



Environmental Impact Statement

for the

Ridge Estates Block 38 Town of The Blue Mountains, Grey County

Prepared for
Solcorp Developments (Peaks Ridge) Inc.

Prepared by
Hensel Design Group Inc.

September 2018





September 10, 2018

Mr. Glenn Solomon
Solcorp Developments (Peaks Ridge) Inc.
122-1 Benvenuto Place
Toronto, ON M4V 2L1

Dear Mr. Solomon:

Re: EIS for Ridge Estates Block 38, Town of The Blue Mountains, Grey County

On behalf of the project team, Hensel Design Group Inc. (HDG) is pleased to submit the Environmental Impact Statement (EIS) related to the proposed Ridge Estates Development located at the west end of George McRae Road, Town of The Blue Mountains, Grey County. This report will also be forwarded to the applicable review agencies. The scope of this EIS has fully considered the requirements of the Provincial Policy Statement, Town of The Blue Mountains and Grey County Official Plans using the information available to date.

HDG has concluded that the development proposal is feasible from an environmental perspective in so long as the mitigation measures outlined herein are implemented.

We have greatly appreciated being a part of your team. If you should have any questions or concerns regarding this submission, please do not hesitate to contact us.

Sincerely,

HENSEL DESIGN GROUP INC.

A handwritten signature in black ink, appearing to read "Michael J. Hensel", is written over a horizontal line. The signature is stylized and includes a large loop at the end.

Michael J. Hensel, OALA, CSLA
Senior Development Consultant

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1. Introduction

Hensel Design Group Inc. (HDG) was retained by Solcorp Development (Peaks Ridge) Inc. to prepare an Environmental Impact Study (EIS) related to the proposed Ridge Estates Development located at the west end of George McRae Road in the Town of The Blue Mountains, Grey County. HDG is part of a multi-disciplinary team which includes Pascuzzo Planning Inc. (planning), C.F. Crozier & Associates Inc. (engineering), and HDG (environmental). Each of these consultants have prepared studies and/or plans to support the planning application. This report prepared by HDG should be read in conjunction with the works of the other project team members.

1.1 Site Location

The subject lands are described as Plan 16M24 Block 38. The subject lands are located on the west end of George McRae Road and west of Camperdown Road. The lands to the north side of the subject lands are part of an existing golf course and the lands to the east of the subject lands are residential lands. Lands to the west are agricultural and lands to the south remain undeveloped (See Figure 1).

1.2 Study Goals and Objectives

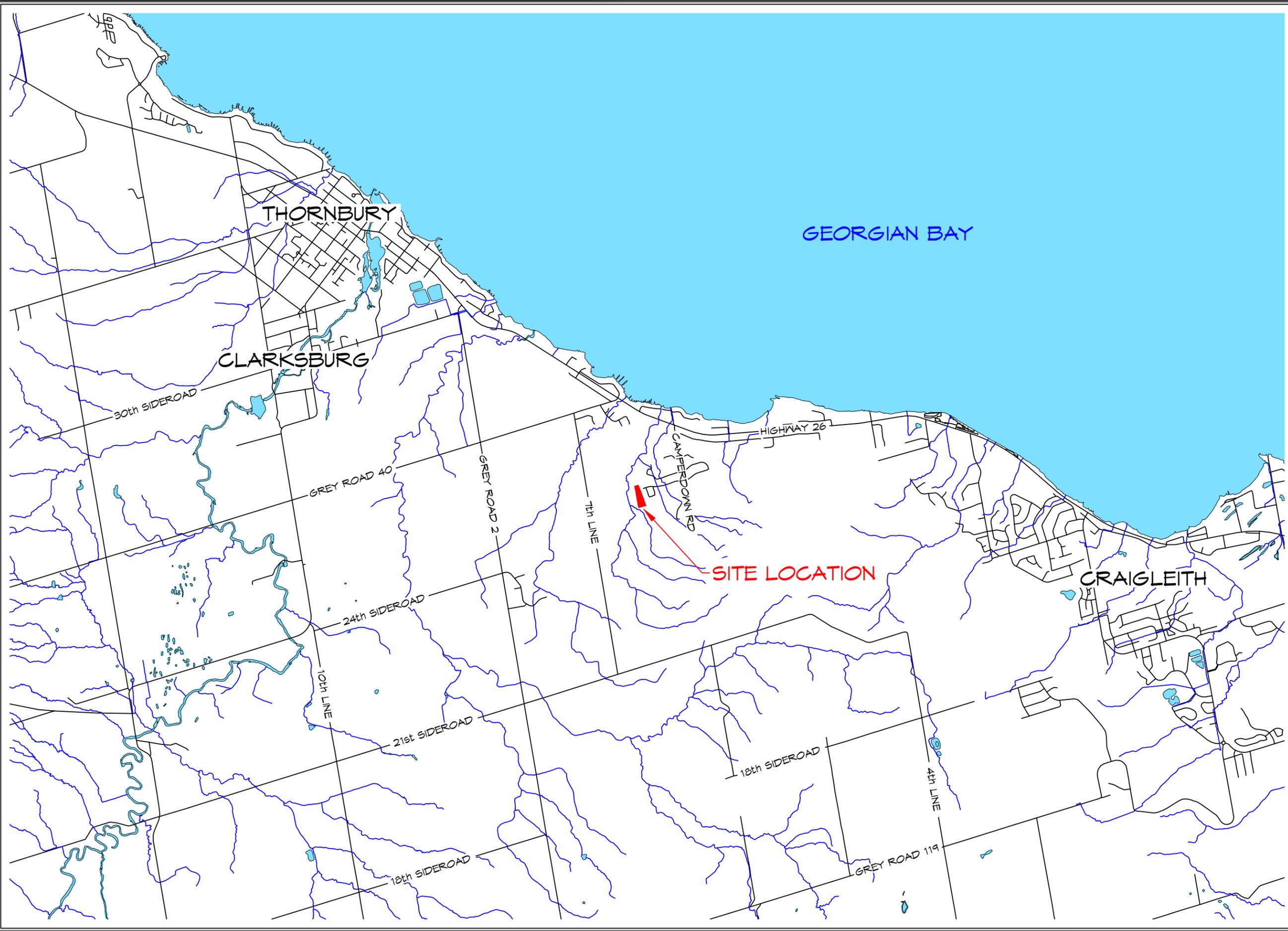
The purpose of this EIS is to provide a detailed description and background review of the physical and ecological characteristics of the natural heritage features from the subject property including the functions, significance and sensitivity using information available to date. Additionally, this report will address potential impacts to these features and outline how impacts can be minimized or mitigated. In consideration of this information, recommended protection and/or mitigation measures will ensure that the proposed development conforms to the requisite policies as outlined herein.

The policies and technical requirements of the Official Plans for The Blue Mountains and Grey County as well the Niagara Escarpment Commission (NEC), Grey Sauble Conservation Authority (GSCA) and the Provincial Policy Statement (PPS) have been considered as part of this study.

The goal of this EIS is to provide the following:

- a) Ensure that the proposed development can proceed in a manner that will not result in negative impacts to significant ecological features and functions.
- b) Demonstrate conformity to the Provincial Policy Statement, the Grey County Official Plan, the Town of The Blue Mountains Official Plan, and the Conservation Authorities Act.

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Key Plan (n.t.s.)

Legend

- SITE LOCATION
- ROADS
- WATERBODY
- WATERCOURSE

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Hensel Design Group
 Advancing Sustainable Development Solutions
 372 Peel St., Collingwood, Ontario, L4Y 3W4
 Phone: 705-443-8394 Fax: 705-443-8494

PROJECT: **RIDGE ESTATES BLOCK 38**
 The Town of The Blue Mountains

TITLE: **SITE LOCATION**

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Fig 1

The specific objectives that will be completed as part of this EIS include the following:

- a) Provide an evaluation of the ecological features and functions of the subject property detailed background review. Complete in-season field investigations to identify and map any and all significant features (i.e. any significant habitat for Species at Risk), key ecological attributes, and sensitivities of the subject property.
- b) Confirm the appropriate development proposal, buffers and setbacks to adjacent features through an evaluation of the ecological features and functions.
- c) Determine the need for buffers for any and all natural features and provide recommendations for the mitigation and protection of natural heritage features and functions.
- d) Complete a detailed assessment of potential impacts to natural heritage features;
- e) Identify appropriate mitigation that minimizes the potential impact of each component of the development proposal; and
- f) Assess long term and cumulative effects of the proposed development along with adjacent land use.

2. Natural Heritage Policy

Provincial and municipal planning policies guided the preparation of natural heritage constraints and opportunities for the proposed development on the subject property. Existing background policy information sources were reviewed to identify any mapped natural heritage features that may occur on or within 5km to the subject property. In addition, a review of background data from various sources pertaining to the subject property and adjacent lands was also completed. These policies and background information sources include:

- a) Ontario Provincial Policy Statement (2014);
- b) Grey County Official Plan (2013);
- c) Town of The Blue Mountains Official Plan (2016);
- d) Grey Sauble Conservation Authority - Ontario Regulation 151/06 (2006)
- e) Niagara Escarpment Plan (Office Consolidation 2015)
- f) Ministry of Natural Resources Natural Heritage Reference Manual (2010) and the Significant Wildlife Habitat Technical Guide (2000);
- g) Ontario Natural Heritage Information Centre database (2016) (www.nhic.mnr.gov.on.ca);
- h) The Ontario Breeding Bird Atlas (www.birdsontario.org);
- i) The Species At Risk Public Registry (www.sararegistry.gc.ca);
- j) Ontario *Endangered Species Act* (2007);
- k) Federal *Species At Risk Act* (2002);
- l) Aerial photographs.

2.1 Provincial Policy Statement (PPS)

The Provincial Policy Statement addresses the protection of Natural Heritage Features in relation to development.

According to the Provincial Policy Statement (2014), various provincially defined natural features shall be protected for the long term. Relevant sections state:

“2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features* and *areas, surface water features* and *ground water features*.

2.1.4 *Development and site alteration* shall not be permitted in :

- a) *significant wetlands* in Ecoregions 5E, 6E and 7E, and
- b) *significant coastal wetlands*

2.1.5 *Development and site alteration* shall not be permitted in:

- a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- b) *significant woodlands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- c) *significant valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- d) *significant wildlife habitat*, and
- e) *significant areas of natural and scientific interest*; and
- f) *coastal wetlands* in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b)

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

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

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

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

2.1.1 Relevance to the Development Proposal

This development proposal shall be consistent with policy statements made under the Act.

2.2 Grey County Official Plan

According to Section 1.6.3 of the County of Grey Official Plan, the objectives with regards to the environment are to identify lands with environmental constraints and/or the presence of sensitive natural heritage features and establish policies to promote the protection, preservation, conservation, maintenance and enhancement of such areas.

The Official Plan establishes policies to ensure only appropriate and compatible development occurs on lands having inherent environmental hazards such as poor drainage, flood susceptibility, erosion, steep slopes, or any other condition, which could be hazardous to development or where development would be hazardous to the environment. The policies will also protect the areas of ground water recharge, cold-water streams, lakes and other surface waters for their habitat, recreational, ecological and drinking water benefits. It considers the cumulative effects of new development on the natural environment and surrounding land uses. Section 2.8 of the Official Plan addresses Natural Environment policies including Significant Woodlands. Section 2.8.4, Significant Woodlands notes the following:

“In order to be considered significant a woodland must be either greater than or equal to forty (40) hectares in size outside of settlement areas, or greater than or equal to four (4) hectares in size within settlement area boundaries. If a woodland fails to meet those criteria, a woodland can also be significant if it meets any two of the following three criteria:

- (a) Proximity to other woodlands i.e. if a woodland was within 30 meters of another significant woodland, or*
 - (b) Overlap with other natural heritage features i.e. if a woodland overlapped the boundaries of a Provincially Significant Wetland or an area of natural and Scientific Interest, or*
 - (c) Interior habitat of greater than or equal to eight (8) hectares, with a 100 metre interior buffer on all sides.*
- (1) No development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an Environmental Impact Study, as per section 2.8.7 of the Plan, that there will be no negative impacts on the natural features or their ecological functions. The adjacent lands are defined in section 6.19 of the Plan.*

Notwithstanding the above, projects undertaken by a Municipality or Conservation Authority may be exempt from the Environmental Impact Study requirements, provided said project is a public work or conservation project.

