Environmental Impact Study-
Alta Subdivision - Phase 2

Final Report

Prepared for:
Tabera Ltd.,
Toronto, ON

Report prepared by:
Neil Morris, Consulting Ecologist
Report Reference # 21-09.5

17 February 2022

Executive Summary

This EIS has been prepared in regard to the property located at the current terminus of Alta Road in Craigleith, Ontario. The property is legally known to Part of Lots 23 and 24 Concession 4 in the Town of the Blue Mountains (TOBM), part of Alta Road Registered Plan 1127. For the purposes of this report, this land is referred to hereafter simply the "Alta Property", or simply the "Property".

A draft plan of subdivision (DPS) has been developed for the Property which will constitute Phase 2 of the Alta residential development. The DPS calls for a total of 60 residential lots distributed along an extension of Alta Road and two adjoining crescent roads. The proposed residences will be developed using full municipal infrastructure including municipal water, sanitary and storm sewers.

Environmental Constraints

There are several specific features identified in existing mapping which could trigger the need for an Environmental Impact Study (EIS) and which have been considered as the basis for developing the EIS scope. These are;

1. the presence of Significant Woodlands within the Property, as mapped by both Grey County and the TOBM, primarily on the faces of the Niagara Escarpment in the southwest and the Nipissing Ridge in the northeast,
2. the presence of the Blue Mountain Slopes Area of Natural and Scientific Interest (ANSI), effectively overlapping the area of Significant Woodland in the southwest corner of the Property,
3. the presence of Natural Heritage System (NHS) "Core Area", as mapped by the County, which effectively corresponds with the ANSI and Significant Woodland Area in the southwest corner of the Property,
4. the presence of Hazard land (as per the TOBM OP) effectively overlapping the area of Significant Woodland in the northeast corner of the Property, and
5. the presence of small watercourses within the northwest corner of the Property and immediately adjacent to the Property along its southern perimeter.

EIS Rationale and Scope

This EIS has been undertaken with the overall objective of determining that the proposed development can occur without adverse impacts on the natural heritage features (Significant Woodlands, ANSI, NHS Core Area, Watercourses). The findings and recommendations of this EIS are also provided as a basis for modifications to development plans if such modifications are warranted to mitigate potential adverse effects on natural heritage features.

The scope and content of this EIS were developed to be consistent with the general requirements specified in the Official Plans of Grey County and the Town of the Blue Mountains. The EIS has been undertaken as a full-scope study, as typically required for development of the scale proposed for the Alta Property.

For this EIS, the core environmental issues of potential concern associated with the Alta Property include;

1. Potential impacts that site development might have on watercourses which flow within or near to the Property,
2. Potential impacts that site development might have on Significant Woodlands within and adjacent to the Property, and their various functions,
3. Potential impacts that site development might have on the Blue Mountains Slopes ANSI (and its functions) located in the southwest corner of the Property,
4. Potential impacts that site development might have on the NHS Core Area (and its functions) overlapping the southwest corner of the Property, and
5. Potential impacts on species of conservation concern (SOCC) or legislated species at risk (SAR) or otherwise significant wildlife or significant wildlife habitat (SWH) that might be present on or near the Property.

Existing Conditions

The majority of the Alta Property is occupied by early succession cultural communities or cultural plantations. These communities are comprised of plant species which are provincially and regionally common. Numerous plant species found within the Cultural communities are non-native and typical of disturbed sites, and about 20% of the species observed to date can be considered *invasive*. The associated faunal communities also consist of common species from relatively secure populations. Overall, the terrestrial ecological functions supported within the core of the Property, where development is proposed, are neither significant nor sensitive, nor are they vital to overall ecosystem integrity on a local or regional scale.

About 30% of the Property is occupied by natural forest communities, almost the entirety of which has been designated as Significant Woodlands. These forest areas are mid-aged with modest structural development, and support moderately diverse assemblages of fauna that are common and typical of the region. These wildlife species are from secure populations and are not considered to be of conservation concern. One SOCC (Eastern-wood pewee) was encountered in association with the wooded areas on the east side of the Property. The forest on the face of the Nipissing Ridge also contains minor groundwater seeps, which can function as Significant Wildlife Habitat (SWH). Otherwise, the forest communities within the Property do not support species or functions which would be considered as sensitive or as conservation priorities.

There are three small watercourses that pass through or near the Property. The two drainage swales that traverse portions of the Property where development is proposed exhibit intermittent, event-based flow. These watercourses appear to be at least partly man-made and are lacking in natural characteristics. They serve minimal ecological functions and do not provide fish habitat. Watercourse #21 flows along the south side of the Property. This stream exhibits what appears to be permanent flow that subsides substantially during the summer period. It does not function as direct fish habitat but does function as habitat for amphibians and aquatic invertebrates.

Analysis of Impacts

In considering the scenario without accounting for any planning adjustments or mitigating measures, the analysis of potential impacts has concluded the following;

- Watercourses - the overall risk of the proposed development in regard to watercourses is deemed to be low.
- Priority Species - the risk of loss or disturbance of Priority Species (SAR or SOCC) is deemed to be low, and any potential impacts would not have significant implications in context of the local population of any species or in regard to the functional integrity of the local Natural Heritage System.
- Significant Wildlife Habitat - the overall risk of the proposed development in regard to SWH is deemed to be low.
- Significant Woodlands - the proposed development of the Alta Property is not expected to adversely affect the overall integrity and function of Significant Woodlands within and surrounding the Property.
- ANSI - the Blue Mountain Slopes ANSI (Life Science) effectively corresponds to the area of Significant Woodlands in the southwest corner of the Property. In absence of any expectation of adverse effects on the Significant Woodlands, no effects on the ANSI are anticipated.

Overall, the proposed development at the Alta Property meets policy requirements and there is no expectation of any negative impacts on the specific features of interest (ANSI, Significant Woodlands SAR, SWH, watercourses) or the NHS that they comprise.

Recommendations

Regardless of the relatively low level of risk, there should be efforts to further mitigate the risk of any impacts potentially associated with proposed development of the Property. Recommendations are provided herein to avoid, limit or otherwise mitigate the potential impacts that have been identified. The recommendations are summarized as follows:

- To minimize the potential for any effects of development on local watercourses, and possibly a non-significant wetland feature located down-

gradient of the Property, plans for grading and stormwater management should seek to maintain existing drainage patterns to the extent feasible.

- During any eventual construction or landscape alteration, an Erosion and Sediment Control (ESC) plan should be developed and implemented in accordance with established best practices.
- The Property should be developed so as to minimize the loss of any tree cover within the Property, with highest priority given to locations adjacent to the areas of Significant Woodlands.
- Removal of trees within the Property should be timed to avoid the active bird nesting period (i.e., from May to August).
- Various standard measures should be adopted to minimize disruption of groundwater recharge within the area of development.

In absence of identification of any meaningful risk of adverse effects, the measures identified above are offered for consideration under the precautionary principle.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

Acronyms and Abbreviations

ANSI	Area of Natural and Scientific Interest
BBS	Breeding Bird Survey
CCSS	Craigleith Camperdown Subwaterhsed Study
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
DBH	Diameter (of a tree) at breast height
DPS	Draft Plan of Subdivision
EIS	Environmental Impact Study
ELC	Ecological Land Classification
ESA	Endangered Species Act (Ontario)
ESC	Erosion and Sediment Control
GSCA	Grey Sauble Conservation Authority
ha	hectare(s)
masl	meters above sea level
MECP	Ministry of Environment Conservation and Parks
MNRF	Ministry of Natural Resources and Forestry
NEP	Niagara Escarpment Plan
NHS	Natural Heritage System
NHIC	Natural Heritage Information Centre
OBBA	Ontario Breeding Bird Atlas
OARA	Ontario Amphibian and Reptile Atlas
OP	Official Plan
SAR	Species at Risk
SARA	Species at Risk Act (Canada)
SOCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
SWM	Stormwater Management
TOBM	Town of the Blue Mountains
UTM	Universal Transverse Mercator

1.0 INTRODUCTION

1.1 Background

1.1.1 Property Description

This EIS has been prepared in regard to the property located at the current terminus of Alta Road in Craigleith, Ontario (see Figure 1). The property is legally known as Part of Lots 23 and 24, Concession 4 in the Town of the Blue Mountains (TOBM), part of Alta Road Registered Plan 1127. For the purposes of this report, this land is referred to hereafter as the "Alta Property", or simply the "Property".

The Alta Property has an area of approximately 30 hectares (ha). It is bordered by undeveloped land of the Niagara Escarpment on its western perimeter, single-family residential lots along Hidden Lake Road to the north, additional single-family residential lots (Alta Phase 1) along Alta Road to the south, and the undeveloped and forested land of Craigleith Provincial Park along the eastern boundary.

The entirety of the Alta Property lies within the Niagara Escarpment Plan (NEP) area, and is designated "Escarpment Recreation Area" under that plan. On the eastern and western perimeter of the Property, the immediately adjacent lands are designated under the NEP as "Escarpment Natural Area" or "Escarpment Protection Area".

The Town-of-the-Blue Mountains (TOBM) Official Plan (OP) and Grey County OP land-use designations for the majority of the portion of the Property where development is proposed are "Residential Recreational Area" and "Recreation Resort Area", respectively. About 9 ha in the southwest corner of the Property, outside of the area of development, are designated as "Escarpment Recreation Area" under the County OP. Under the TOBM, this same area as designated "Escarpment". The TOBM also designates about 3 ha in the northeast corner, on the slope of the Nipissing Ridge, as "Hazard".

In its present state, the Property is vacant. Until recently, it was occupied by a single residence and farm buildings, but the residence was demolished late in 2020. Aside from the relatively small footprint of the original buildings, the large majority of the Property has not been altered or developed since the cessation of agricultural land use in recent decades.

1.1.2 Environmental Constraints

The current understanding of potential environmental constraints of relevance to the Property is based in part on review of mapping of formal delineations available from several sources, including:

- the TOBM and County OPs and supporting on-line mapping resources,
- Natural Heritage mapping available from the Ministry of Natural Resources and Forestry (MNRF) or Land Information Ontario (LIO), and
- mapping available from the Grey Sauble Conservation Authority (GSCA).

Copies of relevant constraint maps are provided in Appendix A.

There are several features identified which could trigger the need for an Environmental Impact Study (EIS) and which should be considered as the basis for developing the EIS scope. These are;

- the presence of Significant Woodlands within the Property, as mapped by both the County and TOBM, primarily on the faces of the Niagara Escarpment in the southwest and the Nipissing Ridge in the northeast,
- the presence of the Blue Mountain Slopes Area of Natural and Scientific Interest (ANSI), effectively overlapping the area of Significant Woodland in the southwest corner of the Property,
- the presence of Natural Heritage System (NHS) "Core Area", as mapped by the County, which effectively corresponds with the ANSI and Significant Woodland Area in the southwest corner of the Property,
- the presence of Hazard land (as per TOBM OP) effectively overlapping the area of Significant Woodland in the northeast corner of the Property, and
- the presence of small watercourses within the northwest corner of the Property and immediately adjacent to the Property along its southern perimeter.

Any development proposed that extends within these features or is within their respective adjacent lands would be subject to the requirement for an EIS. In addition, an EIS could be requested in support of GSCA's permitting process in regard to Regulated Area that is associated with the noted watercourses and the slope of the Nipissing Ridge that corresponds with the TOBM Hazard area.

The are no Significant Wildlife Areas (SWA), as identified in current OPs or in LIO or MNRF mapping, within or in close proximity to the Alta Property. The Silver Creek Wetland Complex is the nearest Provincially Significant Wetland (PSW), approximately 4.5 km east of the Alta Property. There are no other significant wetlands in meaningful proximity to the Property. Based on available information, the Alta Property is not subject to constraints related to SWAs or wetlands (PSW or otherwise).

In regard to Significant Wildlife Habitat (SWH) or critical habitat for Species at Risk (SAR), comprehensive mapping of these features has not been compiled, but their presence is a possibility to consider at any site at the outset of an EIS.

1.1.3 Development Proposal

The Property is currently owned by Tabera Ltd., developers of Phase 1 of the Alta residential subdivision that occupies the upper end of Alta Road to the immediate south of the Property in question. A draft plan of subdivision (DPS) has been developed for the Property which will constitute Phase 2 of the Alta residential development. A copy of the DPS is provided as Appendix B of this report.

The DPS calls for a total of 60 residential lots distributed along an extension of Alta Road and two adjoining crescent roads. The proposed residences will be developed using full municipal infrastructure including municipal water, sanitary and storm sewers. The development will have an on-site Storm Water Management (SWM) facility. The total area of development is about 15.1 ha, including the lots, roadways and the block dedicated for SWM services.

1.1.4 EIS Rationale and Objectives

The residential development, as proposed, will occur in the relatively level plateau in the core of the Property between the base of the Niagara Escarpment and the top of the Nispissing Ridge. The vast majority of developed area will be outside of the various natural features identified above, but will be within the adjacent lands (*i.e.*, within 120 m) of the ANSI, Significant Woodlands, and NHS Core Area. There will also be minor incursion into wooded areas that are mapped as Significant Woodland and/or Hazard land.

This EIS has been undertaken with the overall objective of determining that the proposed development can occur without adverse impacts on the natural heritage features (Significant Woodlands, ANSI, NHS Core Area). The findings and recommendations of this EIS are provided as a basis for modifications to development plans if such modifications are warranted to mitigate potential adverse effects on natural heritage features.

1.2 Scope of Work

The scope and content of this EIS are site-specific and have been developed so that concerns regarding the environment and natural heritage features are addressed to the satisfaction of approval authorities and other concerned agencies.

The scope and content of the Alta Phase 2 EIS were developed to be consistent with the general requirements specified in Section 7.11 of the Grey County OP (2019) and Section C9 of the TOBM OP (2016). The EIS has been undertaken as a full-scope study, as typically required for development of the scale proposed for the Alta Property.

For this EIS, the core environmental issues of potential concern associated with the Alta Property include;

- Potential impacts that site development might have on watercourses which flow within or near to the Property,
- Potential impacts that site development might have on Significant Woodlands within and adjacent to the Property, and their various functions,
- Potential impacts that site development might have on the Blue Mountains Slopes ANSI (and its functions) located in the southwest corner of the Property,
- Potential impacts that site development might have on the NHS Core Area (and its functions) located in the southwest corner of the Property, and
- Potential impacts on species of conservation concern (SOCC) or legislated species at risk (SAR) or otherwise significant wildlife or wildlife habitat that might be present on or near the Property.

The EIS addresses, at a minimum, the potential impacts of any eventual site alteration or development on these features and functions. The coverage and level of detail of on-site surveillance that has been undertaken are intended to allow adequate description of the general natural environment, and also allow focused assessment of potential effects on the specific site features and functions of concern.

The characterization of the Alta Property and relevant features is based primarily on direct field-level surveillance. To effectively address the identified EIS requirements, this field surveillance has included:

- Direct examination of slope/topography, conveyance features (ditches, swales, streams), and overburden characteristics within and adjacent to the Property, to understand hydrological processes and connectivity between the Property and associated aquatic features.
- Detailed inventories of terrestrial biota with a focus on identification of SAR, SOCC or SWH that may be present. This includes;
    - a botanical survey, conducted over three seasons following a wandering transect approach, and
    - a breeding bird survey (BBS), following the standard point-count approach of the Ontario Breeding Bird Atlas (OBBA) and also a wandering transect approach.
- In addition to the focused wildlife monitoring noted above, incidental surveillance of fauna (amphibians, reptiles, mammals) throughout the entire Property.
- Direct assessment of wooded areas within and near the Property, including community composition, forest strata characteristics (e.g. species, age/size class, relative density), soil characteristics, and wildlife presence and utilization.

The information acquired through the site-specific surveillance has been combined with existing information from other sources to complete the required site characterization. Further details of ecological monitoring methods are provided in Section 2.

2.0 METHODOLOGY

The work undertaken to allow the preparation of this EIS Report has included two main components;

1. a desktop review of previously recorded information regarding the characteristics of the Property and adjacent lands, and
2. focused on-site monitoring of the Property.

The assessment herein collectively considers the findings of the desktop review and the on-site monitoring in a weight-of-evidence manner, with primary emphasis on site-specific data.

The following sections describe the methods employed in conducting the various components of environmental monitoring for the purposes of this EIS. In summary, the methodology adopted for the monitoring documented herein was developed to provide results appropriate to the stated objectives, and is based on standard accepted protocol where such protocol have been established.

A handheld GPS unit (Garmin model "GPSmap 76") was used to delineate key features, to measure areas of features, and to provide the geographic coordinates of monitoring locations or key natural heritage features of relevance. All coordinates have been obtained and reported using the Universal Transverse Mercator (UTM) coordinate system and NAD83 datum.

2.1 Review of Existing Information

A review of existing information of relevance to the Alta Property was completed prior to completion of direct field assessment. Several sources of information were consulted for this purpose, including:

- Grey County's web-based interactive GIS mapping tool,
- the Natural Heritage Information Centre (NHIC) on-line database,
- on-line natural feature mapping available from Land Information Ontario (LIO),
- the Ontario Breeding Bird Atlas (OBBA) (Cadman et al, 2007) and associated database (Bird Studies Canada (BSC) *et al*., 2021),
- the Soil Survey of Grey County (Richards and Gillespie, 1954),
- the Grey County Natural Heritage System Study (NRSI, 2017),
- the Craigleith Camperdown Subwatershed Study (CCSS) (Gore and Storrie, 1993),

- the Ontario Amphibian and Reptile Atlas (OARA) on-line database, and
- several EIS reports for other properties within ~ 5 km of the Alta Property

The information obtained in this review has served in part to determine certain ecological characteristics of the Property, and also in part to identify possible features to receive focus during the on-site monitoring efforts.

Information from several of the sources noted above was also used to complete initial screening in regard to the possible presence of Species at Risk (SAR). The available information of relevance has ultimately been combined with results of direct surveillance of the Property to assess SAR presence (see Section 4.9).

2.2 On-Site Monitoring

On-site monitoring was undertaken to provide a sufficient understanding of all relevant characteristics of the Property. Elements of the monitoring program were focused on the priority endpoints, including the two streams and the possible presence of species of conservation concern (SOCC) or legislated species at risk (SAR) in the general vicinity of the Property.

The on-site surveillance reported herein was conducted during seven separate visits to the Property over the period of late April to September of 2021. The timing of site visits was intended to allow for appropriate seasonal coverage for the various specific monitoring efforts.

2.2.1 Avian Monitoring

A focused survey of birds was completed at the Alta Property during the breeding season of 2021. The Breeding Bird Survey (BBS) used a combination of two methods; 1) the point-count method, and 2) incidental surveillance. The BBS gave focused attention to any indications of the possible presence of SOCC or SAR.

The point-count method was implemented following protocol consistent with that employed for the Ontario Breeding Bird Atlas (OBBA) (Cadman et al., 2007) and the Marsh Monitoring Program (BSC, 2003). A total of three point-count stations were established at the Alta Property for BBS purposes. Following OBBA protocol, the preferred station separation distance is 250 m for wooded areas, and 500 m for open habitats. Under this convention, only two BBS station would be established within the Property. For the purpose of this EIS, three stations were established within the Property with less than standard separation of the centre points. This spacing was selected to provide full coverage of the area of proposed development and the different habitat types in that area. With this spacing, there is potential for overlap in the results of adjacent point-count stations. The implications of this potential overlap are taken into consideration in the interpretation of the results of the BBS (see Section 4.4).

The location of BBS point-count stations is depicted in Figure 3, and GPS coordinates and station descriptions are provided in Table 3. The habitat representation of the three established stations was reflective of the major habitat types encountered within the portion of the Property where development is proposed.

Point-count monitoring was conducted between sunrise and 10:00 a.m.. At each station, each individual bird heard or seen within a 100 meter radius (3.142 ha) of a fixed location was recorded over two successive five-minute periods (10 continuous minutes per survey episode). The distance from the observation point was approximated for each individual bird occurrence. Breeding evidence for each bird species was documented using OBBA Evidence Codes.

Incidental surveillance was also conducted throughout the Property, noting all individual bird occurrences and breeding evidence while traversing the Property throughout day and evening hours. Incidental surveillance was used to augment the temporal and spatial coverage of point-count monitoring and to provide a more complete assessment of avian diversity within and adjacent to the Property. The habitat and location of each bird observed during transect surveys was noted, along with notes regarding activity (foraging, in flight, singing, etc.). Incidental surveillance was completed on all days during which the Property was visited.

2.2.2 Surveillance of Other Fauna

During all site visits, all observations of amphibians, reptiles and mammals on or near the Alta Property were recorded, along with all other evidence of faunal presence (e.g. foot prints, scat, skin sheds, and burrows).

Standard focused monitoring of amphibian breeding vocalizations was NOT included in the scope of this EIS owing to an absence of any surface water bodies which could function as amphibian breeding habitat. Any vocalizations heard during incidental surveillance were still recorded.

Watercourse #21 was subject to direct visual surveillance along part of its length near the crossing of Alta Road. The surveillance was conducted to determine if any aquatic or semi-aquatic fauna (amphibians, fish, invertebrates) were present.

2.2.3 Botanical Inventory

Surveillance of terrestrial vascular plant species was completed following a basic "wandering transect" approach to determine the presence and general distribution of plant species within the Alta Property. The vascular plant inventory was conducted to provide coverage of each of the distinct ecological communities delineated within the Property (see Section 2.2.4 and Figure 4). Focused attention was given to the possible presence of

any plant SAR or SOCC that have been identified as possibly present within or near the Property (see Section 4.9).

2.2.4 Ecological Land Classification

The Alta Property has been assessed following the Ecological Land Classification (ELC) methodology described by Lee *et al*. (1998). This approach generates classification and mapping of ecological communities down to a size of approximately 0.5 hectares or less, and allows much more detailed classification of communities than broad scale Landsat imagery. ELC of the Property was completed through the following general task sequence:

- Initial site reconnaissance to ascertain major community types, topography, and soil characteristics (completed in April 2021)
- Subsequent delineation of community distribution using satellite imagery and aerial photos for a first approximation of ELC.
- Further detailed site monitoring to refine initial ELC approximation. Each distinct community was examined to determine soil characteristics and to determine the major woody and non-woody plant species present.

To facilitate characterizations of soil conditions (texture, moisture regimes) vertical soil profiles were completed in multiple locations within each distinct ecological unit. Soil profiles were completed to a depth of approximately 1 m below ground surface (bgs) using a hand-auger.

The detailed site monitoring included examination of physiographic attributes such as topography/slope, surface soil profiles, and the possible presence of elevated water table. Within each identified unit, the following information regarding vegetation cover was recorded:

- Relative species composition and percent cover of trees and shrubs, where present
- Caliper and height range of trees in wooded units, and
- General under-storey characteristics and non-woody species composition.

Through other specific monitoring efforts, the habitat function of each unit was also assessed and recorded.

2.2.5 Aquatic Features

The on-site surveillance of the Alta Property included direct examination of all identified aquatic features on or near the Property. To generate an understanding of hydrological

characteristics, this includes the identified watercourses within or near the Property along with other unmapped drainage characteristics or features (see Section 3.3 and Figure 3).

Examination included the visual assessment of several standard habitat variables (substrate type, in-stream and riparian cover, channel morphology, flow characteristics), and the presence of aquatic biota (macrophytes, invertebrates, fish, amphibians).

For the purposes of this EIS, the hydrology of the site has been examined with particular attention paid to the hydrological connectivity between proposed development areas within the Property and Watercourse #21.

