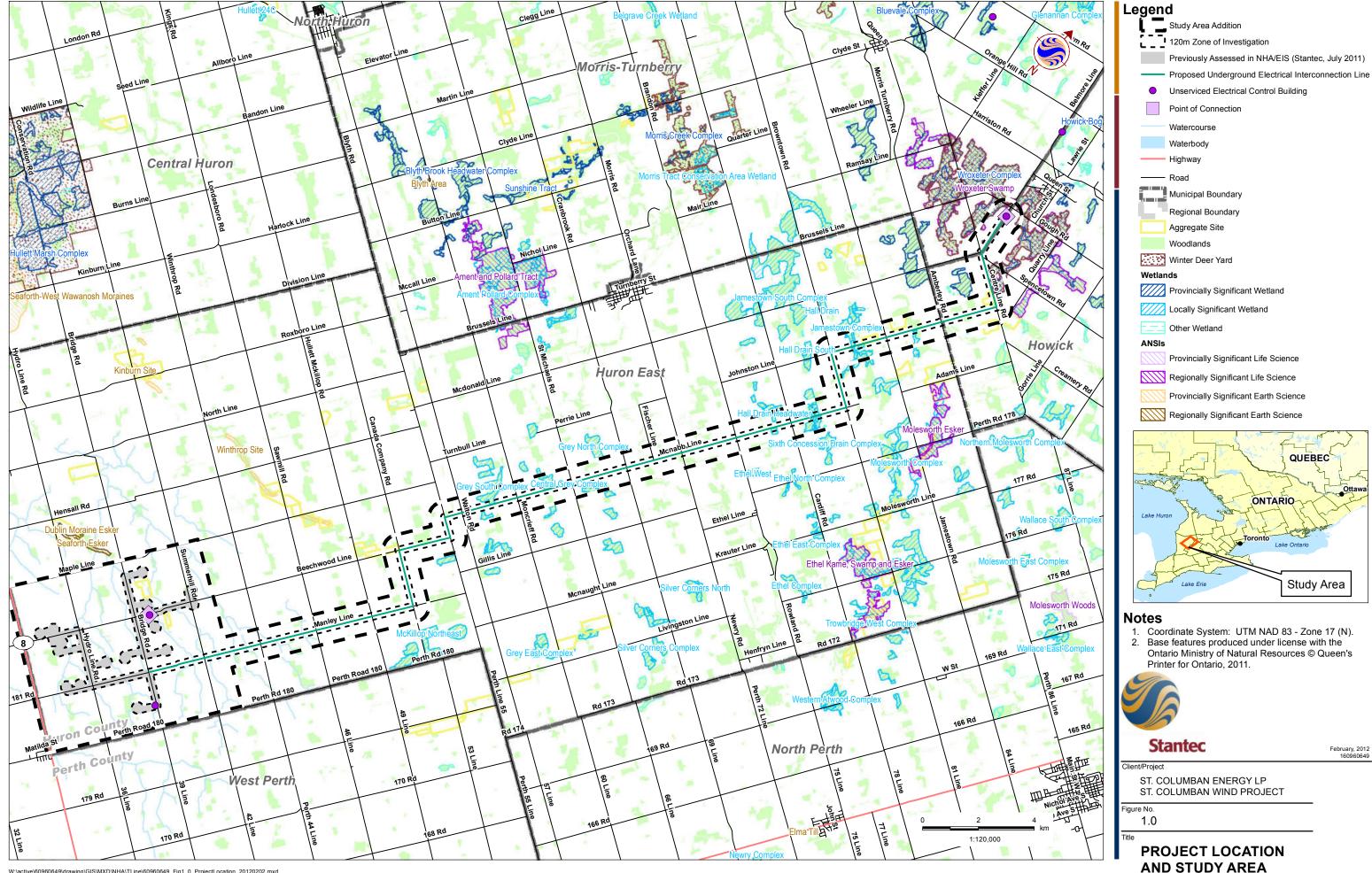
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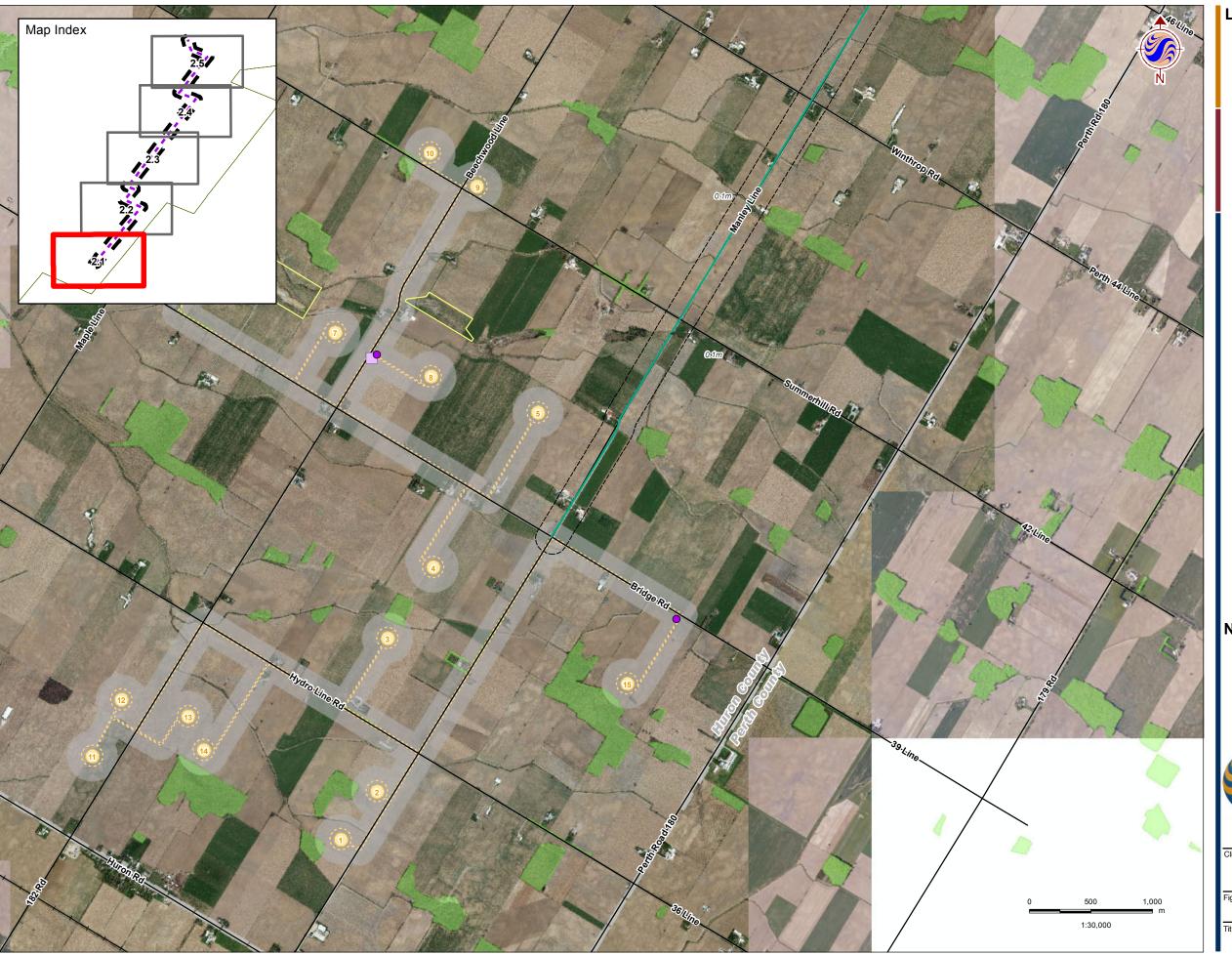
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# **Appendix A**

**Figures** 



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120m Zone of Investigation

Previously Assessed in NHA/EIS (Stantec, July 2011)

**Turbine Location** 

Unserviced Electrical Control Building

Point of Connection

Proposed Underground Electrical Interconnection Line

Wind Construction Area

Railway

Aggregate Site

Regionally Significant Life Science ANSI (MNR, 2011)

Provincially Significant Wetland (MNR, 2011) Locally Significant Wetland (MNR, 2011)

Other Wetland (MNR, 2011)

Winter Deer Yard (MNR, 2011)

Wooded Area (MNR, 2011)

# Notes

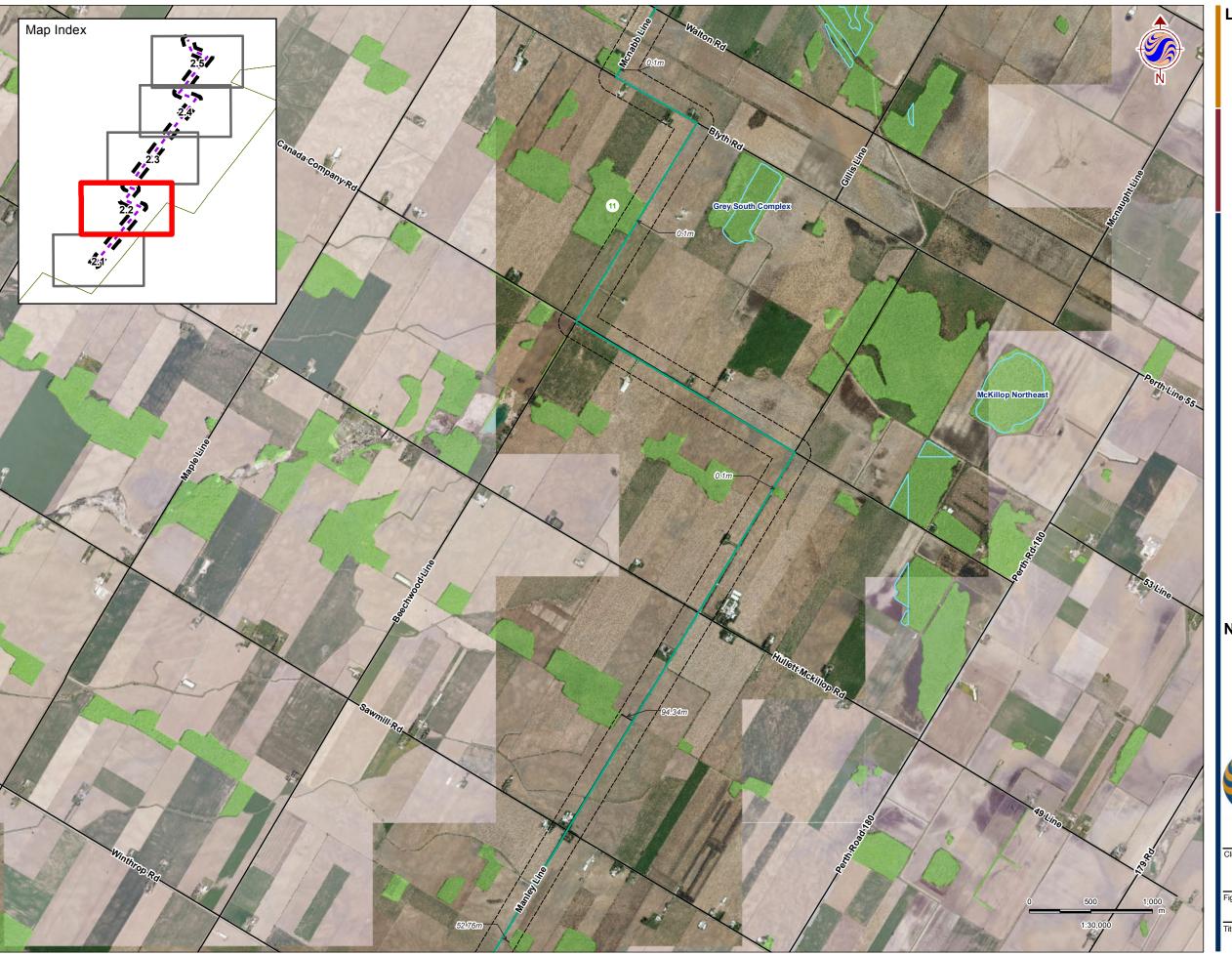
- Coordinate System: UTM NAD 83 Zone 17 (N).
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2.1



120m Zone of Investigation Previously Assessed in NHA/EIS (Stantec, July 2011) **Turbine Location** Unserviced Electrical Control Building Point of Connection Proposed Underground Electrical Interconnection Line Wind Construction Area Railway Aggregate Site Regionally Significant Life Science ANSI (MNR, 2011) Provincially Significant Wetland (MNR, 2011) Locally Significant Wetland (MNR, 2011) Other Wetland (MNR, 2011) Winter Deer Yard (MNR, 2011) Wooded Area (MNR, 2011)

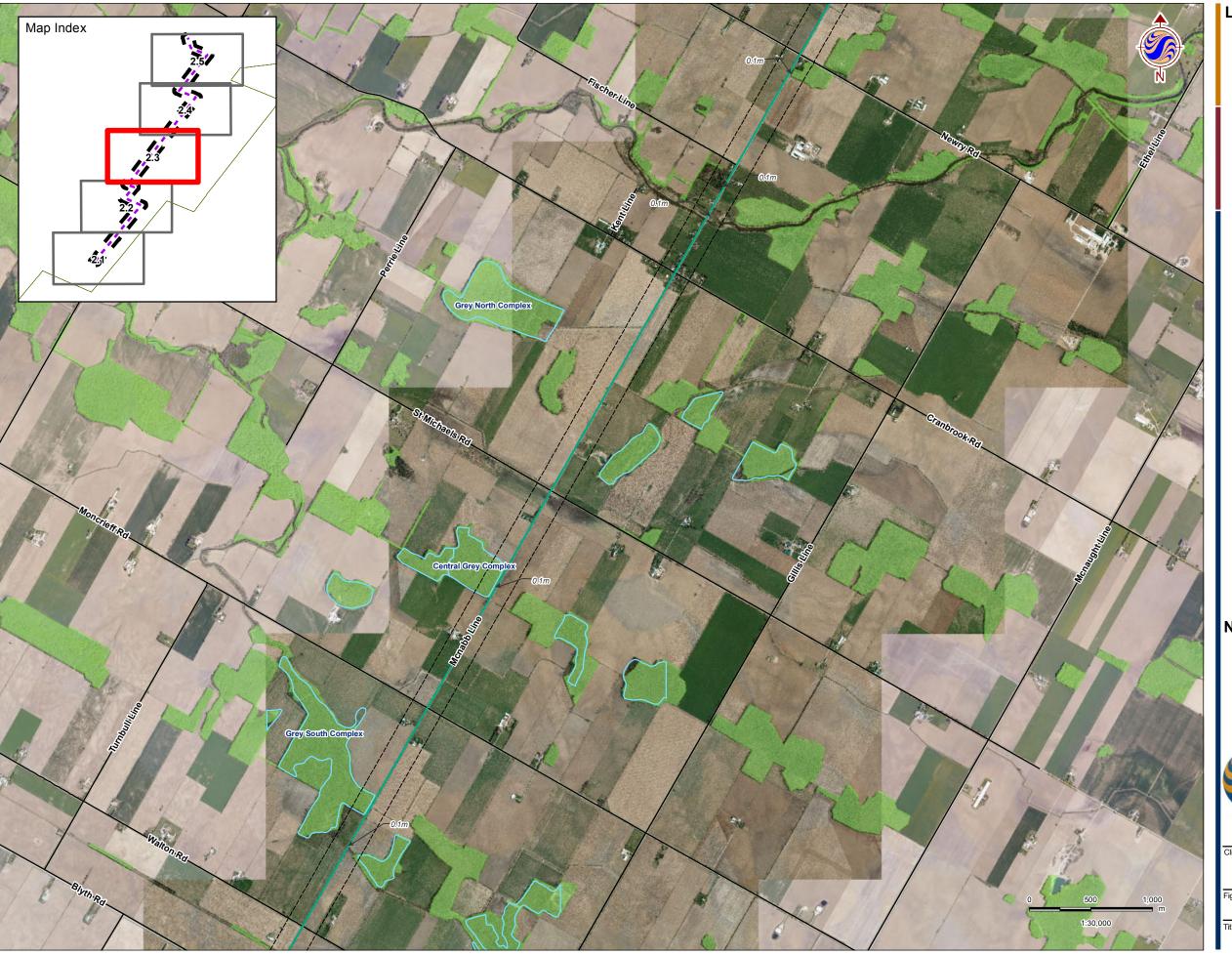
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2.2



Previously Assessed in NHA/EIS (Stantec, July 2011) **Turbine Location** Unserviced Electrical Control Building Point of Connection Proposed Underground Electrical Interconnection Line Wind Construction Area

Railway Aggregate Site

Regionally Significant Life Science ANSI (MNR, 2011)

120m Zone of Investigation

Provincially Significant Wetland (MNR, 2011)

Locally Significant Wetland (MNR, 2011)

Other Wetland (MNR, 2011) Winter Deer Yard (MNR, 2011)

Wooded Area (MNR, 2011)

# Notes

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Figure No. 2.3



Previously Assessed in NHA/EIS (Stantec, July 2011) **Turbine Location** Unserviced Electrical Control Building

Point of Connection

Proposed Underground Electrical Interconnection Line

Wind Construction Area

Railway

Aggregate Site

Regionally Significant Life Science ANSI (MNR, 2011)

Provincially Significant Wetland (MNR, 2011)

Locally Significant Wetland (MNR, 2011)

Other Wetland (MNR, 2011)

Winter Deer Yard (MNR, 2011)

Wooded Area (MNR, 2011)

# Notes

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Figure No. 2.4



120m Zone of Investigation Previously Assessed in NHA/EIS (Stantec, July 2011) **Turbine Location** Unserviced Electrical Control Building Point of Connection Proposed Underground Electrical Interconnection Line Wind Construction Area Railway Aggregate Site Regionally Significant Life Science ANSI (MNR, 2011)

> Provincially Significant Wetland (MNR, 2011) Locally Significant Wetland (MNR, 2011)

Other Wetland (MNR, 2011)

Wooded Area (MNR, 2011)

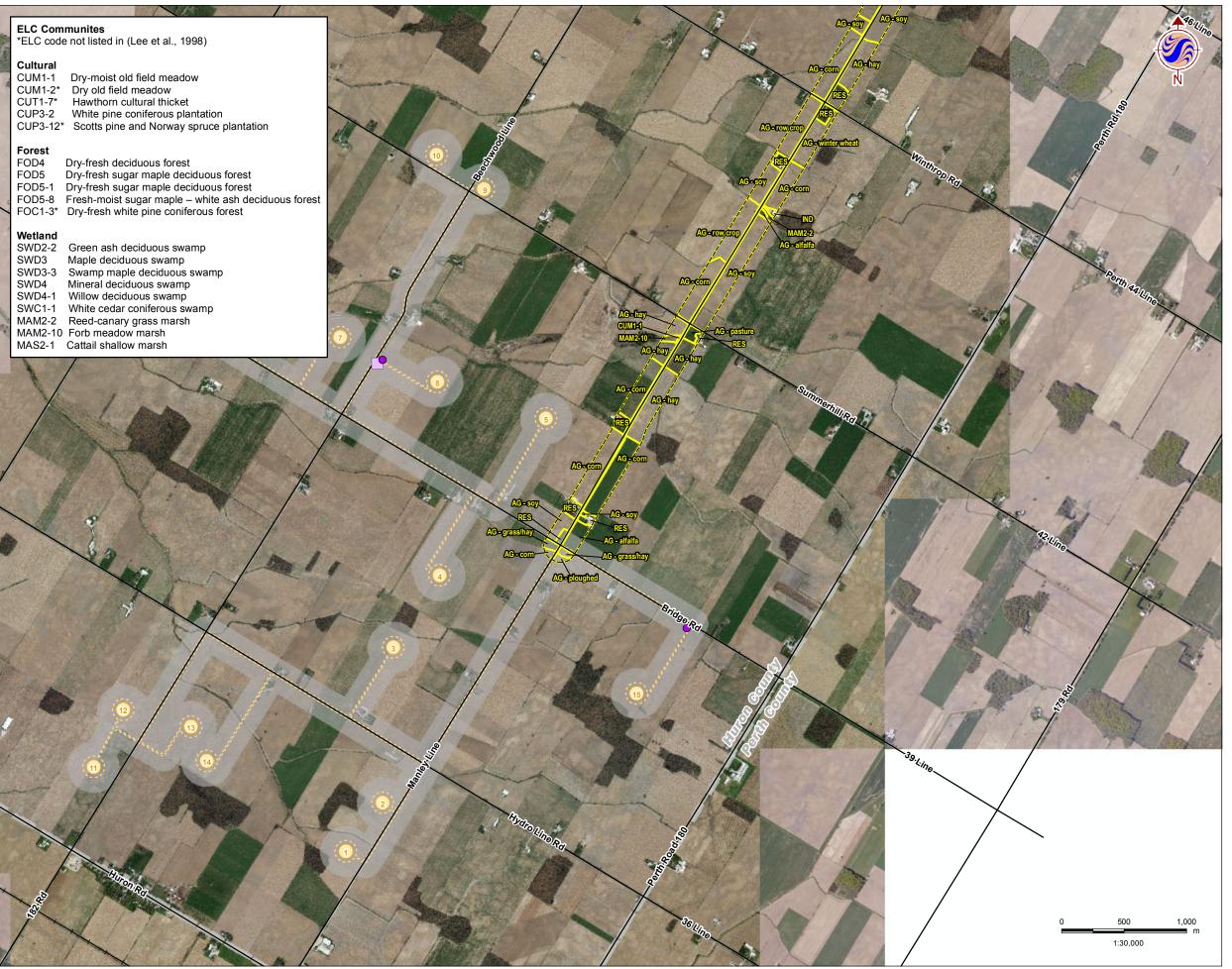
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Figure No. 2.5

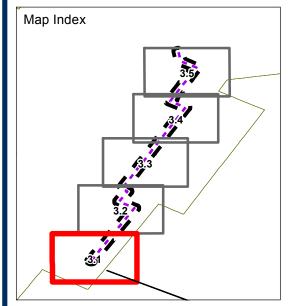


Legend

120m Zone of Investigation
Previously Assessed in NHA/EIS (Stantec, July 2011)

Turbine Location
Unserviced Electrical Control Building
Point of Connection
Proposed Underground Electrical Interconnection Line

Construction Area
Road
Railway
Provincially Significant Wetland (MNR)
Locally Significant Wetland (MNR)
Cother Wetland (MNR)
Regionally Significant Life Science ANSI (MNR, 2011)
Winter Deer Yard (MNR)
ELC Community



#### Notes

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gure No. 3.1



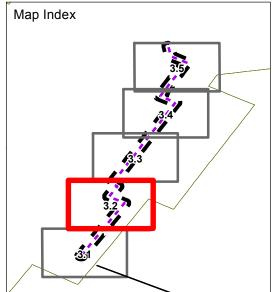
120m Zone of Investigation
Previously Assessed in NHA/EIS (Stantec, July 2011)

Turbine Location
Unserviced Electrical Control Building
Point of Connection
Proposed Underground Electrical Interconnection Line

Construction Area
Road
Railway
Provincially Significant Wetland (MNR)
Locally Significant Wetland (MNR)
Regionally Significant Life Science ANSI (MNR, 2011)

Winter Deer Yard (MNR)

**ELC Community** 



#### Notes

- 1. Coordinate System: UTM NAD 83 Zone 17 (N).
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ST. COLUMBAN ENERGY LP ST. COLUMBAN WIND PROJECT

gure No. 3.2



120m Zone of Investigation

Previously Assessed in NHA/EIS (Stantec, July 2011)

**Turbine Location** 

Unserviced Electrical Control Building

Point of Connection

Proposed Underground Electrical Interconnection Line

Construction Area

Road

Provincially Significant Wetland (MNR)

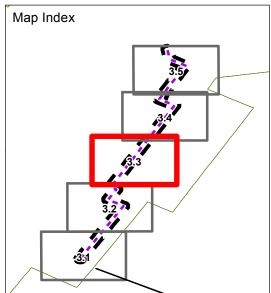
Locally Significant Wetland (MNR)

Other Wetland (MNR)

Regionally Significant Life Science ANSI (MNR, 2011)

Winter Deer Yard (MNR)

**ELC Community** 



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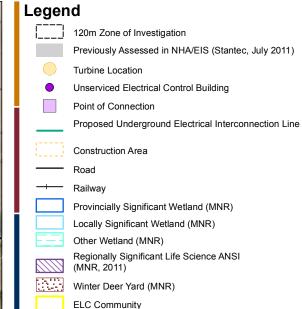


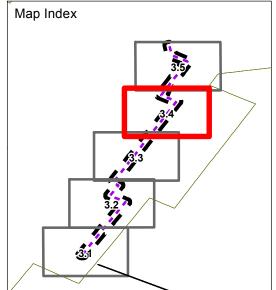
**Stantec** 

ST. COLUMBAN ENERGY LP ST. COLUMBAN WIND PROJECT

Figure No. 3.3







#### Notes

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Figure No. 3.4



120m Zone of Investigation

Previously Assessed in NHA/EIS (Stantec, July 2011)

**Turbine Location** 

Unserviced Electrical Control Building

Point of Connection

Proposed Underground Electrical Interconnection Line

Construction Area

Road

Provincially Significant Wetland (MNR)

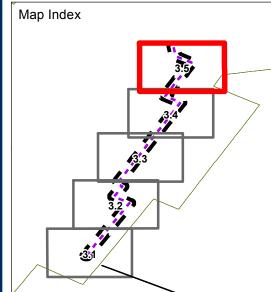
Locally Significant Wetland (MNR)

Other Wetland (MNR)

Regionally Significant Life Science ANSI (MNR, 2011)

Winter Deer Yard (MNR)

**ELC Community** 



- 1. Coordinate System: UTM NAD 83 Zone 17 (N).
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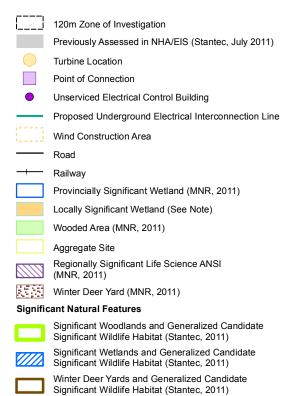


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Figure No. 3.5





# Notes

29 Significant Natural Feature Number

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Figure No. 4.1



120m Zone of Investigation Previously Assessed in NHA/EIS (Stantec, July 2011) Turbine Location Point of Connection Unserviced Electrical Control Building Proposed Underground Electrical Interconnection Line Wind Construction Area Railway Provincially Significant Wetland (MNR, 2011) Locally Significant Wetland (See Note) Wooded Area (MNR, 2011) Aggregate Site Regionally Significant Life Science ANSI (MNR, 2011) Winter Deer Yard (MNR, 2011) Significant Natural Features Significant Woodlands and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011) Significant Wetlands and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011) Winter Deer Yards and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011)

# **Notes**

29 Significant Natural Feature Number

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Figure No. 4.2



120m Zone of Investigation Previously Assessed in NHA/EIS (Stantec, July 2011) Turbine Location Point of Connection Unserviced Electrical Control Building Proposed Underground Electrical Interconnection Line Wind Construction Area Railway Provincially Significant Wetland (MNR, 2011) Locally Significant Wetland (See Note) Wooded Area (MNR, 2011) Aggregate Site Regionally Significant Life Science ANSI (MNR, 2011) Winter Deer Yard (MNR, 2011) Significant Natural Features Significant Woodlands and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011) Significant Wetlands and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011) Winter Deer Yards and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011)

# **Notes**

29 Significant Natural Feature Number

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Figure No. 4.3



120m Zone of Investigation Previously Assessed in NHA/EIS (Stantec, July 2011) Turbine Location Point of Connection Unserviced Electrical Control Building Proposed Underground Electrical Interconnection Line Wind Construction Area --- Railway Provincially Significant Wetland (MNR, 2011) Locally Significant Wetland (See Note) Wooded Area (MNR, 2011) Aggregate Site Regionally Significant Life Science ANSI (MNR, 2011) Winter Deer Yard (MNR, 2011) Significant Natural Features Significant Woodlands and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011) Significant Wetlands and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011) Winter Deer Yards and Generalized Candidate Significant Wildlife Habitat (Stantec, 2011)

# **Notes**

29 Significant Natural Feature Number

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Figure No. 4.4





# Notes

29 Significant Natural Feature Number

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ST. COLUMBAN ENERGY LP ST. COLUMBAN WIND PROJECT

Figure No. 4.5

# **Stantec** ST. COLUMBAN WIND PROJECT

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY February 2012

# **Appendix B**

**Tables** 

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY February 2012

# Table 2.1 Agencies Contacted, Records Requested and Records Received

Information Source and Contact Information	Records Requested	Records Received
Source: Ministry of Natural Resources	Natural heritage features, rare species and species at risk within the amended Project Study Area (transmission line addition)	NHA Records Review including Wetlands, ANSIs, Valleylands, Seasonal Concentration Areas, Animal Movement Corridors, Specialized Habitats and
Amy Cameron, A/Renewable Energy Field Advisor, Renewable Energy Operations Team	Project Study Area (transmission line addition)	Species of Conservation Concern
Date(s) contacted: November 1, 2011		
Source: Maitland Valley Conservation Authority	Natural heritage features, rare species and species at risk within the amended	No response to date (February 3, 2012)
Date(s) contacted: January 20, 2012 and February 2, 2012	Project Study Area (transmission line addition)	

Table 2.2: Records Review – Potential Species of Conservation Concern

Common Name	Scientific Name	SRANK	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Species Requirements/Limiting Factors	Results of Site Investigation
Vegetation			(CO33ARO)	(COSEWIC)			
Harbinger-of-spring	Erigenia bulbosa	S3?			NHIC (2011), MNR (2011)	This species is found in rich, shaded woods at or near the base of slopes or among alluvial soils at the base of slopes or valleys.	Field investigations did not identify adequate habitat conditions to support this species.  Considered absent from the Project Location.
Tuberous Indian- plantain	Arnoglossum plantagineum	S3	Special Concern	Special Concern	MNR (2011)	Found in wet, sandy areas along river banks and wetlands. Restricted to limited occurrences within five shoreline areas of Lake Huron (GRCA, 2004).	Field investigations did not identify adequate habitat conditions to support this species.  Considered absent from the Project Location.
Eastern Green-violet	Hybanthus concolor	S2			NHIC (2011), MNR (2011)	This species is found in moist to mesic deciduous woodlands, woodland slopes and shaded damp ravines, particularly over calcareous rock close to the ground.	Field investigations did not identify adequate habitat conditions to support this species.  Considered absent from the Project Location.
Green Dragon	Arisaema dracontium	S3	Special Concern	Special Concern	NHIC (2011), MNR (2011)	Flowering late spring. Mesic to wet deciduous woods, thickets, and bottomlands (Flora of North America, 2008).	Species is considered extirpated (NHIC, 2011).  Considered absent from the Project Location.
Hill's Pondweed	Potamogeton hillii	S2	Special Concern	Special Concern	MNR (2011)	Occurs in cold, clear, slow moving streams, ditches and ponds with muddy substrates. It is typically found in calcareous areas with dolomite limestone (COSEWIC 2005).	Field investigations did not identify adequate habitat conditions to support this species.  Considered absent from the Project Location.
Butterflies							
West Virginia White	Pieris virginiensis	S3	Special Concern		MNR (2011)	West Virginia White butterfly are found in moist habitats, The only known food plants are toothworts, which generally occupy moister areas of good quality, mesic, sugar mapledominated deciduous woodlands. These food plants are not expected to be found in wetland, cultural meadow or hedgerow habitat.	Field investigations did not identify adequate habitat conditions or the sole food source to support this species.  Considered absent from the Project Location.
Monarch Butterfly	Danaus plexippus	S4B, S2N	Special Concern	Special Concern	Environment Canada; MNR (2011)	Much of the concern regarding the status of the eastern populations of monarchs is a result of the loss of habitat in their Mexican wintering grounds. In southern Ontario the Monarch is considered common and exists primarily wherever milkweed and wildflowers exist. This includes abandoned farmland, along roadsides, and other open spaces where these plants grow.	Site investigations confirmed that the habitat requirements to support significant populations of Monarch (old-field habitats with abundant milkweed plants within 5km of a Great Lakes shoreline) did not occur within the Project Study Area.  Considered absent from the Project Location.
Reptiles		•	•				
Snapping Turtle	Chelydra serpentina	S3	Special Concern	Special Concern	MNR (2011)	Occurs in a variety of wetlands with standing	Considered generalized candidate significant

Table 2.2: Records Review – Potential Species of Conservation Concern

Common Name	Scientific Name	SRANK	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Species Requirements/Limiting Factors	Results of Site Investigation
						water, often preferring habitat with dense vegetation. The Snapping Turtle usually occurs in large wetland or bodies of water, but can sometimes be encountered in small ponds or creeks. Nesting occurs in loose soils in the proximity of wetlands.	wildlife habitat within 120m of the underground transmission line. Based on records review and site investigations, potential habitat is present within 120m of the underground transmission line.  General construction mitigation measures are required for this species and its habitat (Table 5.1).
Eastern Ribbon Snake	Thamnophis sauritus	S3	Special Concern	Special Concern	MNR (2011)	Semi-aquatic and will utilize a variety of habitats, but rarely ventures far from streams, ponds, bogs, or swamps (Conant and Collins, 1998). This species may hibernate in mammal burrows, ant mounds, underground and occasionally underwater. (COSEWIC 2002).	Habitat for this species must be associated with a hibernacula feature. Therefore, this type of feature is considered generalized candidate significant wildlife habitat. Based on records review and site investigations, potential habitat is present within 120m of the underground transmission line.  General construction mitigation measures are required for this species and its habitat (Table 5.1).
Eastern Milksnake	Lampropeltis triangulum	\$3	Special Concern	Special Concern	Environment Canada; MNR (2011)	In Ontario, Eastern Milksnake is more common in heavily forested areas (COSEWIC, 2002b).  Utilize a variety of habitats, including fields, woodlands, rocky hillsides and valley bottoms (Conant and Collins, 1998). This species is known to utilize human-made structures for hibernation or hibernates underground or in rock crevices. The milksnake lays eggs in abandoned mammal burrows, rotting logs, or sand.	Habitat for this species must be associated with a hibernacula feature. Therefore, this type of feature is considered generalized candidate significant wildlife habitat. Based on records review and site investigations, potential habitat is present within 120m of the underground transmission line.  General construction mitigation measures are required for this species and its habitat (Table 5.1).
Birds							
Bald Eagle	Haliaeetus leucocephalus	SN2, S4B	Special Concern		MNR (2011)	The Bald Eagle almost always nests near water, usually on large lakes. Large stick nests are typically placed in trees located within mature woodlots. They usually require 250 ha of mature forest (Sandilands 2005).	No Bald Eagle nests were observed during field investigations. The Project Location does not provide the mature woodland required for Bald Eagle and is not located on a large lake.  Considered absent from the Project Location.
Black Tern	Chlidonias niger	S3B	Special Concern		MNR (2011)	Nests semi-colonially in freshwater marshes with emergent vegetation. This species prefers marshes or marsh complexes of more than 20 ha in size for breeding (Dunn and Agro, 1995).	No marshes of suitable size present within 120 m of the Project Location.  Considered absent from the Project Location.
Short-eared Owl	Asio flammeus	S2N, S4B	Special Concern	Special Concern – 3	MNR (2011)	In Ontario, Short-eared Owls typically breed in cattail and sedge marshes, adjacent fields,	Field investigations indicate that the Study Area is predominately actively cultivated

Table 2.2: Records Review – Potential Species of Conservation Concern

Common Name	Scientific Name	SRANK	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Species Requirements/Limiting Factors	Results of Site Investigation
						pastures, old fields, heath bogs and tundra (Cadman, 1994). This species is area sensitive, requiring a minimum of 75 hectares of suitable habitat for breeding (Sandilands, 2010). Shorteared Owls tend to nest away from development, with a minimum distance of 250 metres from buildings (Combs-Beattie, 1993).	agricultural fields (Figures 3.1 – 3.5). No grasslands of sufficient size to support Shorteared Owl were present within 120 m of the underground transmission line Project Location.  Considered absent from the Project Location.
Common Nighthawk	Chordeiles minor	S4B	Special Concern		MNR (2011)	In rural areas of southern Ontario the species nests in grasslands, pastures, agricultural fields, gravel pits, prairies, alvars and at airports (Sandilands, 2010).	Presence of Nighthawk is not known from the Study Area. Habitat within 120m of the Project Location is comprised of actively managed agricultural lands subject to regular disturbance. The Project Location does not contain habitat that could be considered candidate significant wildlife habitat for Common Nighthawk.  Considered absent from the Project Location.
Red-headed Woodpecker	Melanerpes erythrocephalus	S4B	Special Concern		MNR (2011)	The Red-headed Woodpecker prefers open deciduous woods, fields, pastures, city parks, river edges and roadsides where scattered large trees occur (Cadman et al., 2007). This species shows a preference for dead or dying trees, snags or large dead limbs in more open habitats (Smith et al., 2000).	Though this species was observed during field surveys for the Wind Project Location in 2006, it was not observed in or within the Transmission Line Project Location. Subsequent surveys of the Wind Project Location (in 2008 and 2010) have not identified the presence of RHWO. The Study Area does not contain open habitat that contains large trees with snags or dead limbs.  Considered absent from the Project Location.
Yellow-breasted Chat	Icteria virens	S2B	Special Concern	Special Concern	Environment Canada; MNR (2011)	It is not widespread in Ontario, and most records from the province are from the Carolinian region (Eagles, 1987). This species prefers early second-growth forest and shrub in abandoned agricultural fields, fencerows, forest edges and openings, and near streams (Eckerle and Thompson, 2001). In Ontario, it is usually found in shrubby tangles and deciduous thickets (Eagles, 1987).	Shrub/early successional habitat did not occur in or within 120m of the Project Location (Figures 3.1 – 3.5).  Considered absent from the Project Location.

