1035 Victoria Street

Village of Ayton, Municipality of West Grey

Scoped Environmental Impact Study

Prepared for:

Domm Holdings Ltd.

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Glossary of Terms

BBS: Breeding Bird Survey

CC: Coefficient of Conservatism

CW: Coefficient of Wetness

COSSARO: Committee on the Status of Species at Risk Ontario

COSEWIC: Committee on the Status of Endangered Wildlife in Canada

DFO: Department of Fisheries and Oceans Canada

ELC: Ecological Land Classification

END: Endangered Species

ESA: Endangered Species Act

G-Rank: Conservation Status of Species at the Global Level

LIO: Land Information Ontario

MECP: Ministry of Environment, Conservation, and Parks

MNRF: Ministry of Northern Development, Mines, Natural Resources and Forestry

SVCA: Saugeen Valley Conservation Authority

NHIC: Natural Heritage Information Center

NRVIS: Natural Resources and Values Information System

OBBA: Ontario Breeding Bird Atlas

OMA: Ontario Mammal Atlas

ORAA: Ontario Reptile and Amphibian Atlas

OP: Official Plan

OWES: Ontario Wetland Evaluation System

PPS: Provincial Policy Statement

PIF: Partners in Flight

SAR: Species at Risk

SARA: Species at Risk Act

SC: Special Concern Species

SPA: Special Policy Area

Species of Conservation Concern: All species listed under SARA, COSEWIC, ESA and/or an S1-S3 provincial designation.

S-Rank: Conservation Status of Species at the Provincial Level

SWH: Significant Wildlife Habitat

THR: Threatened Species

VASCAN: Database of Vascular Plants of Canada

1.0 Introduction

Aboud & Associates Incorporated (AA) was retained by Patterson Planning Inc. on behalf of Domm Holdings Ltd. to complete a scoped Environmental Impact Study (EIS) to proceed with a residential subdivision on the property located at 1035 Victoria Street in the Village of Ayton, Municipality of West Grey.

Per the Grey County GIS Application, the subject property contains lands designated as Secondary Settlement Area and Hazard Lands within the Grey County Official Plan (2023 consolidation) and is zoned as Natural Environment and Future Development in the Municipality of West Grey Zoning By-law No. 37-2006 (2017 consolidation). Significant Woodlands are also present within and adjacent the subject property. The Saugeen Valley Conservation Authority Approximate Regulated & Approximate Screening Areas mapping indicate that lands along the southern and western limits of the subject property are within the Approximate Screening Area.

Per the Pre-submission Consultation comments (dated: March 16, 2023), the subject property also includes Significant Woodland, with the South Saugeen River to the south, and Significant Valleylands to the immediate west.

A scoped EIS prepared to the satisfaction of Grey County, the Municipality of West Grey and the SVCA is required as a condition of the proposed subdivision.

The limits of the existing natural heritage features are displayed on *Figure 1*.

1.1 Proposed Development

The proposed subdivision includes 12 lots each proposed for development of a single residential dwelling and amenities, including a driveway and septic system. The subdivision will involve the extension of Victoria Street and Albert Street. Eleven of the twelve proposed lots will front onto Victoria Street, with the remaining lot fronting onto Albert Street. The proposed development will be rezoned as a mixture of Unserviced Residential and Natural Environment.

1.2 Existing Land Use and Study Area

The subject property is located at 1035 Victoria Street, at the street's termination west of Caroline Street. The subject property is bound by residential properties to the east, agricultural lands to the north and natural features to the south and west.

The study area is comprised of the subject property and up to 120 metres from the property boundaries where permission to access is granted. Where access is restricted,

information was obtained through existing background research and what could be observed from the limits of the subject property and aerial photographs.

1.2.1 Grey County Natural Heritage System Study (2017)

The Grey County Natural Heritage System Study (NHSS) was completed in 2017, with the purpose of delineating a Natural Heritage System within the County. Map 2 of the NHSS indicates that the subject property contains Significant Valleylands, Significant Woodlands and is adjacent to identified wetlands.

1.3 Existing Regulations

The Provincial Policy Statement (PPS 2020), Endangered Species Act (ESA 2007), Species at Risk Act (SARA 2002), Migratory Bird Convention Act (1994) & Migratory Bird Regulations (2022), policies of the SVCA, Grey County Official Plan (2023 consolidation) and the Municipality of West Grey Zoning By-law (2017) are applicable to this proposed development and are outlined in detail in *Appendix 1*. The table includes the policy, sections, applicable details, conformity, and any proposed mitigation or permitting requirements as it relates to these policies.

As the Provincial Planning Statement (PPS, 2024) comes into effect on October 20, 2024, policies identified within this document have been considered in relation to the proposed residential subdivision.

1.4 Terms of Reference

Based upon the above Acts, Policies and Regulations, Terms of Reference (ToR) for the scoped EIS were developed and submitted to the SVCA, Municipality of West Grey and Grey County on May 2, 2023.

Becky Hillyer, Grey County, provided a response on May 10, 2023, noting that Grey County planning staff are generally satisfied with the ToR and that the EIS should indicate any recommended buffer distances and that any changes to Hazard Lands should be included with recommended development setbacks on any figures. Michael Cook, Planning Ecologist, Grey County provided additional comments on May 17, 2024, noting that stormwater management infrastructure may be required and that the EIS needs to ensure no negative impacts to fish habitat or the thermal regime of the watercourse. It was also noted that the significant Valleylands overlay does not apply to settlement areas.

Michael Oberle, Environmental Planning Coordinator with SVCA, provided comments on May 15, 2024, which noted that SVCA will be involved in the review of the proposal as it relates to Natural Hazards.

The ToR and agency correspondence are provided in their entirety in *Appendix 2*.

2.0 Methods

2.1 Background Review

A background information review was conducted of both biological and physical features within the vicinity of the study area. The following resources were consulted during this review:

- Pre-submission Consultation Comments provided by Grey County (dated: March 16, 2023);
- SVCA mapping (accessed August 22, 2024) of approximate regulated and approximate screening areas;
- Grey County Official Plan (2023 consolidation) and Schedules;
- Grey County Natural Heritage System Study “Green in Grey”. Natural Resource Solutions Inc., 2017;
- Municipality of West Grey Zoning By-law 37-2006 (2017 Consolidation);
- Natural Heritage Information Center (NHIC), Make-a-map, accessed May 13, 2024;
- Ontario Nature. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario’s reptiles and amphibians. 2019;
- Ontario Breeding Bird Atlas. Bird Studies Canada, 2007;
- Atlas of the Mammals of Ontario. Dobbyn, 1994;
- iNaturalist. Accessed April 21, 2023;
- eBird. Cornell Lab of Ornithology. Accessed May 13, 2024;
- Ontario Butterfly Atlas. Toronto Entomologists’ Association. Accessed April 21, 2023.

- Aquatic Species at Risk Map. Department of Fisheries and Oceans. Accessed April 14, 2023.
- Cobide Engineering Inc., 2024. Stormwater Management Report Proposed Subdivision- Ayton, Municipality of West Grey, Grey County. September 2024
- CMT Engineering Inc., 2024. Geotechnical Investigation Proposed Residential Development Victoria Street Ayton, Ontario. May 2024.

2.2 Buffer Recommendations and Setbacks

Recommended buffers and setbacks for the significant woodland were determined through a variety of resources, including Grey County Natural Heritage System Study "Green in Grey" (2017); The City of London – Guidelines for Determining Setbacks and Ecological Buffers (2004); and the Ecological Buffer Guideline Review (Beacon 2012).

2.3 Vegetation

Vegetation communities within the study area were characterized and delineated by staff certified in Ecological Land Classification through field investigation, following the Ecological Land Classification (ELC) system for Southern Ontario 1st approximation. Community codes used generally follow the 2nd approximation (Lee at al., 1998, 2008). Boundaries of ELC communities were mapped using aerial images and field observations (*Figure 2*). Digitized ELC data sheets are provided in *Appendix 4*. Detailed survey dates and weather information are provided in *Appendix 9.*

2.3.1 Botanical Inventory

The study area was inventoried where access was permitted, and from the property limits and roadside, to provide a comprehensive two season botanical inventory. Detailed survey dates and weather information are provided in *Appendix 9*.

Identified vascular plant species were compared to provincial and federal SAR lists (COSSARO, SARA), provincial ranks (NHIC 2023), and global ranks to assess the federal and provincial status of each species. English colloquial names and scientific binomials of plant species generally follow the Database of Vascular Plants of Canada (VASCAN) (VASCAN 2015).

Identification of environmentally sensitive plant species was completed based on the assignment of a coefficient of conservatism value (CC) for each native species (Oldham et al., 1995). The value of CC, ranging from 0 (low) to 10 (high), is based on a species' tolerance of disturbance and fidelity to specific natural habitat parameters. Species with a CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of

habitat parameters. These species may be more sensitive to environmental changes (Mortarello et al., 2010).

A list of all identified plant species is provided in *Appendix 5*. The list provides botanical names, common names, provincial rarity rank (S-rank), global rarity rank (G-rank), provincial Species at Risk status (SARO), federal Species at Risk Status (SARA), coefficient of conservatism (CC) and coefficient of wetness (CW). Plant species that could only be identified to genus were not assigned the above information. Photos of communities are shown in *Appendix 4*.

2.3.2 Woodland Delineation

The dripline of the woodland within the limits of the subject property was staked by Shannon Davison, AA, on July 17, 2024, and was surveyed by Cobide Engineering Inc., on July 18, 2024. The surveyed dripline is shown on *Figures 1 & 2*.

2.4 Wildlife Habitat

2.4.1 Breeding Birds

Breeding Bird surveys were conducted to determine if significant breeding bird habitat occurs within, or adjacent to, the study area. Two surveys were conducted, comprised of three 10-minute point counts positioned at pre-determined locations with area searches being completed while traversing the property to and from the point count locations. Surveys followed the Ontario Breeding Bird Atlas: Guide for Atlassers (Bird Studies Canada, 2021). The highest observed level of breeding evidence was used to assign breeding status (i.e., confirmed, possible, probable, or observed) to each species.

Surveys were performed during the peak breeding season for the bulk of the species in southern Ontario (last week of May through early July) and were spaced at least 10 days apart to determine presumed permanent territories through territorial singing males. The two surveys took place on the mornings of June 7 & June 28, 2023, between 30 minutes before dawn and 5 hours after dawn. The Point Count locations are illustrated on *Figure 3*; Survey results and breeding evidence code descriptions are provided in *Appendix 8*. Detailed survey dates and weather information are provided in *Appendix 9*.

2.4.2 Bat Maternity Habitat Surveys

Bat maternity habitat surveys occurred during leaf-off on April 25, 2023, and leaf-on on June 8 & July 26, 2023. All ELC communities identified as FOD, FOC, FOM, SWD, SWC, and SWM are considered Candidate Bat Maternity Habitat. A survey for candidate bat maternity trees was completed within the limits of the subject property. All

trees with a diameter at breast height greater than 10 cm, and meeting any of the criteria for candidate bat habitat as outlined in the “Bats and Treed Habitats- Maternity Roost Surveys” protocol, produced by MECP (2022) were recorded.

Candidate trees are those with some or all of the following characteristics (in order of importance):

- Tallest snag/cavity tree
- Exhibits cavities or crevices most often originating as cracks, scars, knot holes or woodpecker cavities
- Has leaf clusters
- Has the largest diameter at breast height (>25 cm diameter at breast height)
- Is within the highest density of snags/cavity trees (e.g., cluster of snags)
- Has a large amount of loose, peeling bark
- Cavity or crevice is high in snag/cavity tree (>10m)
- Tree species that provide good cavity habitat (e.g., White Pine, Maple, Aspen, Ash, Oak)
- Canopy is more open (to determine canopy cover, determine the percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of trees); and
- Exhibits early stages of decay (Decay Class 1-3; refer to Watt and Caceres 1999)

2.4.3 Aquatic Habitat Assessment

Aquatic Habitat Assessments (AHA) were completed for the watercourse within the study area, where access was permitted. The assessment was completed in an effort to classify stream features present to help inform decisions and mitigate any potential risks to fish and fish habitat as a result of potential future development. Data were collected at five stations along the watercourse which is present in the northern portion of the subject property. Sites were chosen to represent different habitats available within the study area. The following criteria were used to characterize features present at each station:

- Wetted width;
- Max water depth;
- Percent stream shading;
- Buffer width;
- Substrate;
- Flow pattern;
- Channel morphology;

- Instream cover;
- Bank characteristics; and
- Presence of specific site features.

Detailed survey dates and weather information are provided in *Appendix 9*. The AHA survey locations are shown on *Figure 3*.

2.4.4 Incidental Wildlife Observations

Incidental observations of insects, mammals, birds, reptiles and amphibians were recorded during all field visits.

2.4.5 Significant Wildlife Habitat Assessment

With guidance from the *Significant Wildlife Habitat Technical Guide* (2000) and the *SWH EcoRegion Criterion Schedule 6E* (2015), the study area, where access was permitted, was considered for the presence of Significant Wildlife Habitat (e.g., specialized habitats for wildlife, and habitat for species of conservation concern). Significant Wildlife Habitat was considered during all surveys conducted on the site. An assessment of the study area for all SWH is provided in *Appendix 6.*

2.4.6 Species at Risk Habitat Assessment

The subject property and adjacent lands (within 120m) were reviewed for the presence of habitat that may be suitable for Species at Risk (SAR). A review of the property, along with habitat requirements for each species was conducted. A variety of sources, including the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) documents, were used to determine habitat suitability. The site was then evaluated for potential habitat using Ecological Land Classification, guidance from MNRF and MECP documents, and on-site knowledge acquired through field visits. An assessment of the study area for candidate Species at risk habitat is provided in *Appendix 7*.

3.0 Existing Conditions

3.1 Background Review

3.1.1 Ministry of Environment Conservation and Parks

A request for information was sent to the Ministry of Environment, Conservation and Parks (MECP) on May 2, 2023, with a generalized response provided the same day. The response indicated that the proponent is responsible for determining whether SAR and their habitat are present on or around the site of the activity and ultimately ensuring their actions do not contravene the ESA.

The request for information and response are provided in *Appendix 12*.

3.1.2 Ministry of Natural Resources and Forestry

A request for information was sent to the Ministry of Natural Resources and Forestry (MNRF) on May 2, 2023. A response was provided by Steve Varga, Management Biologist on May 4, 2023. The response confirmed the presence of an unevaluated wetland south of the reach of the South Saugeen River within the study area. The response also noted that the thermal regime of the South Saugeen River has been classified as cool water. A list of fish species observed at survey points located between 1.6-1.9km downstream of the study area was also provided.

The request for information and response are provided in *Appendix 13*.

3.1.3 Species of Conservation Concern

A thorough background search has been completed for the subject property and adjacent lands using available resources identified in Section 2.1. The species of conservation concern, including those listed under COSSARO, ESA, COSEWIC, SARA, and species with S-Ranks of S1-S3, identified in the background search are shown in *Table 1*. *Table 1* includes the identified species, their current status under COSSARO, ESA, COSEWIC and SARA, as well as their provincial, national and global ranks.

Table 1. Species of Conservation Concern identified in Background Review

Source	Common Name	Scientific Name	COSSARO[1]	ESA[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	Area Sensitive[8]	Area Required (ha)[8]	PIF Species (BCR 13)[9]
OBA (2021), iNat (2019)	Monarch	*Danaus plexippus*	SC	SC	END	SC	S2N, S4B	G5	N3B, NNRM			
ORAA (1987)	Snapping Turtle	*Chelydra serpentina*	NL	SC	SC	SC	S4	G5T5	N4			
ORAA (1987)	Midland Painted Turtle	*Chrysemys picta marginata*	NAR	NAR	SC	SC	S4	G5T5	N4			
OBBA	Eastern Wood-pewee	*Contopus virens*	SC	SC	SC	SC	S4B	G5	N5B, N5M			✓
OBBA	Barn Swallow	*Hirundo rustica*	SC	SC	THR	THR	S4B	G5	N3N4B, N3N4M			
OBBA	Wood Thrush	*Hylocichla mustelina*	SC	SC	THR	THR	S4B	G4	N4B, NUM			✓
OBBA, eBird (2023)	Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	SC	SC	S4B	G5	N4N5B, N4N5M	✓	>10	✓
OBBA, eBird (2023)	Bobolink	*Dolichonyx oryzivorus*	THR	THR	THR	THR	S4B	G5	N5B, N4N5M	✓	>10	✓
OBBA, eBird (2023)	Eastern Meadowlark	*Sturnella magna*	THR	THR	THR	THR	S4B, S3N	G5	N4B, NUM	✓	>10	✓
DFO	Rainbow Mussel	*Villosa iris*	SC	SC	SC	SC	S1	G4	N1			

Legend:

COSSARO: Committee on Species at Risk Ontario
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
SARA: Species at Risk Act
ESA: Endangered Species Act
END: Endangered
THR: Threatened
SC: Special Concern
NAR: Not At Risk
NL: Not listed
DD: Data Deficient
EXP: Extirpated

N- and S-Rank:

S1: Critically Imperiled—Critically imperiled in the jurisdiction (often 5 or fewer occurrences)
S2: Imperiled—Imperiled in the jurisdiction, very few populations (often 20 or fewer),
S3: Vulnerable—Vulnerable in the jurisdiction, relatively few populations (often 80 or fewer)
S4: Apparently Secure—Uncommon but not rare
S5: Secure—Common, widespread, and abundant in the jurisdiction
SX: Presumed Extirpated
SH: Possibly Extirpated (Historical)
SNR: Unranked
SU: Unrankable—Currently unrankable due to lack of information
SNA: Not Applicable—The species is not a suitable target for conservation activities
S#S#: Range Rank—Indicates a range of uncertainty about the status of the species
S#B- Breeding Status Rank
S#N- Non Breeding Status Rank
?: Indicates uncertainty in the assigned rank

G-Rank:

G1: Extremely rare globally
G1G2: Extremely rare to very rare globally
G2: Very rare globally
G2G3: Very rare to uncommon globally
G3: Rare to uncommon globally
G3G4: Rare to common globally
G4: Common globally
G4G5: Common to very common globally
G5: Very common globally; demonstrably secure
T: Denotes that the rank applies to a subspecies or variety

Source Codes

OBA: Ontario Butterfly Atlas
ORAA: Ontario Reptile and Amphibian Atlas
OMA: Ontario Mammal Atlas
OBBA: Ontario Breeding Bird Atlas
eBird: eBird
iNat: iNaturalist
NHIC: Natural Heritage Information Centre

References:

1.COSSARO Status Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. Accessed August 2024.
2.Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. Accessed August 2024
3.COSEWIC Status COSEWIC. 2014. Canadian Species at Risk. Committee on the Status of Endangered Wildlife in Canada. Accessed August 2024.
4. Species at Risk Act (SC 2002, c. 29). Accessed August 2024.
5.Provincial Rarity Rank. NatureServe. 2023.
6.Global Rarity Rank. NatureServe. 2023.
7.National Rank. NatureServe. 2023.
8.Significant Wildlife Habitat Technical Guide. Ontario Ministry of Natural Resources. 2000. Appendix C: A list of area sensitive species and key references.
9.Ontario Partners in Flight (PIF). 2008. Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain (North American Bird Conservation Region 13), Priorities, Objectives and Recommended Actions. Environment Canada (Ontario Region) and Ontario Ministry of Natural Resources. Final Draft, November, 2008.