3.0 PHYSICAL CHARACTERISTICS

3.1 Topography

The Alta Property is located about 500 m inland from the shoreline of Georgian Bay. It partly envelopes the brow of the Niagara Escarpment on its west side, and also the Nipissing Ridge in its northeast corner. The presence of these two prominent features gives rise to substantial topographic relief within the Property's boundaries. Elevation ranges from a low of 190 meters above sea level (masl) at the base of the Nipissing Ridge to a maximum of 390 at the top of the Escarpment. Slopes associated with these two prominent features are steep, in the range of 30 to 50 percent. Between the Escarpment and the Nipissing Ridge, the core of the Property is gently and irregularly sloped, with elevation ranging between 215 and 230 masl. The core plateau exhibits an approximately southwest-to-northeast slope with an overall average gradient in order of 5%.

There is also a modest valley just outside the southern perimeter of the Property. This is the valley associated with the small watercourse (*i.e.*, Watercourse 21) that flows from west to east. The valley exhibits variable depth, generally increasing along the direction of flow and exceeding 5 m at the eastern perimeter of the Property.

3.2 Soils and Geology

Overburden throughout the Property consists of well-sorted outwash materials developed on calcareous bedrock. According to the Grey County soil survey (Gillespie and Richards, 1954), there are three distinct soil types encountered within the Property, largely corresponding with distinct topographic zones. The soil type encountered in the relatively flat core of the Property is Kemble Silt Clay, which is a fine-textured soil with imperfect drainage. Soils encountered along the face of the Nipissing Ridge in the northeast corner of the Property are Waterloo Sandy Loam. This soil is characterized by good, rapid drainage and low fertility. The face of the Niagara Escarpment on the western edge of the Property is Dunedin Clay, a fine textured soil derived from red shale with good drainage owing largely to slope. Direct examination of soils within the Property as part of this EIS has confirmed the general presence of the noted mineral soil profiles throughout the Property.

A recent geotechnical investigation of the Property (GEI, 2021) has determined that surface soil is underlain by deposits of silt-clay materials to depths of 2.3 to 4.6 meters below grade. The underlying bedrock was determined to be representative of two formations; 1) the Georgian Bay Formation shale, and 2) and Queenston Formation shale.

3.3 Hydrology

Hydrological characteristics of the Alta Property have been determined on the basis of direct visual surveillance and also in consideration of information obtained from

previously completed studies (e.g., Gore and Storrie, 1993). The various features that have been identified for discussion are depicted in Figure 3.

The general hydraulic gradient within the Property is approximately southwest to northeast, more or less perpendicular to the Escarpment and the Nipissing Ridge and generally toward Georgian Bay.

There are two mapped watercourses that flow within or immediately adjacent to the Alta Property. The larger of the two watercourses flows just along the southern perimeter of the Property, initially along a roughly west-east gradient. This watercourse was previously identified as "Watercourse 21" in the CCSS (Gore and Storrie, 1993). This same naming scheme is applied in this EIS. Watercourse 21 eventually meanders northward, crossing the Georgian Trail and Highway 26 by culvert before reaching its discharge point along the shore of Georgian Bay.

An unnamed watercourse is mapped by GSCA, originating at the base of the escarpment and flowing across the northwest part of the Property. This intermittent drainage feature flows northward and is eventually conveyed by culvert to the north side of Hidden Lake Road.

There is a larger unmapped drainage channel that also originates at the base of the escarpment and conveys intermittent drainage to the north edge of the Property. This channel passes under the Property's access lane and then descends down the Nipissing Ridge to a ditch on the south side of Hidden Lake Road. The ditch flows only a short distance before entering a culvert that conveys flow to the north side of the road. The flow of this drainage feature has created a substantial scour on the face of the ridge. During the period of study, localized saturation was observed within this drainage feature in the early spring, but actual flow was never evident within the confines of the Property.

To the west of this drainage swale, there is another prominent scour on the Nipissing Ridge that appears to have been created by local seasonal runoff. There is no obvious channel above the ridge leading to this scour, and no meaningful flow was observed in this scour during the period of study. There are a few other much smaller scours originating on the brow of the ridge within the Property, also without a discernable path of flow emanating from the area above the ridge. In addition, there are a few minor groundwater seepage zones well below the crest of the ridge. These seepage features are very small in size, and very low volumes of discharge were observed only during the early spring. Seepage discharge was effectively absent during the summer period.

During soil profiling conducted in 2021 for the purpose of this EIS, the water table was not observed within the depth of coring (i.e., within ~1 m bgs) within the core of the Property. The recent geotechnical investigation of the Property reports water table elevations generally in the range of 1 to 3 mbgs in the portion of the Property where development is proposed.

Overall, the Property is characterized as having generally well-drained overburden, which is reflected in the nature of plant communities throughout the Property.

There are two small (< 5 ha) wetland features in relatively close proximity to the Property, as mapped in the County's Natural Heritage Study (NRSI, 2017). One of the wetland features is within the bounds of Craigleith Provincial Park, about 100 m outside the Property boundary at the closest point. Hydrological connectivity between the Property and this wetland is effectively precluded by the intervening presence of Watercourse 21 and its valley.

The other mapped local wetland feature lies about 200 m to the north of the Property. GSCA mapping identifies this as a "Wet Area" and indicates hydrological connectivity with the Property via the intermittent watercourse located in the northwest corner. Site surveillance indicates that the unmapped drainage swale through the centre of the Property also likely facilitates intermittent hydrological connectivity between the Property and this wet area.

4.0 ECOLOGICAL CHARACTERISTICS

The following sections describe the ecological characteristics of the Alta Property. A description of the regional ecology is provided for context. Results of on-site monitoring are summarized in Tables 1 to 6.

4.1 Regional and Local Ecology

The Alta Property is situated within the Mixedwood Plains *Ecozone*, and more specifically it is within the Manitoulin – Lake Simcoe *Ecoregion*, equivalent to Site Region 6E under Provincial classification. This Ecoregion is characterized by warm summers, mild winters, and relatively abundant precipitation (700 to 1000 mm/a) that is evenly distributed throughout the year. The dominant land cover is cropped land with significant areas of mixed forest. Climax vegetation is characterized by mixed hardwoods, including Sugar Maple, American Beech, Eastern Hemlock, Red Oak, and Basswood. Pioneer species include White Pine, Paper Birch, and Trembling Aspen. Yellow Birch, White and Slippery Elm, Red Maple, Black Ash and White Cedar are typical forest cover species in depressions and moist areas. Wetlands account for only about 3.5% of the total land area within this Ecoregion.

On a more local scale, the general characteristics of natural cover within 5-10 km of the Property are largely shaped by topographic influences and also land management. The faces of both the Niagara Escarpment and the Nipissing Ridge are generally excluded from development and remain forested, creating a substantial overall forest presence in the area. The plateau immediately above the Escarpment to the west is also well-forested, and the presence of Craigleith Provincial Park on the east side of the Property further expands the overall forest footprint. The presence of several major ski facilities in the area results in some fragmentation of the forest cover associated with the Escarpment. The majority of forest cover in the area is deciduous, with significant conifer presence mainly in the from of either cultural plantations or Eastern White Cedar stands on the face of the escarpment. Sugar Maple is a dominant component of the local forest canopy. The presence of substantial slopes generally facilitates drainage, and wetland presence in the area is relatively limited, confined primarily to lands between the Nipissing Ridge and the Georgian Bay shoreline. A limited portion of the area surrounding the Alta Property is regenerating from past clearing and is currently occupied by relatively young stands of mainly early succession species (Ash, Aspen).

4.2 Ecological Communities

The delineation of ecological communities completed for the Alta Property is intended to identify vegetation communities at a scale that has meaning and relevance to the overall objectives of the EIS.

Following the ELC system of Lee *et al.* (1998), a total of nine upland community types have been delineated within the Alta Property. Wetland community types are absent from the Property and immediately adjacent lands. Figure 4 depicts the distribution of the ELC communities within the Property. Each community type and its ecological functions are briefly described in the following sections, with a summary of main attributes provided in Table 1.

4.2.1 Cultural Communities

The ecological communities currently encountered within the Property reflect the fact that much of the Property has been subject to substantial anthropogenic alteration in past decades. The area in which development is planned has been subject to past clearing, presumably for agricultural purposes, and is in various stages of relatively early regeneration. For the purpose of this EIS, this area of past clearance and subsequent regeneration is considered as a Cultural Community under the ELC system. Further discrimination of community type is based on the extent to which woody vegetation has become established.

Within the Property, the current extent of woody cover is variable, with the general trend of a greater presence of woody cover toward the outer margins of the area of proposed development. Immediately adjacent to remaining intact forested areas, there is a relatively high presence of woody cover, exhibiting a relatively high tree:shrub ratio and with tree specimens being relatively large compared to areas closer to the centre of the Property. At the outer margins, the current level of tree cover is generally enough to warrant a designation as Cultural Savannah (i.e., tree cover between 25% and 35%) or Cultural Woodland (i.e., tree cover >35%). Moving toward the centre of the Property, total woody cover decreases and the tree:shrub ratio declines. There is a notable zone of this general nature that fits the criteria for ELC designation as a Cultural Thicket (CUT) community (tree cover <25%, shrub cover >25%). In the central core, woody cover declines to a point where the appropriate ELC designation is Cultural Meadow (CUM) (i.e., woody cover < 25%). The ELC delineations herein (see Figure 4) are best approximations of zones that reflect the noted gradation of woody cover.

Each of the cultural communities discussed herein is in a state of transition, where woody cover will eventually supplant herbaceous cover, and trees will supplant shrubs. This transitional state is evident in the examination of historical air photos and also in considering past ELC assessment of the Property. In an EIS of the Property completed almost 20 years ago (Ages, 2003), the large majority of the central plateau was characterized as CUM, and outer margins adjacent to existing forests were described as CUT. This observable succession and the anticipation of continued community shifts should be a consideration in any analysis of the ecological function of the Property.

<u>Cultural Meadow (CUM1)</u>

In the core of the Property, woody vegetation is effectively absent and the herbaceous cover constitutes a mineral Cultural Meadow (CUM1) community under the ELC system.

This community accounts for just under 4 ha, or about 12% of the Property in total. Vegetation is dominated by a mix of graminoid plants (e.g. Orchard Grass, Fescue, Smooth Brome), and a variety of common forbs (e.g. Asters and Goldenrod species, Vetches, etc.). The plant community includes many species typical of open disturbed areas, and includes numerous non-native species, some of which are considered invasive (e.g. Knapweeds, Birdfoot Trefoil). A few specimens of non-native tree species (Scots Pine, Norway Spruce) have recently established on the outer perimeter of this meadow area, and there are also common shrubs (e.g. Red-osier Dogwood) present at the interface of the meadow and surrounding thicket or woodland communities.

The ecological function of the Cultural Meadow community appears to be limited primarily to supporting a modest abundance and diversity of common and unspecialized wildlife. The area of meadow is too small to function as meaningful habitat for any grassland-specialist species of bird or mammal. The results of direct wildlife surveillance support this characterization. There are no plant species which are considered to be of conservation concern in the meadow habitat.

Cultural Thicket Community (CUT)

To the immediate northwest and southeast of the CUM area, there are two patches of CUT community that total about 6.4 ha.. The degree of woody cover and the species composition of the CUT community is variable. The presence of trees and shrubs is highest on the outer margins, particularly in the northwest portion of the Property. The overall average woody cover is estimated as about 30-40%, generally dominated by shrub species. Red-osier Dogwood is relatively abundant and widely encountered throughout the CUT community. White Ash, White Elm and a variety of Hawthorns are also variably but regularly present and relatively abundant. The tree species (Elm, Ash) are relatively small, with most specimens measuring 10 cm diameter at breast height (DBH) or less. Ground cover is dense and generally consistent with the ground cover encountered in the CUM community.

Cultural Savannah/Woodland Community (CUS/CUW)

Immediately at the base of the Escarpment slope, the woody cover is comprised of a mix of early succession deciduous species, including White Ash, White Elm, and Trembling Aspen. Scattered Basswood are also present as a secondary species. The trees in this area are relatively young and even aged, forming an incomplete canopy with minimal structural layering. There are some specimens of faster growing trees (primarily Aspen) that are in the range of 20-30 cm DBH, but the large majority of trees are <15 cm DBH. The area is also characterized by a relatively dense presence of shrubs, including a relative abundance of non-native European Buckthorn. This community exhibits compositional characteristics that are generally consistent with the dry-fresh White Ash deciduous forest community (FOD4-2) under the ELC system. For current purposes, the tree:shrub ratio in this area and certain other characteristics (even age, lack of forest structure) are taken into account, and this community is described as variable mix of

Cultural Savannah (CUS) and Cultural Woodland (CUW). This community is in the process transition to the FOD4-2 community type.

Deciduous Cultural Plantation (CUP1)

Bordering the eastern perimeter of the Property, above the Nipissing Ridge, there is an old domestic Apple orchard measuring approximately 1.6 ha. The apple trees are relatively large (mostly >40 cm DBH) and old (~50 yrs, based on growth ring counts of cut stumps). The trees are well-spaced and interspersed with very dense herbaceous ground cover throughout, with a minor presence of other woody plant species (Red-Osier Dogwood, shrub roses). The general composition of the ground cover is similar to that encountered in the CUM and CUT communities..

The spacing of Apple trees is such that total cover is estimated as 50% or less, which is less than the criterion for "woodland" designation (i.e., >60%). For the purposes of this EIS, the designation of Cultural Plantation is applied and is judged to be appropriate in terms of origin and function of this community.

Coniferous Cultural Plantation (CUP3-2)

On the west side of the Property, at the base of the Escarpment, there is an even-aged and evenly-spaced stand of White Pine, mostly in the range of 10 to 15 cm DBH. Based on counts of branch rings, these trees are estimated to be approximately 25 years old. Partly due to the relatively young age, the has not been much secondary establishment of other trees within the plantation. Young White Ash are present in variable density as a secondary species, but overall the canopy is devoid of trees other than White Pine. There is a relatively well established shrub layer in parts of the plantation, including primarily Hawthorns, clusters of Red-osier Dogwood, and White Ash Saplings. Under the ELC system, this is categorized as a White Pine Cultural Plantation (CUP3-2) community.

4.2.2 Forest Communities

Only about 32% of the Alta Property is currently occupied by tree cover to the extent that the ELC designation of "forest" is warranted. There are three distinct forest community types that have been delineated within the Property (see Figure 4). Table 1 provides a summary of key characteristics of these forest types.

Dry-Fresh Oak - Red Maple Deciduous Forest (FOD2-2)

The land immediately adjacent to the eastern perimeter of the Property, part of the Craigleith Provincial Park, is occupied by deciduous forest cover, which extends slightly into the Property. The forest stand exhibits a limited age distribution, with an absence of late maturity tree specimens. There is a largely closed canopy and modest structural layering. The canopy composition is variable, but in proximity to the Property it is generally dominated by Red Oak, with Trembling Aspen and Basswood also present as secondary canopy species. White Birch, White Ash and Maples (Red and Sugar) are also

present, mainly as sub-canopy constituents. Canopy specimens are mostly 30 cm DBH or less, with scattered Oaks up to 45 cm DBH. The size of Oaks increases slightly and the overall presence of Maples and other hardwoods increases moving north toward the Nipissing Ridge. Ironwood is found in the subcanopy closer to the Nipissing Ridge. The shrub layer is thin and includes species common to deciduous forests of the region (e.g. Choke Cherry, Alternate-leaved Dogwood) along with saplings of various tree species (primarily Ashes and Maples). Ground cover is variable but relatively sparse overall (est. ~30%), consisting of common deciduous forest species (e.g. Herb Robert, Trout Lily) and also species indicative of disturbance (e.g. Garlic Mustard, Wild Carrot).

In terms of ecological function, this forest appears to support a moderate diversity of birds, including several species with forest habitat preferences, but no *interior* forest species (see Table 4). Regionally common mammals are also present, but there is no indication of significant habitat function for fauna of any type. The only habitat function of note is associated with observations of Eastern Wood-pewee in or near this forest type near the Property. The Eastern Wood-pewee is an SOCC, and this forest type could be considered as candidate Significant Wildlife Habitat (SWH) (see further discussion in Section 4.10).

Dry Fresh Sugar Maple- Poplar Deciduous Forest (FOD5-10)

Cresting the brow of the Nipissing Ridge to the northeast, the presence of Red Oak declines and Sugar Maple becomes the dominant canopy species. Red Oak, Trembling Aspen, White Ash and White Birch are all secondary canopy components, with variable distribution and abundance depending on the vertical and lateral position on the slope. Basswood and a few American Beech are also minor elements of the canopy, more so near the top of the slope. The tree cover in the ridge face is slightly more mature and structured than the woodlands on the plateau above the ridge. There is a reasonably well-developed shrub layer consisting of species typically encountered in relatively mature deciduous forest in the region (e.g. Alternate-leaved Dogwood, Choke Cherry). Owing to the presence of a relatively mature and closed canopy, ground cover is somewhat sparse (est. <30%) and comprised of species typically encountered in hardwood forests (wood ferns, Trout Lily, Herb Robert, patches of Wild Leek).

Similar to forest community above the Nipissing Ridge, the forest cover on the ridge face appears to support a moderate diversity of regionally common fauna. Isolated occurrences of Eastern Wood-pewee were recorded in this forest type within the Property. The Eastern Wood-pewee is an SOCC, and this forest type could be considered as candidate Significant Wildlife Habitat (SWH) (see further discussion in Section 4.9). In addition, There are small areas of groundwater seepage encountered in this community on the mid to lower face of the Nipissing Ridge, where patches of hydrophilic plant species are found. The presence of seeps and springs warrants consideration of this forest type as candidate SWH (see further discussion in Section 4.10).

Dry-fresh White Cedar - Poplar Mixed Forest (FOM4-2)

Up-slope of the white-pine plantation area, the escarpment slope face is occupied by a relatively dense stand of Eastern White Cedar. There is variable secondary presence of Trembling Aspen, and also White Ash to a lesser extent. This forest patch exhibits minimal structural layering and a relative absence of shrubs and ground cover. Toward the upper slope, there are areas that could be classed as Dry-Fresh White Cedar Coniferous Forest (FOC2-2). For the purpose of this EIS, the forest cover that occupies most of the escarpment face within the Property is referred to as Dry-fresh White Cedar - Poplar Mixed Forest (FOM4-2) community.

In terms of ecological function, the available information suggests that the White Cedar - Poplar forest community supports a modest abundance and diversity of relatively common fauna species from provincially and regionally secure populations. There is no current evidence of the presence of SAR, SOCC or SWH function associated with this forest type within the Property.

4.3 Vascular Plants

The detailed plant species list for the Alta Property is provided in Table 2. This list reflects three-season monitoring through the period of April to September 2021.

A total of 163 vascular plant species have been identified within the Property. Of those that are native to Ontario, all are ranked as "Secure" (S5) or "Apparently Secure" (S4) in the Province. None of the plant species observed within the Alta Property have been subject to assessment by either COSEWIC or COSSARO as possible Species at Risk (SAR).

The terrestrial plants found within the Alta Property consist of a mix of native and non-native species, many of which are typical of Cultural communities that have been subject to anthropogenic disturbance. Almost 45% of the plant species identified within the Property are non-native. At least 31 (19%) of the vascular plant species identified at the Alta Property are considered by various sources to be invasive in Ontario.

Outside of the small areas of deciduous forest on the eastern perimeter of the Property, there are only a few tree species that exhibit meaningful abundance and/or distribution within the Property. This includes primarily White Ash, White Elm and Trembling Aspen, which are early-succession species. Scattered specimens of several non-native tree and shrub species (e.g. Scots Pine, Norway Spruce, Common Lilac, non-native Honeysuckle, and European Buckthorn) are present. Regional climax tree species (Beech, Sugar Maple, Ironwood) and typical herbaceous associates (e.g. Wood Ferns, Trilliums, Trout Lily) are only encountered in deciduous forest patches on the eastern perimeter of the Property.

Only about 15% of the vascular plant species encountered within the Property are species which grow primarily in wet conditions (i.e., coefficient of wetness is -3 or lower). These plants are quite limited in abundance and distribution, associated primarily with Watercourse 21 on the southern perimeter of the Property and small seepage areas on the lower part of the forested slope of the Nipissing Ridge. Red-osier Dogwood and White Elm are the only hydrophilic species which are more widely distributed within the Property, reflective of their relatively common association with early succession sites regardless of moisture regimes. Otherwise, the general lack of hydrophytes in most areas reflects the relatively well-drained nature of the Property.

Only six of the plant species recorded within the Property have a coefficient of conservatism of 7 or higher. Five of these six species were found exclusively within the remnant deciduous forest communities (FOD2-2, FOD5-10) located outside of the core of the Property. The implications are that the Property is largely occupied by plant species that are not typical of long-standing communities, as expected for the cultural communities that dominate the Property. Even within the remnant forests, most species are not indicative of communities that are long-standing or reflective of late stages of succession.

4.4 Birds and Bird Habitat

A breeding bird survey (BBS) has been completed at the Alta Property, based on point-count census and wandering surveillance. These monitoring efforts provide a reasonably reliable indication of the status of the Property in terms of avian presence and the provision of habitat for breeding and non-breeding purposes (e.g. foraging, migratory staging or stop-over). The basic characteristics of the BBS point-count stations are summarized in Table 3, and station locations within the Property are depicted in Figure 2. A full list of all bird species observed at the Property throughout the full monitoring period is provided in Table 4. The detailed results of point-count monitoring are provided in Appendix C.

The Alta Property lies within Ontario Breeding Bird Atlas (OBBA) square 17NK53. Data have been obtained for this square and considered as regional context for the Property (see Appendix C). The local breeding status determined through the OBBA is included as context in Table 4. The OBBA surveillance of square 17NK53 has identified 92 species of bird with some evidence of breeding within the 10-km^2 area of this square. Of these species, 11 have been subject to assessment by COSEWIC and/or COSSARO. As of the date of this report, four of the 11 have been deemed to be *Not at Risk*. The seven species on record for the area in question that are currently identified as either *Endangered*, *Threatened* or *Special Concern* are summarized in Table 5. The OBBA data indicate most of these species are either “possible’ or “probable” breeders in square 17NK53, with the Barn Swallow being the only "confirmed" breeder during the last atlas period (2001-2005). The Barn Swallow and Eastern Wood-pewee were the only species that were observed during the surveillance of the Property and adjacent lands in 2021.

The observed occurrence of both species was limited, and both are considered to be "possible" breeders within the Property.

In total, 54 species of bird have been observed within or in immediate proximity to the Property over the period of study. Forty-two of these species have some level of reported breeding evidence for the relevant OBBA square. Only nine species were confirmed as breeding within the Property boundary, and another 15 species were indicated as "probable" breeders. The Property was surveyed for the presence of stick nests in early spring prior to the emergence of deciduous foliage, and no stick nests were observed. A few species (Ruby-crowned Kinglet, Black Throated Green Warbler, and Magnolia Warbler) were only observed in the spring and not during the breeding season. These are considered to be migrants with low likelihood of breeding presence within the Property. Other species occurrences without breeding evidence included high fly-overs of species that are not likely to nest within the Property (e.g. Double-crested Cormorant, Ring-billed Gull).

The Provincial ranking of 37 of the species observed at the Property is "secure" (S5), and the remaining 17 species are ranked as "apparently secure" (S4). Only two of the species observed (the Barn Swallow and Eastern Wood-pewee) are considered to be "Priority Species" (see further discussion in Section 4.9).