- (2) Notwithstanding paragraph (1), where it can be proven that a woodland identified as significant has ceased to exist, or ceased to exhibit characteristics of significance, prior to November 1, 2006, an Environmental Impact Study will not be required. Site photographs or a site visit by a qualified individual may be necessary to determine that a woodland no longer exists.*

(3) *Notwithstanding paragraph (1), tree cutting and forestry will be permitted in accordance with the County Forest Management By-law.*

(4) *Notwithstanding paragraph (1) and (3), fragmentation of significant woodlands is generally discouraged.”*

2.2.1 Relevance to the Development Proposal

The subject and adjacent lands are identified as Special Policy Karst on Appendix A – Map 2 of the Grey County Official Plan. The subject lands are not identified as Significant Woodlands on Appendix B – Map 2 of the Official Plan (See Appendix A).

2.3 Town of The Blue Mountains Official Plan

The Goals and Objectives outlined in Section A3 of the Official Plan provide a general guideline for the review of all proposed development. All goals, objectives and policies of the Official Plan are designed to reflect the municipality's long-term vision for the future, and to have regard for the Provincial Policy Statement, not in conflict with the Niagara Escarpment Plan, and also in conformity with the County of Grey Official Plan.

According to Section A3.2.2 it is a strategic objective of the Official Plan to:

1. Protect *significant* natural heritage and hydrologic features and their associated habitats and *ecological functions*.
2. Ensure that an understanding of the natural environment, including the values, opportunities, limits and constraints that it provides, guides land use decision-making in the Town.
3. Make planning decisions that contribute to the protection, conservation and enhancement of water and related resources on a watershed and sub watershed basis.
4. Maintain and *enhance* surface and *groundwater resources* in sufficient quality and quantity to meet existing and future needs on a sustainable basis.
5. Discourage the loss or fragmentation of *significant* woodlands and the habitats and *ecological functions* they provide.
6. Recognize that an interconnected system of open spaces and natural heritage features contributes to the health and *character* of a community.
7. Prohibit the loss or fragmentation of *Provincially Significant Wetlands* and *significant* habitat of endangered and *threatened species*.
8. Maintain and *enhance significant* areas of natural and scientific interest, *significant* valleylands, escarpment slopes and related landforms, and *significant wildlife habitat* areas.

9. Promote and establish programs to increase the forest cover of the Town.

Section B5 addresses the policies specific to Natural Heritage Features.

2.3.1 Relevance to the Development Proposal

The Official Plan Appendix 1 Constraints Mapping identifies a portion of the subject lands as Karst (See Appendix B).

2.4 Grey Sauble Conservation Authority

Ontario Regulation 151/06 is the Generic Regulation of the Conservation Authorities Act, which came into effect in May 2006, specific to the regulation of development, interference with wetlands, and alterations to shorelines and watercourses. Under this regulation, hazardous lands, wetlands, shorelines and areas susceptible to flooding, and associated allowances within the Authority are delineated by the "Regulation Limit" shown on maps that are filed by the Authority. HDG acquired GSCA mapping of the Hazard Regulation Limit(s) for the subject lands. The Generic Regulation layer indicates that the areas adjacent to the existing watercourses located within the subject lands are a potential flood and meander hazard.

Regulation 151/06, '*Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation*', requires that a permit be obtained from the Authority when undertaking any of the following:

- Straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse or interfering in any way with a wetland;
- Development adjacent or close to the shoreline of inland lakes, in river or stream valleys, hazardous lands, wetlands or lands adjacent to wetlands.

Development as defined by the Conservation Act includes:

- The construction, reconstruction, erection or placing of a building or structure of any kind, or changes to an existing building or structure to alter its size or purpose;
- Site grading;
- The temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

The intent of the permit process is to ensure that activities in these areas will not result in a risk to public safety or property damage and that the natural features are protected through the conservation of land.

Under Ontario Regulation 151/06 Section 2, development is prohibited in or on the areas within the GSCA jurisdiction that are prone to flooding or meander hazards. The flood hazard line of the Regulation Limit is typically associated with the stable top of bank or regulatory floodplain plus a setback to facilitate access to the top of bank. Similarly, the meander belt line is depicted as the maximum extent of the predicted meander belt of the watercourse plus an allowance of 15m on each side. The Regulation Limit follows the maximum extent of the combined floodplain and meander belt limits. Under this regulation, written permission to develop within prohibited areas or alter a watercourse is required. Acquisition of this permission requires the completion of an Application for

Permission to be filed with the Authority. It should therefore be assumed that an authorization would be required for any fill or alterations within the Regulation Limit area. If the extent of the fill or alterations identified in the Development Plan were deemed significant, an Environmental Impact Study may be triggered.

2.4.1 Relevance to the Development Proposal

The eastern boundary of the subject lands are within the GSCA Regulation Limits (See Figure 2) therefore requiring the EIS herein.

2.5 Niagara Escarpment Commission

The *Niagara Escarpment Planning and Development Act* provides the objectives for the Niagara Escarpment Plan, which are to "provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment and to ensure only such development occurs as is compatible with that natural environment" (NEC, 2015). With regards to development on the Niagara Escarpment, Section 1.8 of the Niagara Escarpment Plan states the following requirements:

- To minimize any adverse effects of recreational activities on the Escarpment environment.
- To provide areas where new recreational and associated development can be concentrated around established, identified or approved downhill ski centers.
- To provide areas where new recreational and associated development can be concentrated around established, identified or approved lakeshore cottage areas in Grey and Bruce Counties.
- To ensure that future recreational development is compatible with cultural and natural heritage values (e.g. fisheries and wildlife habitats) in the area.

2.5.1 Relevance to the Development Proposal

The Niagara Escarpment Commission designates the subject lands as an Escarpment Recreation Area on Map 6: County of Grey. According to the Niagara Escarpment Plan, designated Escarpment Recreation Areas are areas that are existing or potential recreational development associated with the Escarpment. Such areas may include both seasonal and permanent residences.

2.6 Endangered Species Act

The Provincial *Endangered Species Act (2007)* protects the endangered species that are listed on the regulations under the act. It specifically prohibits willful harm to endangered species that are listed in regulations under the Act and the willful destruction of, or interference with, their habitats. Species thought to be at risk are assessed by The Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO is an independent body that reviews species based on the best available science, including community knowledge, and Aboriginal Traditional Knowledge. There are several components of species at risk protection that, under the new Act are now legal regulations.

- the Species at Risk in Ontario (SARO) list,
- General regulations to provide greater flexibility, and
Habitat Regulations to describe the habitat of a species.



Key Plan (n.t.s.)

Legend

- - - APPROX. SITE BOUNDARY
- ROADS
- EXISTING WATERCOURSE
- XXXX APPROX. GSCA REGULATION LIMITS



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Hensel Design Group
 Advancing Sustainable Development Solutions
 372 Peel St. Collingwood, Ontario, L9Y 3W4
 Phone: 705-443-8394 Fax: 705-443-8494

PROJECT
**RIDGE ESTATES
 BLOCK 38**
 The Town of The Blue Mountains

TITLE
**GSCA REGULATION
 LIMITS**

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The Natural Heritage Information Centre tracks and maintains data on Ontario's endangered species and was consulted as to the listed species on or within a one kilometre grid surrounding the subject lands.

2.6.1 Relevance to the Development Proposal

The search of the Natural Heritage Information Centre (NHIC) did not reveal the presence for any rare species on or directly adjacent to the subject lands.

2.7 Species at Risk Act

The Federal *Species at Risk Act* (2002) is designed to prevent wildlife species from becoming extinct or extirpated; help in the recovery of extirpated, endangered or threatened species; and to ensure that species of special concern do not become endangered or threatened.

The Act maintains an on-line registry of species at risk (Schedule 1) which is the official Federal list of wildlife species at risk. Species are classified as being either extirpated, endangered, threatened or special concern. Once the species becomes listed, the measures to protect and recover a listed wildlife species are implemented.

2.7.1 Relevance to the Development Proposal

No flora or fauna Species At Risk (SAR) were observed or reported on the subject property. None of the plant or wildlife species are considered rare on either a federal, provincial, municipal or local level.

3. Study Area

3.1 Field Investigations

3.1.1 Collection and Review of Background Information

Background natural environment data was solicited through various platforms from the Ministry of Natural Resources & Forestry (MNR), Grey Sauble Conservation Authority (GSCA), The Town of Blue Mountains and County of Grey. Data was collected prior to and during the site reconnaissance and inventories of the subject property vegetation cover in 2017. The Town's Official Plan was also consulted for information on land use and natural environment designations pertaining to the subject property (Town of Blue Mountains 2016).

Documentation and other sources reviewed for natural environment data included but were not limited to:

- **Natural Heritage Resources of Ontario: Bibliography of Life Science Areas of Natural and Scientific Interest in Ecological Site Regions 6E and 7E, Southern Ontario** (Riley *et al.* 1997);

- **Significant Natural Areas Along the Niagara Escarpment: A Report on Nature Reserve Candidates and Other Scientific Natural Areas in the Niagara Escarpment Planning Area** (Cuddy and Macdonald 1976);
- **Ecological Survey of the Niagara Escarpment Biosphere Reserve: Volume 1: Significant Natural Areas. Volume II. Technical Appendices** (Riley et al 1996);
- **Natural Heritage Information Centre (NHIC) Internet Database/Biodiversity Explorer** (NHIC 2018);
- **County of Grey Official Plan** (County of Grey 2013);
- **County of Grey Digital Orthorectified Imagery** (County of Grey 2006, 2010, and 2015);
- **Grey County Natural Heritage System Study “Grey in Grey”** (MSH and NRSI 2016);
- **A Checklist of Vascular Plants for Bruce and Grey Counties, Ontario** (Bruce-Grey Plant Committee 1995); and,
- **Town of the Blue Mountains Official Plan** (Town of the Blue Mountains 2016).

In addition to the reports listed above, various databases were searched for flora and fauna records on-site or in the surrounding area. These websites and databases included:

- **Atlas of the Mammals of Ontario** (Dobbyn 1994)
- **Ontario Breeding Bird Atlas (OBBA)** (Bird Studies Canada *et al.* 2006)

Background information was also garnered to assess the subject property for potential Species At Risk (SAR) and Candidate Significant Wildlife Habitat (SWH) in and abutting the property, based on either species presence and/or habitat types arising from the wildlife surveys.

3.1.2 Field Inventories

Comprehensive field inventories of the subject lands were completed by a qualified biologist with over 30 years of experience (Mr. Jim Broadfoot). Vegetation communities of the property were classified according to the methods of the Ecological Land Classification (ELC) system for southern Ontario (Lea *et al.* 1998).

Field inventories were completed on June 15 and July 25, 2017 to compile a list of vascular plants by vegetation community.

Particular care was taken during all site visits to discover any Butternut (END) trees growing on-site or on adjacent lands (to a distance of 50m).

3.2 Background Reports

As part of the subject land assessment, available relevant reports were reviewed for information relating to natural heritage features and functions of the subject lands. This included the Planning Report prepared by Pascuzzo Planning Inc. (July 2018) and the Functional Servicing & Stormwater Management Report prepared by C.F Crozier & Associates Inc. (September 2018).

3.3 Physiography, Topography and Drainage

A Karst investigation was completed for the subject lands, including a site specific field investigation, which determined that the proposed development area is not situated on a significant feature (See Appendix C). The site visit was completed on July 3, 2017 on the subject lands to investigate the overburden properties on the subject lands. All 34 proposed lots were walked and assessed for karst related hazards and potential karst developing topographic features. During this visit no significant hazardous karst features that would impede development were noted within the proposed development footprint. Hatched drainage features were noted within the shallow surficial soils on the south east portion of the subject lands. As such it is recommended that a site visit be undertaken during the initial clearing of the subject lands to confirm the absence of entry seeps.