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY February 2012

# Table 2.2: Records Review – Potential Species of Conservation Concern

Common Name	Scientific Name	SRANK	Provincial Status (COSSARO)	National Status (COSEWIC)	Source	Species Requirements/Limiting Factors	Results of Site Investigation
-------------	-----------------	-------	--------------------------------	------------------------------	--------	---------------------------------------	-------------------------------

**S2** – Imperiled

S3 – Vulnerable

**S4** – Apparently secure

**S#B** – Breeding Status

S#N - Non-breeding Status

? – Rank uncertain

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY February 2012

Table 2.3: Natural Features Identified in, and within 120m, of Underground Electrical Interconnection Line Project Location through Records Review

Natural Feature	In Project Location	Within 120m of Project Location
Wetlands- Provincially Significant		Feature 28
Wetlands- Non-provincially Significant		Features 13, 14, 19, 20, 22, 24
Wetlands- Unevaluated		
ANSIs	Feature 28	Feature 28
Valleylands		
Woodlands		Features 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30
Wildlife Habitat – Winter Deer Yards		Feature 28

Table 3.1: St. Columban Wind Project Site Investigation and Evaluation of Significance Record for Underground Electrical Interconnection Line Project Location

Survey Date	Survey Type	Completed By	Time	Weather Conditions*
September 20, 2011	ROADSIDE:	S. Catton,	10:30 - 15:00	18°C; wind of 1; 15% cloud cover; no precipitation during survey; none previous
	Ecological Land Classification and Vegetation Survey,	N. Kopysh		day
	Woodland and Wildlife Habitat Assessment			
September 22, 2011	ROADSIDE:	S. Catton,	10:30 - 13:30	19°C; wind of 2; 5% cloud cover; no precipitation during survey; none previous
	Ecological Land Classification and Vegetation Survey,	M. Ross		day
	Woodland and Wildlife Habitat Assessment			
October 24, 2011	ROADSIDE:	S. Catton,	10:30 - 12:30	14°C; wind of 2; 95% cloud cover; no precipitation during survey; rain previous
	Ecological Land Classification and Vegetation Survey,	N. Kopysh		day
	Woodland and Wildlife Habitat Assessment			
November 8, 18, 24, 25, 29	Wetland Characteristics and Ecological Functions	J. Leslie	4, 9, 9, 5.5 and 9, respectively	n/a
	Assessment			

<sup>\*</sup> Wind conditions expressed using Beaufort Scale:

0 – calm, <2km/hr 2 – light, 7-12 km/hr 4 – moderate, 20-30 km/hr 6 – strong, 41-51 km/hr

1 – light, 2-6 km/hr 3 – moderate, 13-19 km/hr 5 – fresh, 31-40 km/hr

Table 3.2: Summary of Corrections to Records R			
Feature	Records Review	Correction made as a result of site investigation	Report Section Providing Criteria Used in Determination of Correction
Wetlands	One provincially significant wetland (PSW) occurs in or within 120 m of the Project Location	No changes made to identification or boundaries of PSW in or within 120 m of the Project Location	3.2.2
	Six locally significant wetlands occur in or within 120 m of the Project Location  No unevaluated wetlands occur in or within 120 m of the Project	Boundary changes are required for all six locally significant wetlands within 120 m of the Project Location; these wetlands will maintain LSW designation (pers. corr. MNR, January 2012) (features 13, 14, 19, 20, 22 and 24)	
	Location	Additional wetlands identified: -10 additional wetland communities were observed (Features 8, 10, 11, 12, 15, 18, 21, 23, 25, 31)	
ANSIs	One regionally significant Life Science ANSI occurs in or within 120 m of the Project Location. The records review (MNR, Nov. 15, 2011) indicates that the underground electrical interconnection line is in the ANSI.	No changes made to the identification of an ANSI within 120 m of the Project Location.  A correction is required to the claim from MNR (Nov. 15, 2011); the underground electrical interconnection line Project Location is <i>not</i> in the ANSI (Figure 2.5, Appendix A).	3.2.3
Valleylands	No valleylands occur in or within 120m of the Project Location	None	3.2.4
Woodlands	Eighteen woodlands were identified within 120m of the Project Location	Nineteen woodlands were identified within 120 m of the Project Location	3.2.5
		Additional features identified: - one additional woodland community was observed (Feature 16)	
		Features 18 and 28 require boundary corrections based on field investigations.	
		<ul> <li>A hedgerow in feature 18 was removed from consideration as a woodland</li> <li>Part of the woodland with feature 28 crosses to the south of Centre Line Rd. Field investigations confirmed that this section of the woodland</li> </ul>	
		is residential and has been excluded from the feature.	
Wildlife Habitat: Seasonal Concentration Areas (all other areas are considered generalized candidate significant wildlife habitat and assumed to be existing within 120 m of underground electrical interconnection line Project Location).	Winter deer yard was identified within 120 m of the Project Location	No changes made to identification or boundaries of winter deer yard in or within 120m of the Project Location	3.2.6

Table 3.3 Distance of Underground Electrical Interconnection Line Project Location to Nearest Point of Natural Feature

Feature #	Distance to Project Component (m)
8	0.1
9	52.36
10	94.35
11	>0.1
12	1.32
13	>0.1
14	2.8
15	>0.1
16	>0.1
17	>0.1
18	49.5
19	>0.1
20	>0.1
21	>0.1
22	>0.1
23	>0.1
24	>0.1
25	>0.1
26	19.32
27	>0.1
28	>0.1
29	>0.1
30	88.84
31	>0.1

Table 3.4: Ecological Land Classification (ELC) Vegetat	tion Types, St. Columban Underground Electrical Interconnection Line Project Location and 120 m Zone of Investigation
ELC TYPE	Community Description
Forest (FO)	
Deciduous Forest (FOD)	
FOD4 Dry-fresh deciduous forest	No access was available to this feature. Roadside assessment only. Ash is abundant to dominant in the canopy with lesser amounts of larch and Manitoba maple.
FOD5 Dry-fresh sugar maple deciduous forest	No access was available to this feature. Roadside assessment only. Sugar maple is abundant in the canopy with ash and trembling aspen associates. This feature is too far back from the roadside to further assess.
FOD5-1 Dry-fresh sugar maple deciduous forest	No access was available to this feature. Roadside assessment only. Sugar maple dominates this community.
FOD5-8 Fresh-moist sugar maple – white ash deciduous forest	No access was available to this feature. Roadside assessment only. The feature is dominated by sugar maple and white ash in the canopy. Rare occurrences of trembling aspen were observed in the canopy.
Coniferous Forest (FOC)	
FOC1-3* Dry-fresh white pine coniferous forest	No access was available to this feature. Roadside assessment only. White pine dominates this community.
Cultural (CU)	
Cultural Meadow (CUM)	
CUM1-1 Dry-moist old field meadow	No access was available to this small feature, so a roadside assessment was performed. The ground cover consists of goldenrods, asters, spotted knapweed, wild carrot, teasel, thistles, awnless Brome and other grasses.
CUM1-2* Dry old field meadow	No access was available to this feature. Roadside assessment only. Foxtail and witch grasses dominate this community.
Cultural Thicket (CUT)	
CUT1-7*  Hawthorn cultural thicket	No access was available to this feature. Roadside assessment only. Hawthorns dominate this community.
Cultural Plantation (CUP)	
CUP3-2 White pine coniferous plantation	No access was available to this feature. Roadside assessment only. White pine dominates this community.
CUP3-12* Scotts pine and Norway spruce plantation	No access was available to this feature. Roadside assessment only. Scotts pine and Norway spruce make up the dominant canopy cover. Rare amounts of trembling aspen are identified near the edge. There is no understory or ground cover in this community.
Swamp (SW)	
Deciduous Swamp (SWD)	
SWD2-2 Green ash deciduous swamp	No access was available to this feature. Roadside assessment only. Green ash dominates this community. Occasional occurrences of Manitoba maple were observed in the canopy and understory. Rare to occasional amounts of white pine and eastern white cedar were observed in the canopy and were more common in the understory.
SWD3 Maple deciduous swamp	No access was available to this feature. Roadside assessment only. Silver and red maples are abundant in the canopy and occasional in the sub-canopy with rare amounts of white oak. Buckthorn is occasional to abundant in the understory with occasional amounts of dogwoods and rare amounts of Balsam fir. Zig-zag goldenrod and asters are occasional to abundant

Table 3.4: Ecological Land Classification (ELC) Vegetation Types, St. Columban Underground Electrical Interconnection Line Project Location and 120 m Zone of Investigation

Tuble 514. Ecological Earla classification (EEG)	regetation Types, 5t. Columban onderground Electrical Interconnection Line Project Location and 120 in 2011e of investigation
ELC TYPE	Community Description
	in the remaining ground cover.
SWD3-3	No access was available to this feature. Roadside assessment only. This feature consists of a deciduous swamp, dominated by swamp maples with some trembling aspen in the canopy.
Swamp maple deciduous swamp	
SWD4	No access was available to this feature. Roadside assessment only. Abundant amounts of trembling aspen and ash were observed in the canopy with occasional occurrences of swamp
Mineral deciduous swamp	maple, willow and Manitoba maple.
SWD4-1	No access was available to this feature. Roadside assessment only. The canopy of this floodplain community consists of willow and Manitoba maple. Buckthorn and dogwoods were
Willow deciduous swamp	observed in the understory.
Mixed Swamp (SWM)	
SWM2-2	No access was available to this feature. Roadside assessment only. Swamp maple and eastern white cedar dominate this community.
Swamp maple – conifer mixed swamp	
Coniferous Swamp (SWC)	
SWC1-1	No access was available to this feature. Roadside assessment only. Eastern white cedar dominates this community.
White cedar coniferous swamp	
Meadow Marsh (MAM)	
MAM2-2	No access was available to this feature. Roadside assessment only. Reed-canary grasses dominate this community.
Reed-canary grass marsh	
MAM2-10	No access was available to this feature. Roadside assessment only. A complex of reed-canary grasses, cattails, asters, goldenrods, teasel and other grasses.
Forb meadow marsh	
Shallow Marsh (MAS)	
MAS2-1	No access was available to this feature. Roadside assessment only. Cattails dominate this community.
Cattail shallow marsh	

<sup>\*</sup>ELC code not listed in (Lee et al., 1998)

Feature #	Identification through Records Review	Feature Type as confirmed during Site Investigation	Feature Size (ha)	ELC Community Type	Description of Type (based on Roadside Assessments only)	Attributes, Characteristics and Functions
8	Not identified	Meadow Wetland	3.88	CUM1-1 MAM2-10	The ground cover consists of goldenrods, asters, spotted knapweed, wild carrot, teasel, thistles, awnless Brome and other grasses.	-no uncommon species composition or structures observed - no large trees or snags observed
9	Woodland (LIO, 2011)	Woodland	2.57	FOD5	Sugar maple is abundant in the canopy with ash and trembling aspen associates. This feature is too far back from the roadside to further assess.	-small, isolated woodland -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed
10	Woodland (LIO, 2011)	Woodland Wetland	20.64	FOD5	Sugar maple is abundant in the canopy with ash and trembling aspen associates. This feature is too far back from the roadside to further assess.	- isolated woodland with wetland complexing - no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed
11	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	22.34	SWD3	Silver and red maples are abundant in the canopy and occasional in the sub-canopy with rare amounts of white oak. Buckthorn is occasional to abundant in the understory with occasional amounts of dogwoods and rare amounts of Balsam fir. Zig-zag goldenrod and asters are occasional to abundant in the remaining ground cover.	isolated swamp     no uncommon species composition or structure observed     no large trees or snags observed     no tree cavities observed
12	Woodland (LIO, 2011)	Woodland Wetland	2.87	SWD4	Abundant amounts of trembling aspen and ash were observed in the canopy with occasional occurrences of swamp maple, willow and Manitoba maple.	- small, isolated swamp - no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed
13	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	94.55	SWD MAM2-2 SWD3-3	Reed-canary grasses dominate this community. No access was available to this feature. Roadside assessment only. This feature consists of a deciduous swamp, dominated by swamp maples with some trembling aspen in the canopy.	- swamp and marsh complex - no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland
14	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	23.58	SWD3-3	This feature consists of a deciduous swamp, dominated by swamp maples with some trembling aspen in the canopy.	- small, isolated swamp - no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland
15	Not identified	Woodland Wetland	33.2	SWD SWD4	Abundant amounts of trembling aspen and ash were observed in the canopy with occasional occurrences of swamp maple, willow and	<ul> <li>woodland and wetland complex connected to additional natural features through watercourse</li> <li>no uncommon species composition or structure observed</li> <li>no large trees or snags observed</li> </ul>

Table 3.5 Descri	ble 3.5 Description and Characterizations of Features found within 120 m of the St Columban Underground Electrical Interconnection Line Project Location						
Feature #	Identification through Records Review	Feature Type as confirmed during Site Investigation	Feature Size (ha)	<b>ELC Community Type</b>	Description of Type (based on Roadside Assessments only)	Attributes, Characteristics and Functions	
					Manitoba maple.	- no tree cavities observed	
16	Not identified	Woodland	3.17	FOD4	Ash is abundant to dominant in the canopy with lesser amounts of larch and Manitoba maple.	Roadside assessment only. Could not assess unique attributes or functions from roadside.	
17	Woodland (LIO, 2011)	Woodland	4.43	FOD5-8	The feature is dominated by sugar maple and white ash in the canopy. Rare occurrences of trembling aspen were observed in the canopy.	-small woodland -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed	
18	Woodland (LIO, 2011)	Woodland Wetland	2.92	SWC MAM2-2	This feature consists of a coniferous swamp.  No access was available to this feature.  Roadside assessment only. Reed-canary grasses dominate this community.	-small, isolated woodland and wetland complex -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed	
19	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	27.01	SWD3-3	This feature consists of a deciduous swamp, dominated by swamp maples with some trembling aspen in the canopy.	- woodland and wetland complex connected to additional natural features through watercourse -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland	
20	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	67.17	SWD SWM2-2 SWM/SWD SWD3-3 CUM1-2* CUT1-7*	Swamp maple and eastern white cedar dominate this community.  No access was available to this feature.  Roadside assessment only. This feature consists of a deciduous swamp, dominated by swamp maples with some trembling aspen in the canopy.	- woodland and wetland complex connected to additional natural features through watercourse -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland	
21	Woodland (LIO, 2011)	Woodland Wetland	2.88	SWD4 MAM/MAS	Abundant amounts of trembling aspen and ash were observed in the canopy with occasional occurrences of swamp maple, willow and Manitoba maple.  No access was available to this feature. Roadside assessment only. Cattails dominate this community.	- small woodland and wetland complex connected to additional natural features through watercourse -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed	
22	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	232.61	CUP3-2 SWC1-1 SWD3-3 FOC1-3*	White pine dominates this community. No access was available to this feature. Roadside assessment only. Eastern white cedar dominates this community. No access was available to this feature. Roadside assessment only. This feature consists of a deciduous swamp, dominated by swamp	- woodland, plantation and wetland complex connected to additional natural features -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland	

Table 3.5 Descri	able 3.5 Description and Characterizations of Features found within 120 m of the St Columban Underground Electrical Interconnection Line Project Location						
Feature #	Identification through Records Review	Feature Type as confirmed during Site Investigation	Feature Size (ha)	ELC Community Type	Description of Type (based on Roadside Assessments only)	Attributes, Characteristics and Functions	
					maples with some trembling aspen in the canopy.  No access was available to this feature.  Roadside assessment only. White pine dominates this community.		
23	Not identified	Wetland	3.94	MAS2-1 MAM2-2	Cattails dominate this community.  No access was available to this feature.  Roadside assessment only. Reed-canary grasses dominate this community.	-no uncommon species composition or structures observed - no large trees or snags observed	
24	Woodland (LIO, 2011) Wetland (LIO, 2011)	Woodland Wetland	108.48	MAM2-2 FOD5-1 SWD4-1	Reed-canary grasses dominate this community. Sugar maple dominates this community. The canopy of this floodplain community consists of willow and Manitoba maple. Buckthorn and dogwoods were observed in the understory.	- woodland and wetland complex connected to additional natural features -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland	
25	Not identified	Wetland	54.6	MAM2-2	Reed-canary grasses dominate this community.	- wetland complex connected to additional natural features through watercourse -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed - locally significant wetland	
26	Woodland (LIO, 2011)	Woodland	4.57	FOD5-1	Sugar maple dominates this community.	-small woodland -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed	
27	Woodland (LIO, 2011)	Woodland	3.23	CUP3-2	White pine dominates this community.	-small cultural plantation -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed	
28	Woodland (LIO, 2011) Wetland (LIO, 2011) Winter Deer Yard (LIO, 2011)	Woodland Wetland	177.97	FOD5-8 SWD2-2	The feature is dominated by sugar maple and white ash in the canopy. Rare occurrences of trembling aspen were observed in the canopy.	<ul> <li>- woodland and wetland complex connected to additional natural features</li> <li>-no uncommon species composition or structure observed</li> <li>- no large trees or snags observed</li> <li>- no tree cavities observed</li> <li>- provincially significant wetland</li> <li>- regionally significant life science ANSI</li> <li>- winter deer yard</li> </ul>	
29	Woodland (LIO, 2011)	Woodland	0.59	CUP3-12*	Scotts pine and Norway spruce make up the dominant canopy cover. Rare amounts of trembling aspen are identified near the edge. There is no understory or ground cover in this community.	-small cultural plantation -no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed	
30	Woodland (LIO, 2011)	Woodland	3.23	FOD5	No access was available to this feature.	-small woodland -no uncommon species composition or structure observed	

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Table 3.5 Description and Characterizations of Features found within 120 m of the St Columban Underground Electrical Interconnection Line Project Location

Feature #	Identification through Records Review	Feature Type as confirmed during Site Investigation	Feature Size (ha)	ELC Community Type	Description of Type (based on Roadside Assessments only)	Attributes, Characteristics and Functions
					Roadside assessment only. Sugar maple is abundant in the canopy with ash and trembling aspen associates. This feature is too far back from the roadside to further assess.	- no large trees or snags observed - no tree cavities observed
31	Not identified	Wetland	5.11	MAM2-10	A complex of reed-canary grasses, cattails, asters, goldenrods, teasel and other grasses.	- small wetland complex connected to additional natural features - no uncommon species composition or structure observed - no large trees or snags observed - no tree cavities observed

Table 3.6 Summary of (General) Candidate Significant Wildlife Habitat found within 120 m of the St Columban Underground Electrical Interconnection Line Project Location

Candidate Significant Wildlife Habitat (CSWH)	Assumed existing within 120m	Rationale (attributes, composition, function)	Carried forward to Evaluation of Significance as GCSWH
Seasonal Concentration Areas			
Moose Late Winter Habitat	No	Does not apply to Project Location; moose habitat does not exist in this part of the province.	No
Colonial Birds - Herons	Yes	Though shorelines of large bodies of water were not identified during aerial photo interpretation or during ELC site investigations, swamps were identified during field investigations.	Yes
Colonial Birds - Terns	No	Does not apply to Project Location; islands or peninsulas associated with open water or marshy areas were not identified during aerial photo interpretation or during ELC site investigations.	No
Colonial Birds - Swallows	Yes	Though cliffs and banks were not identified during aerial photo interpretation or during ELC site investigations, there is potential for areas with exposed soil banks to exist within 120 m of the Project Location. No artificial structures will be impacted or removed.	Yes
Waterfowl Staging - aquatic	No	Does not apply to Project Location; very large wetlands, especially marshes, associated with lakes were not identified during aerial photo interpretation or during ELC site investigations.	No
Waterfowl Staging - terrestrial	No	Does not apply to Project Location; very large wetlands, especially marshes, associated with lakes were not identified during aerial photo interpretation or during ELC site investigations.	No
Waterfowl Nesting	No	Does not apply to Project Location; a high density of small and medium sized ponds or a large, open, diverse wetland associated with a lake were not identified during aerial photo interpretation or during ELC site investigations.	No
Shorebird Staging	No	Does not apply to Project Location; not within 5km of Lake Ontario/Erie shoreline.	No
Landbird Stopover/Staging	No	Does not apply to Project Location; not within 5km of Lake Ontario/Erie shoreline.	No
Raptor Winter Feeding/Roosting	Yes	Hay fields, pastures and open meadows that support large and productive small mammal populations can provide critical winter feeding areas (MNR, 2000). The best roosting sites are typically found in relatively mature mixed or coniferous woodlands that abut windswept fields, with scattered trees and fence posts providing perches for hunting (MNR, 2000). These areas were identified during ELC site investigations.	Yes
Reptile Hibernacula	Yes	Habitat for this species must be associated with a hibernacula feature. Therefore, this type of feature is considered generalized candidate significant wildlife habitat. Based on records review and site investigations, potential habitat is present within 120m of the underground transmission line.	Yes
Bat Hibernacula	No	Does not apply to Project Location; features such as caves or abandoned mines and areas of karst topography or exposed bedrock were not identified during records review or during ELC site investigations.	No

Candidate Significant Wildlife Habitat (CSWH)	Assumed existing within 120m	Rationale (attributes, composition, function)	Carried forward to Evaluation of Significance as GCSWH
Bat Maternity colonies	Yes	Deciduous and mixed forests >10 ha were identified during ELC field investigations; there is potential for decaying snags (decay class 1 or 2) to be present within these communities. No anthropogenic structures will be removed for the Project.	Yes
Butterfly Stopover Habitat	No	Does not apply to Project Location; not within 5km of Lake Ontario shoreline.	No
Rare Vegetation Communities			
Alvar	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Prairie	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Savannah	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Rare Forest Types	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Cliff/Talus	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Rock Barrens	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Sand Barrens	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Great Lake Dunes	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Specialized Habitats for Wildlife			
Interior Forest Breeding Birds	Yes	Woodlands of at least 30 ha and contain interior forest habitat (200 m from woodland edge) are considered to have the potential to host populations of area-sensitive species. Though there are some features that are greater than 30 ha, there are only 4 features that meet both the size and interior forest criteria to be considered GCSWH: features 13, 20, 22 and 28 meet these criteria.	Yes
Open Country Breeding Birds	Yes	Grasslands of at least 30 ha are considered to have the potential to host populations of area-sensitive species.  Agricultural habitat is found in the Project Location that could support grassland breeding bird species. Areas that are actively managed for agricultural activities are considered disturbed systems and are not considered candidates for significant wildlife habitat (MNR personal communication, January 26, 2011). Open country habitat contained in and within 120 m of the Project Location is restricted to actively hayed fields and grazed pasture.	Yes
Old-growth Forest	No	Does not apply to Project Location; not identified in records review nor during ELC site investigations.	No
Mast Areas	No	Does not apply to Project Location; not within the Great Lakes-St. Lawrence Forest Region.	No

Candidate Significant Wildlife Habitat (CSWH)	Assumed existing within 120m	Rationale (attributes, composition, function)	Carried forward to Evaluation of Significance as GCSWH
Amphibian Woodland Breeding	Yes	Woodland ponds may provide important habitat for local amphibian populations. Ponds that contain a variety of vegetation structures in and around the edge of the pond, are undisturbed and are found adjacent to closed canopy woodlands with dense undergrowth that maintain a damp environment typically provide the best ponds for breeding (MNR, 2000). These habitats may be found in the identified swamp communities.	Yes
Turtle Nesting	No	Does not apply to Project Location; sandy or fine gravel soils are a requirement for turtle nesting (SWHTG, 2000). Areas that would be considered candidate significant wildlife habitat for turtle nesting include areas containing sandy or fine gravel soils (i.e. shoreline beaches) adjacent to turtle habitat (weedy wetlands, lake or river shorelines). These areas were not identified in the records review, during aerial photo interpretation, nor during ELC site investigations. Roads are not considered candidate significant wildlife habitat for turtle nesting and were excluded from field investigations.	No
Specialized Raptor Nesting – Bald Eagle Nesting	No	Does not apply to Project Location; there are no known Bald Eagle nests within the Study Area (LIO, 2011; Cadman et al., 2007). Bald Eagle nests are found primarily along the Great Lakes shorelines in Ontario.	No
Specialized Raptor Nesting – Osprey Nesting	No	Does not apply to Project Location; there are no known Osprey nests within the Study Area (LIO, 2011; Cadman et al., 2007).	No
Moose Calving	No	Does not apply to Project Location; no moose habitat in this part of the province.	No
Moose Aquatic Feeding	No	Does not apply to Project Location; no moose habitat in this part of the province.	No
Mineral Licks	No	Does not apply to Project Location; no moose habitat in this part of the province.	No
Denning Sites	No	Does not apply to Project Location; marten, otter and fisher are found on the Canadian Shield and their range does not extend to within the Study Area (Dobbyn, 1994). Mink are found throughout southern Ontario and prefer natural undisturbed shorelines dominated by coniferous or mixed forests for feeding and denning (MNR, 2000). Mink are dependent on the presence of aquatic components such as lakes, ponds or rivers. These areas were not identified in the records review, during aerial photo interpretation, nor during ELC site investigations.	No
Seeps and Springs	Yes	This type of habitat has potential to exist within 120m of the Project Location.	Yes
Marsh Breeding Birds	No	Wetlands to support this type of habitat are typically productive and fairly rare in Southern Ontario. Wetland habitats should include presence of shallow water with emergent aquatic vegetation. These areas were not identified in the records review, during aerial photo interpretation, nor during ELC site investigations.	No
Amphibian Breeding Wetlands	Yes	Wetlands supporting high species diversity that contain shrubs and logs to support species with calling, foraging, escape and concealment. Based on the records review and field investigations, this type of habitat has potential to exist within 120m of the Project Location.	Yes

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Candidate Significant Wildlife Habitat (CSWH)	Assumed existing within 120m	Rationale (attributes, composition, function)	Carried forward to Evaluation of Significance as GCSWH
ESA Special Concern and Provincially rare – Plant Species	Yes	See Appendix B Table 2.2 for a list of Candidate Species of Conservation Concern.	Yes
ESA Special Concern and Provincially rare – Other Species			
Declining Bird Guilds – Shrubland Birds			
Animal Movement Corridors			
Deer Migration Corridors	No	Deer corridors that lead to a deer wintering yard should be contiguous and unbroken by roads and residential areas. Corridors would typically follow riparian areas, woodlots, ravines or ridges. A deer yard was confirmed at the north end of the line (feature 28). According to MNR, these corridors will exist with relation to the deer yard; however, based on the Study Area in relation to the deer yard, and the fact that the impacts would involve an underground transmission line within the municipal road right-of-way, it is highly unlikely that this habitat exists within 120m of the Project Location.	No
Amphibian Corridors	Yes	These areas are important for amphibians to travel from their terrestrial habitat to their breeding habitat. Based on the records review and field investigations, this type of habitat has potential to exist within 120m of the Project Location.	Yes

Table 4.1 - Wetland Characteristics and Ecological Functions Assessment, St. Columban Electrical Interconnection Line Project Location Addendum

Table 4.	1 - We	tland Characteristic	cs and Ecolo	ogical Functions	Assessment, St	t. Columban Ele	ectrical Interc	onnectio	n Line Project l	ocation Addend							
Feature #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (approximate)	Interspersion (estimate)	Flood Attenuation	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habitat
8	0.9	Marsh	Palustrine	gc, ne	700m	25	Midreach; 602 hectare catchment area	Type 1	No evident inflow, intermittent outflow; over 50% agricultural landscape; high proportion of live herbs.	Marsh with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with predominantly clay loam soil	Palustrine marsh on clay loam soils with no inflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Absent
10	7.4	Swamp	Riverine	h,ts, gc	120m	73	Headwater; 189 hectare catchment area	Type 1	Permanent inflow and outflow; over 50% agricultural landscape; high proportion of live trees.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Presence of tree and shrub shoreline species	Riverine feature with predominantly clay loam soil	Riverine swamp on clay loam soils with permanent inflow and outflow. The presence of the man-made drainage feature is the basis for riverine classification. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Present
11	19.3	Swamp	Palustrine	h,ts, gc	175m	60	Headwater; 120 hectare catchment area	Type 1	No evident inflow, intermittent outflow; over 50% agricultural landscape; high proportion of live trees.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with predominantly clay loam soil	Palustrine swamp on clay loam soils with no inflow and intermittent outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Absent
12	2.9	Swamp	Palustrine	h,ts, gc	300m	40	Headwater; 27 hectare catchment area	Type 1	No evident inflow, intermittent outflow; over 50% agricultural landscape; high proportion of live trees.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with predominantly loam soil	Palustrine swamp on loam soils with no inflow and intermittent outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Absent

Table 4.1 - Wetland Characteristics and Ecological Functions Assessment, St. Columban Electrical Interconnection Line Project Location Addendum

Feature #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (approximate)	Interspersion (estimate)	Flood Attenuation	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habita
15	26.3	Swamp	Riverine	h, ts, gc, ne	480m	60	River- mouth; 42477 hectare catchment area	Type 2	Permanent inflow and outflow; over 50% agricultural landscape; high proportion of live trees.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Presence of tree and shrub shoreline species	Riverine feature with predominantly alluvial soil	Riverine swamp on alluvial soils with permanent inflow and outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None knownto be present	None knownto be present	Presen
18	2.9	Swamp	Palustrine	c, h, gc, ne	225m	34	Headwater; 109 hectare catchment area	Type 1	Intermittent inflow and outflow; over 50% agricultural landscape; high proportion of live herbs.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with predominantly loam soil	Palustrine swamp on loam soils with intermittent inflow and outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Not known to be present
21	3.2	Swamp	Riverine	h, gc, ts	175m	40	River- mouth; 1148 hectare catchment area	Type 1	Permanent inflow and outflow; over 50% agricultural landscape; high proportion of live trees.	Swamp with <50% coverage of organic soil	No evidence of discharge observed	Presence of tree shoreline species	Riverine feature with predominantly loam soil	Riverine swamp on loam soils with permanent inflow and outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Presen
23	3.9	Marsh	Palustrine	gc, ne, re	215m	35	Headwater; 102 hectare catchment area	Type 1	No evident inflow, intermittent outflow; over 50% agricultural landscape; high proportion of live herbs.	Marsh with <50% coverage of organic soil	No evidence of discharge observed	Not applicable	Palustrine feature with predominantly loam soil	Palustrine marsh on loam soils with no inflow and intermittent outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Absent

Table 4.1 - Wetland Characteristics and Ecological Functions Assessment, St. Columban Electrical Interconnection Line Project Location Addendum

Table 4.	T - MAG	tland Characteristic	LS and Ecolo	gical Functions	Assessment, 5	L. COIUIIIDAII EIC	ectrical interc	onnectio	n Line Project	Location Addend			7				,
Feature #	Size (ha)	Wetland Type	Site Type	Vegetation Communities	Proximity to other wetlands (approximate)	Interspersion (estimate)	Flood Attenuation	Open Water Types	Water Quality Improvement (short term)	Water Quality Improvement (long term nutrient trap)	Water Quality Improvement (groundwater discharge)	Shoreline Erosion	Groundwater Recharge	Summary of Hydrology	Rare Species	Significant Features	Fish Habitat
25a	14.3	Marsh	Riverine	ne, gc	20m	75	River- mouth; 14580	Type 2	Permanent inflow and outflow; over 50% agricultural landscape; high proportion of live herbs.	Marsh with <50% coverage of organic soil	Seeps observed	Presence of emergent shoreline species	Riverine feature with predominantly alluvial soil	Riverine marsh on alluvial soils with permanent inflow and outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	Villosa iris (not observed)	None known to be present	Present
25b	5.3	Marsh	Riverine	ne, gc	20m	75	hectare catchment area	Type 2	Permanent inflow and outflow; over 50% agricultural landscape; high proportion of live herbs.	Marsh with <50% coverage of organic soil	Seeps observed	Presence of emergent shoreline species	Riverine feature with predominantly alluvial soil	Riverine marsh on alluvial soils with permanent inflow and outflow. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	Villosa iris (not observed)	None known to be present	Present
31	0.5	Marsh	Riverine	gc, ne	350m	34	Headwater; 598 hectare catchment area	Type 1	Permanent inflow and outflow; over 50% agricultural landscape; high proportion of live herbs.	Marsh with <50% coverage of organic soil	No evidence of discharge observed	Presence of emergent shoreline species	Riverine feature with predominantly clay loam soil	Riverine marsh on clay loam soils with permanent inflow and outflow. The presence of the man-made drainage feature is the basis for riverine classification. Situated in a predominantly agricultural watershed. Data based on surveys, air photo interpretation, and soil mapping*	None known to be present	None known to be present	Present

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Table 4.2: Assessment of Significance for Woodlands found within 120 m of the St Columban Underground Electrical Interconnection Line Project Location

					Ecolo					
Natural Feature Number	Size (Ha)	ELC Type(s) within 120m of Project Location	Woodland Size Criteria	Woodland Interior	Proximity to other Significant Woodlands or Habitats <sup>1</sup>	Linkages <sup>2</sup>	Water Protection <sup>3</sup>	Woodland Diversity Representation <sup>4</sup>	Uncommon Characteristics Criteria <sup>5</sup>	Woodland is Considered Significant (meets at least 1 criteria)
16	3.2	FOD4	No	No	No	No	No	No	unknown	Yes (conservative estimation)

<sup>1-</sup> located within 30m of an identified significant feature or fish habitat and the woodland is 20 ha or larger

<sup>2-</sup>located between two other significant features each of which is within 120 m and the woodland is 20 ha or larger

<sup>&</sup>lt;u>3-</u> located within 50m of a sensitive hydrological feature (i.e. fish habitat, groundwater discharge, headwater area) and the woodland is 2 ha or larger

<sup>4-</sup> has an area dominated by native natural occurring woodland species and the woodland is 20 ha or larger

<sup>5-</sup> has uncommon species composition, cover type, age or structure or are older than 100 years old and the woodland is 2 ha or larger

Table 5.1: Summary of Potential Impacts and Mitigation Measures for the St Columban Underground Electrical Interconnection Line Project Location

Feature Type (see Figures 4.1 – 4.5)	Underground electrical interconnection line sited within 120 m	Potential Impacts	Mitigation Measures*
Provincially Significant Wetlands	Distance ranges from >0.1m from the wetland to 44.66 m	No negative impacts are expected (Sections 5.2)	No development in wetland boundary.  Construction contractor to ensure no work occurs outside of the limits of construction envelope  No pruning woody vegetation; directional boring will occur where heavily vegetated areas occur. Directional boring is recommended at features 12 and 15
		Contamination through accidental spills during construction or operation	No refuelling or maintenance of vehicles in, or adjacent to the wetland. In the event of an accidental spill, the MOE Spills Action Centre should be contacted and emergency spill procedures implemented immediately
Significant Woodlands	Distance ranges from adjacent to the wetland to 94.34 m	No negative impacts are expected (Sections 5.3)	No development in woodland boundary.  Construction contractor to ensure no work occurs outside of the limits of construction envelope
		Contamination through accidental spills during construction or operation	No refuelling or maintenance of vehicles in, or adjacent to the woodland. In the event of an accidental spill, the MOE Spills Action Centre should be contacted and emergency spill procedures implemented immediately

Table 5.1: Summary of Potential Impacts and Mitigation Measures for the St Columban Underground Electrical Interconnection Line Project Location

Feature Type (see Figures 4.1 – 4.5)	Underground electrical interconnection line sited within 120 m	Potential Impacts	Mitigation Measures*
Generalized Candidate Significant Wildlife Habitat: Winter Deer	Adjacent to winter deer yard	No negative impacts are expected (Section 5.4)	Anticipated construction window is August to November, avoiding wintering deer season.  Construction contractor to ensure no work occurs outside of the limits of construction envelope
Yard		Contamination through accidental spills during construction or operation	No refuelling or maintenance of vehicles in, or adjacent to the feature. In the event of an accidental spill, the MOE Spills Action Centre should be contacted and emergency spill procedures implemented immediately
Generalized Candidate Significant Wildlife	n/a	No negative impacts are expected (Section 5.5)	Construction contractor to ensure no work occurs outside of the limits of construction envelope.
Habitat: Eastern Ribbonsnake, Milksnake,			Silt barriers to be erected along feature edges that occur within 30m of construction work to ensure prevention of wildlife access.
Snapping Turtle			Daily inspection of construction vehicles prior to operation.
			If a snake or turtle species is identified within the work zone, do not handle species prior to contacting MNR.