In summary, the bird community encountered at the Alta Property is characterized by relative abundance and diversity, representing a mixture of habitat preferences. About half of the species encountered are considered as generalists or early succession species, and a bit more than one-third are considered forest species. The forest species occurrences were mainly in association with the woodland cover at the east and west ends of the Property. None of the forest species observed are considered to be forest *interior* species. Only four of the species observed at the Alta Property are considered to be grassland or open habitat specialists.

4.5 Amphibians

During general surveillance of the Alta Property and adjacent lands, the presence of three amphibian species was evidenced, as summarized in Table 6. Low level breeding vocalizations of two of the noted amphibian species were heard in isolated instances within or near the Property, and not in obvious association within water features that could serve as breeding habitat. Small ephemeral pockets of standing water within the Property were subject to direct visual surveillance in the spring and early summer and no amphibian egg masses or larvae were observed.

The populations of the noted species in Ontario are considered "secure" (S Rank = S5) or "apparently secure" (S4), and these species are not considered to be species of conservation concern. The Western Chorus Frog has been designated by COSEWIC as "Threatened", but is currently considered by COSSARO to be "Not at Risk". The Chorus Frog is discussed further as a potential Priority Species in Section 4.9.

Overall, there are only a few amphibian species present in relatively low abundance within the Property, and there is no evidence of meaningful amphibian reproduction occurring within or near the Property. Amphibian breeding is likely precluded by the fact that only very small pockets of standing water occur within the Property, and these have been observed to dry out by early or mid summer.

4.6 Reptiles

During monitoring of the Alta Property, only one reptile species was detected within or adjacent to the Property. A single specimen of Eastern Gartersnake (*Thamnophis sirtalis sirtalis*) was observed in the central Cultural Meadow area. The nature of the Property is such that this species might be present in various locations from time to time. Data from the Ontario Amphibian and Reptile Atlas (OARA - see Table 7) indicate that the only other snake species on record for the area surrounding the Property is the Eastern Milksnake (*Lampropeltis triangulum*). This species was not observed during on-site surveillance. The Milksnake is recognized herein as a *Priority Species,* and the possible presence of this species is discussed further in Section 4.9.

In absence of permanent standing water within or near the Property, the likelihood of presence of any species of turtles is considered to be very low. No turtles were observed during surveillance.

4.7 Mammals

Ecological monitoring of the Alta Property has revealed direct evidence of the presence of only three mammal species, as follows:

- White-tailed Deer (*Odocoileus virginianus*) - tracks and droppings in various locations within the property, adult specimens observed in the orchard area.
- Coyote (*Canis latrans*) - tracks and droppings in various locations within the property
- Meadow Vole (*Microtus pennsylvanicus*) - individual specimen observed in relatively open habitat at south end of property.

It is considered likely that a number of other species of regionally common mammals (e.g. Northern Raccoon, Striped Skunk, Grey and Red Squirrels, Eastern Cottontail) could be present at the Property from time to time. None of the mammals evidenced in the general vicinity of the Property are considered to be SOCC or SAR. All of these mammal species are ranked as "secure" (S5) in the province of Ontario and are common in Grey County.

In regard to bats ,there are several species which are regionally present and which include a number of SAR. The vegetation communities found within the Property are relatively

young, and there is an absence of larger dead or dying trees that might contain hollows, cavities, large bark flakes and crevices that could function as roosting or hibernation sites. Rock outcrops, caves or other sites that could serve as hibernation sites are not found on or near the Property. The potential presence of bats is discussed further in context of Priority Species (Section 4.9) and as a possible element of SWH (Section 4.10).

Overall, the likelihood of presence within the Property of mammal species that are of conversation concern is considered to be very low, and not likely to be meaningful to the viability of the local or regional populations.

4.8 Aquatic Ecology

The characteristics and functions of aquatic features associated with the Alta Property are based partly on direct surveillance completed in 2021, and partly on existing information from other sources.

4.8.1 Watercourse 21

Watercourse is a first-order natural stream, originating on the face of the Niagara Escarpment. In the stretch that borders the Property, the stream has a bankfull channel width of about 1 m and an active channel width of between 0.25 and 0.5 m. The channel exhibits a meandering alignment and is partly braided, passing through an area with considerable shrub cover. The stream is mostly riffle or run habitat, with limited pool habitat, mainly at the outlet of the culvert crossing Alta Road. Upstream of Alta Road, outside of the Property and at the base of the Escarpment slope, the stream meanders within a well-recessed valley that is 5 to 10 m wide and about 2 m deep.

The flow regime appears to be close to permanent, appearing to consist of short-term high flows that follow significant snow-melt or precipitation events, and subsequent very low flows during dry periods. The watershed area of the stream, as depicted in the CCSS (Gore and Storrie, 1993) is approximately 85 ha, and only about 2 ha lies within the boundaries of the Alta Property.

Watercourse 21 was subject to direct fisheries assessment in the CCSS, and was determined not to function as direct fish habitat. No fish were observed during visual examination of the stream during the period of study of this EIS. A few adult specimens of amphibians (Green Frog) and aquatic invertebrates were observed in pool habitat.

4.8.2 Other Watercourses

There are two other discernable watercourses within the Property (see Figure 3). Based on surveillance in 2021, these are intermittent or ephemeral flow features which appear to be anthropogenic drainage channels. They exhibit relatively straight alignment, are mostly lacking in riparian cover, with channels fully vegetated with upland plant species.

Meaningful flow was not observed in either feature during the period of study. Neither of the channels in question is expected to support any aquatic ecological function.

4.9 Priority Species

For the purpose of this EIS, the term "Priority Species" includes:

1. any species with a provincial (sub-national) conservation status rank (SRank) of S1, S2, S3 or SH, or otherwise considered rare in Ontario, and
2. any species that has been designated as either *Endangered*, *Threatened*, or *Special Concern* by either the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or the Committee on the Status of Species at Risk in Ontario (COSSARO).

The term "Species at Risk" (SAR) is applied to those included in regulatory listings as *Threatened* or *Endangered*, and thus subject to certain regulatory prohibitions. The term "Species of Conservation Concern" (SOCC) is generally applied to species other than those legally designated as *Threatened* and *Endangered.* Species of any of the noted designations are all tracked by the Natural Heritage Information Centre (NHIC).

The potential presence of SAR within or near the Property was initially examined in a manner consistent with guidance prepared by the Ministry of Environment, Conservation and Parks (MECP, 2019). Several sources of existing information were consulted to identify SAR that are on record for the area within a few km of the Property. This includes:

- the NHIC Element Occurrences (EO) for the area within 3 km of the Property, as summarized in Table 8,
- the most recent results of the Ontario Breeding Bird Atlas (OBBA) for the 10-km x 10-km Square 17NK53, which encompasses the Property, as summarized in Table 5, and
- the results of the Ontario Amphibian and Reptile Atlas (OARA) for Square 17NK53, as summarized in Table 7.

The likelihood of occurrence of identified Priority Species within or in very close proximity to the Property has been assessed in consideration of the specific habitat requirements of each species. Direct surveillance of the Property was also conducted with focused attention on the possible presence of the Priority Species known to be present in the general area of the Property.

The NHIC Element Occurrence (EO) records include any species that are considered herein as Priority Species. NHIC EO records were obtained for the 1-km grid segments within 3 km of the Property (12 grid squares in total). A summary of the EO listings for these squares is provided in Table 8. A total of nine species are listed. Direct

surveillance of the Property revealed the presence of only one of the listed species. A single occurrence of Western Chorus Frog was recorded in the mixed forest (FOM) habitat on the lower face of the Escarpment. There was no evidence that this species is present in significant number or elsewhere within the Property, or that there is any significant reproductive activity.

As discussed in Section 4.4, data from the OBBA for Square 17NK53 indicate the presence of a total of seven Priority Species in the area of the Property. This includes three species also included in the NHIC records for the area. For the seven Priority Species identified in the OBBA, the habitat requirements are such that all but the Common Nighthawk and Canada Warbler have some reasonable potential to be present within the Property, at least on occasion. During surveillance, only the Eastern Wood-pewee and Barn Swallow were observed within or immediately adjacent to the Property. In general, the habitat available within the Property is considered no more than marginal for the other six species.

Data from the OARA (Table 7) indicate a total of three Priority Species of reptile in the area of the Alta Property. The Property is devoid of conditions consistent with the preferred habitat of two of these species, and none of these species were observed during on-site surveillance. The potential for the presence Milksnake is considered possible. Milksnake could be encountered on the Property periphery, but is not expected to be encountered with any frequency within the Cultural Thicket (CUT) habitat that dominates the Property and where development is proposed.

Direct surveillance of the Property in 2021 has included a series of specific monitoring efforts that address the possible presence of the above-noted Priority Species. Through site surveillance, the presence of only three of these species was indicated within or immediately adjacent to the Property; 1) the Eastern Wood-pewee, 2) the Barn Swallow, and 3) the Western Chorus Frog. In addition, a few adult specimens of Monarch butterfly (a species of *Special Concern* in Ontario), were observed over the period of surveillance.

The Eastern Wood-pewee was observed on two occasions in deciduous forest habitat within or adjacent to the Property. This included male vocalizations originating off Property in wooded areas to the immediate east of the Property (ELC designations FOD2-2), and also vocalizations in the forested area on the face of the Nipissing Ridge in the northeast corner of the Property (FOD5-10). Although this species may nest in many types of wooded habitats, it is most commonly associated with the mid-canopy layer in forest stands of intermediate age and in mature stands with little under-story vegetation. These conditions only occur in the FOD5-10 and FOD2-2 communities.

There was a few isolated occurrences of Barn Swallow adults in flight in the open portions of the Property. This species is considered to be relatively widespread and common in southern Ontario, but historical population declines led to the SAR listing. This species nests almost exclusively on man-made structures. The remnant buildings within the Property were closely examined for the presence of Barn Swallow nests and nesting activity, which is quite conspicuous, and no evidence of nesting was observed.

The Monarch Butterfly (*Danaus plexippus*), which is currently classed as *Special Concern* in Ontario, even though not on record with the NHIC, is certainly present in the area of the Property. Isolated occurrences of adult Monarchs were recorded during the period of study in relatively open areas (CUM and CUT communities). Numbers were very low and there was no evidence that the Property functions as significant breeding habitat for this species. Milkweed plants are present, but not in concentration or abundance.

In regard to general concerns regarding species-at-risk bats, there are several bat species that can be found, at least on occasion, in Grey County. This includes four that are listed as Endangered: Tricolored Bat (*Perimyotis subflavus*), Little Brown Myotis bat (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and the Eastern Small-footed Myotis (*Myotis leibii*). The Northern Myotis is generally encountered in coniferous forest, while the three other species-at-risk bats are each common to deciduous or mixed forest habitat. All four species could theoretically be found within or immediately adjacent to the Property. During surveillance of the Property, no bats were observed. The likelihood of presence of maternal colonies is dependent on the local abundance of large **(**≥25 cm DBH) snags/cavity trees. Within the wooded areas that lie within Alta Property, there are very few tree specimens that could be regarded as favorable snag trees. The density of snag trees does not meet the density requirement for high quality maternity roost habitat (i.e., >10 snags/hectare). The Property does not encompass or border any occurrences of Cliff-Cave ecosites and does not contain any features (caves, crevices) that could serve as hibernacula. Overall, there is some possibility of occasional and intermittent presence of species-at-risk bats within or near the Property, but there is no reason to expect the concentrated presence of bats for hibernation or maternal roosting purposes.

Other than the four noted Priority Species (Barn Swallow, Eastern Wood-pewee, Western Chorus Frog, Monarch), all flora and fauna observed within or near the Alta Property are from relatively secure populations and do not warrant any consideration as conservation concerns. The other Priority Species on record within the general area have not been observed within the Property, and the preferred habitats of most of these species are generally not present to any meaningful extent within the Property.

In summary, there are a total of 15 Priority Species (*i.e*., SOCC or SAR) on recent record in the general vicinity of the Alta Property. The Property generally does not exhibit the characteristics or specific habitat elements that would support local populations of most of the Priority Species that have been observed in the area. When considering habitat limitations and the findings of direct surveillance of the Property, only the Eastern Wood-pewee has some reasonable potential to be present in locations within the Property where it might be subject to impacts of development.

4.10 Significant Wildlife Habitat

For planning purposes in Ontario, Significant Wildlife Habitat (SWH) is defined as habitat that is "*ecologically important in terms of features, functions, representation or*

amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System".

The findings of on-site surveillance been reviewed in specific consideration of the potential presence and implications of SWH within the Alta Property. The analysis of potential SWH presence and impacts is based on guidance provided by the MNRF (MNR 2000, MNRF 2015). There are several categories and specific types of designated SWH, which are addressed below. These various categories have generally recognized associations with a number of the ELC community types that have been identified within the Property. The presence of these communities does not necessarily equate to the presence of SWH. The determination of SWH habitat is ultimately based on direct evidence of presence of the class of wildlife in question.

The following analysis considers the results of on-site monitoring to assess candidate areas of SWH for which the relevant ELC community types are found within or immediately adjacent to the Property.

4.10.1 Seasonal Concentration Areas

The life cycle of various animal species finds them present in certain areas at certain times in notably concentrated numbers. Usually the location is characterized by a relative abundance of food, shelter/cover or conditions required for breeding purposes. There are a variety of established types of seasonal concentration areas, a number of which could be supported by the plant communities found in the area of the Property. The status of the candidate seasonal concentration areas considered is discussed below.

Waterfowl Staging and Stopover Areas (terrestrial):

The CUM and CUT areas within the Property do not exhibit seasonal sheet flooding, and none of the identified indicator species were observed during surveillance of the Property.

Raptor wintering yards:

The Property does encompass a mix of open (CUM/CUT) and Forest (FOD/FOM) communities. Direct assessment of winter raptor presence was not included in the scope of this EIS. Natural heritage mapping and databases (LIO, MNRF) do not indicate the presence raptor wintering yards in the vicinity of the property. The Property does not embody the characteristics of preferred sites (i.e., lightly grazed meadow or fallow area >15 ha).

Deer wintering yards:

The Property does encompass candidate ELC communities (CUP3, CUT) for this type of seasonal concentration area. However, there are no deer wintering yards that have been identified (LIO, MNRF) in the vicinity of the Property.

Bat hibernacula and maternity colonies:

As discussed in Section 4.6.2, there was no evidence of maternal roosting of bats within the limited wooded portions of the Property during the surveillance period. The forest communities within and near the Property also generally lack the attributes that would be conducive to the presence of hibernacula or maternal colonies (i.e., relatively large snag trees).

Colonial Nesting Breeding Bird Habitat (Bank or Cliff):

The CUM and CUT areas within the Property do not exhibit exposed soil banks, and none of the identified indicator species were observed during surveillance of the Property.

Colonially -Nesting Bird Breeding Habitat (Ground)

The relevant indicator species (Brewer's Blackbird) was not observed during surveillance of CUM and CUT communities within the Property. Other existing databases (e.g. OBBA) do not indicate the presence of this species in the area of the Property.

4.10.2 Rare Vegetation Communities

As per the MNRF Guidance, there are a number of vegetation communities that can be considered as rare in Ecoregion 6E, including alvars, dunes, prairies, barrens, cliffs and old growth forest. These community types are not found within the Alta Property (see Section 4.2). The communities found within the Property all have a Provincial Rank of S4 (Apparently Secure) or S5 (Secure).

4.10.3 Specialized Habitat for Wildlife

There are numerous species of wildlife that require substantial areas of certain habitat(s) that support critical stages of their life history in order for the local population to be sustainable.

Bald Eagle and Osprey Nesting, Foraging and Perching Habitat:

The relevant ELC community types within the Property (FOC, FOM) are not adjacent to riparian areas, and neither of the indicator species was observed during surveillance of the Property.

Woodland Raptor Nesting Habitat:

The Property does contain various areas of forested habitat that generally are recognized as potential nesting habitat for woodland raptor species. However, the forest blocks do not provide adequate interior habitat (>10 ha). A single specimen of one of the indicator species (Broad-winged Hawk) was observed during surveillance of the Property, but

there was no evidence of nesting within or near the Property. No stick nests were observed during surveillance conducted in the early spring before leaf-out.

Seeps and Springs:

Several small groundwater seeps were observed on the face of the Nipissing Ridge in the FOD5-10 area in the northeast corner of the Property (refer to Figure 3). Evidence of the presence of the noted indictor species (White-tailed deer, Wild Turkey, Ruffed Grouse) was also observed during surveillance. The area of FOD5-10 is considered as the candidate SWH area. Further discussion of potential impacts and mitigation measures are provided in Sections 5.2 and 6.3.2.

Amphibian breeding habitat (woodland):

The Property is devoid of wetlands or small ephemeral pools within forested areas (FOD, FOM) that could potentially function as breeding habitat for amphibians. Surveillance conducted at the Property indicates a general absence of amphibian breeding activity throughout the Property (see Section 4.5). Overall, there is no evidence to indicate that any part of the Property functions as significant breeding habitat for amphibians.

Area-Sensitive Bird Breeding Habitat:

The blocks of forest that overlap the Property exhibit dimensions such that they do not meaningfully provide suitable forest interior habitat (i.e., >200 m from forest edges) within or near the Property. These forests are also generally not fully mature. During breeding bird surveillance of the Property, the presence of two of the species listed as indicator species was evidenced. This consisted of evidence of possible breeding of Yellow-bellied Sapsuckers and the general presence of Black-throated Green Warbler in the deciduous forest community within the confines of Craigleith Provincial Park to the immediate east of the Property. The criterion for this form of SWH is the confirmed nesting presence of three of the indicator species. Accordingly, this form of SWH is not considered to be present within or near the Property.

4.10.4 Habitat for Species of Conservation Concern

In this context, SOCC include wildlife species that are listed as *Special Concern* or rare, but excludes those listed as *Endangered* or *Threatened* species.

Open Country Bird Breeding Habitat:

The Property does contain an area of CUM community, but it is generally recognized as being too small (*i.e.*, < 30 ha) to function as SWH for open country birds. None of the specified indicator species were observed during the BBS conducted throughout the Property in 2021.

Shrub/Early Successional Bird Breeding Habitat:

A portion of the Property is characterized as shrub/early succession habitat (CUT, CUS, CUW) with a combined area of approximately 11 ha, which barely meets the size criterion of >10 ha for this SWH type.

One of the indicator species for this habitat type was observed during surveillance of the Property. A single specimen of Brown Thrasher was observed in mid-May, but there was no subsequent evidence of the presence of this species within the Property, and no evidence to indicate breeding. Two of the common species listed for this SWH type were also observed during the breeding season. The Field Sparrow was confirmed as breeding while the Black-billed Cuckoo was assessed as a "possible" breeding species (see Table 4). It should be noted that the presence of Black-billed Cuckoos was atypically high in southern Ontario in 2021.

Overall, the available information indicates that the candidate ecosites within the Property do not support this specific SWH function.

Special Concern and Rare Wildlife Species

As discussed in Section 4.8, there are three species Provincially designated as *Special Concern* and/or with a Provincial Rank of S3 that are confirmed as being present within the Alta Property. The Eastern Wood-pewee (Special Concern) was observed in association with the deciduous forest communities that border the eastern perimeter (FOD9-2) and occupy the face of the Nipissing Ridge in the northeast corner (FOD5-10)., but this species was present in very low abundance and there was no evidence to confirm nesting activity within the Property. A few isolated specimens of Monarch were observed in the CUM community in the Properties core, and there is no evidence to indicate that the Property serves as significant habitat in supporting any part of the life cycle of this species. The Western Chorus Frog was confirmed as being present within the Property, but there was no evidence that this species was present in meaningful abundance or distribution, or otherwise reliant on the Property to sustain local populations.

Overall, only the Eastern Wood-pewee is considered to be present within the Property such that consideration of this specific category of SWH might be warranted. Section 5.2 provides further discussion of this potential SWH function.

4.10.5 Animal Movement Corridors

Amphibian Movement Corridors:

Corridors that facilitate movement of select amphibians between aquatic breeding habitat and terrestrial habitat, usually woodlands, can be specified as SWH. There are no wetlands or sizable pools within the Property. Regular surveillance of the Property has

indicated a relatively low abundance and diversity of amphibians (see Section 4.5), and has not revealed any evidence of substantial migratory movement of amphibians.

Deer Movement Corridors:

Areas of continuous and appropriate vegetation cover may serve as corridors that facilitate movement of deer to and from wintering yards may constitute SWH. There are no known deer wintering areas within or near the Property.

5.0 ANALYSIS OF POTENTIAL IMPACTS

The current Draft Plan of subdivision (see Appendix B) identifies a total of 60 residential lots distributed over the central plateau, with access roads and storm water management (SWM) facilities. In combination, the residential lots, roads and SWM facilities account for about 15.1 ha, or about 50% of the Property. In considering this plan, without accounting for any planning adjustments or other mitigating measures, an initial high-level assessment identifies several general natural heritage implications, as follows;

- direct loss of approximately 15 ha of Cultural plant communities, and their ecological functions,
- direct loss of forest communities, to a maximum of approximately ~1 ha, and their ecological functions,
- encroachment within 120 m (i.e., the "adjacent lands") of Significant Woodlands, and possible indirect impairment or disturbance of this feature,
- encroachment within 120 m of the Blue Mountain Slopes ANSI and NHS Core Area, and possible indirect impairment or disturbance of these features,
- direct loss of two intermittent watercourses,
- possible impairment of a third watercourse (Watercourse #21),
- direct harm or indirect disturbance of one Priority Species that has been observed within the Property, and
- direct or indirect impairment of two types of SWH associated with deciduous forest communities within the Property.

The following analysis further examines the potential impacts listed above. For each of the specific natural features of concern, the likelihood and significance of adverse effects due to proposed development of the Property are qualitatively assessed. The assessed potential for adverse effects is based in part on the characteristics and functions of the features themselves. The assessment considers aspects of development as proposed in the current DPS (Appendix B), including the extent of site alteration and various conditions that might be encountered within the Property both during and after construction.

A summary of the risk of negative impacts on all features of interest is provided in Table 9. Conclusions and recommendations drawn from this analysis, including mitigation recommendations, are provided in Section 6.

5.1 Priority Species

The Eastern Wood-pewee is the only Priority Species with some reasonable expectation of being present within the Property to an extent that potential impacts warrant consideration.

The Eastern Wood-pewee was observed in very limited abundance in isolated portions of the Property, and no evidence to confirm use of the Property for breeding purposes was encountered. Any possible future nesting within the Property is most likely to occur in the areas of deciduous forest (FOD2-2, FOD5-10) where this species has been observed. The DPS calls for very minimal incursion into these habitats. However, this species is known to occasionally nest in trees outside of established forest habitats, and may be encountered in other parts of the Property wherever there are groups of trees present, including various cultural habitats (CUT, CUS, CUW, CUP). Development will occur primarily within the cultural habitats, and therefore there is a theoretical possibility of harm or loss of individuals of this species.

Potential impacts resulting from development activity would be very limited in terms of frequency and numbers affected. Any such impacts would not be meaningful from a population perspective, either regional or local. Overall, the risk associated with potential impacts to this Priority Species is considered to be low, and mitigation measures are available to further reduce the low level of risk (see Section 6.3).

5.2 Significant Wildlife Habitat

Surveillance of the Property for potential SWH (see Section 4.10), indicates that there are two possible SWH categories supported to some extent within the Property; 1) Habitat for Species of Conservation Concern (SOCC), and 2) Specialized Habitat for Wildlife.

The habitat for SOCC relates solely to the limited presence of the Eastern Wood-pewee, as discussed in Section 5.1. The risk to this species is considered low and is subject to mitigation. No further consideration of SWH implications is required.