3.4 Vegetation

3.4.1 Site Vegetation

As shown on Figure 3 five vegetation communities were identified on the property. Three of the communities are types amenable to ELC: woodland (CUW1, mineral Cultural Woodland) and forest (FOD4-2, Dry-Fresh Ash Deciduous Forest Types) as described in Table 1. The fill pile has characteristics of meadow habitat but given its highly disturbed nature, it is simply identified as an area of fill placement. Hedgerow A contains a narrow strip of mature tree cover separating the property from the adjacent golf course. None of the vegetation communities of the property or adjacent lands is a type considered rare provincially. All are common locally.

As per Table 1, none of the plant species detected on the property is a Species at Risk in Ontario (i.e., not END, THR or SC) and none is a species considered provincially rare (i.e., S Rank not S1-3 or SH). Many of the plant species detected are considered non-native and hence not assigned a provincial/sub-national conservation ranking (i.e., S Rank SNA).

No Butternut were discovered on or adjacent to the property.

3.4.2 Floristics

In terms of floristics, Appendix D contains a list of plant species found on-site during the 2017 botanical surveys.

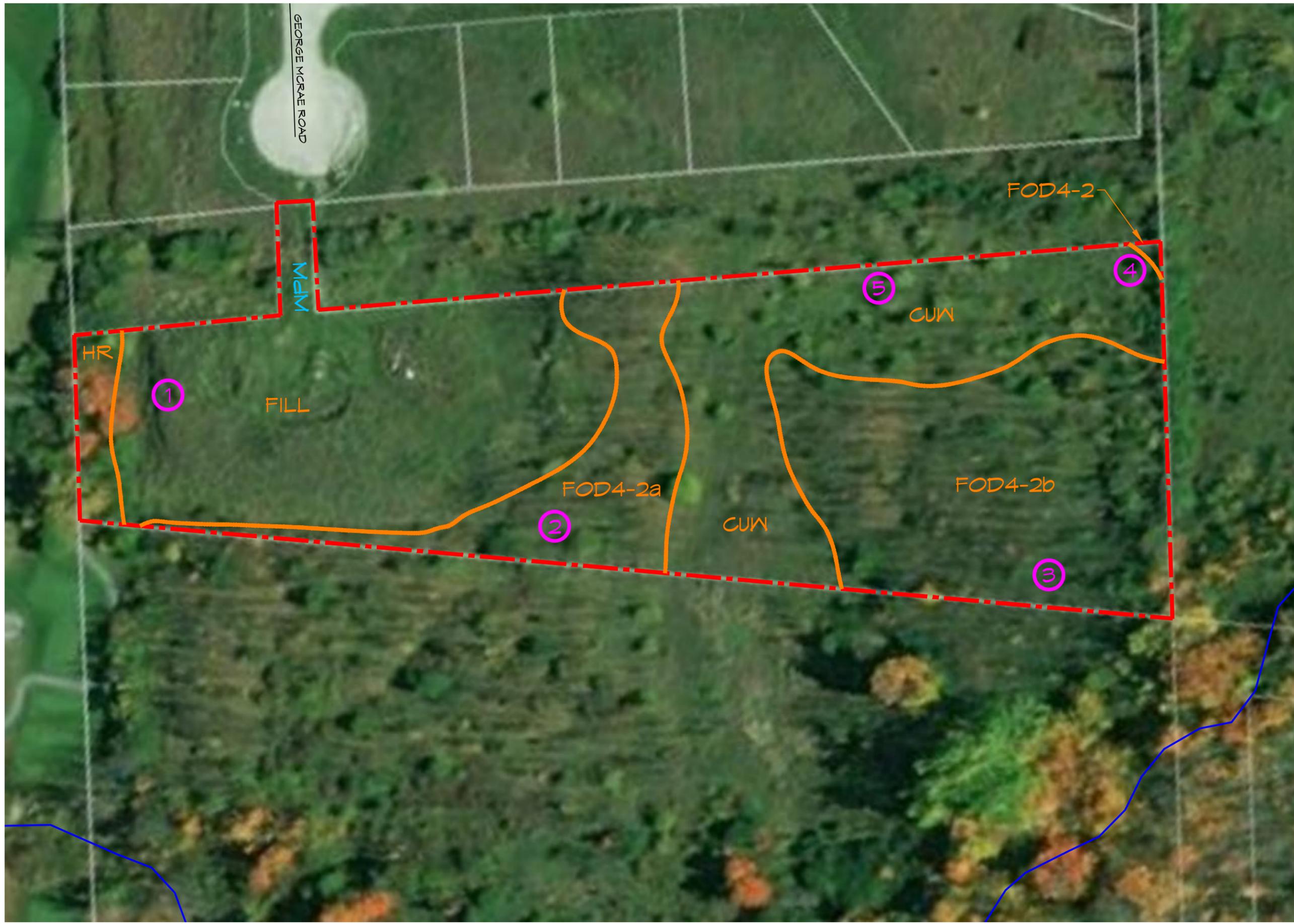
3.5 Wildlife Methods

Breeding Bird Surveys

Dawn Breeding Bird Survey

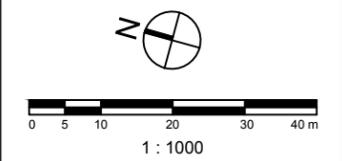
Dawn breeding bird surveys were conducted under suitable observation conditions as reported in Appendix E on two separate days during the breeding season spaced more a week or more apart as per the general sampling procedures of the Ontario Breeding Bird Atlas (OBBA) project. Surveys were completed as combined roving and point count surveys. Five point count stations were established on the property as shown on Figure 3. Point count survey duration was five minutes per station. All

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Key Plan (n.t.s.)

- Legend**
- - - APPROX. SITE BOUNDARY
 - ROADS
 - EXISTING WATERCOURSE
 - ECOLOGICAL LAND CLASSIFICATION (ELC)
- BIRD SURVEY POINT STATIONS**
- ⊕ DAMN BREEDING BIRD SURVEY
 - NPN NOCTURNAL BIRD SURVEY



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 Advancing Sustainable Development Solutions
 372 Peel St. Collingwood, Ontario, L9Y 3W4
 Phone: 705-443-8394 Fax: 705-443-8494

PROJECT: **RIDGE ESTATES BLOCK 38**
 The Town of The Blue Mountains

TITLE: **ELC and BIRD SURVEY POINT COUNT STATIONS**



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|-----------------------|--------------------------|
| Scale: 1:1,000 | Drawing No. Fig 3 |
| Date: September 2018 | |
| CAD File: HDG_RE_Fig3 | |
| Drawn by: C.M. | |
| Checked by: M.H. | |
| Job No.: | |

Table 1. Plant Community Description, Block 38, Town of the Blue Mountains

| System | Community Class | Community Series | Ecosite | Vegetation Type | Composition ² | Structure ³ | Soils |
|-------------|-----------------|------------------------|----------------------------------|---|---|---|--|
| Terrestrial | Forest | FOD, Deciduous Forest | FOD4, Dry-Fresh Deciduous Forest | FOD4-2a, Dry-Fresh Ash Deciduous Forest | Green Ash (dominant) | bdh(cm): < 10 A, 10-24 A, 25-50 N, > 50 N | <2cm cm topsoil sands silt with trace clay (moist) |
| Terrestrial | Forest | FOD, Deciduous Forest | FOD4, Dry-Fresh Deciduous Forest | FOD4-2b, Dry-Fresh Ash Deciduous Forest | Green Ash >> Apple > Sugar Maple | bdh(cm): < 10 A, 10-24 A, 25-50 O, > 50 N | <2cm cm topsoil sands silt with trace clay (moist) |
| Terrestrial | Woodland | CUW, Cultural Woodland | CUW1, Mineral Cultural Woodland | NA | Green Ash >> Apple, Common Buckthorn, Red-osier Dogwood with grasses and forbs in groundcover | bdh(cm): < 10 A, 10-24 O, 25-50 N, > 50 N | <2cm cm topsoil sands silt with trace clay (moist) |

¹ Based on Ecological Land Classification (ELC) for southern Ontario (Lee *et al.* 1998)

² Dominant plants and relative abundance

³ Diameter at Breast Height (dbh) size range, A=Abundant, O=Occasional, R=Rare, N=None.

bird species seen and/or heard on or adjacent to the property were recorded. Species observations were recorded for each point count station and “off point count observations” were recorded to the nearest point count station. Given the spacing of the point count stations, the same birds may have been recorded at more than one station location. Observations were coded in regard to breeding evidence as per the descriptions provided on Table 2 and breeding evidence for the property was assigned based on the classification scheme of the OBBA project.

Nocturnal Breeding Bird Survey

Nocturnal bird surveys were completed on two evenings during the mid-season (optimal timing) window associated with the full moon of June 9, 2017 as per Bird Studies Canada recommendations (https://www.birdscanada.org/resources/wpwi/Ontario_Whip_survey_periods_2016_to_2020.pdf). A point count station (WPW on Figure 3) was established to provide coverage of the property and adjacent lands. Surveys were completed starting at least 30 minutes after sunset under the following conditions: June 10 – Temperature +27°C, Wind B3-4 South, Cloud Cover < 5%, Precipitation Nil, Observer J. Broadfoot; June 13 - Temperature +14°C, Wind B0, Cloud Cover < 5%, Precipitation Nil, Observer J. Broadfoot. Point count survey duration was 10 minutes. Control stations were sampled on the same evenings to establish whether Whip-poor-will were calling locally and hence likely to be detected on and/or adjacent to the property on the selected sampling evenings.

Wildlife in General

All wildlife species (birds, mammals, reptiles, amphibians) encountered while completing field studies on June 15, June 28 and July 25, 2017 were recorded (Observer J. Broadfoot). Observations were based on direct sighting and interpretation of sign (tracks, scats, etc.).

3.5.1 Birds

3.5.1.1 Dawn Breeding Bird Surveys

As per Appendix E, 26 bird species displayed evidence of possible, probable or confirmed breeding on-site. None of these species is a Species at Risk in Ontario (i.e., not END, THR or SC) and none is a species considered provincially rare (i.e., S Rank not S1 - 3 or SH). All are relatively common locally within their respective preferred habitats.

Two species were detected as breeding on adjacent lands only: Eastern Meadowlark (THR) and Alder Flycatcher (not at risk, S5B). Eastern Meadowlark displayed evidence of possible breeding associated with golf course lands in an area approximately 100m to the northeast. We detected no use of the property by Eastern Meadowlark during repeated site visits during the nesting and brood rearing season in 2017. Alder Flycatcher was detected utilizing suitable habitat on adjacent lands to the southeast of the property.

3.5.1.2 Nocturnal Breeding Bird Survey

No Eastern Whip-poor-will or Common Nighthawk were detected on or adjacent to the property. Calling Whip-poor-will were detected at Control sites (Orr Lake, Wasaga Beach) on both evenings sampled.

3.5.2 Wildlife

In addition to the birds listed in Table 2 the following mammals were recorded: White-tailed Deer (*Odocoileus virginianus*, S Rank 5), Northern Raccoon (*Procyon lotor*, S Rank 5), Eastern Gray Squirrel (*Sciurus carolinensis*, S Rank 5), Eastern Chipmunk (*Tamias striatus*, S Rank 5) and Eastern Cottontail (*Sylvilagus floridanus*, S Rank 5). None of these species is a Species at Risk in Ontario (i.e., not END, THR or SC) and none is a species considered provincially rare (i.e., S Rank not S1 - 3 or SH). All are relatively common locally within their respective preferred habitats.