Potential	Mitigation	Performance		Mo	onitoring Plan			Contingency	
Negative Effect	Strategy	Objective	Methods	Location	Frequency	Rationale	Reporting	Measures	
CONSTRUCTION	J								
Disturbance to adjacent vegetation	Work to be restricted to construction envelope	No work beyond construction area	Visual inspections to ensure works stay within construction area	Features 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 31	Weekly	n/a	Monthly	Immediately stop work in off-limit areas	
Contamination of natural heritage features through accidental spill	Proper storage of materials off- site in storage containers  Adherence to Emergency Response Plan  Contact MOE Spills Action	Minimize likelihood of spill Contain spill material	Visual inspections to ensure proper storage	Storage areas	Weekly	n/a	Monthly	Follow-up monitoring /inspections in the event of an accidental spill/leak  Remedial actions may be required in the event monitoring indicates a negative effect to natural features	

NATURAL HERITAGE ASSESSMENT AND ENVIRONMENTAL IMPACT STUDY February 2012

Table 5.2: Construction Monitoring Plan for the St Columban Underground Electrical Interconnection Line Project Location

Potential	Mitigation	Performance		Monitoring Plan								
Negative Effect	Strategy	Objective	Methods	Location	Frequency	Rationale	Reporting	Contingency Measures				
	Centre											

## **Appendix C**

Field Forms

<b>7</b>	Stantec Con 1 – 70 South Guelph, ON Carel (519) 83 Fax: (519) 83	gale Drive 3 4P5 3-6050	•	Roadside ELC, Woodland & Wildlife Habitat Assessment Form  Project Name: St. Columbian Field Personnel: SC, NK								
L	TEMP (°	C):	WIND:	T	CLOUD:	PPT:	PPT (in last 24 hrs):					
Weather Conditions:	18		1		10%	none	none					
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				TOP	OGRAPHIC F	EATURE	HISTORY					
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STANDING SNAGS:			N <10	N	10 – 24	N 25 - 50	>50					
ABUNDANCE CODES:		N:	NONE R=RARE	0=	OCCASIONAL	A=ABUNDANT N	I/O=Not observed					
STAND MATURITY:	PIONEER		YOUNG		MID-AGE	MATURE	OLD GROWTH					
VEGETATION TYPE:		old	field m	Y Ca	dow	CODE: CUM	-					
COMP	LEX					CODE:						

LAYERS: 1=CANOPY > 10m 2=5 ABUNDANCE CODES: N=NONE R=	SEATLES TOOL	LA	/ER		DISTANCE	FROM RD.	ALCOHOL:
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Signature:	Signature:	
(Field Personnel)	(Project Manager)	

ELC Polygon: # Assessment Type: ☑-Visual; no access / □-Walk through feature														
Extent of Physical Inve	estigati	on of F	eature:	□-Er	ntire / 🗖	-Partial	l, walk	through po	olygon <i>(inc</i>	dicate on map)				
Reptile / Bat Hiber	nacula	Featu		Contains potential reptile hibernacula features?  —Y* / ②-N / ②-Unknown, no access (*if yes, describe in table below)  [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abuttments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)  Contains potential bat hibernacula features?  —Y* / ③-N / ①-Unknown, no access (*if yes, describe in table below)  [i.e. karst topography, abandoned mines or caves]										
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UTM			]	Featı	ire Desc	ription			Photo No	. Spp. C	bserved	Using Feature		
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Contains potential bat roosting features?  □-Y* / Ū-N / □-Unknown, no access (*if yes, describe in table below)  [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]  OTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED														
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CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

	<b>B</b>	Stantec Con- 1 – 70 South, Guelph, ON Canada N1G Fel: (519) 836 Fax: (519) 83	gate Driv 3 4P5 3-6050		Woodla	oadside ELC nd & Wildlife sessment Fo	Habitat			
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	etation type:		erwa	y Spruce	Plantation	CODE:	3-12*			
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Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 3-6050		Woodla	oadside EL0 nd & Wildlife sessment Fo	Habitat				
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VEGETATION TYPE	decid	x01	is swam	NS.	CODE: SWD	3				
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Reptile / Bat Hibern	nacula F	[ ] } [	li.e. features t bridge abutme Contains po	/ 2-Unknothat would pi ents or culve otential bat / 2-Unknothat	own, no rovide a rts with hiberna own, no	acces route un eracks/e acula fe acces	s (*if yes, iderground, intry points eatures? s (*if yes,	describe in table including buried of	oncrete lices or	or rock (e.g. foundations, inactive animal burrows)]
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UTM			Feature Desc	cription			Photo No	Spp. O	bserve	d Using Feature
Bat Roosting Feat		[i.e. tall tree	/ Q-Unknoves with open	wn, no acc surroundi	ess (*if	yes, d		table below) facing cavities ~	10m hi	gh in tree]
POTENTIAL BAT RO UTM	Tree ID	1		Photo No	o. De	cay Cla	ass (1-5)	No. of Cavities	Heigh	at and Type of Cavities
		1								
Stick Nests:			Contains la □-Y* / □-N	rge stick n / ⊠-Unkn	ests? own, no	acces	s (*if yes,	describe in tabl	e belov	v)
STICK NEST(S) IDEN	TIFIED	Tree ID	Tre	e Spp.	Ne	st Size	Photo N	o. Spp. C	bserve	ed Using Feature
										9
										11
Seeps/Springs/Ver	nal Pool	ls:	Contains se □-Y* / □-N	eps/spring	gs/verna own, no	al pools	s? is (*if yes,	describe in tabl	e belov	v)
SEEP / SPRING / VER	NAL POO	OL FEATURE	<del>``</del>				-			
UTM	Fea	ature No. & Ty	pe Featur (Diam		Water D	Pepth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
									<del></del>	
						1101				
SPECIES & HABITAT	r obsery	VATIONS (list	species and	type of ob	servatio	n & in	dicate on	map)		
=								2		
										40

Stantec	Stantec Con 1 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv	e	Woodland & Wildlife Ha							
		6	X- (3)	7.0			<del> </del>				
Project Number:	-21	W/	<u> </u>	Proje	ct Name:						
Date:	SAN	0.0	V	Field P	ersonnel:						
Weather Conditions:	TEMP (°	1, ,	WIND:	CLC	IUD:	PPT:	PPT (in last 24 hrs):				
	· · · · · · · · · · · · · · · · · · ·			POLYG	ON DES	CRIPTION					
				TOPOGR	APHIC F	EATURE	HISTORY				
ELC	POLYGON:	13	ħi.	□ LACUS □ RIVERII ■ BOTTO	NE	□ TALUS □ CREVICE / CAV □ ALVAR	E CULTURAL				
COMMUNITY	START TIM	E:		☐ TERRA	CE	□ ROCKLAND □ BEACH / BAR					
DESCRIPTION & CLASSIFICATION	END TIME:	•		D TABLES D ROLL. I	AND	SAND DUNE	j				
STAND DESCRIP	TION:		-								
LAYER	НТ	CVR				ECREASING DO ATER THAN; = A	MINANCE BOUT EQUAL TO)				
1 CANOPY	2	4									
2 SUB-CANOP	Υ	NIC									
3 UNDERSTORE	Υ	N/O									
4 GRD. LAYER	-	NIC									
HT CODES: CVR CODES:						5 <ht≤1m 6="0.2&lt;H&lt;br">60% 4=CVR&gt;60%</ht≤1m>	T≤0.5m 7=HT<0.2m				
				- 11							
STANDING SNAGS	N/0		<10		0 – 24	25 - 50	>50				
ABUNDANCE CODES:		N	=NONE R=R	ARE <b>0</b> =OCC	ASIONAL	<b>A=</b> ABUNDANT	N/O=Not observed				
STAND MATURITY:	PIONEER	₹	YOUNG	V MID-A	NGE .	MATURE	OLD GROWTH				
VEGETATION TYPE	eral [	)eci	duous	Swan	10	CODE: SWI	)4				
COM	PLEX				· ·	CODE:	-				

ABUNDANCE CODES: N=NONE R=RAP	THE RESERVE	LA'	YER		DISTANCE	FROM RD.	COLL
SPECIES CODE	M1.8	2	3	4	≤5 m	>5 m	COLL
REES:							
Partien	A						
Poptrem Fraxious sp. Acefree Salix sp.	A						
Arpfrog.	0						
Salix 50	0					<u> </u>	
Aceneali	0				<del>-</del>		
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ROUND:					-		
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		Qualit	y Control	:This fo	m is comple	ete 🛭 & legib	le 🖫.
ignature:		S	ignature	:	1		

ELC Polygon: #	Asse	ssment Type:	☑-Visual;	no acces	ss / 🗅-	-Walk throu	gh feature	•		
Extent of Physical Inv	- estigatio	on of Feature:	□-Entire /	□-Partia	ai, wail	k through po	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hiber	nacula I		□-Y* / □- [i.e. feature bridge abut Contains   □-Y* / □-	N / Q-Un s that woul ments or cootential N / Q-Un	knowi Id prov ulverts bat hil knowi	n, no accesside a route un with cracks/epernacula fen, no access	s (*if yes, iderground, intry points eatures? is (*if yes,	describe in table including buried of exposed rock crew	oncrete c	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBERN	NACULA			A			04/65/			
UTM			Feature D	escription	1		Photo No	o. Spp. O	bserved	Using Feature
		······				and the second s				
				,						
Bat Roosting Feat		□-Y* / □-N [i.e. tall tree	/ 🗷 Unknes with ope	own, no en surrou	acces	s (*if yes, d			10m hig	h in tree]
POTENTIAL BAT RO	OSTINO Tree II				- N7 -	D CI	(1.5)	N. CO.	TT . 1.4	LT COLUMN
OTM	I ree II	D Tree Sp	о. <u>рв</u> і	H Pnote	o No.	Decay Cla	ISS (1-5)	No. of Cavities	Height	and Type of Cavities
						1				
						L				
Stick Nests:			Contains	large stic N / ⊠-Ur	k nes	ts? n, no acces	s (*if yes,	describe in tabl	e below	)
STICK NEST(S) IDEN	TIFIED		· · · · · · · · · · · · · · · · · · ·				1			
UTM		Tree ID	Tı	ree Spp.		Nest Size	Photo N	o. Spp. C	)bserve	d Using Feature
Seeps/Springs/Ver	nal Poo	ols:	Contains	seeps/sp -N / 🗹-Ur	rings/ nknow	vernal pools	s? is (*if yes,	describe in tabl	e below	·)
SEEP / SPRING / VEF	RNAL PO	OL FEATURE								
UTM	F	eature No. & Ty	Vine I		Wa	ter Depth	Photo No			Shrubs/ Logs at Edge Present?
										- a full subdivides
SPECIES & HABITA	г obser	RVATIONS (list	t species aı	nd type of	fobser	vation & inc	dicate on	map)		- 127
				Atture Description Photo No. Spp. Observed Using Feature  Initial bat roosting features?  Init						

Project Number: - Date:	- ^0	<u>, γ</u>	5 0		oadside ELG nd & Wildlife sessment Fo	Habitat
Date:		<u>ン `</u>		Project Name:	to ord	
_	Shi	201	YCON .	Field Personnel:		
Weather Conditions:	TEMP (°	()Co	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
<u></u>				POLYGON DES	CRIPTION	
				TOPOGRAPHIC F	EATURE	HISTORY
ELC S	TART TIME:	13 E:	3	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	CULTURAL
STAND DESCRIPT	пом:			D OLIT		.1
LAYER	нт	CVR			DECREASING DOM ATER THAN; = AB	
1 CANOPY	2	4				
2 SUB-CANOPY		NIC				
3 UNDERSTORE	Y	N/O				
4 GRD. LAYER		N/D				
HT CODES: CVR CODES:	1=>25m 0=NONE				.5 <ht≤1m 6="0.2&lt;HT≤&lt;br">:60% 4=CVR&gt;60% N</ht≤1m>	
STANDING SNAGS:	NI	0-51	<10	10 – 24	25 – 50	>50
ABUNDANCE CODES:		N	NONE RERARE	0=OCCASIONAL	A=ABUNDANT N	/O=Not observed
STAND MATURITY:	PIONEER		YOUNG	MID-AGE	✓ MATURE	OLD GROWTH
VEGETATION TYPE:	mp m	raple	deciduo	ous 8 Warm	CODE: SWI)	3-3
COMP					CODE:	
77					I	

ABUNDANCE CODES: N=NONE R=RARE C	S ASNA		YER		DISTANCE	FROM RD.	to the last
SPECIES CODE	1 1	2	3	4	≤5 m	>5 m	COLL
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Acefree	A						
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ROUND:				ļ		ļ	
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		Qualit	y Contro	i: Inis to	rm is comple	ete 🗆 & legibl	ıe <b>⊔</b> .

ELC Polygon: #	Asse	ssment Type:	₩-Vi	isual; no	access / 🗆	I-Walk throu	igh feature	•		
Extent of Physical Inv	- estigatio	n of Feature:	Q-E	ntire / 🗖	-Partial, wa	ilk through p	olygon <i>(ir</i>	dicate on map)		
Reptile / Bat Hiber	nacula f	eatures:	□-Y' [i.e. t bridg Cont	* / □-N / leatures the le abutme tains pot * / □-N /	/ ☑-Unknov nat would pro nts or culvert tentiál bat h / ☑-Unknov	vide a route un s with cracks/d i <b>bernacula f</b>	s (*if yes, inderground entry points eatures? is (*if yes,	describe in tab., including buried	concrete vices or	or rock (e.g. foundations, inactive animal burrows)]
POTENTIAL HIBER	NACULA	FEATURE(S)	IDE	NTIFIE	D ,					
UTM			Feat	ure Desc	ription		Photo N	o. Spp. (	)bserve	d Using Feature
					***************************************					
Bat Roosting Feat		□-Y* / □-N [i.e. tall tree	1/ □ es wi	Unknow th open	surrounding	ss (*if yes, d		table below)	-10m hi	gh in tree]
POTENTIAL BAT ROUTE	Tree II	····		DBH	Photo No.	Decay Cl	ass (1 5)	No. of Cavities	Hairb	t and Turn of Carities
OTIVE	1 ree 11	i ree sp	<b>р.</b>	DDR	rnoto No.	Decay CI	ass (1-5)	No. 01 Cavities	Heigh	t and Type of Cavities
										11
Stick Nests:	TOTOLED.		Con -Y	itains lar ′* / ロ-N	ge stick ne	sts? wn, no acces	ss (*if yes,	describe in tab	le belov	v)
STICK NEST(S) IDEN	VIIFIED	Tree ID	Τ	Tree	Spp.	Nest Size	Photo N	Spp.	Nhearve	ed Using Feature
		110010	1	1100	Брр.	Trest Size	I Hoto I	о. Зрр.	Obscive	d Osing Peature
			İ				1			(e)
Seeps/Springs/Ver			Q-Y	/* / 🔾-N	/ ☑-Unknov	/vernal pool wn, no acces	s? ss (*if yes,	describe in tab	le belov	ν)
SEEP / SPRING / VEF	RNAL PO	OL FEATURI	E(S) I				T	10.15		In the second
UTM	Fe	ature No. & T	ype	Feature (Diam	1 1	ater Depth	Photo No	Sub/Emerge Spp. Pres		Shrubs/ Logs at Edge Present?
			1,							
			-							
							1			
SPECIES & HABITA	T OBSER	VATIONS (lis	t spe	cies and	type of obse	rvation & in	dicate on	map)		
			i.							
18										
E.										
					42					

Stantec	1 – Gue Can Tel:	ntec Con 70 South elph, ON lada N10 (519) 836 : (519) 83	gate Driv 3 4P5 3-6050	~~			land	dside El & Wildli ssment F	fe Ha	ıbitat
Project Number	r:	SW	8	1	SP)	Project Na	me:			
Date	: <u> </u>	<u> 77</u>		70	, c	Field Person	nel:			
Weather Conditions:		TEMP (°	c): 🗘	WIND:		CLOUD:		PPT	PPT	(in last 24 hrs)
						POLYGON E	ESCRI	PTION		
						TOPOGRAPH	C FEAT	URE	HIST	TORY
ELC		YGON:	11			□ LACUSTRINE □ RIVERINE □ BOTTOMLAN □ TERRACE		ALUS REVICE / CAV LVAR OCKLAND	/E [ ` ` `	ATURAL JLTURAL
COMMUNITY DESCRIPTION & CLASSIFICATION	ENC	TIME:				□ VALLEY SLO □ TABLELAND □ ROLL. UPLAI □ CLIFF	_ ps	EACH / BAR AND DUNE LUFF		
STAND DESCRI	PTIC	N:								
LAYER		нт	CVR	1		S IN ORDER ( TER THAN; >(				
1 CANOPY		2	4	ļ						
2 SUB-CANOI			N/O							
3 UNDERSTOR	EY	<u> </u>	N/0							· · · · · · · · · · · · · · · · · · ·
4 GRD. LAYE	R	<u> </u>	N/C							
HT CODES: CVR CODES:						n 4=1 <ht≤2m ′R≤25% 3=25&lt;0</ht≤2m 				
STANDING SNAG	S:	NA	0-1	>) <10		10 - 24		25 - 50	$\Pi$	>50
	3:		N	I=NONE R	RARE	0=OCCASION	AL A=	ABUNDANT	N/O=No	t observed
ABUNDANCE CODES						AUD ACE		MATURE		
ABUNDANCE CODES	<b>/</b> :	PIONEER	≀	YOUNG		MID-AGE		MATURE	11 1	OLD GROWTH
	E:		Mar	, ,	<u>udı</u>	Lous SI	ICOL	DE: O:		5-3

ABUNDANCE CODES: N=NONE R=RAR			YER		DISTANCE	FROM RD.	
SPECIES CODE	1	2	3	4	≤8 m	>5 m	COLL
TREES:							
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SHRUBS:				<b>†</b>	1		
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GROUND:				-	-	-	
SKOUND.				-			
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W/resource\Internal Info and Teams\FIELD FORMS\Vegetation\ELC\elc-woodland-wildlife-habitat-form_simplified.docx / (DERIVED FROM LEE ET AL., 1998)	

Signature:

(Field Personnel)

Signature:

(Project Manager)

ELC Polygon: #	Asse	essment Type:	☑-Visual;	no acces	ss / 🗅-	-Walk throu	gh feature	)		
Extent of Physical In	 vestigatio	on of Feature:	□-Entire /	′ <b>□</b> -Partia	ıl, wall	k through po	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hibe	rnacula		□-Y* / □- [i.e. feature bridge abut Contains □-Y* / □-	N /☑-Un s that woul ments or c potential N / ☑-Un	knowild provolverts bat hil	ide a route un with cracks/e pernacula fe	s (*if yes, aderground, entry points eatures? s (*if yes,	describe in table including buried o	oncrete lices or i	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBER	NĄCULA								<del></del>	
UTM	-		Feature D	escription	1		Photo No	o. Spp. O	bserve	Using Feature
Bat Roosting Fea		[i.e. tall tree	I / 🗗 Unkr es with ope	own, no en surrou	acces	s (*if yes, de	e <b>scribe in</b> cm, side-	table below) facing cavities ~	10m hiç	gh in tree]
UTM /	Tree	- 1		<del></del>	o No.	Decay Cla	ıss (1-5)	No. of Cavities	Heigh	t and Type of Cavities
										- Jp
									14	
Stick Nests:	įsi		Contains	large stic -N / ☑-Ur	k nes know	ts? n, no acces	s (*if yes,	describe in tabl	e belov	()
STICK NEST(S) IDE	NTIFIEL		1			1				
UTM		Tree ID	T	ree Spp.		Nest Size	Photo N	o. Spp. C	)bserve	d Using Feature
Seeps/Springs/Ve	rnal Po	ols:	Contains	seeps/sp	rings/	vernal pools	s?	describe in table	o bolou	A
SEEP / SPRING / VE	RNAL P	OOL FEATURE			IKITOW	II, IIO acces	s ( II yes,	describe in table	e Delon	<i>'</i> )
UTM	T T	Feature No. & T	Feat	ure Size ameter)	Wa	ter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
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SPECIES & HABITA	AT OBSE	RVATIONS (lis	t species a	nd type of	obser	vation & inc	dicate on 1	nap)		
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CA=carcass: DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track: VO=vocalization

Stantec Consulting Ltd. 1 – 70 Southgate Drive Guelph, ON Canada N1G 4P5 Tel: (519) 836-8050 Fax: (519) 836-2493  Project Number: Date:  TEMP (°C): WIND: CLOUD: PPT: PPT (in last propagation)  POLYGON DESCRIPTION TOPOGRAPHIC FEATURE HISTORY	
Weather Conditions:  TEMP (*C): WIND: CLOUD: PPT: PPT (in last polygon description topographic feature history)	st 24 hrs):
Weather Conditions:  TEMP (*C): WIND: CLOUD: PPT: PPT (in last  POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE HISTORY	st 24 hrs):
POLYGON DESCRIPTION TOPOGRAPHIC FEATURE HISTORY	st 24 hrs):
TOPOGRAPHIC FEATURE HISTORY	
	I K
POLYGON:    DIACUSTRINE   TALUS   DIACUSTRINE   CREVICE / CAVE   DIACUSTRINE	
COMMUNITY DESCRIPTION & CLASSIFICATION  END TIME:  CLASSIFICATION  CLASSIFICAT	ä.
STAND DESCRIPTION:	
LAYER HT CVR SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN: >GREATER THAN: = ABOUT EQU.	AL TO)
1 CANOPY 2 4	(19.1
2 SUB-CANOPY N/C	
3 UNDERSTOREY N/O	
4 GRD. LAYER N/O	
HT CODES: 1=>25m 2=10 <ht≤25m 0="NONE" 1="0%&lt;CVR&lt;10%" 2="10&lt;CVR&lt;25%" 3="25&lt;CVR≤80%" 4="CVR" 5="0.5&lt;+HT≤1m" 6="0.2&lt;hT≤0.5m" 7="hT" codes:="" cvr="">60% N/O=not obse</ht≤25m>	
STANDING SNAGS: (10 - 24   25 - 50	>50
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT N/O=Not obse	rved
ABUNDANCE CODES:  N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT N/0=Not obse  STAND MATURITY: PIONEER YOUNG MID-AGE MATURE OLD G	erved SROWTH
ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT N/O=Not obse	

ABUNDANCE CODES: N=NONE R=		LA	YER	il a s	DISTANCE	FROM RD.	Bank S
SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLI
REES:							
Poptrem	0						
Salix sp.	Ŏ			1			
Aceneal		0					
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HRUBS:			_	1	<u> </u>		
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		Quali	ty Contr	ol:This fo	orm is comple	ete 🚨 & legib	ie 🗆.
Sinnatura.							
Signature: (Field Personne	-h	S	ignatur	'e:	(Omiort	Manager)	

ELC Polygon: #	Asses	sment Type: 🕒	r-Visual; no	access / 🗆	-Walk throu	gh feature			
Extent of Physical Inv	estigation	of Feature:	I-Entire / □	I-Partial, wa	lk through p	olygon <i>(in</i> d	dicate on map)		
Reptile / Bat Hiber	nacula F	[i. br	I-Y* / □-N i.e. features the ridge abutme contains po I-Y* / □-N	hat would pro- ents or culverts tentjal bat h	n, no acces vide a route un with cracks/e ibernacula fo n, no acces	s (*if yes, onderground, entry points. eatures? is (*if yes, o	describe in table including buried e	oncrete or roo rices or inacti	ck (e.g. foundations. ve animal burrows)}
POTENTIAL HIBER	NACULA I			34.			***************************************	7	
UTM		F	eature Desc	eription		Photo No	. Spp. O	bserved Usi	ng Feature
					<del> </del>	<u> </u>			
		**			32				
Bat Roosting Feat	İ		□-Unknov with open	wn, no acces surrounding	s (*if yes, d	escribe in	table below) acing cavities ~	10m high in	tree]
POTENTIAL BAT ROUTM	Tree ID	<del></del>	,	Photo No.	Decay Cla	nn (1 E)	No of Consision	II-i-b4	T of Conition
OTAL	Tree ID	Tree Spp.	ры	Filoto No.	Decay Cr	ass (1-5)	No. of Cavities	rieight and	Type of Cavities
								,	
Stick Nests:		(	Contains la ⊒-Y* / □-N	rge stick nes	sts? vn, no acces	ss (*if yes,	describe in tabl	e below)	
STICK NEST(S) IDE	TIFIED					12	11	la la	
UTM		Tree ID	Tree	e Spp.	Nest Size	Photo No	o. Spp. C	Observed Us	ing Feature
					+				
Seeps/Springs/Ve	rnal Poo	ls: C	Contains se D-Y* / □-N	eeps/springs	/vernal pool	s? ss (*if ves.	describe in tabl	e below)	
SEEP / SPRING / VEI	RNAL POO	**********							
UTM	Fea	ature No. & Typ	Featur (Diam		ater Depth	Photo No.	Sub/Emerger Spp. Prese		rubs/ Logs at Edge Present?
			,)						
									······································
SPECIES & HABITA	T OBSER	VATIONS (list s	species and	type of obse	rvation & in	dicate on n	nap)		
	a c								a

96	Stantec Consulti 1 – 70 Southgate Guelph, ON	Drive		toadside ELC		LAYERS: 1=CANOPY >1 ABUNDANCE CODES: N	10m 2=SUB-CANOPY =NONE R=RARE 0=OC	3=L	INDER AL A=	ABUNI	EY 4	=DOMINAN	(GRD.) LAYE T N/O=Not o	ER observed
10	Canada N1G 4P5 Tel: (519) 836-605	0	A	sessment Fo		SPECIES	CODE	1	2	3	4	≤5 m	>5 m	COLL.
Stantec	Fax: (519) 836-24	93 25	9) As	sessment ro	11111		20年2月末日時1年日	Q [0-5] (8)	2430	Party See	Mars IN	20 111	20 III	
Project Number		, Y	Project Name			TREES:		-0	-					-
Date	- W/X		Field Personnel			Fraxinus sp					-	<del> </del>	1	
Date	- <del> </del>	70	- Field Personnel	·		Larlarc		0				<del> </del>		<b> </b>
Weather Conditions:	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):	Acenegu		<u> </u>						
			POLYGON DES	CRIPTION										
			TOPOGRAPHIC I		HISTORY				$\rightarrow$		ļ			ļ
	POLYGON:	16	☐ LACUSTRINE ☐ RIVERINE	☐ TALUS ☐ CREVICE / CAVE	MATURAL							-		
ELC		10	- E BOTTOMLAND	□ ALVAR	CULTURAL			-	_					ļ
COMMUNITY	START TIME:		TERRACE	□ ROCKLAND □ BEACH / BAR								ļ		
DESCRIPTION &	END TIME:	**	D YALLEY SLOPE	SAND DUNE										ļ
CLASSIFICATION	END TIME.		ROLL. UPLAND	D BLUFF										
NAME AND POST OF THE PARTY.	L		□ CLIFF	<del></del>		SHRUBS:					ı.			
STAND DESCRI	PTION:													<u> </u>
LAYER	HT CV			DECREASING DOMI										
		(>>MUCH GRE	EATER THAN; >GRI	ATER THAN; = ABO	OUT EQUAL TO)									
1 CANOPY	2 4													
2 SUB-CANOF	1 7													
3 UNDERSTOR	1 1													
4 GRD. LAYE	1/ */					-				1				
HT CODES:				.5 <ht≤1m 6="0.2&lt;HT≤0&lt;/td"><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1000</td><td></td><td>}</td></ht≤1m>								1000		}
CVR CODES:		H XI		≤60% 4=CVR>60% N/										
STANDING SNAGS		<10	10 – 24	25 – 50	>50									1
ABUNDANCE CODES	:	N=NONE R=RAR	E <b>0</b> =OCCASIONAL	A=ABUNDANT N/	O=Not observed									
STAND MATURITY	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH									
VEGETATIONATYR	E: 10	Λ		CODE:		GROUND:								
VEGETATION TYPE	1 decidu	ous tores	<u> </u>	FOD:	2									<del> </del>
	/PLEX			CODE:		2			11					
		11		1-4					-+					<b></b>
Evidence of Dist	urbance / Note	es:							_			<b></b>	<b></b>	-
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Signature:			S	ignature	<b>):</b>	8					
<del></del>	(Field Personnel)					(Project	Manager)				

Extent of Physical Inves		of Feature: □-									
Reptile / Bat Hiberna	icula Fe	[i.e. brid Cor	Contains potential reptile hibernacula features?  -Y* / -N / -Unknown, no access (*if yes, describe in table below)  [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows.  Contains potential bat hibernacula features?  -Y* / -N / -Unknown, no access (*if yes, describe in table below)  [i.e. karst topography, abandoned mines or caves]								
POTENTIAL HIBERNA	CULA F							-11-			
UTM		Fea	ture Desc	cription		Photo No	. Spp. O	bserve	d Using Feature		
Bat Roosting Featur			<b>l∕-Unknov</b> ⁄ith open	vn, no acce surrounding	ss (*if yes, d	<i>lescribe in</i> 5cm, side-f	table below) acing cavities ~	10m hi	gh ìn tree]		
POTENTIAL BAT ROO		<del>,,</del>			D 60	(4.5)	N. 60 M	1			
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities		
				-							
				<u>L</u>			U 22 U				
Stick Nests:		Co	ntains laı Y* / □-N	rge stick ne / 🗹-Unknov	sts? wn, no acces	ss (*if yes,	describe in tabl	e belov	v)		
STICK NEST(S) IDENT	~~~~				1						
UTM		Tree ID	Tree	Spp.	Nest Size	Photo No	o. Spp. C	)bserve	d Using Feature		
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			пЕ								
Seeps/Springs/Vern	al Pools	: Co	ntains se Y* / □-N	eps/springs	s/vernal pool	s? ss (*if yes,	describe in tabl	e belov	v)		
SEEP / SPRING / VERN	AL POO										
UTM	Feat	ure No. & Type	Feature (Diam	TAV	ater Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?		
SPECIES & HABITAT	OBSERV.	ATIONS (list sp	ecies and	type of obse	rvation & in	dicate on n	nap)				
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CA=parcase: DP=distinctive	pr	C C	P73 P	L 1165 1	. 4 . 45 115	100 1	3 . At at 2	l lbard			

Stantec	Stantec Con 1 - 70 South Guelph, ON Canada N10 Tel: (519) 830 Fax: (519) 83	gale Driv 6 4P5 6-6050 6-2493	, p5	Roadside ELC, Woodland & Wildlife Habitat Assessment Form					
Project Number:	- 5	NE	100	Project Name:					
Date:	5K1	·	<del>,,,,,,,</del>	Field Personnel:	-				
Weather Conditions:	TEMP (°	C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):			
				POLYGON DES	CRIPTION				
				TOPOGRAPHIC F	EATURE	HISTORY			
ELC	POLYGON: START TIM END TIME:	17		☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL, UPLAND ☐ CLIFF	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	EH¶ATURAL			
STAND DESCRIP	TION:								
LAYER	нт	CVR	_		DECREASING DOMI ATER THAN; = ABO				
1 CANOPY	2	4	10	-					
	Y	NIO							
2 SUB-CANOP									
3 UNDERSTORE		NIO							
3 UNDERSTORE 4 GRD. LAYER	₹ .	NIO							
3 UNDERSTORE	1=>25m	N/O 2=10<+			.5 <ht≤1m <b="">6=0.2<ht≤ :60% <b>4=</b>CVR&gt;60% <b>N</b></ht≤ </ht≤1m>				
3 UNDERSTORE 4 GRD. LAYER HT CODES:	1=>25m 0=NONE	N/O 2=10<+							
3 UNDERSTORE 4 GRD. LAYER HT CODES: CVR CODES:	1=>25m 0=NONE	N/O 2=10<+ 1=0%<	CVR≤10% 2=10 <c< td=""><td>VR≤25% <b>3=</b>25<cvr±< td=""><td>660% 4=CVR&gt;60% N</td><td>O=not observed</td></cvr±<></td></c<>	VR≤25% <b>3=</b> 25 <cvr±< td=""><td>660% 4=CVR&gt;60% N</td><td>O=not observed</td></cvr±<>	660% 4=CVR>60% N	O=not observed			

CODE:

LAYERS:	1=CANOPY	>10m	2=SUB-C	ANOPY	3=UND	ERSTOREY	4=GROUND (G	RD.) LAYE	R
ABUNDAN	ICE CODES:	N=NONE	R=RARE	O=OCCA	SIONAL	A=ABUNDANT	D=DOMINANT	N/O=Not o	bserved
A CONTRACTOR	<b>建设,成为</b>	VENE SE	STATE OF STATE	THE THE	SERVED IN	AYER	DISTANCE F	ROM RD.	North Court

ABUNDANCE CODES: N=NONE R=RARE O=	- COCAGI	LA'	YER	212	DISTANCE	COLL.	
SPECIES CODE	1	2	#3 P	4	≤5 m	>5 m	COLL.
REES:							
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Fraxinus sp. Acesasa	A						
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SHRUBS:	-			<u> </u>	-		
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Signature:	Signature:	SC
(Field Personnel)		(Project Manager)

ELC Polygon: #	Asses	sment Type:	<b>⊠</b> -Visua	al; no a	access / 🗅-	Walk throu	gh feature	•		
Extent of Physical Inv	estigatior	of Feature:	□-Entire	e / 🗅-l	Partial, wall	through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hiber	nacula F		□-Y* / [i.e. feature bridge ab Contain □-Y* / [i.e.]	□-N / lares that outment is pote □-N / l	✓-Unknowr t would prove is or culverts ential bat hit✓-Unknowr	ide a route un with cracks/e pernacula fe	s (*if yes, aderground, entry points eatures? s (*if yes,	describe in table, including buried of	oncrete vices or i	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBERN	NACULA									
UTM	2		Feature	Descr	iption		Photo No	o. Spp. O	bserve	l Using Feature
				***************************************		•				
Bat Roosting Feat		[i.e. tall tree	l / ⊒A-Uni es with o	knowr pen s	n, no access urroundings	s (*if yes, d	<i>escribe in</i> cm, side-	table below) facing cavities ~	10m hig	gh in tree]
POTENTIAL BAT RO						D CI	(1.5)	N. 60 W	TT	100 00 11
UTM	Tree ID	Tree Sp	p. D	ВН	Photo No.	Decay Cla	No. of Cavities	Heigh	t and Type of Cavities	
										ATT THE SECOND S
Stick Nests:			Contain	a lora	o otick pool	-2				
Stick Nests:					e stick nest		s (*if yes,	describe in tabl	e belov	<i>(</i> )
STICK NEST(S) IDEN	TIFIED						- <del> </del>		E	
UTM /		Tree ID		Tree S	Spp.	Nest Size	Photo N	o. Spp. (	)bserve	d Using Feature
			-							
	L		<u> </u>				<u> </u>			
Seeps/Springs/Ver	nal Poo	ls:				vernal pools		describe in tabl	e belov	<i>(</i> )
SEEP / SPRING / VER	NAL PO	OL FEATURE	(S) IDE	NTIF	ED					
UTM	Fe	ature No. & T		ature Diamet		ter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
EDECIES & HADITAS	CORCED	VATEONIO (P		1.		0 .	10			
SPECIES & HABITAT	OBSER	VATIONS (lis	t species	and ty	pe of obser	vation & inc	dicate on i	map)		
										0
		M,								

Stantec	Stantec Co 1 70 Sou Guelph, Ol Canada N Tel: (519) t Fax: (519)	thgate Driv N 1G 4P5 336-6050			Roadside ELC, Woodland & Wildlife Habitat Assessment Form						
Project Number:	-10	WE		02	Project Nam	e:	711				
Date:	701		<del>, ~ (</del>	2016	Field Personne	el:					
Weather Conditions:	TEMP	(°C):	OV.	ND:	CLOUD:		PPT:	PPT	(in last 24 hrs):		
					POLYGON DE	SCRIP	TION				
					TOPOGRAPHIC	FEATU	RE	HIST	ORY		
COMMUNITY	POLYGOI	19 ME:	-		☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF	□ ALV □ ROO □ BEA	EVICE / CAVI 'AR CKLAND ACH / BAR AD DUNE	E [	atural Ultural		
STAND DESCRIP	TION:										
LAYER	нт	CVR	(>>MU		S IN ORDER OF						
1 CANOPY	2	4	·				···				
2 SUB-CANOP	Y	NO									
3 UNDERSTORE	Y 3	N/O									
		LAT /A									
4 GRD. LAYER		N/0	L								
4 GRD. LAYER HT CODES: CVR CODES:	1=>25	m 2=10<			m <b>4=</b> 1 <ht≤2m <b="">5= √R≤25% <b>3=</b>25<cvi< td=""><td></td><td></td><td></td><td></td></cvi<></ht≤2m>						

VEGETATION TYPE: WILLOW SWAMP SWD4-1 COMPLEX CODE: **Evidence of Disturbance / Notes:** 

YOUNG

N=NONE R=RARE O=OCCASIONAL A=ABUNDANT N/O=Not observed

MATURE

CODE:

OLD GROWTH

MID-AGE

ABUNDANCE CODES:

STAND MATURITY: PIONEER

LAYERS: 1=CANOPY >10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE >5 m 1 2 3 4 TREES: (1) Õ SHRUBS: Rhamnus so. 0 Cor Frem 0 GROUND:

¥											
									-		
Signature:							is form is complete 🗆 & legible 🗅.				
_	(Field Personnel)						(Project	Manager)			