The Specialized Habitat for Wildlife relates to the presence of minor groundwater seeps on the face of the Nipissing Ridge within the FOD5-10 community. As proposed, development will occur outside of this area, and the seeps will not be directly disturbed. Development within the plateau above the ridge has theoretical potential to interfere with the source of groundwater that feeds the seeps. If development significantly alters patterns of infiltration of surface water over enough of the plateau, and that infiltration is ultimately a significant contributor to the groundwater lens that feeds the seeps, then duration or volume of seepage could be altered. The extent to which the seeps are sourced from infiltrate from the core of the Property is understood through consideration of various factors that can affect infiltration rates and groundwater transport processes. The soils in the portion of the Property where development is proposed are characterized by imperfect drainage, which lowers the likelihood of relatively high infiltration rates. The recent geotechnical study (GEI, 2021) has revealed the broad presence of silt-clay

overburden to a depth of 2 m or more throughout the central portion of Property. The study also reports water table elevations largely in the range of 1 to 3 mbgs in this area and inferred bedrock depth in the range of 2 to 5 mbgs. The upper zones of weathered bedrock consist of a soil-like matrix that would preclude the free flow of groundwater. The bedrock is reflective of shale formations (Queenston and Georgian Bay formations) that do not exhibit karst characteristics. Overall, this information indicates an absence of near-surface bedrock or any conditions that would facilitate rapid and/or unattenuated infiltration and subsequent groundwater transport toward the seeps. In addition, the residential lots are relatively large (generally in the range of 0.3 to 0.5 ha), and the amount of impermeable surface resulting from development is expected to be a relatively low fraction of the footprint of these lots. Under this circumstance, the potential to interfere with initial infiltration of precipitation or surface runoff is highly limited.

Overall, the risk of interference or impairment of groundwater sources of the seeps within the Property is considered to be very low. Because of the small size and number of seeps, and the presence of other seeps in nearby locations not immediately down-gradient of the area of development, potential ecological implications are also deemed to be low. Mitigation measures to further reduce the already very low risk are provided in Section 6.3.2.

5.3 Aquatic Features

Aquatic features associated with the Property include the three watercourses that flow through or near the periphery of the Property (see Figure 3). It is expected that development will result in the loss of the small intermittent drainage swales that traverse core portions of the Property where development is planned. These features function primarily in the conveyance of intermittent or ephemeral runoff, and have little ecological function. The loss of these features will not result in any measurable natural heritage impacts, particularly if SWM plans are developed so that the volume and direction of post-development stormwater discharge are generally consistent with pre-development conditions.

Watercourse #21 is a natural stream feature that supports some ecological function but which is not direct fish habitat. The stream channel is located outside of the bounds of the Property with the exception of the short portion associated with the existing culvert under Alta Road. There is a theoretical possibility that development of the Alta Road Property could affect the quantity and quality of water flowing in the Watercourse #21. Such effects are possible during the construction phase and also post-development. The likelihood and potential degree of such changes is affected by a few factors. Based on the delineation of the watershed of Watercourse #21, as presented in the CCSS (Gore and Storrie, 1993), only about 2 ha of the Property lies within that watershed. This represents about 3% of the total watershed area, and the Property's potential contribution to total stream flow would be of similar relative magnitude. This inherently limits the degree of influence of conditions within the Property on water quality or quantity within the stream. In addition, the DPS has been developed to retain a naturally vegetated 30-m setback from the stream channel, providing for natural attenuation of any runoff that might

originate within the Property. In considering the limiting factors, and without consideration of other mitigating measures, the likelihood of effects on water quality/quantity in Watercourse 21 is considered to be very low. The ecological implications of any such changes are also relatively low given the nature of flow (largely seasonal and warm-water) and the absence of direct fish habitat function. There are mitigation measures to further reduce the already low risk of adverse effects on Watercourse #21 (see Section 6.3).

5.4 Significant Woodlands

The Provincial Policy Statement (PPS) defines significant woodland as "an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history". Regional assessments are undertaken by various agencies using criteria derived from this general definition to identify woodland areas for initial designation as "significant". The Natural Heritage Reference Manual (MNR, 2010) provides detailed recommendations for criteria and standards to be used in the assessment of woodland significance.

As discussed in Section 4.2, about 30% (~9 ha) of the Property is currently occupied by deciduous or mixed forest cover representing three specific community types. Almost the entirety of this forested area has been designated by Grey County as *Significant Woodland*. The County's assessment of woodland significance is based on a desktop review using data provided by the MNRF. The primary criterion for designation of woodland significance is size, and a woodland must be ≥ 40 ha outside of settlement areas, or ≥ 4 ha within settlement areas, to be deemed significant. Failing the size criterion, a woodland may also be significant if it meets any two of the following three criteria:

1. the woodland is within 30 m of another significant woodland,
2. the woodland overlaps the boundaries of a PSW or ANSI, or
3. the woodland encompasses "Interior" habitat of ≥ 8 ha, with a 100-m interior buffer on all sides.

According to the Grey County OP, the main criteria used in their Significant Woodland mapping are size and proximity to special features (PSW, ANSI). It is acknowledge that the assessment in the OP is not based on ground-level surveillance, and any site-specific consideration of woodland significance is best served by more detailed ground-level assessment.

The current assessment of potential impacts on the woodlands found within and immediately adjacent to the Alta Property is conducted in consideration of several of the core functional categories identified in the MNRF's Natural Heritage Reference Manual.

These categories overlap with the stated criteria for designation of "Significance" in the PPS and the County OP. This includes woodland size, forest cover characteristics, the presence of SAR or SOCC, ecological functions and linkages, and water protection functions.

5.4.1 Woodland Size

For the purpose of this EIS, it is not possible to make firm determinations of the implications of any development-related woodland loss in regard to size. Only general statements of the magnitude of loss can be made.

The ~9 ha of forest cover within the Property is part of a larger, more-or-less continuous block of Significant Woodland that encompasses Craigleith Provincial Park and forested areas on or immediately above the Niagara Escarpment, including the Loree Forest. The larger block measures about 650 ha in area. The forest cover within the Alta Property represents less than 1.5% of the larger Significant Woodland area that envelopes the Property.

The DPS has been developed to avoid direct incursion into the forested portions of the Property that are designated as Significant Woodlands. There is no expectation of direct loss of Significant Woodland that warrants discussion.

There are some areas where development abuts the Significant Woodlands and may result in some loss of natural forest cover that is contiguous with the Significant Woodland areas. This includes Lots 10 through 15 on the eastern perimeter of the Property. There is a potential for loss of some of the woodland cover contiguous with Significant Woodlands, with a total area of less than 0.5 ha.

In absence of a specified target for total forest cover in the county or for more localized areas, the implications of the loss of no more than 0.5 ha of forest cover cannot be quantitatively discerned. In relative context, this represents about 5% of the total forest cover within the Property, and less than 0.1% of the larger continuous area of Significant Woodland that overlaps the Property.

As a general guiding principle, this EIS adopts the premise that any reduction of total forest cover (Significant Woodlands or otherwise) should be avoided if feasible, regardless of any considerations of size-related criteria. Mitigation recommendations are provided in Section 6.3 which reflect this premise. Notwithstanding this general principle, the very minor loss of woodlands within the Property will not affect the Significant Woodland areas within and around the Property in terms of size.

5.4.2 Forest Stand Characteristics

The forested area within the Alta Property is mid-to-late succession forest cover, with a modest diversity of tree species in assemblages that are typical of the region. Through most of the wooded portions of the Property, the forest communities exhibit some development of forest structure. The area of Maple-Poplar Forest (FOD5-10, see Section 4.2) exhibits the greatest presence of later succession tree species (Maples, Beech, Hemlock), and the most advanced structure. This forest type is nonetheless still not fully mature, and it is common in the region. A summary of the forest communities within the Property and their basic characteristics is provided in Table 1.

Overall, the available information does not indicate any uncommon or highly valued characteristics of the forest stands within the Property. Any loss or impairment of any of the forest cover would not translate to loss or impairment of forests with such characteristics.

5.4.3 Ecological Characteristics

All of the species of plants and animals that have been observed within and around the Property's forest communities are relatively common to the region and the Province, and many are typical of forests influenced by some level of human disturbance. These species are not considered to be particularly sensitive or of conservation concern. The available information does not indicate that the presence of Priority Species would be a factor contributing to a designation as *Significant* of the forested areas within and adjacent to the Property. Loss or impairment of forest cover within the Property would not have meaningful implications in regard to SOCC or SAR. The only exception relates to the presence of a few individual specimens of Easter Wood-pewee, designated as an SOCC.

In addition to the presence of possible nesting habitat for the Eastern Wood-pewee, the area of Significant Woodland in the northeast corner of the Property also encompasses some groundwater seeps, which constitutes potential SWH. The presence of SWH is a factor that generally supports the *Significance* designation, and warrants consideration in the assessment of woodland impacts. Such an assessment has been completed as part of this EIS (see Section 5.2).

The dimensions of the wooded areas within the boundaries of the Alta Property are such that they provide only about 1.5 ha of forest cover that meets the technical definition of *forest interior* (*i.e.*, >100 m from forest edge). The faunal community that has been observed at the Property is not a forest interior community. Regardless, the area that meets the distance-based criterion lies in the far southwest corner of the Property, outside of and well removed from the area of proposed development.

General ecological linkage functions are also a consideration in the assessment of Significant Woodlands. Linkage can be evaluated on the basis of the characteristics of

the forest communities within the Property, the nature of natural features in the surrounding landscape, and also the faunal communities present within and around the Property. Significant natural heritage features in the area around the Property include the remaining expanse of the larger Significant Woodland block, which encompasses the Blue Mountain Slopes ANSI. The Grey County Natural Heritage System (NHS) Study (NRSI, 2017) reports two indicators of linkage and connectivity in the area of the Property. This includes the presence of Core Area within and adjacent to the west side of the Property, and a 200-m wide Linkage Corridor that connects this Core Area to other Core Areas several km to the south of the Property. The NHS Study also reports on the Landscape Connectivity in the area surrounding the Property, as determined following the method of Bowman and Cordes (2015). The connectivity is rated as "medium" within the ANSI, and also following the Linkage Corridor to the southeast along the Escarpment. Within and through the Property itself, the connectivity rating is "low.

The Property does likely provide some level of ecological connectivity between the Escarpment (and ANSI) and the forest cover on the Nipissing Ridge and within Craigleith Provincial Park. During direct surveillance of the Property, evidence of a modest level of east-west movement of deer through the Property was observed. Other than some occasional movement of these large habitat generalists, the absence of forest cover in the Property's core likely limits any wildlife movement between the forested areas on either side of the Property. In turn, this would limit the connectivity function that those forested areas might serve in the broader area, particularly in the east-west direction.

Overall, the Significant Woodland areas within the Property do provide some ecological function within the local landscape. As development is to occur outside of these woodlands, and the area of development does not appear to contribute significantly to linkage functions served by the woodlands, the risk of loss or impairment of such functions is considered to be low.

5.4.4 Water Protection

Forest cover generally leads to improved quality of runoff (e.g. reduced erosion and sediment loads, reduced thermal loading), which can have a beneficial effect on down-gradient features. The Alta Property envelops two small intermittent drainage swales and abuts a natural stream. These features do not flow through the areas of Significant Woodland within the confines of the Property. Areas of forest cover within the Property that are within the drainage catchments of the noted watercourses are not within the area of proposed development. There is no expectation of any measurable impact of development on water protection function that might be served by the forested areas within the Property.

In terms of groundwater, forest cover can also provide benefits in terms of infiltration rates and the quality of groundwater recharge. The forest cover that has been designated as Significant Woodland within the Property is located largely on the slopes of either the

Niagara Escarpment or the Nipissing ridge, where the relatively steep slope effectively precludes any significant recharge function.

5.4.5 Woodlands Summary

In total, the potential loss of forest associated with the current DPS would be in the order of <0.5 ha, none of which is designated as Significant Woodland. The deciduous forest communities within the Property are expected to serve and/or support various ecological functions, but analysis indicates that these functions would not be adversely affected by development. In consideration of size alone, the possible loss of <0.5 ha would not constitute a meaningful reduction of the ~650 ha block of woodland that overlaps the Property. Overall, the proposed development of the Alta Property is not expected to adversely affect the overall integrity and function of Significant Woodlands within and surrounding the Property.

5.5 Other Key Features

The Blue Mountain Slopes ANSI (Life Science) effectively overlaps with the area of Significant Woodland on the Escarpment face in the southwest corner of the Property. The Significant Woodlands within the Property have also largely been identified as either NHS Core Area or Significant Natural Features in the County's NHS Study (NRSI, 2017) and also in Schedule C of the County OP. The characteristics and functions of the ANSI and NHS features are consistent with those that have been identified and considered in the assessment of the Significant Woodlands. By extension, it is concluded that the proposed development of the Alta Property is not expected to adversely affect the overall integrity and function of the ANSI or the NHS features.

5.6 Cumulative Impacts

The assessment of potential cumulative impacts is based on two considerations; 1) the *collective* implications of various aspects of the proposed development, and 2) the possible interaction with factors external to the development. A qualitative analysis has been completed to identify instances where combinations of factors (internal and external) may compound or exacerbate impacts on a particular element of the Natural Heritage System (NHS), or on the NHS as a whole.

The primary impact associated with the Alta Property is the loss of ~15 ha of Cultural communities, which have not been found to support populations of Priority Species, SWH functions, or ecological connectivity of significant natural heritage features in the area. The species of plants and animal within and near the Property are not considered to be sensitive to disturbance or otherwise particularly susceptible to indirect effects that could occur as a result of development. There will be no direct loss of Significant Woodlands within the Property, and development is not expected to have cumulative effects on the functions of the woodlands that will remain within the Property. The functional integrity of the larger woodland block that overlaps the Property will not be adversely affected.

The lands adjacent to the Alta Property have been subject to some degree of anthropogenic landscape alteration. This includes residential development, road corridors, and also recreational development in the form of downhill ski facilities. These existing anthropogenic modifications have an influence on the current state of the local NHS, and its susceptibility to possible impacts. In general, the local NHS and its functions are already reflective of a moderate level of anthropogenic influence. The proposed development within the Alta Property will result in an increase in residential land-use in the area. However, based on information considered in this EIS, it will not result in any meaningful loss of linkage or connectivity within the local NHS, and forest cover in the area will remain effectively unchanged. Overall, the proposed development of the Alta Property is not expected to cause any effects that would contribute significantly to any cumulative degradation of the local or regional NHS, or NHS function.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Existing Conditions

The majority of the Alta Property is occupied by early succession cultural communities or cultural plantations. These communities are comprised of plant species which are provincially and regionally common. Numerous plant species found within the Cultural communities are non-native and typical of disturbed sites, and about 20% of the species observed to date can be considered invasive. The associated faunal communities also consist of common species from relatively secure populations. Overall, the terrestrial ecological functions supported within the core of the Property where development is proposed are neither significant nor sensitive, nor are they vital to overall ecosystem integrity on a local or regional scale.

About 30% of the Property is occupied by natural forest communities, almost the entirety of which has been designated as Significant Woodlands. These forest areas are mid-aged with modest structural development, and support moderately diverse assemblages of fauna that are common and typical of the region. These wildlife species are from secure populations and are not considered to be of conservation concern. One SOCC (Eastern-wood pewee) was encountered in association with the wooded areas on the east side of the Property. The forest on the face of the Nipissing Ridge also contains groundwater seeps, which can function as Significant Wildlife Habitat (SWH). Otherwise, the forest communities within the Property do not support species or functions which would be considered as sensitive or as conservation priorities.

There are three small watercourses that pass through or near the Property. The two drainage swales that traverse portions of the Property where development is proposed exhibit intermittent, event-based flow. These watercourses appear to be man-made and are lacking in natural characteristics. They serve minimal ecological functions and do not provide fish habitat. Watercourse #21 flows along the south side of the Property. This stream exhibits what appears to be permanent flow that subsides substantially during the summer period. It does not function as direct fish habitat but does function as habitat for amphibians and aquatic invertebrates.

6.2 Summary of Potential Impacts

A summary of the potential impacts associated with the proposed development of the Alta Property is provided in Table 9, reflecting the analysis presented in Section 5. The likelihood and significance of each category of potential impact are relatively ranked as either low, medium or high. The likelihood and significance of any possible impacts of proposed development are dependent on the natural heritage characteristics of the Property and also the specific aspects of the proposed development. For each environmental feature of interest, the overall risk is a function of both *likelihood* and *significance*.

Priority Species

Based on information obtained and reviewed in this EIS, there is a very low likelihood of occurrence of SAR or SOCC within the Property in meaningful number, for meaningful duration, or for critical aspects of their life cycle. The only occurrence of a Priority Species that warrants some consideration is the presence of the Eastern Wood-pewee in forest communities on the east half of the Property. The risk of loss or disturbance of this species is deemed to be low, and any potential impacts would not have significant implications in context of the local population of this species or in regard to the functional integrity of the local Natural Heritage System.

In absence of any likelihood of meaningful presence of other SOCC or SAR within the Property, measurable impacts resulting from possible development activity are considered to be very unlikely, and would be very limited in terms of frequency and numbers affected. Any such impacts would not be meaningful from a population perspective. The overall risk of the proposed development in regard to Priority Species is deemed to be low.

Significant Wildlife Habitat

Development will not occur directly within SWH, but will occur in adjacent lands. Development within the core table lands of the Property has a theoretical potential to interfere with groundwater that feeds a few minor seeps on the face of the Nipissing Ridge. However, the overburden characteristics are such that there is no expectation that the central portion of the Property where development is proposed would be a meaningful source of groundwater to the seeps in question. The overall risk of the proposed development in regard to this SWH element is deemed to be very low.

Watercourses

Development of the Property is expected to result in the loss of the two watercourses identified within the Property that appear to be man-made to function as intermittent drainage conveyance features. These features serve very little ecological function, and their flows do not appear to be significant as hydrological inputs to other features. The loss of these features will not have adverse natural heritage effects.

Development will not result in direct incursion into Watercourse #21. With only very limited hydrological connectivity with the Alta Property, there is no expectation of any indirect effects of development on the hydrological balance of Watercourse #21. There is a very limited potential for impacts on water quality, primarily as a result of possible stormwater runoff flowing out of the area of active construction directly into the watercourse. The implications of any changes in water quality, either during or after construction, are inherently limited owing to the fact that the watercourse is a warm-water feature and does not serve as fish habitat or otherwise support sensitive aquatic biota. The overall risk of the proposed development in regard to watercourses is deemed to be low, and subject to further mitigation (see Section 6.3).

Significant Woodlands

The Property encompasses about 9 ha of woodlands that are designated as Significant Woodlands, but development plans do not require direct incursion into these woodlands. Overall, the proposed development of the Alta Property is not expected to adversely affect the overall integrity and function of Significant Woodlands within and surrounding the Property.

ANSI

The Blue Mountain Slopes ANSI (Life Science) effectively corresponds to the area of Significant Woodlands in the southwest corner of the Property. In absence of any adverse effects on the Significant Woodlands, no effects on the ANSI are anticipated.

6.3 Mitigation Recommendations

Regardless of the overall low level of risk, precautionary consideration should be given to efforts to further mitigate the risk of any impacts potentially associated with proposed development of the Property. Recommendations are provided herein to avoid, limit or otherwise mitigate the potential impacts that have been identified.

6.3.1 Priority Species

Site monitoring has revealed the potentially meaningful presence of one Priority Species within or in close proximity to the Property. Eastern Wood-pewee were observed within deciduous forest communities (FOD2-2 and FOD5-10) that are not within the area of development. There are a number of residential lots (Lots 12 to 16) that encroach upon the limited portion of the FOD2-2 community that extends into the Property. There is a reasonable likelihood of removal of some areas of tree cover within these lots, which could directly affect nests of Eastern Wood-pewee.

For any lots that overlap with areas of existing tree cover, development of a Tree Preservation Plan is recommended to reduce the extent of potential tree removal, and thus lower the risk of adverse effects on the Eastern Wood-pewee.

To reduce the risk of impacts on the Eastern Wood-pewee and any other breeding birds, which would be subject to prohibitions of the Migratory Bird Convention Act, any clearing of forested areas should be timed to avoid the active bird nesting period (i.e., from May to August).

6.3.2 Significant Wildlife Habitats

The are several mitigation measures that can be considered to reduce the potential for adverse effects on the minor seeps that are found on the face of the Nipissing Ridge. To

reduce the risk of disruption or impairment of groundwater sources, the mitigation measures include the following;

- direct residential downspouts onto lawns or other permeable surfaces, and avoid direct connection to artificial stormwater conveyance infrastructure,
- maximize the incorporation of vegetated swales and ditches in SWM plans, and minimize paved curbs and drains, and
- use permeable paver materials where appropriate and feasible

Given the nature of site overburden, there is no expectation that infiltration within the area of development would constitute a significant source of groundwater to the seeps in question. The measures above a provided for consideration under the precautionary principle.

In addition to the measures to prevent effects on seepage, avoid any aspect of development (e.g. fencing) that may restrict access by wildlife to the area where seeps are located.

6.3.3 Watercourses

The adaptation of standard mitigation measures is expected to effectively eliminate the already minor risk of impacts on the watercourses in question.

To minimize the potential for any effects of development on local watercourses or downstream features, plans for grading and stormwater management should seek to maintain existing drainage patterns to the extent feasible.

In addition to drainage management, effective set-backs should be established to minimize the potential for any effects on water quality and ecological function. For Watercourse #21, the adoption of a 30-m setback appropriate for coldwater streams would be more than adequate. Limited instances of development within 30 m of the stream may be acceptable, particularly if the form of that development excludes impermeable surfaces.

The main element of risk to watercourses is associated with possible sediment transport during construction. During any eventual construction or landscape alteration, an Erosion and Sediment Control (ESC) plan should be developed and implemented in accordance with established best practices. At a minimum, this would include:

- installation of silt fencing between areas of disturbed ground and each stream,
- avoidance of work during wet conditions,
- minimizing the passage of vehicles over areas of exposed soil,

- placement of stockpiled soil or fill in designated areas as far away from streams as practical, and
- minimizing the time between initial exposure of soil and the final construction or restoration of a given area. Restoration should occur as soon as possible.

6.3.4 Woodlands

As noted in Section 5.4, the loss or impairment of woodlands within the Alta Property is not expected to result in meaningful loss of ecological function at the local or regional level. Regardless of functional implications, the loss or impairment of any woodlands should be minimized simply owing to the fact that there is a general absence of woodlands in the region and the Province, and any further reductions exacerbate this situation. Accordingly, the Alta Property should be developed with considerations to minimize loss of tree cover within the Property. In this effort, it is recommended that a relatively high priority be assigned to any areas of tree presence immediately adjacent to the forested areas that have been designated as Significant Woodlands. To illustrate the location of various elements of proposed development relative to forest cover within the Property, Appendix B contains an overlay of the Draft Plan on the ELC mapping provided in Figure 4. The high priority areas include Lots 12 through 16 and Lot 44. A lower priority should be placed on locations where there is a relative abundance of trees that border the Significant Woodlands. This includes Lots 45 to 52 that are located on the edge of the coniferous plantation (CUP3-2).

Specific measures recommended for consideration are as follows:

- optimize the size or configuration of development envelopes to allow maximum retention of existing trees on lot perimeters, if possible given engineering requirements,
- establishment of requirements for post-construction tree planting, with a focus on ecologically oriented planting requirements where retention of existing trees has low feasibility.