3.6 Species At Risk Assessment

The following information provides a comprehensive assessment of the potential of the property and adjacent lands to provide habitat for END or THR species as protected under Ontario's *Endangered Species Act*, 2007 (ESA) on the basis of taxonomic groups. This comprehensive approach was followed as the MNRF rarely has species records applicable to the scale of individual properties. Species distribution information was gleaned from the Species at Risk in Ontario (SARO) list (<https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>) and associated links (i.e., species status and recover reports, habitat regulations, Ontario Reptile and Amphibian Atlas and other atlas programs).

Birds

Specific dawn and evening surveys were completed to identify SAR birds utilizing habitat of the property and/or adjacent lands. Eastern Meadowlark (THR) was detected on adjacent lands more than approximately 100m northeast of the property in association with open habitat of the golf course. No use of the property by Eastern Meadowlark was discovered during repeated site visits during the nesting and brood rearing season.

Mammals

Four species of bat, some of which have potential to occur locally, have been listed as END in recent years owing to steep declines in abundance within eastern North America cause by "white nose syndrome" (fungus). The MNRF considered woodlands and forests having an abundance (>10/ha) of large (>25cm dbh) wildlife cavity trees (i.e., those containing cavities or other structures suitable as hiding cover) as having potential to function as summer bat maternity roost habitat. The woodlands and forests of the property are very young and hence there is no abundance of large diameter wildlife cavity trees on-site to provide habitat for END bat species.

Reptiles

The property and adjacent lands do not provide ponds or other aquatic habitat features suitable to turtles and hence there is no potential for END or THR turtle species to be impacted by development of the property.

No snakes were observed during repeated, daytime summer site visit. No populations of END or THR snake species (i.e., Eastern Hog-nose Snake, *Massasauga*) have been identified as occurring in this area of the province in recent years.

Amphibians

There are no areas of persistent vernal pool formation or other aquatic habitat features located on or adjacent to the property that would provide habitat for breeding amphibians. No populations of END or THR amphibian species (i.e., Jefferson Salamander) have been identified as occurring in this area of the province in recent years.

4. Significant Natural Heritage Features

The following is an assessment of significant natural heritage features that must be included in the environmental assessment of proposed developments. Under the Provincial Policy Statement, it is the responsibility of the planning authorities to identify significant natural heritage features, including significant valleylands, wetlands, woodlands, and wildlife habitat. The following sections provide an evaluation of the subject lands' existing features in context with the MNR criteria for the identification of significance under the Provincial Policy Statement and the related potential impacts associated with the development proposal. These criteria are then compared to the actual site conditions to determine if the potential for significance exists. These criteria are detailed in the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement (April 2010).

4.1 Significant Valleylands

There are no significant valleylands on the subject lands.

4.2 Significant Woodlands

The woodland and forest cover of the property is continuous with forest cover that extends off-site to the south, southeast and southwest to cover more than 400ha. Based on the size criterion of the provincial Significant Woodland assessment guidelines of the Natural Heritage Reference Manual (MNR 2010), this overall area of woodland would be identified as significant. Neither the Grey County or The Blue Mountains Official Plans have identified Significant Woodland on the subject lands.

4.3 Significant Wetlands

There are no Provincially Significant Wetlands on the subject lands.

4.4 Significant Wildlife Habitat Assessment

Table 3 provides an assessment of the potential for Significant Wildlife Habitat (SWH) functions to occur on or adjacent to the property based on the SWH Criterion Schedule for Ecoregion 6E (MNRF 2015). No SWH functions could be attributed to the property or adjacent lands.

4.5 Natural Heritage Information Centre

A search of the Natural Heritage Information Centre (NHIC) for data squares 17KN4730 did not reveal any element occurrences for rare species on or directly adjacent to the subject lands. The search did

reveal the presence of two Natural Areas, Blue Mountain Slopes (EO ID 4177) and Niagara Escarpment Biosphere Reserve (EO ID 18988) in the vicinity of the subject lands.

4.6 Endangered Species Act (Species at Risk in Ontario – SARO)

No flora or fauna Species At Risk (SARO) were observed or reported on the subject property. None of the plant or wildlife species are considered rare on either a federal, provincial, municipal or local level.

4.7 Species at Risk Act

No flora or fauna Species At Risk (SAR) were observed or reported on the subject property. None of the plant or wildlife species are considered rare on either a federal, provincial, municipal or local level.

4.8 Fisheries Act

No fisheries resources exist on the subject lands.

5. Proposed Development Concept

The proposed development for the subject lands is a Draft Plan of Subdivision for 34 single family dwellings (See Figure 4).

The post development drainage plan for the proposed 34 single family lot development concept was prepared by Crozier & Associates and is described in their Functional Servicing and Stormwater Management Report, dated September 2018.

Table 2 . Significant Wildlife Habitat Assessment, Ecoregion 6E – Block 38, Town of The Blue Mountains

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

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Assessment |
|---|---|---|--|---|--|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| <p>Shorebird Migratory Stopover Area</p> <p>Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.</p> | <p>Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin</p> | <p>BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5</p> | <ul style="list-style-type: none"> Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Western hemisphere shorebird reserve network Canadian Wildlife Service (CWS) Ontario Shorebird Survey Bird Studies Canada Ontario Nature Local birders and naturalist clubs Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area | <p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #8 provides development effects and mitigation measures. | <p>No shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.</p> |
| <p>Raptor Wintering Area</p> <p>Rationale: Sites used by multiple species of individuals and used annually are most significant</p> | <p>Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl</p> <p>Special Concern: Short-eared Owl Bald Eagle</p> | <p><u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.</p> <p>Upland: CUM; CUT; CUS; CUW.</p> <p><u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).</p> | <ul style="list-style-type: none"> The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. Field area of the habitat is to be windswept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting. <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> OMNRF Ecologist or Biologist Field Naturalist Clubs Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area Data from Bird Studies Canada Results of Christmas Bird Counts Reports and other information available from Conservation Authorities. | <p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #10 and #11 provides development effects and mitigation measures. | <p>No habitat that provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.</p> |
| <p>Bat Hibernacula</p> <p>Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.</p> | <p>Big Brown Bat Tri-coloured Bat</p> | <p>Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)</p> | <ul style="list-style-type: none"> Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered as SWH The locations of bat hibernacula are relatively poorly known. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern | <ul style="list-style-type: none"> All sites with confirmed hibernating bats are SWH. The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects. SWHMiST Index #1 provides development effects | <p>No caves, mine shafts, underground foundations and Karsts.</p> |

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Assessment |
|---|--|--|--|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| | | | <ul style="list-style-type: none"> Development and Mines for location of mine shafts. Clubs that explore caves (e.g. Sierra Club) University Biology Departments with bat experts. | and mitigation measures. | |
| Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes. | Big Brown Bat Silver-haired Bat | Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM | <ul style="list-style-type: none"> Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario. Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. <u>Information Sources</u> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts University Biology Departments with bat experts. | <ul style="list-style-type: none"> Maternity Colonies with confirmed use by; <ul style="list-style-type: none"> >10 Big Brown Bats >5 Adult Female Silver-haired Bats The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". SWHMiST Index #12 provides development effects and mitigation measures. | Forest communities of property young/early successional. No large diameter (i.e., > 25cm dbh) trees containing cavities. |
| Turtle Wintering Areas Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | Midland Painted Turtle Special Concern: Northern Map Turtle Snapping Turtle | Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat. | <ul style="list-style-type: none"> For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources</u> <ul style="list-style-type: none"> EIS studies carried out by Conservation Authorities. Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. OMNRF Ecologist or Biologist Field Naturalist clubs Natural Heritage Information Center (NHIC) | <ul style="list-style-type: none"> Presence of 5 over-wintering Midland Painted Turtles is significant. One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) Congregation of turtles is more common where wintering areas are limited and therefore significant SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat. | No ponds or other aquatic features. |
| Reptile Hibernaculum Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Special Concern: | For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the | <ul style="list-style-type: none"> For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. Wetlands can also be important over-wintering | Studies confirming: <ul style="list-style-type: none"> Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) <u>Note:</u> If there are Special Concern Species present, then site is SWH | No rock crevices and other natural or naturalized features that would extend below frost line; such as abandoned crumbling foundations. |

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Assessment |
|--|--|--|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| | Milksnake Eastern Ribbonsnake Lizard: Special Concern (Southern Shield population): Five-lined Skink | spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3 | habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. <ul style="list-style-type: none">Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. <u>Information Sources</u> <ul style="list-style-type: none">In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells).Reports and other information available from Conservation Authorities.Field Naturalists clubsUniversity herpetologistsNatural Heritage Information Center (NHIC)OMNRF ecologist or biologist may be aware of locations of wintering skinks | <ul style="list-style-type: none">Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH.SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula.Presence of any active hibernaculum for skink is significant.SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat. | |
| Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario. | Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies) | Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1 | <ul style="list-style-type: none">Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> <ul style="list-style-type: none">Reports and other information available from Conservation Authorities.Ontario Breeding Bird AtlasBird Studies Canada; <i>NatureCounts</i> http://www.birdscanada.org/birdmon/Field Naturalist Clubs. | Studies confirming: <ul style="list-style-type: none">Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season.A colony identified as SWH will include a 50m radius habitat area from the peripheral nests.Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".SWHMiST Index #4 provides development effects and mitigation measures. | No eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. None of listed species observed during breeding bird surveys. |
| Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually. | Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron | SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1 | <ul style="list-style-type: none">Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> <ul style="list-style-type: none">Ontario Breeding Bird Atlas, colonial nest records.Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF).Natural Heritage Information Center (NHIC) Mixed Wader Nesting ColonyAerial photographs can help identify large heronries.Reports and other information available from CAs.MNRF District OfficesLocal naturalist clubs | Studies confirming: <ul style="list-style-type: none">Presence of 5 or more active nests of Great Blue Heron or other listed species.The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH.Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.SWHMiST Index #5 provides development effects and mitigation measures. | No heron or egret nests observed and none of listed species detected during breeding bird surveys. |

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Assessment |
|--|---|---|---|--|--|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| <p>Colonially -Nesting Bird Breeding Habitat (Ground)</p> <p>Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p> | <p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird</p> | <p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird)</p> <p>MAM1 – 6; MAS1 – 3; CUM CUT CUS</p> | <ul style="list-style-type: none"> Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas , rare/colonial species records. Canadian Wildlife Service Reports and other information available from CAs. Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area MNR District Offices Field Naturalist clubs | <p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. Presence of 5 or more pairs for Brewer's Blackbird. Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #6 provides development effects and mitigation measures. | <p>No suitable habitat and none of listed species detected during breeding bird surveys.</p> |
| <p>Migratory Butterfly Stopover Areas</p> <p>Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p> | <p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p> | <p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p> | <p>A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF (NHIC) Agriculture Canada in Ottawa may have list of butterfly experts. Field Naturalist Clubs Toronto Entomologists Association Conservation Authorities | <p>Studies confirm:</p> <ul style="list-style-type: none"> The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. SWHMiST Index #16 provides development effects and mitigation measures. | <p>Not applicable - the property is not located within 5km of Lake Ontario.</p> |
| <p>Landbird Migratory Stopover Areas</p> <p>Rationale: Sites with a high diversity of species as well as high numbers are most significant.</p> | <p>All migratory songbirds. Canadian Wildlife Service Ontario website.</p> <p>All migratory songbirds. Canadian Wildlife Service Ontario website:</p> | <p>All Ecosites associated with these ELC Community Series;</p> <p>FOC FOM FOD SWC SWM SWD</p> | <p>Woodlots need to be >10 ha in size and within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. Sites have a variety of habitats; forest, grassland and wetland complexes. The largest sites are more significant. Woodlots and forest fragments are important habitats to migrating birds, these features | <p>Studies confirm:</p> <ul style="list-style-type: none"> Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: | <p>Not applicable - the property is not located within 5km of Lake Ontario.</p> |