ELC Polygon: #	Asses	sment Type: 🖺	I-Visual; no	access / 🗆	-Walk throu	gh feature	•		
Extent of Physical Inv	estigation	of Feature:	I-Entire / □	I-Partial, wal	k through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hiberi	nacula F	[i bi	I-Y* / □-N le. features tridge abutme ontains po I-Y* / □-N	hat would provents or culverts tential bat hil	n, no acces ide a route un with cracks/e bernacula fo n, no acces	is (*if yes, aderground, entry points eatures? is (*if yes,	describe in table including buried of	oncrete or in	er rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBERN	NACULA				inica tittles ()	i caves <sub>1</sub>			
UTM		F	eature Des	cription		Photo No	Spp. O	bserved	Using Feature
									annum manana manana manana manana manana manana manana manana manana manana manana manana manana manana manana
Bat Roosting Feat	ures:	Contains pot	<b>☑</b> -Unknov	wn, no acces	s (*if yes, d		table below)	10m hia	h in treel
POTENTIAL BAT RO	OSTING	•					3		
UTM	Tree ID	1		Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Height	and Type of Cavities
						111			
Stick Nests:		(	Contains la ⊒-Y* / □-N	rge stick nes / ☑-Unknow	ts? n, no acces	ss (*if yes,	describe in tabl	e below	)
STICK NEST(S) IDEN	TIFIED	<u> </u>			T				
UTM		Tree ID	Tree	e Spp.	Nest Size	Photo N	o. Spp. C	)bservec	l Using Feature
						<b>+</b>		**	
Seeps/Springs/Ver	nal Poo	ls:	Contains se	eps/springs/	vernal pool	s?	describe in tabl	o holow	,
SEEP / SPRING / VER	RNAL PO			<del></del>	n, no acces	35 ( 11 yes,	describe ili tabi	e Delow	,
UTM		ature No. & Typ	Footur	e Size Wa	iter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
			_						
SPECIES & HABITA	r obser	VATIONS (list:	species and	type of obser	vation & in	dicate on 1	nap)		
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CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

Stantec	1 70 South Guelph, ON Canada N10 Tel: (519) 83	Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493  Assessment Form										
Project Number		NV	2	Project Name:								
Date	CX	<u> </u>	(201	Field Personnel:								
54.5	01/3		<del></del>	-								
Weather Conditions:	TEMP (	C): .	WIND:	PPT (in last 24 hrs):								
		•		POLYGON DES	СКІРТІОМ							
				TOPOGRAPHIC F	EATURE	HISTORY						
ELC	POLYGON:	10	1	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR	MATURAL CULTURAL						
SHEET WHITE STREET WAS A STREET	START TIM	E:		TERRACE	ROCKLAND							
DESCRIPTION &				U VALLEY SLOPE	ID SAND DUNE							
CLASSIFICATION	END TIME:			ROLL. UPLAND	D BLUFF							
STAND DESCRIF	TION:											
LAYER	нт	CVR			DECREASING DOM ATER THAN; = AE							
1 CANOPY												
2 SUB-CANOP	Υ											
3 UNDERSTOR	EY /	/										
4 GRD. LAYER	2 4	4										
HT CODES: CVR CODES:					.5 <ht≤1m 6="0.2&lt;HT±&lt;br">≤60% 4=CVR&gt;60% N</ht≤1m>							
STANDING SNAGS	: i	П	<10	10 – 24	25 – 50	>50						
ABUNDANCE CODES:		N	I=NONE R=RARE	O=OCCASIONAL	A=ABUNDANT N	I/O=Not observed						
STAND MATURITY	PIONEER	₹ =	YOUNG	MID-AGE	MATURE	OLD GROWTH						
CATVAIL STALL	E: OW MOU	sh/K	Reed-conary	arass marsh	CODE: MAS2-	1/MAM2-2						
CON	PLEX				CODE:							

LAYERS: 1=CANOPY > 10m ABUNDANCE CODES: N=NONE	2=SUB-CANO R=RARE O=0	PY 3	=UNDE	RSTOR =ABUN	EY 4	=DOMINAN	T N/O=Not o	R <u>bserv</u> ed
to the supplied to the supplined to the supplied to the supplied to the supplied to the suppli			LA	ÆR .		DISTANCE	FROM RD.	COLL.
SPECIES CODE		重16%	2	3	4	≤5 m	>6 m	COLL.
TREES:				-				
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Signature:			S	ignatur	e:	$\mathcal{K}_{i}$		
(Field Pers	onnel)					(Project	Manager)	

ELC Polygon: #	Asses	sment Type: 🗹	Visual; ne	o access / 🗆	1-Walk throu	igh feature					
Extent of Physical Inv	estigation	of Feature: Q-	Entire / 🗆	I-Partial, wa	lk through p	olygon <i>(inc</i>	dicate on map)				
Reptile / Bat Hiber	nacula F	[i.e bric Co	Y* / □-N · features to dge abutmentains po ·Y* / □-N	/ 2-Unknov hat would pro ents or culvert itential bat h / 2-Unknov	vide a route un s with cracks/d iibernacula f	is (*if yes, onderground, entry points. features? is (*if yes, o	describe in table including buried o	concrete vices or	or rock (e.g. foundations, inactive animal burrows)]		
POTENTIAL HIBER	NACULA I										
UTM		Fe	ature Des	cription	Photo No. Spp. Observed Using Fea						
Bat Roosting Feat			<b>Unkno</b> with open	wn, no acce surrounding	ss (*if ves. d	<i>lescribe in</i> 5cm, side-f	table below) acing cavities ~	10m hi	gh in tree]		
POTENTIAL BAT ROUTEM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	258 (1-5)	No. of Cavities	Heigh	t and Type of Cavities		
		Тес орр.		T HOLD THO.	Decay Cl	433 (1-3)	110. 01 Cavities	Tieigh	t and Type of Cavilles		
				, , , , ,		,					
Stick Nests:  STICK NEST(S) IDE  UTM	NTIFIED	Tree ID	-Y* / □-N	rge stick ne / ☑-Unknov e Spp.	Nest Size	Photo No	o. Spp. (	- 11	d Using Feature		
Seeps/Springs/Ve	rnal Pool	s: Co	ontains se -Y* / □-N	eps/springs	s/vernal pool	s? ss (*if ves	describe in tabl	le helov	(v		
SEEP / SPRING / VE	RNAL POC				,	50 ( 11 ) 00,	4000/100 /// (40)	0 00,01	·/		
UTM	Fea	ture No. & Type	Featur (Dian	1 14/	ater Depth	Photo No.	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?		
		- August					. 4				
SPECIES & HABITA	T OBSERV	ATIONS (list sr	ecies and	type of obse	rvation & in	dicate on n	nan)				
SPECIES & HABITA	LOBSER	ATIONS (list sp	ecies and	type of onse	rvation & in	dicate on n	1 <b>a</b> p)	192			
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CA=earcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

REV: 2011-11-15

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Drive 3 4P5 6-6050		Woo	odland	idside EL & Wildlif ssment F	e Habitat
Project Number: Date:	S	XW	ERS	Project	Sonnel:		
Weather Conditions:	TEMP (°	C): (	) WKD	CLOU	D:	PPT:	PPT (in last 24 hrs)
				POLYGO	N DESCR	IPTION	
				TOPOGRA	PHIC FEA	TURE	HISTORY
COMMUNITY	POLYGON: START TIME:	19		□ LACUSTF □ RIVERINI □ RIVERINI □ TERRACI □ VALLEY : □ TABLELA □ ROLL. UF	LAND DA	TALUS CREVICE / CAVI ALVAR ROCKLAND BEACH / BAR SAND DUNE BLUFF	EMATURAL  CULTURAL
STAND DESCRIP	TION:						
LAYER	нт	CVR				REASING DOM	MINANCE BOUT EQUAL TO)
1 CANOPY	2	4					
	r	NIO					
2 SUB-CANOPY		NIO		12			
	Y	1410					
3 UNDERSTORE							
	1=>25m	N/O 2=10 <h< td=""><td>T≤25m 3=2<ht≤10 CVR≤10% 2=10<c< td=""><td></td><td></td><td></td><td>≤0.5m <b>7</b>=HT&lt;0.2m <b>N/O</b>=not observed</td></c<></ht≤10 </td></h<>	T≤25m 3=2 <ht≤10 CVR≤10% 2=10<c< td=""><td></td><td></td><td></td><td>≤0.5m <b>7</b>=HT&lt;0.2m <b>N/O</b>=not observed</td></c<></ht≤10 				≤0.5m <b>7</b> =HT<0.2m <b>N/O</b> =not observed

YOUNG

vegetation type: Swamp made deciduous swamp

N=NONE R=RARE O=OCCASIONAL A=ABUNDANT N/O=Not observed

MATURE

CODE:

CODE: SWD3-3

OLD GROWTH

MID-AGE

COMPLEX

Evidence of Disturbance / Notes:

STAND MATURITY: PIONEER

ABUNDANCE CODES:

LAYERS: 1=CANOPY > 10m 2=SUB-CAL ABUNDANCE CODES: N=NONE R=RARE C	To the second	LA	YER		DISTANCE	FROM RD.	THE WASHINGTON
SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLL.
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	Quality Control:This form is complete 🚨 & legible 🚨.
Signature:	Signature:
(Field Personnel)	(Project Manager)

ELC Polygon: #	Ass	essment Type:	<b>2</b> -v	isual; no	access /	□-Walk thro	ugh feature	; e		
Extent of Physical In	 vestigati	on of Feature:	Q-E	intire / 🗆	-Partial, v	valk through p	oolygon <i>(ir</i>	ndicate on map)		
Reptile / Bat Hiber	rnacula	Features:	□-Y fi.e. ! bridg Con □-Y	* / □-N / features the ge abutment tains pot  * / □-N /	dunknomat would points or culve tential bat	rovide a route u rts with cracks/ hibernacula	ss (*if yes, inderground 'entry points features? ss (*if yes,	describe in table, including buried	concrete vices or i	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBER	NACUL	A FEATURE(S					les e	1 0 0		
UTM	•		Feat	ure Desc	ription	· · · · · · · · · · · · · · · · · · ·	Photo N	o. Spp. (	bserve	l Using Feature
		·								
Bat Roosting Feat	tures:		N / 🕞	-Unknow	n, no acc	ess (*if yes, o		table below)	10m hic	ah in treel
POTENTIAL BAT/R	OOSTIN									•
UTM	Tree	ID Tree S <sub>I</sub>	p.	DBH	Photo No	o. Decay C	lass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
								L <del></del>	J.,	
Stick Nests:			Cor	ntains lar /* / ロ-N	ge stick n / 2-Unkn	ests? own. no acce	ss (*if ves	, describe in tabi	le belov	<i>(</i> )
STICK NEST(S) IDE	NTIFIEI	D					( )			,
UTM		Tree ID		Tree	Spp.	Nest Size	Photo N	o. Spp. 0	Observe	d Using Feature
			+	12						**
Seeps/Springs/Ve	rnal Po	ole:	Cor	ntains se	ene/enrin	gs/vernal poo	le?			
			<b>D-</b> Y	/* / □-N	/ 🗷-Unkn	own, no acce	ss (*if yes	describe in tab	le belov	<i>(</i> )
SEEP / SPRING / VE	RNAL P	OOL FEATUR	E(S)							<u></u>
UTM	I	Feature No. & T	уре	Feature (Diame		Water Depth	Photo N	Sub/Emerge Spp. Pres		Shrubs/ Logs at Edge Present?
		Web to								
SPECIES & HABITA	T OBSE	RVATIONS (li	st spe	cies and	type of ob	servation & in	idicate on	map)	<del></del>	
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CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

Stantec	Stantec Consulting Ltd. 1 – 70 Southgate Drive Guelph, ON Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 838-2493	Roadside ELC, Woodland & Wildlife Ha Assessment Form							
Project Number: Date:		Project Name:							
Weather Conditions:	TEMP (°C): WINE	CLOUD:	PPT:	PPT (in last 24 hrs)					
54		POLYGON DESC	-	HISTORY					

## TALUS CREVICE / CAVE □ LACUSTRINE □ RIVERINE □ NATURAL POLYGON: ELC ALVAR ROCKLAND CULTURAL BOTTOMLAND TERRACE DVALLEY SLOPE DEACH / BAR D SAND DUNE START TIME: COMMUNITY TABLELAND SAND D DESCRIPTION & END TIME: CLASSIFICATION CLIFF. STAND DESCRIPTION: SPECIES IN ORDER OF DECREASING DOMINANCE LAYER HT CVR (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) CANOPY SUB-CANOPY 3 UNDERSTOREY 3 **GRD. LAYER** NIO HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m CVR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60% N/O=not observed STANDING SNAGS: 10 - 2425 - 50ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT N/O=Not observed STAND MATURITY: PIONEER YOUNG MATURE MID-AGE OLD GROWTH VEGETATION TYPE: Hawthern cultural theket CODE:

CODE:

ABUNDANCE CODES: N=NONE R=RARE		LA	YER	rieiro	DISTANCE	FROM RD.	COLL
SPECIES CODE	意思 在1节	2	3	<b>%4</b>	≤5 m	>5 m	COLL
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	(	Field Personne	el)			(Project	Manager)	

ELC Polygon: #	Asse	essment Type:	G-Vi:	sual; no	access / C	⊒-Walk throu	gh feature	<b>}</b>		
Extent of Physical Inv	estigatio	n of Feature:	<b>□</b> -En	ntire / 🗆	-Partial, wa	alk through p	olygon (in	dicate on map)		
Reptile / Bat Hiberi	nacula I		□-Y* [i.e. fe bridge Conta	* / □-N / eatures the abutmentains pot * / □-N /	/ d-Unknov hat would pro ents or entvert tential bat h / d-Unknov	ovide a route un ts with cracks/e nibernacula fe	is (*if yes, inderground, entry points, eatures? is (*if yes,	describe in table, including buried o	oncrete d	or rock (e.g. foundations, mactive animal burrows)]
POTENTIAL HIBERN	NACULA						1 667.453			
UTM				ure Desc			Photo No	Spp. O	bserved	l Using Feature
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Bat Roosting Feato		[i.e. tall tree	es with	Unknow th open	vn, no acce surrounding	ss (*if yes, d	l <b>escribe in</b> icm, side-f	table below) facing cavities ~	10m hiç	gh in tree]
UTM /	Tree II	·- ·		DBH	Photo No.	Decay Cla	ose (1-5)	No. of Cavities	Heigh	t and Type of Cavities
01	11.00.1.	7100 OP	<del>"</del>	DULL	A HOLO I TO.	Decay Ca	ass (1-5)	110. UI Cavilles	Heigh	and type of Cavicies
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Stick Nests: STICK NEST(S) IDEN	writigh		Cont □-Y	tains lar	rge stick ne / 🗷-Unknov	sts? wn, no acces	ss (*if yes,	describe in table	e belov	<i>(</i> )
UTM /	(HIFIED	Tree ID	T	Tree	Spp.	Nest Size	Photo N	Snn (	Theama	d Using Feature
UIM		I I TEE ID	$\vdash$	Free	Spp.	INEST SIZE	LHOIO 14	0. spp. c	/DSCI ve	d Using reature
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Seeps/Springs/Ver		1	□-Y*	* / 🗅-N .	/ 2-Unknov	s/vernal pools wn, no acces	s? ss (*if yes,	describe in table	e belov	······································
SEEP / SPRING / VER	NAL PC	OL FEATURE								
UTM	F	eature No. & Ty	уре	Feature (Diame		ater Depth	Photo No	Sub/Emergen Spp. Prese		Shrubs/ Logs at Edge Present?
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SPECIES & HABITAT	r obsei	EVATIONS (lis	t enec	ries and	type of obse	ervation & in	dicate on r	mon)		
or boild willing.	OBSEL	TANTON (100	Lapre	Its and	type or obse	Nation & in	ulcate on a	парл		
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SE.	Stantec Con 1 – 70 South Guelph, ON Canada N1C Tel: (519) 83	gate Driv 3 4P5 6-6050		Woodla	oadside ELC nd & Wildlife sessment Fo	Habitat					
Stantec	Fax: (519) 83		25		. 6						
Project Number:		ME	, 1	Reject Name:							
Date:	CX	MIC		Field Personnel:							
5410.	70		Field Personnel:								
Weather Conditions:	TEMP (°	C): {	O WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):					
	•			POLYGON DES	CRIPTION						
				TOPOGRAPHIC F	EATURE	HISTORY					
ELC	POLYGON:	2	O	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR	☑NATURAL  □ CULTURAL					
THE RESERVE OF THE PARTY OF THE	START TIM	E:		☐ TERRACE	ROCKLAND						
DESCRIPTION &				D VALLEY SLOPE	BEACH / BAR SAND DUNE						
CLASSIFICATION	END TIME:			ROLL. UPLAND	D BLUFF						
STAND DESCRIP	TION:										
LAYER	нт	CVR			ECREASING DOM						
1 CANOPY	/										
2 SUB-CANOP	Y /										
3 UNDERSTORE	Υ /			***							
4 GRD. LAYER	Ц	4									
HT CODES:	1=>25m	2=10<	- HT≤25m <b>3=</b> 2 <ht≤10< td=""><td>m 4=1<ht≤2m 5="0.&lt;/td"><td>5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤1m></td></ht≤2m></td></ht≤10<>	m 4=1 <ht≤2m 5="0.&lt;/td"><td>5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤1m></td></ht≤2m>	5 <ht≤1m 6="0.2&lt;HT≤&lt;/td"><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤1m>	0.5m <b>7=</b> HT<0.2m					
CVR CODES:	0=NONE	1=0%	<cvr≤10% 2="10&lt;C&lt;/td"><td>VR≤25% 3=25<cvr≤< td=""><td>60% 4=CVR&gt;60% N</td><td>O=not observed</td></cvr≤<></td></cvr≤10%>	VR≤25% 3=25 <cvr≤< td=""><td>60% 4=CVR&gt;60% N</td><td>O=not observed</td></cvr≤<>	60% 4=CVR>60% N	O=not observed					
STANDING SNAGS			N <10	10 - 24	N 25 - 50	N >50					
ABUNDANCE CODES:		N	NONE RERARE	O=OCCASIONAL	A=ABUNDANT N	O=Not observed					
STAND MATURITY:	PIONEER	1	YOUNG	MID-AGE	MATURE	OLD GROWTH					
VEGETATION TYPE	Catta	11 6	hallow m	aush	CODE: MAS	2-1					
COM	PLEX				CODE:						

ABUNDANCE CODES: N=NONE R=RARE SPECIES CODE		LA	YER		DISTANCE	COLL	
SPECIES CODE	建 建加	2	3	4	≤5 m	>5 m	
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Signature:			y Contro	m is comple	ete 🗆 & legib	le □.
	(Field Personnel)	_		(Project	Manager)	

ELC Polygon: #	Asses	sment Type:	<b>4</b> -v	isuai; no	access	/ <b>U</b> -	vvaik throu	gn reature	Э			
Extent of Physical Inv	estigation	of Feature:	<b>-E</b>	intire / 🗖	-Partial,	walk	through p	olygon (in	dica	ate on map)		
Reptile / Bat Hiber			Contains potential reptile hibernacula features?  —Y* / —N / — Unknown, no access (*if yes, describe in table below)  [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundatious, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]  Contains potential bat hibernacula features?  —Y* / —N / —Unknown, no access (*if yes, describe in table below)  [i.e. karst topography, abandoned mines or caves]									
POTENTIAL HIBERN	NACULA I	FEATURE(S)	IDE	NTIFIE	D				0		l'es	
UTM			Feature Description					Photo No. Spp. Observed Using Feature				
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									_			
						-						
Bat Roosting Feat		[i.e. tall tree	1 / 2 es w	-Unknow ith open	<b>n, no ac</b> surround	cess	s (*if yes, d			nle below) ng cavities ~	10m hig	gh in tree]
POTENTIAL BAT RO	1											
UTM	Tree ID	Tree Sp	DBH	Photo I	Vo.	Decay Cla	ass (1-5)	No	o. of Cavities	Heigh	t and Type of Cavities	
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	, ,						* *					
Stick Nests:	Hile		Cor	ntains lar /* / □-N	ge stick / <b>2</b> -Unk	nest now	s? n, no acces	ss (*if yes,	, de	scribe in table	e belov	y)
STICK NEST(S) IDE	TIFIED		- I,									
UTM		Tree ID		Tree	Spp.		Nest Size	Photo N	0.	Spp. C	bserve	d Using Feature
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Seeps/Springs/Ver	rnal Pool	s:	Co.	ntains se ∕* / ロ-N	eps/sprir / <b>/</b> 2-Unk	ngs/ now	vernal pools n, no acces	s? ss (*if yes,	, de	scribe in table	e belov	y) =
SEEP / SPRING / VEF	RNAL POO	OL FEATURI	E(S)	IDENTII	FIED					WILL		
UTM	Fea	iture No. & T	ype	Feature (Diame		Wa	ter Depth	Photo No	0.	Sub/Emergen Spp. Prese		Shrubs/ Logs at Edge Present?
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SPECIES & HABITA	Γ OBSER	VATIONS (lis	t spe	cies and	type of o	bser	vation & in	dicate on	map	) 1		
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CA=carcass; DP=distinct	ive parts: Fl	E=(ceding evid	ence:	FY=cggs/	nest; HO	=hous	se/den: OB=c	observed: S	C=s	ent: SI=other si	gn: TK=	track: VO=vocalization

	tantec Con  – 70 South uelph, ON anada N10 el: (519) 83 ax: (519) 83	gate Driv 3 4P5 6-6050	· P5	Roadside ELC, Woodland & Wildlife Habitat Assessment Form					
Date:	5	$\star_{m}$		Rroject Name:					
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Weather Conditions:	TEMP (	C):	& ONMO:	CLOUD:	PPT:	PPT (in last 24 hrs):			
				POLYGON DES	CRIPTION				
				TOPOGRAPHIC F	EATURE	HISTORY			
ELC  COMMUNITY DESCRIPTION & CLASSIFICATION				☐ LACUSTRINE ☐ RIVERINE ☐ ROTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	E∕NATURAL  □ CULTURAL			
STAND DESCRIPT	ON:			CLIFF		L			
LAYER	нт	CVR			DECREASING DOMI				
1 CANOPY	2	4							
2 SUB-CANOPY		NIO							
3 UNDERSTOREY		NIO							
4 GRD. LAYER		NIO							
HT CODES: CVR CODES:	1=>25m 0=NONE	,,			.5 <ht≤1m 6="0.2&lt;HT≤0&lt;br">≤60% 4=CVR&gt;60% N/</ht≤1m>				
STANDING SNAGS:	NIC	<b>)</b> ——[	> <10	10 – 24	25 – 50	>50			
ABUNDANCE CODES:		N	NONE RERAR	E 0=OCCASIONAL	A=ABUNDANT N/	O=Not observed			
STAND MATURITY:	PIONEER	₹	YOUNG	MID-AGE	MATURE	OLD GROWTH			
					CODE:				

CODE:

LAYERS:	1=CANOPY >10m	2=SUB-CANOPY	3=UNDERSTOREY	4=GROUND (GRD.) LAYER
ARIINDAR	ICE CODES: NENONE	RERARE OFOCCA	SIONAL A=ABUNDANT	D=DOMINANT N/O=Not observed

ABUNDANCE CODES: N=NONE R=RARE O=C	JUCASII	LA'	YER	DANI L	DISTANCE	FROM RD.	COLL.
SPECIES CODE	1.2	2	3	4	≤5 m	>5 m	COLL.
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	Quality Control: This form is complete 2 & legible					
Signature:	Signature:	86				
(Field Personnel)		(Project Manager)				

ELC Polygon: #  Extent of Physical In		sment Type:							
Reptile / Bat Hiber		eatures: C	ontains po I-Y* / □-N e. features it idge abutine ontains po I-Y* / □-N	tential reptile / @=Unknowr hat would provents or culverts tential bat hik	e hibernacul n, no acces ride a route un with cracks/e bernacula fo n, no acces	la features is (*if yes, inderground, entry points features? is (*if yes,	s? describe in table including buried e	concrete of its	or rock (e.g. foundations, inactive animal burrows)]
POTENTIAL HIBER	NACULA F				Third in the	1 04,001			
UTM		Fe	eature Desc	ription		Photo No	Spp. O	bserved	d Using Feature
					2012-1-1-1-1				
Bat Roosting Fea	tures:	Contains pote □-Y* / □-N / [i.e. tall trees	<b>□</b> -Unknov	wn, no access	s (*if yes, d	lescribe in	table below) facing cavities ~	10m hic	nh in treel
POTENTIAL BAT R	OOSTING				U, W. W. 1	70111, 0142	doning outlines		311 11 11 11 11
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Height	t and Type of Cavities
							**************************************		
Stick Nests:		C	ontains la	rge stick nest	ts?	/±:e			
STICK NEST(S) IDE	NTIFIED		J-Y" / Ш-N	/ Lat-Unknow	n, no acces	SS ("IT YOS,	describe in tabl	e below	0
UTM		Tree ID	Tree	e Spp.	Nest Size	Photo N	o. Spp. (	bserve	d Using Feature
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									MM95.48.04.
Seeps/Springs/Ve	ernal Pool	s: C	ontains se	eps/springs/	vernal pool	s?	describe in table	e helov	v)
SEEP / SPRING / VE	RNAL POC				11, 110 40000	33 ( n y 00,	describe in table	B 00,0,,	
UTM	Fea	iture No. & Typ	Feature (Diam	I Wa	ter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
					en Tirk				
SPECIES & HABITA	AT OBSERV	ATIONS (list s	pecies and	type of obser	vation & in	dicate on 1	nap)		
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CA=carcass; DP=distinctive parts; FE=fceding evidence; FY=oggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

GG Ca	antec Con - 70 South -	gate Driv 6 4P5 6-6050	e 0.5		Roadside ELC, Woodland & Wildlife Habitat Assessment Form Project Name: Field Personnel:						
Weather Conditions:	TEMP (°	C):	WIND:		CLOUD;	PP	Т.:	PPT (in last	24 hrs):		
				POL	YGON DES	CRIPTIO	N =				
				TOP	OGRAPHIC F	EATURE	和APP 。在A	HISTORY	和司		
COMMUNITY ST	ART TIM	20 E:	)	□ RIN □ BO □ TE □ VA ■ TA	CUSTRINE //ERINE TTOMLAND RRACE LLEY SLOPE BLELAND LL. UPLAND FF	☐ TALUS ☐ CREVIC ☐ ALVAR ☐ ROCKLA ☐ BEACH ☐ SAND D	ND BAR	□ NATURA	_		
STAND DESCRIPTI	ON:										
LAYER	HT	CVR	SPEC (>>MUCH GRI		ORDER OF D THAN; >GRE				L TO)		
1 CANOPY	_	_									
2 SUB-CANOPY		_									
3 UNDERSTOREY	1										
4 GRD. LAYER	5	4							$\neg \neg$		
HT CODES: CVR CODES:	1=>25m 0=NONE		HT≤25m <b>3</b> =2 <ht≤ CVR≤10% <b>2</b>=10&lt;</ht≤ 								
STANDING SNAGS:			<b>√</b> <10	N	10 – 24	N 25	- 50	N >	50		
ABUNDANCE CODES:		N	=NONE R=RAR	E 0=	OCCASIONAL	A=ABUND	ANT N	O=Not obsen	ved		
STAND MATURITY:	PIONEER	·	YOUNG		AID-AGE	MATUR	RE	OLD GF	ROWTH		
VEGETATION TYPE:	Mols	r 01	d field	neo	dow	CODE:	umi	1-1			

LAVEDO	: 1=CANOPY > 10m	2=SUB-CANOPY	3=UNDERSTOREY	4=GROUND (GRD.) LAYER
ABUND/	ANCE CODES: N=NONE	R=RARE O=OCCA	SIONAL A=ABUNDANT	D=DOMINANT N/O=Not observed

ABUNDANCE CODES: N=NONE R=RARE O=	No.	LA'	YER		DISTANCE	COLL.	
SPECIES CODE	1	2	3		≤6 m	>6 m	COLL.
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Signature:			y Contro		m is comple	ete 🛚 & legib	le 🖸.
	(Field Personnel)				(Project	Manager)	

ELC Polygon: #	Assess	ment Type: 🖪	-√isual; nc	access / 🛚	-Walk throu	gh feature	)		
Extent of Physical In	 vestigation	of Feature: 🛚	-Entire / 🗆	l-Partial, wal	lk through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hiber	rnacula Fe	i. br Co	I-Y* / ZI-N / e. features the idge abutme ontains por I-Y* / ZI-N /	hat would provents or culverts tential bat his	n, no acces vide a route un with cracks/e bernacula fo n, no acces	s (*if yes, nderground, entry points eatures? is (*if yes,	describe in table including buried of	concrete o vices or in	r rock (e.g. foundations, active animal burrows)]
POTENTIAL HIBER	NACULA F				iniou tinties is	i cares <sub>i</sub>			
UTM		Fe	eature Desc	ription		Photo No	o. Spp. O	bserved	Using Feature
									1 armina
Bat Roosting Feat	lures:	Contains pote □-Y* / □-Ñ / ſi.e. tall trees	□-Unknow	vn, no acces	s (*if yes, d	escribe in	table below)	10m hia	h in treel
POTENTIAL BAT R	OOSTING F		100111		10, 0011 20	,	don's carried	TOTAL TAILS	
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Height	and Type of Cavities
	+								
							·		
Stick Nests:		C	ontains lar I-Y* / ☑-N	rge stick nes	its? vn, no acces	ss (*if yes,	describe in tabl	le below)	)
STICK NEST(S) IDE			ē.						
UTM		Tree ID	Tree	Spp.	Nest Size	Photo N	o. Spp. C	Observed	Using Feature
					<del> </del>				
									2.0
Seeps/Springs/Ve	rnal Pools	): C	ontains se I-Y* / ☑-N	eps/springs/	/vernal pool	s? ss (*if yes,	describe in tabl	le below)	)
SEEP / SPRING / VE	RNAL POO		S) IDENTII	FIED					
UTM	Feat	ture No. & Typ	Feature (Diame		ater Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
SPECIES & HABITA	T OBSERV	ATIONS (list s	pecies and	type of obse	rvation & in-	dicate on i	nap)		
				-J <b>F</b>			·· p)		
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=									

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

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	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050 36-2493	e 🌭	Woodla	oadside EL0 nd & Wildlife sessment Fo	Habitat
Project Number:		ME		Project Name:		
Date: _	Sr	,,	770	Field Personnel:		
Weather Conditions:	TEMP (°	°C): .	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
				POLYGON DES	CRIPTION	
				TOPOGRAPHIC F	EATURE	HISTORY
COMMUNITY DESCRIPTION	TART TIME:	20	)	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL, UPLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	⊡*ÑATURAL
STAND DESCRIPT	TON:		··	CLIFF	1	i
LAYER	нт	CVR			DECREASING DOM	
1 CANOPY	2	4				
2 SUB-CANOPY		NIC				
3 UNDERSTORE	<u> </u>	NIO				
4 GRD. LAYER		N/0				
HT CODES: CVR CODES:					.5 <ht≤1m 6="0.2&lt;HT≤&lt;br">660% 4=CVR&gt;60% N</ht≤1m>	
STANDING SNAGS:	NO	_	<b>►</b> <10	10 – 24	25 – 50	>50
ABUNDANCE CODES:		N	=NONE R=RARE	0=OCCASIONAL	A=ABUNDANT N	O=Not observed
STAND MATURITY:	PIONEER	₹	YOUNG	MID-AGE	MATURE	OLD GROWTH
VEGETATION TYPE:		- C£	inifor m	uxed swam	CODE: SWM	2-2
O10041101	·			"ACCI CVOCATI		

LAYERS: 1=CANO	DPY >10m 2=SUB-	CANOPY 3=UNI	DERSTOREY	4=GROUND (G	RD.) LAYER
ABUNDANCE COD	ES: N=NONE R=RAR	E O=OCCASIONAL	A=ABUNDANT	D=DOMINANT	N/O=Not observed

ABUNDANCE CODES: N=NONE R=RARE O=		LA	YER		DISTANCE	VIKE SERVE	
SPECIES CODE	1	2	3	4	≤6 m	>5 m	COLL
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	(Field Personnel	sonnel) (Project Manager)								

ELC Polygon: #  Extent of Physical Inv	•	ssment Type: ☑- n of Feature: □-					_		ate on map)		
Reptile / Bat Hiber		Features: Co	ontains po -Y* / Q-N o. features the dge abutme ontains po -Y* / Q-N	otential reported from the second of the sec	otile owr provi erts t hik	hibernacul n, no accesside a route un with cracks/epernacula fe	a features s (*if yes, aderground entry points eatures? s (*if yes,	s? de: . inc	scribe in table	oncrete or i	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBERN	NACULA					mod tritter in					
UTM		Fea	ature Desc	eription			Photo N	0.	Spp. O	bserved	l Using Feature
	-							+			
								+			
Bat Roosting Feat		Contains pote  -Y* / -N / [i.e. tall trees v	with open	wn, no acc surround	cess	s (*if yes, d				10m hig	gh in tree]
POTENTIAL BAT RO	Tree ID	1	DBH	Photo N	lo.	Decay Cla	ass (1-5)	No	o. of Cavities	Heigh	t and Type of Cavities
		тее эрр.	-	1 moto :		Decay Cit	433 (1-3)		or Cavilles	iteigh	t and Type of Cavilles
Stick Nests:		Co	ontains la -Y* / □-N	rge stick r / ☑-Unkr	nest	ts? n, no acces	s (*if yes	, de	scribe in tabl	e <i>bel</i> ow	<i>(</i> )
STICK NEST(S) IDEN	TIFIED						1				
UTM		Tree ID	Tree	e Spp.		Nest Size	Photo N	0.	Spp. C	)bserve	d Using Feature
							В				
Seeps/Springs/Ver	nal Poo	ols: Co	ontains se -Y* / □-N	eps/sprin	gs/v	vernal pools	s? is (*if ves	de	scribe in table	e below	<i>y</i> )
SEEP / SPRING / VEF	RNAL PO					.,			001100 117 1001	20,011	<b>7</b>
UTM	Fe	ature No. & Type	Featur (Diam	100	Wa	ter Depth	Photo N	0.	Sub/Emergen Spp. Prese	t Veg.	Shrubs/ Logs at Edge Present?
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SPECIES & HABITA	LUBSED	VATIONS (list or	nooies and	type of al	20.0	vation & in	dianta an		.)		,
SI ECIES & HABITA	OBSER	VATIONS (list's)	ecies and	type of ot	ser	vation & in	uicate on	maj	) 		
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CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

REV: 2011-11-15

1- Gue Can Tel:	70 South lph, ON ada N10 (519) 83 (519) 83	6-6050		<u>5</u>	Woodlal Ass Project Name:		Habitat
Weather Conditions:	TEMP (°	C):	\y		CLOUD:	PPT:	PPT (in last 24 hrs):
				РО	YGON DES	CRIPTION	
				TO	OGRAPHIC F	EATURE	HISTORY
ELC STA	YGON: RT TIM	2. E:	0	□ R □ B □ T	ACUSTRINE VERINE DITTOMLAND ERRACE ALLEY SLOPE	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR	NATURAL ECULTURAL
DESCRIPTION & END	TIME:				ABLELAND OLL. UPLAND LIFF	□ SAND DUNE □ BLUFF	
STAND DESCRIPTIO	M·						
LAYER	нт	CVR				DECREASING DOM	
1 CANOPY	_	/			227		
2 SUB-CANOPY		/					
3 UNDERSTOREY	-						
4 GRD. LAYER	45	Ц					
HT CODES:						5 <ht≤1m 6="0.2&lt;HT≤&lt;br">60% 4=CVR&gt;60% N</ht≤1m>	
STANDING SNAGS:			N <10	IN	10 – 24	25 – 50	N >50
ABUNDANCE CODES:		N	=NONE R=F	RARE O	OCCASIONAL	A=ABUNDANT N	O=Not observed
STAND MATURITY:	PIONEER		YOUNG	1	MID-AGE	MATURE	OLD GROWTH
VEGETATION TYPE:	ry	old	field r	reado	JW	CODE: CU	VI-2*
COMPLE	X	T				CODE:	

			YER	The Bill	DISTANCE	FROM RD.	COL
SPECIES CODE	112	2	3	4	≤8 m	>5 m	COL
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		Qualit	v Contro	t This fo	rm is comple	te 🗆 & legibl	e 🗆
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ELC Polygon: #	Asses	sment Type: 🕰	/ /isual; no	o acces	s / 🗆	-Walk throu	gh feature			
Extent of Physical Inv	- /estigation	of Feature: Q-F	Entire / 🗆	<b>]</b> -Partial	l, wal	k through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hiber	nacula F	[i.e. brid	/* / □-Ñ features fi ge abutme ntains po /* / □-Ñ	/ □-Unkliat would that would ents or out tential b	know d prov dverts pat hil know	ide a route un with cracks/e bernacula fe	s (*if yes, aderground, entry points eatures? s (*if yes,	describe in table including buried o	oncrete lices or i	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBER	NACULA I				avanti	oned unites of	reaves			· · · · · · · · · · · · · · · · · · ·
UTM		Fea	ture Desc	cription			Photo No	. Spp. O	bserve	l Using Feature
				**************************************						
Bat Roosting Feat		- · · · · · ·	I-Unknov ith open	wn, no a surrour	acces	s (*if yes, d		table below) acing cavities ~	10m hig	gh in tree]
UTM /	Tree ID	1	DBH	Photo	No.	Decay Cla	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
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Stick Nests:		, Co	ntains la	rge stick	k nes	ts?	e (*if voe	describe in tabl	e helou	A
STICK NEST(S) IDE	NTIFIED	#III = II II	7 (4)	/ <b>u</b> -on	KIIOW	n, no acces	ss ( 11 yes,	describe iii tabi	e DeiOvi	- —
UTM		Tree ID	Tree	e Spp.		Nest Size	Photo No	o. Spp. (	)bserve	d Using Feature
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							-			
Seeps/Springs/Ve	rnal Pool	s: Co	ntains se	eps/spr	rings/	vernal pools	s?	describe in tabl	o holou	A
SEEP / SPRING / VEI	RNAL POO				KIIOW	ii, iio acces	is ( II yes,	uescribe iri tabi	e Delon	//
UTM	Fea	nture No. & Type	Featur (Diam	,	Wa	ter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
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SPECIES & HABITA	T ORSED	VATIONS (list en	acies and	type of	obser	vation & in	dicata on n	202)		
of Lettes & HABITA	OBSER	ATTOMS (list spi	ecies and	type or	ODSCI	vation & in	uicate on n	iap)		******
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Y B	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Drive 3 4P5 6-6050		Roadside ELC, Woodland & Wildlife Habitat Assessment Form							
Project Number:			6 K)	Project Name:							
Date:	9	$\chi \nu$	· · ·	Field Personnel:							
Weather Conditions:	TEMP (°	C):	May C	CLOUD:	PPT:	PPT (in last 24 hrs):					
			-	POLYGON DES	CRIPTION						
				TOPOGRAPHIC F	EATURE	HISTORY					
COMMUNITY	POLYGON: START TIME:	2	2	□ LACUSTRINE □ RIVERINE □ BOTTOMLAND □ TERRACE □ VALLEY SLOPE □ TABLELAND □ ROLL. UPLAND □ CLIFF	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	□ NATURAL ■CULTURAL					
STAND DESCRIP	TION:			DOLIFF							
LAYER	нт	CVR			DECREASING DOMI						
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4 0441001	ーつ	4									
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2 SUB-CANOPY		NO	<u> </u>								
2 SUB-CANOPY 3 UNDERSTORE	Y	7/0									
2 SUB-CANOPY 3 UNDERSTORE 4 GRD. LAYER	Y	N/0	T≤25m 3=2 <ht≤10< td=""><td>Om 4=1<ht≤2m 8="0&lt;/td"><td>.5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td>0.5m <b>7</b>=HT&lt;0.2m</td></ht≤1m></td></ht≤2m></td></ht≤10<>	Om 4=1 <ht≤2m 8="0&lt;/td"><td>.5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td>0.5m <b>7</b>=HT&lt;0.2m</td></ht≤1m></td></ht≤2m>	.5 <ht≤1m 6="0.2&lt;HT≤&lt;/td"><td>0.5m <b>7</b>=HT&lt;0.2m</td></ht≤1m>	0.5m <b>7</b> =HT<0.2m					
SUB-CANOPY UNDERSTORE GRD. LAYER CODES:	Y 1=>25m	N/0 2=10<			.5 <ht≤1m 6="0.2&lt;HT≤&lt;br">£80% 4=CVR&gt;60% N/</ht≤1m>						
2 SUB-CANOPY 3 UNDERSTORE 4 GRD. LAYER HT CODES: CVR CODES:	1=>25m 0=NONE	N/O 2=10<- 1=0%<									
2 SUB-CANOPY 3 UNDERSTORE	Y 1=>25m 0=NONE	N/O 2=10<	CVR≤10% <b>2</b> =10<0	VR≤25% 3=25 <cvr:< td=""><td>≤60% 4=CVR&gt;60% N 25 - 50</td><td>O=not observed</td></cvr:<>	≤60% 4=CVR>60% N 25 - 50	O=not observed					

CODE:

LAYERS: 1=CANOPY >10m	2=SUB-CANOPY	3=UNDERSTOREY	4=GROUND (GRD.) LAYER
ARUNDANCE CODES: N=NON	ER=RARE O=OCCA	SIONAL A=ABUNDANT	D=DOMINANT N/O=Not observe

ABUNDANCE CODES: N=NONE R=RARE O=	007,010	LAY	ER		DISTANCE	FROM RD.	COLL
SPECIES CODE	1	2	3	4	≤5 m	>6 m	COL
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	(Field Personnel)			(Project	Manager)	

Reptile / Bat Hibernacula Features: Contains potential reptile hibernacula features?