Areas of retained or replaced tree cover should be planned and managed so as to maintain natural characteristics to the extent possible. This is most important in areas adjacent to forests where structure has developed to some functional extent (*i.e.*, the FOD2-2 and FOD5-10 communities).

Overall, a Tree Preservation Plan (TPP) should be prepared which encompasses the key principles noted above. Basic elements of the TPP should include a delineation of specific trees or woodland blocks to be preserved and a specification of methods to be employed for protect and preservation purposes. In general, the TPP should seek to establish a relative continuum of tree canopy throughout the entire development area, through both preservation and post-construction planting efforts. Planting should be

focused on native tree species that are complimentary to the existing native forest communities that exist on the perimeter of the area of development. The presence of a native tree canopy will facilitate a degree of ecological connectivity between the existing perimeter forests that is generally lacking under the current conditions.

6.4 Monitoring Recommendations

The levels of risk to environmental features of concern at or near the Alta Property have been judged to be relatively low. The nature of most of the specific effects that have some potential to occur is such that there are no endpoints for which monitoring would be beneficial in an adaptive management framework. The only identifiable instances where monitoring would contribute to the avoidance of any adverse effects pertains to ESC measures that should be implemented to protect watercourses. For watercourse protection, silt fences and other measures should be regularly inspected to ensure that they remain effectively functional. Otherwise, there are no recommendations in regard to environmental monitoring either during or following construction.

6.5 Implementation and Management Plan

On the basis of the findings of this EIS, various specific measures are recommended for implementation through the advancement of the proposed development plan. These measures (see Section 6.3) are intended to mitigate specific and general risks of impacts to natural features of interest and the overall functional integrity of the natural heritage system (NHS). The following summarizes relevant recommendations in the general order in which they would be implemented.

1. In the process of final Draft Plan approval, if an opportunity to reduce or eliminate any possible encroachment on the deciduous forest communities (FOD2-2 and FOD5-10) becomes practical, such modifications should be considered. Otherwise, a TPP should be prepared for any lots where encroachment on the noted forest communities persists (see item 6 below).
2. Prepare an ESC plan (as outlined in Section 6.3.2) in advance of any construction activities. Sediment controls should remain in place until construction and site restoration are complete.
3. Develop a spill-prevention plan in advance of any construction activities for the construction period.
4. Prepare a grading plan and SWM plan that take into consideration feasible measures to avoid alteration of groundwater infiltration dynamics and to otherwise maintain existing patterns of conveyance of drainage.
5. Prepare and implement a construction timetable in which the timing of removal of forest cover is restricted to avoid the periods of bird nesting (01 May to 31 August).
6. Prepare and implement a TPP which retains and protects existing trees to the extent practical during the construction period, and which establishes post-

construction planting objectives for the initial stages of development (clearing, grading, installation of access and service infrastructure) and for the eventual development of individual lots.

6.6 Policy Interpretation

The Provincial Policy Statement (PPS) serves as the foundation for the various policies contained in the County and Municipal OPs, including those that are intended to protect and maintain the natural environment and its functions. The following summaries address the PPS and OP natural heritage policy elements that are of relevance to the Alta Property.

Significant Woodlands

No development or site alteration may occur within Significant Woodlands or their adjacent lands (within 120 m) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions. In addition, fragmentation of significant woodlands is generally discouraged.

The development of the Alta Property, as currently proposed, will not result in the loss of existing woodland other than a small area (<1 ha) that is not mapped as part of the area of Significant Woodland. This EIS concludes that development will not fragment or otherwise result in adverse impacts on Significant Woodlands as a functional component of the NHS that overlaps the Property and surrounding lands.

Area of Natural and Scientific Interest

No development or site alteration may occur within an ANSI or adjacent lands (within 120 m for a Life Science ANSI) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

This EIS has determined that the development proposed within the adjacent lands of the Blue Mountain Slopes ANSI will not adversely affect the ANSI or its functions.

Fish Habitat

The PPS states that development and site alteration are not permitted in Fish Habitat except in accordance with relevant provincial and federal requirements. No development will be permitted within 30 m of the banks of a stream, river, or lake unless an EIS, or the Conservation Authority, concludes setbacks may be reduced.

The drainage swales within the Property do not function as fish habitat, while Watercourse #21 is devoid of fish but is assumed to function as *indirect* fish habitat. Development will not occur within 30 m of Watercourse #21, and there is no significant hydrological connectivity between the area of development and the watercourse. There is

no expectation that proposed development will have any effect on possible fish habitat function.

Habitat of Threatened/Endangered Species

The PPS states that no development or site alteration will be permitted within the habitat of Threatened or Endangered species except in accordance with provincial and federal requirements. No development or site alteration will be permitted within the adjacent lands (120 m) to these areas unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

There is no current evidence of the meaningful presence of Threatened or Endangered Species or their habitat within or in close proximity to the Alta Property, and thus development will not have negative impacts on any such species.

Significant Wildlife Habitat

In the PPS, development and site alteration is not permitted within Significant Wildlife Habitat (SWH) and adjacent lands (120 m) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

Development is proposed within 120 m of minor seepage areas located in the northeast corner of the Property. The overall risk of adverse effects on this SWH feature is deemed to be very low, and no negative impacts are expected.

Natural Heritage System (NHS)

The PPS states that diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of the NHS, 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.

The proposed development of the Alta Property is not expected to result in any meaningful loss or impairment of ecological or hydrological connectivity, or the overall integrity of the NHS.

Summary

Overall, the proposed development of the Alta Property meets policy requirements and there is no expectation of any negative impacts on several specific features of interest (ANSI, Significant Woodlands SAR, SWH, fish habitat) or the NHS that they comprise.

7.0 REFERENCES

Ages Consultants Limited (Ages). 15 September 2003. Memorandum from Derek J. Colemen to David Slade, DCS Consultants Inc. Re - Ecological Overview, Alta Phase ll Development, Lots 23 and 24, Concession 4, Town of the Blue Mountains.

Bird Studies Canada (BSC), Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources. 2021. Ontario Breeding Bird Atlas Database. Data accessed from NatureCounts, a node of the Avian Knowledge Network, Bird Studies Canada. Available at: http://www.naturecounts.ca.

Bird Studies Canada (BSC). 2003. The Marsh Monitoring Program Training Kit and Instructions for Surveying Marsh Birds, Amphibians, and Their Habitats. Revised 2003.

Bowman, J. and C. Cordes. 2015. Landscape Connectivity in the Great Lakes Basin. Wildlife Research and Monitoring Section, Ontario Ministry of Natural Resources and Forestry. June 2015.

Cadman, M.D., D.A. Sutherland, G.G Beck, D. Lepage, and A.R. Couturier (eds.). 2007. Atlas of the Breeding Birds of Ontario, 2001 - 2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature. Toronto, ON.

County of Grey Geographic Information Systems (GIS) website (http://gis.greycounty.ca). Last accessed 30 May 2021.

County of Grey. 2019. Recolour Grey - County of Grey Official Plan. Effective Date June 7, 2019).

GEI Consultants, Inc.. 2021. Geotechnical Investigation - Alta Subdivision Phase 2. Project Ref No. 2101271. 23 July 2021.

Gillespie, J.E. and N.R. Richards. 1954. Soil Survey of Grey County. Report No. 17 of the Ontario Soil Survey.

Gore and Storrie Limited (G&S). 1993. Craigleith Camperdown Subwatershed Study. Final report. Prepared on behalf of the Grey Sauble Conservation Authority.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Natural Heritage Information Centre (NHIC). 2021. Online Element Occurrence Database at http://nhic.mnr.gov.on.ca/nhic_.cfm. Last accessed 21 June 2021.

Natural Resource Solutions Inc. (NRSI). 2017. Grey County Natural Heritage System Study - "Green in Grey". Prepared for Grey County, January 2017.

Ontario Ministry of Natural Resources (MNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp. March 2010.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2019. DRAFT Client's Guide to Preliminary Screening for Species at Risk. May 2019.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2015a. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Queen's Printer for Ontario. 38 pp. January 2015.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2015b. Significant Wildlife Habitat Mitigation Support Tool - Version 2014. Queen's Printer for Ontario. 533 pp. March 2015.

Town of the Blue Mountains (TOBM). 2016. Town of the Blue mountains Official Plan. June 2016.

TABLES

Table 1: Summary of ELC Community Characteristics

Community Type[1]	Approx. Area (ha)	Woody Vegetation Characteristics			Tree Size (DBH) Distribution[4]			Summary of Functions[5]
		Woody Cover[2]	Composition[3]	Age and Structure	<15 cm	15 to 30 cm	>30 cm	
Cultural Meadow (CUM)	3.9	<10%	Red-Osier Dogwood=White Ash	Very early succession. No layering.	100%	0%	0%	Moderate diversity and abundance of common fauna. Abundant non-native species. No Priority Species habitat or SWH function evident.
Cultural Thicket (CUT)	6.4	30%	Hawthorn=Ash=Elm	Very early succession. No layering.	100%	0%	0%	Moderate diversity and abundance of common fauna. Abundant non-native species. No Priority Species habitat or SWH function evident.
Cultural Woodland (CUW)	5.1	40%	Ash=Elm=Manitoba Maple	Mid succession. Very limited layering.	75%	20%	5%	Low diversity and abundance of common fauna. Abundant non-native species. No Priority Species habitat or SWH function evident.
Cultural Plantation (Apple Orchard) (CUP1)	1.6	50%	Domestic Apple	Intermediate and even aged. No layering.	0%	40%	60%	Limited habitat for modest diversity of common fauna. No Priority Species or SWH function evident. No evident hydrological function.
Cultural Plantation (White Pine) (CUP3-2)	3.2	95%	White Pine>>>White Ash	Young and even aged. Very limited layering.	90%	10%	0%	Very low diversity and abundance of common fauna. No Priority Species or SWH function evident.
Oak-Maple Forest (FOD2-2)	0.6	90%	Red Oak>Red Maple=Aspen	Intermediate age, mixed age. Layering evident.	40%	35%	25%	Moderate diversity and abundance of common fauna. Minor presence of Priority Species (Eastern Wood-pewee). No SWH function evident.
Maple-Poplar Forest (FOD5-10)	1.6	95%	Sugar Maple>>Aspen>Red Oak	Intermediate age, mixed age. Layering evident.	30%	40%	30%	Moderate diversity and abundance of common fauna. Minor presence of Priority Species (Eastern Wood-pewee),SWH function (seeps/springs).
Cedar-Poplar Mixed Forest (FOM4-2)	7.3	90%	White Cedar>>Aspen>Ash	Young to intermediate age, mixed age. Minimal ayering evident.	40%	50%	10%	Moderate diversity and abundance of common fauna. No Priority Species or SWH function evident.

1 - Community type as determined through ELC following Lee et al., 1998. See Figure 4.
2 - estimate of average absolute cover of upper layer, as per Lee et al. 1998
3 - estimate of relative abundance of woody species, as per Lee et al., 1998
4 - estimated percentage of trees in the noted range of diameter at breast height (DBH)
5 - SWH = significant wildlife habitat

Table 2: Plant Species List for the Alta Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Coefficient of Conservatism[2]	Wetness Coefficient[2]
Allegheny Serviceberry	*Amelanchier laevis*	S5	Native	5	5
Alternate-leaved Dogwood	*Cornus alternafolia*	S5	Native	6	3
American Basswood	*Tilia americana*	S5	Native	4	3
American Beech	*Fagus grandifolia*	S4	Native	6	3
American Mountain-ash	*Sorbus americana*	S5	Native	8	0
Awl-fruited Sedge	*Carex stipata*	S5	Native	3	-5
Birdfoot Trefoil*	*Lotus corniculatus*	NA	Non-native	NA	3
Bird's-eye Speedwell	*Veronica persica*	NA	Non-native	NA	5
Black Cherry	*Prunus serotina*	S5	Native	3	3
Black Knapweed*	*Centaurea nigra*	NA	Non-native	NA	5
Black Locust	*Robinia pseudoacacia*	NA	Non-native	NA	3
Black Medic*	*Medicago lupulina*	NA	Non-native	NA	3
Black Raspberry	*Rubus occidentalis*	S5	Native	2	5
Black Walnut	*Juglans nigra*	S4	Native	5	3
Black-eyed Susan	*Rudbeckia hirta*	S5	Native	0	3
Bladder Campion	*Silene cucubalus*	NA	Non-native	NA	5
Blue-eyed Grass	*Sisyrinchium montanum*	S4/S5	Native	4	0
Bouncing Bet	*Saponaria officinalis*	NA	Non-native	NA	3
Broad-leaf Cattail	*Typha latifolia*	S5	Native	1	-5
Brown Knapweed*	*Centaurea jacea*	NA	Non-native	NA	5
Buckthorn*	*Rhamnus cathartica*	NA	Non-native	NA	0
Bull Thistle	*Cirsium vulgare*	NA	Non-native	NA	3
Calico Aster	*Symphyotrichum lateriflorum*	S5	Native	3	0
Canada Anemone	*Aneomone canadensis*	S5	Native	3	-3
Canada Goldenrod	*Solidago canadensis*	S5	Native	1	3
Canada Thistle*	*Cirsium arvense*	NA	Non-native	NA	3
Catnip	*Nepeta cataria*	NA	Non-native	NA	3
Cheeses	*Malva neglecta*	NA	Non-native	NA	5
Chicory	*Chicorium intybus*	NA	Non-native	NA	5
Choke Cherry	*Prunus virginiana*	S5	Native	2	3
Cleavers	*Galium aparine*	S5	Native	NA	3
Cockspur Hawthorn	*Crataegus crus-galli*	S4	Native	4	0
Coltsfoot*	*Tussilago farfara*	NA	Non-native	NA	3
Common (Old-field) Cinquefoil	*Potentilla simplex*	S5	Native	3	3
Common Burdock*	*Arctium minus*	NA	Non-native	NA	3
Common Buttercup*	*Ranunculus acris*	NA	Non-native	NA	0
Common Daffodil	*Narcissus pseudonarcissus*	NA	Non-native	NA	5
Common Dandelion*	*Taraxacum officinale*	NA	Non-native	NA	3
Common Juniper	*Juniperus communis*	S5	Native	NA	3
Common Milkweed	*Asclepias syriaca*	S5	Native	4	3
Common Mullein*	*Verbascum thapsis*	NA	Non-native	NA	5
Common Pear	*Pyrus communis*	NA	Non-native	NA	5
Common Plantain	*Plantago major*	NA	Non-native	NA	3
Common Ragweed	*Ambrosia artemisiifolia*	S5	Native	0	3
Common Speedwell	*Veronica officinalis*	NA	Non-native	NA	5
Common St. Johnswort	*Hypericum perforatum*	NA	Non-native	NA	5
Common Strawberry	*Fragaria virginiana*	S5	Native	2	3
Common Timothy	*Phleum pratense*	NA	Non-native	NA	3
Common Yarrow	*Achillea millefolium*	NA	Non-native	NA	3
Crested Sedge	*Carex cristatella*	S5	Native	3	-3
Curly Dock	*Rumex crispus*	NA	Non-native	NA	0
Daisy Fleabane	*Erigeron annuus*	S5	Native	0	3
Devils Beggar-ticks	*Bidens frondosa*	S5	Native	3	-3
Dewberry (Dwarf Raspberry)	*Rubus pubescens*	S5	Native	4	-3
Dog Violet	*Viola conspersa*	S5	Native	3	0
Domestic Apple	*Malus pumila*	NA	Non-native	NA	5
Downy Hawthorn	*Crataegus mollis*	S4/S5	Native	4	0
Early Goldenrod	*Solidago juncea*	S5	Native	3	5
Eastern Hemlock	*Tsuga canadensis*	S5	Native	7	3

Table 2: Plant Species List for the Alta Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Coefficient of Conservatism[2]	Wetness Coefficient[2]
Eastern Red Cedar	*Juniperus virginiana*	S5	Native	4	3
Eastern White Cedar	*Thuja occidentalis*	S5	Native	4	-3
Eastern White Pine	*Pinus strobus*	S5	Native	4	3
Elecampane Flower*	*Inula helenium*	NA	Non-native	NA	3
English Hawthorn*	*Crataegus monogyna*	NA	Non-native	NA	3
English Plantain	*Plantago lanceolata*	NA	Non-native	NA	3
European Barberry	*Berberis vulgaris*	NA	Non-native	NA	3
European Highbush Cranberry*	*Viburnum opulus*	NA	Non-native	NA	3
False Solomon's-seal	*Maianthemum racemosum*	S5	Native	4	3
Fireberry Hawthorn	*Crataegus chrysocarpa*	S5	Native	4	5
Forget-me-not*	*Myosotis scorpioides*	NA	Non-native	NA	-5
Forking Catchfly	*Silene dichotoma*	NA	Non-native	NA	5
Garlic Mustard*	*Alliaria petiolata*	NA	Non-native	NA	0
Graceful Sedge	*Carex gracillima*	S5	Native	4	3
Green Ash	*Fraxinus pennsylvanica*	S4	Native	3	-3
Ground Ivy	*Glechoma hederacea*	NA	Non-native	NA	3
Hairy Crabgrass	Digitaria sanguinalis	NA	Non-native	NA	3
Herb-Robert	*Geranium robertianum*	S5	Native	2	3
Intermediate Woodfern	*Dryopteris intermedia*	S5	Native	5	0
Ironwood	*Ostrya virginiana*	S5	Native	4	3
Jack-in-the-pulpit	*Arisaema triphyllum*	S5	Native	5	-3
King Devil	*Pilosella piloselloides*	NA	Non-native	NA	5
Lamb's Quarter*	*Chenopodium album*	NA	Non-native	NA	3
Lance-leaved Goldenrod	*Euthamia graminifolia*	S5	Native	2	0
Late Goldenrod	*Solidago gigantea*	S5	Native	4	-3
Leafy Spurge	*Euphorbia esula*	NA	Non-native	NA	5
Lilac*	*Syringa vulgaris*	NA	Non-native	NA	5
Manitoba Maple*	*Acer negundo*	S5	Native	0	0
Meadow Fescue	*Lolium pratense*	NA	Non-native	NA	3
Mouse-ear Chickweed	*Cerastium fontanum*	S5	Non-native	NA	3
Mouse-ear Hawkweed	*Hieracium pilosella*	NA	Non-native	NA	5
Multiflora Rose	*Rosa multiflora*	NA	Non-native	NA	3
Narrow-leaved Cattail*	*Typha angustifolia*	NA	Native	NA	-5
New England Aster	*Symphyotrichum novae-angliae*	S5	Native	2	-3
Nipplewort	*Lapsana communis*	SE	Non-native	NA	3
Northern Bedstraw	*Galium boreale*	S5	Native	7	0
Norway Spruce	*Picea abies*	NA	Non-native	NA	5
Orchard Grass	*Dactylis glomerata*	NA	Non-native	NA	3
Ostrich Fern	*Matteuccia struthiopteris*	S5	Native	5	0
Oxeye Daisy*	*Leucanthemum vulgare*	NA	Non-native	NA	5
Panicled Aster	*Symphyotrichum lanceolatum*	S5	Native	3	-3
Peach-leaved Willow	*Salix amygdaloides*	S5	Native	6	-3
Perennial Ryegrass*	*Lolium perenne*	NA	Non-native	NA	NA
Poison Ivy	*Toxicodendron radicans*	S5	Native	2	0
Purple Loosestrife*	*Lythrum salicaria*	NA	Non-native	NA	-5
Purslane Speedwell	*Veronica peregrina*	S5	Native	0	0
Pussy Willow	*Salix discolor*	S5	Native	3	-3
Red Baneberry	*Actaea rubra*	S5	Native	NA	3
Red Clover*	*Trifolium pratense*	NA	Non-native	NA	3
Red Elderberry	*Sambucus racemosa*	S5	Native	5	3
Red Fescue	*Festuca rubra*	S5	Native	NA	3
Red Maple	*Acer rubrum*	S5	Native	4	0
Red Oak	*Quercus rubra*	S5	Native	6	3
Red Raspberry	*Rubus idaeus*	S5	Native	2	3
Red-osier Dogwood	*Cornus sericea*	S5	Native	2	-3
Reed Canary Grass	*Phalaris arundinacea*	S5	Native	0	-3
Rough Avens	*Geum laciniatum*	S4	Native	4	-3
Rough Bedstraw	*Galium asprellum*	S5	Native	6	-5
Rough Cinquefoil	*Potentilla norvegica*	S5	Native	0	0

Table 2: Plant Species List for the Alta Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Coefficient of Conservatism[2]	Wetness Coefficient[2]
Rough-fruited Cinquefoil*	*Potentilla recta*	NA	Non-native	0	5
Sandbar Willow	*Salix interior*	S5	Native	1	-3
Saskatoon Berry	*Amelanchier alnifolia*	S4	Native	8	3
Scotch Thistle	*Onopordum acanthium*	NA	Non-native	NA	5
Scots Pine*	*Pinus sylvestris*	NA	Non-native	NA	3
Self-heal	*Prunella vulgaris*	NA	Non-native	NA	0
Sensitive Fern	*Onoclea sensibilis*	S5	Native	4	-3
Serviceberry	*Amelanchier arborea*	S5	Native	5	3
Shepherd's Purse	*Capsella bursa-pastoris*	SNA	Non-native	NA	3
Solomon's-seal	*Polygonatum biflorum*	S4	Native	8	3
Spotted Knapweed	*Centaurea biebersteinii*	NA	Non-native	NA	5
Spreading Dogbane	*Apocynum androsaemifolium*	S5	Native	3	5
Staghorn Sumac	*Rhus typhina*	S5	Native	1	3
Starry False Solomon's-seal	*Maianthemum stellatum*	S5	Native	6	0
Sugar Maple	*Acer saccharum*	S5	Native	4	3
Sweet Pea	*Lathyrus latifolius*	NA	Non-native	NA	5
Sweetbrier	*Rosa eglanteria*	NA	Non-native	NA	3
Tall Fescue*	*Schedonorus arundinaceus*	NA	Non-native	NA	3
Tall Goldenrod	*Solidago altissima*	S5	Native	1	3
Tartarian Honeysuckle*	*Lonicera tatarica*	NA	Non-native	NA	3
Teasel	*Dipsacus fullonum*	NA	Non-native	NA	3
Three-leaved Rattlesnakeroot	*Nabalus trifoliolatus*	S5	Native	5	3
Trembling Aspen	*Populus tremuloides*	S5	Native	2	0
Trout-lily	*Erythronium americanum*	S5	Native	5	5
Tufted Vetch*	*Vicia cracca*	NA	Non-native	NA	5
Viper's Bugloss	*Echium vulgare*	NA	Non-native	NA	5
Virginia Creeper	*Parthenocissus quinquefolia*	S4	Native	6	3
White Ash	*Fraxinus americana*	S4	Native	4	3
White Birch	*Betula papyrifera*	S5	Native	2	3
White Clover*	*Trifolium repens*	NA	Non-native	NA	3
White Elm	*Ulmus americana*	S5	Native	3	-3
White Spruce	*Picea glauca*	S5	Native	6	3
White Sweet Clover	*Melilotus albus*	NA	Non-native	NA	3
White Trillium	*Trillium grandiflorum*	S5	Native	5	3
Wild Carrot*	*Daucus carota*	NA	Non-native	NA	5
Wild Ginger	*Asarum canadense*	S5	Native	6	5
Wild Grape	*Vitis riparia*	S5	Native	0	0
Wild Leek	*Allium tricoccum*	S5	Native	7	3
Wild Madder	*Galium mollugo*	NA	Non-native	NA	5
Wild Raspberry	*Rubus occidentalis*	S5	Native	2	5
Woodland Agrimony	*Agrimonia striata*	S4	Native	3	3
Woodland Strawberry	*Fragaria vesca*	S5	Native	4	3
Wool Grass	*Scirpus cyperinus*	S5	Native	4	-5
Yellow Avens	*Geum aleppicum*	S5	Native	2	0
Yellow Goat's-beard	*Tragopogon pratensis*	NA	Non-native	NA	5

* - species marked with an asterisk are considered by various sources to be invasive in Ontario

1. Provincial Rank: S4 - Apparently Secure, S5 - Secure, NA = not applicable (non-native species)

2. Coefficients as reported by Oldham et al., 1995

Table 3: BBS Point-Count Station Characteristics

Station ID	UTM Coordinates (Centroid)[1]		Main Habitat/Cover Type
	Easting	Northing	
PC-1	551250	4931150	CUP
PC-2	551025	4931055	CUM/CUT
PC-3	550815	4931040	CUW/CUT

1 - coordinates obtained using handheld GPS, NAD83 datum. Reported to the nearest 5 m.