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Assessment |
|---|-------------------|---|--|--|--|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| | | | <p>located along the shore and located within 5km of Lake Ontario are Candidate SWH .</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Bird Studies Canada • Ontario Nature • Local birders and naturalist club • Ontario Important Bird Areas (IBA) Program | <p>Guidelines for Wind Power Projects”.</p> <ul style="list-style-type: none"> • SWHMiST Index #9 provides development effects. | |
| <p>Deer Yarding Areas</p> <p>Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p> | White-tailed Deer | <p>Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC.</p> <p>Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT</p> | <ul style="list-style-type: none"> • Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual”. • Woodlots with high densities of deer due to artificial feeding are not significant. | <p>No Studies Required:</p> <ul style="list-style-type: none"> • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures. | No conifer cover of value to deer as yarding habitat on or adjacent to property. |
| <p>Deer Winter Congregation Areas</p> <p>Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p> | White-tailed Deer | <p>All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p> | <ul style="list-style-type: none"> • Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands . • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. • Woodlots with high densities of deer due to artificial feeding are not significant. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • MNRF District Offices • LIO/NRVIS | <p>Studies confirm:</p> <ul style="list-style-type: none"> • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures. | See Deer Yarding Area above. |

Table 5.2.1 Rare Vegetation Communities

| Rare Vegetation Community | Candidate SWH | | | Confirmed SWH Defining Criteria | Assessment |
|--|---|---|--|---|--|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | | |
| <p>Cliffs and Talus Slopes</p> <p>Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p> | <p>Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT</p> | <p>A Cliff is vertical to near vertical bedrock >3m in height.</p> <p>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.</p> | <p>Most cliff and talus slopes occur along the Niagara Escarpment.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> The Niagara Escarpment Commission has detailed information on location of these habitats. OMNRF District Natural Heritage Information Center (NHIC) has location information available on their website Field Naturalist clubs Conservation Authorities | <ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Cliffs or Talus Slopes SWHMiST Index #21 provides development effects and mitigation measures. | No cliff or talus habitat. |
| <p>Sand Barren</p> <p>Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p> | <p>ELC Ecosites: SBO1 SBS1 SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.</p> | <p>Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.</p> | <p>A sand barren area >0.5ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF Districts Natural Heritage Information Center (NHIC) has location information available on their website. Field Naturalist clubs Conservation Authorities | <ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Sand Barrens Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) SWHMiST Index #20 provides development effects and mitigation measures. | No sand barren habitat. |
| <p>Alvar</p> <p>Rationale: Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.</p> | <p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p>Five Alvar Species: 1) <i>Carex crawei</i> 2) <i>Panicum philadelphicum</i> 3) <i>Eleocharis compressa</i> 4) <i>Scutellaria parvula</i> 5) <i>Trichostema brachiatum</i></p> <p>These indicator species are very specific to Alvars within Ecoregion 6E.</p> | <p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.</p> | <p>An Alvar site > 0.5 ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Alvars of Ontario (2000), Federation of Ontario Naturalists. Ontario Nature – Conserving Great Lakes Alvars. Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs Conservation Authorities | <ul style="list-style-type: none"> Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. SWHMiST Index #17 provides development effects and mitigation measures. | No alvar habitat. |
| <p>Old Growth Forest</p> <p>Rationale: Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior</p> | <p>Forest Community Series: FOD FOC FOM SWD SWC SWM</p> | <p>Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.</p> | <p>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Forest Resource Inventory mapping OMNRF Districts. Field Naturalist clubs Conservation Authorities | <p>Field Studies will determine:</p> <ul style="list-style-type: none"> If dominant trees species are >140 years old, then the area containing these trees is Significant Wildlife Habitat. The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). | Forest cover of property is successional/young having developed on abandoned farmland. |

| Rare Vegetation Community | Candidate SWH | | | Confirmed SWH | Assessment |
|---|--|--|--|--|---------------------------------|
| | ELC Ecosite Code | Habitat Description | Detailed Information and Sources | Defining Criteria | |
| habitat provided by old growth forests is required by many wildlife species. | | | <ul style="list-style-type: none"> Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. Municipal forestry departments | <ul style="list-style-type: none"> The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. Determine ELC vegetation types for the forest area containing the old growth characteristics. SWHMiST Index #23 provides development effects and mitigation measures. | |
| Savannah Rationale: Savannahs are extremely rare habitats in Ontario. | TPS1 TPS2 TPW1 TPW2 CUS2 | A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. | No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs Conservation Authorities | Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none"> Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). SWHMiST Index #18 provides development effects and mitigation measures. | No savannah habitat. |
| Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario. | TPO1 TPO2 | A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. | No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs Conservation Authorities | Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none"> Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). SWHMiST Index #19 provides development effects and mitigation measures. | No tallgrass prairie habitat. |
| Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival. | Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH. | Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps. | ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs Conservation Authorities | Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. <ul style="list-style-type: none"> Area of the ELC Vegetation Type polygon is the SWH. SWHMiST Index #37 provides development effects and mitigation measures. | No rare vegetation communities. |

5.2.2 Specialized Habitat for Wildlife

| Wildlife Habitat | Wildlife Species | Candidate SHW | | Confirmed SWH | Assessment |
|--|---|---|--|--|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| <p>Waterfowl Nesting Area</p> <p>Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.</p> | <p>American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard</p> | <p>All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands</p> | <p>A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</p> <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ducks Unlimited staff may know the locations of particularly productive nesting sites. OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. Reports and other information available from Conservation Authorities. | <p>Studies confirmed:</p> <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. SWHMiST Index #25 provides development effects and mitigation measures. | <p>No habitat and no breeding waterfowl detected during breeding bird surveys.</p> |
| <p>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</p> <p>Rationale: Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.</p> | <p>Osprey Special Concern Bald Eagle</p> | <p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p> | <p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <ul style="list-style-type: none"> Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. Nature Counts, Ontario Nest Records Scheme data. OMNRF Districts Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented Reports and other information available from Conservation Authorities. | <p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> One or more active Osprey or Bald Eagle nests in an area. Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat. To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #26 provides development effects and mitigation measures. | <p>No lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. None of listed species detected during breeding bird surveys.</p> |

| Wildlife Habitat | Wildlife Species | Candidate SHW | | Confirmed SWH | Assessment |
|---|---|--|---|--|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| <p>Woodland Raptor Nesting Habitat</p> <p>Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p> | <p>Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk</p> | <p>May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3</p> | <ul style="list-style-type: none"> Field Naturalists clubs <p>All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer</p> <ul style="list-style-type: none"> Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Districts. Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. Check data from Bird Studies Canada. Reports and other information available from Conservation Authorities. | <p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH . (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). Barred Owl – A 200m radius around the nest is the SWH. Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH. Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial. (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. SWHMiST Index #27 provides development effects and mitigation measures. | <p>No raptor stick nests observed and no listed species detected during breeding bird surveys.</p> |
| <p>Turtle Nesting Areas</p> <p>Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p> | <p>Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle</p> | <p>Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1</p> | <ul style="list-style-type: none"> Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. Natural Heritage Information Center (NHIC) Field Naturalist clubs | <p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles. One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat. | <p>Property not close to water providing habitat for turtles. No turtles or predated turtle nests observed.</p> |
| <p>Seeps and Springs</p> <p>Rationale: Seeps/Springs are typical of headwater areas and are often at</p> | <p>Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.</p> | <p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a</p> | <p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.</p> <ul style="list-style-type: none"> Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Topographical Map Thermography | <p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of a site with 2 or more seeps/springs should be considered SWH. The area of an ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. | <p>No areas of seeps or springs detected on property.</p> |

| Wildlife Habitat | Wildlife Species | Candidate SHW | | Confirmed SWH | Assessment |
|--|---|---|--|--|--|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| the source of coldwater streams. | | stream could have seeps/springs. | <ul style="list-style-type: none"> Hydrological surveys conducted by Conservation Authorities and MOE. Field Naturalists clubs and landowners. Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped. | <ul style="list-style-type: none"> SWHMiST Index #30 provides development effects and mitigation measures. | |
| Amphibian Breeding Habitat (Woodland). Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations. | Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog | All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians. | <ul style="list-style-type: none"> Presence of a wetland, pond or woodland pool (including vernal pools) >500m² (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. Information Sources <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. OMNRF District OMNRF wetland evaluations Field Naturalist clubs Canadian Wildlife Service Amphibian Road Call Survey Ontario Vernal Pool Association: http://www.ontariovernalpools.org | Studies confirm; <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. SWHMiST Index #14 provides development effects and mitigation measures. | No salamanders detected. No areas or permanent water or vernal pooling observed on adjacent to property. |
| Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes. | Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog | ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands. | <ul style="list-style-type: none"> Wetlands >500m² (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. OMNRF Districts and wetland evaluations Reports and other information available from Conservation Authorities | Studies confirm: <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; Wetland with confirmed breeding Bullfrogs are significant. The ELC ecosite wetland area and the shoreline are the SWH. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWHMiST Index #15 provides development effects and mitigation measures. | Assessed under Woodland above. |

| Wildlife Habitat | Wildlife Species | Candidate SHW | | Confirmed SWH | Assessment |
|--|---|---|--|--|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | |
| <p>Woodland Area-Sensitive Bird Breeding Habitat</p> <p>Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.</p> | <p>Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren</p> <p>Special Concern: Cerulean Warbler Canada Warbler</p> | <p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> | <p>Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Local bird clubs. Canadian Wildlife Service (CWS) for the location of forest bird monitoring. Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. Reports and other information available from Conservation Authorities. | <p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. Conduct field investigations in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #34 provides development effects and mitigation measures. | <p>None of listed species detected during bird surveys.</p> |

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

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

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

5.4 Animal Movement Corridors

| Wildlife Habitat | Wildlife Species | Candidate SHW | | Confirmed SWH | Assessment |
|--|---|--|--|--|--|
| | | ELC Ecosite | Habitat Criteria and Information Sources | Defining Criteria | |
| <p>Amphibian Movement Corridors</p> <p>Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.</p> | <p>Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog</p> | <p>Corridors may be found in all ecosites associated with water.</p> <ul style="list-style-type: none"> Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1 | <p>Movement corridors between breeding habitat and summer habitat.</p> <ul style="list-style-type: none"> Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) of this Schedule. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Office Natural Heritage Information Center (NHIC) Reports and other information available from Conservation Authorities. Field Naturalist Clubs | <ul style="list-style-type: none"> Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. SWHMiST Index #40 provides development effects and mitigation measures. | <p>No significant amphibian breeding habitat function (woodland or wetland) associated with property or adjacent lands therefore no significant amphibian movement corridor function.</p> |
| <p>Deer Movement Corridors</p> <p>Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.</p> | <p>White-tailed Deer</p> | <p>Corridors may be found in all forested ecosites.</p> <p>A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.</p> | <p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule.</p> <ul style="list-style-type: none"> A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Office Natural Heritage Information Center (NHIC). Reports and other information available from Conservation Authorities. Field Naturalist Clubs | <ul style="list-style-type: none"> Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. Shorter corridors are more significant than longer corridors. SWHMiST Index #39 provides development effects and mitigation measures. | <p>Property not functioning as deer yarding area/wintering habitat. Property abuts area of existing and ongoing residential development and hence is not located in any obvious corridor that deer might take to move to deer yards located elsewhere.</p> |

5.5 Exceptions for EcoRegion 6E

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

6. Impacts Assessment

Potential impacts to the existing natural heritage systems located on the subject and adjacent lands resulting from the proposed development plan were compiled through research of literature and relevant authorities.

The current plan for the proposed development is based on efforts to avoid impacts to the natural heritage features and functions of the subject and adjacent lands, achieve an economically feasible development, and accommodate engineering requirements.

A summary of anticipated impacts from development and proposed mitigation is outlined in Table 3.