□-Y\* / □-N / □-Unknown, no access (\*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

Contains potential bat hibernacula features?

□-Y\* / □-N / □-Unknown, no access (\*if yes, describe in table below)

[i.e. karst topography, abandoned mines or caves]

POTENTIAL HIBERNACULA FE	ATURE(S) IDENTIFIED		
UTM	Feature Description	Photo No.	Spp. Observed Using Feature
			A STATE OF THE STA
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**Bat Roosting Features:** 

Contains potential bat roosting features?

□-Y\* / □-N / □-Unknown, no access (\*if yes, describe in table below)

[i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]

POTENTIAL BAT RO	OSTING FI	EATURE(S) IDI	ENTIFIE	D			
UTM /	Tree ID	Tree Spp.	DBH	Photo No.	Decay Class (1-5)	No. of Cavities	Height and Type of Cavities
\$ / /							
Y							

Stick Nests:

Contains large stick nests?

□-Y\* / □-N / □-Unknown, no access (\*if yes, describe in table below)

STICK NEST(S) IDENTIFIE	ED				
UTM	Tree ID	Tree Spp.	Nest Size	Photo No.	Spp. Observed Using Feature
7					-

Seeps/Springs/Vernal Pools:

Contains seeps/springs/vernal pools?

□-Y\* / □-N / ☑-Unknown, no access (\*if yes, describe in table below)

SEEP / SPRING / VERN	AL POOL FEATURE(S)	IDENTIFIED			- 1	
UTM	Feature No. & Type	Feature Size (Diameter)	Water Depth	Photo No.	Sub/Emergent Veg. Spp. Present?	Shrubs/ Logs at Edge Present?
				1 1		7.01

		i i
	*	9
		2 :
		.8
		\$ # 1

CA=carcass; DP=distinctive parts; FE-feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=seat; SI=other sign; TK=track; VO=vocalization

Stantec	Stantec Cor 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	ngate Driv G 4P5 16-6050		Woodla	loadside EL( nd & Wildlife sessment Fo	Habitat
Project Number Date	100	600	49	Project Name Field Personnel	SICOL	
Weather Conditions:	TEMP (	°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs
				POLYGON DES	CRIPTION	
				TOPOGRAPHIC F	EATURE	HISTORY
ELC  COMMUNITY DESCRIPTION & CLASSIFICATION	POLYGON: START TIM END TIME:	22 IE:	_	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL, UPLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	NATURAL CULTURAL
COMMUNITY DESCRIPTION &	START TIM	22 IE:	-	RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND	CREVICE / CAVE CALVAR CROCKLAND CROC	
COMMUNITY DESCRIPTION & CLASSIFICATION	START TIM	22 IE:	SPEC	RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND	CREVICE / CAVE ALVAR CROCKLAND DBEACH / BAR SAND DUNE DBLUFF DECREASING DOM	CULTURAL

	LAYER	нт	CVR			DECREASING DOM REATER THAN; = AB	
1	CANOPY	2	4	THUOCO	- 110		1 3 14 1
2	SUB-CANOPY	1000	,				
3	UNDERSTOREY						
4	GRD. LAYER						
	CODES:	1=>25m 0=NONE				:0.5 <ht≤1m 6="0.2&lt;HT≤&lt;br">R≤60% 4=CVR&gt;60% N</ht≤1m>	
ST/	INDING SNAGS:			<10	N 10 - 24	N 25 - 50	N >50
ABL	NDANCE CODES:		N	=NONE R=RAI	RE <b>0</b> =0ccasional	L A=ABUNDANT N	I/O=Not observed
ST/	ND MATURITY:	PIONEER		YOUNG	✓ MID-AGE	MATURE	OLD GROWTH
	BETATION TYPE: NIMITE (POAN	Min	eval (	Coniferou	15. Swams	CODE: SWC	

ABUNDANCE CODES: N=NONE R=RARE		LA	YER	CHARLES	DISTANCE	FROM RD.	No. of the
SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLL
REES:							
THUOCCI	A						
		1	=11				
			1 -	<u> </u>			
			29	1			
-			1: =	<del> </del>			
				<del>                                     </del>			
		<del> </del>		<del>                                     </del>			
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RUBS:							
NOBS.				<del> </del>			
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		Ougli	v Contro	l This fo	rm is complet	o [] & locibi	io (1)
					Complet	e 🗀 or legio	₩.
ignature:		S	ignature	9:	(0)		

Reptile / Bat Hiber	rnacula Fe	□-Y [i.e. brìd; Con □-Y	/* / □-N , features the ge abutmentains po /* / □-N	hat would provents or culverts tential bat hi	n, no acces ride a route ur with cracks/e bernacula fo n, no acces	is (*if yes, aderground, entry points, eatures? is (*if yes,	describe in table including buried c	oncrete o	r rock (e.g. foundations active animal burrows)
POTENTIAL HIBER	NACULA F	<del></del>			oned mines o	reaves			n_
UTM		Feat	ture Desc	cription		Photo No	Spp. O	bserved	Using Feature
Pot Boostine Foot		Contains natur	tial bat s	acating foat					
Bat Roosting Feat		-	-Unknov ith open	wn, no acces surrounding	s (*if yes, d		table below) acing cavities ~	10m hig	h in tree]
POTENTIAL BAT ROUTE	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	988 (1-5)	No. of Cavities	Height	and Type of Cavities
CINI	TICC ID	тте эрр.	DDII	1 11010 110.	Decay Cir	495 (1-3)	110. 01 Cavities	Height	and Type of Cavities
	1	(te)		1	<u> </u>				
Stick Nests:		Co.	ntains la	rge stick nes	ts? /n. no acces	ss (*if ves.	describe in tabl	e below	
STICK NEST(\$) IDE	NTIFIED		1 4 1	-1112 1 12	<u> </u>				
UTM	21	Tree ID	Tree	e Spp.	Nest Size	Photo N	o. Spp. C	bserved	Using Feature
Seeps/Springs/Ve	rnal Pools	s: Con	ntains se	eeps/springs/	vernal pool	s?			
		'-ם	Y* / 🗆-N	/@-Unknow			describe in tabl		
Seeps/Springs/Ve SEEP / SPRING / VE UTM	RNAL POO	'-ם	Y* / 🗆-N	FIED e Size			describe in tabl	e below,	
SEEP / SPRING / VE	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur	FIED e Size	n, no acces	ss (*if yes,	describe in tabl	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur	FIED e Size	n, no acces	ss (*if yes,	describe in tabl	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg
SEEP / SPRING / VE UTM	RNAL POO	L FEATURE(S)	Y* / □-N IDENTI Featur (Diam	FIED e Size water)	n, no acces	Photo No	describe in table  Sub/Emerger Spp. Prese	e below,	) Shrubs/ Logs at Edg

Stantec	Stantec Con- 1 – 70 Souths Guelph, ON Canada N1G Tel: (519) 836 Fax: (519) 83	gate Driv 3 4P5 3-6050		V	Voodla	nd a	dside EL( & Wildlife sment Fo	Hab	oitat
Project Number	16096	004	19	Pro	oject Name		t Colun	nba	n
Date	: Sept	20	-11	Field	Personnel	_5	CENK	-	
Weather Conditions:	TEMP (%	C):	WIND:	1 -	LOUD:		PPT: None		last 24 hrs
				POLY	GON DES	CRII	PTION		
g <sup>4</sup>				TOPOC	BRAPHIC F	EAT	URE	нізто	RY
ELC	POLYGON:	2:	2	O RIVE		II CF	LUS REVICE / CAVE		URAL TURAL
COMMUNITY DESCRIPTION & CLASSIFICATION	START TIMI	E:		U TERF U VALL TABL	EY SLOPE ELAND UPLAND	O RO	.VAR DCKLAND EACH / BAR AND DUNE .UFF	LICOL	TORAL
COMMUNITY DESCRIPTION & CLASSIFICATION	END TIME:	E:		TERF D VALL TABL D ROLL	RACE EY SLOPE ELAND UPLAND	□ RC □ BE □ SA	OCKLAND EACH / BAR AND DUNE	LCOL	TORAL
COMMUNITY DESCRIPTION & CLASSIFICATION	END TIME:	E:		TERFORMAL TABLE ROLL CLIFF	RACE EY SLOPE ELAND UPLAND F	BECR	OCKLAND EACH / BAR AND DUNE	INANCE	
COMMUNITY DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION LAYER  1 CANOPY	END TIME:			TERFORM TO THE TOTAL TO THE TABLE OF CLIFF TO THE THE THE THE THE THE THE THE THE THE	RACE EY SLOPE ELAND UPLAND F	BECR	OCKLAND EACH / BAR AND DUNE LUFF	INANCE	
COMMUNITY DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION LAYER  CANOPY SUB-CANOP	PTION:  HT 2		(>>MUCH GR	TERFORM TO THE TOTAL TO THE TABLE OF CLIFF TO THE THE THE THE THE THE THE THE THE THE	RACE EY SLOPE ELAND UPLAND F	BECR	OCKLAND EACH / BAR AND DUNE LUFF	INANCE	
COMMUNITY DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTOR	PTION:  HT  2 PY EY		(>>MUCH GR	TERFORM TO THE TOTAL TO THE TABLE OF CLIFF OF CL	RACE EY SLOPE ELAND UPLAND F	BECR	OCKLAND EACH / BAR AND DUNE LUFF	INANCE	
COMMUNITY DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION LAYER  1 CANOPY 2 SUB-CANOP	END TIME:  PTION:  HT  2 PY  EY  R  1=>25m	CVR	(>>MUCH GR	TERFO VALL TABLE TROLL CLIFF	RACE EY SLOPE ELAND UPLAND  RDER OF I HAN; > GRE	DECREATE:	CCKLAND EACH / BAR AND DUNE UFF  EASING DOM R THAN; = AB	INANCE OUT EC	E QUAL TO
COMMUNITY DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION  LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTOR 4 GRD. LAYER HT CODES: CVR CODES:	PTION:  HT  2 PY  EY  1=>25m 0=NONE	CVR	(>>MUCH GRI	TERFO VALL TABLE TROLL CLIFF	RACE EY SLOPE ELAND UPLAND  RDER OF I HAN; > GRE	DECREATE:	CCKLAND EACH / BAR AND DUNE UFF  EASING DOM R THAN; = AB	INANCE OUT EC	E QUAL TO
COMMUNITY DESCRIPTION & CLASSIFICATION  STAND DESCRIF LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTOR 4 GRD. LAYER TT CODES:	PTION:  HT  2 PY  R  1=>25m 0=NONE	2=10< : 1=0%-	(>>MUCH GRI ACEFR HTS25m 3=2 <hts CVRS10% 2=10</hts 	TERFO VALL TABLE ROLL CLIFF CIES IN OF	RACE EY SLOPE ELAND LUPLAND F  RDER OF I HAN; > GRE  HTS2m 5=0 3=25 <cvr:< td=""><td>DECREATE</td><td>CCKLAND ACH / BAR AND DUNE UFF  EASING DOM R THAN; = AB  S1m 6=0.2<hts 4="CVR">60% N 25 - 50</hts></td><td>INANCE OUT EC</td><td>EHT&lt;0.2m bserved</td></cvr:<>	DECREATE	CCKLAND ACH / BAR AND DUNE UFF  EASING DOM R THAN; = AB  S1m 6=0.2 <hts 4="CVR">60% N 25 - 50</hts>	INANCE OUT EC	EHT<0.2m bserved

CODE:

COMPLEX

	E CODES: N=NONE R=RAF			YER	September 1	DISTANCE	FROM RD.	COLL
	SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLL
REES:					72 1			
KEFK	PEF	A			11			
								-
		(8) [1]						
					-			
RUBS:								-
IKUBS.								
							_	7
			72					
			-				_	
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- 1 33 1					10 1			
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ROUND:						TO THE		
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1 1				TI.		1	9 58	
		12					6	
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	3 THE THE					==1		ī
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						= 1		
	_ 5 ISI	- *	Qualit	v Contro	l'Thie fo	rm is comple	te [] & legih	
lanatura:						C	ic a d legio	
Signature:			S	ignature	<b>3.</b>	0		

Reptile / Bat Hibe	rnacula Fea	tures: Con	tains pot	tential reptile	e hibernacul	la feature:	s?	TV		
		□-Y [i.e. brid≱ Con □-Y	* / Q-N / features the ge abutmentains pot * / Q-N /	Unknown at would provents or culverts tential bat his	n, no acces ride a route un with cracks/e bernacula fo n, no acces	is (*if yes, inderground entry points eatures? is (*if yes,	describe in table, including buried of	concrete vices or i	or rock (e.g. foundations, nactive animal burrows)]	
POTENTIAL HIBEI	RNACULA FE					f				
UTM		Feat	ure Desc	ription		Photo No	o. Spp. C	bserve	l Using Feature	
Bat Roosting Fea	tures:	Contains poten	potential bat roosting features? -N 🚧-Unknown, no access (*if yes, describe in table below)							
POTENTIAL BAT F		[i.e. tall trees w	ith open	surrounding	s, DBH >25	cm, side-	table below) acing cavities ~10m high in tree]			
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities	
Stick Nests:		Cor	ntains lar	ge stick nes	its? vn, no acces	ss (*if yes,	, describe in tab	le belov	v)	
STICK NEST(S) IDI				Taj II						
UTM		Tree ID	Tree	Spp.	Nest Size	Photo N	lo. Spp. C	Observe	d Using Feature	
					\$1					
Seeps/Springs/V	ernal Pools	: Cor	ntains se /* / □-N	eps/springs / Unknov	vernal pool	s? ss (*if yes,	, describe in tabl	le belov	v)	
SEEP / SPRING / VI	ERNAL POOI		IDENTII	FIED	r r jea					
UTM	Feat	ıre No. & Type	Feature (Diame		ater Depth	Photo No	o. Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?	
SPECIES & HABIT	AT OBSERVA	ATIONS (list spe	cies and	type of obse	rvation & in	dicate on	map)		= 320 = = 0	

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Woodla	loadside ELC nd & Wildlife sessment Fo	Habitat
Project Number	16096	0004	9	Project Name:	St Colun	nlaan
Date	Sept	20-	ii .	Field Personnel:	124 P. S. S. S. S. S. S. S. S. S. S. S. S. S.	
Veather Conditions:	TEMP (°	PC):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs
				POLYGON DES	CRIPTION	
				TOPOGRAPHIC P	EATURE	HISTORY
ELC	POLYGON:	2	2	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND	NATURAL CULTURAL
COMMUNITY DESCRIPTION & CLASSIFICATION	START TIM			TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND CLIFF		
DESCRIPTION &	END TIME:			U VALLEY SLOPE TABLELAND ROLL. UPLAND CLIFF	☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	
DESCRIPTION & CLASSIFICATION	END TIME:	CVR		TABLELAND FABLELAND CONTROLL UPLAND CLIFF CIES IN ORDER OF I	D BEACH / BAR D SAND DUNE D BLUFF DECREASING DOMI	
DESCRIPTION & CLASSIFICATION	END TIME:			TABLELAND TABLELAND TROLL. UPLAND CLIFF CIES IN ORDER OF I	D BEACH / BAR D SAND DUNE D BLUFF DECREASING DOMI	
DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION  LAYER  I CANOPY	END TIME: PTION: HT		(>>MUCH GRE	TABLELAND TABLELAND TROLL. UPLAND CLIFF CIES IN ORDER OF I	D BEACH / BAR D SAND DUNE D BLUFF DECREASING DOMI	
CLASSIFICATION & CLASSIFICATION ETAND DESCRIF LAYER  CANOPY  SUB-CANOP	PTION: HT 2		(>>MUCH GRE	TABLELAND TABLELAND TROLL. UPLAND CLIFF CIES IN ORDER OF I	D BEACH / BAR D SAND DUNE D BLUFF DECREASING DOMI	
ETAND DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION  LAYER  CANOPY  SUB-CANOP  UNDERSTORI	PTION: HT 2_ EY		(>>MUCH GRE	TABLELAND TABLELAND ROLL. UPLAND CLIFF CIES IN ORDER OF I	D BEACH / BAR D SAND DUNE D BLUFF DECREASING DOMI	
ETAND DESCRIPTION & CLASSIFICATION  STAND DESCRIPTION  LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORI	PTION: HT 2_ PY EY R 1=>25m	CVR	(>>MUCH GRI	TABLELAND TABLELAND ROLL. UPLAND CLIFF CIES IN ORDER OF I	DECREASING DOMI	D.5m 7=HT<0.2m
CLASSIFICATION & CLASSIFICATION & CLASSIFICATION ETAND DESCRIF LAYER 1 CANOPY 2 SUB-CANOP 3 UNDERSTOR 4 GRD. LAYER 1T CODES:	PTION: HT  2 Y EY R 1=>25m 0=NONE	CVR	(>>MUCH GRI	UVALLEY SLOPE TABLELAND UROLL. UPLAND UCLIFF  CIES IN ORDER OF IEATER THAN; >GRE	DECREASING DOMI	D.5m 7=HT<0.2m
CLASSIFICATION & CLASSI	PTION: HT  2 Y EY R 1=>25m 0=NONE	2=10<+ 1=0%-	(>>MUCH GRE 	UVALLEY SLOPE  TABLELAND  IROLL. UPLAND  CLIFF  CIES IN ORDER OF I  EATER THAN; >GRE  C. /  10m 4=1 <ht≤2m -="" 10="" 24<="" 3="25&lt;CVR≤1000" 5="0" cvr≤25%="" td=""><td>DECREASING DOMI EATER THAN; = ABG  5<hts1m 4="CVR" 6="0.2&lt;HTSG" 60%="">60% N  25 - 50</hts1m></td><td>D.5m 7=HT&lt;0.2m</td></ht≤2m>	DECREASING DOMI EATER THAN; = ABG  5 <hts1m 4="CVR" 6="0.2&lt;HTSG" 60%="">60% N  25 - 50</hts1m>	D.5m 7=HT<0.2m
CLASSIFICATION & CLASSI	END TIME:  PTION:  HT  2  Y  EY  R  1=>25m 0=NONE 6:	2=10<-h 1=0%-	(>>MUCH GRE 	UVALLEY SLOPE  TABLELAND  IROLL. UPLAND  CLIFF  CIES IN ORDER OF I  EATER THAN; >GRE  C. /  10m 4=1 <ht≤2m -="" 10="" 24<="" 3="25&lt;CVR≤1000" 5="0" cvr≤25%="" td=""><td>DECREASING DOMI EATER THAN; = ABG  5<hts1m 4="CVR" 6="0.2&lt;HTSG" 60%="">60% N  25 - 50</hts1m></td><td>D.5m 7=HT&lt;0.2m //O=not observed</td></ht≤2m>	DECREASING DOMI EATER THAN; = ABG  5 <hts1m 4="CVR" 6="0.2&lt;HTSG" 60%="">60% N  25 - 50</hts1m>	D.5m 7=HT<0.2m //O=not observed

LAYERS: 1=CANOPY > 10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER SPECIES CODE ≤5 m >5 m 2 3 4 TREES: THUDCCI SHRUBS: GROUND:

Quality Control: This form is complete   & legible
Signature:
(Project Manager)

Reptile / Bat Hibe	rnacula Fea	□-Y [i.e. bridş Con □-Y	features the abutment tains potent /* / □-N /	at would prov its or culverts ential bat hil	n, no acces ide a route un with cracks/o bernacula f n, no acces	is (*if yes, inderground, entry points eatures? is (*if yes,	describe in table including buried of	oncrete lices or i	or rock (e.g. foundations, inactive animal burrows)]
POTENTIAL HIBER	RNACULA FE				oned mines c	n cavesj			
UTM			ure Desci			Photo No	o. Spp. O	bserve	d Using Feature
		*	<ul><li>Unknow</li><li>ith open s</li></ul>	n, no acces surrounding	s (*if yes, d		table below) facing cavities ~	10m hiç	gh in tree]
	1		7					1	
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
STICK NEST(S) IDE		<u> </u>	ntains larç /* / ロ-N / Tree	45_/AU	ts? n, no acces	ss (*if yes,	describe in tabl		v) d Using Feature
OTM		THE ID	1100	Shh.	Nest Size	THOUT	о. Зрр. с	obset ve	u Using Feature
Extent of Physical Investigation of Fe  Reptile / Bat Hibernacula Feature  POTENTIAL HIBERNACULA FEAT  UTM  Bat Roosting Features: Cor  []-\]  [i.e.  POTENTIAL BAT ROOSTING FEAT  UTM  Tree ID  Stick Nests:  STICK NEST(S) IDENTIFIED  UTM  Tree  UTM  Tree  Seeps/Springs/Vernal Pools:  SEEP / SPRING / VERNAL POOL FE  UTM  Feature I	: Cor	ntains see	eps/springs/	vernal pool	s?	describe in table	e helou	4	
Reptile / Bat Hibernacula Features: Colline   Colline	, , , ,	ME CHIVITOA	n, no acce	ss ( 11 yes,	ucociine ili tani	こ ひらいいい			
SEEP / SPRING / VE	ERNAL POOL								
		FEATURE(S)		Size Wo	ter Depth	Photo No	Sub/Emerger	ıt Veg.	
		FEATURE(S)	IDENTIF Feature	Size Wo		Photo No	Sub/Emerger	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge
UTM	Featu	. FEATURE(S) ure No. & Type	IDENTIF Feature (Diame	Size Wa	ter Depth		Sub/Emerger Spp. Prese	ıt Veg.	Shrubs/ Logs at Edge

REV: 2011-11-15

	Stantec	Stantec Con 1 - 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Woodla	loadside EL0 nd & Wildlife sessment Fo	Habitat
	Project Number:	16096	Nhlh	9	Project Name	St COLUM	ban
	Date:		20-		Field Personnel		UW I
Wea	nther Conditions:	TEMP (*	°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs)
					POLYGON DES	CRIPTION	
					TOPOGRAPHIC	EATURE	HISTORY
	ELC	POLYGON: START TIM	2'	2	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE	☐TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR	NATURAL CULTURAL
DE	SCRIPTION & ASSIFICATION	END TIME:			TABLELAND ROLL. UPLAND CLIFF	SAND DUNE	
DE CL	SCRIPTION &				TABLELAND ROLL. UPLAND	SAND DUNE	
DE CL	SCRIPTION & ASSIFICATION		CVR		TABLELAND ROLL. UPLAND CLIFF CIES IN ORDER OF	DECREASING DOM	
DE CL	AND DESCRIP	TION:	CVR		##TABLELAND   D ROLL. UPLAND   D CLIFF  CIES IN ORDER OF IREATER THAN; >GRE	DECREASING DOM	
DE CL ST	ESCRIPTION & ASSIFICATION  AND DESCRIP  LAYER	TION:	CVR	(>>MUCH GR	##TABLELAND   D ROLL. UPLAND   D CLIFF  CIES IN ORDER OF IREATER THAN; >GRE	DECREASING DOM	
DE CL ST/	AND DESCRIP  LAYER  CANOPY	PTION:	CVR	(>>MUCH GR	##TABLELAND   D ROLL. UPLAND   D CLIFF  CIES IN ORDER OF IREATER THAN; >GRE	DECREASING DOM	
DE CL STA	AND DESCRIP  LAYER  CANOPY  SUB-CANOPY	PTION: HT 2. Y	CVR	(>>MUCH GR	##TABLELAND   D ROLL. UPLAND   D CLIFF  CIES IN ORDER OF IREATER THAN; >GRE	DECREASING DOM	
DECL ST/	AND DESCRIP  LAYER  CANOPY  SUB-CANOPY  UNDERSTORE	TION:  HT  2.  Y  1=>25m	2=10<	(>>MUCH GR	##TABLELAND   D ROLL. UPLAND   D CLIFF  CIES IN ORDER OF IREATER THAN; >GRE	DECREASING DOME EATER THAN; = AB	OUT EQUAL TO)
DE CL	AND DESCRIP  LAYER  CANOPY  SUB-CANOPY  UNDERSTORE  GRD. LAYER  CODES:	TION:  HT 2 Y  EY 1=>25m 0=NONE	2=10<	(>>MUCH GR	TABLELAND DROLL. UPLAND DCLIFF  CIES IN ORDER OF I REATER THAN; >GRI	DECREASING DOME EATER THAN; = AB .5 <ht<1m 6="0.2&lt;HT&lt;/p"></ht<1m>	OUT EQUAL TO)
DE CL	AND DESCRIP  LAYER  CANOPY  SUB-CANOP'  UNDERSTORE  GRD. LAYER  CODES:	TION:  HT 2.  Y  EY 1=>25m 0=NONE :	2=10<+ 1=0%-	(>>MUCH GR P   NST 	CIES IN ORDER OF IREATER THAN; > GREATER THAN;	DECREASING DOME EATER THAN; = AB	OUT EQUAL TO)  0.5m 7=HT<0.2m  /O=not observed
DE CL ST/	AND DESCRIP  LAYER  CANOPY SUB-CANOP' UNDERSTORE GRD. LAYER CODES: ANDING SNAGS:	TION:  HT 2 Y  EY 1=>25m 0=NONE	2=10<+ = 1=0%-	(>>MUCH GR P   NST 	CIES IN ORDER OF IREATER THAN; > GREATER THAN;	DECREASING DOME EATER THAN; = AB  5   .5 HTS1m 6=0.2 6=0.2 N   .60% 4=CVR>60% N   .25 - 50	OUT EQUAL TO)  0.5m 7=HT<0.2m  /O=not observed  \[ \rightarrow >50 \\ /O=Not observed
DECL ST/ 2 3 4 HT CVF ST/ ABU	AND DESCRIP  LAYER  CANOPY  SUB-CANOPY  UNDERSTORE  GRD. LAYER  CODES:  R CODES:  ANDING SNAGS: INDANCE CODES:	TION:  HT 2.  Y  1=>25m 0=NONE :	2=10<+ = 1=0%-	(>>MUCH GR PINST  HTS25m 3=2 <ht 2="10" <10="" cvrs10%="" i="NONE" n="" r="RA&lt;/td"><td>CIES IN ORDER OF IREATER THAN; &gt;GRE  \$10m 4=1<ht\$2m \$10m="" \$cvr\$25%="" 3="25&lt;CVR" 4="1&lt;H&lt;/td" 5="0" 6="0"><td>DECREASING DOME EATER THAN; = AB  1.5<ht≤1m 1.50%="" 4="CVR" 6="0.2&lt;HT≤">60% N  A=ABUNDANT N</ht≤1m></td><td>0.5m 7=HT&lt;0.2m //O=not observed // &gt;50 //O=Not observed OLD GROWTH</td></ht\$2m></td></ht>	CIES IN ORDER OF IREATER THAN; >GRE  \$10m 4=1 <ht\$2m \$10m="" \$cvr\$25%="" 3="25&lt;CVR" 4="1&lt;H&lt;/td" 5="0" 6="0"><td>DECREASING DOME EATER THAN; = AB  1.5<ht≤1m 1.50%="" 4="CVR" 6="0.2&lt;HT≤">60% N  A=ABUNDANT N</ht≤1m></td><td>0.5m 7=HT&lt;0.2m //O=not observed // &gt;50 //O=Not observed OLD GROWTH</td></ht\$2m>	DECREASING DOME EATER THAN; = AB  1.5 <ht≤1m 1.50%="" 4="CVR" 6="0.2&lt;HT≤">60% N  A=ABUNDANT N</ht≤1m>	0.5m 7=HT<0.2m //O=not observed // >50 //O=Not observed OLD GROWTH

LAYERS: 1=CANOPY >10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE ≤5 m >5 m 2 3 4 1 TREES: PINSTRO D SHRUBS: GROUND: Quality Control:This form is complete 

& legible 

.