Table 4: Summary of Bird Species Recorded at the Alta Property

Species		Breeding Status		Conservation Status			Breeding Habitat Preference[6]
Common name	Scientific name	Site[1]	OBBA[2]	SRANK[3]	COSEWIC[4]	COSSARO[5]	
American Crow	*Corvus brachyrhynchos*	Possible	Confirmed	S5	-	-	general
American Goldfinch	*Carduelis tristis*	Probable	Probable	S5	-	-	general
American Redstart	*Setophaga ruticilla*	Probable	Probable	S5	-	-	early succession
American Robin	*Turdus migratorius*	Probable	Confirmed	S5	-	-	general
Barn Swallow	*Hirunda rustica*	Possible	Confirmed	S4	THR	THR	man-made structures
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Probable	Possible	S5	-	-	early succession
Black-capped Chickadee	*Poecile atricapillus*	Comfirmed	Confirmed	S5	-	-	general
Black-throated Green Warbler	*Setophaga virens*	Observed	Possible	S5	-	-	forest
Blue Jay	*Cyanocitta cristata*	Possible	Probable	S5	-	-	forest
Broad-winged Hawk	*Buteo platypterus*	Observed	NR	S5	-	-	forest
Brown Thrasher	*Toxostoma rufum*	Possible	Probable	S4	-	-	early succession
Brown-headed Cowbird	*Molothrus ater*	Probable	Probable	S4	-	-	general
Canada Goose	*Branta canadensis*	Observed	Confirmed	S5	-	-	wetland
Cedar Waxwing	*Bombycilla cedrorum*	Possible	Possible	S5	-	-	general
Chipping Sparrow	*Spizella passerina*	Probable	Probable	S5	-	-	general
Common Grackle	*Quiscalus quiscula*	Possible	Confirmed	S5	-	-	general
Common Raven	*Corvus corax*	Observed	Possible	S5	-	-	forest
Common Yellowthroat	*Geothlypis trichas*	Probable	Probable	S5	-	-	early succession, wetland
Double-crested Cormorant	*Phalacrocorax auritus*	Observed	Confirmed	S5	-	-	wetland
Downy Woodpecker	*Picoides pubescens*	Possible	Possible	S5	-	-	forest
Eastern Kingbird	*Tyrannus tyrannus*	Probable	Probable	S4	-	-	open habitat
Eastern Phoebe	*Sayornis phoebe*	Comfirmed	Confirmed	S5	-	-	general
Eastern Towhee	Pipilo erythrophthalmus	Probable	NR	S4	-	-	early succession
Eastern Wood-pewee	*Contopus virens*	Possible	Possible	S4	SC	SC	forest
Field Sparrow	*Spizella pusilla*	Comfirmed	Possible	S4	-	-	open habitat
Golden-crowned Kinglet	*Regulus satrapa*	Observed	NR	S5	-	-	forest
Gray Catbird	*Dumetella carolinensis*	Comfirmed	Probable	S4	-	-	early succession
Great Crested Flycatcher	*Myiarchus crinitus*	Probable	Probable	S5	-	-	forest
House Wren	*Troglodytes aedon*	Comfirmed	Probable	S5	-	-	general
Indigo Bunting	*Passerina cyanea*	Probable	Possible	S4	-	-	early succession
Magnolia Warbler	*Setophaga magnolia*	Possible	NR	S5	-	-	forest
Mourning Dove	*Zenaida macroura*	Possible	Possible	S5	-	-	general
Northern Cardinal	*Cardinalis cardinalis*	Comfirmed	Probable	S5	-	-	early succession
Northern Flicker	*Colaptes auratus*	Probable	Probable	S4	-	-	general

Table 4: Summary of Bird Species Recorded at the Alta Property

Species		Breeding Status		Conservation Status			Breeding Habitat Preference[6]
Common name	Scientific name	Site[1]	OBBA[2]	SRANK[3]	COSEWIC[4]	COSSARO[5]	
Northern Oriole	*Icterus galbula*	Comfirmed	Confirmed	S5	-	-	general
Pileated Woodpecker	*Dryocopus pileatus*	Possible	NR	S5	-	-	forest
Purple Finch	*Haemorhous purpureus*	Possible	Possible	S4	-	-	forest
Red-bellied Woodpecker	*Melanerpes carolinus*	Possible	Possible	S4			forest
Red-eyed Vireo	*Vireo olivaceus*	Probable	Probable	S5	-	-	forest
Red-tailed Hawk	*Buteo jamaicensis*	Possible	Possible	S5	NAR	NAR	open habitat
Red-winged Blackbird	*Agelaius phoeniceus*	Comfirmed	Confirmed	S4	-	-	wetlands, grasslands
Ring-billed Gull	*Larus delawarensis*	Observed	Confirmed	S5	-	-	wetland
Ruby-throated Hummingbird	*Archilochus colubris*	Possible	Possible	S5	-	-	early succession
Ruffed Grouse	*Bonasa umbellus*	Possible	NR	S4	-	-	forest
Scarlet Tanager	*Piranga olivacea*	Possible	NR	S4	-	-	forest
Sharp-shinned Hawk	*Accipiter striatus*	Observed	NR	S5	NAR	NAR	forest
Song Sparrow	*Melospiza melodia*	Comfirmed	Confirmed	S5	-	-	general
Tree Swallow	*Tachycineta bicolor*	Possible	Probable	S4	-	-	open habitat
Turkey Vulture	*Cathartes aura*	Possible	NR	S5	-	-	unassigned
Warbling Vireo	*Vireo gilvus*	Probable	Probable	S5	-	-	early succession
Wild Turkey	*Meleagris gallopavo*	Possible	NR	S5	-	-	forest
Yellow Warbler	*Setophaga petechia*	Probable	Probable	S5	-	-	early succession
Yellow-bellied sapsucker	*Sphyrapicus varius*	Possible	Possible	S5	-	-	forest
Yellow-billed Cuckoo	*Coccyzus americanus*	Possible	NR	S4	-	-	early succession

1. includes adjacent lands within 50 m of property perimeter
2. the highest breeding status reported in the OBBA for Square 17NK53
3. Provincial Rank: S4 - Apparently Secure, S5 - Secure
4. Federal Status: THR = Threatened, SC = Special Concern, NAR = Not at Risk
5. Provincial Status: THR = Threatened, SC = Special Concern, NAR = Not at Risk
6. based on the Ontario Breeding Bird Atlas (OBBA)

Table 5: Priority Bird Species Reported for Square 17NK53

Species		SRank[1]	SARO Status[2]	SARA Status[3]	Primary Habitat Association[4]
Common Name	**Scientific Name**				
Barn Swallow	*Hirundo rustica*	S4	THR	THR	man-made structures
Bobolink	*Dolichonyx oryzivorus*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Canada Warbler	*Cardellina canadensis*	S4	SC	THR	moist mixed forests or swamps
Common Nighthawk	*Chordeiles minor*	S4	SC	THR	rock outcrops, sand barrens, forest clearings
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Eastern Wood-pewee	*Contopus virens*	S4	SC	SC	deciduous and mixed forest
Wood Thrush	*Hylocichla mustelina*	S4	SC	THR	mature deciduous or conifer-deciduous forests

1 - Provincial Rank - S4 = Apparently Secure
2 - Species at Risk in Ontario - SC = Special Concern, THR = Threatened
3 - Species at Risk Act (Canada) - SC = Special Concern THR = Threatened
4 - as reported in the Ontario Breeding Bird Atlas (OBBA)

Table 6: Amphibians and Reptiles Observed at or near the Alta Property

Species		COSEWIC Status[2]	COSSARO Status[3]	"S" Rank	Preferred Breeding Habitat	Local Presence
Common Name	**Scientific Name**					
Green Frog	*Lithobates clamitans*	-	-	S5	Shallow permanent water	Adult specimens observed in association with Watercourse #21. No evidence of breeding.
Spring Peeper	*Pseudacris crucifer*	-	-	S5	Temporary woodland ponds, or swamps	Isolated breeding vocalizations in south end of property. No occurences recorded within core of Property.
Western Chorus Frog	*Pseudacris maculata*	THR	NAR	S4	Fishless ponds with ≥10 cm of water	Isolated breeding vocalizations near base of Escarpment. No occurences recorded within core of Property.
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	-	-	S5	A generalist, occupying wide variety of habitats	Single specimen observed in core of Property.

1. Provincial Rank: S4 = Apparently Secure, S5 = Secure
2. Federal Status: THR = Threatened
3. Provincial Status: NAR = not at risk

Table 7: Reptile and Amphibian Species Reported for OARA Square 17NK53[1]

Species		SRank[2]	SARO Status[3]	SARA Status[4]	Primary Habitat Association[5]
Common Name	**Scientific Name**				
Midland Painted Turtle	*Chrysemys picta marginata*	S4	-	-[6]	Ponds, marshes, lakes, or slow moving creeks with soft substrates and basking sites
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	Most freshwater habitats, most often with slow-moving water, soft substrates and abundant vegetation
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	S5	-	-	A generalist, occupying wide variety of habitats
Eastern Milksnake	*Lampropeltis triangulum*	S4	NAR	SC	Open habitats - rocky outcrops, fields and forest edge
Gray Treefrog	*Hyla versicolor*	S5	-	-	Various plant communities near permanent water
Green Frog	*Lithobates clamitans*	S5	-	-	Shallow permanent waterbodies
Northern Leopard Frog	*Lithobates pipiens*	S5	NAR	NAR	Relatively permanent ponds without fish
Spring Peeper	*Pseudacris crucifer*	S5	-	-	Temporary woodland ponds, or swamps
Western Chorus Frog	*Pseudacris maculata*	S4	NAR	THR	Fishless ponds with ≥10 cm of water
Wood Frog	*Lithobates sylvaticus*	S5	-	-	Vernal woodland pools
American Toad	*Anaxyrus americanus*	S5	-	-	Variety of warm, shallow waters

1 - Includes only those species with more than one reported occurrence since 2000
2 - Provincial Rank - S4 = Apparently Secure, S5 = Secure
3 - Species at Risk in Ontario - NAR = Not at Risk, SC = Special Concern
4 - Species at Risk Act (Canada) - NAR = Not at Risk, SC = Special Concern, THR = Threatened
5 - as reported in the Ontario Amphibian and Reptile Atlas
6 - recently recommended as Special Concern by COSEWIC, but not yet listed under SARA

Table 8: NHIC Element Occurrences (EO) near the Alta Property

Common Name	Scientific Name	SRank[1]	SARO Status[2]	SARA Status[3]	Primary Habitat
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	Most freshwater habitats, most often with slow-moving water, soft substrates and abundant vegetation
Western Chorus Frog	*Pseudacris maculata*	S4	NAR	THR	Fishless ponds with ≥10 cm of water
Eastern Milksnake	*Lampropeltis triangulum*	S4	NAR	SC	Open habitats - rocky outcrops, fields and forest edge
Butternut	*Juglans cinerea*	S2	END	END	Deciduous forest on calcareous soils
Rough Hawthorn	*Crataegus scabrida*	S3	-	-	Forest edges, meadows and fields
Stiff Yellow Flax	*Linum medium var. medium*	S3	-	-	Rocky or sandy flats, shorelines
Wood Thrush	*Hylocichla mustelina*	S4	SC	THR	Mature deciduous or conifer-deciduous forests
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	Grasslands, hayfields (usually > 5 ha)
Bobolink	*Dolichonyx oryzivorus*	S4	THR	THR	Grasslands, hayfields (usually > 5 ha)

1 - Provincial Rank - S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure
2 - Species at Risk in Ontario - END = Endangered, THR = Threatened
3 - Species at Risk Act (Canada) - END - Endangered, THR = Threatened
EO records obtained for NHIC 1-km squares within ~ 3-km of the Property. See Appendix B for details.

Table 9: Summary of Potential Natural Heritage Risks Associated with Development

Affected Feature	Potential Impact	Risk			Limiting and Mitigating Factors[3]
		Likelihood	Potential Significance[1]	Overall Risk[2]	
Significant Woodlands/ANSI/NHS Core Area	Direct loss of woodlands	Low	Low	Low	Development calls for very limited (<1 ha) overlap of the area of developmen twith areas of forest cover. Tree Preservation Plans can further mitigate loss of tree cover. Layout of certain lots can be adjusted to reduce total area of affected woodland.
	Habitat Loss/Impairment	Low	Low	Low	Plant and animal communities are not rare or sensitive. Significant Wildlife Habitat (SWH) function of woodlands is very limited. Partial mitigation possible through construction timing and tree preservation and/or planting.
	Loss/impairment of socio-economic function	Low	Low	Low	Woodlands are private and currently serve no meaningful socio-economic function.
	Impaired Hydrological Function	Low	Low	Low	No meaningful hydrological connectivity between woodlands and surface water features. Very minor groundwater recharge function. Any possible imacts can be mitigated in part through SWM plan and detailed site design considerations.
Aquatic Habitats (Watercourse 21)	Loss or interference of watercourses	Low	Low	Low	Development to be constrained to avoid direct incursion on watercourse or within 30-m setback.
	Impact on water quality or quantity	Low	Low	Low	Minimal hydrological connectivity between Property and Watercourse 21. Risk mitigation achievable through ESC and SWM plans.
Priority Species (SOCC and SAR)	Direct harm to Priority Species	Low	Low	Low	Limited and/or isolated presence of SOCC within Property. Mitigation primarily through avoidance of forest habitats, and also partly through timing of construction.
	Loss or interference of Habitat	Low	Low	Low	SOCC/SAR not expected to be present in areas of development (cultural communities). Mitigation achieved primairly through construction timing (avoid nesting season of migratory birds).
Significant Wildlife Habitat (SWH)	Direct loss	Low	Low	Low	Potential SWH function associated with deciduous forest habitats (FOD2-2 and FOD 5-10). Mitigation primarily through site planning (i.e., avoid and retain forest).
	Direct loss or impairment	Low	Low	Low	Seepage areas associated with deciduous forest habitat (FOD 5-10). Mitigation through measures to protect against groundwater interference.

1 - significance is based on consideration of ecosystem function of feature and the NHS implications

2 - overall risk is a combined function of likelihood and significance, and is subject to mitigation

3 - further details of mitigation recommendations are provided in Section 6.3

FIGURES

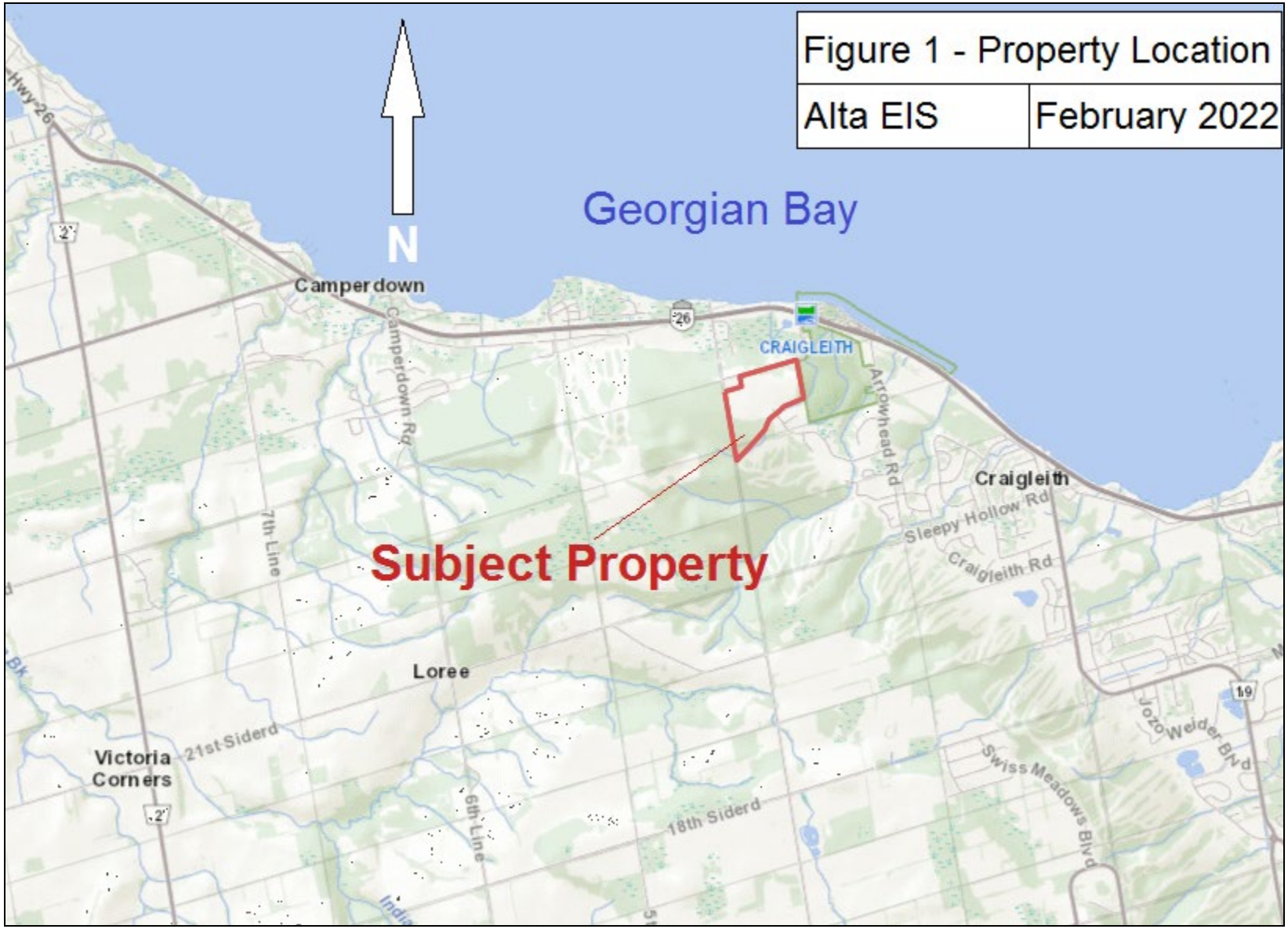


Figure 1 - Property Location
Alta EIS
February 2022
N
Georgian Bay
Camperdown
CRAIGLEITH
Craigleith
Subject Property
Loree
Victoria Corners
Camperdown Rd
7th Line
6th Line
21st Sideroad
18th Sideroad
Arrowhead Rd
Sleepy Hollow Rd
Craigleith Rd
Jozo Weider Blvd
Swiss Meadows Blvd
Hwy 26
26
19