3.2 Vegetation

3.2.1 Ecological Land Classification and Botanical Inventory

The community polygons identified during the ELC survey are summarized in *Table 2* below. Field forms and a comprehensive vascular plant list for the entire study area are presented in *Appendices 4* and *5*, respectively.

Table 2. Ecological Land Classification

ELC CODE	VEGETATION TYPE	COMMUNITY DESCRIPTION
Treed Agriculture (TAG)		
TAGM5	Fencerow	This community consists of the hedgerows along the northern and western limits of the property. The canopy and subcanopy include White Ash (*Fraxinus americana*) with Sugar Maple (*Acer saccharum*), Eastern White Pine (*Pinus strobus*) and Black Walnut (*Juglans nigra*). The understorey is comprised of Manitoba Maple (*Acer negundo*), Riverbank Grape (*Vitis riparia*), Black Cherry (*Prunus serotina*) and Common Buckthorn (*Rhamnus cathartica*), while the ground layer consists of Meadow Brome (*Bromus erectus*), Virginia Creeper (*Parthenocissus quinquefolia*), Canada Goldenrod (*Solidago canadensis*) and Orchard Grass (*Dactylis glomerata*).
Deciduous Forest (FOD)		
FODM6-1	Fresh- Moist Sugar Maple- Lowland Ash Deciduous Forest	The majority of this community is located immediately south of the subject property with the northern most corner within the property limits. The canopy includes Sugar Maple, Balsam Poplar (*Populus balsamifera*), Green Ash (*Fraxinus pennsylvanica*) and Eastern White Cedar (*Thuja occidentalis*), with the subcanopy being comprised of Manitoba Maple, American Elm (*Ulmus americana*), American Basswood (*Tilia americana*) and Eastern White Cedar. The understorey consists of Alternate-leaved Dogwood (*Cornus alternifolia*), Manitoba Maple, Common Buckthorn and Riverbank Grape with the ground layer including Dame's Rocket (*Hesperis matronalis*), Virginia Creeper, Broad-leaved Enchanter's Nightshade (*Circaea canadensis*) and Tall Meadow-rue (*Thalictrum pubescens*). A Graminoid Mineral Marsh inclusion was identified within this community, immediately adjacent the South Saugeen River. A small channel was formed in the inclusion, which may indicate that it is a location where excess water after heavy precipitation or snow melt may collect.
Coniferous Forest (FOC)		
FOCM2-2	Dry- Fresh White Cedar Coniferous Forest	This community is located west and southwest of the subject property, with a small portion included within the property limits. The canopy and subcanopy are dominated by Eastern White Cedar with sparse Sugar Maple individuals. The understorey includes American Basswood saplings, while the ground layer is comprised of Common Dandelion (*Taraxacum officinale*), Woodland Sedge (*Carex blanda*), Common Buckthorn and Periwinkle (*Vinca minor*).

Table 2. Ecological Land Classification

ELC CODE	VEGETATION TYPE	COMMUNITY DESCRIPTION
FOC	Coniferous Forest	This community is located along the south-eastern limit of the Study Area. This community was classified using aerial imagery due to property access restrictions.
Deciduous Swamp (SWD)		
SWD	Deciduous Swamp	This community is located south of the South Saugeen River and includes a portion of the unevaluated wetland identified and mapped by the MNRF.
Coniferous Swamp (SWC)		
SWC	Coniferous Swamp	This community is located south of the South Saugeen River and includes a portion of the unevaluated wetland identified and mapped by the MNRF.
Open Aquatic (OAO)		
OAO	Open Aquatic	This community consists of the reach of the South Saugeen River within the study area, south of the subject property.
Open Agriculture (OAG)		
OAGM1	Annual Row Crop	This community consists of the active agricultural lands present in the study area. The majority of the subject property is comprised of row crops including Corn (*Zea mays*) during the 2023 growing season and Soybean (*Glycine max*) during the 2024 growing season.
Residential (CVR)		
CVR_3	Single Family Residential	This community consists of the residential properties within the study area.

3.2.2 Botanical Inventory

A detailed botanical inventory of the study area was completed where access was permitted. Where access was restricted, the inventory was completed from the roadside or property boundary. A total of 81 species were identified, with one additional species identified to genus. All identified plant species are listed in *Appendix 5*. Of the 83 species identified, 46 (57%) are native and 35 (43%) are exotic or cultivars.

One species, Scarlet Beebalm (*Monarda didyma*) ranked S3 (Vulnerable), was observed within the Fresh- Moist Sugar Maple- Lowland Ash Deciduous Forest. It should be noted that this species is heavily planted within manicured gardens. As such, it may not be a natural occurrence.

No vegetation communities listed in *Table 2* are considered rare in the province. No nationally or provincially rare, threatened or endangered species were observed.

3.3 Wildlife Habitat

3.3.1 Breeding Birds

The results of the Breeding Bird Survey (BBS) are presented in *Tables 3 & 4*. During BBS visits, a total of 24 species were detected during point counts. During area search transects a total of three species were identified, one of which was not identified during point counts (Rose-breasted Grosbeak (*Pheucticus ludovicianus*)).

It is important to note that, despite high levels of breeding evidence, a given species may not have been breeding specifically in the area in which it was observed. This is particularly true where species were only detected during one of the Breeding Bird Surveys. These species may have been foraging in these areas or, may have been wandering during post-breeding dispersal. However, to ensure that all potential breeding bird species have been captured by this survey, any species exhibiting possible, probable or confirmed breeding behaviour was considered to be breeding in the study area. Therefore, 22 species observed during the point counts have been presumed to be breeding within the study area.

The Breeding Bird Survey results in their entirety can be found in *Appendix 8*.

Table 3. Point Count Results- Highest Breeding Evidence (HBE)

COMMON NAME	SCIENTIFIC NAME	COSSARO	COSEWIC	SARA	S-RANK	G-RANK	AREA SENSITIVE	AREA REQUIRED	PIF SPECIES	PC #1		PC #2		PC #3		TOTAL HBE
										TOTAL	HBE	TOTAL	HBE	TOTAL	HBE	
Mourning Dove	*Zenaida macroura*				S5	G5				2	S	2	S	0	H	S
Red-bellied Woodpecker	*Melanerpes carolinus*				S5	G5				0	NA	1	T	1	S	T
Great Crested Flycatcher	*Myiarchus crinitus*				S5B	G5				1	S	0	NA	0	NA	S
Eastern Wood-Pewee	*Contopus virens*	SC	SC	SC	S4B	G5			✓	0	NA	1	S	0	NA	S
Blue Jay	*Cyanocitta cristata*				S5	G5				1	S	3	S	1	T	T
American Crow	*Corvus brachyrhynchos*				S5	G5				0	NA	1	X	3	T	T
Black-capped Chickadee	*Poecile atricapillus*				S5	G5				0	NA	4	T	4	S	T
Horned Lark	*Eremophila alpestris*				S4	G5				0	S	0	NA	0	NA	S
House Wren	*Troglodytes aedon*				S5B	G5				0	NA	1	S	1	T	T
Gray Catbird	*Dumetella carolinensis*				S5B,S3N	G5				0	NA	1	T	1	S	T
Eastern Bluebird	*Sialia sialis*		NAR		S5B,S4N	G5				0	NA	1	S	0	NA	S
American Robin	*Turdus migratorius*				S5	G5				3	T	6	T	2	S	T
American Goldfinch	*Carduelis tristis*				S5	G5				0	X	1	S	0	X	S
Chipping Sparrow	*Spizella passerina*				S5B,S3N	G5				0	NA	2	T	1	S	T
Song Sparrow	*Melospiza melodia*				S5	G5				2	S	0	NA	1	T	T
Baltimore Oriole	*Icterus galbula*				S4B	G5			✓	1	T	2	NU	1	T	NU
Red-winged Blackbird	*Agelaius phoeniceus*				S5	G5				10	M	5	S	2	T	M, T
Brown-headed Cowbird	*Molothrus ater*				S5	G5				2	S	2	T	0	NA	T
Common Grackle	*Quiscalus quiscula*				S5	G5				30	M	3	T	4	S	M, T
Northern Cardinal	*Cardinalis cardinalis*				S5	G5				1	S	1	T	2	T	T
Indigo Bunting	*Passerina cyanea*				S5B	G5				2	T	0	NA	2	T	T

Legend:
COSSARO: Committee on the status of Species at Risk Ontario
COSEWIC: Committee on the status of Endangered Wildlife in Canada
SARA: Species at Risk Act
SC: Special Concern
NAR: Evaluated and Not at Risk

S-Rank:
S4: Apparently Secure—Uncommon but not rare
S5: Secure—Common, widespread, and abundant in the province
S3: Vulnerable—Vulnerable, relatively few populations
B, N: Migratory, Non-Migratory
G-Rank:
G5: Very common globally; demonstrably secure

Breeding Evidence:
Possible
S-singing male
M-multiple individuals singing
Probable
T-presumed territory
A-Agitated

Confirmed
NU-used nest
FY- Fledged young

Table 4. Area Search Transects- Highest Breeding Evidence

Common name	Scientific name	COSSARO	COSEWIC SARA	S RANK	G RANK	Area Sensitive (MNRF 2000)	Area Required (Ha)	PIF priority Species (BCR 13)	HBE
Chipping Sparrow	*Spizella passerina*			S5B, S3N	G5				S
Baltimore Oriole	*Icterusgalbula*			S4B	G5			✓	A
Rose-breasted Grosbeak	*Pheucticus ludovicianus*			S5B	G5			✓	FY

3.3.1.1 Breeding Bird Species at Risk

One Species at Risk, Eastern Wood-pewee, listed as Special Concern under the ESA and SARA, was observed singing within the Fencerow (TAGM5) near the eastern corner of the subject property during the first breeding bird survey. Eastern Wood-pewee are associated with mid-aged mixed and deciduous forests, often dominated by Maple, Elm or Oak (COSEWIC, 2012). The location of the observation is shown on *Figure 3*.

3.3.1.2 Breeding Bird Regional Significance

The majority of the species detected in the study area are ranked as S5 (Secure), with three species, Gray Catbird, Chipping Sparrow and Eastern Bluebird being ranked S3N (Vulnerable). The rank qualifier ‘N’ denotes the non-breeding status.

3.3.1.3 Regional Priority Species

The Ontario Landbird Conservation Plan (OLCP): Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Region 13 (Partners in Flight, 2008) has identified a number of species that are considered conservation priorities for the region (Ontario PIF, 2008). Three priority species (Eastern Wood-Pewee, Baltimore Oriole and Rose-breasted Grosbeak) were observed in or adjacent to the study area. The OLCP does not provide legislative protection of species or their habitat, but rather identifies species that should be conservation priorities on a regional level, beyond those designated as Species at Risk.

3.3.2 Aquatic Habitat Assessment

Five sampling locations were chosen along the reach of the South Saugeen River that flows adjacent to the subject property, the locations of which are shown on *Figure 3*. These sites were chosen to be representative of the different aquatic habitats and riparian vegetation within the study area. The watercourse also meanders back into the study area directly south of the end of Albert Street, but we were unable to access this area due to the presence of a large thicket of Giant Hogweed making that area unsafe to access.

Most sites had very little in-stream cover, and a low degree of stream shading (*Table 5*). The bank was well-vegetated and showed evidence of erosion at some sites. The watercourse was relatively deep at the first three sites, where the flow was a glide. The last two sites were shallower riffles. Cobble and boulder are the most common substrates, but sand and gravel are present in the deeper areas of the downstream site. No evidence of negative habitat features such as point source contaminants and sediment loading was noted (*Table 6*). Fish were observed at two of the downstream sites, along with crayfish. Fish habitat was of medium quality, as the habitat was displayed heterogeneity in terms of depth, substrate, and flow, but with little aquatic vegetation, in-stream cover, and stream shading. Cobble and boulder substrates are poorer for spawning than gravel. Photographs of each AHA site are given in *Appendix 14*.

Table 5. Aquatic Habitat Assessment Physical Site Characteristics

Site #	Water Temperature (°C)	Wetted Width (m)	Wetted depth (mm)	Stream Shading (%)	Buffer Width (Upstream Right; m)	Buffer Width (Upstream Left; m)	Substrate	Flow pattern	Channel Morphology	In-Stream Cover (%)	Bank
1	25	25.3	<100	20	85	35	80 cobble, 20 boulder at edge, more sand and gravel at the middle	Glide	Straight	5 boulder	Stable and well-vegetated
2	24	22.4	72	20	95	45	30 boulder and 70 cobble at bank. Sand, gravel, and cobble mix in centre	Glide	Straight	10 boulder	Well-vegetated with evidence of erosion
3	24	29.7	77	20	100	100	80 cobble and 20 boulder	Glide	Straight	10 boulder	Stable and well-vegetated
4	24	28.6	42	10	75	50	70 cobble and 30 boulder	Riffle	Straight	10 boulder	Well-vegetated with evidence of erosion
5	25	42.8	26	10	40	125	80 cobble and 20 boulder	Riffle	Straight	10 boulder	Well-vegetated

Table 6. Aquatic Habitat Assessment Site Features

Site #	Point and non-point contaminant sources	Major-nutrient sources upstream	Channel hardening and straightening	Adjacent land use that destabilizes banks	Sediment loading	In-stream habitat modification	High fishing pressure	Log jam deflectors	Springs or seeps	Impervious substrate	Other activities that could influence habitat	Barriers to fish passage
1	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence
2	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence
3	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence
4	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence
5	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence	No evidence

3.3.3 Incidental Wildlife Observations

Incidental wildlife observations made outside of the above formal field surveys are presented in *Table 7.* All observations were of single individuals unless otherwise stated.

Table 7. Incidental Wildlife Observations

COMMON NAME	SCIENTIFIC NAME	TAXA	DATE	SIGNIFICANCE
Northern Cardinal	*Cardinalis cardinalis*	Bird	27/7/2023- Observed during summer botanical	None
Mourning Dove	*Zenaida macroura*	Bird	8/6/2023- Observed during spring botanical	None
American Crow	*Corvus brachyrhynchos*	Bird	25/4/2023 & 8/6/2023- Observed during bat habitat assessment and spring botanical	None
Red-winged Blackbird	*Agelaius phoeniceus*	Bird	25/4/2023 & 8/6/2023- Observed during bat habitat assessment and spring botanical.	None
Blue Jay	*Cyanocitta cristata*	Bird	25/4/2023- Observed during bat habitat assessment.	None
House Sparrow	*Passer domesticus*	Bird	25/4/2023- Observed during bat habitat assessment.	None
Black-capped Chickadee	*Poecile atricapillus*	Bird	25/4/2023- Observed during bat habitat assessment.	None
Canada Goose	*Branta canadensis*	Bird	25/4/2023- Observed during bat habitat assessment.	None
American Robin	*Turdus migratorius*	Bird	25/4/2023- Observed during bat habitat assessment.	None
Eastern Wood-pewee	*Contopus virens*	Bird	27/7/2023- Heard calling in hedgerow during summer botanical.	Special Concern under the ESA & SARA
Widow Skimmer	*Libellula luctuosa*	Insect	27/7/2023- Observed during summer botanical.	None
Ebony Jewelwing	*Calopteryx maculata*	Insect	8/6/2023 & 27/7/2023- Observed during spring & summer botanical	None
Monarch	*Danaus plexippus*	Insect	27/7/2023- Monarch larvae observed on milkweed along edge of woodland.	Special Concern under the ESA & SARA
Grey Squirrel	*Sciurus carolinensis*	Mammal	8/6/2023- Observed during spring botanical.	None
Red Squirrel	*Sciurus vulgaris*	Mammal	28/6/2023- Observed during BBS.	None
Eastern Cottontail	*Sylvilagus floridanus*	Mammal	28/6/2023- Observed during BBS	None

3.3.4 Significant Wildlife Habitat

With guidance from the *Significant Wildlife Habitat Technical Guide* (2000) and the SWH EcoRegion Criterion Schedule 6E (MNRF, 2015), Significant Wildlife Habitat (SWH) in the form of Special Concern & Rare Wildlife Species, Bat Maternity Colony Habitat, Waterfowl Stopover and Staging (Aquatic) and Turtle Overwintering Area has been confirmed or assumed present in the study area.