Signature: Signature: (Field Personnel) (Project Manager)

Reptile / Bat Hib	ernacula Fea	□-Y [i.e. t bridg Con □-Y	* / □-N // features that ge abutment tains pote * / □-N /	at would provents or culverts ential bat hil	n, no acces ide a route ur with cracks/e pernacula fo n, no acces	s (*if yes, onderground, entry points, eatures? s (*if yes, o	describe in table including buried c	oncrete or in	or rock (e.g. foundations nactive animal burrows
	RNACULA FE	EATURE(S) IDE	NTIFIED		oned nimes o	N- 11-			
UIM		Feat	ure Descr	ription_		Photo No.	Spp. O	bserved	Using Feature
OTENTIAL HIBEI UTM  Bat Roosting Fea OTENTIAL BAT F UTM  Stick Nests: TICK NEST(S) IDI UTM  Geeps/Springs/V UTM		Contains potent	Unknow	n, no acces	s (*if yes, d	escribe in t	able below)	40 h í -	h in head
POTENTIAL BAT		<del></del>			s, DBH >25	25cm, side-facing cavities ~10m high in tree		in in treej	
	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Height	and Type of Cavitie
			11 :-1						
STICK NEST(S) ID						Photo No	describe in table		d Using Feature
eptile / Bat Hibernacula  OTENTIAL HIBERNACUL  UTM  at Roosting Features:  OTENTIAL BAT ROOSTIN  UTM  Tree  tick Nests:  FICK NEST(S) IDENTIFIE  UTM  eeps/Springs/Vernal Potential Potent									
					varnal naal	s?		_	
		Q-Y		-Unknow	n, no acces	ss (*if yes,	describe in table	e below	)
SEEP / SPRING / V	ERNAL POOI	Q-Y	/* / O-N /	IED Size Wa	n, no acces	Photo No.	Sub/Emerger	ıt Veg.	Shrubs/ Logs at Edg Present?
SEEP / SPRING / V	ERNAL POOI	L FEATURE(S)	(* / □-N / IDENTIF Feature	IED Size Wa	n, no acces	ss (*if yes,	Sub/Emergen	ıt Veg.	Shrubs/ Logs at Edg
OTENTIAL HIBERNACUL UTM  Bat Roosting Features:  OTENTIAL BAT ROOSTIT UTM  Tree  Stick Nests:  TICK NEST(S) IDENTIFIE UTM  Geeps/Springs/Vernal Po	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Edg
SEEP / SPRING / V UTM	Featu	L FEATURE(S) ure No. & Type	(* / 🗆-N / IDENTIF Feature (Diame	Unknow IED Size ter) Wa	n, no acces	Photo No.	Sub/Emergen Spp. Prese	ıt Veg.	Shrubs/ Logs at Ed

CA=carcass: DP=distinctive parts: FE=feeding evidence; FY=eggs/nest: HO=house/den; OB=observed; SC=scat: SI=other sign; TK=track; VO=vocalization

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Roadside ELC, Woodland & Wildlife Habitat Assessment Form				
Project Number	16096	0064	19	Project Name:	St Colun	nban		
Date	: <u>Sep</u>	+ 20	*11	Field Personnel:	-4 -			
Weather Conditions:	TEMP (°	<b>C</b> ):	WIND:	CLOUD:	PPT: None	PPT (in last 24 hrs)		
				POLYGON DES	CRIPTION			
				TOPOGRAPHIC F		HISTORY		
ELC  COMMUNITY DESCRIPTION & CLASSIFICATION	POLYGON: START TIM END TIME:	2	3		EATURE  TALUS CREVICE / CAVE ALVAR ROCKLAND	NATURAL		
COMMUNITY DESCRIPTION & CLASSIFICATION	START TIM	2	3	TOPOGRAPHIC F  LACUSTRINE LRIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND	EATURE  TALUS CREVICE / CAVE ALVAR CROCKLAND BEACH / BAR SAND DUNE	NATURAL		
COMMUNITY DESCRIPTION & CLASSIFICATION	START TIM	2	SPE	TOPOGRAPHIC F  LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND CLIFF	EATURE  I TALUS  I CREVICE / CAVE  I ALVAR  I ROCKLAND  I BEACH / BAR  I SAND DUNE  I BLUFF	BNATURAL CULTURAL		
COMMUNITY DESCRIPTION & CLASSIFICATION STAND DESCRI	START TIME:  END TIME:  PTION:  HT	2.; E:	SPE	TOPOGRAPHIC F  LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND CLIFF	EATURE  I TALUS  I CREVICE / CAVE  I ALVAR  I ROCKLAND  I BEACH / BAR  I SAND DUNE  I BLUFF	BNATURAL CULTURAL		
COMMUNITY DESCRIPTION & CLASSIFICATION STAND DESCRIP	START TIME: PTION:	2.; E:	SPE	TOPOGRAPHIC F  LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND CLIFF	EATURE  I TALUS  I CREVICE / CAVE  I ALVAR  I ROCKLAND  I BEACH / BAR  I SAND DUNE  I BLUFF	BNATURAL CULTURAL		
COMMUNITY DESCRIPTION & CLASSIFICATION STAND DESCRIPTION LAYER 1 CANOPY	END TIME:  PTION:  HT	2.; E:	SPE	TOPOGRAPHIC F  LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND CLIFF	EATURE  I TALUS  I CREVICE / CAVE  I ALVAR  I ROCKLAND  I BEACH / BAR  I SAND DUNE  I BLUFF	BNATURAL CULTURAL		

ப	UNDERSTURET						
4	GRD. LAYER	15-4	4	PHAARU	N		
	CODES: R CODES:		2=10 <ht≤< th=""><th>25m <b>3</b>=2<ht≤< th=""><th>10m 4=1<ht≤2m 5="&lt;/th"><th>=0.5<ht≤1m 6="0.2&lt;HT≤&lt;br">R≤60% 4=CVR&gt;60% N</ht≤1m></th><th></th></ht≤2m></th></ht≤<></th></ht≤<>	25m <b>3</b> =2 <ht≤< th=""><th>10m 4=1<ht≤2m 5="&lt;/th"><th>=0.5<ht≤1m 6="0.2&lt;HT≤&lt;br">R≤60% 4=CVR&gt;60% N</ht≤1m></th><th></th></ht≤2m></th></ht≤<>	10m 4=1 <ht≤2m 5="&lt;/th"><th>=0.5<ht≤1m 6="0.2&lt;HT≤&lt;br">R≤60% 4=CVR&gt;60% N</ht≤1m></th><th></th></ht≤2m>	=0.5 <ht≤1m 6="0.2&lt;HT≤&lt;br">R≤60% 4=CVR&gt;60% N</ht≤1m>	
ST/	ANDING SNAGS:		IN	<10	N 10-24	25 - 50	N >50
ABL	JNDANCE CODES;		N=N	ONE R=RAR	E O=OCCASIONAL	L A=ABUNDANT N	N/O=Not observed
ST/	AND MATURITY:	PIONEER	X	YOUNG	MID-AGE	MATURE	OLD GROWTH
VE	GETATION TYPE:	1 Grasi	s Me	adow M	1arsh	CODE: MAM	2-2
	COMPL	ĖX				CODE:	197 7

BEAT THE RESERVE	CODES: N=NONE R=RARI		LA	YER		DISTANCE	FROM RD.	WENT ST
	SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLL
EES:				Ш				
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			Qualit	y Contro	l:This fo	rm is comple	ete 🗆 & legib	ie □.
ignature:			S	ignature	:	S	1	
	(Field Personnel)					/Project	Manager)	······

							dicate on map)	
		features: Con [i.e. brid Con	ntains po Y* / □-N / features the ge abutmentains po Y* / □-N /	tential reptile  /  - Unknown  hat would prosents or culverte  tential bat h	e hibernacu rn, no acces vide a route ur s with cracks/ ibernacula f rn, no acces	la features es (*if yes, onderground, entry points, features? es (*if yes, o	? describe in table including buried of exposed rock cre-	concrete or rock (e.g. foundations, vices or inactive animal burrows)]
	RNACULA	FEATURE(S) IDI	ENTIFIE	D			I 6 6	
CIM		rca	ture Desc	Tiption		Photo No.	Spp. C	bserved Using Feature
		□-Y* / □-N / <b>₄</b> [i.e. tall trees w	<b>≱Unknov</b> vith open	vn, no acces surrounding	s (*if yes, o	describe in s	table below)	10m high in tree]
UTM			DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Height and Type of Cavities
Stick Nests:		Co	ntains lar Y* / □-N	ge stick nes	its? /n, no acces	ss (*if yes,	describe in tabl	e below)
STICK NEST(S) IDE UTM	ENTIFIED	Tree ID	Tree	Spp.	Nest Size	Photo No	Spp. C	Observed Using Feature
Extent of Physical Investigation of Feature:    Contains potential								
POTENTIAL HIBERNA UTM  Bat Roosting Featur  POTENTIAL BAT ROO UTM  Stick Nests: STICK NEST(S) IDENT UTM  Seeps/Springs/Vern UTM  UTM		Q-'	Y* / 🗆-N	// Unknow	vernal pool n, no acces	s? ss (*if yes, (	describe in tabl	e below)
			Feature	Size	iter Depth	Photo No.	Sub/Emerger Spp. Prese	
				A T			<b>Орр. 11636</b>	Tresent.
Reptile / Bat Hibernacula Features:  Contains potential reptile hibernacula	dicate on m	ap)						
					13.132			
							æ.	
						(192)		

POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:  POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:  POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:  POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:  POLYGON DESCRIPTION  DIALUS  CREVICE / CAVE  CREVICE / CAVE  DIALUS  CREVICE / CAVE  CREVICE / CAVE  CREVICE / CAVE  CREVICE / CAVE  CREVICE / CAVE  CROCKLAND  DIALUS  CREVICE / CAVE  CREVICE / CAVE  CREVIC	bitat	ldlife H	oadside El nd & Wildli sessment F	Woodlar		gate Drive 4P5 5-6050	ntec Con- 70 Souths Iph, ON ada N1G (519) 836 (519) 83	Gue Car
Date: Sept 20 - 1   Field Personnel: Sept 20   F	$\overline{\gamma}$	umbo	St (Dun	Project Name:	a	Mul	MAG	oject Number:
POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:    CANOPY				Field Personnel:	11	20-	Spot	Date:
POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:  LACUSTRINE  RIVERINE  BOTTOMLAND  TERRACE  VALLEY SLOPE  BOLL UPLAND  CLASSIFICATION  BEACH / BAR  CLASSIFICATION  CVR  START TIME:  CVR  START TIME:  CVR  SPECIES IN ORDER OF DECREASING DOMINANCE  COMMUNITY  CVR  SPECIES IN ORDER OF DECREASING DOMINANCE  (>>MUCH GREATER THAN; > GREATER THAN; = ABOUT EQU  TOPOGRAPHIC FEATURE  INATUS  CREVICE / CAVE  AVAR  ROCKLAND  BEACH / BAR  BEACH / BAR  BOLL UPLAND  BLUFF  CVR  SPECIES IN ORDER OF DECREASING DOMINANCE  (>>MUCH GREATER THAN; > GREATER THAN; = ABOUT EQU  TOPOGRAPHIC FEATURE  INATUS  CREVICE / CAVE  BOTTOMLAND  BEACH / BAR  ROCKLAND  BEACH / BAR  BOLL UPLAND  BLUFF  CVR  SPECIES IN ORDER OF DECREASING DOMINANCE  (>>MUCH GREATER THAN; > GREATER THAN; = ABOUT EQU  TOPOGRAPHIC FEATURE  INATUS  CVR  COMMUNITY  BEACH / BAR  BOLL LAYER  TOPOGRAPHIC FEATURE  INATUS  CVR  COMMUNITY  BEACH / BAR  BOCKLAND  BLUFF  CVR  COMMUNITY  BEACH / BAR  BOCKLAND  BEACH / BAR  BOLL LAYER  TOPOGRAPHIC FEATURE  INATUS  COREVICE / CAVE  BOTTOMLAND  CREVICE / CAVE  BOLL LAYER  TOPOGRAPHIC FEATURE  INATUS  COREVICE / CAVE  BOTTOMLAND  CREVICE / CAVE  BOLL LAYER  COULT LETTER  COULT LE				_			7	
POLYGON DESCRIPTION  TOPOGRAPHIC FEATURE  POLYGON:    LACUSTRINE   CREVICE / CAVE   CAVE	in last 24 hrs			CLOUD:	WIND:	C):	TEMP (°	r Conditions:
TOPOGRAPHIC FEATURE  POLYGON:  24    CANOPY   CA	none	15	none	10/.			10	
ELC  COMMUNITY DESCRIPTION & CLASSIFICATION  TIME:  END TIME:  END TIME:  START TIME:  END TIME:  END TIME:  SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; > GREATER THAN; = ABOUT EQU  1 CANOPY 2 SUB-CANOPY 3 UNDERSTOREY 4 GRD. LAYER 4 GRD. LAYER 4 GRD. LAYER 5 TANDING SNAGS:  END TIME:  END TABLEIAND  END CHANDING  END TIME:  END TIM			CRIPTION	POLYGON DES				
RIVERINE BOTTOMIAND TERRACE VALLEY SLOPE ITABLELAND CLIFF  STAND DESCRIPTION:  LAYER HT CVR SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; > GREATER THAN; = ABOUT EQU  1 CANOPY 2 SUB-CANOPY 3 UNDERSTOREY 4 GRD. LAYER 4 GRD. LAYER 4 GRD. LAYER 5 TANDUS  1 =>25m 2=10 <ht≤25m 3="2+HT≤10m" 4="1&lt;HT≤2m" 5="" 6="0.2&lt;HT≤0.5m" 7="HT" a="ABUNDANT" n="" o="Not" obset<="" r="RARE" snags:="" tandus="" td=""><td>ORY</td><td>HIS</td><td>EATURE</td><td>TOPOGRAPHIC F</td><td></td><td></td><td></td><td>39</td></ht≤25m>	ORY	HIS	EATURE	TOPOGRAPHIC F				39
COMMUNITY DESCRIPTION & CLASSIFICATION  END TIME:  TABLELAND ROLL. UPLAND ROLL ROLL ROLL ROLL ROLL ROLL ROLL ROL		CAVE	CREVICE / CAV	RIVERINE BOTTOMLAND	4			ELC L
STAND DESCRIPTION:  LAYER  HT  CVR  SPECIES IN ORDER OF DECREASING DOMINANCE  (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQU  1 CANOPY  2 SUB-CANOPY  3 UNDERSTOREY  4 GRD. LAYER  HT CODES:  1=>25m 2=10-HTs25m 3=2+HTs10m 4=1+HTs2m 5=0.5+HTs1m 6=0.2+HTs0.5m 7=HTs0.5m	IAR	D BEACH / BAR D SAND DUNE	UVALLEY SLOPE TABLELAND ROLL. UPLAND			TIME:	RIPTION & FNI	
LAYER			a .	LI OLIFF			N:	D DESCRIPTION
2 SUB-CANOPY 3 UNDERSTOREY 4 GRD. LAYER 4-5 4 PHARLIN HT CODES: 1=>25m 2=10 <ht\$\leq 0.5m="" 10m="" 1m="" 2="10&lt;HT\$\leq" 25m="" 3="2&lt;HT\$\leq" 4="1&lt;HT\$\leq" 5="0.5&lt;HT\$\leq" 6="0.2&lt;HT\$\leq" 7="H&lt;/td" m=""><td>-</td><td></td><td></td><td></td><td></td><td>CVR</td><td>нт</td><td>LAYER</td></ht\$\leq>	-					CVR	нт	LAYER
3 UNDERSTOREY 4 GRD. LAYER 4 GRD. LAYER 4 GRD. LAYER 5 CODES: 1=>25m 2=10 <ht\$25m 0="NONE" 1="0%&lt;CVR\$10%" 2="10&lt;CVR\$25%" 3="25&lt;CVR\$60%" 4="CVR\$60%" 5="0.5&lt;HT\$1m" 6="0.2&lt;HT\$0.5m" 7="HT\$1" code="" codes:="" n="" o="not" observations="" of="" of<="" td="" the=""><td></td><td>- 11 1</td><td></td><td></td><td></td><td></td><td></td><td>CANOPY</td></ht\$25m>		- 11 1						CANOPY
4 GRD. LAYER 4 GRD. LAYER 4 GRD. LAYER 5 GRD. LAYER 4 GRD. LAYER 5 GRD								SUB-CANOPY
TCODES:								NDERSTOREY
CVR CODES:         0=NONE         1=0%         2=10         2=10         3=25         4=CVR>60%         N/O=not observed           STANDING SNAGS:         N=NONE         10         N         10 - 24         N         25 - 50         N           ABUNDANCE CODES:         N=NONE         R=RARE         0=0CCASIONAL         A=ABUNDANT         N/O=Not observed				444	PHAMRUN	4	45	GRD. LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT N/O=Not obs								DEC.
STAND MATURITY: PIONEER X YOUNG MID-AGE MATURE OLD		60% N/O=n	60% 4=CVR>60%	VR≤25% 3=25 <cvr≤< td=""><td>CVR≤10% 2=10&lt;0</td><td>1=0%&lt;</td><td></td><td>ODES:</td></cvr≤<>	CVR≤10% 2=10<0	1=0%<		ODES:
	observed >50	60% N/O=n	60% 4=CVR>60% N 25 - 50	VR≤25% 3=25 <cvr≤ N 10 – 24</cvr≤ 	CVR≤10% 2=10<0	1=0%<		ODES: DING SNAGS:
RECOLLANDA Grass Mineral Meadow Maush CODE: MAM2-2	observed >50	50 N/O=n NT N/O=N	60% 4=CVR>60% A=ABUNDANT	CVR<25% 3=25 <cvr< br=""> N 10 - 24   O=OCCASIONAL</cvr<>	CVR≤10% 2=10<0 <10 =NONE R=RARE	1=0%<	0=NONE	ODES: DING SNAGS: ANCE CODES:

LAYERS:	1=CANOPY	>10m	2=SUB-C/	ANOPY	3=UND	ERSTOREY	4=GROUND (G	RD.) LAYER
ABUNDAN	CE CODES:	N=NONE	R=RARE	Q=OCCAS	SIONAL	A=ABUNDANT		N/O=Not observed
MATERIAL STREET	WHEN PERSONS AND PROPERTY.	SCHWALINGS OWN	PERSONAL PROPERTY AND INCOME.	EXCURSION CONTRACTOR	MINESCHOOL SHEET	TETRAL ASSAURA SPEEDS	DISTANCE	DOM DD

	D=OCCASIONAL A=ABUNDANT LAYER				DISTANCE	FROM RD.	COLL
SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLL
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Signature:			Control:Th	is form is comp	form is complete 🗆 & legible 🗅.		
ng HjE	(Field Personnel)		(Projec	(Project Manager)			

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Reptile / Bat Hiber	rnacula Fe	[i.d	Contains potential reptile hibernacula features?  -Y*/ -N -N -Unknown, no access (*if yes, describe in table below)  [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)  Contains potential bat hibernacula features?  -Y*/ -N / Unknown, no access (*if yes, describe in table below)  [i.e. karst topography, abandoned mines or caves]							
POTENTIAL HIBER	NACULA F									
UTM		Fe	ature Desc	ription		Photo No	Spp. O	bserve	l Using Feature	
Bat Roosting Feat	tures:	Contains pote	ential bat re	oosting featu	res?					
= *		□-Y* / □-N /⁄g [i.e. tall trees	with open	vn, no acces surrounding	s ( <i>"IT yes, a</i> s, DBH >25	icm, side-f	<i>table below)</i> acing cavities ~	10m hig	gh in tree]	
POTENTIAL BAT R	· · · · · · · · · · · · · · · · · · ·	FEATURE(S) II	DENTIFIE	CD .	1 1 1			11 B II		
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities	
Stick Nests:		C	ontains lar	rge stick nest	ts?	ss (*if ves.	describe in tabl	e belov	<i>(</i> )	
STICK NEST(S) IDE	NTIFIED	737 27 1620								
UTM		Tree ID	Tree	Spp.	Nest Size	Photo No	Spp. C	bserve	d Using Feature	
Seeps/Springs/Ve	rnal Pools	3: C	ontains se -Y* / □-N	eps/springs/	vernal pools	s?	describe in table	e helov	/)	
SEEP / SPRING / VE	RNAL POO					, ,,		5 50,01	,	
UTM	Feat	ture No. & Type	Feature (Diame		ter Depth	Photo No.	Sub/Emergen Spp. Prese		Shrubs/ Logs at Edge Present?	
SPECIES & HABITA	T OBSERV	ATIONS (list s	pecies and	type of obser	vation & inc	dicate on m	ар)			
							Ģ			

RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND	SC ENK  PPT:  PONE  CRIPTION			
CLOUD:  ///  DLYGON DES  PPOGRAPHIC F  LACUSTRINE RIVERINE BOTTOMLAND FERRACE VALLEY SLOPE ROLL. UPLAND  ROLL. UPLAND	PPT:  //O// C  CRIPTION  EATURE  DITALUS  DCREVICE / CAVE  DALVAR  DROCKLAND  DBEACH / BAR  DSAND DUNE	PPT (in last 24 hrs		
DLYGON DES DPOGRAPHIC F LACUSTRINE RIVERINE BOTTOMLAND FERRACE VALLEY SLOPE ROLL. UPLAND	CRIPTION  EATURE  TALUS  CREVICE / CAVE  DALVAR  DROCKLAND  DBEACH / BAR  D SAND DUNE	HISTORY		
POGRAPHIC F LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND	EATURE  TALUS  CREVICE / CAVE  ALVAR  CROCKLAND  BEACH / BAR  SAND DUNE	NATURAL		
LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE	NATURAL		
RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL. UPLAND	CREVICE / CAVE CALVAR CROCKLAND CROC			
D RIVERINE D CREVICE / CAVE D CULTUR/ D BOTTOMLAND D ALVAR D CULTUR/ D TARACE ROCKLAND D VALLEY SLOPE D BEACH / BAR D STABLELAND D SAND DUNE				
	DECREASING DOM ATER THAN; = AB			
10 - 24	<b>№</b> 25 – 50	N >50		
D=OCCASIONAL	A=ABUNDANT N	O=Not observed		
7	MATURE	OLD GROWTH		
2	≤25% 3=25 <cvr≤< td=""><td>O=OCCASIONAL A=ABUNDANT N</td></cvr≤<>	O=OCCASIONAL A=ABUNDANT N		

LAYERS: 1=CANOPY > 10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE >5 m 2 3 4 ≤5 m TREES: D SHRUBS: GROUND: Quality Control: This form is complete ☐ & legible ☐.

Signature:

(Field Personnel)

Signature:

(Project Manager)

ELC Polygon: #	Asses	sment Type:	<b>₫</b> -Visua	al; no	access / 🗆	-Walk throu	gh feature			
Extent of Physical In	– vestigation	of Feature:	□-Entir	e/ 🗆	I-Partial, wal	k through p	olygon (in	dicate on map)		
Reptile / Bat Hibe	rnacula F		□-Y* / I [i.e. feats bridge al Contair □-Y* / I	ures the butments pour D-N	hat would provents or culverts tential bat hi	n, no acces ride a route un with cracks/e bernacula for n, no acces	s (*if yes, nderground, entry points eatures? is (*if yes,	describe in table including buried c	oncrete or in	or rock (e.g. foundations. nactive animal burrows)]
POTENTIAL HIBER	NACULA	FEATURE(S)			graphy, aband D	oned mines o	r caves j			
UTM		• • • • • •	Feature				Photo No	Spp. O	bserved	Using Feature
or or a success										
Bat Roosting Feat	tures:	□-Y* / □-N	// Un	knov		s (*if yes, d		table below)	10m hia	ih in treel
POTENTIAL BAT R	OOSTING			<del></del>		0,00,00	0111, 0140	idening edition	· om mg	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
UTM	Tree ID	Tree Sp	p. D	ВН	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Height	and Type of Cavities
				7						
Stick Nests:	4 - 1.1		Contaiı □-Y* /	ns laı □-N	rge stick nes /鄭-Unknow	its? /n, no acces	ss (*if yes,	describe in tabl	e below	)
STICK NEST(S) IDE	NTIFIED	(T ID.		200	0	N 4 61	T 100 1 20			
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Seeps/Springs/Ve	rnal Poo	ls:			eps/springs/			describe in tabl	e below	······································
SEEP/SPRING/VE	RNAL PO	OL FEATURE				· Fi			1 1	
UTM	Fea	ature No. & T	vnel	eatur Diam	e Size eter) Wa	iter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
SPECIES & HABITA	T OBSER	VATIONS (lis	t species	and	type of obse	rvation & in	dicate on 1	nap)		
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	Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Woodla	Roadside ELO nd & Wildlife sessment Fo	Habitat
	Project Number:	16091	116	19	Project Name	Stalum	ban
	Date:	Sept	20	-11	Field Personnel		K
Wea	ther Conditions:	TEMP (	): }	WIND:	CLOUD:	PPT: None	PPT (in last 24 hrs)
					POLYGON DES	CRIPTION	
					TOPOGRAPHIC'I	EATURE	HISTORY
DE	ELC COMMUNITY ESCRIPTION & ASSIFICATION	POLYGON: START TIM END TIME:	24	1	LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE	SAND DUNE	MATURAL CULTURAL
		TION		= ;=	ÖROLL. UPLAND □ CLIFF	BLUFF	
	AND DESCRIP	PTION:	CVR			DECREASING DOM	
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ST/	AND DESCRIP	нт 2		(>>MUCH GR	CIES IN ORDER OF I	DECREASING DOM	
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STA	AND DESCRIP  LAYER  CANOPY  SUB-CANOPY  UNDERSTORE  GRD. LAYER  CODES:	HT 2_ Y EY R 1=>25m 0=NONE	2=10<  = 1=0%	(>>MUCH GRI   SALIX	CLIFF  CIES IN ORDER OF I EATER THAN; > GRE  S P  10m 4=1 <ht<2m 3="25&lt;CVR&lt;/td" 5="0" cvr<25%=""><td>DECREASING DOM EATER THAN; = AB 0.5<ht<1m 6="0.2&lt;HT&lt;0.25&lt;br">0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.</ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<1m></td><td>OUT EQUAL TO)  0.5m 7=HT&lt;0.2m /O=not observed</td></ht<2m>	DECREASING DOM EATER THAN; = AB 0.5 <ht<1m 6="0.2&lt;HT&lt;0.25&lt;br">0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5<ht<0.25 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.</ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<0.25 </ht<1m>	OUT EQUAL TO)  0.5m 7=HT<0.2m /O=not observed
ST/ 1 2 3 4 HT (CVF ST/A	LAYER  CANOPY SUB-CANOPY UNDERSTORE GRD. LAYER CODES: CODES:	HT 2_ Y EY R 1=>25m 0=NONE	2=10<  = 1=0%	(>>MUCH GRI   SALIX   HTS25m 3=24HTS   CVRS10% 2=104   V   <10	CLIFF  CIES IN ORDER OF I EATER THAN; > GRE  S P  10m 4=1 <ht<2m 3="25&lt;CVR&lt;/td" 5="0" cvr<25%=""><td>DECREASING DOM EATER THAN; = AB .5<ht≤1m 6="0.2&lt;HT≤&lt;br">≤60% 4=CVR&gt;60% N</ht≤1m></td><td>0.5m 7=HT&lt;0.2m /O=not observed /O=Not observed</td></ht<2m>	DECREASING DOM EATER THAN; = AB .5 <ht≤1m 6="0.2&lt;HT≤&lt;br">≤60% 4=CVR&gt;60% N</ht≤1m>	0.5m 7=HT<0.2m /O=not observed /O=Not observed
STA	LAYER CANOPY SUB-CANOPY UNDERSTORE GRD. LAYER CODES: R CODES: UNDING SNAGS: UNDANCE CODES:	HT 2 Y EY R 1=>25m 0=NONE	2=10<  = 1=0%	(>>MUCH GRI	CLIFF  CIES IN ORDER OF I EATER THAN; > GRE  5 0  10m 4=1 <ht<2m -="" 0="0CCASIONAL" 10="" 24="" 3="25&lt;CVR:" 5="0" cvr<25%="" ie="" in="" mid-age<="" td=""><td>DECREASING DOM EATER THAN; = AB 0.5<ht<1m 6="0.2&lt;HT&lt;0.2&lt;HT">0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht>0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht>0.2<ht<0.2<ht<0.2<ht<0.2<ht>0.2<ht<0.2<ht<0.2<ht<0.2<ht>0.2<ht<0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht<0.2<ht>0.2<ht>0.2<ht<0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht>0.2<ht< td=""><td>0.5m 7=HT&lt;0.2m /O=not observed &gt;50</td></ht<></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht></ht<0.2<ht></ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht></ht<0.2<ht<0.2<ht></ht<0.2<ht<0.2<ht<0.2<ht></ht<0.2<ht<0.2<ht<0.2<ht></ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht></ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht<0.2<ht></ht<1m></td></ht<2m>	DECREASING DOM EATER THAN; 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	I=CANOPY >10m 2=SUB- CE CODES: N=NONE R=RAR		LA	YER		DISTANCE	FROM RD.	ST (1857)
	SPECIES CODE	1	2	3	4	≤6 m	>5 m	COLL
REES:		D	1 1 1					
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			Qualit	y Contro	l:This fo	orm is comple	ete 🗆 & legibl	e 🗆.
Signature:			S	ignature	<b>:</b>	9	~	
-	(Field Personnel)					(Desired	Manager)	

pail / But i iibui	nacula Fea	□-Y [i.e. brid <sub>i</sub> Con □-Y	*/ Q-N / features the ge abutment tains pote */ Q-N /	detunknown at would produte or culverts tential bat he	vide a route un s with cracks/e ibernacula fe	s (*if yes, onderground, interpretation of the control of the cont	lescribe in table neluding buried c	oncrete or rices or inc	rock (e.g. foundations active animal burrows
POTENTIAL HIBERY UTM	NACULA FE	ATURE(S) IDE		D		Photo No.	Spp. O	hserved l	Using Feature
OTH		Teat	ure Desc	прион		R HOLO IVO.		osci ved (	Using Peature
Bat Roosting Feat		Contains poten □-Y* / □-N /🎉 [i.e. tall trees w	-Unknow	n, no acces	ss (*if yes, d			10m high	in tree]
POTENTIAL BAT RO UTM	Tree ID	EATURE(S) IDI Tree Spp.	DBH	D Photo No.	Decay Cl	ogs (1.5)	No. of Cavities	Unight	and Type of Cavitie
OTM	Tiee ID	rree Spp.	DBH	Filoto 140.	Decay Ci	ass (1-3)	No. of Cavities	rieight a	inu Type of Cavitie
			1 1 :						
			<u> </u>						
Stick Nests:		Coi	ntains lar /* / □-N	ge stick nes	sts? vn. no acces	ss (*if ves. o	describe in tabl	e below)	
STICK NEST(S) IDE	TIFIED					, 000, 0			
UTM	T	Tree ID	Tree	Spp.	Nest Size	Photo No	. Spp. C	bserved	Using Feature
							1		
							=		
									X
Seeps/Springs/Ve		۷-ت	/* / □-N	/尊-Unknov	/vernal pool	s? ss (*if yes, d	describe in tabl	e below)	
SEEP / SPRING / VEI	RNAL POOL	FEATURE(S)	(* / □-N IDENTII	FIED	vn, no acces	s? ss (*if yes, o	1= HEV	1111	Shruhe/ Loge at Ed
	RNAL POOL	۷-ت	/* / □-N	FIED Size	/vernal pool wn, no acces ater Depth	s? ss (*if yes, o	Sub/Emerger Spp. Prese	nt Veg.	Shrubs/ Logs at Edg Present?
SEEP / SPRING / VEI	RNAL POOL	FEATURE(S)	(* / □-N IDENTII Feature	FIED Size	vn, no acces	ss (*if yes, o	Sub/Emerger	nt Veg.	
SEEP / SPRING / VEI	RNAL POOL	FEATURE(S)	(* / □-N IDENTII Feature	FIED Size	vn, no acces	ss (*if yes, o	Sub/Emerger	nt Veg.	
SEEP / SPRING / VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
SEEP / SPRING / VEI	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
SEEP/SPRING/VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
SEEP/SPRING/VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
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SEEP/SPRING/VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
SEEP/SPRING/VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
SEEP / SPRING / VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	
SEEP / SPRING / VEI UTM	Featu	FEATURE(S)	(* / □-N IDENTII Feature (Diame	/#-Unknov FIED e Size eter) W	vn, no acces	Photo No.	Sub/Emerger Spp. Prese	nt Veg.	

CA=carcass: DP=distinctive parts: FE=feeding evidence; FY=eggs/nest: HO=house/den; OB=observed; SC=scat: SI=other sign; TK=track; VO=vocalization

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Woodla	oadside EL nd & Wildlife sessment F	e Habitat	
Project Number:	1001	600	49	Project Name:	St Colu	mban	
Date:	Sep	120	-11	Field Personnel:	SCENK		
Weather Conditions:	TEMP (*	°C):	WIND:	CLOUD:	PPT: NOME	PPT (in last 24 hrs	
			9	POLYGON DES	CRIPTION		
31.1				TOPOGRAPHIC F	EATURE	HISTORY	
COMMUNITY DESCRIPTION & CLASSIFICATION		LACUSTRINE RIVERINE BOTTOMLAND TERRACE VALLEY SLOPE TABLELAND ROLL UPLAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	NATURAL DICULTURAL			
CLASSIFICATION		-		□ CLIFF		1	
STAND DESCRIP	PTION:		v E				
FEVALUE NO.	PTION:	CVR		CIES IN ORDER OF DEATER THAN; >GRE			
STAND DESCRIP		CVR		CIES IN ORDER OF D			
STAND DESCRIP	нт	CVR		CIES IN ORDER OF D			
STAND DESCRIP  LAYER  1 CANOPY	НТ	CVR		CIES IN ORDER OF D			
STAND DESCRIP  LAYER  1 CANOPY 2 SUB-CANOP	HT Y	CVR		CIES IN ORDER OF D			
STAND DESCRIP  LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORE	HT  Y  EY  1=>25m	2=10<+	PHA DR	CIES IN ORDER OF D	ATER THAN; = AE	SOUT EQUAL TO	
LAYER  CANOPY  SUB-CANOP  UNDERSTORE  GRD. LAYER  T CODES:	HT  Y  EY  1=>25m 0=NONE	2=10<+	PHA DR	CIES IN ORDER OF DEATER THAN; >GRE	ATER THAN; = AE	SOUT EQUAL TO	
LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORE 4 GRD. LAYER T CODES:	HT  Y  EY  1=>25m 0=NONE	2=10<+ 1=0%<	(>>MUCH GRI	CIES IN ORDER OF DEATER THAN; >GRE  100 4=1 <ht<2m +="" 100="" 4="1" 5="0.&lt;/td" ht<2m=""><td>ATER THAN; = AE  5<ht≤1m 4="CVR" 6="0.2&lt;HT:" 60%="">60% I</ht≤1m></td><td>S0.5m 7=HT&lt;0.2m</td></ht<2m>	ATER THAN; = AE  5 <ht≤1m 4="CVR" 6="0.2&lt;HT:" 60%="">60% I</ht≤1m>	S0.5m 7=HT<0.2m	

CODE:

COMPLEX

LAYERS:	1=CANOPY >10m CE CODES: N=NONE	2=SUB-CAN	OPY 3:	UNDE	RSTOR =ARUN	EY DANT	4=GROUND D=DOMINAN	(GRD.) LAYE IT N/O=Not	R observe
ABONDAN			- COCHOIC	LA	YER		DISTANCE	FROM RD.	PREMINERN
	SPECIES CODE		1	2	3	4	≤5 m	>5 m	COLL
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Signature:					ignatur		C	~	
g.ia.u.e.				3	.A. atal	<b>·</b> ·		10	
	(Field Pers	sonnel)					(Project	: Manager)	

ELC Polygon: #3 Extent of Physical I	$\underline{\smile}$	ssment Type:; on of Feature:								
Reptile / Bat Hibe	ernacula	Features:	□-Y' [i.e. f bridg Conf	* / □-N / features the re abutmentains pot * / □-N /	nat would provents or culverts tential bat hi	n, no acces ide a route un with cracks/e bernacula fe n, no acces	s (*if yes, iderground, intry points eatures? s (*if yes,	describe in table, including buried of	concrete of vices or in	or rock (e.g. foundation nactive animal burrows
POTENTIAL HIBE	RNACULA	FEATURE(S)				oned milles o	reaves			
UTM			Feat	ure Desc	ription		Photo No	o. Spp. O	bserved	Using Feature
Bat Roosting Fea	atures:	□-Y*/□-N	/摩	-Unknow		s (*if yes, d		table below)	10m hio	sh in troal
POTENTIAL BAT I	ROOSTING					S, UDFI ~20	CIII, Siuc-	lacing cavilles	Turning	n in ueej
UTM	Tree I			DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Height	and Type of Cavitie
Stick Nests:			Con	tains lar ∕* / ロ-N	ge stick nes	ts? m, no acces	s (*if yes,	describe in tabl	le below	)
STICK NEST(S) ID	ENTIFIED	Tree ID		Tree	Spp.	Nest Size	Photo N	o. Spp. C	Observe	d Using Feature
		232								
Seeps/Springs/V	ernal Po	ols:	Con	ntains se	eps/springs/	vernal pool	s?	- a		
SEEP / SPRING / V	FRNAL PO	OOL FEATURI				n, no acces	s (*if yes,	describe in tabl	e below	)
UTM		eature No. & T	1	Feature (Diana	Size W	ter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edg Present?
										*1
SPECIES & HABIT	AT OBSEI	RVATIONS (lis	t spe	cies and	type of obser	vation & in	dicate on	map)		
		Ri-				1 , 2,				
								7-1		
4 19								17		

CA=carcass: DP=distinctive parts: FE=feeding evidence; FY=eggs/nest: HO=house/den; OB=observed; SC=scat: SI=other sign; TK=track; VO=vocalization

Stantec	Stantec ( 1 – 70 So Guelph, ( Canada   Tel: (519) Fax: (519	outhgate ON N1G 4F ) 836-66	• Drive •5 050		Woodlar	oadside EL0 nd & Wildlife sessment Fo	Habitat
Project Number	er: 160	96	260	49	Project Name:	St Colur	nban
Dat	te: Se	pt	20	- 11	Field Personnel:		
Weather Conditions		P (°C):		WIND:	CLOUD:	PPT:	PPT (in last 24 hrs
					POLYGON DES	CRIPTION	
VI					TOPOGRAPHIC F	EATURE	HISTORY
POLYGON: 26  COMMUNITY DESCRIPTION & END TIME:			☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND	II TALUS II CREVICE / CAVE II ALVAR II ROCKLAND II BEACH / BAR II SAND DUNE II BLUFF	CULTURAL		
	IPTION:			0054	NEO IN ORDER OF D		
STAND DESCR	$\overline{}$		VR	SPEC	CIES IN ORDER OF D		
LAYER	н	ТС	VIC	(>>MUCH GRI	EATER THAN; >GRE	ATER THAN; = AB	OUT EQUAL TO
LAYER		_	7	(>>MUCH GRI		ATER THAN; = AB	OUT EQUAL TO
LAYER 1 CANOPY	1 2	_	7			ATER THAN; = AB	OUT EQUAL TO
LAYER  1 CANOPY 2 SUB-CANO	Y Z	_	7			ATER THAN; = AB	OUT EQUAL TO
LAYER  1 CANOPY 2 SUB-CANO	Y 2 DPY REY ER 1=>2	2_ ( 25m 2=	7 =10 <h< td=""><td>ACESAS</td><td></td><td>5<ht≤1m <b="">6=0.2<ht≤< td=""><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤<></ht≤1m></td></h<>	ACESAS		5 <ht≤1m <b="">6=0.2<ht≤< td=""><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤<></ht≤1m>	0.5m <b>7=</b> HT<0.2m
LAYER  1 CANOPY 2 SUB-CANO 3 UNDERSTO 4 GRD. LAY HT CODES:	Y 2 DPY   2 REY   ER   1=>2 0=N(	2_ ( 25m 2=	7 =10 <h< td=""><td>ACESAS</td><td>10m 4=1<ht≤2m 5="0.&lt;/td"><td>5<ht≤1m <b="">6=0.2<ht≤< td=""><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤<></ht≤1m></td></ht≤2m></td></h<>	ACESAS	10m 4=1 <ht≤2m 5="0.&lt;/td"><td>5<ht≤1m <b="">6=0.2<ht≤< td=""><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤<></ht≤1m></td></ht≤2m>	5 <ht≤1m <b="">6=0.2<ht≤< td=""><td>0.5m <b>7=</b>HT&lt;0.2m</td></ht≤<></ht≤1m>	0.5m <b>7=</b> HT<0.2m
LAYER  1 CANOPY 2 SUB-CANO 3 UNDERSTO 4 GRD. LAY HT CODES: CVR CODES:	Y 2 DPY REY ==================================	2_ ( 25m 2=	=10 <h< td=""><td>ACESAS  T&lt;25m 3=2<ht< 2="10&lt;&lt;/td" cvr<10%=""><td>10m 4=1<ht≤2m 5="0.0&lt;br">CVR≤25% 3=25<cvr≤< td=""><td>5<ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N N 25 – 50</ht≤1m></td><td>0.5m <b>7</b>≖HT&lt;0.2m /O=not observed</td></cvr≤<></ht≤2m></td></ht<></td></h<>	ACESAS  T<25m 3=2 <ht< 2="10&lt;&lt;/td" cvr<10%=""><td>10m 4=1<ht≤2m 5="0.0&lt;br">CVR≤25% 3=25<cvr≤< td=""><td>5<ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N N 25 – 50</ht≤1m></td><td>0.5m <b>7</b>≖HT&lt;0.2m /O=not observed</td></cvr≤<></ht≤2m></td></ht<>	10m 4=1 <ht≤2m 5="0.0&lt;br">CVR≤25% 3=25<cvr≤< td=""><td>5<ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N N 25 – 50</ht≤1m></td><td>0.5m <b>7</b>≖HT&lt;0.2m /O=not observed</td></cvr≤<></ht≤2m>	5 <ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N N 25 – 50</ht≤1m>	0.5m <b>7</b> ≖HT<0.2m /O=not observed
LAYER  1 CANOPY 2 SUB-CANO 3 UNDERSTO 4 GRD. LAYI 1T CODES: CVR CODES: STÄNDING SNAG	Y 2  DPY  REY  ER  1=>2  0=NC  GS: :S:	2 ( 25m 2=	=10 <h< td=""><td>T=25m 3=2<ht< CVR&lt;10% 2=10&lt;</ht< </td><td>10m 4=1<ht≤2m 5="0.0&lt;br">CVR≤25% 3=25<cvr≤< td=""><td>5<ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N  V 25 - 50</ht≤1m></td><td>0.5m 7=HT&lt;0.2m /0=not observed /V &gt;50</td></cvr≤<></ht≤2m></td></h<>	T=25m 3=2 <ht< CVR&lt;10% 2=10&lt;</ht< 	10m 4=1 <ht≤2m 5="0.0&lt;br">CVR≤25% 3=25<cvr≤< td=""><td>5<ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N  V 25 - 50</ht≤1m></td><td>0.5m 7=HT&lt;0.2m /0=not observed /V &gt;50</td></cvr≤<></ht≤2m>	5 <ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N  V 25 - 50</ht≤1m>	0.5m 7=HT<0.2m /0=not observed /V >50
LAYER  1 CANOPY 2 SUB-CANO 3 UNDERSTO 4 GRD. LAY 1T CODES: CVR CODES: STANDING SNAG	Y 2  DPY  REY  ER  1=>2  0=NC  SS:  ES:  PIONI	25m 2= ONE 1	7 =10 <h =0%&lt; N=</h 	TS25m 3=2 <hts CVRS10% 2=10&lt; V &lt;10 =NONE R=RAR</hts 	10m 4=1 <ht≤2m 5="0.9&lt;br">CVR≤25% 3=25<cvr≤ N 10 - 24 E 0=0CCASIONAL</cvr≤ </ht≤2m>	5 <ht≤1m 8="0.2&lt;HT≤&lt;br">50% 4=CVR&gt;60% N  V 25 - 50  A=ABUNDANT N</ht≤1m>	0.5m 7=HT<0.2m /O=not observed  >50  O=Not observed  OLD GROW

LAYERS: 1=CANOPY >10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER

ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE >5 m 2 3 4 ≤5 m TREES: ACESASA SHRUBS: GROUND: Quality Control:This form is complete 

& legible 

.