Table 3 Summary of Potential Impacts to Natural Heritage Features

| Category | Function of Feature | Potential Impact | Anticipated Impacts/Proposed Mitigation |
|-----------------------------|------------------------------------|---|--|
| Hydrology | Groundwater Recharge | Surface run-off will increase due to the creation of hard surfaces. Water quality will be impacted by the addition of suspended sediments and/or chemicals. | With implementation of best management practises as a part of the SWM plan prepared by Crozier & Associates (See Functional Servicing and Stormwater Management Report, September 2018), post development runoff (quality and quantity) will be managed such that off-site flows will not exceed pre-development rates and water quality objectives are met. |
| Vegetation | Upland Communities | The proposed development will result in the clearing of wooded vegetation located within the Hedgerow (HR), Cultural (CUW) and native woodland (FOD4-2a and FOD4-2b areas (Ash dominated). | The removal of vegetation on the subject lands will be partially mitigated by proposed landscape plantings. |
| Wildlife | Bird, Mammal, Herptefaunal habitat | Removal of some of the wooded area will reduce its function as habitat for area sensitive bird species; species with a low tolerance level for urban disturbance would be replaced by species more tolerant of urban settings. Species tolerant of urban settings would likely occur in higher numbers than elsewhere in non-developed areas; this would lead to some nuisance problems, as well as an increased rate of predation on native birds, mammals and amphibians from an urban area's symptomatic increase in raccoons, skunks, possums, domestic dogs and cats, and feral cats. The increased vehicular traffic may result in an increase in wildlife road mortalities. | The removed woodland habitat does not provide any interior forest habitat for breeding birds. Tree retention should be encouraged along the rear yard area abutting the existing greenway corridor located along the east property boundary and west along the existing woodland. As well, all other opportunities to retain the existing tree cover in rear yard areas (subject to Engineering of services/grading) should be maximized. Develop and promote a public and resident awareness program stressing the importance of preserving any retained habitat on site and educating all who frequent the site about the local ecosystem functions and the naturalistic landscape planting functions that will be implemented. |
| Significant Natural Habitat | Landscape Connectivity | The small wooded area on the subject lands which is proposed to be removed is contiguous to a larger wooded area to the south, southeast and southwest of the subject lands thereby reducing landscape connectivity. | Habitat connectivity and ecological linkage functions of the subject lands are lacking or are of poor quality for wildlife. The forest cover within much of the subject lands is successional/young having developed on abandoned farmland. Connectivity for wildlife movement will be maintained within the contiguous woodland corridor and existing forest located east and west of the subject lands. |

7. Additional Recommendations

Anticipated impacts and proposed mitigation is outlined above in Table 3 and this section presents additional recommendations that should also be considered as part of the detailed design for implementation prior to, during and post-construction to help reduce or eliminate impacts to the identified natural heritage features and functions within or adjacent to the subject lands. As well, these additional recommendations provide guidance to the final detailed design of the development plan as the project proceeds through the individual lot site design process:

1. Prior to the commencement of construction, temporary barrier fencing should be installed to protect natural heritage features warranting protection from construction impacts. The barrier fence functions to avoid inadvertent intrusion from operation of machinery or other activities. The fencing should be installed under the supervision of a biologist or landscape architect, and maintained and remain in place until final grading and landscaping has been completed.
2. Barrier fencing should be placed at the property line or at the drip-line of trees where trees identified for retention and/or protection are identified. Avoid inadvertent root compaction. In the event that roots or branches of trees to be protected are inadvertently damaged during construction, they should be clean cut as soon as possible. Exposed roots should then be covered with topsoil and mulched under the guidance of a biologist, arborist or landscape architect.
3. Although no karst features have been identified within the subject lands (See Appendix C), a follow up site visit is recommended during clearing operations to confirm that no entry seeps exist within the south east portion of property
4. Soft engineering and bioengineering techniques are recommended in favour of hard engineering and hardened structures (i.e. rip rap, concrete) to control surface erosion wherever possible.
5. A construction work plan should designate specific locations for stockpiling of soils and other materials, as well as ensuring that vehicle refueling occurs off-site.
6. Areas that are to be cleared for development but are planned to later undergo landscape plantings should implement plans that includes native planting materials wherever appropriate.
7. Vegetation clearing should occur outside of the breeding bird season (April 15 to July 30) to prevent nest destruction.
8. No further studies are required to supplement the understanding of the natural heritage features of the subject lands.

8. Conclusion

Based on the 2017 field investigations relative to the subject lands and the corresponding proposed development plan, we conclude that the proposed development is feasible from a natural heritage perspective, in so long as the recommendations and mitigations identified herein are implemented. If designed and constructed as planned, the conclusion of the EIS is that the development will not impact the ecological features or functions of the natural heritage features located on and adjacent to the subject lands.

9. References

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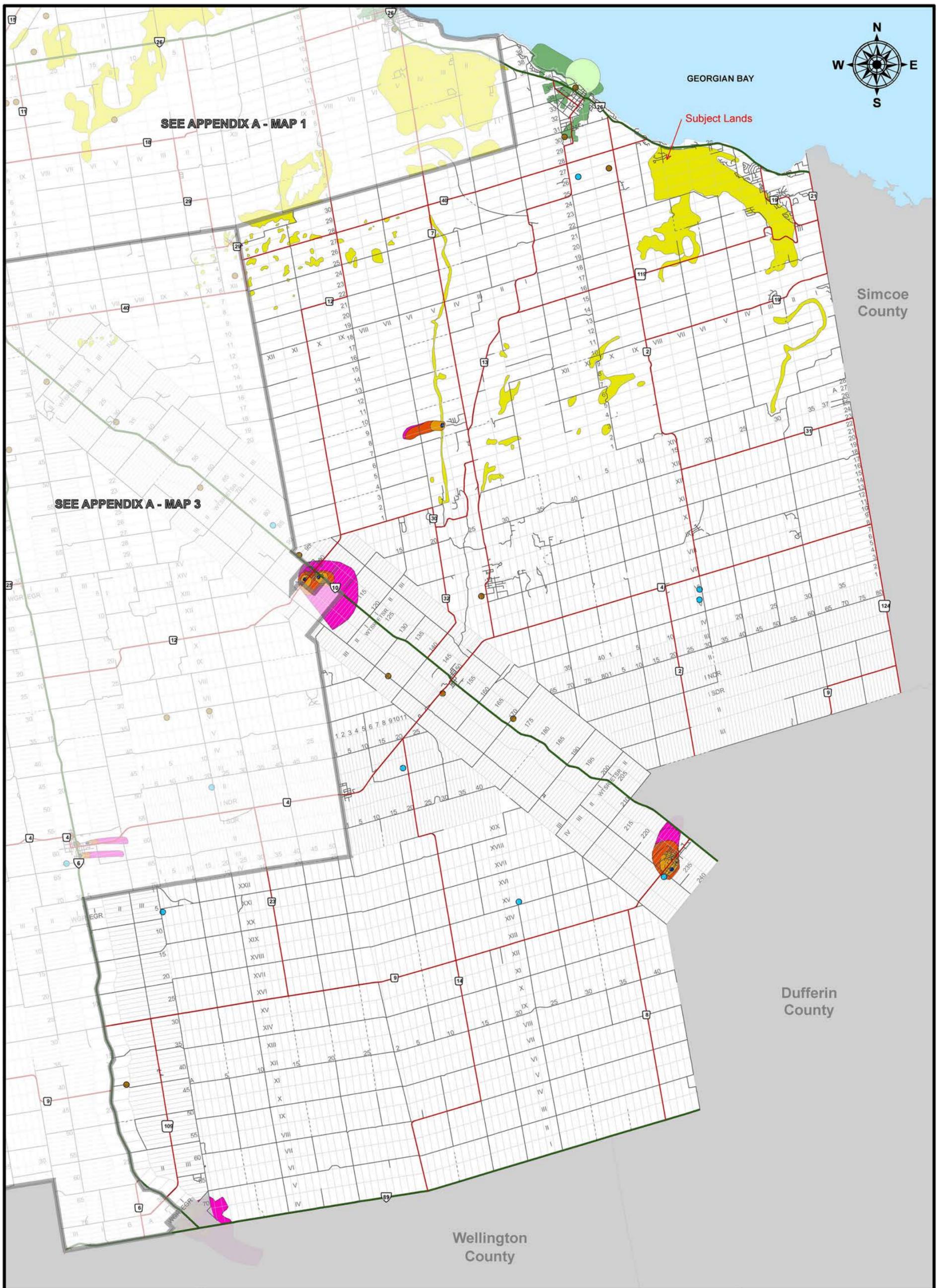
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Appendix A

Grey County Official Plan

- Appendix A – Map 2
- Appendix B – Map 2



SEE APPENDIX A - MAP 1

SEE APPENDIX A - MAP 3

GEORGIAN BAY

Subject Lands

Simcoe County

Dufferin County

Wellington County



LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Abandoned Landfills
- Existing Landfills
- Special Policy Area (Karst)
- Intake Protection Zone 1
- Intake Protection Zone 2
- Wellhead Protection Areas**
- Zone A
- Zone B
- Zone C
- Zone D

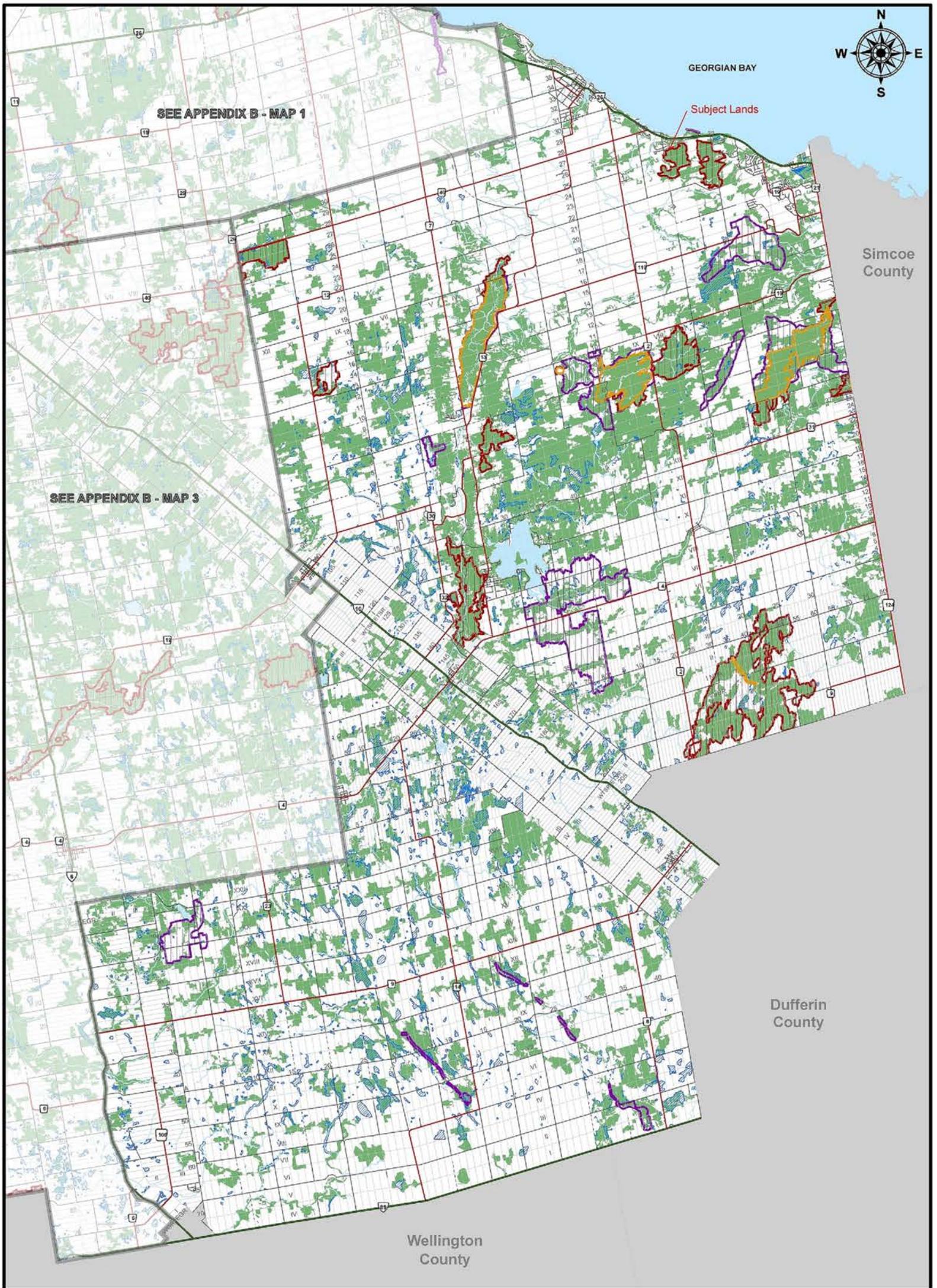
SCALE 1:95,000



AUTHOR: Grey County Planning and Development
 FILE NAME: GR_OP_AppxA_Map2EastD38.mxd
 APPLICATION: ArcMap
 DATE: Consolidated to June 25, 2013
 PROJECTION: UTM zone 17N / NAD83
 SOURCE: Teranet / Ontario Ministry of Natural Resources

INTERACTIVE MAP: map2.grey.ca
 DOWNLOAD PDF: grey.ca

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.