3.3.4.1 Special Concern & Rare Wildlife Species

As identified in Section 3.4.1, Eastern Wood-pewee, listed as Special Concern under the ESA and SARA, was observed within the Fencerow community during field investigations.

Per the SWH EcoRegion Criterion Schedule 6E (MNRF, 2015), the SWH consists of the area of the habitat to the finest ELC scale that protects the habitat form and function. Since Eastern Wood-pewee was observed during only 1 point count and within a Fencerow (TAGM5) community, which would not meet the required breeding habitat specifications for form and function. This feature has not been confirmed SWH as the habitat does not meet the requirements for successful breeding for this species.

Monarch larvae were observed on multiple Common Milkweed plants along the northern edge of the Sugar Maple- Lowland Ash Deciduous Forest. Monarch is listed as Special Concern and Endangered under the ESA and SARA, respectively. Common Milkweed was only observed along the edge where the Deciduous Forest meets the Annual Row Crop community. As such, a buffer along the edge between the two communities has been identified as the confirmed SWH.

Scarlet Beebalm, ranked S3 (Vulnerable) in Ontario, meets criteria for Rare under the SWH EcoRegion Criterion Schedule 6E. As Scarlet Beebalm was observed within the Sugar Maple- Lowland Ash Deciduous Forest, this community has been identified as confirmed SWH for Scarlet Beebalm. As noted in Section 3.2.2, Scarlet Beebalm is heavily planted in manicured gardens, and therefore the individuals observed within the study area may not be natural occurrences.

The locations of the SWH in the form of Special Concern & Rare species is shown on *Figure 4*.

3.3.4.2 Bat Maternity Colony Habitat

Bat maternity colony habitat can be located in human structures (e.g., barns and attics), abandoned mines, tree hollows and rock faces (OMNRF, 2014). For several species,

mature woodland communities that include dead or dying stems are important, others roost individually in the foliage of several species of trees.

Investigations were completed to identify all candidate bat maternity habitat trees within the limits of the subject property. One tree that exhibited characteristics of a potential colony tree was identified along the northern limit of subject property in the Fencerow community. The tree identified is a Black Walnut (*Juglans nigra*) with a DBH greater than 10cm. It contained a knot hole and loose bark with a decay class of 3, indicating it is recently dead with bark and branches still intact. The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E states that maternity colonies considered SWH are found in forested Ecosites within the FOD, FOM, SWD and SWM series. As such, SWH in the form of Bat Maternity Colony Habitat has not been assumed present within the Fencerow (TAGM5) community. Forested communities identified within the study area outside of the property limits may also contain suitable habitat; however, these communities could not be investigated due to property access restrictions. As such, SWH in the form of Bat Maternity Colony Habitat has been assumed present within the forested communities in the study area.

The location of the assumed SWH is shown on *Figure 4*.

3.3.4.3 Waterfowl Stopover and Staging (Aquatic)

The reach of the South Saugeen River within the study area has been identified as candidate habitat for Waterfowl Stopover and Staging. Large numbers of migrating waterfowl may concentrate in traditionally used areas such as open water and march communities (OMNRF, 2014). Staging areas are an important component of migration habits as they are used as points in migration where the birds need to replenish energy reserves and rest before continuing (OMNRF, 2014). As studies to confirm the presence of Waterfowl Stopover and Staging were not completed, SWH is being assumed present for the reach of the South Saugeen River. The extent of the assumed Waterfowl Stopover and Staging SWH is shown on *Figure 4.*

3.3.4.4 Turtle Wintering Area

Turtles typically hibernate underwater within waterbodies that are sufficiently deep to avoid freezing (OMNRF, 2014). Hibernation sites are critical habitat and disturbance of turtles during winter may result in mortality. The reach of the South Saugeen River within the study area exhibits characteristics typical of turtle wintering habitat. As studies to confirm the presence of turtle wintering areas were not completed, the reach of the South Saugeen River within the study area has been assumed SWH. The extent of the assumed Turtle Wintering Area is shown on *Figure 4*.

See *Appendix 6* for a detailed assessment of Significant Wildlife Habitat.

3.3.5 Species at Risk Habitat

A thorough review of background documents was conducted to compile a master list of all Species at Risk, and species with conservation designations that may occur in the study area. Based on the background review and site investigations, suitable habitat for seven SAR listed as Endangered or Threatened and protected under the ESA have the potential to occur within the study area. Each species and their potential to occur are discussed below.

3.3.5.1 Acadian Flycatcher

Candidate habitat for Acadian Flycatcher occurs within the study area due to the presence of valleylands adjacent the ravine within the western portion of the study area. No individuals were identified during field investigations, specifically breeding bird surveys. As a result, this habitat is not considered present within the study area.

3.3.5.2 Bobolink & Eastern Meadowlark

Candidate habitat for Bobolink and Eastern Meadowlark occurs within the study area due to the presence of hayfields on adjacent properties. No individuals were identified during field investigations, specifically breeding bird surveys. As a result, this habitat is not considered present in the study area.

3.3.5.3 Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotic & Tri-colored Bat

Candidate habitat for Species at Risk Bats in Ontario is present within the study area. One tree within the limits of the subject property was identified as exhibiting characteristics of suitable SAR Bat habitat. Forested communities within the study area, outside of the limits of the subject property may also contain suitable habitat. Surveys to determine presence of suitable habitat within forested communities were not completed due to access restrictions. As such, suitable habitat for Bat Species at Risk within these communities has been assumed present. The extent of the assumed SAR Bat Habitat is shown on *Figure 4*.

See *Appendix 7* for a detailed assessment of Species at Risk habitat.

3.4 Geology and Soils

The surface soil type within the subject property falls primarily within the Harriston silt loam series (Gillespie and Richards, 1954). The Harriston series belongs to the Grey Brown Podzolic Great Group and is described as medium-textured derived from

dolomitic, limestone till. Harriston soils are characterized by good drainage and moderately stony. The soil profile of Harriston soils generally includes very dark brown loam or silt loam over yellow-brown loam, brown clay loam, and yellow-brown calcareous till.

Along the watercourse there is Bottom Land variable surface soil (Gillespie and Richards, 1954). Bottom Land soil belongs to the Alluvial Great Group and can be made up of variable soil materials with poor drainage. Adjacent to the South bank of the watercourse just outside of the property line is dominated by surface soil characterized as Donnybrook sandy loam (Gillespie and Richards, 1954).

4.0 Impact Assessment and Mitigation

4.1 Potential Impacts and Mitigation Recommendations

The proposed Draft Plan of Subdivision (Cobide Engineering Inc., September 2024) and future residential development would result in minor impacts to the existing natural features without appropriate mitigation. Potential impacts include site grading & erosion, tree and vegetation removal, sediment and deleterious runoff, and wildlife disturbance. A detailed assessment of potential impacts from the proposed development as well as proposed mitigation measures to avoid negative impacts is provided in *Appendix 10*.

4.2 Development Limit

Per the proposed Draft Plan of Subdivision (Cobide Engineering, September 2024), seven of the proposed lots include or are immediately adjacent the existing natural features. However, the proposed building and septic envelopes detailed for each lot are located outside of the significant woodland and significant valleyland features as well as the variable buffer to the significant woodland.

4.3 Buffers

4.3.1 Woodlands

As identified through the ELC, the study area contains multiple treed communities, with small portions of the White Cedar Coniferous Forest and Sugar Maple- Lowland Ash Forest being within the limits of the subject property. Per *Figure 2*, development within Lot 1 (Cobide Engineering, September 2024) is the most constrained due to its proximity to the woodland and significant valleylands to the west. As such, to accommodate residential development on Lot 1, a variable buffer between 5m and 15m has been applied to the surveyed woodland dripline within the limits of the subject property, with a 5m buffer being applied to Lot 1. The 15m portion of the woodland buffer has been applied to the southern limit of Lots 1 to Lot 6, with the 1m buffer being applied to Lots 6 and 7. The area provided by the variable buffer is 0.41 hectares, while a 10m buffer along the entirety of the woodland dripline provides an area of 0.35 hectares. The buffer was applied to preserve the existing natural linkage between the woodlands to the north and those to the south, allowing protected movement of wildlife species. Provided the mitigation measures detailed in Section 7.0 & *Appendix* 10 are implemented, the proposed development will not result in negative impacts to the woodland feature or its ecological functions.

4.3.2 Significant Valleylands

As identified on *Figure 1*, Significant Valleylands are present immediately west of the subject property, specifically Lot 1 within the Draft Plan of Subdivision (Cobide Engineering Inc., September 2024). The limits of the Significant Valleylands are within the larger woodland feature within and adjacent to the study area. As noted above, a variable buffer between 5m and 15m has been applied to the surveyed woodland dripline. With the application of the variable buffer, the Significant Valleylands are provided a buffer of at least 11.5m from the proposed residential development on Lot 1. Provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development on Lot 1 will not negatively impact the Significant Valleylands or their ecological functions.

4.3.3 Wetlands

Per *Figure 1*, a 30m buffer has been applied to the portion of an unevaluated wetland feature present along the southern limit of the study area. The subject property contains a portion of the 30m wetland buffer along the southern property limit; however, this area is within the existing woodland feature and no development is proposed to occur. As such, provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the future development of residential dwellings and amenities within the lots identified on the Draft Plan of Subdivision (Cobide Engineering Inc., September 2024) will not negatively impact the unevaluated wetland feature or its ecological functions.

4.3.4 South Saugeen River

Per *Figure 1,* a 30m buffer has been applied to the reach of the South Saugeen River present within the southern portion of the study area. Similar to the unevaluated wetland, a portion of the 30m watercourse buffer is present along the southern portion of the subject property; however, this area is within the existing woodland feature within which no development is proposed to occur. As such, provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the future development of residential dwellings and amenities within the lots identified on the Draft Plan of Subdivision (Cobide Engineering Inc., September 2024) will not negatively impact the watercourse or its ecological functions.

4.3.5 Dual Zoning

In order to maintain the proposed buffer distances and ensure the protection of the identified Natural Heritage features, dual zoning has been proposed for the subject property. Under the dual zoning, the majority of the property will be rezoned Unserviced Residential, and the proposed buffers and the land they encompass will remain Natural

Environment. This will provide the municipality with a mechanism to force building and septic envelops out of the buffer area, and ensure that the Natural Heritage features identified will be protected from development in the long-term.

4.4 Significant Wildlife Habitat

Per Section 3.4.4, Significant Wildlife Habitat in the form of Special Concern & Rare Wildlife species has been confirmed present within the study area. Significant Wildlife Habitat in the forms of Bat Maternity Colony Habitat, Waterfowl Stopover and Staging (Aquatic) and Turtle Wintering Area has been assumed present.

Per Section 3.4.4.1, Special Concern & Rare Species SWH was confirmed along the limit of the woodland feature due to the observation of Monarch larvae on Common Milkweed. As the variable buffer to the woodland limit has been applied throughout the subject property, the habitat of Monarch present along the dripline will be protected from any future development.

Per Section 3.4.4.2, Bat Maternity Colony Habitat has been assumed present in the forested communities within the study area. No vegetation removal is being proposed within the forested communities along the southern limit of the subject property and these communities will be further protected by the application of the variable buffer to the woodland dripline.

Significant Wildlife Habitat in the forms of Waterfowl Stopover and Staging (Aquatic) and Turtle Wintering Area have been assumed present within the reach of the South Saugeen River within the study area. As this community is outside of the subject property and is buffered by at least 30m, it will not be negatively impacted by future residential development.

4.5 Species at Risk

Per Section 3.4.5.3 a suitable tree that may provide maternity habitat for Bat Species at Risk was identified within the Fencerow on the subject property, as well as assumed present throughout the forested habitats within the larger study area. Tree removals within the Fencerow community may be required to accommodate the proposed development. If the removal of the tree exhibiting suitable SAR Bat habitat is proposed for removal during the bat maternity window (April 1-September 30), correspondence with the MECP regarding the submission of an Information Gathering Form and an overall benefit process may be necessary. As the tree is not found within the forested habitat, only a single tree was observed, and significant woodlands likely to provide significantly more suitable habitat are present in the vicinity, the tree within the fencerow

is considered of low suitability, and the removal of a single tree outside of the maternity window is not expected to negatively impact species at risk bat habitat in the study area.

4.6 Geotechnical Investigation

A Geotechnical Investigation for the subject property was completed by CMT Engineering Inc. (May 2024). The purpose of the investigation was to assess the existing soil and groundwater conditions through boreholes and provide comments and recommendations surrounding dewatering considerations, site grading and servicing, excavations and backfilling, pavement design/drainage and infiltration.

Per Section 5.4, site preparation for the proposed residential development is anticipated to include the removal of top soil and vegetation, removal or relocation of any existing services (if encountered), the sub-excavation of all fill and native soils deemed not suitable, followed by the placement of structural fill (as required) and site grading to achieve proposed grades. For additional details, readers are directed to the Geotechnical Investigation (CMT Engineering Inc., May 2024) document provided under separate cover.

4.7 Stormwater Management

A preliminary Stormwater Management Report was completed by Cobide Engineering Inc. (September 2024) in support of the Draft Plan Approval application for the subject property. The contents of the preliminary Stormwater Management Report include details of erosion protection and sedimentation, rehabilitation/ protection measures, quantity and quality controls, grading requirements, and a summary of how County, Municipal and Watershed SWM criteria have been met.

Per Section 6.2 and Table 6.1, the post-development storm event flows are greater than pre-development; however, only a small portion of the developed lots will be impervious allowing for a natural infiltration and evaporation of the runoff generated from the proposed development. This section notes that there will be no formal stormwater management facility for the development and that while there will be an increase in the overall peak flows, control to pre-development levels is not required since the South Saugeen River will provide adequate downstream attenuation of these flows.

Section 7 details quality controls that will be provided to meet the requirements of the SVCA and the MECP. Grassed swales and overland flow through vegetation will be used in place of storm sewers with any runoff from the road extensions being directed through grassed roadside ditches. A treatment train approach consisting of lot level control measures, conveyance measures and end-of-pipe measures has been proposed. Lot level controls consist of directing rooftop runoff overland and encouraging

infiltration and filtering of pollutants through the installation of native plantings including trees, shrubs and grasses. Recommended conveyance measures include the installation of grassed channels, wet swales or dry swales in the rear yards of the proposed lots. In terms of end-of-pipe measures, overland flow and discharge rates will be controlled by mirroring the existing drainage patterns and maintaining as much of the pre-development pervious area as possible. Where required, vegetated swales will be proposed for the subject property.

Readers are directed to the Stormwater Management Report (Cobide Engineering Inc., September 2024) for additional details.

4.8 Clean Equipment Protocol for Industry

Due to the presence of natural communities immediately adjacent the subject property, it is recommended that the protocols presented within the Clean Equipment Protocol for Industry (Halloran et al., 2013) are followed to minimize the potential of any invasive species being brought onto the subject property and potentially into the existing natural features throughout the duration of any site works. Based on field investigations completed, the majority of the vascular plant species within the adjacent natural features are native to the area, therefore, the implementation of the Clean Equipment Protocol is important for maintaining the existing species composition and ratio of native to exotic species. In addition, the implementation of plantings consisting of native species in the form of trees, shrubs, grasses and forbs, where able, will help in preserving the existing conditions of the natural features.

5.0 Legislation and Policy Compliance

5.1 Provincial Policy Statement & Provincial Planning Statement

The Provincial Policy Statement (2020) and Provincial Planning Statement (2024) provide policy direction on matters of provincial interest related to land use planning and development.

As previously noted, with the Provincial Planning Statement (2024) coming into effect on October 20, 2024, the policies of both the 2020 Provincial Policy Statement & 2024 Provincial Planning Statement have been reviewed for compliance with the proposed residential subdivision. Sections 5.1.1 through 5.1.3 apply to both the 2020 Provincial Policy Statement & 2024 Provincial Planning Statement.

5.1.1 Significant Wildlife Habitat

Significant Wildlife Habitat in the form of Special Concern & Rare Species was confirmed, while Bat Maternity Colony Habitat, Turtle Wintering Area and Waterfowl Stopover and Staging (Aquatic) was assumed to be present in the study area. The location of the confirmed and assumed Significant Wildlife Habitat is identified on *Figure 4* and are further discussed below.