Signature:

(Project Manager)

Signature:

(Field Personnel)

ELC Polygon: $\frac{\# 3}{2}$ Extent of Physical In	<i>T</i>	sment Type: <i>∰</i> - n of Feature: □-					licate on map)		
Reptile / Bat Hibe	rnacula F	i.e bri Co	·Y* / □-N e. features the dge abutme ontains po ·Y* / □-N	hat would provents or culverts tential bat his	n, no acces yide a route un with cracks/e bernacula forn, no acces	es (*if yes, conderground, interpretation of the control of the co	lescribe in table neluding buried c	oncrete o	or rock (e.g. foundations nactive animal burrows)
POTENTIAL HIBER	RNACULA				1.00				
UTM		Fe	ature Desc	cription		Photo No.	Spp. O	Spp. Observed Using Feature	
Bat Roosting Fea			Unknow with open	vn, no acces surrounding	s (*if yes, d		able below) acing cavities ~	10m híg	h in tree]
POTENTIAL BAT R	_	, ,	- ·	,	D	(5.5)	N	TT . 1 . 1 .	I.E. C.C.
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Height	and Type of Cavities
Stick Nests:		C	ontains la -Y* / □-N	rge stick nes /ÆĽUnknov	its? vn, no acces	ss (*if yes,	describe in tabl	le below	)
STICK NEST(S) IDI UTM	ENTIFIED	Tree ID	Tree	Spp.	Nest Size	Photo No	Spp. (	hserve	l Using Feature
		110012		С	110000000	11000110	. орр.	<i></i>	
					10				
Seeps/Springs/V	ernal Poo	ls: Co		eps/springs			describe in tabl	e below	)
SEEP / SPRING / VI	ERNAL PO			<del></del>					
UTM	Fe	ature No. & Type	Featur (Diam	TV :	ater Depth	Photo No.	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edg Present?
SPECIES & HABIT.	AT OBSER	VATIONS (list s	pecies and	type of obse	rvation & in	dicate on m	ap)		
			nPf s					H	
							740.		
							in the		

CA=carcass; DP=distinctive parts: FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Stantec	Stantec Cor 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Woodla	oadside EL( nd & Wildlife sessment Fo	Habitat		
Project Number:	1609	600	49	Project Name: St. Columban				
Date:	Sept	20	1	Field Personnel: SC \$ NK				
	TEMP (	C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs)		
Weather Conditions:	18		( )	10%	none.	none		
				POLYGON DES	CRIPTION			
	Lange of the property			TOPOGRAPHIC F	EATURE	HISTORY		
COMMUNITY	POLYGON: START TIME:	2	+	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	CULTURAL		
TAND DESCRIP	TION:					EERL		
LAYER	нт	CVR		IES IN ORDER OF DEATER THAN; >GRE				
1 CANOPY	2	4	PINST	RO				
SUB-CANOP	Υ	f£.						
UNDERSTORE	Y							
<del></del>								

YOUNG

VEGETATION TYPE: ine Cultural Plantation

N=NONE R=RARE O=OCCASIONAL

MID-AGE

A=ABUNDANT

MATURE

CODE:

CODE: CUP3-2

N/O=Not observed

OLD GROWTH

ABUNDANCE CODES:

STAND MATURITY: PIONEER

COMPLEX

BUNDANCE CODES: N=NONE		LA	YER		DISTANCE	FROM RD.	DELINE H
SPECIES CODE	1	2	3	4	≤5 m	>5 m	COLI
EES:	ilea Bull of						
PINSTRO	D				5 8		
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					orm is comple	ele u & legio	ie u.
ignature:			Signatur	B:	~		

ELC Polygon: #3	Assess	sment Type:	-Visual; no	o access / 🗆	-Walk throu	gh feature			
Extent of Physical In	vestigation	of Feature: 🛚	-Entire / □	I-Partial, wa	lk through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hibe	rnacula F€	i. bri Co	-Y* / □-N e. features tl idge abutme ontains po -Y* / □-N	hat would pro- ents or culverts tential bat h	n, no acces yide a route un with cracks/e ibernacula fo n, no acces	s (*if yes, nderground, entry points, eatures? is (*if yes,	describe in table including buried c	oncrete or rock (e.g. for ices or inactive animal	
POTENTIAL HIBER	NACULA F				ioned mines o	reaves			
UTM		· Fe	ature Desc	cription		Photo No	Spp. O	bserved Using Featu	re
Bat Roosting Fea	tures:	Contains pote □-Y* / □-N / [i.e. tall trees	#-Unknov	wn, no acces	ss (*if yes, d			10m high in tree]	
POTENTIAL BAT R	1	<del></del>							
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Height and Type of	Cavities
								A 12	
Stick Nests:	=11	C	ontains la I-Y* / ロ-N	rge stick nes	sts? vn, no acces	ss (*if yes,	describe in table	e below)	
STICK NEST(S) IDE	NTIFIED		63) a.a.		a a l-1				
UTM		Tree ID	Tree	e Spp.	Nest Size	Photo N	o. Spp. C	bserved Using Featu	ıre
Seeps/Springs/Ve	rnal Pool	s: C		eeps/springs			describe in table	e below)	
SEEP / SPRING / VE	RNAL POO				LIE	1		de la la	
UTM	Fea	ture No. & Typ	e Featur (Diam	TO THE REAL PROPERTY OF THE PAR	Vater Depth Photo No		Sub/Emergen Spp. Prese		
I									
SPECIES & HABITA	T OBSERV	ATIONS (list s	pecies and	type of obse	rvation & in	dicate on r	nap)		
	9-				11/08				
v v									
							C		

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050		Roadside ELC, Woodland & Wildlife Habitat Assessment Form					
Project Number	1600	60%	49	Project Name:	St Color	mban			
Date	1001	. 2	2-11	Field Personnel:					
Weather Conditions:	TEMP (	C):	WIND:	CLOUD:	PPT: None	PPT (in last 24 hrs):			
				POLYGON DES	CRIPTION				
				TOPOGRAPHIC FEATURE HISTORY					
ELC		28 E:	80	D LACUSTRINE D RIVERINE D BOTTOMLAND D TERRACE D VALLEY SLOPE TABLELAND	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE	D CULTURAL			
DESCRIPTION & CLASSIFICATION	END TIME:			CLIFF	D BLUFF				
					LI BLOFF				
CLASSIFICATION		CVR			DECREASING DOM				
CLASSIFICATION STAND DESCRIP	PTION:	CVR		ID CLIFF IES IN ORDER OF DATER THAN; >GRE	DECREASING DOM				
CLASSIFICATION STAND DESCRIF	PTION:		(>>MUCH GRE	ID CLIFF IES IN ORDER OF DATER THAN; >GRE	DECREASING DOM				
CLASSIFICATION  STAND DESCRIF  LAYER  1 CANOPY	PTION: HT 2		(>>MUCH GRE	ID CLIFF IES IN ORDER OF DATER THAN; >GRE	DECREASING DOM				
CLASSIFICATION  STAND DESCRIF  LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTOR	PTION: HT 2 PY EY		(>>MUCH GRE	ID CLIFF IES IN ORDER OF DATER THAN; >GRE	DECREASING DOM				
CLASSIFICATION  STAND DESCRIF  LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTOR	PTION:  HT  2  PY  EY  R  1=>25m	<i>4</i> 2=10 <h< td=""><td>(&gt;&gt;MUCH GRE ACESAS IT&lt;25m 3=2<hts1< td=""><td>ID CLIFF IES IN ORDER OF DATER THAN; &gt;GRE</td><td>DECREASING DOM ATER THAN; = AB BE &gt; POPT (6) 5-HT-1m 6=0.2-HT-1</td><td>OUT EQUAL TO)</td></hts1<></td></h<>	(>>MUCH GRE ACESAS IT<25m 3=2 <hts1< td=""><td>ID CLIFF IES IN ORDER OF DATER THAN; &gt;GRE</td><td>DECREASING DOM ATER THAN; = AB BE &gt; POPT (6) 5-HT-1m 6=0.2-HT-1</td><td>OUT EQUAL TO)</td></hts1<>	ID CLIFF IES IN ORDER OF DATER THAN; >GRE	DECREASING DOM ATER THAN; = AB BE > POPT (6) 5-HT-1m 6=0.2-HT-1	OUT EQUAL TO)			

CODE:

VEGETATION TYPE: DRY - PRESH Sugar Maple - White Ash Dec. Fo. CODE:

**Evidence of Disturbance / Notes:** 

LAYERS: 1=CANOPY >10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE ≤5 m >5 m 2 3 TREES: ACESASA POPTREM OR SHRUBS: GROUND: Quality Control:This form is complete  $\square$  & legible  $\square$ . Signature: Signature: (Field Personnel) (Project Manager)

Reptile / Bat Hiber	nacula Fe	eatures: (	ontaine r							
		[	□-Y* / □-l i.e. features oridge abutr Contains β □-Y* / □-l	N / WUnkr that would neuts or culv potential ba	provide verts wi at hibe nown,	no acces a route un th cracks/e rnacula fe no acces	nderground, entry points eatures? s (*if yes,	describe in ta	d concrete revices or	or rock (e.g. foundations, inactive animal burrows)
POTENTIAL HIBERI	NACULA F	EATURE(S)	DENTIF	ED				16 15 25 1		
UTM			eature De	escription			Photo No	Spp.	Observe	d Using Feature
Bat Roosting Feat	ures:		/ Ø-Unkn	own, no ac	cess (	*if yes, d		table below)	~10m hi	ah in treel
POTENTIAL BAT RO	OSTING I		<del></del>		3-1					
UTM	Tree ID	Tree Spp	. DBI	I Photo I	No.	Decay Cla	ass (1-5)	No. of Cavitie	s Heigh	t and Type of Cavities
STICK NEST(S) IDER UTM		Tree ID		ee Spp.		Nest Size	Photo N	o. Spp	. Observe	d Using Feature
Seeps/Springs/Ve			□-Y* / □-					describe in ta	ble belov	v)
SEEP / SPRING / VEI UTM		ture No. & Ty	ne Feati	ire Size	Water	r Depth	Photo No	Sub/Emerg		Shrubs/ Logs at Edg Present?
SPECIES & HABITA	T OBSERV	ATIONS (list	species an	d type of o	bserva	tion & in	dicate on 1	map)	d ix	
						3920				
								œ.		
								ť		

	Stantec	Stantec Co 1 – 70 Soul Guelph, ON Canada N' Tel: (519) 8 Fax: (519)	thgate Driv 1 1G 4P5 136-6050		Woodla	oadside EL0 nd & Wildlife sessment Fo	<b>Habitat</b>	
	Project Number:	1609	60%	49	Project Name:	St Collin	1 ban	
	Date	100	+ 22	-11	Field Personnel:			
Wea	ther Conditions:	TEMP	` '	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs	
					POLYGON DES	CRIPTION		
					TOPOGRAPHIC F	EATURE	HISTORY	
DE	ELC  COMMUNITY DESCRIPTION & CLASSIFICATION		28 ME:	3	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMIAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF	☐TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	CULTURAL	
STA	AND DESCRIF	TION:			D OER 1	TITLE	13.51	
	LAYER	НТ	CVR		IES IN ORDER OF DEATER THAN; >GRE			
	CANOPY	2	4	FRAPE	NN > ACENE	GU > PINSTI	eo-THUDA	
1	SUB-CANOP	Υ	1 ,	78 1	The S			
	SUB-CANUP			-0.0	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	7011 = TILLA	xcI	
1 2 3	UNDERSTORI	EY 4		FRAPEN	N = ACENE	Du HNL		
2			1	FRA PEN	N - ACEINE	Bu IFING		
2 3 4	UNDERSTOR	1=>25		HT≤25m <b>3=</b> 2 <ht≤< td=""><td>10m 4=1<ht<2m 5="0.&lt;br">CVR&lt;25% 3=25<cvr< td=""><td>5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td></td></ht≤1m></td></cvr<></ht<2m></td></ht≤<>	10m 4=1 <ht<2m 5="0.&lt;br">CVR&lt;25% 3=25<cvr< td=""><td>5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td></td></ht≤1m></td></cvr<></ht<2m>	5 <ht≤1m 6="0.2&lt;HT≤&lt;/td"><td></td></ht≤1m>		
2 3 4 HT (	UNDERSTORI GRD. LAYER CODES:	1=>25i		HT≤25m <b>3=</b> 2 <ht≤< td=""><td>10m <b>4</b>=1<ht≤2m <b="">5=0.</ht≤2m></td><td>5<ht≤1m 6="0.2&lt;HT≤&lt;/td"><td></td></ht≤1m></td></ht≤<>	10m <b>4</b> =1 <ht≤2m <b="">5=0.</ht≤2m>	5 <ht≤1m 6="0.2&lt;HT≤&lt;/td"><td></td></ht≤1m>		
2 3 4 HT ( CVF	UNDERSTORI GRD. LAYER CODES: R CODES:	1=>25; 0=NOM	E 1=0%	HT≤25m 3=2 <ht≤ CVR≤10% 2=10&lt;</ht≤ 	10m 4=1 <ht≤2m 5="0.&lt;br">CVR≤25% 3=25<cvr≤< td=""><td>5<ht≤1m 6="0.2&lt;HT≤&lt;br">60% 4=CVR&gt;60% N N 25 - 50</ht≤1m></td><td>/O=not observed</td></cvr≤<></ht≤2m>	5 <ht≤1m 6="0.2&lt;HT≤&lt;br">60% 4=CVR&gt;60% N N 25 - 50</ht≤1m>	/O=not observed	

LAYERS: 1=CANOPY >10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE ≤5 m >5 m 2 3 4 1 TREES: FRAPENN ACENEGU RO PINSTRO THUCK SHRUBS: Quality Control:This form is complete 

& legible 

. Signature: Signature: (Field Personnel) (Project Manager)

ELC Polygon: # 24									
Reptile / Bat Hibe	ernacula Fe	□-Y [i.e. brid, Cor □-Y	/* / □-N features ti ge abutme ntains po /* / □-N	/ Unknow hat would pro- ents or culvers tential bat h Unknow	wide a route un s with cracks/e nibernacula fo	is (*if yes, anderground, entry points, eatures? is (*if yes, and is the control of the control	describe in table including buried c	oncrete o	r rock (e.g. foundations. active animal burrows)]
POTENTIAL HIBEI	RNACULA F	EATURE(S) IDE	ENTIFIE	D	acrica minos o				
UTM		Fear	ture Desc	cription		Photo No	. Spp. O	bserved	Using Feature
Bat Roosting Fea	ntures:	Contains poten □-Y* / □-N /	P-Unknov	vn, no acce	ss (*if yes, d		table below) acing cavities ~	10m hig	h in tree]
POTENTIAL BAT F	_	1		<del></del>		44.50	N 40		
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Height	and Type of Cavities
							,,,		
		_							
Stick Nests:				rge stick ne		ss (*if yes,	describe in tabl	e below)	
STICK NEST(S) ID	ENTIFIED								
UTM		Tree ID	Tree	e Spp.	Nest Size	Photo No	o. Spp. C	bserved	Using Feature
Saana/Saainaa/V	armal Book		etoine ee	ona/antina	Aramal saal	-2			
Seeps/Springs/V		<u></u>	Y* / 🔾-N	/學·Unkno	s/vernal pool wn, no acces		describe in tabl	e below)	
SEEP / SPRING / VI			IDENTI Featur	o Sizo			Sub/Emerger	t Von	Shrubs/ Logs at Edge
UTM	Fea	ture No. & Type	(Diam	· ·	ater Depth	Photo No	Spp. Prese		Present?
.									
SPECIES & HABIT	AT OBSERV	ATIONS (list spe	cies and	type of obse	ervation & in	dicate on n	nap)		
1-									
16							A.F		
							199		W. 19
							7 5 .		

CA=carcass: DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

		<u>=</u> 1					·
Stantec	Stantec Con 1 – 70 South Guelph, ON Canada M10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 6-6050			Woodla	toadside EL nd & Wildlif sessment F	e Habitat
Project Number:	160	960	6 49		Project Name	St Cala	mban
Date:	Sep	+ 2	2-11	F	ield Personnel		
Weather Conditions:	TEMP (°	C):	WIND		CLOUD:	PPT:	PPT (in last 24 hrs):
	1-1		<u> </u>		2	none	nong
				PO	LYGON DES	CRIPTION	
				ТО	POGRAPHIC F	CONTRACTOR OF THE PARTY OF THE	HISTORY
ELC	POLYGON: START TIM	•	28	DR	ACUSTRINE IVERINE OTTOMLAND ERRACE	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND	CULTURAL
COMMUNITY DESCRIPTION & CLASSIFICATION	END TIME:			D R	ALLEY SLOPE ABLELAND OLL. UPLAND LIFF	☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	
STAND DESCRIF	PTION:				LE C		
LAYER	нт	CVR				DECREASING DON EATER THAN; = A	
1 CANOPY	2	4	ULMA	MEP >	POPTRE	4 > ALENEO	SU = FRAPENI
2 SUB-CANOP	Υ						
3 UNDERSTOR	<del></del>	3	VIBL	<u>ent</u>			
4 GRD. LAYER HT CODES:	<del></del>	2=10<	HT≤25m <b>3</b> =2	<ht≤10m 4<="" td=""><td>=1<ht≤2m <b="">5=0</ht≤2m></td><td>.5<ht≤1m 6="0.2&lt;HT&lt;/td"><td>≤0.5m <b>7</b>=HT&lt;0.2m</td></ht≤1m></td></ht≤10m>	=1 <ht≤2m <b="">5=0</ht≤2m>	.5 <ht≤1m 6="0.2&lt;HT&lt;/td"><td>≤0.5m <b>7</b>=HT&lt;0.2m</td></ht≤1m>	≤0.5m <b>7</b> =HT<0.2m
CVR CODES:		1=0%	<cvr≤10% 2<="" td=""><td>=10<cvr≤2< td=""><td>25% 3=25<cvr< td=""><td>≤60% 4=CVR&gt;60%  </td><td>N/O=not observed</td></cvr<></td></cvr≤2<></td></cvr≤10%>	=10 <cvr≤2< td=""><td>25% 3=25<cvr< td=""><td>≤60% 4=CVR&gt;60%  </td><td>N/O=not observed</td></cvr<></td></cvr≤2<>	25% 3=25 <cvr< td=""><td>≤60% 4=CVR&gt;60%  </td><td>N/O=not observed</td></cvr<>	≤60% 4=CVR>60%	N/O=not observed
STANDING SNAGS			N <10	1112	10 – 24	N 25 - 50	N >50
ABUNDANCE CODES:			ENONE R	RARE O	=OCCASIONAL	A=ABUNDANT I	N/O=Not observed
STAND MATURITY	PIONEER	₹	YOUNG		MID-AGE	MATURE	OLD GROWTH
VEGETATION TYPE	n Mina	100	Decidi	LDUS !	Swamp	CODE: 5WI	24-2
CON	IPLEX					CODE:	
			-				

AYERS: 1=CANOPY > 10m 2=SUB-CANO BUNDANCE CODES: N=NONE R=RARE 0=0	OCCASI	B=UNDEI Onal <b>A</b>	RSTORI ≔ABUNI	EY 4 Dant D	=DOMINAN	T N/O≕Not o	:R observe
	<b>建設</b>	LAY	ÆR .		DISTANCE	FROM RD.	COLL
SPECIES CODE	<b>1</b>	2	3	4	≤5 m	>5 m	COLL
REES:							
POPTREM	A				<u> </u>		
ALENEGU	0						
FRAPENN	0				(94)		
POPTREM ALENEGU FRAPENN ULMAMER	A						
•							
	ļ						
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RUBS:	<u> </u>		-				
VIBLENT			0				
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		Qualit	v Contro	l:This fo	rm is comple	te 🗆 & legibl	e D
		-cuant	,		io comple	— a legibi	
Signature:		e:	ignature	٠.	6	1	

ELC Polygon: # 39	Assess	ment Type: <b>Æ</b> -∨	isual; no	access / 🗆	-Walk throu	gh feature			
Extent of Physical Ir	 nvestigation (	of Feature: 🔲-E	intire / 🗆	l-Partial, wa	lk through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hibe	ernacula Fe	□-Y [i.e. bridg Con □-Y	"* / □-N features ti ge.abutme itains po "* / □-N	hat would pro- ents or culverts tential bat h	n, no acces vide a route un with cracks/of bernacula for n, no acces	is (*if yes, inderground, entry points, eatures? is (*if yes,	describe in table	concrete vices or	or rock (e.g. foundations. inactive animal burrows)]
POTENTIAL HIBEI	RNACULA F				ROTECT TIMES O	Cares			
UTM		Feat	ure Desc	cription		Photo No	Spp. O	bserve	d Using Feature
Bat Roosting Fea	itures:	Contains poten □-Y* / □-N /  [i.e. tall trees wi	-Unknov	vn, no acces	s (*if yes, d		table below)	10m hi	gh in treel
POTENTIAL BAT F	ROOSTING F								
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cl	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
Stick Nests:				rge stick nes		ss (*if yes,	describe in tabl	e belov	v)
STICK NEST(S) IDI UTM		Tree ID	Two	e Spp.	Nest Size	Photo N	S (	<b>Nh</b>	ed Using Feature
Seeps/Springs/V	ernal Pools	i: Cor	ntains se	eeps/springs	/vernal pool	s?	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
SEEP / SPRING / VI	PONAL POO				n, no acces	ss (*if yes,	describe in tabl	e belov	v)
UTM		ure No. & Type	Featur (Diam	e Size W	ater Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
SPECIES & HABIT.	AT OBSERV	ATIONS (list spe	cies and	type of obse	rvation & in	dicate on r	nap)		

Stantec	Stantec Cor 1 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 8	gate Driv G 4P5 6-6050		Woodla	Roadside EL nd & Wildlife sessment Fo	e Habitat
Project Number	er. 1609	606	49	Project Name:		mban
Da	te: Scp	+ 26	1-11	Field Personnel:	SCE MR	- 5
Neather Conditions	TEMP (	°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):
				POLYGON DES	CRIPTION	13 11
			0	TOPOGRAPHIC F	EATURE	HISTORY
ELC  COMMUNITY DESCRIPTION & CLASSIFICATION			В	D LACUSTRINE D RIVERINE D BOTTOMLAND D TERRACE D VALLEY SLOPE TABLELAND D ROLL. UPLAND D CLIFF	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	NATURAL CULTURAL
TAND DESCR	IPTION:					
LAYER	HT	CVR		CIES IN ORDER OF I REATER THAN; >GRE		
1 CANOPY	1 2	4	FRAPE		EGU= POPTR	EM ACEFRI
2 SUB-CANO	PY					
UNDERSTO	REY					
4 GRD. LAY						
IT CODES: EVR CODES:				≤10m 4=1 <ht≤2m 5="0&lt;br">&gt;<cvr≤25% 3="25&lt;CVR&lt;/td"><td></td><td></td></cvr≤25%></ht≤2m>		
STANDING SNAG	is:		N <10	N 10-24	25 - 50	>50
BUNDANCE CODE	S:	N	=NONE R=RA	RE O=OCCASIONAL	A=ABUNDANT N	I/O=Not observed
TAND MATURIT	Y: PIONEE	R	YOUNG	MID-AGE	MATURE	OLD GROWTH
EGETATION TY	PĘ:		4.4.1	10 M	CODE:	A A
Green AS	sh Mine	ral	<u>OUCAOLUE</u>	oussubmo	3000	d d

UNDANCE CODES: N=NONE R=RARE O=0	A SHEET S		YER		DISTANCE	FROM RD.	153,650
SPECIES CODE	11	2	3	4	≤5 m	>5 m	COLL
ES:	1 -						
RAPENN	D						
CENEGU	0						0
CENEGU OPTREM CEFREE	0						
CEFREE	0						
				. 10			
					3 7		
JBS:					ļ		
		164			<del> </del>		
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					m is comple	te Lui & legibl	e <b>⊔</b> .
nature:			ignature		Q	7	

	nacula Fe	i.d	-Y* / □-N c. features t dge abutme ontains po -Y* / □-N	hat would provents or culverts tential bat hi	n, no acces ride a route ur with cracks/c bernacula fo n, no acces	s (*if yes, aderground, entry points, eatures? s (*if yes,	describe in table including buried o	oncrete of i	or rock (e.g. foundations nactive animal burrows)
POTENTIAL HIBERN	IACULA FI				oned finites o	carea			
UTM		· · · · ·	ature Des			Photo No	. Spp. O	bserved	Using Feature
-									3
					<u> </u>				
Bat Roosting Featu	ıres:	Contains pote □-Y* / □-N /₄ [i.e. tall trees	<b>∯</b> ŁUnknov	wn, no acces	s (*if yes, d		table below) acing cavities ~	10m hig	gh in tree]
POTENTIAL BAT RO	OSTING F	EATURE(S) II	DENTIFIE	ED		HILL		J pul	
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
Stick Nests:		C	ontains la -Y* / □-N	rge stick nes /絕Hunknow	ts?	ss (*if ves.	describe in tabl	e belov	v)
STICK NEST(S) IDEN	TIFIED					- ( ) o o,			
UTM		Tree ID	Tree	e Spp.	Nest Size	Photo No	o. Spp. C	bserve	d Using Feature
Seeps/Springs/ver	nai Poois		-Y* / □-N	7.72-	n, no acces	s? ss (*if yes,	describe in tabl	e belov	1)
Seeps/Springs/Verna EEP / SPRING / VERNA	NAT BOOK		) IDENTI	o Sizo		Dhada Na	Sub/Emerger		Shrubs/ Logs at Edg
		ure No. & Typ	Featur (Diam	I W	ter Depth	Photo No	Spn Prese	nt?	
SEEP / SPRING / VER			Featur (Diam	I W	nter Depth	Photo No	Spp. Prese	ent?	Present?
SEEP / SPRING / VER			D 1	I W	ter Depth	Photo No	Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	
SEEP / SPRING / VER UTM	Feat	ure No. & Typ	(Dian	eter) Wa			Spp. Prese	ent?	

Assessment Type: ##-Visual; no access / □-Walk through feature

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada N10 Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 3-6050		Roadside ELC, Woodland & Wildlife Habitat Assessment Form						
Project Number:	1609	360	649	Project Name:	St Codur	mbon				
Date:		7 2	2-11	Field Personnel:		A				
Weather Conditions:	TEMP (°	C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs)				
				POLYGON DES	CRIPTION					
				TOPOGRAPHIC F	EATURE	HISTORY				
ELC  COMMUNITY DESCRIPTION & CLASSIFICATION	POLYGON: START TIM END TIME:		8	TERRACE	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	MATURAL CULTURAL				
				44.1						
STAND DESCRIP	PTION:			8 N N N N N N N N N N N N N N N N N N N						
STAND DESCRIP	PTION:	CVR		CIES IN ORDER OF DE						
		CVR								
LAYER	нт 2	cvr 4								
LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORE	HT 2.	CVR								
LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORI 4 GRD. LAYER HT CODES:	HT 2. Y EY = 1=>25m	2=10<	(>>MUCH GR ACE F		ATER THAN; = AB	OUT EQUAL TO)				
LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORI 4 GRD. LAYER HT CODES: CVR CODES:	HT 2. Y EY	2=10<	(>>MUCH GR ACE F	EATER THAN; >GRE	ATER THAN; = AB	OUT EQUAL TO)				
LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORI 4 GRD. LAYER HT CODES: CVR CODES: STANDING SNAGS	HT 2- Y EY R 1=>25m 0=NONE	2=10< 1=0%	(>>MUCH GR ACE F	EATER THAN; > GRE	5 <ht≤1m 4="CVR" 6="0.2&lt;HT≤60%">60% N</ht≤1m>	OUT EQUAL TO)  0.5m 7=HT<0.2m /O=not observed				
LAYER  1 CANOPY 2 SUB-CANOP 3 UNDERSTORE 4 GRD. LAYER HT CODES: CVR CODES: STANDING SNAGS ABUNDANCE CODES:	HT 2. Y EY	2=10<  1=0%	(>>MUCH GR ACE F  HTS25m 3=2 <hts 2="10" <10<="" <cvr<10%="" td="" v=""><td>EATER THAN; &gt; GRE </td><td>5<ht≤1m 4="CVR" 6="0.2&lt;HT≤60%">60% N</ht≤1m></td><td>0.5m 7=HT&lt;0.2m /O=not observed /O=Not observed</td></hts>	EATER THAN; > GRE	5 <ht≤1m 4="CVR" 6="0.2&lt;HT≤60%">60% N</ht≤1m>	0.5m 7=HT<0.2m /O=not observed /O=Not observed				
1 CANOPY 2 SUB-CANOP 3 UNDERSTORE	HT  2 Y EY R 1=>25m 0=NONE S:	2=10< 1=0%	(>>MUCH GR ACE F  HTS25m 3=2 <hts 2="10" <cvr≤10%="" r="RAF" td="" v="NONE" young<=""><td>EATER THAN; &gt; GRE  10m 4=1<ht<2m 3="25&lt;CVR&lt;" 5="0." cvr<25%="" td=""  =""  <=""><td>5<ht≤1m 4="CVR" 6="0.2&lt;HT≤60%">60% N A=ABUNDANT N</ht≤1m></td><td>0.5m 7=HT&lt;0.2m /O=not observed &gt;50</td></ht<2m></td></hts>	EATER THAN; > GRE  10m 4=1 <ht<2m 3="25&lt;CVR&lt;" 5="0." cvr<25%="" td=""  =""  <=""><td>5<ht≤1m 4="CVR" 6="0.2&lt;HT≤60%">60% N A=ABUNDANT N</ht≤1m></td><td>0.5m 7=HT&lt;0.2m /O=not observed &gt;50</td></ht<2m>	5 <ht≤1m 4="CVR" 6="0.2&lt;HT≤60%">60% N A=ABUNDANT N</ht≤1m>	0.5m 7=HT<0.2m /O=not observed >50				

LAYERS: 1=CANOPY >10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE 0=OCCASIONAL A=ABUNDANT D=DOMINANT N/O=Not observed DISTANCE FROM RD. LAYER COLL. SPECIES CODE >5 m 3 4 ≤5 m 1 2 TREES: NEFEE SHRUBS: GROUND: Quality Control:This form is complete Q & legible Q. Signature:

(Project Manager)

Signature:

(Field Personnel)

Reptile / Bat Hibernacula Features:  Gratinis potential reptile hibernacula features?  Gratinis historic shart would provide a route underground, including buried conserve or rock (e.g. foundations bridge abstracts or cutews with crack-forthy points, expect rock reviews animal burrows).  Contains potential but hibernacula features?  Gratinis potential but hibernacula features?  Gratinis potential but hibernacula features?  Gratinis potential but rocking features in table below)  [Le. burst topography, abandoned mines or caves]  POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED  UTM  Feature Description  Photo No. Spp. Observed Using Feature  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis potential but roceting features?  Gratinis safe stick nests?  Gratinis safe	Extent of Physical Inv				E WIE WILL					
Bat Roosting Features: Contains potential bat roosting features?			□-Y [i.e. bridş Con □-Y [i.e.	features the defeatures the defeatures the defeatures the defeatures the defeature of the defeatures the defeat	/ 國=Unknow nat would prov nts or culverts tential bat hi / 學-Unknow graphy, aband	n, no acces ride a route un with cracks/e bernacula fo n, no acces	s (*if yes, nderground entry points eatures? s (*if yes,	describe in table, including buried s, exposed rock cre	concrete vices or i	or rock (e.g. foundations. inactive animal burrows)]
Bat Roosting Features:  Contains potential bat roosting features?  I-Y* / I-N (-)-Unknown, no access (*if yes, describe in table below)  [i.e. tall trees with open surroundings, DBH >25cm, side-facing cavities ~10m high in tree]  POTENTIAL BAT ROOSTING FEATURE(S) IDENTIFIED  UTM		NACULA F					Photo N	o Snn (	hserve	d Using Feature
Contains large stick nests?   Contains seeps/springs/vernal pools:   Contains seeps/springs/vernal pools:   Contains seeps/springs/vernal pools:   Contains seeps/springs/vernal pools:   Contains seeps/springs/vernal pools   Contains seeps/springs/vernal pool					- 1000			о органия	, D. S. C. V. C.	a Cong recure
UTM Tree ID Tree Spp. DBH Photo No. Decay Class (1-5) No. of Cavities Height and Type of Cavities  Stick Nests:  Contains large stick nests? □-Y*/□-N ♣️-Unknown, no access (*if yes, describe in table below)  STICK NEST(S) IDENTIFIED  UTM Tree ID Tree Spp. Nest Size Photo No. Spp. Observed Using Feature  UTM Tree ID Tree Spp. Nest Size Photo No. Spp. Observed Using Feature  Seeps/Springs/Vernal Pools: □-Y*/□-N /♣️-Unknown, no access (*if yes, describe in table below)  SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type Feature Size (Diameter) Water Depth Photo No. Sub/Emergent Veg. Spp. Present?  Present?			□-Y* / □-N /@ [i.e. tall trees w	►Unknov ith open	vn, no acces surrounding	s (*if yes, d			·10m hí	gh in tree]
Stick Nests:  Contains large stick nests?  □-Y*/□-N AG-Unknown, no access (*if yes, describe in table below)  STICK NEST(S) IDENTIFIED  UTM Tree ID Tree Spp. Nest Size Photo No. Spp. Observed Using Feature  Seeps/Springs/Vernal Pools:  Contains seeps/springs/vernal pools?  □-Y*/□-N AG-Unknown, no access (*if yes, describe in table below)  SEEP/SPRING/VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type Feature Size (Diameter) Water Depth Photo No. Sub/Emergent Veg. Spp. Present?  Present?		_				Doggy Cl	occ (1.5)	No of Covition	Usigh	t and Type of Cavities
STICK NEST(S) IDENTIFIED  UTM Tree ID Tree Spp. Nest Size Photo No. Spp. Observed Using Feature  Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools? Y*/N/#-Unknown, no access (*if yes, describe in table below)  SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type Feature Size (Diameter) Water Depth Photo No. Sub/Emergent Veg. Spp. Present?  Water Depth Photo No. Sub/Emergent Veg. Spp. Present?	UTIVI	1 ree 1D	Tree Spp.	DDU	PROTO NO.	Decay Ca	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
STICK NEST(S) IDENTIFIED  UTM Tree ID Tree Spp. Nest Size Photo No. Spp. Observed Using Feature  Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools? Y*/N/#-Unknown, no access (*if yes, describe in table below)  SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type Feature Size (Diameter) Water Depth Photo No. Sub/Emergent Veg. Spp. Present?  Water Depth Photo No. Sub/Emergent Veg. Spp. Present?										
UTM Tree ID Tree Spp. Nest Size Photo No. Spp. Observed Using Feature  Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools? □-Y*/□-N/♣-Unknown, no access (*if yes, describe in table below)  SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type Feature Size (Diameter) Water Depth Photo No. Sub/Emergent Veg. Spp. Present? Present?			Cor	ntains lar	ge stick nes	ts? n, no acces	ss (*if yes	, describe in tab	le belov	v)
Seeps/Springs/Vernal Pools:  Contains seeps/springs/vernal pools?  Q-Y* / Q-N / Q-Unknown, no access (*if yes, describe in table below)  SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type Feature Size (Diameter) Water Depth Photo No. Sub/Emergent Veg. Shrubs/ Logs at Edg Present?  Present?		NTIFIED	Tree ID	Tree Spp. Nest Size			Photo N	lo. Spp.	Observe	d Using Feature
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type   Feature Size (Diameter)   Water Depth   Photo No.   Sub/Emergent Veg. Shrubs/ Logs at Edg Present?   Present?					- FF.					
SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED  UTM Feature No. & Type   Feature Size (Diameter)   Water Depth   Photo No.   Sub/Emergent Veg. Shrubs/ Logs at Edg Present?   Present?										
UTM Feature No. & Type Companies (Diameter) Water Depth Photo No. Sub/Emergent Veg. Shrubs/ Logs at Edg Present?	Seeps/Springs/Ve	rnal Pools	s: Cor					, describe in tab	le belov	v)
Peature No. & Type (Diameter) Water Depth Photo No. Spp. Present? Present?	SEEP / SPRING / VE	RNAL POO	L FEATURE(S)					1111111	1111	
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)	UTM	Fea	ture No. & Type		. LWS	nter Depth	Photo N			
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)										
SPECIES & HABITAT OBSERVATIONS (list species and type of observation & indicate on map)										
	SPECIES & HABITA	T OBSERV	ATIONS (list spe	cies and	type of obse	rvation & in	dicate on	map)		
	- = = = = = = = = = = = = = = = = = = =									

Stantec	Stantec Consulting L 1 – 70 Southgate Drive Guelph, ON Canada N1G 4P5 Tel: (519) 836-6050 Fax: (519) 836-2493		Roadside ELC, Woodland & Wildlife Habitat Assessment Form						
Project Number	16091006	49	Project Name:	8t Colu	mbao				
Date	0 1 011		Field Personnel:						
	TEMP (°C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs				
Weather Conditions:	14	2	95	No	rain				
			POLYGON DES	CRIPTION					
			TOPOGRAPHIC F	EATURE	HISTORY				
ELC	POLYGON: 8		D LACUSTRINE D RIVERINE	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR	MATURAL CULTURAL				
COMMUNITY	START TIME:		D VALLEY SLOPE	□ ROCKLAND □ BEACH / BAR	LI COLTORAL				
DESCRIPTION & CLASSIFICATION	END TIME:		TABLELAND ROLL. UPLAND CLIFF	SAND DUNE					

#### STAND DESCRIPTION: SPECIES IN ORDER OF DECREASING DOMINANCE LAYER ΉT CVR (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) CANOPY SUB-CANOPY UNDERSTOREY **GRD. LAYER** 4-5 HT CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m **CVR CODES:** 0=NONE 1=0%<CVR≤10% 2=10<CVR≤25% 3=25<CVR≤60% 4=CVR>60% N/O=not observed STANDING SNAGS: 10 - 24<10 25 - 50>50 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT N/O=Not observed STAND MATURITY: PIONEER YOUNG MID-AGE MATURE OLD GROWTH CODE: MAM2-10 **VEGETATION TYPE:** Meadow marsh **COMPLEX**

**Evidence of Disturbance / Notes:** 

ABUNDANCE CODES: N=NONE R=RARI		LA'	ÆR .		DISTANCE	COLL	
SPECIES CODE	1.	2	3	4	≤5 m	>5 m	COLL
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RUBS:							
	S-2-5-						
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Aster sp.				0			
Solidago sp.				0			
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ignature:		S	ignatur	e:	K.		