THE COUNTY OF GREY
OFFICIAL PLAN

APPENDIX B
Constraint Mapping

MAP 2

LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Stream / River
- Other Identified Wetlands
- Lakes
- Earth & Life ANSI
- Earth ANSI
- Life ANSI
- Significant Woodlands

SCALE 1: 95,000



AUTHOR: Grey County Planning and Development
 FILE NAME: GR_COP_Appendix_Map02as03.mxd
 APPLICATION: ArcMap
 DATE: Consolidated to June 25, 2013
 PROJECTION: UTM zone 17N / NAD83
 SOURCE: Teranet / Ontario Ministry of Natural Resources

INTERACTIVE MAP: 0929_2013_08
 DOWNLOAD PDF: 0929_08

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of location, location of features or surveying purposes. This map may contain cartographic errors or omissions.

Appendix B

Town of The Blue Mountains Official Plan

- Appendix 1

The Blue Mountains Constraint Mapping Appendix 1

Designations

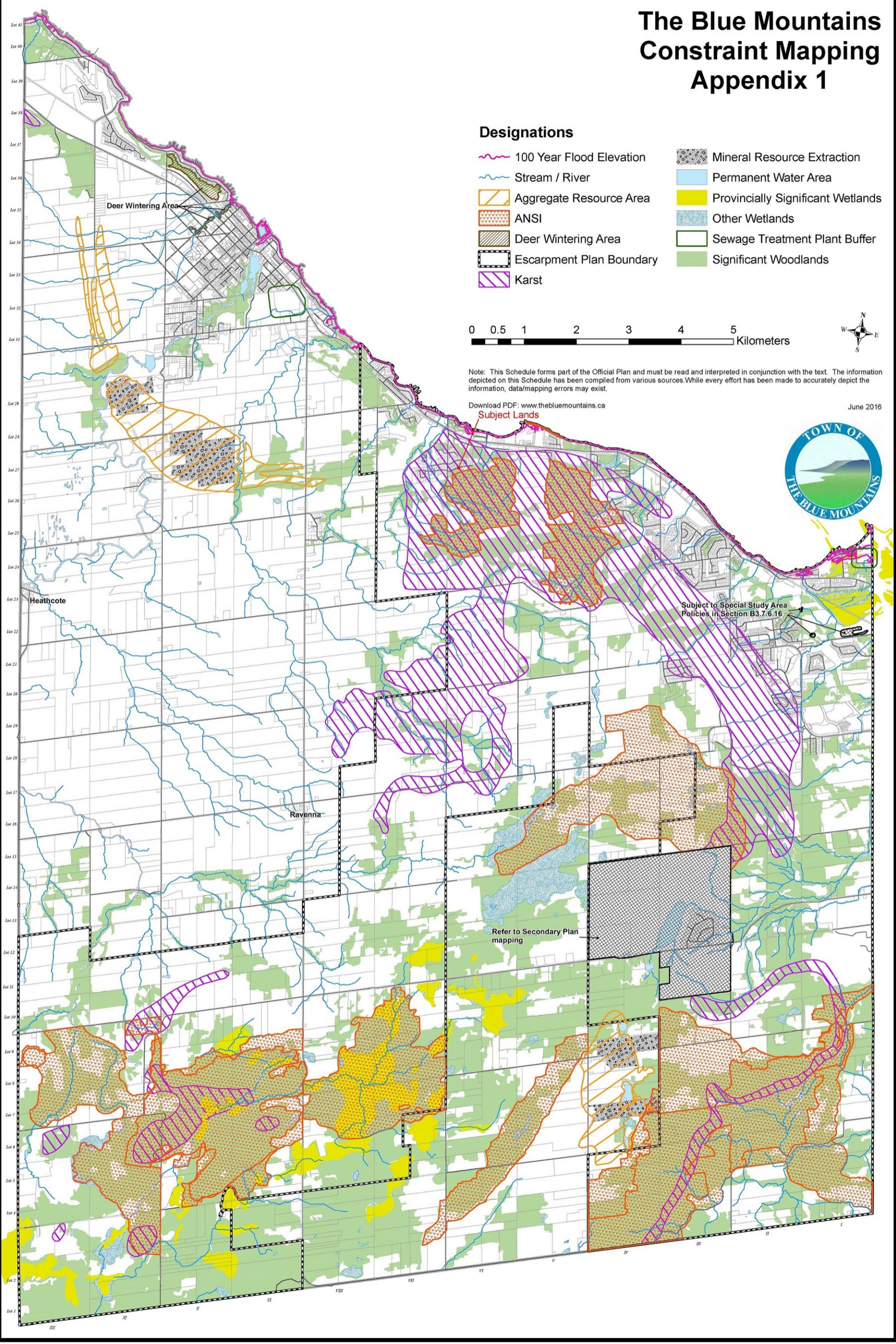
-  100 Year Flood Elevation
-  Stream / River
-  Aggregate Resource Area
-  ANSI
-  Deer Wintering Area
-  Escarpment Plan Boundary
-  Karst
-  Mineral Resource Extraction
-  Permanent Water Area
-  Provincially Significant Wetlands
-  Other Wetlands
-  Sewage Treatment Plant Buffer
-  Significant Woodlands



Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources. While every effort has been made to accurately depict the information, data/mapping errors may exist.

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June 2016



Appendix C

Karst Investigation for the Subject Lands

Appendix D

Vascular Plant Species Observed on the Subject Lands

Appendix D. Vascular Plant Survey Data, Block 38, Town of the Blue Mountains.

| FAMILY | SCIENTIFIC NAME | COMMON NAME | Vegetation Community | | | | | Conservation Rank | | |
|----------------|---------------------------------------|----------------------------|----------------------|------|-----|---------|---------|-------------------|--------|-------------|
| | | | Hedgerow A | Fill | CUW | FOD4-2a | FOD4-2b | S RANK | G RANK | SARO STATUS |
| Aceraceae | <i>Acer negundo</i> | Manitoba Maple | | X | | | | S5 | G5 | |
| Apiaceae | <i>Daucus carota</i> | Wild Carrot | | X | X | | | SNA | GNR | |
| Asclepiadaceae | <i>Asclepias syriaca</i> | Common Milkweed | | X | X | X | | S5 | G5 | |
| Asteraceae | <i>Arctium minus</i> | Common Burdock | | X | | | X | SNA | GNR | |
| Asteraceae | <i>Bidens cernua</i> | Nodding Beggarticks | | X | | | | S5 | G5 | |
| Asteraceae | <i>Centaurea nigra</i> | Black Knapweed | | X | X | | | SNA | GNR | |
| Asteraceae | <i>Cirsium arvense</i> | Canada Thistle | | X | X | | | SNA | GNR | |
| Asteraceae | <i>Euthamia graminifolia</i> | Grass-leaved Goldenrod | | X | | | | S5 | G5 | |
| Asteraceae | <i>Inula helenium</i> | Elecampane | | X | X | | | SNA | GNR | |
| Asteraceae | <i>Leucanthemum vulgare</i> | Oxeye Daisy | | X | | | | SNA | GNR | |
| Asteraceae | <i>Solidago canadensis</i> | Canada Goldenrod | | X | | | | S5 | G5 | |
| Asteraceae | <i>Solidago gigantea</i> | Smooth Goldenrod | | X | | | | S5 | G5 | |
| Asteraceae | <i>Symphotrichum novae-angliae</i> | New England Aster | | X | | | | S5 | G5 | |
| Asteraceae | <i>Taraxacum officinale</i> | Common Dandelion | X | X | X | X | X | SNA | G5 | |
| Asteraceae | <i>Tragopogon dubius</i> | Yellow Goat's-beard | | X | | | | SNA | GNR | |
| Asteraceae | <i>Tussilago farfara</i> | Colt's-foot | | X | | | | SNA | GNR | |
| Caprifoliaceae | <i>Lonicera tatarica</i> | Tartarian Honeysuckle | | X | | | | SNA | GNR | |
| Clusiaceae | <i>Hypericum perforatum</i> | Common St. John's-wort | | X | | | | SNA | GNR | |
| Cornaceae | <i>Cornus stolonifera</i> | Red-osier Dogwood | | X | X | | X | S5 | G5 | |
| Cyperaceae | <i>Carex vulpinoidea</i> | Fox Sedge | | X | | | | S5 | G5 | |
| Cyperaceae | <i>Schoenoplectus tabernaemontani</i> | Soft-stemmed Bulrush | | X | | | | S5 | G5 | |
| Cyperaceae | <i>Scirpus atrocinctus</i> | Black-girdle Bulrush | | X | | | | S5 | G5 | |
| Dipsacaceae | <i>Dipsacus fullonum</i> | Fuller's Teasel | | X | | X | | SNA | GNR | |
| Fabaceae | <i>Lathyrus odoratus</i> | Sweet Pea | | X | | | | SNA | GNR | |
| Fabaceae | <i>Lotus corniculatus</i> | Garden Bird's-foot Trefoil | | X | | | | SNA | GNR | |
| Fabaceae | <i>Melilotus albus</i> | White Sweet-clover | | X | | | | SNA | G5 | |
| Fabaceae | <i>Trifolium hybridum</i> | Alsike Clover | | X | | | | SNA | GNR | |
| Fabaceae | <i>Trifolium pratense</i> | Red Clover | | X | | | | SNA | GNR | |
| Fabaceae | <i>Trifolium repens</i> | White Clover | | X | | | | SNA | GNR | |
| Fabaceae | <i>Vicia cracca</i> | Tufted Vetch | | X | X | X | | SNA | GNR | |
| Lamiaceae | <i>Leonurus cardiaca</i> | Common Motherwort | | X | | | | SNA | GNR | |
| Moraceae | <i>Morus alba</i> | White Mulberry | | X | | | | SNA | GNR | |
| Oleaceae | <i>Fraxinus pennsylvanica</i> | Green Ash | X | | X | X | X | S4 | G5 | |
| Plantaginaceae | <i>Plantago lanceolata</i> | English Plantain | | X | | | | SNA | G5 | |
| Plantaginaceae | <i>Plantago major</i> | Common Plantain | | X | | | | S5 | G5 | |
| Poaceae | <i>Agrostis gigantea</i> | Redtop | | X | | X | X | SNA | G4G5 | |
| Poaceae | <i>Bromus inermis</i> | Awnless Brome | X | X | X | X | X | SNA | GNR | |
| Poaceae | <i>Dactylis glomerata</i> | Orchard Grass | | X | X | X | X | SNA | GNR | |
| Poaceae | <i>Elymus repens</i> | Creeping Wildrye | | X | | | | SNA | GNR | |