5.1.1.1 Special Concern & Rare Wildlife

Common Milkweed was identified along the edge of the Woodland feature, including the Sugar Maple- Ash Deciduous Forest and White Cedar Coniferous Forest, with Monarch larvae observed on multiple plants during site investigations. As a result, a buffer to the woodland dripline has been identified as confirmed SWH for Monarch. This confirmed SWH is within the woodland dripline buffer, which will remain zoned Natural Environment for its long-term protection from development, and therefore will not be directly impacted by development. Provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to the confirmed SWH for Monarch.

Scarlet Beebalm was observed within the Sugar Maple- Ash Deciduous Forest and as a result the Sugar Maple- Ash Deciduous Forest has been confirmed SWH. All proposed development is located outside of the variable buffer to the woodland dripline, which will remain zoned Natural Environment for its long-term protection from development, and therefore will not be directly impacted by development. Provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to the confirmed SWH for Scarlet Beebalm.

5.1.1.2 Turtle Wintering Area

The reach of the South Saugeen River within the study area was assumed SWH in the form of Turtle Wintering Area. The South Saugeen River is separated from the proposed development by the existing White Cedar Coniferous and Sugar Maple- Ash Deciduous Forests; however increased surface runoff from the subject property may result in negative impacts including transporting contaminants. Per Section 4.7, the Stormwater Management Report (Cobide Engineering Inc., September 2024) details the implementation of wet and dry swales as a method of quality control. Provided that swales are appropriately implemented and that the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to the assumed Turtle Wintering Area SWH.

5.1.1.3 Waterfowl Stopover and Staging (Aquatic)

The reach of the South Saugeen River within the study area was assumed SWH in the form of Waterfowl Stopover and Staging (Aquatic). As the South Saugeen River is separated from the subject property by the existing White Cedar Coniferous Forest and Sugar Maple- Ash Deciduous Forests as well as the woodland dripline buffer, it is the opinion of AA that provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to the assumed Waterfowl Stopover and Staging (Aquatic) SWH.

5.1.2 Significant Woodland

Per the Grey County Official Plan (2023 consolidation) Appendix B, the subject property contains Significant Woodlands. As noted in Section 4.3.1 a variable buffer between 5m and 15m has been applied to the surveyed woodland dripline. Per the Draft Plan of Subdivision (Cobide Engineering, September 2024), all proposed building and septic envelopes are outside of the variable buffer to the woodland dripline. This buffer will remain zoned Natural Environment, providing this buffer with long-term protection from development. Provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to the Significant Woodland or its ecological functions.

5.1.3 Significant Valleylands

Per the Grey County Official Plan (2023 consolidation) Appendix B, the study area contains Significant Valleylands. As noted in Section 1.4, the Significant Valleylands overlay has been eliminated for Settlement Areas. Since the subject property falls within the Ayton Settlement Boundary, the Significant Valleylands are identified as being immediately adjacent the western boundary of the subject property within the Significant

Woodlands. As a variable buffer between 5m and 15m has been applied to the Significant Woodland within the limits of the subject property, which will remain zoned Natural Environment for its long-term protection from development, the Significant Valleyland will also be protected. Provided the mitigation measures detailed in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to the Significant Valleylands or their ecological function.

5.2 Species at Risk Act

No federal lands are present in the study area; however, suitable habitat for migratory birds is present in the study area. No development is being proposed within at least 5m of the dripline to the woodland feature (Cobide Engineering, September 2024). Provided the mitigation measures recommended in Section 7 and *Appendix 10* are implemented, no negative impacts to the suitable habitat for aquatic SAR or migratory birds are anticipated.

5.3 Fisheries Act, 1985

No development is proposed within ~60 metres of the South Saugeen River. Provided the mitigation measures recommended within Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in negative impacts to fish or fish habitat.

5.4 Migratory Bird Convention Act & Migratory Bird Regulations

The Migratory Bird Convention Act (1994) and Migratory Bird Regulations (2022) provide protection and conservation of migratory birds, as both populations and individual birds, and their nests. As of July 2022, the Migratory Bird Regulations identifies that the nests of Pileated Woodpeckers are now offered protection.

During site investigations, no evidence of Pileated Woodpecker nesting was identified within the limits of the subject property. Therefore, no trees within the limits of the subject property are afforded protection under the Migratory Bird Convention Act or Migratory Bird Regulations.

The Migratory Bird Regulations (2022) provides protection to migratory birds including their nests and eggs throughout Canada. As such, any tree removals, if required, must occur outside of the generalized breeding bird window (April 1 – September 30) to comply with the Migratory Bird Regulations.

5.5 Endangered Species Act

The provincial Endangered Species Act, 2007 (ESA) provides protection to species designated as Threatened or Endangered on the Species at Risk in Ontario list (MNRF 2019).

One tree within the limits of the subject property was identified as potentially suitable maternity habitat for SAR Bats. Tree removals necessary to accommodate the proposed development are currently unknown. The tree is considered of low suitability, and the removal of a single tree outside of the maternity window is not expected to negatively impact species at risk bat habitat in the study area.
However, if removal of the tree identified as suitable habitat is required during the bat maternity window, correspondence with MECP regarding the submission of an Information Gathering Form and an overall benefit permit process may be necessary to ensure compliance with the ESA. The identified tree is shown on *Figure 4*.

5.6 SVCA Policies

Per correspondence with Michael Oberle, Environmental Planning Coordinator, SVCA, SVCA staff had visited the subject property on November 14, 2023. Following the site visit, Michael Oberle provided SVCA updated mapping showing SVCA Hazard Lands/recommended NE Zone and SVCA Approximate Regulated Area Limit. In addition, it was noted that the SVCA Hazard Lands are taking into account the natural hazard features of the floodplain of the South Saugeen River, and its related erosion and valley slope hazards. *Figures 1 & 2* provide the updated SVCA Approximate Regulated Area Limit and Hazard Lands.

Since precise locations of proposed residences and septic systems are currently unknown, the Draft Plan of Subdivision (Cobide Engineering, September 2024) has defined proposed building and septic envelopes for each of the 12 proposed lots. Based on the figure detailing the Hazard Land/SVCA Recommended NE Zone and SVCA Approximate Regulated Limit provided by SVCA staff on November 30, 2023, the proposed building and/or septic envelopes provided for Lots 1 and 12 are within the Approximate Regulated Area Limit (*Figure 2*).

As such, the policies detailed in Section 4.5.2-2 must be demonstrated to the Authority's satisfaction for the proposed development to be permitted.

After reviewing the Stormwater Management Report (Cobide Engineering Inc., September 2024) and Geotechnical Report (CMT Engineering Inc., May 2024) it is in

the opinion of AA that the Draft Plan of Subdivision (Cobide Engineering Inc., September 2024), is in compliance with SVCA policies, and with the implementation of the mitigation measures recommended in Section 7.0 and *Appendix 10*, will result in no negative impacts to the South Saugeen River and its associated floodplain within the study area.

5.7 Grey County Official Plan

The Grey County Official Plan (2023 consolidation) Schedule A indicates that the subject property is within the Secondary Settlement Area and contains lands designated as Hazard Lands. Appendix B notes the presence of Significant Woodlands within the subject property as well as Significant Valleylands to the immediate west.

5.7.1 Hazard Lands

Section 7.2.4 of the Grey County Official Plan states that development and site alteration are not permitted within the floodway portion of the floodplain or defined portion of the dynamic beach. The floodway is the entire floodplain, unless the Two-Zone Concept is in use. Per Section 7.2.9, development and site alteration will only be considered if items 7.2.9a) through 7.2.9f) have been satisfied. Per the Draft Plan of Subdivision (Cobide Engineering Inc., September 2024), the majority of the proposed building envelopes for Lots 1 and 12 are within the Hazard Lands designation per Schedule A of the Grey County Official Plan (2023 consolidation). Per Section 7.2.9b) it is the opinion of AA that since the proposed development is located outside of the variable buffer to the woodland dripline it will not result in negative impacts to the existing natural features provided the mitigation measures provided in Section 7.0 & *Appendix 10* are implemented, and the buffer remains zoned Natural Environment. Additionally, provided the recommendations detailed in the Geotechnical Investigation (CMT Engineering Inc, May 2024) are applied, the existing hazards can be safely addressed and will not be aggravated.

5.7.2 Significant Woodlands

Section 7.4.1 of the Grey County Official Plan states that no development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an environmental impact study, as per Section 7.11, that there will be no negative impacts on the natural features or their ecological functions. Per *Figure 2*, all proposed development is located outside of the proposed variable buffer to the Significant Woodland within and adjacent the subject property. The buffer is proposed to remain zoned as Natural Environment to allow for the long-term protection of this feature from encroachment. Therefore, provided the mitigation measures recommended in Section 7.0 & *Appendix 10* are implemented, the proposed

development will not result in any negative impacts to the Significant Woodland or its ecological function.

5.7.3 Significant Valleylands

Section 7.7.1 of the Grey County Official Plan states that no development or site alteration may occur within Significant Valleylands or their adjacent land uses unless it has been demonstrated through an environmental impact study that there will be no negative impacts on the natural features or their ecological functions. Per *Figure 2*, the Significant Valleylands are located immediately west of the limits of the subject property. As such, the proposed development does not encroach within the Significant Valleylands and is further protected by the variable buffer to the Significant Woodland, which will remain zoned Natural Environment for its long-term protection from development. Therefore, provided the mitigation measures recommended in Section 7.0 & *Appendix 10* are implemented, the proposed development will not result in any negative impacts to the Significant Valleylands or their ecological functions.

5.8 Municipality of West Grey Zoning By-law 37-2006

Per the Grey County GIS Mapping application, the subject property includes lands zoned as Natural Environment and Future Development.

Section 30 of the Zoning By-law 37-2006 (2017 consolidation) includes single detached residential dwelling units within the list of permitted uses within lands zoned as Future Development. Section 31 of the Zoning By-law includes permitted uses for lands within the Natural Environment Zone. Permitted uses within the Natural Environment Zone do not include the development of single detached residential dwelling units.

Since a portion of the proposed Draft Plan of Subdivision is within the lands zoned as Natural Environment an amendment to the existing zoning for the subject property will be required to comply with the Municipality of West Grey Zoning By-law 37-2006. It is proposed that all lands outside the buffers be rezoned as Unserviced Residential, while the lands within the proposed buffer remain as Natural Environment.

6.0 Summary and Conclusions

It is the opinion of AA that the measures to mitigate impacts from the proposed residential development will result in no negative impacts to the natural heritage features identified within and adjacent to the subject property. The Significant Woodlands, Significant Valleylands and South Saugeen River identified adjacent to the

subject property will be protected. Below is a summary of the identified Natural Heritage features and constraints, and associated mitigation and/or protection measures.

6.1 Biological Constraints

1. Surveys were conducted for Ecological Land Classification and Vegetation (ELC and Vascular Plant List), breeding birds and aquatic habitat.
2. Natural features within the study area include, Significant Woodlands, Significant Valleylands, the South Saugeen River, and an unevaluated wetland feature.
3. Habitat for Species at Risk Bats was identified within the Fencerow community within the subject property, and was assumed present for wooded communities outside of the limits of the subject property. No species listed as Threatened or Endangered under the ESA were observed during field investigations.
4. Significant Wildlife Habitat in the form of Special Concern & Rare Species was confirmed to be present in the study area. SWH in the forms of Bat Maternity Colony Habitat, Turtle Wintering Area and Waterfowl Staging and Stopover (Aquatic) was assumed to be present within the study area.
5. A portion of the subject property is within the SVCA Approximate Screening Area due to the presence of the South Saugeen River.

6.2 Impact Assessment

1. Potential impacts from the proposed development were assessed to determine their extent and mitigation guidelines have been provided in this report. Provided the recommended mitigation measures are implemented, anticipated negative impacts to the surrounding natural features will be minor to none.

2. Impacts primarily involve the removal of trees and vegetation, site grading, sediment and deleterious runoff, erosion, and wildlife disturbance.

3. Residual impacts from occupation are expected and can be minimized through provision of an environmental guide/brochure to advise occupants of action and activities that can be taken to avoid impacts to the adjacent natural feature and the installation of a living buffer utilizing species that are a deterrent to encroachment (i.e. Raspberries).

4. There are opportunities within the proposed lots, specifically those immediately adjacent the existing natural features, for edge enhancement to mitigate potential impacts and deter encroachment into the natural features. Edge enhancement should be completed using native trees, shrubs and herbaceous species suitable to the existing moisture regime.

6.3 Legislation and Policy Compliance

1. The proposed development complies with the *Provincial Policy Statement (2020) & Provincial Planning Statement (2024)* as it will not result in any negative impacts to the existing Significant Woodlands, Significant Valleylands or confirmed and assumed Significant Wildlife Habitat provided the recommended mitigation measures (Section 7.0 & *Appendix 10*) are implemented.
2. The proposed development complies with the *Species at Risk Act* as it has been determined that the habitat for migratory birds, listed under SARA as threatened or endangered, within the study area will not be negatively impacted provided the recommended mitigation measures (Section 7.0 & *Appendix 10*) are implemented.
3. The proposed development complies with the *Fisheries Act* as it has been determined that the reach of the South Saugeen River within the study area will not be negatively impacted provided the recommended mitigation measures (Section 7.0 & *Appendix 10*) are implemented.
4. The proposed development complies with the *Migratory Bird Convention Act* (1994) and *Migratory Bird Regulations* (2022) as the nesting habitat of migratory birds will not be negatively impacted provided the recommended mitigation measures (Section 7.0 & *Appendix 10*) are implemented.
5. The proposed development complies with the *Endangered Species Act* provided the tree identified within the Fencerow as containing suitable habitat for SAR Bats is not removed. If removal is required, correspondence with MECP will be necessary to ensure compliance with the ESA.
6. The proposed development complies with SVCA's Policies (Conservation Authorities Act, Ontario Regulation 41/24) as it has been demonstrated that the proposed development will not aggravate the existing hazard lands or create new hazards, and there will be no negative impacts to the South Saugeen River and unevaluated wetland.
7. The proposed development complies with the Grey County Official Plan (2023 consolidation) as the building and septic envelopes are located outside of the Hazard Lands, Significant Woodland and Significant Valleylands, and will not negatively impact these features provided the mitigation measures (Section 7.0 & *Appendix 10*) are implemented.
8. The proposed development will require an amendment to the existing zoning to comply with the Municipality of West Grey Zoning By-law 37-2006 (2017 consolidation). By implementing dual zoning, where most of the site is rezoned

as Unserviced Residential and the area within the proposed remains as Natural Environment, this will afford the Natural Heritage features in the subject property and study area long-term protection.

7.0 Recommendations

The following recommendations are provided to ensure protection of natural heritage features and function within and adjacent the severed parcel from the proposed development.

1. Prepare and implement a detailed Tree Inventory, Tree Preservation Plan, and Arborist Report, as part of detailed design, in compliance with County and Municipal policies.

2. Prepare and implement an Erosion and Sediment Control (ESC) Plan, per the GGH Erosion and Sediment Control Guide for Urban Constructure (TRCA, 2019), as part of detailed design, for protection of the contiguous woodland feature and watercourse.

3. The area of construction disturbance shall be kept to a minimum. Equipment is to be limited to the construction allowance area and is not to encroach within the adjacent natural features.

4. Control access and movement of equipment and people through implementation of staging and storage areas.
    a. Implement appropriate protocols outlines in the Clean Equipment Protocol for Industry (Halloran et al., 2013).

5. Locate works and equipment storage as far as possible from existing natural features.

6. All disturbed areas to be re-vegetated or restored with site appropriate indigenous plants wherever opportunities exist, including within the variable buffer to the woodland dripline to encourage the development of native species and deter encroachment into the natural features.

7. Sediment control fencing to be installed as shown on a Detailed Site Plan. Installed sediment control fencing is to be inspected to ensure that it is in place and functioning as designed prior to any activities or construction.

8. Time activities to avoid wildlife disturbance during critical life stages:
    a. Avoid removal of trees and vegetation during the generalized breeding bird nesting period from April 1 to August 31. If vegetation removal is necessary during this period, a skilled biologist/ecologist is required to

conduct a nest search. Any active nests found should be monitored weekly until they become inactive.

b. No clearing of trees on site is to occur during the bat maternity season (April 1- September 30) in compliance with provincial direction.

9. Where possible, prepare, as part of detailed design, and implement low impact development measures such as, bioswales, permeable surfaces, and infiltration trenches to manage stormwater runoff, reduce flooding and improve water quality.

10. Prepare, as part of detailed design, a Homeowner's Manual to inform residents of the value of natural features, promote stewardship and provide native species recommendations for landscaping.

11. Install a living buffer along the southern property limits immediately adjacent the existing woodland feature, utilizing native species that will deter encroachment into the woodland (i.e. Raspberries).

Prepared by:

ABOUD & ASSOCIATES INC.