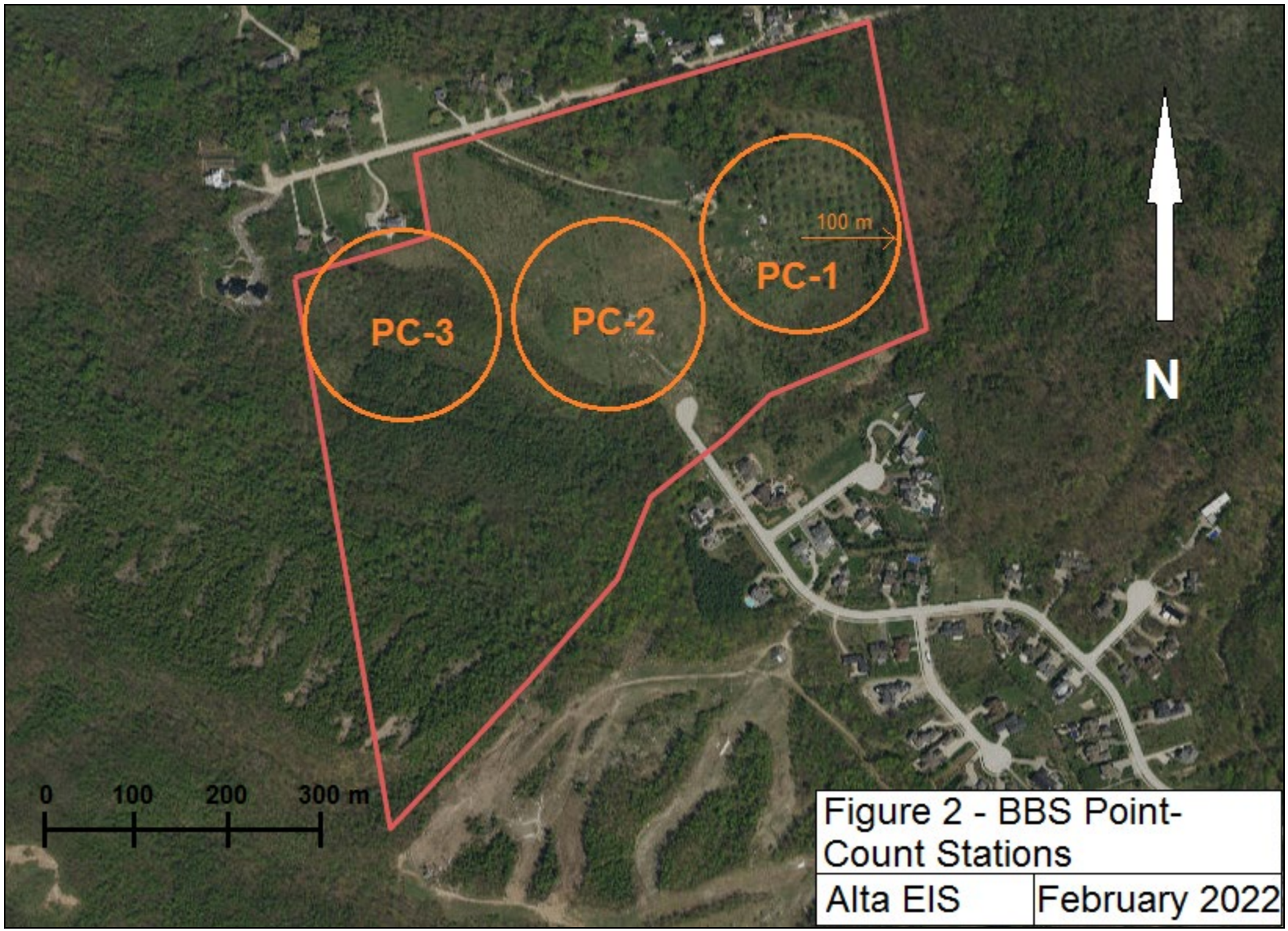


Figure 2 - BBS Point-Count Stations

Alta EIS	February 2022

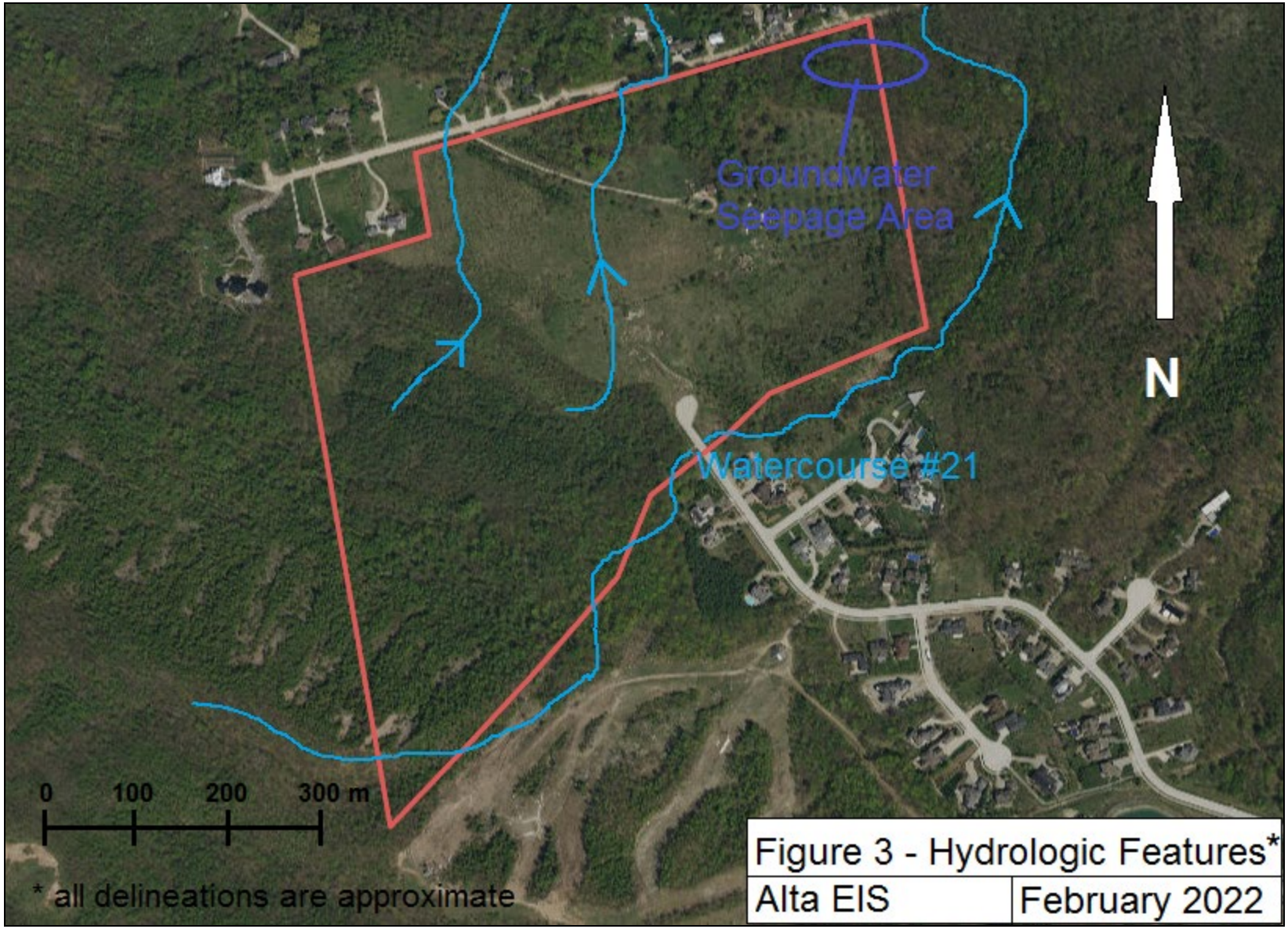


Figure 3 - Hydrologic Features*

Alta EIS	February 2022

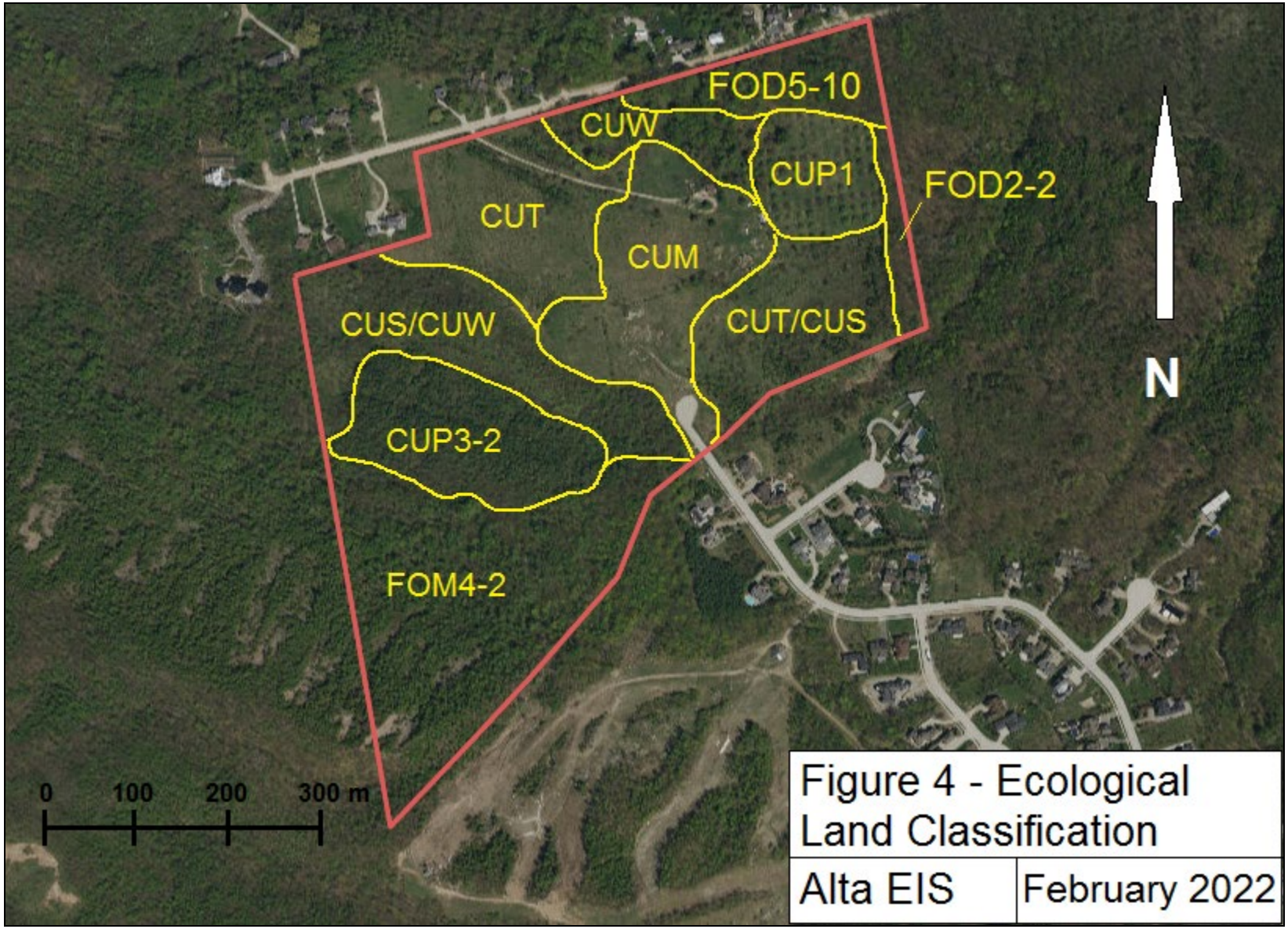


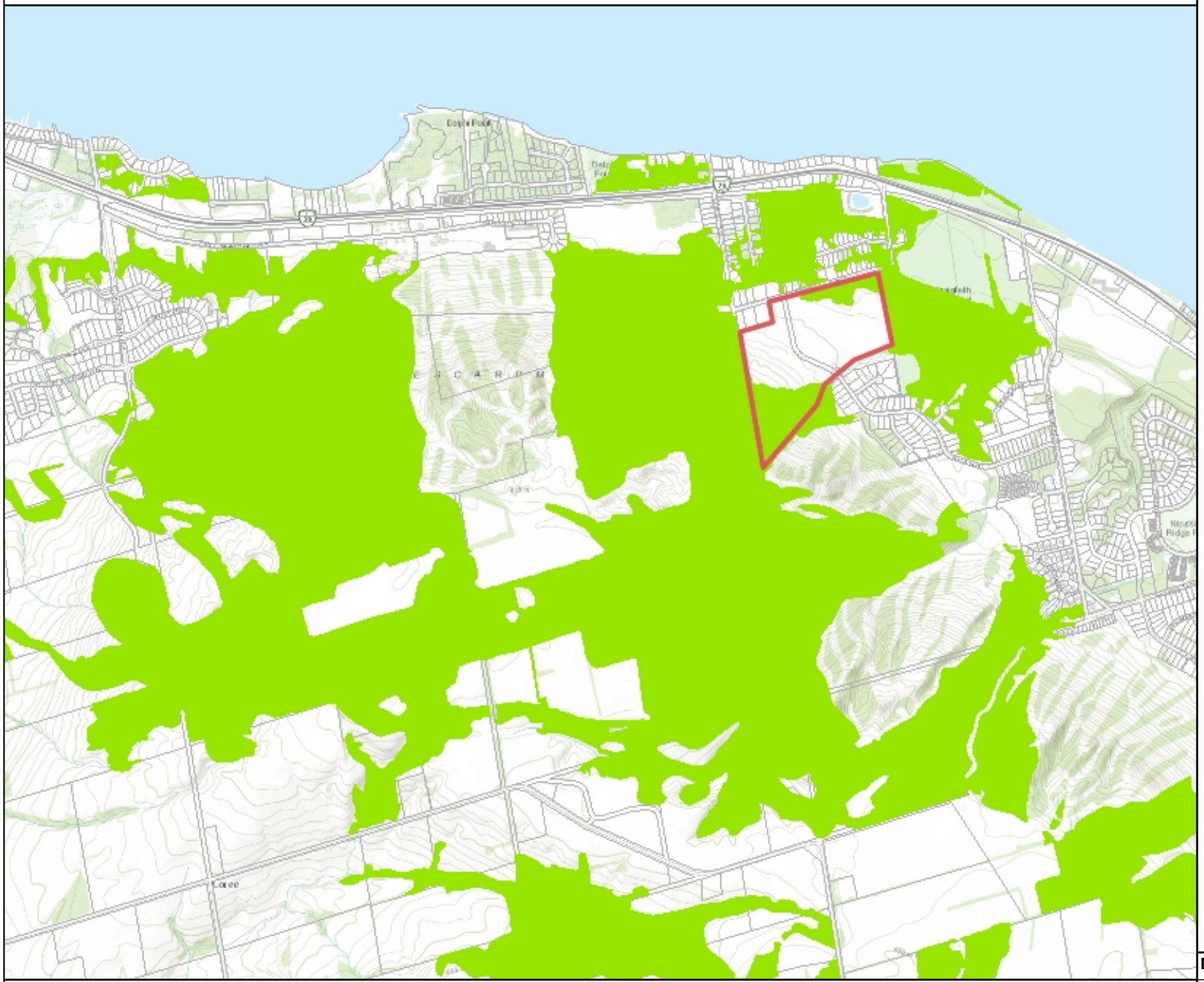
Figure 4 - Ecological Land Classification

Alta EIS	February 2022

APPENDICES

Appendix A – Existing Constraint Mapping

Significant Woodlands



Legend

- Significant Woodlands
- Parcels - Current

Notes

1777 0 889 1777 Meters

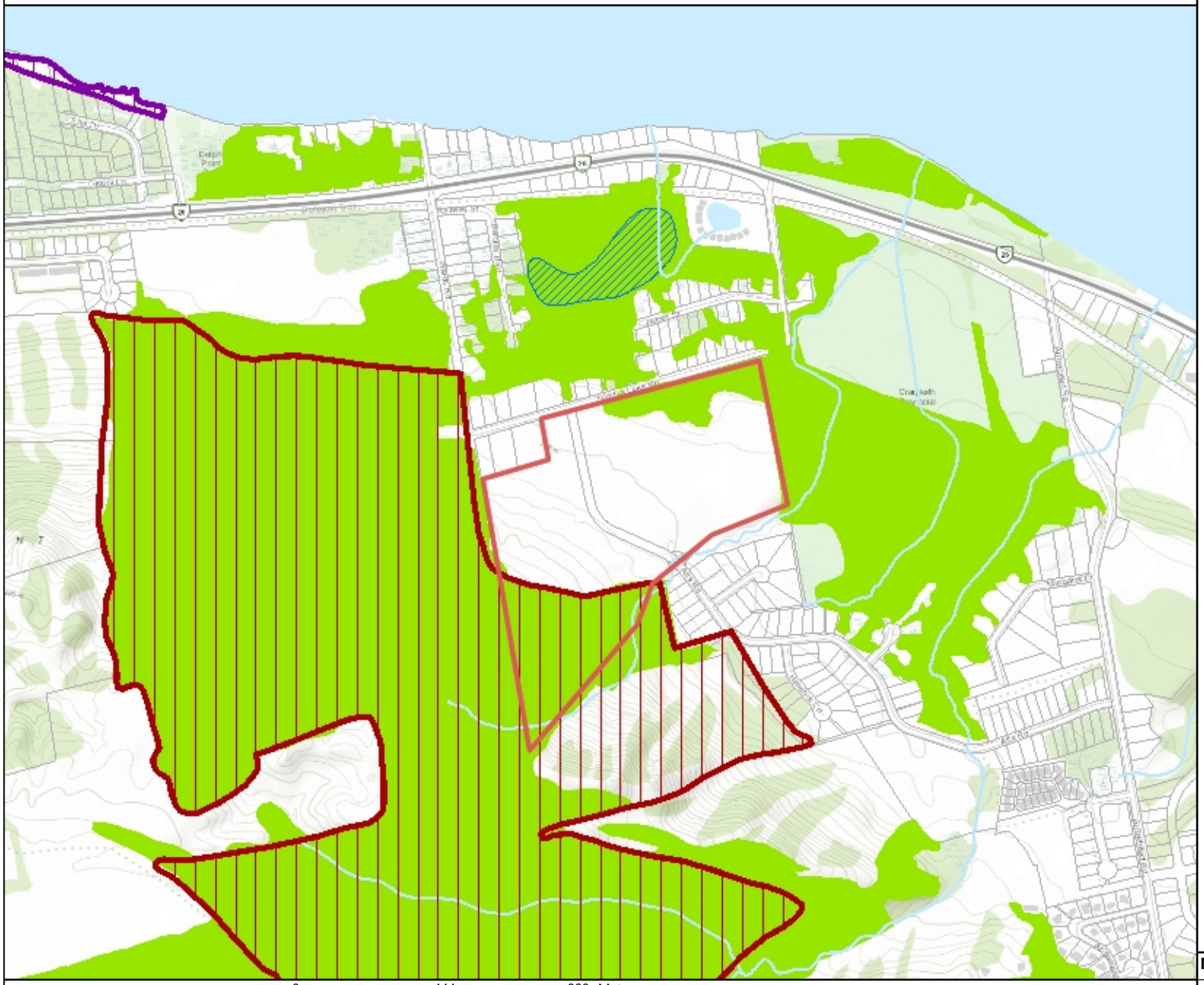
WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Printed:July 12, 2021

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Grey County OP - Appendix B Constraints



Legend

- ANSI
  - ANSI, Earth Life Science
  - ANSI, Earth Science
  - ANSI, Life Science
- Streams
- Other Wetlands
- Significant Valleylands
- Significant Woodlands
- Parcels - Current

Notes

889 0 444 889 Meters

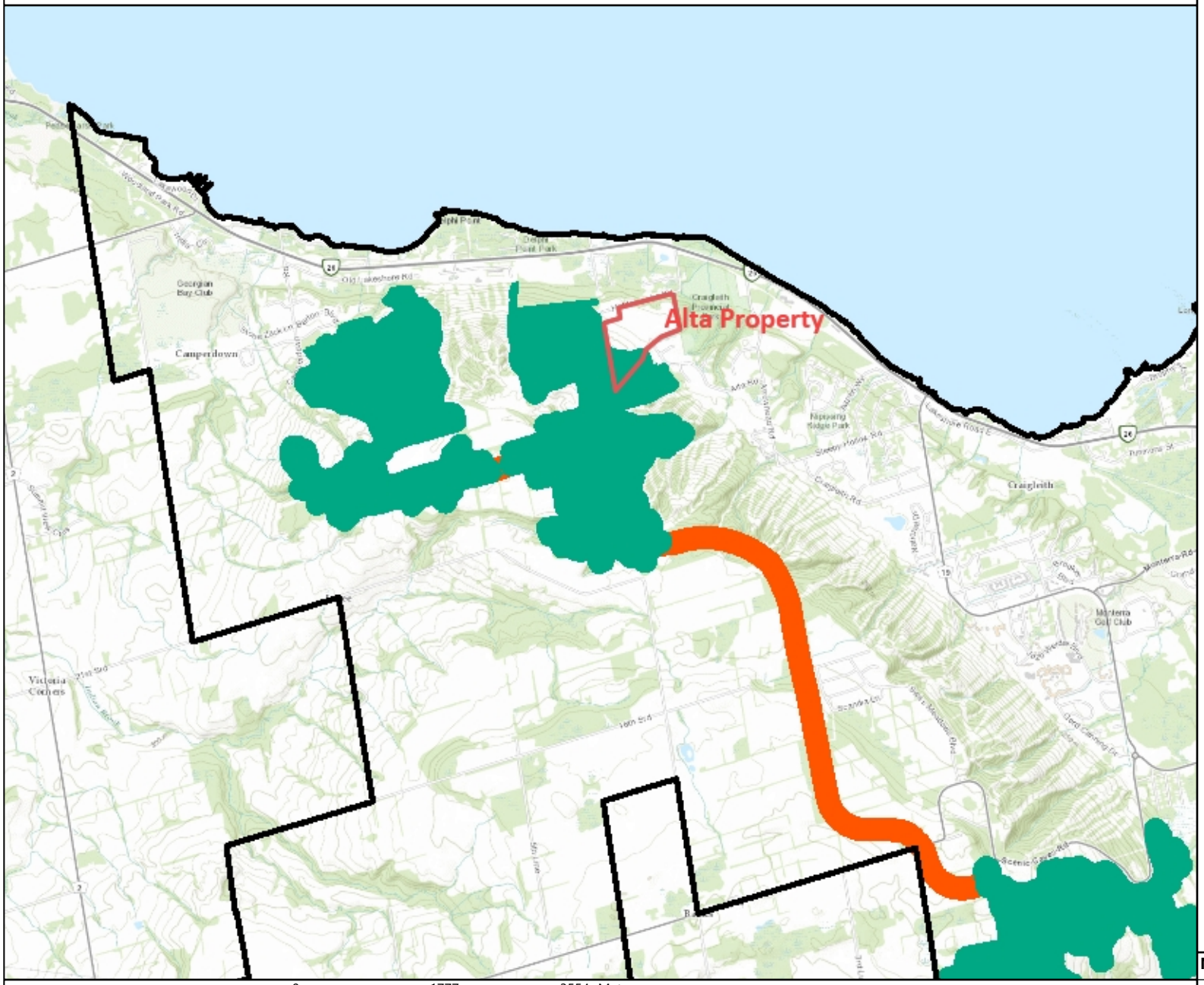
WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Printed:July 12, 2021

THIS MAP IS NOT TO BE USED FOR NAVIGATION

NHS Features



Legend

- NEC Boundary
- NHS Core
- NHS Linkage

Notes

3554 0 1777 3554 Meters

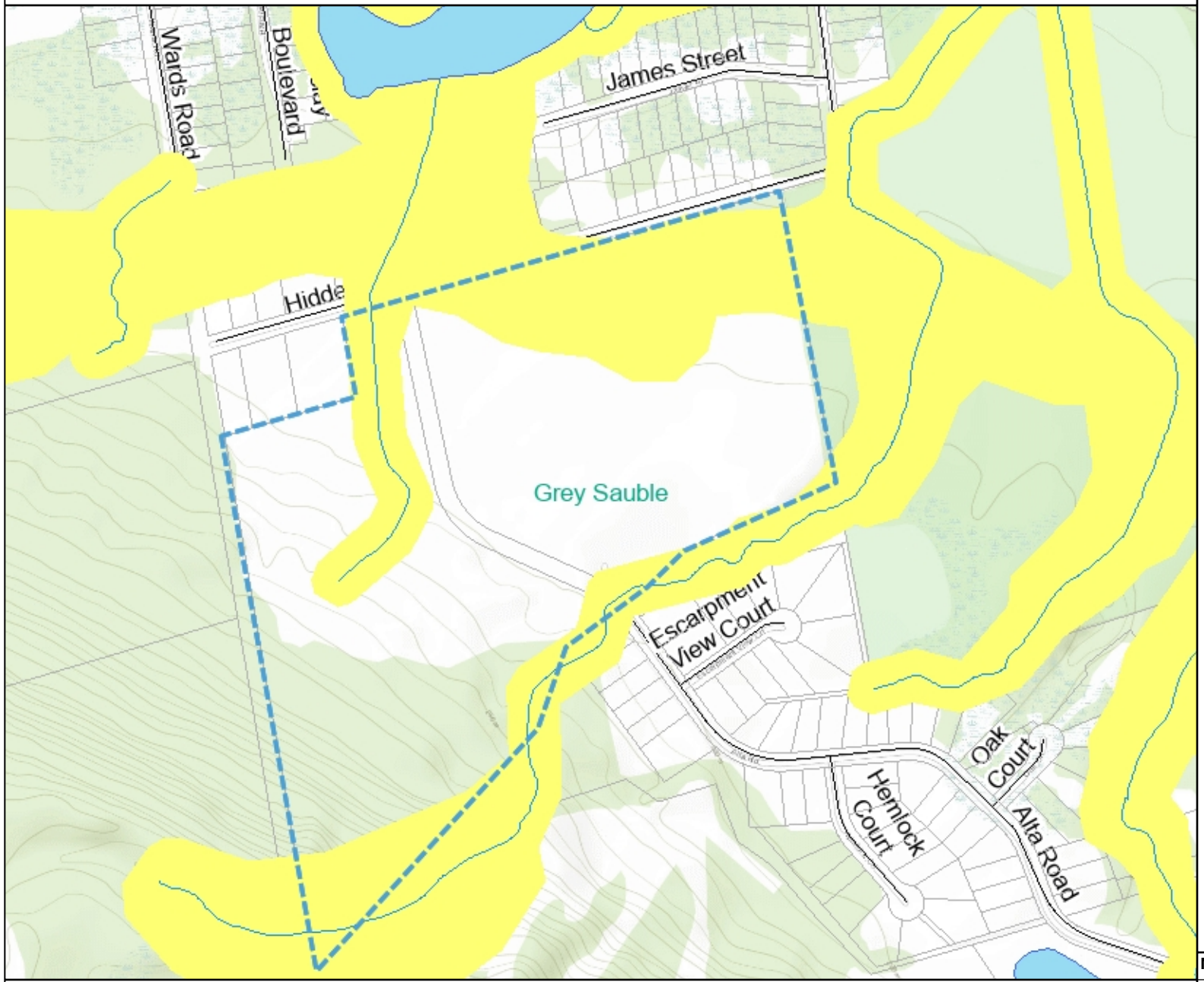
WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Printed:July 12, 2021