| FAMILY | SCIENTIFIC NAME | COMMON NAME | Vegetation Community | | | | | Conservation Rank | | |
|-----------------|-----------------------------------|------------------------------|----------------------|------|-----|---------|---------|-------------------|--------|-------------|
| | | | Hedgerow A | Fill | CUW | FOD4-2a | FOD4-2b | S RANK | G RANK | SARO STATUS |
| Poaceae | <i>Festuca rubra</i> | Red Fescue | | X | | | | SNA | G5 | |
| Poaceae | <i>Phalaris arundinacea</i> | Reed Canary Grass | | X | | | | S5 | G5 | |
| Poaceae | <i>Phleum pratense</i> | Common Timothy | | X | X | X | | SNA | GNR | |
| Poaceae | <i>Phragmites australis</i> | European Reed | | X | | | | SNA | G5 | |
| Polygonaceae | <i>Rumex crispus</i> | Curly Dock | | X | | | | SNA | GNR | |
| Rhamnaceae | <i>Rhamnus cathartica</i> | Common Buckthorn | X | | X | X | X | SNA | GNR | |
| Rosaceae | <i>Malus pumila</i> | Common Apple | X | | X | X | X | SNA | G5 | |
| Rosaceae | <i>Rosa rugosa</i> | Rugosa Rose | | X | X | | X | SNA | GNR | |
| Rosaceae | <i>Rubus idaeus</i> | Wild Red Raspberry | | X | | X | X | S5 | G5 | |
| Salicaceae | <i>Salix discolor</i> | Pussy Willow | | X | | | | S5 | G5 | |
| Typhaceae | <i>Typha angustifolia</i> | Narrow-leaved Cattail | | X | | | | SNA | G5 | |
| Vitaceae | <i>Vitis riparia</i> | Riverbank Grape | | X | | | X | S5 | G5 | |
| Aceraceae | <i>Acer saccharum</i> | Sugar Maple | X | | X | | X | S5 | G5 | |
| Apiaceae | <i>Osmorhiza claytonii</i> | Hairy Sweet Cicely | | | | | X | S5 | G5 | |
| Asteraceae | <i>Cirsium vulgare</i> | Bull Thistle | | | | X | | SNA | GNR | |
| Asteraceae | <i>Erigeron philadelphicus</i> | Philadelphia Fleabane | | X | | X | | S5 | G5 | |
| Asteraceae | <i>Eurybia macrophylla</i> | Large-leaved Aster | X | | | | | S5 | G5 | |
| Asteraceae | <i>Pilosella piloselloides</i> | King Devil Hawkweed | | | | X | | SNA | GNR | |
| Asteraceae | <i>Symphotrichum lateriflorum</i> | Starved Aster | X | | X | | | S5 | G5 | |
| Balsaminaceae | <i>Impatiens capensis</i> | Spotted Jewelweed | | | | | X | S5 | G5 | |
| Berberidaceae | <i>Berberis thunbergii</i> | Japanese Barberry | | | X | | | SNA | GNR | |
| Brassicaceae | <i>Alliaria petiolata</i> | Garlic Mustard | | | | X | X | SNA | GNR | |
| Dryopteridaceae | <i>Dryopteris cristata</i> | Crested Wood Fern | | | | | X | S5 | G5 | |
| Dryopteridaceae | <i>Dryopteris intermedia</i> | Evergreen Wood Fern | | | | | X | S5 | G5 | |
| Geraniaceae | <i>Geranium robertianum</i> | Herb-Robert | | | | | X | S5 | G5 | |
| Lamiaceae | <i>Clinopodium vulgare</i> | Field Basil | | | X | X | | S5 | G5 | |
| Lamiaceae | <i>Lamium album</i> | White Deadnettle | | | | | X | SNA | G5 | |
| Oleaceae | <i>Fraxinus americana</i> | White Ash | X | | | | | S4 | G5 | |
| Onagraceae | <i>Circaea alpina</i> | Small Enchanter's Nightshade | | | | X | X | S5 | G5 | |
| Ranunculaceae | <i>Ranunculus acris</i> | Tall Buttercup | | | X | | X | SNA | G5 | |
| Rosaceae | <i>Agrimonia gryposepala</i> | Hooked Agrimony | | | | | X | S5 | G5 | |
| Rosaceae | <i>Crataegus monogyna</i> | English Hawthorn | | | X | | | SNA | G5 | |
| Rosaceae | <i>Crataegus punctata</i> | Dotted Hawthorn | | | | | X | S5 | G5 | |
| Rosaceae | <i>Fragaria vesca</i> | Woodland Strawberry | | | | | X | S5 | G5 | |
| Rosaceae | <i>Fragaria virginiana</i> | Wild Strawberry | | | X | | | S5 | G5 | |
| Rosaceae | <i>Geum canadense</i> | White Avens | | | | X | X | S5 | G5 | |
| Rosaceae | <i>Rubus occidentalis</i> | Black Raspberry | | | X | | X | S5 | G5 | |
| Tiliaceae | <i>Tilia americana</i> | American Basswood | X | | | | X | S5 | G5 | |
| Ulmaceae | <i>Ulmus americana</i> | American Elm | X | | X | | X | S5 | G5? | |

Data collected on June 15, 2017 (J. Broadfoot) and July 25, 2017 (J. Broadfoot)

Appendix E

Breeding Birds Observed on the Subject Lands

Appendix E. Bird Species List, Block 38 Town of the Blue Mountains

| FAMILY | SCIENTIFIC NAME | COMMON NAME | Point Count Station | | | | | Breeding Evidence ¹ | Relative Location | Conservation Rank Information ² | | | | |
|---------------|--------------------------------|------------------------|---------------------|-----|-----|-----|---|--------------------------------|-------------------|--|---------|-------------|----------------|--|
| | | | 1 | 2 | 3 | 4 | 5 | | | S RANK | G RANK | SARO STATUS | COSEWIC Status | |
| Bombycillidae | <i>Bombycilla cedrorum</i> | Cedar Waxwing | | | | | | ,H | Possible | On-site | S5B | G5 | | |
| Cardinalidae | <i>Cardinalis cardinalis</i> | Northern Cardinal | ,S | ,S | ,S | | | | Possible | On-site | S5 | G5 | | |
| Cardinalidae | <i>Passerina cyanea</i> | Indigo Bunting | | ,S | | | | | Possible | On-site | S4B | G5 | | |
| Charadriidae | <i>Charadrius vociferus</i> | Killdeer | ,C | | | | | | Possible | On-site | S5B,S5N | G5 | | |
| Columbidae | <i>Zenaida macroura</i> | Mourning Dove | ,S | | | | | S,S | Probable | On-site | S5 | G5 | | |
| Corvidae | <i>Corvus brachyrhynchos</i> | American Crow | | ,C | | ,C | | | Possible | On-site | S5B | G5 | | |
| Corvidae | <i>Cyanocitta cristata</i> | Blue Jay | ,C | H,C | | | | S, | Possible | On-site | S5 | G5 | | |
| Emberizidae | <i>Melospiza melodia</i> | Song Sparrow | ,S | S,S | ,S | S,S | | S,S | Probable | On-site | S5B | G5 | | |
| Emberizidae | <i>Pipilo erythrophthalmus</i> | Eastern Towhee | | | | | | S, | Possible | On-site | S4B | G5 | | |
| Emberizidae | <i>Spizella pusilla</i> | Field Sparrow | | S,S | | | | ,S | Probable | On-site | S4B | G5 | | |
| Fringillidae | <i>Carduelis tristis</i> | American Goldfinch | H,S | H,C | S,S | S,S | | S,S | Probable | On-site | S5B | G5 | | |
| Icteridae | <i>Agelaius phoeniceus</i> | Red-winged Blackbird | S,P | S,C | S, | S,C | | S,S | Probable | On-site | S4 | G5 | | |
| Icteridae | <i>Icterus galbula</i> | Baltimore Oriole | S,H | S,S | S,S | | | ,S | Probable | On-site | S4B | G5 | | |
| Icteridae | <i>Molothrus ater</i> | Brown-headed Cowbird | | | S, | | | ,H | Possible | On-site | S4B | G5 | | |
| Icteridae | <i>Quiscalus quiscula</i> | Common Grackle | | ,C | | | | H,H | Probable | On-site | S5B | G5 | | |
| Icteridae | <i>Sturnella magna</i> | Eastern Meadowlark | S,S | | | | | | Probable | Adjacent lands only (northeast) | S4B | G5 | THR | |
| Mimidae | <i>Toxostoma rufum</i> | Brown Thrasher | | | | | | S, | Possible | On-site | S4B | G5 | | |
| Paridae | <i>Poecile atricapillus</i> | Black-capped Chickadee | | | ,C | | | | Possible | On-site | S5 | G5 | | |
| Parulidae | <i>Geothlypis trichas</i> | Common Yellowthroat | ,S | ,S | | | | S,S | Probable | On-site | S5B | G5 | | |
| Parulidae | <i>Setophaga pensylvanica</i> | Chestnut-sided Warbler | S, | | | | | S,S | Probable | On-site | S5B | G5 | | |
| Parulidae | <i>Setophaga petechia</i> | Yellow Warbler | S, | ,S | | | | S, | Confirmed | On-site | S5B | G5 | | |
| Parulidae | <i>Setophaga ruticilla</i> | American Redstart | S,S | S, | | | | ,S | Probable | On-site | S5B | G5 | | |
| Scolopacidae | <i>Scolopax minor</i> | American Woodcock | | | | | | H, | Possible | On-site | S4B | G5 | | |
| Turdidae | <i>Turdus migratorius</i> | American Robin | S,S | H,C | S,C | | | S,S | Probable | On-site | S5B | G5 | | |
| Tyrannidae | <i>Empidonax alnorum</i> | Alder Flycatcher | | | | | | S,S | Probable | Adjacent lands only (southeast) | S5B | G5 | | |
| Tyrannidae | <i>Tyrannus tyrannus</i> | Eastern Kingbird | H,P | | | | | | Probable | On-site | S4B | G5 | | |
| Vireonidae | <i>Vireo gilvus</i> | Warbling Vireo | S,S | S, | | | | S, | Probable | On-site | S5B | G5 | | |
| Vireonidae | <i>Vireo olivaceus</i> | Red-eyed Vireo | | S, | S,S | | | ,S | Probable | On-site | S5B | G5 | | |

Surveys Conditions:

June 15, 2017; Start Time 0606hr/ End Time 0719hr; Start Temperature +14°C/ End Temperature +14°C; Start Wind B1/ End Wind B1-2; Cloud Cover Start 40%, End 90%; Precipitation Nil; Observer J. Broadfoot

June 28, 2017; Start Time 0615hr/ End Time 0705hr; Start Temperature +15°C/ End Temperature +15°C; Start Wind B2/ End Wind B2; Cloud Cover Start 20%, End 20%; Precipitation Nil; Observer J. Broadfoot

Point Count Survey Duration - 5 minutes/station

¹Highest level of breeding evidence detected based on Ontario Breeding Bird Atlas (OBBA) criteria and Breeding Evidence Codes

²Conservation Rank - from Ontario Ministry of Natural Resources & Forestry, Natural Heritage Information Centre, Species at Risk in Ontario Lists and Environment Canada/COSEWIC Lists

S-rank - S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common NAR - Not at Risk
G-Rank - G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure

³Breeding Evidence Codes: Entry examples **S,S** - Singing Male detected during first survey and second survey; **S**, Singing male detected during first survey only; **,S** Singing male detected during second survey only
ding Evidence Breeding Evidence Codes

None FO - Species observed Flying Over showing no signs of use of subject or adjacent lands

Observed X - Species observed, no evidence of breeding

Possible H - Species observed in its breeding season in suitable nesting habitat

Note S or C - Singing male(s) present (S), or breeding calls heard (C), in suitable nesting habitat in breeding season

Probable P - Pair observed in suitable nesting habitat in nesting season

Probable D - Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.

Probable V - Visiting probable nest site

Probable A - Agitated behaviour or anxiety calls of an adult

Probable B - Brood Patch on adult female or cloacal protuberance on adult male

Probable N - Nest-building or excavation of nest hole.

Confirmed DD - Distraction display or injury feigning.

Confirmed NU - Used nest or egg shells found (occupied or laid within the period of the survey)

Confirmed FY - Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight

Confirmed AE - Adult leaving or entering nest sites in circumstances indicating occupied nest

Confirmed FS - Adult carrying fecal sac.

Confirmed CF - Adult carrying food for young.

Confirmed NE - Nest containing eggs.

Confirmed NY - Nest with young seen or heard

Note : Possible if only one observation of S or C, Probable if evidence of S or C in same place on two or more dates a week or more apart