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Ecologist
MNRF Certified Ecological Land Classification
MNRF Certified Wetland Evaluation
CERPIT #0499

Reviewed By:

Cheryl-Anne Ross, B. Sc.
Ecology Lead & Wildlife Ecologist
MNRF Certified Ecological Land Classification System
MNRF Certified Ontario Wetland Evaluation System

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Authorities Consulted

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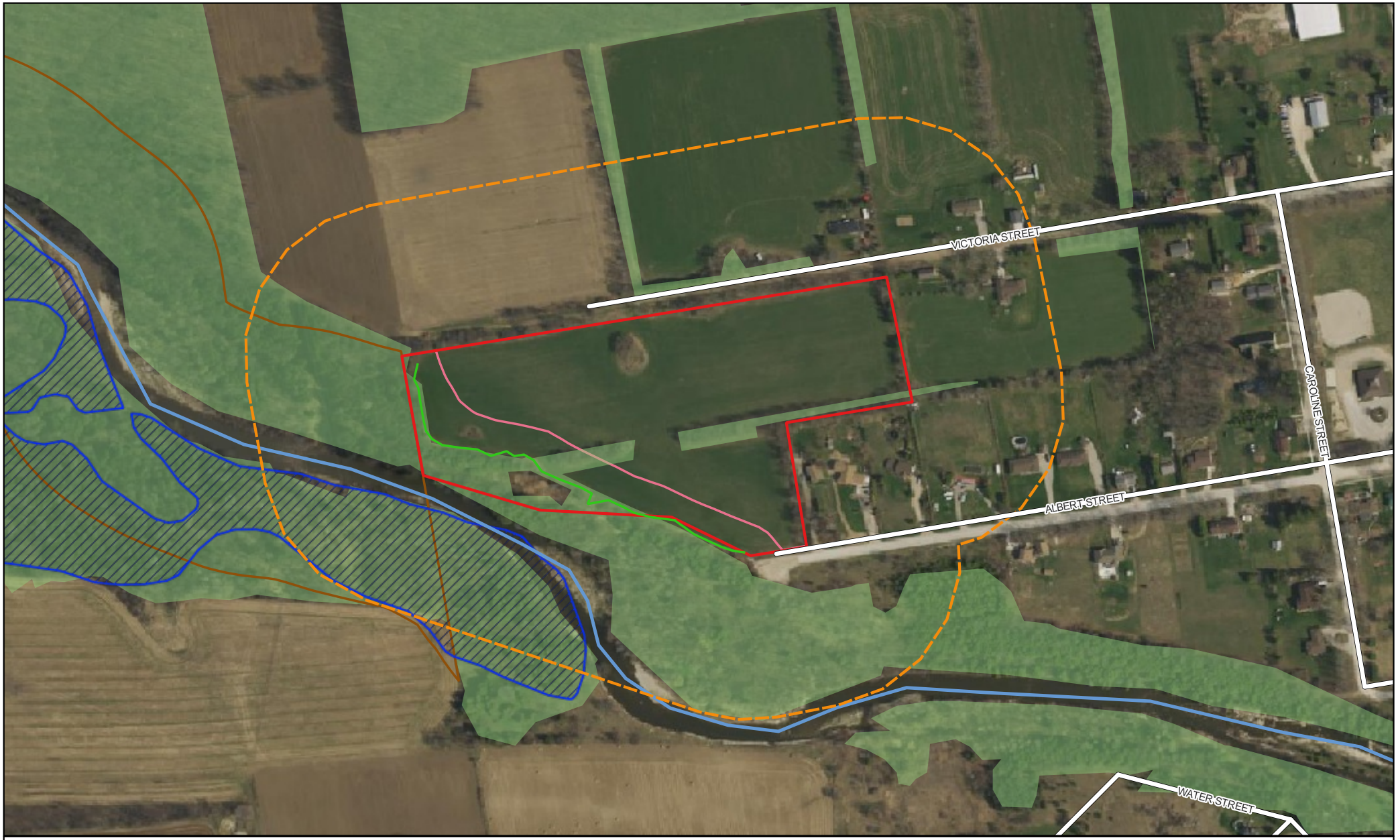
Hillyer, Becky. Intermediate Planner, Grey County. 2023. Email Correspondence.

Oberle, Michael. Environmental Planning Coordinator, SVCA. 2024. Email Correspondence.

FIGURES



LEGEND

- SUBJECT PROPERTY
- STUDY AREA
- SURVEYED DRIPLINE
- APPROXIMATE REGULATED AREA
- WATERCOURSE
- UNEVALUATED WETLAND
- SIGNIFICANT VALLEYLANDS

Information Sources:

1. Orthophotography provided by Google Maps Accessed August 2024
2. Wetlands and Watercourse provided by Land Information Ontario Accessed August 2024
3. Significant Valleylands provided by Grey County Accessed August 2024
4. Significant Woodland Dripline, and SVCA Approximate Regulated Limit provided by Cobide Engineering Inc., September 2024.

Title:

STUDY AREA & LANDSCAPE CONTEXT

Project:

1035 VICTORIA STREET
TOWN OF AYTON
GREY COUNTY

Date: OCTOBER 2024
Project: AA23-087A
Scale: 1 : 4000

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Figure No: 1

LEGEND

- SUBJECT PROPERTY
- STUDY AREA
- SIGNIFICANT VALLEYLANDS
- APPROXIMATE REGULATED AREA
- 30M WATERCOURSE BUFFER
- 30M WETLAND BUFFER
- SURVEYED WOODLAND DRIPLINE

VARIABLE WOODLAND DRIPLINE BUFFER

- 5M
- 10M
- 15M

PROPOSED DRAFT PLAN OF SUBDIVISION

- PROPOSED SEPTIC ENVELOPE
- PROPOSED BUILDING ENVELOPE
- PROPOSED LOTS

Information Sources:

1. Orthophotography provided by Google Maps Accessed August 2024
2. Proposed Draft Plan of Subdivision, Woodland Dripline & SVCA Regulated Limit provided by Cobide Engineering Inc.,September, 2024
3. Significant Valleylands provided by Grey County , accessed September, 2024

*Proposed Draft Plant of Subdivision provided for context only. Please refer to Draft Plan of Subdivision Lots 3, 4, 5 & 6 South of Victoria Street and Lots 4, 5 & 6 North of Albert Street, Cobide Engineering Inc., September 2024.

Title:

PROPOSED DRAFT PLAN OF SUBDIVISION

Project:

1035 VICTORIA STREET
TOWN OF AYTON
GREY COUNTY

Date: OCTOBER 2024
Project: AA23-087A
Scale: 1 : 1000

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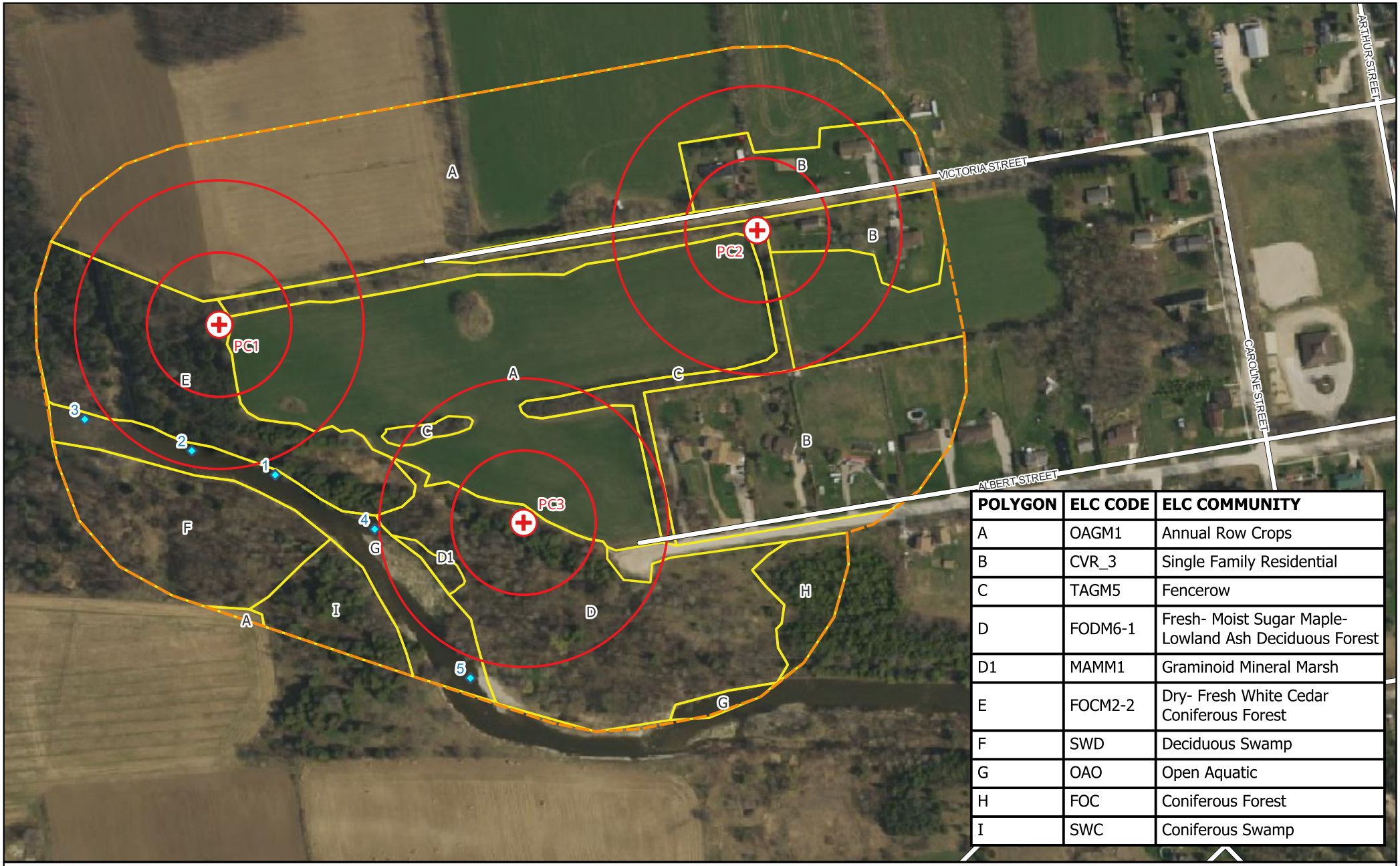
Figure No: 2



POLYGON	ELC CODE	ELC COMMUNITY
A	OAGM1	Annual Row Crops
B	CVR_3	Single Family Residential
C	TAGM5	Fencerow
D	FODM6-1	Fresh- Moist Sugar Maple-Lowland Ash Deciduous Forest
D1	MAMM1	Graminoid Mineral Marsh
E	FOCM2-2	Dry- Fresh White Cedar Coniferous Forest
F	SWD	Deciduous Swamp
G	OAO	Open Aquatic
H	FOC	Coniferous Forest
I	SWC	Coniferous Swamp

LEGEND

- STUDY AREA
- ECOLOGICAL LAND CLASSIFICATION
- BBS POINT COUNT LOCATION
- BBS POINT COUNT RADIUS
- AHA SURVEY LOCATION

Information Sources:

1. Orthophotography provided by Google Maps Accessed August 2024
2. Ecological Land Classification provided by Aboud & Associates, 2023

Title:
ECOLOGICAL LAND CLASSIFICATION & SURVEY LOCATIONS

Project:
1035 VICTORIA STREET
TOWN OF AYTON
GREY COUNTY

Date: OCTOBER 2024
Project: AA23-087A
Scale: 1 : 3500

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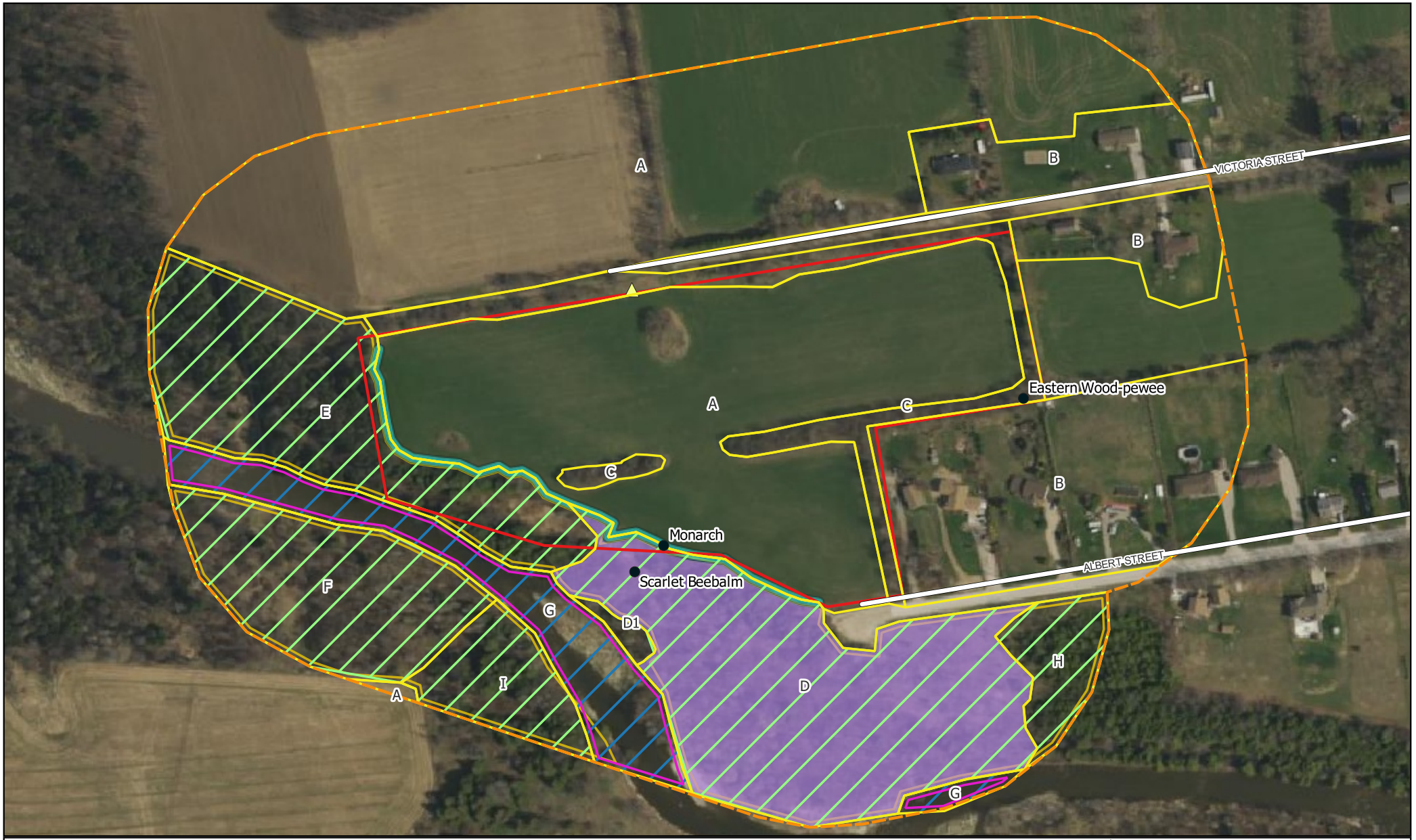
Figure No: 3



LEGEND

- SUBJECT PROPERTY
- STUDY AREA

SPECIES AT RISK

- ASSUMED SAR BAT HABITAT
- CANDIDATE SAR BAT MATERNITY TREE
- SPECIES AT RISK OBSERVATION

SIGNIFICANT WILDLIFE HABITAT

- TURTLE WINTERING AREA
- WATERFOWL STOPOVER AND STAGING
- BAT MATERNITY COLONY HABITAT

SPECIAL CONCERN & RARE SPECIES

- MONARCH
- SCARLET BEEBALM

Information Sources:

1. Orthophotography provided by Google Maps Accessed August 2024

Title:

SIGNIFICANT FEATURES

Project:

1035 VICTORIA STREET
TOWN OF AYTON
GREY COUNTY

Date: OCTOBER 2024

Project: AA23-087A

Scale: 1 : 3000

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Figure No: 4

APPENDIX 1

Applicable Policies and Conformity

Policy	Relevant Sections of the Policy	Policy Constraints Within the Study Area	Project Policy Conformity	Proposed Mitigation
Provincial Policy Statement (2020)	Section 2.1 Natural Heritage including sections 2.1.4 and section 2.1.5 Section 3.0 of the PPS, Protecting Public Health and Safety including Section 3.1.2 c) and d), section 3.1.4, Section 3.1.6, and Section 3.1.7.	Significant woodlands and Significant Valleylands are present in the study area. Forms of Significant Wildlife Habitat have been confirmed and assumed present in the study area.	A variable buffer between 5m-15m has been applied to the dripline of the Significant Woodland within the limits of the subject property. The Significant Valleylands will be protected by the variable buffer. The confirmed and assumed SWH is located within and along the dripline of the Significant Woodland and will be protected by the variable buffer.	Install native plantings where opportunities exist on the proposed lots immediately adjacent the Significant Woodland to provide a naturalized transition to the adjacent natural feature. Implement the recommended mitigation measures provided in Section 7.0 & *Appendix 10*.
Provincial Planning Statement (2024)	Chapter 4, Section 4.1 Natural Heritage	Significant Woodlands and Significant Valleylands are present in the study area. Forms of Significant Wildlife Habitat have been confirmed and assumed present in the study area.	A variable buffer between 5m-15m has been applied to the dripline of the Significant Woodland within the limits of the subject property. The Significant Valleylands will be protected by the variable buffer. The confirmed and assumed SWH is located within and along the dripline of the Significant Woodland and will be	Install native plantings where opportunities exist on the proposed lots immediately adjacent the Significant Woodland to provide a naturalized transition to the adjacent natural feature. Implement the recommended mitigation measures provided in Section 7.0 & *Appendix 10*.

			protected by the variable buffer.	
Species at Risk Act (2002)	Section 32 Section 33	Habitat of migratory birds is present in the study area.	Tree removals within the Fencerow community may be required to accommodate proposed future development.	If required, on-site trees are not to be removed from April 1-September 30. Due to generalized breeding bird nesting period. Additional recommended mitigation measures provided in Section 7.0 & *Appendix 10*.
Fisheries Act (1985)	Section 34.4 (1) Section 35 (1)	Fish and fish habitat are present within the study area.	The limits of the subject property are greater than 30m from the reach of the South Saugeen River in the study area.	Recommended mitigation measures provided in Section 7.0 and *Appendix 10*.
Migratory Bird Convention Act (1994) & Migratory Bird Regulations (2022)	Section 12	Habitat of migratory birds is present in the study area.	Tree removals within the Fencerow community may be required to accommodate proposed future development.	If required, on-site trees are not to be removed from April 1-September 30. Due to generalized breeding bird nesting period. Additional recommended mitigation measures provided in Section 7.0 & *Appendix 10*.
Endangered Species Act (2007)	Subsection 9(1) Clause 10(1)(a) Clause 16(5) Clause 17(1)	No species listed as END or THR were observed throughout field investigations.	The project conforms with the ESA as no impacts to species listed as THR or END or their habitat are anticipated as a result	If required, on-site trees are not to be removed from April 1-September 30 to comply with provincial direction.