THIS MAP IS NOT TO BE USED FOR NAVIGATION

GSCA Regulated Areas



Legend

- CA Boundaries
- Wet Areas - GSCA
- Wet Areas - GRCA
- Water Features
- Watercourses
- Floodplains - NVCA
- Floodplains - GRCA
- Approximate Regulated and Screen SVCA
  - Approximate Regulated Area
  - Approximate Screening Area
- Regulations - GSCA
- Regulations - NVCA
- Parcels - Current
- Large Scale Roads
  - Provincial Highway
  - County Road
  - Township Road
  - Seasonal Road
- Grey County Boundary

Notes

444 0 222 444 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Printed March 7, 2021

THIS MAP IS NOT TO BE USED FOR NAVIGATION

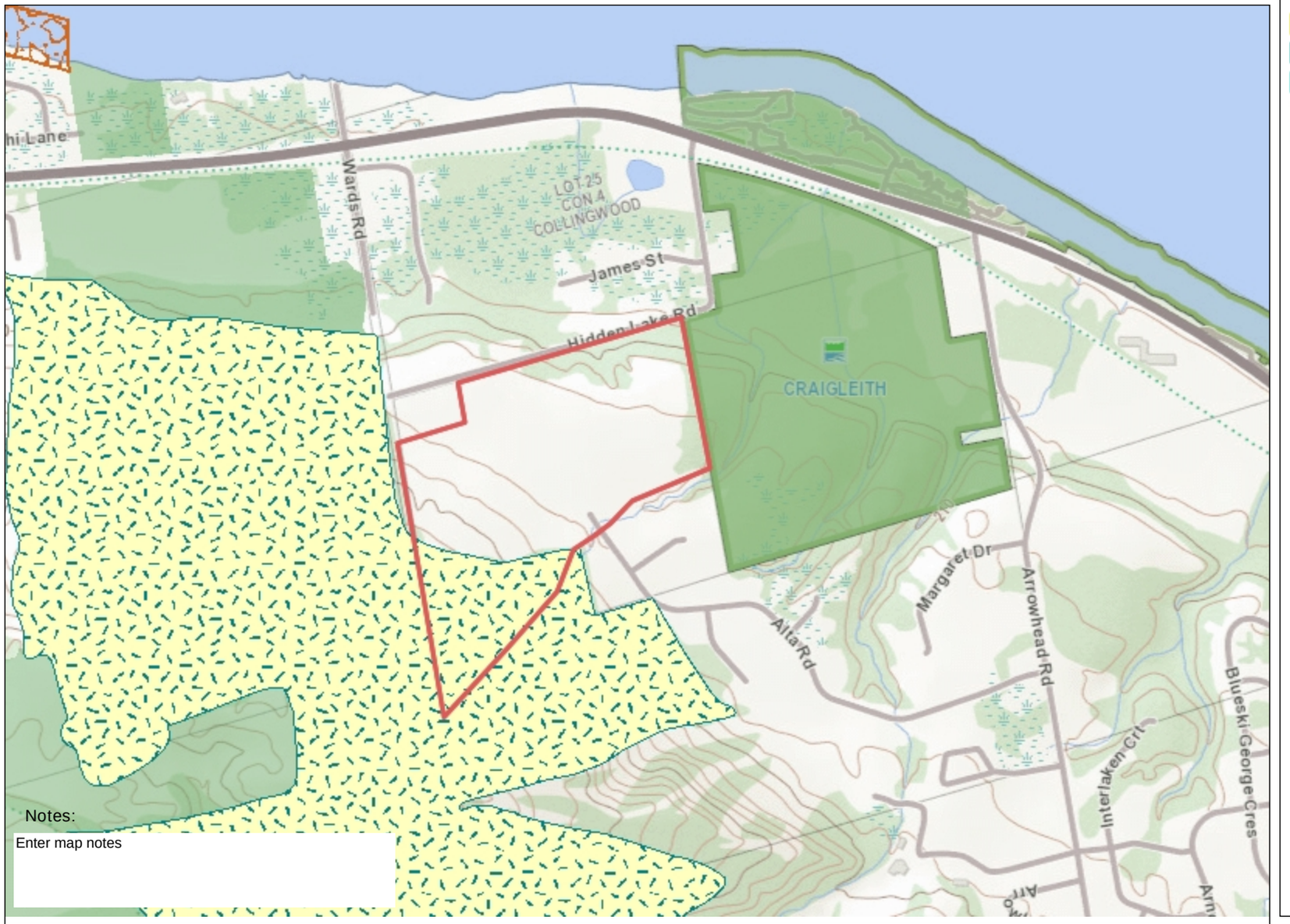
Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

ANSI

Map created:6/29/2021



Notes:

Enter map notes

Legend

ANSI

- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Provincial Park
- Natural Heritage System

0.7 0 0.33 0.7 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry(OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Wetlands and Woodlands

Map created:6/29/2021

Notes:

Enter map notes

Legend

- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland
- Provincial Park
- Natural Heritage System

0.7 0 0.33 0.7 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry(OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

Appendix B – Draft Plan of Subdivision

DRAFT PLAN OF SUBDIVISION

OF PART OF LOTS 23 & 24
CONCESSION 4
BLOCKS 67, 72, 73 and PART of
BLOCKS 75 & 76 and PART of
ALTA ROAD
REGISTERED PLAN 1127
TOWN OF THE BLUE MOUNTAINS
(FORMER TOWNSHIP OF COLLINGWOOD)
COUNTY OF GREY

REVISED FEBRUARY 11, 2022

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT

(a) AS SHOWN ON DRAFT PLAN,
(b) AS SHOWN ON KEY PLAN,
(c) AS SHOWN ON DRAFT AND KEY PLANS,
(d) THE LAND IS TO BE USED ACCORDING TO THE SCHEDULE OF LAND USE,
(e) AS SHOWN ON DRAFT PLAN,
(f) AS SHOWN ON DRAFT PLAN,
(g) AS SHOWN ON DRAFT AND KEY PLANS,
(h) PIPED WATER TO BE MADE AVAILABLE
(i) SOIL IS SILTY CLAY,
(j) AS SHOWN ON DRAFT PLAN,
(k) PIPED WATER AND SANITARY SEWERS TO BE MADE AVAILABLE
(l) NONE

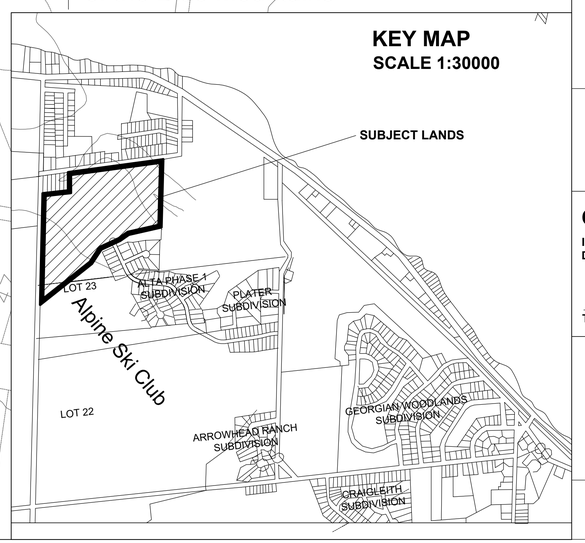
SCHEDULE OF LAND USE

	LOTS/BLOCKS	AREA (ha.)
LOW DENSTY RECREATIONAL RESIDENTIAL	LOTS 1-60	10.99
OPEN SPACE, WALKWAYS, STORMWATER MANAGEMENT	BLOCKS 61-65	15.87
ROADWAYS (Alta Road, Street B, Street C)		3.11
TOTAL AREA		29.97

	AREA (ha.)	PERCENT
ROADS AND RESIDENTIAL	14.10	47%
OPEN SPACE TOTAL	15.87	53%

NOTE:
Municipal road allowance shown (darker) is to be deeded to applicant by the Town of the Blue Mountains.

KEY MAP
SCALE 1:30000



SCALE 1:3000

METRIC

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

OWNER'S AUTHORIZATION

I AUTHORIZE PASCUZZO PLANNING INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF GREY FOR APPROVAL

TABERA LTD. DATE

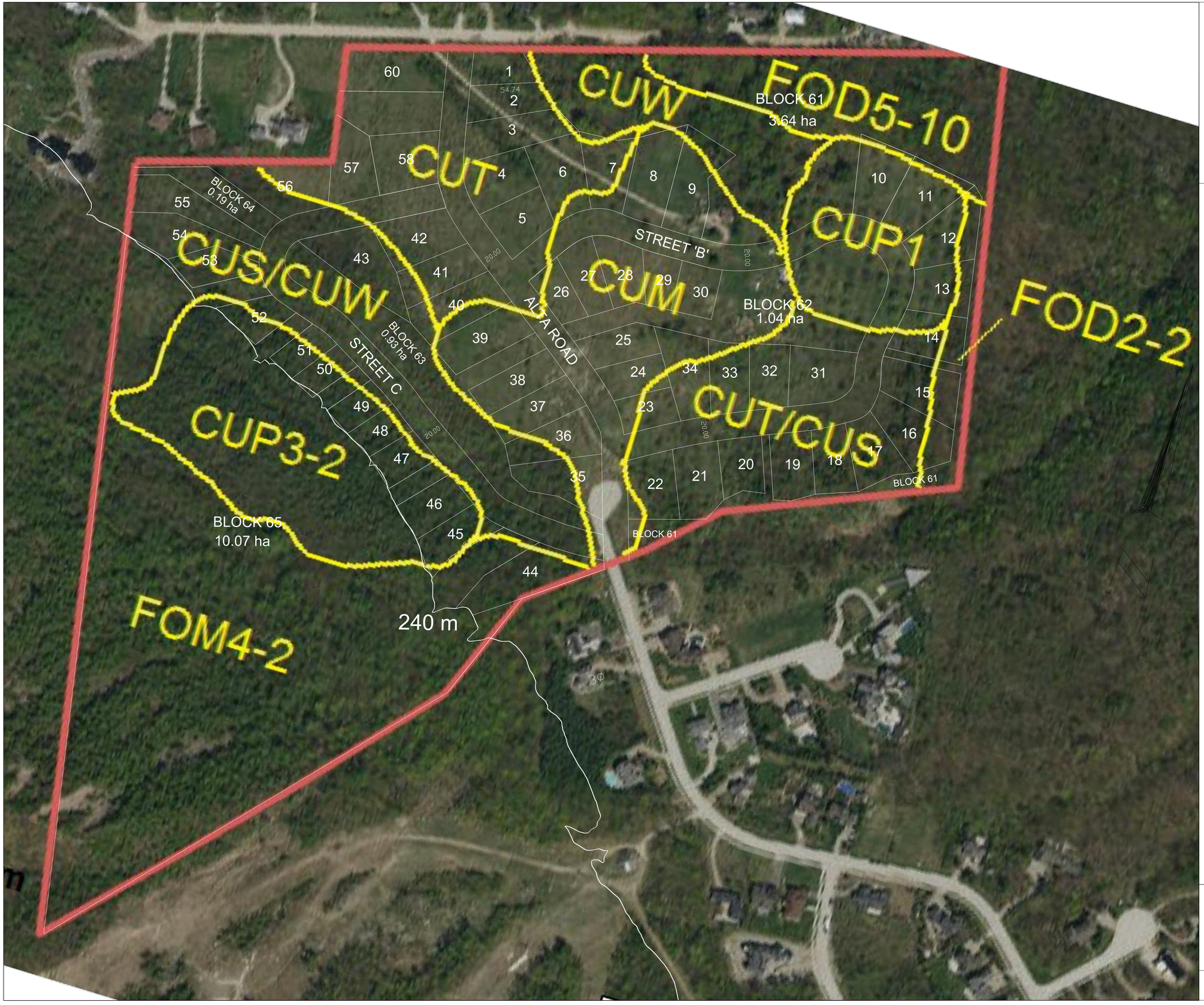
SURVEYOR'S CERTIFICATE

I CERTIFY THAT: THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY SHOWN ON THIS PLAN.

PAUL R. THOMSEN O.L.S. DATE

PASCUZZO PLANNING INC.

ECOLOGICAL LAND CLASSIFICATION OVERLAY



SCALE
1:3000

PASCUZZO PLANNING INC.

Appendix C – Supporting Ecological Data

BBS Point Count Results - June 2021

Project:	Alta Phase 2 - EIS
Station:	PC-1
Date:	15-Jun-21
Start Time:	7:00 a.m.
Wind (Beaufort):	1
Sky:	clear

Species	First 5 minutes			Second 5 minutes		
Common name	0 - 50 m	50 - 100 m	>100 m	0 - 50 m	50 - 100 m	>100 m
American Goldfinch					2	
American Robin		1			1	
Blue Jay					1	
Red-eyed Vireo		1	1		1	1
Song Sparrow	1	1		1	1	

Notes: most occurrences associated with edge of FOD habitat

Project:	Alta Phase 2 - EIS
Station:	PC-2
Date:	15-Jun-21
Start Time:	7:25 a.m.
Wind (Beaufort):	1
Sky:	clear

Species	First 5 minutes			Second 5 minutes		
Common name	0 - 50 m	50 - 100 m	>100 m	0 - 50 m	50 - 100 m	>100 m
American Goldfinch					2	
American Robin						1
Cedar Waxwing				1		
Chipping Sparrow	1					
Common Yellowthroat		1			1	
Eastern Towhee	1	1		1	1	
Field Sparrow			1			1
House Wren			1			1
Song Sparrow	1			1		
Yellow Warbler	1			1		

Notes: Goldfinch occurrence in fly-over. All others localized.

Project:	Alta Phase 2 - EIS
Station:	PC-3
Date:	15-Jun-21
Start Time:	7:48 a.m.
Wind (Beaufort):	1
Sky:	clear

Species	First 5 minutes			Second 5 minutes		
Common name	0 - 50 m	50 - 100 m	>100 m	0 - 50 m	50 - 100 m	>100 m
American Goldfinch			1			
American Redstart				1		
Black-billed Cuckoo		1			1	
Cedar Waxwing		1				
Eastern Phoebe					1	
Eastern Towhee		1				
House Wren			1			1
Indigo Bunting		1				
Northern Cardinal						1
Song Sparrow	1			1		

Notes: Goldfinch occurrence in fly-over. All others localized.
All species vocalizing

BBS Point Count Results - July 2021

Project:	Alta Phase 2 - EIS
Station:	PC-1
Date:	9-Jul-21
Start Time:	6:22 a.m.
Wind (Beaufort):	0
Sky:	clear

Species	First 5 minutes			Second 5 minutes		
Common name	0 - 50 m	50 - 100 m	>100 m	0 - 50 m	50 - 100 m	>100 m
American Crow						1
American Goldfinch		1		1	1	
Black-capped Chickadee	1					
Common Yellowthroat						1
Eastern Phoebe	1			1		
House Wren		1			1	
Indigo Bunting	1			1		
Mourning Dove			1			
Red-eyed Vireo		2	1		2	1
Ring-billed Gull					2	
Song Sparrow				1		

Notes: All species vocalizing
Gull - overflight

Project:	Alta Phase 2 - EIS
Station:	PC-2
Date:	9-Jul-21
Start Time:	6:42
Wind (Beaufort):	0
Sky:	clear

Species	First 5 minutes			Second 5 minutes		
Common name	0 - 50 m	50 - 100 m	>100 m	0 - 50 m	50 - 100 m	>100 m
American Crow			1			
American Goldfinch		1				
American Robin					1	
Eastern Towhee	1		1	1		1
Field Sparrow	1	1		1		
Gray Catbird					1	
Great Crested Flycatcher			1			
House Wren				1		
Indigo Bunting		1				
Red-winged Blackbird		1				
Song Sparrow	1			1		1

Notes: All species vocalizing

Project:	Alta Phase 2 - EIS
Station:	PC-3
Date:	9-Jul-21
Start Time:	7:07 a.m.
Wind (Beaufort):	0
Sky:	clear

Species	First 5 minutes			Second 5 minutes		
Common name	0 - 50 m	50 - 100 m	>100 m	0 - 50 m	50 - 100 m	>100 m
American Crow			1			
American Goldfinch		1				
American Robin				1		
Eastern Towhee	1	1		1		
House Wren	1		1	1		1
Northern Cardinal	1			2		
Red-eyed Vireo		1			1	
Song Sparrow			1			1

Notes: All species vocalizing

Cardinal - agitated pair

OBBA Data - Square 17NK53

Species	SCIENTIFIC_NAME	Categ	PROVINCI	S_RANK	COSEWIC	SARA_SCI	SARO_STATUS
Alder Flycatcher	Empidonax alnorum	PROB	N	S5B			
American Black Duck	Anas rubripes	CONF	N	S4			
American Crow	Corvus brachyrhynchos	CONF	N	S5B			
American Goldfinch	Spinus tristis	PROB	N	S5B			
American Kestrel	Falco sparverius	POSS	N	S4			
American Redstart	Setophaga ruticilla	PROB	N	S5B			
American Robin	Turdus migratorius	CONF	N	S5B			
American Woodcock	Scolopax minor	POSS	N	S4B			
Baltimore Oriole	Icterus galbula	CONF	N	S4B			
Barn Swallow	Hirundo rustica	CONF	Y	S5B	THR	THR	THR
Belted Kingfisher	Megaceryle alcyon	POSS	N	S4B			
Black-and-white Warbler	Mniotilta varia	POSS	N	S5B			
Black-billed Cuckoo	Coccyzus erythropthalmus	POSS	N	S5B			
Black-capped Chickadee	Poecile atricapillus	CONF	N	S5			
Black-crowned Night-Heron	Nycticorax nycticorax	CONF	Y	S3B,S3N			
Black-throated Blue Warbler	Setophaga caerulescens	POSS	N	S5B			
Black-throated Green Warbler	Setophaga virens	POSS	N	S5B			
Blue Jay	Cyanocitta cristata	PROB	N	S5			
Blue-winged Teal	Anas discors	POSS	N	S4			
Blue-winged/Golden-winged Warbler	Vermivora cyanoptera	POSS	N	S4B			
Bobolink	Dolichonyx oryzivorus	POSS	Y	S4B	THR	THR	THR
Brown Thrasher	Toxostoma rufum	PROB	N	S4B			
Brown-headed Cowbird	Molothrus ater	PROB	N	S4B			
Canada Goose	Branta canadensis	CONF	N	S5			
Canada Warbler	Cardellina canadensis	POSS	Y	S4B	THR	THR	SC
Cedar Waxwing	Bombycilla cedrorum	POSS	N	S5B			
Chestnut-sided Warbler	Setophaga pensylvanica	PROB	N	S5B			
Chipping Sparrow	Spizella passerina	PROB	N	S5B			
Common Grackle	Quiscalus quiscula	CONF	N	S5B			
Common Loon	Gavia immer	POSS	N	S5B,S5N	NAR		NAR
Common Merganser	Mergus merganser	CONF	N	S5B,S5N			
Common Nighthawk	Chordeiles minor	POSS	Y	S4B	SC	THR	SC
Common Raven	Corvus corax	POSS	N	S5			
Common Yellowthroat	Geothlypis trichas	PROB	N	S5B			
Cooper's Hawk	Accipiter cooperii	POSS	N	S4	NAR		NAR
Double-crested Cormorant	Phalacrocorax auritus	CONF	N	S5B	NAR		NAR
Downy Woodpecker	Picoides pubescens	POSS	N	S5			
Eastern Kingbird	Tyrannus tyrannus	PROB	N	S4B			
Eastern Meadowlark	Sturnella magna	PROB	Y	S4B	THR	THR	THR
Eastern Phoebe	Sayornis phoebe	CONF	N	S5B			
Eastern Wood-Pewee	Contopus virens	POSS	Y	S4B	SC	SC	SC
European Starling	Sturnus vulgaris	CONF	N	SNA			
Field Sparrow	Spizella pusilla	POSS	N	S4B			
Gray Catbird	Dumetella carolinensis	PROB	N	S4B			
Great Blue Heron	Ardea herodias	CONF	N	S4			
Great Crested Flycatcher	Myiarchus crinitus	PROB	N	S4B			
Great Egret	Ardea alba	CONF	Y	S2B			
Great Horned Owl	Bubo virginianus	PROB	N	S4			
Hairy Woodpecker	Picoides villosus	POSS	N	S5			
Herring Gull	Larus argentatus	CONF	N	S5B,S5N			
House Finch	Haemorhous mexicanus	PROB	N	SNA			
House Wren	Troglodytes aedon	PROB	N	S5B			
Indigo Bunting	Passerina cyanea	POSS	N	S4B			
Killdeer	Charadrius vociferus	PROB	N	S5B,S5N			
Least Flycatcher	Empidonax minimus	POSS	N	S4B			
Mallard	Anas platyrhynchos	CONF	N	S5			
Mourning Dove	Zenaida macroura	POSS	N	S5			
Mourning Warbler	Geothlypis philadelphia	POSS	N	S4B			
Nashville Warbler	Oreothlypis ruficapilla	POSS	N	S5B			
Northern Cardinal	Cardinalis cardinalis	PROB	N	S5			
Northern Flicker	Colaptes auratus	PROB	N	S4B			
Northern Waterthrush	Parkesia noveboracensis	POSS	N	S5B			
Ovenbird	Seiurus aurocapilla	PROB	N	S4B			

Species	SCIENTIFIC_NAME	Categ	PROVINCI	S_RANK	COSEWIC	SARA_SCI	SARO_STATUS
Pine Warbler	Setophaga pinus	POSS	N	S5B			
Purple Finch	Haemorhous purpureus	POSS	N	S4B			
Purple Martin	Progne subis	CONF	Y	S3S4B			
Red-bellied Woodpecker	Melanerpes carolinus	POSS	N	S4			
Red-breasted Merganser	Mergus serrator	PROB	N	S4B,S5N			
Red-breasted Nuthatch	Sitta canadensis	POSS	N	S5			
Red-eyed Vireo	Vireo olivaceus	PROB	N	S5B			
Red-tailed Hawk	Buteo jamaicensis	POSS	N	S5	NAR		NAR
Red-winged Blackbird	Agelaius phoeniceus	CONF	N	S4			
Ring-billed Gull	Larus delawarensis	CONF	N	S5B,S4N			
Rock Pigeon	Columba livia	POSS	N	SNA			
Rose-breasted Grosbeak	Pheucticus ludovicianus	POSS	N	S4B			
Ruby-throated Hummingbird	Archilochus colubris	POSS	N	S5B			
Savannah Sparrow	Passerculus sandwichensis	PROB	N	S4B			
Song Sparrow	Melospiza melodia	CONF	N	S5B			
Spotted Sandpiper	Actitis macularius	PROB	N	S5			
Swamp Sparrow	Melospiza georgiana	PROB	N	S5B			
Tree Swallow	Tachycineta bicolor	PROB	N	S4B			
Veery	Catharus fuscescens	POSS	N	S4B			
Vesper Sparrow	Pooecetes gramineus	POSS	N	S4B			
Warbling Vireo	Vireo gilvus	PROB	N	S5B			
White-breasted Nuthatch	Sitta carolinensis	POSS	N	S5			
Willow Flycatcher	Empidonax traillii	POSS	N	S5B			
Winter Wren	Troglodytes hiemalis	POSS	N	S5B			
Wood Duck	Aix sponsa	POSS	N	S5			
Wood Thrush	Hylocichla mustelina	PROB	Y	S4B	THR	THR	SC
Yellow Warbler	Setophaga petechia	PROB	N	S5B			
Yellow-bellied Sapsucker	Sphyrapicus varius	POSS	N	S5B			
Yellow-rumped Warbler	Setophaga coronata	POSS	N	S5B			