ELC Polygon: #	Asses	ssment Type:	□-Vi	sual; no	access	/ 🗆 -	Walk throu	gh feature	е			
Extent of Physical In	vestigatio	n of Feature:	Q-Er	ntire / 🗆	-Partial,	walk	through p	olygon (in	ndicate	on map)		
Reptile / Bat Hibe	rnacula f		□-Y' [i.e. for bridge Cont □-Y'	catures the abutment potential in a	' □-Unkinat would note or cultotte or cul	provi provi verts at hib		s (*if yes, nderground, entry points eatures? s (*if yes,	descri , includi s, expose	ng buried c ed rock crev	oncrete ices or i	or rock (e.g. foundations, nactive animal burrows)]
POTENTIAL HIBER	NACULA					Ottakk	ned mines o	i caves <sub>1</sub>				
UTM			Featı	ire Desc	ription			Photo No	0.	Spp. O	bserve	l Using Feature
				4								
Bat Roosting Fea		Contains pour / Contains pour	l / □- es wit	Unknow h open	n, no ac surround	cess	s (*if yes, d				10m hiç	gh in tree]
POTENTIAL BAT R							-					
UTM	Tree II	Tree Sp	р.	DBH	Photo	No.	Decay Cla	ass (1-5)	No. of	Cavities	Heigh	t and Type of Cavities
							1 0					
Stick Nests:			Con	tains lar * / ロ-N	ge stick / □-Unk	nest now	s? n, no acces	ss (*if yes,	, descr	ibe in tabl	e belov	v)
STICK NEST(S) IDE	NTIFIED			#		- 2				LIJ		
UTM		Tree ID		Tree	Spp.		Nest Size	Photo N	0.	Spp. C	Observe	d Using Feature
Seeps/Springs/Ve	rnal Poo	ols:	Con	tains se	eps/spri	ngs/\	vernal pools	s?	descr	iha in tahl	o holou	d
SEEP / SPRING / VE	RNAL PO	OL FEATURE	_			110441	i, no acces	is ( ii yes,	uescri	be in table	e Delov	//
UTM	Fe	ature No. & T	ype	Feature (Diame		Wat	ter Depth	Photo No		o/Emergen Spp. Prese		Shrubs/ Logs at Edge Present?
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							H L y H					
SPECIES & HABITA	T OBSER	VATIONS (lis	t spec	ies and	type of o	bser	vation & in	dicate on 1	map)			
- 0												
1 -												
								-11.00	en l	1	1/2	

CA=carcass: DP=distinctive parts: FE=feeding evidence; FY=eggs/nest: HO=house/den; OB=observed; SC=scat: SI=other sign; TK=track; VO=vocalization

Stantec	Stantec Con 1 – 70 South Guelph, ON Canada NT Tel: (519) 83 Fax: (519) 83	gate Driv 3 4P5 3-6050		Woodla	oadside EL0 nd & Wildlife sessment Fo	Habitat				
Project Number: Date:	100	160960649         Project Name:         St. Col.           Oct. 24-11         Field Personnel:         SC + N								
Weather Conditions:	TEMP (°	C):	WIND:	CLOUD:	PPT:	PPT (in last 24 hrs):				
				POLYGON DES	CRIPTION					
		NEW 50	n age age	<b>TOPOGRAPHIC F</b>	EATURE	HISTORY				
ELC COMMUNITY DESCRIPTION & CLASSIFICATION	POLYGON: START TIM END TIME:		30	☐ LACUSTRINE ☐ RIVERINE ☐ ROTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF	☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	©MATURAL □ CULTURAL				
STAND DESCRIP	TION:									
LAYER	et HT	CVR			ECREASING DOM ATER THAN; = AB					
1 CANOPY	2	4	3).							
2 SUB-CANOP	Υ									
3 UNDERSTORI	Y			= = = = = = = = = = = = = = = = = = = =		2				
4 GRD. LAYER	<u> </u>									
HT CODES: CVR CODES:					5 <ht≤1m 6="0.2&lt;HT≤&lt;br">60% 4=CVR&gt;60% N</ht≤1m>					
STANDING SNAGS	:	207	<10	10 – 24	25 50	>50				
ABUNDANCE CODES:		N	=NONE R=RARE	O=OCCASIONAL	A=ABUNDANT N	/O=Not observed				
STAND MATURITY	PIONEER		YOUNG	MID-AGE	MATURE	OLD GROWTH				
VEGETATION TYPE: CODE: SWD										

CODE:

Evidence of Disturbance / Notes:

COMPLEX

	A STREET	LA	/ER	DISTANCE	FROM RD.	001	
SPECIES CODE	£ 72.125	2	3	4	≤5 m	>5 m	COLI
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		Qualit	v Contro	l:This fo	rm is comple	te 🗆 & legih	le □.
			,				

ELC Polygon: #	Assessi	ment Type: □-V	isual; no	access / 🗆	-Walk throu	gh feature	•		
Extent of Physical In	 vestigation o	of Feature: □-E	ntire / 🗆	I-Partial, wal	k-through p	olygon <i>(in</i>	dicate on map)		
Reptile / Bat Hibe	rnacula Fe	□-Y [i.e.: bridg Con □-Y	* / □-N features the abutment tains po ** / □-N	hat would provents or culverts tential bat hi	n, no acces ide a route ur with cracks/e bernacula fo n, no acces	is (*if yes, nderground, entry points eatures? is (*if yes,	describe in table including buried o	oncrete vices or i	or rock (e.g. foundations. inactive animal burrows)]
POTENTIAL HIBER	NACULA FI				Oned mines o	. cures <sub>j</sub>			
UTM		Feat	ure Desc	cription		Photo No	o. Spp. O	bserved	d Using Feature
							F		
Bat Roosting Feat			-Unknov th open	wn, no acces surrounding	s (*if yes, d		<i>table below)</i> facing cavitles ~	10m hiç	gh in tree]
POTENTIAL BAT R	7	<del>,</del>	7		D CI	(1.5)	N. 60		1.77
UTM	Tree ID	Tree Spp.	DBH	Photo No.	Decay Cla	ass (1-5)	No. of Cavities	Heigh	t and Type of Cavities
			1 1					1 111	
Stick Nests:				rge stick nes / □-Unknow		ss (*if yes,	describe in tabl	e belov	v)
STICK NEST(S) IDE UTM		Tree ID	Tree	- Can	Nest Size	Photo N	(a   C== (	)haamu	d Haine Factoria
OTM		Tree ID	Irec	e Spp.	IVEST SIZE	FROWN	о. Зрр. С	DISCIVE	d Using Feature
0						- 0			
Seeps/Springs/Ve		<u> </u>	/* / 🖸-N				describe in tabl	e belov	v)
SEEP / SPRING / VE	RNAL POOI	L FEATURE(S)					Cirk /E-	-4 \$7	Shark / Lange A Film
UTM	Feat	ure No. & Type	Featur (Diam	i W	iter Depth	Photo No	Sub/Emerger Spp. Prese		Shrubs/ Logs at Edge Present?
SPECIES & HABITA	T ORSEDV.	ATIONS (list spe	ciae and	type of obser	vation & in	dicate on I	man)		
STECIES & HADITA	T OBSERVA	ATTOMS (list spe	cies and	type or obser	vacion & in	dicate on i	шар)		
1/ 5									
*									
* *									

CA=carcass: DP=distinctive parts: FE=feeding evidence; FY=eggs/nest: HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

# **Appendix D**

Vascular Plant List

		1	_	1	_			T		
LATIN NAME		COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	GLOBAL STATUS	LOCAL STATUS HURO OLDHAM 1993
GYMNOSPERMS		CONIFERS	<del> </del>							
OTHINGOI EKINO		CONTERO								
Cupressaceae		Cedar Family								
Thuja	occidentalis	Eastern White Cedar	4	-3		S5			G5	Х
•										
Pinaceae		Pine Family								
Abies	balsamea	Balsam Fir	5	-3		S5			G5	
Larix	laricina	Tamarack	7	-3		S5			G5	Х
Picea	abies	Norway Spruce		5	-1	SE3			G?	
Pinus	strobus	Eastern White Pine	4	3		S5			G5	Х
Pinus	sylvestris	Scotch Pine	1	5	-3	SE5			G?	
	-, -, -, -, -, -, -, -, -, -, -, -, -, -				_					-
DICOTYLEDONS		DICOTS								
Aceraceae		Maple Family								
Acer	negundo	Manitoba Maple	0	-2		S5			G5	Х
Acer	rubrum	Red Maple	4	0		S5			G5	X
Acer	saccharinum	Silver Maple	5	-3		S5			G5	X
Acer	saccharum ssp. saccharum	Sugar Maple	4	3		S5			G5T?	X
Acer X	freemanii	Freeman's Maple	7	Ŭ					0011	
		·								
Apiaceae		Carrot or Parsley Family								
Daucus	carota	Wild Carrot		5	-2	SE5			G?	ı
Asteraceae		Composite or Aster Family								
Aster	lanceolatus ssp. lanceolatus	Tall White Aster	3	-3		S5			G5T?	Х
Centaurea	biebersteinii	Spotted Knapweed		5	-3	SE5			G?	
Cirsium	arvense	Canada Thistle		3	-1	SE5			G?	I
Solidago	canadensis	Canada Goldenrod	1	3		S5			G5	Х
Solidago	flexicaulis	Zig-zag Goldenrod	6	3		S5			G5	Х
Symphyotrichum	novae-angliae	New England Aster	2	-3		S5			G5	X
Caprifoliaceae		Honeysuckle Family								
Viburnum	lentago	Nannyberry	4	-1		S5			G5	Х
Cornaceae		Dogwood Family								
Cornus	foemina ssp. racemosa	Red Panicled Dogwood	2	-2		S5			G5?	Х
Cornus	stolonifera	Red-osier Dogwood	2	-3		S5			G5	Х
Dinescassos		Teasel Family	1							<del>                                     </del>
Dipsacaceae	fullanum sen sulvastris		1	5	4	SE5		<del>                                     </del>	G?T?	⊢.
Dipsacus	fullonum ssp. sylvestris	Wild Teasel	-	5	-1	<b>∂</b> ⊑0		-	G!I!	<del></del>
										1

LATIN NAME		COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	GLOBAL STATUS	LOCAL STATUS HURO OLDHAM
F		Decel Frank								1993
Fagaceae		Beech Family				0.5			0.5	
Quercus	alba	White Oak	6	3		S5			G5	
Oleaceae	+	Olive Family								
Fraxinus	americana	White Ash	4	3		S5			G5	Х
Fraxinus	pennsylvanica	Red Ash	3	-3		S5			G5	Х
Fraxinus	species									
Rhamnaceae		Buckthorn Family								
Rhamnus	cathartica	Common Buckthorn		3	-3	SE5			G?	I
Rhamnus	species									
Rosaceae		Rose Family		-					-	-
Crataegus	species	Hawthorn species	1							<del>                                     </del>
Crataegus	species	riawinom species								
Salicaceae		Willow Family								
Populus	tremuloides	Trembling Aspen		0		S5			G5	Х
Salix	species	Willow species								
Ulmaceae		Elm Family				_				<u> </u>
Ulmus	americana	White Elm	3	-2		S5			G5?	Х
MONOCOTYLEDON	<u>IS</u>	MONOCOTS								
Poaceae		Grass Family								
Bromus	inermis ssp. inermis	Awnless Brome		5	-3	SE5			G4G5T?	
Danthonia	spicata	Poverty Oat Grass	5	5		S5			G5	X
Panicum	species	r overly car crass								
Phalaris	arundinacea	Reed Canary Grass	0	-4		S5			G5	Х
Phleum	pratense	Timothy		3	-1	SE5			G?	ı
Typhaceae		Cattail Family								
Typha	species									<u> </u>
FLORISTIC SUI	MMARY & ASSESSMENT									
Species Diversity			<u> </u>							
Total Species:		31		<del>                                     </del>					<del>                                     </del>	<del>                                     </del>
Native Species:		22	71%	-						<del>                                     </del>
Exotic Species	1	9	29%	<del>                                     </del>				1	<del> </del>	<del>                                     </del>
Regionally Significar	nt Species	0								
Locally Significant S		0								

				1				1		1
LATIN NAME		COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	WEEDINESS INDEX	PROVINCIAL STATUS	OMNR STATUS	COSEWIC STATUS	GLOBAL STATUS	LOCAL STATUS HURO OLDHAM 1993
S1-S3 Species		0	0%					<u> </u>		1993
S4 Species		0	0%							
S5 Species		22	100%							
Co-efficient of Co.	 nservatism and Floristic Quality	Index								
Co-efficient of Cons	servatism (CC) (average)	3.5								
CC 0 to 3	lowest sensitivity	9	43%							
CC 4 to 6	moderate sensitivity	11	52%							
CC 7 to 8	high sensitivity	1	5%							
CC 9 to 10	highest sensitivity	0	0%							
Floristic Quality In	ndex (FQI)	16								
Presence of Weed	ly & Invasive Species	+								
mean weediness		-2.0								
weediness = -1	low potential invasiveness	4	44%							
weediness = -2	moderate potential invasiveness	1	11%							
weediness = -3	high potential invasiveness	4	44%							
Presence of Wetla	nnd Species									
average wetness va		0.9								
upland		7	23%							
facultative upland		9	29%							
facultative		3	10%							
facultative wetland		12	39%							
obligate wetland		0	0%							

# **Appendix E**

Curricula Vitae

### Shannon D. Catton M.Sc.

### Terrestrial Ecologist / Project Manager



Shannon completed her undergraduate degree with honours in Sociology and Biology and her Masters degree in Botany at the University of Guelph. Her M.Sc. focused on quarry rehabilitation using alvar ecosystems as a restoration target.

Shannon is certified in Ontario Ministry of Natural Resources Ecological Land Classification (ELC) and in Ontario Wetland Evaluation Systems (OWES), adding to her experience in habitat assessments, vegetation surveys, vegetation and soil sampling, vascular plant identification and statistical analysis. Shannon possesses strong skills in public relations with both the public and private sectors: she has presented her research at both national and international conferences; she has been a Teaching Assistant for several University of Guelph courses including Biology, Ecology and Plants in the Ontario Landscape; and she has presented project-related results at various workshops and seminars for governing agencies and local interest groups regarding a large scale environmental assessment.

Shannon also is a published author for various publications including articles in the journal Canadian Reclamation and Applied Vegetation Science.

### **EDUCATION**

M.Sc., University of Guelph / Botany, Guelph, Ontario, 2006

B.A., B.Sc., University of Guelph / Sociology and Biology (Hons), Guelph, Ontario, 2003

Certificate, Ontario Ministry of Natural Resources Ontario Wetland Evaluation Systems (OWES) Training Course, North Bay, Ontario, 2008

Certificate, Ontario Ministry of Natural Resources Ecological Land Classification for Southern Ontario (ELC), Turkey Point, Ontario, 2006

#### PROJECT EXPERIENCE

### **Aggregate Services**

Terrestrial Surveys for Various Pit and Quarry Implementation and Extension Projects, Ontario (Terrestrial Ecologist)

Terrestrial surveys for the following projects included habitat assessments, floral inventories, tree surveys, American Hart's Tongue Fern surveys (a species at risk), winter wildlife surveys, salamander egg mass surveys and reptile hibernacula surveys.

- Proposed Duntroon Quarry Extension, Duntroon, ON;
- Proposed Hillsburgh Quarry, Hillsburgh, ON;
- Proposed Flamborough Quarry, Hamilton, ON;
- Proposed West Montrose Quarry, West Montrose, ON.

## Dufferin Aggregates Acton Quarry Extension, Acton, Ontario (Terrestrial Ecologist, Project Coordinator)

Terrestrial surveys included salamander migration surveys, salamander egg mass surveys, salamander tissue sampling (in conjuction with OMNR), and amphibian calling surveys. Coordination of project includes proposed additional fieldwork, technical reporting and species at risk permit applications.

### **Electrical Power Distribution**

Coote's Paradise Transmission Reinforcement Project, Hamilton, Ontario (Terrestrial Lead, Technical Reporting)

Terrestrial suveys included vegetation community assessments, floral inventory and species at risk habitat assessments. Technical reporting and species at risk assessment in conjunction with local Conservation Authority.

### Bruce to Milton Transmission Reinforcement Project Environmental Assessment Report, Southern Ontario (Lead Terrestrial Ecologist)

Terrestial surveys included vegetation community assessments, floral inventories, winter wildlife and species at risk habitat assessments. Technical reporting and development of a comprehensive terrestrial monitoring and mitigation report.

#### **Natural Sciences & Heritage Resources**

Nature Counts Natural Areas Inventory, Hamilton Conservation Authority\* (Ecological Land Classification Coordinator)

Provided the Hamilton Conservation Authority and the City of Hamilton with current vegetation inventories and identified and classified Areas of Natural and Scientific Interest (ANSI) using Ecological Land Classification (ELC). Other tasks included habitat mapping, air photo interpretation, orienteering, GPS, ground truthing, mineral and organic soil description and identification and soil moisture regimes and drainage.

### Shannon D. Catton M.Sc.

### Terrestrial Ecologist / Project Manager

#### Oil & Gas

Proposed Bickford to Dawn Pipeline Project, Chatham, Ontario (Terrestrial Lead, Technical Reporting)

Terrestrial surveys included vegetation community assessments, floral inventory and species at risk habitat assessments. Study design and development in conjunction with local OMNR district for Eastern Foxsnake, including a species at risk 17b permit application.

### Renewable Energy

Melancthon I Wind Plant Project, Shelburne, Ontario (Terrestrial Ecologist)

Terrestrial surveys included winter raptor surveys (pre- and post-construction) and bird and bat mortality monitoring.

Wolfe Island Wind Power Project - 86 Turbines, 197.6 MW, Wolfe Island, Ontario (Terrestrial Ecologist)

Terrestrial surveys included winter raptor surveys (pre- and post-construction) and bird and bat mortality monitoring.

#### **Research / Laboratories**

Biophysical Comparisons of Quarry Floors and Alvars of Southern Ontario, University of Guelph\* (Researcher and Technician)

Examined the ecological similarities and differences of abandoned limestone quarry floors and alvars to determine whether alvar habitat could be a potential restoration target for abandoned limestone quarry floors. Developed sampling designs, identified lichens, mosses and vascular plants and performed statistical analyses on descriptive and multi-variate data.

#### **Residential Development**

Environmental Impact Studies for Various Residential Development Projects, Ontario

Environmental Impact Studies for various residential development projects in the Oak Ridges Moraine (ORM) planning area.

### **Transportation Planning**

Highway 11, Preliminary Design Study, Access Review from Powassan to Callander, Ontario (Technical Reporting)

Highway 3 Rehabilitation, Detail Design, Renton to Jarvis, Ontario (Technical Reporting)

Highway 21 Rehabilitation, Bayfield to St. Joseph, Ontario (Terrestrial Ecologist, Technical Reporting)

Terrestrial surveys included vegetation community assessments, floral inventory, incidental wildlife and nest searches and structure assessments in compliance with the Migratory Bird Act.

<sup>\*</sup> denotes projects completed with other firms

### Shannon D. Catton M.Sc.

Terrestrial Ecologist / Project Manager

### **PUBLICATIONS**

Matthes, U., P.J. Richardson, S. Catton, C.D. Stabler, D.W. Larson. The quarry-to-alvar initiative: Creating new alvar habitat from abandoned limestome quarries. *Canadian Reclamation*, 2010.

Tomlinson, S., U. Matthes, P.J. Richardson, D.W. Larson. The ecological equivalence of quarry floors to alvars. *Applied Vegetation Science* 11:73-82, 2008.

A comparison of the biophysical characteristics and seed banks of abandoned limestone quarry floors in southern Ontario and alvars. M.Sc. Thesis, Department of Biology, University of Guelph, Ontario, 2006.

A comparitive analysis of the seed bank, vegetation and environmental conditions of abandoned limestone quarry floors of southern Ontario and alvars on the Bruce Peninsula, Canada. Presentation to the World Conference on Ecological Restoration by the Society of Ecological Restoration (SER), Spain, 2005.

Biological and physical comparisons of quarry floors and alvars. Presentation to the Aggregate Producers' Association of Ontario Pit and Quarry Restoration Workshop, Hamilton, Ontario, 2005.

Using alvars as a reference ecosystem to restore abandoned limestone quarries. Poster Presentation at the A.D. Latornell Conservation Symposium, Alliston, Ontario, 2004.

A comparitive analysis of the seed bank, vegetation and environmental characteristics of abandoned limestone quarry floors of southern Ontario and alvars on the Bruce Peninsula. *Presentation to the Ontario Ecology and Ethology Colloquium (OEEC), Mississauga, Ontario*, 2004.

The quarry-to-alvar initiative: progress report. The Ontario Aggregate Resources Corporation (TOARC) Annual Report, Burlington, Ontario, 2004.

The quarry-to-alvar initiative: progress report. The Ontario Aggregate Resources Corporation (TOARC) Annual Report, Burlington, Ontario, 2003.

The quarry-to-alvar initiative: restoring value to abandoned quarries. The Ontario Aggregate Resources Corporation (TOARC) Annual Report, Burlington, Ontario, 2002.

## Nicole Kopysh BES

### Ecologist / Project Manager



Nicole Kopysh is a Terrestrial Ecologist and Project Manager who has been involved in multi-sized projects from various sectors including aggregates, renewable energy and development. Nicole has successfully managed or directed environmental impact assessments, constraints analyses, natural environment technical reports, environmental implementation reports and natural heritage monitoring programs. Her experience involves the implementation of the natural heritage policy of the Ontario Provincial Policy Statement, Greenbelt Plan, Oak Ridges Moraine Act, Migratory Birds Convention Act and municipal policy documents for municipal draft plan applications throughout southern Ontario. Nicole is also a skilled birder and has field experience conducting bird surveys, species at risk surveys, general terrestrial monitoring and assessments, wildlife inventories and habitat assessments.

#### **EDUCATION**

BES, University of Waterloo / Bachelor of Environmental Studies, Honours Environment and Resource Studies, Co-op Program, Waterloo, Ontario, 1998

### PROFESSIONAL ASSOCIATIONS

Member, Society of Canadian Ornithologists

Member, Ontario Field Ornithologists

### PROJECT EXPERIENCE

#### **Aggregate Services**

Neubauer Pit, Township of Puslinch, Ontario (Project Assistant, Ecologist)

Natural environment field inventories and Level II Natural Environment Technical Report

## Hillsburgh Huxley Pit, Hillsburgh, Ontario (Project Assistant, Ecologist)

Natural environment field inventories, Woodlot Assessment of Sighificance and Level II Natural Environment Technical Report

# Proposed Bromberg Pit, Ayr, Ontario (Project Assistant, Ecologist)

Natural environment field inventories and Level I Natural Environment Technical Report

### **Commercial / Retail Development**

First Capital Holdings Trust, Guelph, Ontario (Project Manager)

Envrionmental Implementation Report. Vegetation buffers, wildlife corridor, tree conservation plan, planning and design of invasive species removal, design of compliance and performance monitoring program.

#### **Natural Sciences & Heritage Resources**

Forest Bird Research - Canadian Wildlife Service\* (Field Assistant)

Located Wood Thrush nests, monitored nesting success, banded adult and nestling birds, and conducted vegetation surveys.

## Forest Bird Research - Smithsonian Institution\* (Field Assistant)

Located and monitored Hooded Warbler nests and conducted insect sweep net sampling. Located Blue-headed Vireo nests and conducted playback experiments.

## Ontario Breeding Bird Atlas - Ontario Nature-Federation of Ontario Naturalists\* (Assistant Coordinator)

Coordinated and managed various aspects of a province-wide conservation/research project. This involved coordinating coverage to ensure project goals were met; hiring, training and managing contract staff; development of funding proposals; coordination of field work; management of volunteers and working committees; assistance in preparation of Atlas book for publication.

### Nicole Kopysh BES Ecologist / Project Manager

## Colonial Marshbird Census - Bird Studies Canada\* (Project Coordinator)

Developed the project outline, scope, organization and staffing. Scheduled the project timelines and tasks. Performed key field work in marshes throughout southern Ontario.

### Ontario Eastern Screech-owl Survey - Ontario Breeding Bird Atlas\* (Project Manager)

Developed project proposal, project timeline, schedule and budget. Responsible for communications, data management and handling. Launched survey and coordinated volunteer involvement.

#### **Power**

# Chinodin Melancthon and Grey Highlands Wind Projects, Ontario (Terrestrial Ecologist)

Coordinating and conducting monitoring of bats and migratory and breeding birds for wind turbine development.

## Proton Wind Program, Southgate Township, Ontario (Terrestrial Ecologist)

Coordinating and conducting monitoring of migratory and breeding birds for wind turbine development, preparation of comprehensive technical appendix to the Environmental Screening Report.

## Wolfe Island Wind Power Project, Wolfe Island, Ontario (Terrestrial Ecologist)

Study design, coordination and conducting of monitoring for spring migratory birds, fall migrating raptors, staging waterfowl, winter raptors and grassland bird populations. Design and conducting specific studies to target avian Species at Risk. Assessment of amphibian populations, mammal populations, and wildlife corridors. Preparation of technical report appendix to the Environmental Screening Report.

#### **Residential Development**

Almas Property, Hamilton, Ontario (Project Manager)
Environmental Impact Statement and Natural Heritage
Assessment

## Golhar Residence, Hockley Valley, Ontario (Project Manager)

Development of environmental review for a proposed pond located within the Niagara Escarpment Protection Area.

# Glaspell Homeowner's Guide, Whitby, Ontario (Project Manager)

### Fourteen Mile Creek Long-term Natural Heritage Monitoring Program, Oakville, Ontario (Natural Heritage Monitoring Project Director)

A watershed-based inventory and monitoring program for a study area in the Fourteen Mile Creek watershed was developed in association with the Conservation Authority to assess human induced stress on the greater ecosystem. The program included one year of inventory work and four subsequent years of monitoring and incorporated the following components: streamflow and rainfall monitoring, erosion and creek morphology, groundwater, vegetation and Ecological Land Classification, breeding birds, fish, water quality and benthos.

### Sports, Recreation & Leisure

Clublink Wyndance Golf Coures, Uxbridge, Ontario (Project Manager)

Natural heritage assessment and development of environmental report addendum and significant species plan.

<sup>\*</sup> denotes projects completed with other firms

### Nicole Kopysh BES Ecologist / Project Manager

### **PUBLICATIONS**

Eastern Screech-Owl pp. 290-291. Atlas of the Breeding Birds of Ontario, 2007.

Kopysh, N. Other Owls!. *Ontario Breeding Bird Atlas Newsletter. Vol 5, Issue 1.*, 2005.

Kopysh, N. On the Prowl for Owls. *OFO News 22(1):* 12-13., 2004.

Kopysh, N. Owling for EASO. *Ontario Breeding Bird Atlas Newsletter. Vol 3, Issue 2.*, 2003.

Kopysh, N. and C. Weseloh. Reporting Colonial Species. *Ontario Breeding Bird Atlas Newsletter. Vol 3, Issue 2.*, 2003.

Buehler, D.M., D.R. Norris, B.J.M. Stuchbury and N.C. Kopysh. Food Supply and Parental Feeding Rates of Hooded Warblers in Forest Fragments. *Wilson Bulletin* 114(1), 122-127., 2002.

Morton, E., J. Howlett, N.C. Kopysh and I. Chiver. Overcoming the cost of male incubation: blue-headed vireos memorize the locations where intruders sing. *In submission to Proc Royal Soc of London, biology letters.*, 2002.

Timmermans, S. and N. Kopysh. What's Happening With Colonial Marshbirds?. *Ontario Breeding Bird Atlas Newsletter. Vol 1, Issue 2.*, 2001.

### lames Leslie BES

### Terrestrial Ecologist



James completed his Bachelor of Environmental Studies at the University of Waterloo, with a focus on applied ecology and environmental policy. He has successfully completed numerous certificate workshops related to ecological assessments and is a designated health assessor of Endangered butternut trees, issued by the Ontario Ministry of Natural Resources.

James has acquired a variety of terrestrial and aquatic field skills, including Ecological Land Classification (ELC), botanical inventories, winter wildlife surveys, herptofauna identification (egg mass / call / specimen), but monitoring, spawning surveys, and is certified as a Class 2 Electro-fishing Backpack Crew Leader. James specializes in vegetation assessments, particularly plant identification, ELC, wetland delineation, and vegetation monitoring. Additionally, he has gained experience writing natural heritage components of Environmental Impact Studies, Environmental Assessments, and Natural Environment Technical Reports.

James provides expertise in a variety of sectors, including aggregate extraction, energy, urban lands development, and highway infrastructure. He has led or assisted in project tasks pertaining to forest restoration, ecological monitoring, and field research of rare species, among others.

#### **EDUCATION**

Certificate, Ontario Wetland Evaluation System, North Bay, Ontario, 2009

Certificate, Ecological Monitoring and Assessment Network, Turkey Point, Ontario, 2008

Certificate, Ecological Land Classification for Southern Ontario, Kingston, Ontario, 2007

Certificate, Butternut Health Assessment, Burlington, Ontario, 2009

B.E.S., University of Waterloo / Environmental Studies / Geography, Waterloo, Ontario, 2006

#### PROFESSIONAL ASSOCIATIONS

Member, Botanical Society of America

Member, Field Botanists of Ontario

#### PROJECT EXPERIENCE

### **Aggregate Services**

Proposed Quarry, Flamborough, Ontario (Ecologist)

Aquatic surveys included stream flow discharge and uploading of data loggers. Terrestrial surveys included winter wildlife surveys and health assessments of over 100 butternut trees using current OMNR guidelines.

## Acton Quarry Environmental Review, Acton, Ontario (Terrestrial Ecologist)

Assist with extensive amphibian surveys to identify significant wildlife habitat, species composition, and presence or absence of pure Jefferson salamander specimens. Surveys included call-counts, egg mass surveys, pit and aquatic trapping, and tail clippings of potential Jefferson species (in conjunction with the OMNR). Surveys were conducted over a two year period.

### **Environmental Mitigation and Monitoring**

Various Urban Lands Projects, Waterloo and Oakville, Ontario (Terrestrial Ecologist)

Assist with monitoring vegetation communities using guidelines outlined in the Ecological Monitoring and Assessment Network and the local Conservation Authority. Field surveys consisted of identifying vascular plants growing within pre-determined plots and determining their respective cover. Data analysis included assessment of frequency, dominance, and importance value.

# James Leslie B.E.S. Terrestrial Ecologist

#### **Environmental Site Remediation**

# Georgia Pacific PCB Remediation, Thorold, Ontario (Terrestrial Ecologist)

Ecological Land Classification; mapping and evaluation of species at risk (Butternut); develop vegetation monitoring plots to determine density, frequency, dominance, and importance value; data synthesis, and technical memorandum.

#### **Linear Infrastructure**

## Victoria Road North Class EA, Guelph, Ontario (Terrestrial Ecologist)

Assist with Project Management of a proposed road widening, including background data review of applicable legislation and guidelines; conduct or delegate appropriate field surveys; agency consultation; prepare a draft Natural Environment Technical Report.

### Various Road and Highway Improvement Projects, Ontario (Terrestrial Ecologist)

Produced Natural Sciences reports related to highway improvement works. Potential impacts to terrestrial vegetation, wetlands and wildlife were described for the following studies, among others:

-Highway 11 (Huntsville): Preliminary Design Study; -Highway 3 (Jarvis): Detailed Design Study;

-Highway 401 (Kitchener): Preliminary and Detailed Design Study;

-Highway 11 (Powassan); Preliminary Design Study

#### Oil & Gas

### Union Gas Lobo Compressor Station Expansion, Strathroy, Ontario (Terrestrial Ecologist)

Assist with Project Management of a proposed compressor station expansion, including proposal and budget; conduct/delegate appropriate field surveys; background data review of Official Plan, Significant Wildlife Habitat Technical Guide, Ontario Provincial Policy Statement, etc.; agency consultation; prepare draft and final EIS report.

#### **Power Transmission & Distribution**

## Bruce to Milton Transmission Project, Milton, Ontario (Terrestrial Ecologist)

180 km linear study area of proposed hydro transmission lines from Bruce Nuclear to Milton, Ontario. Assisted with ELC, butternut health assessments, flora inventories, and winter wildlife surveys.

### **Renewable Energy**

## Island Falls Energy Project, Smooth Rock Falls, Ontario (Terrestrial Ecologist)

Field work component of a proposed hydroelectric dam in Northern Ontario. Assist with ELC, botanical inventory, and soils surveys in remote areas.

### Kingsbridge II, Melancthon, Ostrander, Parkhill and Plateau Wind Energy Project, various municipalities, Ontario (Terrestrial Ecologist)

Assist with installation, troubleshooting, and data retrieval of Anabat SD1 monitoring devices from various study areas. Received training for data interpretation and isolation of bat calls based on digital graph patterns. Additionally, post-construction surveys of avian mortality under active wind turbines were completed at Kingsbridge II and Melancthon sites.

### **Research / Laboratories**

## Duntroon License Expansion, Duntroon, Ontario (Terrestrial Ecologist)

Design and conduct a multiple year research program to assess the habitat characteristics of American hart's-tongue fern, a federal and provincial Special Concern species. Research examined soil (temperature, moisture, nutrient composition), ambient air (temperature, humidity, and dewpoint temperature), tree canopy cover, associate species, and snow depth. The purpose was to create a model to determine suitability of habitat to support populations of hart's-tongue fern. A preliminary transplant of 500 ferns was conducted where post-transplant monitoring studies are ongoing.

<sup>\*</sup> denotes projects completed with other firms

## James Leslie B.E.S.

Terrestrial Ecologist

### **Terrestrial Assessments**

Master Service Plan, Cayuga and Jarvis, Ontario (Terrestrial Ecologist)

Develop ELC mapping of the towns of Jarvis and Cayuga. The purpose was to collect background data for Master Service Plan revisions. Data interpretation included ecological constraints analyses and authoring a technical memorandum.

<sup>\*</sup> denotes projects completed with other firms