		Suitable habitat for SAR Bats was identified within the study area.	of the proposed development. Removals of any trees identified as SAR bat habitat may result in additional requirements under the ESA.	Additional recommended mitigation measures provided in Section 7.0 & *Appendix 10.*
Conservation Authorities Act (2024)	Section 28	The subject property contains lands within the SVCA Approximate Screening Area.	A portion of the subject property along the western and southern limits are within the SVCA Approximate Screening Area.	Recommended mitigation measures provided in Section 7.0 & *Appendix 10*.
Grey County Official Plan (2023 consolidation)	Section 7.2 Section 7.3.2 Section 7.4	The study area consists of lands designated as Hazard Lands and contains Significant Woodlands, an unevaluated wetland and Significant Valleylands	A variable buffer between 5m-15m has been applied to the dripline of the Significant Woodland within the limits of the subject property. Significant Valleylands and unevaluated wetland are present on adjacent properties.	Install native plantings where opportunities exist on the proposed lots immediately adjacent to the Significant Woodland to provide a naturalized transition to the adjacent natural feature. Recommended mitigation measures provided in Section 7.0 & *Appendix 10*.
Municipality of West Grey Zoning By-law No. 37-2006 (2017 consolidation)	Section 30 Section 31	The study area contains lands zoned as Natural Environment and Future Development.	The subject property contains lands zoned as NE. A Zoning Amendment may be required to accommodate future residential development.	Recommended mitigation measures provided in Section 7.0 & *Appendix 10*.

APPENDIX 2

Terms of Reference and Approvals

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May 2, 2023

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Re: 1035 Victoria Street, Ayton
Municipality of Grey West
Terms of Reference - Scoped Environmental Impact Study

Dear Mr. Cook & Ms. Hillyer:

This document outlines the Terms of Reference (ToR) of the scoped Environmental Impact Study (EIS) for a proposed subdivision consisting of 13 residential lots within the Municipality of West Grey. Please review the terms and circulate to relevant staff for discussion and approval.

BACKGROUND

The client requires a scoped EIS prepared to the satisfaction of the Municipality of West Grey, Grey County, and the Saugeen Valley Conservation Authority (SVCA) to proceed with a proposed application for a subdivision consisting of 13 residential lots. The subject lands are located at 1035 Victoria Street in the village of Ayton.

Grey County Official Plan Schedule A Map 3 indicates the subject lands are within a Secondary Settlement Area and contains lands designated as ‘Hazard Lands’. Per the Pre-submission Consultation comments (dated: March 16, 2023), the subject lands also contain Significant Woodlands and are adjacent to the Saugeen River to the south, and Significant Valleylands to the immediate west.

The Pre-Submission Consultation comments note that the designations under the Municipality of West Grey do not apply to lands outside of the primary settlement areas of Durham and Neustadt.

The Grey County Online Mapping contains Municipal Zoning for the Municipality of West Grey, which indicates the subject property is zoned primarily as Future Development (FD) with a portion along the south-west boundary zoned as Natural Environment (NE).

The SVCA Approximate Regulated & Approximate Screening Areas Mapping Tool indicates the subject lands are partially within the SVCA Approximate Regulated Area.

In preparing the Terms of Reference, the following sources were reviewed for background information:

- Aerial photography of the subject site,
- Pre-submission Consultation Comments provided by Grey County (dated: March 16, 2023),
- Grey County Official Plan (2019) and Schedules,
- "Green in Grey". Grey County, 2017,
- Municipality of West Grey Zoning By-law 37-2006 (2017 Consolidation),
- Grey County mapping (Grey County Maps, accessed April 24, 2023)
- SVCA mapping (accessed April 24, 2023) of approximate regulated and approximate screening areas,
- Natural Heritage Information Center, Make-a-map, accessed April 14, 2023.
- Ontario Nature. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. 2019
- Ontario Breeding Bird Atlas. Bird Studies Canada, 2007.
- Atlas of the Mammals of Ontario. Dobbyn, 1994.
- iNaturalist. Accessed April 21, 2023
- eBird. Cornell Lab of Ornithology. Accessed April 21, 2023.
- Ontario Butterfly Atlas. Toronto Entomologists' Association. Accessed April 21, 2023.
- Aquatic Species at Risk Map. Department of Fisheries and Oceans. Accessed April 14, 2023.

STUDY AREA

The study area is the subject property and up to 120m beyond the subject property, where access is permitted (*Figure 1*).

As needed, the lands adjacent to the proposed subdivision may require further access to assist with understanding the characteristics and functions of natural heritage features. Where access is restricted, information will be acquired through existing background information and what can be observed from the edge of the accessible lands.

Lands outside of the field study area, or where access is not provided, will be reviewed from existing background information (e.g., Grey County Official Plan).

PLANNING CONTEXT

Grey County Official Plan (2019 Revision)

The Grey County Official Plan Schedule A Map 3 indicates that the subject property is within a Secondary Settlement Area and contains lands designated as Hazard Lands. Furthermore, "Green in Grey" (Grey County, 2017), indicates that the subject lands contain Significant Woodland and that Significant Valleylands occur immediately adjacent to the subject property.

Section 3.6 states that:

"Permitted uses in the areas designated as Secondary Settlement Area are residential uses, bed and breakfast establishments, home/rural occupations, commercial and dry industrial uses, public, recreational, and institutional uses intended to support the surrounding agricultural community."

Section 7.2 (2) states that:
"Permitted uses in the Hazard Lands land use type are forestry and uses connected with the conservation of water, soil, wildlife and other natural resources. Other uses also permitted are agriculture, passive public parks, public utilities and resource based recreational uses. The aforementioned uses will only be permitted where site conditions are suitable and where the relevant hazard impacts have been reviewed."

Section 7.2 (10) states that:
"Where new development is proposed on a site, part of which is Hazard Lands, then such lands may not be acceptable as part of the five per cent dedication for parkland. All lands dedicated to the municipality shall be conveyed in a condition satisfactory to local municipality."

Section 7.4 (1) states that:

"No development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an environmental impact study, as per Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions."

Section 7.7 (1) states that:

"No development or site alteration may occur within Significant Valleylands or their adjacent lands unless it has been demonstrated through an environmental impact study that there will be no negative impacts on the natural features or their ecological functions."

Section 7.9 (2) states that:

"No development will be permitted within 30 metres of the banks of a stream, river, or lake unless an environmental impact study prepared in accordance with Section 7.11 of this Plan concludes setbacks may be reduced and/or where it has been determined by the appropriate conservation authority these setbacks may be reduced. Landowners are encouraged to forest areas within 30 metres of any stream to maintain and improve fish habitat, ecological function of the stream, and to increase natural connections."

Saugeen Valley Conservation Authority

A portion of the subject property is mapped as being approximate regulation area by the SVCA. Policy 4.5.2.2 of the Environmental Planning and Regulations Policy SVCA Environmental Planning and Regulations Policies Manual states:

"*Development, interference or alteration within a Regulated Area will be permitted only where it can be demonstrated to the Authority's satisfaction that:*

- *Susceptibility to natural hazards is not increased or new hazards created;*
- *There are no adverse hydraulic or fluvial impacts on rivers, creeks, streams, or watercourses;*
- *Grading (e.g. placing and removing fill) is minimized and maintains stage-storage discharge relationships and floodplain flow regimes for a range of rainfall events, including regulatory storm;*
- *There are no negative or adverse hydrologic impacts on wetlands;*
- *Pollutions, sedimentation and erosion during construction and post construction is minimized using best management practices including site, landscape, infrastructure and/or facility design (whichever is applicable based on the scale and scope of the project), construction controls, and appropriate remedial measures;*
- *Intrusions on hydrologic functions are avoided, and no adverse impacts to hydrologic functions will occur;*

- *Groundwater discharge areas which support hydrologic functions on-site and adjacent to the site are avoided;*
- *Groundwater recharge areas which support significant natural features or hydrologic or ecological functions on-site and adjacent to the site will be maintained or enhanced;*
- *Access for emergency works and maintenance of flood or erosion control work is available;*
- *Works are constructed, repaired and/or maintained according to accepted engineering principles and approved engineering standards or to the satisfactions or the SVCA, whichever is applicable based on the scale and scope of the project; and*
- *The control of flooding, erosion, pollution or the conservation of land is not adversely affected during and post development, interference or alteration."*

Municipality of West Grey Zoning By-law 37-2006 (2017 Consolidation)

The Municipal Zoning designations for Municipality of Grey West are available through the Grey County online mapping. The subject property is primarily zoned as Future Development (FD) with a portion along the south-west boundary zoned as Natural Environment (NE).

Section 31.2 states:
"Within any NE Zone, no land shall be used and no new building or new structure shall be constructed, altered or used except in accordance with the following regulations:

a) *No alteration or disturbance to watercourses or to municipal drains associated with open watercourses will be permitted without the prior written approval of the Conservation Authority having jurisdiction in the area.*
b) *Maintenance of existing driveways within the natural environment shall be permitted. New driveways and improvements will require prior written approval from the Conservation Authority having jurisdiction in the area.*
c) *Any cutting or destruction of trees shall be subject to the requirements of the County of Grey Tree Cutting By-law.*
d) *Buildings accessory to a Conservation, Passive Recreation or Park use shall meet front, rear and side yard requirements of the Agricultural Zone.*
e) *Related Natural Environment Setbacks are contained within the applicable regulations of Section 6- General Provisions of this By-law.*
f) *Interpretation of the limits of the NE zone boundaries shall be governed by Section 2.6 of this By-law."*

BACKGROUND REVIEW

Additional background natural heritage information related to the subject lands and adjacent lands identified the following information:

1. The Ontario Reptile and Amphibian Atlas shows within the 10 km squares containing the subject lands, the recent and historical presence of eight species (including complexes) of reptiles and amphibians (accessed April 14, 2023). Including two species of Conservation Concern (Midland Painted Turtle and Snapping Turtle).

2. The Natural Heritage Information Center does not have any records of species of conservation concern within the 1km square containing the subject property, however it does note the presence of a mixed wader nesting colony.

3. The Ontario Breeding Bird Atlas shows within the 10 km squares containing the subject lands, the recent presence of 80 species of bird. Including five species of Conservation Concern (Eastern Wood-pewee, Barn Swallow, Wood Thrush, Bobolink and Eastern Meadowlark).

4. The Ontario Mammal Atlas indicates the presence of eight species within the 10km square containing the subject property, none of which are considered species of conservation concern. However, it is expected that Little Brown Myotis, Northern Myotis, and tri-coloured bat may occur in any treed habitat in the province.

5. eBird records from the nearby Normanby Tract (~5.9km from the subject property) indicates the recent and historical presence of 22 species, none of which are considered species of conservation concern.

6. iNaturalist observations within 1km of the subject property indicate the recent presence of 114 insects, 108 vascular plants, 26 birds, eight mammals, six fungi, three amphibians one mollusc, and one reptile. Two of the species observed (Bald Eagle and Monarch) are considered species of Conservation Concern.

7. The Ontario Butterfly Atlas shows within the 10 km squares containing the subject lands, the recent and historical presence of 24 species of butterflies, including one species of Conservation Concern (Monarch).

8. The federal Department of Fisheries and Oceans Aquatic Species at Risk mapping identified Species at Risk found (or potentially found) within proximity of the subject property including Rainbow within the Saugeen River within 7km of the subject property.

This information indicates that there is a potential presence of additional natural heritage features and constraints that may require investigation and/or comment.

PROPOSED TERMS OF REFERENCE

To fulfill the requirements of this study, we will:

1. Review background information, (e.g., proposed activity, relevant sections of natural heritage system components of the Grey County OP, investigation of wildlife atlases and NHIC).
2. Complete MECP & MNDNRF Requests for Information to acquire any available Species at Risk and aquatic habitat information pertaining to the Saugeen River.
3. Conduct one site visit (spring) to characterize vegetation communities using the ELC system (MNDNRF) of the Study Area.
4. Complete two site visits to carry out a two-season (spring and summer) botanical inventory of the site.
5. Identify the limits of the designated natural heritage features (woodlands), within the property boundaries. Limits of the floodplain and slope erosion hazard to be delineated by others. Woodland limit to be surveyed separately by a qualified surveyor retained by the client.
6. Complete a Bat Habitat Assessment, review trees meeting the MNDNRF criteria (>10cm) DBH) within the proposed development and immediately adjacent area and identify trees that meet the criteria for bat maternity habitat and require consideration under the Endangered Species Act.
7. Conduct a breeding bird survey of the study area, following the protocol of the Ontario Breeding Bird Atlas (Bird Studies Canada, 2004), including both point counts and area searches.
8. Conduct an Aquatic Assessment and aquatic habitat investigation to characterize the present watercourse and identify any species at risk fisheries constraints including a review of the substrates and suitability.

9. Investigate the study area for the presence of Significant Wildlife Habitat during all site visits.

10. Investigate the study area for presence of Species at Risk and Species at Risk habitat during all site visits.

11. Record observations of all incidental wildlife during site visits.

12. Analyze findings and prepare a map that shows:

    a. Identified natural heritage features, and functions and landscape level features (e.g., linkages, wetlands).
    b. The proposed application for subdivision.
    c. ELC vegetation communities.
    d. Locations of breeding bird surveys.
    e. Woodland limits.
    f. Other noteworthy features as needed.
    g. Locations of other natural heritage features from background literature searches (e.g., mammal atlas, herpetofaunal atlas, Grey County OP, Municipal Zoning Bylaw).

13. Conduct an impact assessment by reviewing the proposed development's direct, indirect, and induced (i.e., residual, ongoing) impacts on natural features. Provide an opinion about the location of the components of the plan of subdivision to reduce/avoid impacts to natural heritage features. Show the configuration of the proposed development on the subject property and assess for minimizing impacts to ecological features and functions.

14. Provide policy rationale for expected impacts to natural heritage features e.g., removal of trees and grading to accommodate the site plan.

15. Edge Management Guidelines and Compensation: Provide general recommendations of where and why naturalization treatments may be needed to protect vegetation features (e.g., woodlands) adjacent to the development activity.

16. Prepare a report of the EIS that includes background information, methods, existing conditions, proposed development, impact assessment and mitigation measures, and appendices of field studies (e.g., ELC, flora list, breeding birds).

Kind Regards,

ABOUD & ASSOCIATES INC.

Shannon Davison B. Env., Eco. Rest. Cert.
Ecologist
MNRF Certified Ecological Land Classification
MNRF Certified Wetland Evaluation
CERPIT #0499

Cc: Loralie Spencer, Municipality of West Grey
Scott Patterson, Patterson Planning Consultants Inc.
Cheryl-Anne Ross, Aboud & Associates Inc.

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LEGEND

- STUDY AREA
- SUBJECT LANDS
- WATERCOURSE
- WETLAND
- WOODLAND

Information Sources:

1. Orthophotography provided by SWOOP Accessed April 2023.
2. Woodlands, wetlands & watercourse provided by LIO Open Data, Accessed April 2023.

Title:

STUDY AREA

Project:

1035 VICTORIA STREET
AYTON, ON

Date: APRIL 2023

Project: AA23-087A

Scale: 1 : 3500

ABOUD & ASSOCIATES INC.
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Figure No: 1

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	CANDIDATE HABITAT IN STUDY AREA	FIELD STUDIES RECOMMENDED	HABITAT REFERENCE
REPTILES									
Western Chorus Frog – Great Lakes / St. Lawrence - Canadian Shield Population	*Pseudacris triseriata pop. 2*	NAR	THR	S4	MNRF Species Occurrence Mapping	Generally found in lowland communities, such as swamps, inhabiting lowland shrubs and grasses in the community, near breeding habitat. Breeding occurs in lowland, ephemeral ponds, devoid of predatory fish species (COSEWIC 2008a).	No	Habitat requirements to be reviewed on site during ELC and field studies.	COSEWIC. 2008. COSEWIC assessment and update status report on the Western Chorus Frog (*Pseudacris triseriata*) Carolinian population and Great Lakes/St. Lawrence – Canadian Shield population in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
BUTTERFLIES, BEES, DAMSELFLIES, DRAGONFLIES & INSECTS									
American Bumble Bee	*Bombus pensylvanicus*	SC	SC	S3S4	MNRF Species Occurrence Mapping	Occurs in a range of open habitats including farmlands, meadows, and grasslands. It has been recorded foraging on flowers for pollen and nectar from a variety of plant genera (COSEWIC 2018).	Yes	Habitat requirements to be reviewed on site during ELC and field studies.	COSEWIC. 2018. COSEWIC assessment and status report on the American Bumble Bee (*Bombus pensylvanicus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 52 pp.
Monarch	*Danaus plexippus*	SC	SC	S2N, S4B	OBA iNaturalist	Requires milkweed for larval feeding, other wildflower species are also important for adult feeding when milkweed is not in flower; often found in abandoned farmland, along roadsides, and other open spaces (COSEWIC 2010b)	Yes	Habitat requirements to be reviewed on site during ELC and field studies.	COSEWIC. 2010. COSEWIC assessment and status report on the Monarch (*Danaus plexippus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	END	THR	SH	MNRF Species Occurrence Mapping	Occurs in diverse habitats including open meadows and prairies, farms and croplands, urban areas, boreal forest, and montane meadows (COSEWIC 2019).	Yes	Habitat requirements to be reviewed on site during ELC and field studies.	COSEWIC. 2019. COSEWIC assessment and status report on the Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 70 pp.
West Virginia White	*Pieris virginenisis*	SC	NAR	S3	MNRF Species Occurrence Mapping	Found in rich deciduous and mixed forests and swamps with a poorly vegetated shrub layer. The larvae feed only on the leaves of a few host plants, including the Two-leaved Toothwort (*Cardamine diphylla*) and cut-leaved toothwort (Burke 2013).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	Peter S. Burke. 2013. Management Plan for the West Virginia White (*Pieris virginiensis*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. v + 44 pp.
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	MNRF Species Occurrence Mapping	Occur in a diverse range of habitat, including mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands and boreal habitats. Queens overwinter underground and in decomposing organic material such as rotting lots (COSEWIC 2015)	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2015. COSEWIC assessment and status report on the Yellow-banded Bumble Bee (*Bombus terricola)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 60 pp. *rank considered out of date
BIRDS									
Acadian Flycatcher	*Empidonax Virenscens*	END	END	S2S3B	MNRF Species Occurrence Mapping	Breeds in mature deciduous and mixed forests, using tableland forests and ravine habitats. Nests are often located over vernal pools, trails or bare ground in tablelands or over streams in ravines (COSEWIC 2010d).	Yes	Breeding Bird Surveys	COSEWIC. 2010. COSEWIC assessment and status report on the Acadian Flycatcher (*Empidonax virescens)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 38 pp.
Bald Eagle	*Haliaeetus leucocephalus*	SC	NAR	S2N, S4B	iNaturalist	Prefers deciduous and mixed-deciduous mature forest habitat close to water bodies including lakes and rivers; nests in super canopy trees including Pine (Armstrong 2014).	Yes	Breeding Bird Surveys	Armstrong, Ted (E.R.). 2014. Management Plan for the Bald Eagle (*Haliaeetus leucocephalus*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 53 pp.
Bank Swallow	*Riparia riparia*	THR	THR	S4B	MNRF Species Occurrence Mapping	Breeds in a variety of natural and artificial bank type habitat, such as bluffs, stream and river banks, sand and gravel pits, piles of sand, topsoil and other material. Nests are typically in vertical or near-vertical surfaces (COSEWIC 2013b).	No	Breeding Bird Surveys	COSEWIC. 2013. COSEWIC assessment and status report on the Bank Swallow (*Riparia riparia*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.
Barn Swallow	*Hirundo rustica*	SC	THR	S5B	OBBA	Occurs in farmland, along lake/river shorelines, in wooded clearings and in urban populated areas. Nesting may occur inside or outside buildings; under bridges and in road culverts (COSEWIC 2011a).	Yes	Breeding Bird Surveys	COSEWIC. 2011. COSEWIC assessment and status report on the Barn Swallow (*Hirundo rustica)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	CANDIDATE HABITAT IN STUDY AREA	FIELD STUDIES RECOMMENDED	HABITAT REFERENCE
Barn Owl	*Tyto alba*	END	END	S1	MNRF Species Occurrence Mapping	Requires open habitat for foraging, such as old fields and pastures, that provide habitat for rodents, and uses a variety of natural and man-made structures for nesting (COSEWIC 2010e)	No	Breeding Bird Surveys	COSEWIC. 2010. COSEWIC assessment and status report on the Barn Owl *Tyto alba* (Eastern population and Western population) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiv + 34 pp.
Black Tern	*Chlidonias niger*	SC	NAR	S3B	MNRF Species Occurrence Mapping	Breeds in large, freshwater marshes, with emergent vegetation, and large areas of open water. Nests are typically within 6 meters of the water, on low emergent vegetation (Burke 2012).	No	Breeding Bird Surveys	Peter S. Burke. 2012. Management Plan for the Black Tern (*Chlidonias niger*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources (OMNR), Peterborough, Ontario. vi + 47 pp.
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	OBBA	Nest in grassland habitats, including hayfields and meadows with a mixture of grasses and broad-leaved forbs with a high litter cover. Area Sensitive, with increased density in grasslands greater than 10ha (Renfrew et. al. 2015)	Yes	Breeding Bird Surveys	Renfrew, R., A.M. Strong, N.G. Perlut, S.G. Martin and T.A. Gavin. 2015. Bobolink (*Dolichonyx oryzivorus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Birds of North America Online: http://bna.birds.cornell.edu/bna/species/176
Canada Warbler	*Wilsonia canadensis*	SC	THR	S4B	MNRF Species Occurrence Mapping	Prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer (COSEWIC 2008b).	Yes	Breeding Bird Surveys	COSEWIC. 2008. COSEWIC assessment and status report on the Canada Warbler (*Wilsonia canadensis*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.
Cerulean Warbler	*Setophaga cerulea*	THR	END	S3B	MNRF Species Occurrence Mapping	Occur in older, mature, deciduous forests, preferentially oak-maple composition, with a full, to partially open canopy, and little to no understory cover. Often in bottomland forests, or adjacent to treed swamplands (COSEWIC 2010f).	No	Breeding Bird Surveys	COSEWIC. 2010. COSEWIC assessment and status report on the Cerulean Warbler (*Dendroica cerulea*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B, S4N	MNRF Species Occurrence Mapping	Typically nests in traditional chimneys of older buildings, which also provide roosting sites for many individuals during spring and fall migration (MNRF 2013).	No	Breeding Bird Surveys	MNRF, 2013. General Habitat Description for the Chimney Swift *(Chaeture pelagica)*. Ontario Ministry of Natural Resources and Forestry. July 2, 2013.
Common Nighthawk	*Chordeiles minor*	SC	THR	S4B	MNRF Species Occurrence Mapping	Breeds in open habitat, on the ground, in areas with no vegetation, including sand dunes, burned areas, open forests, railways, and gravel rooftops. Eggs are laid directly on the ground (COSEWIC 2007b).	No	Breeding Bird Surveys	COSEWIC 2007. COSEWIC assessment and status report on the Common Nighthawk (*Chordeiles minor)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 25 pp.
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	OBBA	Nest in grassland habitats, including hayfields, pasture, savannahs, and other open areas. Preferential habitat includes areas with good grass and thatch (litter) cover (Jaster et. al. 2012).	Yes	Breeding Bird Surveys	Jaster, Levi A., William E. Jensen and Wesley E. Lanyon. (2012). Eastern Meadowlark (*Sturnella magna*), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: https://birdsna.org/Species-Account/bna/species/easmea
Eastern Whip-poor-will	*Caprimulgus vociferus*	THR	THR	S4B	MNRF Species Occurrence Mapping	Often found breeding in semi-open habitats, with little ground cover, and canopy openings allowing light to penetrate the forest floor, often associated with pine or oak, savannahs and barrens, early-successional poplar stands and open conifer plantations (COSEWIC 2009a)	No	Breeding Bird Surveys	COSEWIC. 2009. COSEWIC assessment and status report on the Whip-poor-will (*Caprimulgus vociferus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 28 pp.
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	OBBA	Associated with mid-age mixed and deciduous forest stands, often dominated by Maple (Acer), Elm (Ulmus) or Oak (Quercus), and include areas with clear-cuts, openings or forest edges. Also prefers forest stands with little to no understory vegetation (COSEWIC 2012a).	Yes	Breeding Bird Surveys	COSEWIC. 2012. COSEWIC assessment and status report on the Eastern Wood-Pewee (*Contopus virens*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	MNRF Species Occurrence Mapping	Breeding habitat includes open, mature mixed wood forests, where fir species and/or White Spruce are dominant, and Spruce Budworm is abundant (COSEWIC 2016)	No	Breeding Bird Surveys	COSEWIC. 2016. COSEWIC assessment and status report on the Evening Grosbeak *Coccothraustes vespertinus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 64 pp.
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4B	MNRF Species Occurrence Mapping	Prefers moderately open grasslands and prairies with patchy bare ground; avoids grasslands with extensive shrub cover (Vickery 1996).	No	Breeding Bird Surveys	Vickery, Peter D. 1996. Grasshopper Sparrow (*Ammodramus savannarum*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/239\

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	CANDIDATE HABITAT IN STUDY AREA	FIELD STUDIES RECOMMENDED	HABITAT REFERENCE
Henslow's Sparrow	*Ammodramus henslowii*	END	END	SHB	MNRF Species Occurrence Mapping	Breeds in grassland habitat and is area sensitive. Grasslands with tall, dense cover a thick thatch layer, and are greater than 30ha, but preferentially larger than 100ha are preferred (COSEWIC 2011b).	No	Breeding Bird Surveys	COSEWIC. 2011. COSEWIC assessment and status report on the Henslow's Sparrow *Ammodramus henslowii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. X + 37 pp.
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	MNRF Species Occurrence Mapping	Breeds in large marshes (>5ha) with emergent vegetation, typically cattails, with at least 50% open water, and relatively stable water levels (COSEWIC 2009b).	No	Breeding Bird Surveys	COSEWIC. 2009. COSEWIC assessment and update status report on the Least Bittern *Ixobrychus exilis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vi + 36 pp.
Lesser Yellowlegs	*Tringa flavipes*	THR	THR	S3S4B, S5M	MNRF Species Occurrence Mapping	Nests on dry ground near peatlands, marshes, ponds, and other wetlands in the boreal forest and taiga. In winter and during migration, the species frequents coastal salt marshes, estuaries and ponds, as well as lakes, other freshwater wetlands, and anthropogenic wetlands such as flooded rice fields and sewage lagoons (COSEWIC 2020).	No	Breeding Bird Surveys	COSEWIC. 2020. COSEWIC assessment and status report on the Lesser Yellowlegs (*Tringa flavipes*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 64 pp.
Loggerhead Shrike	*Lanius ludovicianus*	END	END	S2B	MNRF Species Occurrence Mapping	Nests in open, low, grassy habitat with scattered shrubs. Presence of thorny shrubs, such as hawthorn, or barbwire fencing required for impaling prey. Only two recent areas of breeding in the province (Carden Plain and Napanee Plain) (Environment Canada 2015).	No	Breeding Bird Surveys	COSEWIC. 2014. COSEWIC assessment and status report on the Loggerhead Shrike Eastern subspecies *Lanius ludovicianus* ssp. And the Prairie subspecies *Lanius ludovicianus excubitorides* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Xiii + 51 pp.
Louisiana Waterthrush	*Seirus motacilla*	SC	THR	S3B	MNRF Species Occurrence Mapping	Nests along headwater streams and associated wetlands which occur within large tracts of mature forest especially mixed wood forests with a component of hemlock. Nests are in stream bank niches, under mossy logs, and within the roots of fallen trees (COSEWIC 2006b)	No	Breeding Bird Surveys	COSEWIC 2006. COSEWIC assessment and update status report on the Louisiana Waterthrush (*Seiurus motacilla*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 26 pp.
Olive-sided Flycatcher	*Contupus cooperi*	SC	THR	S4B	MNRF Species Occurrence Mapping	Associated with natural forest openings (usually conifer or mixed), and edges of forests adjacent wetlands or watercourses, will also use open and semi-open forests and clear-cuts. Presence of tall snags and residual live trees required for nesting and foraging (COSEWIC 2007c).	Yes	Breeding Bird Surveys	COSEWIC. 2007. COSEWIC assessment and status report on the Olive-sided Flycatcher (*Contopus cooperi*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 25 pp.
Peregrine Falcon	*Falco peregrinus*	SC	SC	S3B	MNRF Species Occurrence Mapping	Nests on cliff-ledges (50-200m preferred) near foraging areas. Also nests on anthropomorphic structures, such as tall building ledges, bridges, quarries, mines and cuts for road beds (COSEWIC, 2007a).	No	Breeding Bird Surveys	COSEWIC 2007. COSEWIC assessment and update status report on the Peregrine Falcon *Falco peregrinus* (*pealei* subspecies - *Falco peregrinus* and *pealei anatum/tundrius -Falco peregrinus anatum/tundrius*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 pp.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	THR	S4B	MNRF Species Occurrence Mapping	Found in a variety of open areas, with a high density of dead or dying trees, particularly forests dominated by oak or beech (COSEWIC 2007d).	No	Breeding Bird Surveys	COSEWIC 2007. COSEWIC assessment and update status report on the Red-headed Woodpecker (*Melanerpes erythrocephalus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.
Wood Thrush	*Hylocichla mustelina*	SC	THR	S4B	OBBA	Prefers second growth moist deciduous forests, with tall trees, and a dense understory of low saplings and an open forest floor with decaying leaf litter. Often nests in saplings, shrubs or occasionally dead stumps (COSEWIC 2012b).	Yes	Breeding Bird Surveys	COSEWIC. 2012. COSEWIC assessment and status report on the Wood Thrush (*Hylocichla mustelina*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.
FISH									
Northern Sunfish (Great Lakes-Upper St. Lawrence Population)	*Lepomis peltastes*	SC	SC	S3	MNRF Species Occurrence Mapping	Prefers shallow, vegetated areas of warm lakes, ponds, and slowly flowing watercourses. Usually occurs in clear waters and is considered intolerant of siltation. Substrate usually consists of sand and gravel, as in the Thames River (COSEWIC 2016)	No	Aquatic Habitat investigation	COSEWIC. 2016. COSEWIC assessment and status report on the Northern Sunfish (*Lepomis peltastes*) Saskatchewan-Nelson River populations and the Great Lakes- Upper St. Lawrence populations, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xv + 51 pp.
Upper Great Lakes Kiyi	*Coregonus kiyi kiyi*	SC	SC	S3	MNRF Species Occurrence Mapping	Prefers the deepest parts of lakes in which it is found. Rarely collected in waters less than 108m deep and has been reported at depths ranging from 35-200m (COSEWIC 2005).	No	Aquatic Habitat Investigation	COSEWIC. 2005. COSEWIC assessment and update status report on the Lake Ontario Kiyi *Coregonus kiyi orientalis* and Upper Great Lakes Kiyi *Coregonus kiyi kiyi* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vi + 17 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	CANDIDATE HABITAT IN STUDY AREA	FIELD STUDIES RECOMMENDED	HABITAT REFERENCE
MOLLUSCS									
Rainbow	*Villosa iris*	SC	SC	S2S3	DFO Aquatic Species at Risk Mapping	Most abundant in small to medium-sized rivers but can also be found in inland lakes. Usually found in or near riffles and along the edges of emergent vegetation in moderate to strong current. Occupies substrate mixtures of cobble, gravel, sandy and occasionally mud or boulder (COSEWIC 2015)	Yes	Aquatic Habitat Investigation	COSEWIC. 2015. COSEWIC assessment and status report on the Rainbow (*Villosa iris)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 82 pp.
MAMMALS									
American Badger	*Taxidea taxus*	END	END	S1	MNRF Species Occurrence Mapping	Associated with open habitat, including agricultural hedgerows, grasslands, fallow habitat and open linear corridors in forests. Soil composition must be coherent to maintain structure for digging and tunneling, usually coarse silts to fine sands, in Ontario usually found in areas of sandy and loam soils. Prey availability is also important for site suitability (COSEWIC, 2012c).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2021. COSEWIC assessment and status report on the American Badger *Taxidea taxus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Iv + 63 pp.
Eastern Small-footed Myotis	*Myotis leibii*	END	NA	S2S3	MNRF Species Occurrence Mapping	Associated with hilly or mountainous terrain, in or near coniferous or deciduous forest habitat. Maternity roosts located in cracks and crevices of talus slopes and rocky outcrops, or, occasionally in bridges, old buildings, hollow trees (or loose bark) and caves and mines during the maternity season. Hibernate singly or in small clusters in mines and caves (NatureServe, 2015).	Yes	Bat Habitat Assessment	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Little Brown Myotis	*Myotis lucifugus*	END	END	S3	MNRF Species Occurrence Mapping	Hibernate in Caves; maternity colonies located in warm sites, often associated with human habitation; including attics, old buildings, under bridges, rock crevices and cavities in canopy trees in wooded areas (COSEWIC, 2013c).	Yes	Bat Habitat Assessment	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Northern Myotis	*Myotis septentrionalis*	END	END	S3	MNRF Species Occurrence Mapping	Hibernate in Caves; maternity colonies usually located in trees, and are closely associated with specific tree characteristics and density of suitable trees. Characterized by tall, large diameter trees in early stages of decay, located in openings in mature forest canopies (COSEWIC, 2013c).	Yes	Bat Habitat Assessment	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	MNRF Species Occurrence Mapping	Hibernate in caves, abandoned mines, wells, and tunnels. Summer roosts include clumps of dead foliage and lichens, typically found in forested habitat close to water sources. May also use anthropogenic structures such as barns for maternity roosts. Foraging habitat includes forested riparian areas over water in relatively open areas (Environment Canada.2015).	Yes	Bat Habitat Assessment	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
REPTILES									
Blanding's Turtle	*Emydoidea blandingii*	THR	THR	S3	MNRF Species Occurrence Mapping	Use a variety of eutrophic wetland habitat types, including lakes, ponds, watercourses, marshes, man-made channels, farm fields, coastal areas and bays. Seasonal overland terrestrial movements up to 2.5 km occur to reach nesting and overwintering areas, generally through wooded coniferous or mixed forest habitat. Nests are usually laid in loose sand or organic soil (COSEWIC 2005b).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC 2005. COSEWIC assessment and update status report on the Blanding's Turtle (*Emydoidea blandingii*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 40 pp.
Midland Painted Turtle	*Chrysemys picta marginata*	NL	SC	S4	ORAA	Occupy slow moving, relatively shallow and well-vegetated wetlands and water bodies with abundant basking sites and organic substrate. Found in association with submergent aquatic plants, which are used for cover and feeding. Semi -tolerant of human-altered landscapes, occasionally found occupying urban ponds and lands subject to anthropogenic disturbance. Suitable nesting habitat includes open, often south-facing, and sloped areas with sandy-loamy and/or gravel substrate usually within 1200 m of aquatic active season habitats. Overwinter in shallow water with deep sediment (COSEWIC 2018).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2018. COSEWIC assessment and status report on the Midland Painted Turtle (*Chrysemys picta marginata*) and the Eastern Painted Turtle (*Chrysemys picta picta*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xvi + 107 pp.
Northern Map Turtle	*Graptemys geographica*	SC	SC	S3	MNRF Species Occurrence Mapping	Highly aquatic species, found in deep, large waterbodies, including Lakes and large rivers, with abundant basking sites. Emerge onto land only during nesting, which occurs in soft sand or soil. Waterbodies with slow currents, soft mud bottoms and abundant aquatic vegetation are preferred (COSEWIC, 2002b).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC 2002. COSEWIC assessment and status report on the Northern Map Turtle (*Graptemys geographica*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 34 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	CANDIDATE HABITAT IN STUDY AREA	FIELD STUDIES RECOMMENDED	HABITAT REFERENCE
Snapping Turtle	*Chelydra serpentina*	SC	SC	S4	ORAA	Inhabit slow-moving waters with soft, muck bottom and dense aquatic vegetation. Ponds, sloughs and shallow bays are all often used as summering and overwintering habitat (COSEWIC 2008d).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle (*Chelydra serpentina*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
Spotted Turtle	*Clemmys guttata*	END	END	S2	MNRF Species Occurrence Mapping	Found in wetlands with high organic content, including bogs, fens, marshes, woodland streams, sedge meadows, and shallow bays. Only one population is known from Wellington County, in Luther Marsh. Preferential to unpolluted shallow water with aquatic vegetation and soft substrates. Presence of Sphagnum moss, sedge tussocks, cattails and water lilies, may be important to Canadian populations (COSEWIC, 2002b).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2014. COSEWIC assessment and status report on the Spotted Turtle *Clemmys guttata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Xiv + 74 pp.
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	MNRF Species Occurrence Mapping	A semi-aquatic species that inhabits dense, low- vegetation, edges of ponds, streams, marshes, fens and bogs, with open sunlit areas for basking (COSEWIC 2002c).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC 2002. COSEWIC assessment and status report on the Eastern Ribbonsnake (*Thamnophis sauritus*). Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.
Milksnake	*Lampropeltis triangulum*	SC	SC	S4	MNRF Species Occurrence Mapping	Habitat generalists often associated with edge habitat, meadows, prairies, pastures, rocky outcrops and human disturbances such as hydro corridors and railway embankments. Habitat is usually close to a water source. Hibernation occurs in a variety of natural and man-made features, including rotting logs, old foundations, basements and burrows (COSEWIC 2014).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2014. COSEWIC assessment and status report on the Eastern Milksnake (*Lampropeltis Triangulum*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 61 pp.
Massassauga Rattlesnake	*Sistrurus catenatus*	SC	THR	S3	MNRF Species Occurrence Mapping	Only historic observations of Masassauga in the north western portion of Wellington County. Found in wet prairies, old fields, peatlands, rock barrens and coniferous forests, with open-areas, and areas of dense shrub cover. Hibernate in damp areas below the frost line (COSEWIC, 2012b).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2012. COSEWIC assessment and status report on the Massasauga *Sistrurus catenatus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Xiii + 84 pp.
VASCULAR PLANTS									
American Hart's Tongue Fern	*Asplenium scolopendrium*	SC	SC	S3	MNRF Species Occurrence Mapping	Grows on rocks or rocky substrates and requires calcareous soils, preferential to sites with dolomitic limestone, in Ontario found in upper talus and mid-slopes of the Niagara Escarpment (Environment Canada 2013).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 201. COSEWIC assessment and status report on the American Hart's-tongue Fern *Asplenium scolopendrium* var. *Americanum* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Xii + 43 pp.
Broad Beech Fern	*Phegopteris hexagonoptera*	SC	SC	S3	MNRF Species Occurrence Mapping	Prefers rich, undisturbed deciduous forest, particularly mature Beech-maple forests. Typically occurs in moister areas such as lower valley slopes, bottomlands and even swamps. Primarily a shade-tolerant species and is unlikely to withstand major opening of the forest canopy (van Overbeeke et. al., 2013)	No	Habitat requirement to be reviewed on site during ELC and field studies.	Van Overbeeke, J.C., J.V. Jalava and R.H. Donley. 2013. Management Plan for the Broad Beech Fern (*Phegopteris hexagonoptera*) in Ontario. Onario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. V + 25 pp.
Butternut	*Juglans cinerea*	END	END	S2?	MNRF Species Occurrence Mapping	Occur in rich moist sites, that are well-drained, often found along stream banks or gravelly sites. Butternut is shade intolerant (COSEWIC, 2003b).	Yes	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC 2003. COSEWIC assessment and status report on the butternut (*Juglans cinerea*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.
Eastern Prairie-fringed Orchid	*Platanthera leucophaea*	END	END	S2	MNRF Species Occurrence Mapping	Habitat includes fens, wet tallgrass prairie and moist old fields with open growing conditions. Species does not flower annually (Environment Canada 2012).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2003. COSEWIC assessment and status update report on the eastern prairie fringed-orchid *Platanthera leucophaea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vi + 27 pp.
Gattinger's Agalinis	*Agalinis gattingeri*	END	END	S2S3	MNRF Species Occurrence Mapping	Native to both alvar and tallgrass prairie habitat and requires open unshaded conditions for growth (Environment and Climate Change Canada 2019)	No	Habitat requirement to be reviewed on site during ELC and field studies.	Environment and Climate Change Canada. 2017. Recovery Strategy for the Gattinger's Agalinis (*Agalinis gattingeri*) in Canada [Proposed]. *Species at Risk Act* Recovery Strategy Series. Environment and Climate change Canada, Ottawa. 3 parts, 44 pp. + vi + 33pp. + 7pp,
Hill's Pondweed	*Potamogeton hillii*	SC	SC	S2S3	MNRF Species Occurrence Mapping	Occur in cold clear calcareous streams, ponds, and ditches, which are alkaline in nature (COSEWIC 2005c).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC 2005. COSEWIC assessment and update status report on the Hill's Pondweed *Potamogeton hillii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vi + 19 pp.
Kentucky Coffee-tree	*Gymnocladus dioicus*	THR	THR	S2	MNRF Species Occurrence Mapping	Grows best on fertile loam soil with ample moisture and tolerates alkaline soils and dry sandy soils. Typically found in rich floodplain woodlands and woodland edges of marshes where open canopy conditions exist (Environment Canada 2014)	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC. 2021. COSEWIC assessment and status report on the Kentucky Coffee-tree *Gymnocladus dioicus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Xii + 43 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	CANDIDATE HABITAT IN STUDY AREA	FIELD STUDIES RECOMMENDED	HABITAT REFERENCE
Tuberous Indian Plantain	*Arnoglossum plantagineum*	SC	SC	S2	MNRF Species Occurrence Mapping	Habitat includes open, sunny areas in wet calcareous soils, including wet meadows and shoreline fens (COSEWIC 2002).	No	Habitat requirement to be reviewed on site during ELC and field studies.	COSEWIC 2002. COSEWIC assessment and update status report on the tuberous Indian-plantain *Arnoglossum plantagineum* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vi + 11 pp.

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#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CANDIDATE SWH WITHIN STUDY AREA
Seasonal Concentration Areas			
1	Waterfowl stopover and Staging Areas (terrestrial)	- Fields with Sheet water in spring (incl. agricultural)	No
2	Waterfowl Stopover and Staging (Aquatic)	- Ponds, marshes, lakes, bays, coastal inlets and watercourses and reservoirs - SWTP & SWMP are not SWH	No
3	Shorebird Migratory stopover	- Shorelines of Lakes, rivers, wetlands, beaches, bars; seasonally flooded, muddy, and un-vegetated shoreline habitat	No
4	Raptor Wintering Area	- Combination of upland field and woodland habitat >20ha total (includes,>15ha upland field) - least disturbed sites, idle, fallow or lightly grazed field/meadow best	No
5	Bat Hibernacula	- Caves, mine shafts, underground foundations, karsts. - buildings are not SWH	No
6	Bat Maternity Colony	- All forested ecosites, FOD, FOC, FOM, SWD, SWM, SWC with >10/ha trees (>25cm DBH) in early stages of decay (class 1-3) - buildings are not SWH	Potential. To be determined during Bat Habitat Assessment.
7	Turtle Wintering Area	- Areas with permanent water deep enough not to freeze, with mud/soft substrates	No
8	Reptile Hibernaculum	- Sites below the frost line; rock barren, crevice and cave, talus, alvar, rock piles, slopes, stone fences, and crumbling foundations	Potential. To be determined during ELC surveys.
9	Colonially-nesting Bird Habitat (cliff/bank)	- Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns	Potential, steep banks along river valley.
10	Colonially-nesting Bird Habitat (Tree/shrub)	- Live or dead standing trees in wetlands, lakes, islands and peninsulas, occasionally shrubby and emergent vegetation	No
11	Colonially-nesting Bird Habitat (Ground)	- Rocky islands or peninsulas within a lake or large river (natural or artificial)	No
12	Migratory Butterfly Stopover Area	- At least 10ha, with undisturbed field/meadow and forest or woodland edge habitat present, within 5km of Lake Ontario.	No
13	Land bird Migratory Stopover Area	- Woodlots >5ha in size - within 5km of Lake Ontario	No
14	Deer Yarding Areas	- ELC communities providing Thermal cover (FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT)	None
15	Deer Winter Congregation Areas	- All forested ecosites >100ha - Conifer Plantations <50ha may be used	None identified through the Natural Heritage Information Center
Rare Vegetation Communities			
16	Cliffs & Talus Slopes	- Cliff: vertical to near vertical bedrock >3m in height - Talus slope: rock rubble at the base of a cliff made up of coarse rocky debris	No
17	Sand Barren	- Exposed, sparsely vegetated & caused by lack of moisture, fires, and erosion.	No
18	Alvar	- Level, mostly un-fractured calcareous bedrock feature, overlain by a thin veneer or soil	No
19	Old Growth Forest	- >30ha forests with at least 10ha interior habitat and multi-layered canopy	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CANDIDATE SWH WITHIN STUDY AREA
20	Savannah	- Tall Grass Prairie Habitat with 25%-60% Tree cover - Remnant sites such as Railway Right of ways are not SWH	No
21	Tallgrass Prairie	- Ground cover dominated by prairie grasses with <25% tree cover. - Remnant sites such as Railway Right of ways are not SWH	No
22	Other Rare Vegetation Communities	- All Provincially Rare S1, S2, S3 Vegetation Communities (Appendix M of SWHTG)	No
Specialized Habitats for Wildlife			
23	Waterfowl Nesting Areas	- Upland Habitat, adjacent to Wetland ELC ecosites (except SWC, SWM) - Extends 120m from a wetland (>0.5ha) and any small wetlands (<0.5ha) within a cluster of at least 3. - Upland area at least 120m wide	No
24	Bald Eagle or Osprey Nesting, Foraging and Perching Habitat	- Forest communities, adjacent to riparian areas - Osprey nests usually at top of tree - Bald Eagle nest usually in super canopy tree in a notch within canopy	Yes
25	Woodland Raptor Nesting Habitat	- Forested communities, forested swamp communities and cultural Plantations - Natural Forested/conifer plantations >30ha with >10ha interior habitat (200m buffer)	No
26	Turtle Nesting Areas	- Exposed Mineral soil (sand or gravel) adjacent (<100m) or within shallow marsh, shallow submerged, shallow floating, bog or fen communities. - Located in open sunny areas, away from roads and less prone to predation - Municipal and provincial road shoulders are not SWH.	No
27	Seeps and Springs	- Areas where ground water comes to the surface. - Any forested area within the headwaters of a stream or river system	Potential. To be determined during ELC surveys.
28	Amphibian Breeding Habitat (woodland)	- Breeding pools within woodlands - Wetland, pond, or pool >500m^2 within or adjacent (<120m) to a woodland. - Woodlands with permanent ponds, or those with water until mid-July more likely to be used.	No
29	Amphibian Breeding Habitat (Wetland)	- Swamp, marsh, fen, bog, open aquatic, and shallow aquatic ELC communities. - Typically isolated from woodlands (>120m) but includes larger wetlands with primarily aquatic species (bull frogs) that are adjacent to woodlands. - Wetlands >500m2 - Presence of shrubs & logs - Bullfrogs require permanent water bodies and abundant emergent vegetation.	No
30	Area-sensitive Breeding Bird Habitat	- Habitats where interior breeding birds are breeding. - Large mature (>60 years) forest stands or woodlots >30ha. - Forest and swamp ELC communities - Interior habitat at least 200m from edge	No
31	Marsh Bird Breeding Habitat	- Some meadow marsh, shallows submerged, shallow floating, mixed shallow floating, fen, and bog communities (see SWH Ecoregion guide for specifics) - Nesting occurs in wetlands; all wetland habitat is considered with presence of shallow water with emergent aquatic vegetation - Green heron at edge of water sheltered by shrubs and trees.	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CANDIDATE SWH WITHIN STUDY AREA
32	Open Country Bird Breeding Habitat	- Grassland area >30ha (natural & cultural fields and meadows) - Grasslands not class 1 or 2 agriculture (no row crops or intensive hay or livestock pasturing) - Mature hayfields or pasture at least 5 years old	No
33	Shrub/Early Successional Bird Breeding Habitat	- Cultural thickets, savannah, and woodland habitat - Large field area succeeding to shrub and thicket habitat >10ha in size - Patches of shrub ecosite may be complexed into larger old field ecosites for some species	No
34	Terrestrial Crayfish	- Meadow marsh, shallow marsh, swamp thicket, deciduous swamp, and mixed swamp communities - Cultural meadow with inclusions of meadow marsh may be used - Wet edges of marshes and wet meadows should be surveyed for crayfish	Potential. To be determined during ELC surveys.

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CANDIDATE SWH WITHIN STUDY AREA
35	Special Concern & Rare Wildlife Species	- All Special concern and Provincially Rare plant and animal species - Where an element occurrence is identified within a 1 or 10km grid for a species listed, linking candidate habitat on the site must be completed to ELC ecosites - Western Chorus Frog - American Bumble Bee - Monarch - West Virginia White - Yellow-banded Bumble Bee - Bald Eagle - Barn Swallow - Black Tern - Canada Warbler - Common Nighthawk - Eastern Wood-pewee - Evening Grosbeak - Grasshopper Sparrow - Louisiana Waterthrush - Olive-sided Flycatcher - Peregrine Falcon - Wood Thrush - Northern Sunfish - Upper Great Lakes Kiyi - Rainbow - Northern Map Turtle - Snapping Turtle - Eastern Ribbonsnake - Milksnake - Massasauga Rattlesnake - American Hart's-tongue Fern - Broad Beech Fern - Hill's Pondweed - Tuberous Indian Plantain	Potential. To be determined during ELC surveys.
36	Amphibian Movement Corridor	- Corridors may occur in all ecosites associated with water. - Presence of significant amphibian breeding indicates the requirement for identifying corridors. - Movement corridors between breeding habitat and summer habitat	No
37	Deer Movement Corridor	- May occur in all forested ecosites. - Determined when deer wintering habitat is confirmed as SWH	None identified through the Natural Heritage Information Center.

Shannon Davison

From: Becky Hillyer <Becky.Hillyer@grey.ca>
Sent: May 10, 2023 2:05 PM
To: Shannon Davison
Cc: Lorelie Spencer; m.cook@svca.on.ca; Natalie Mechalko
Subject: FW: AA23-087A 1035 Victoria Street, Ayton Scoped EIS Terms of Reference
Attachments: AA23-087A 1035 Victoria Street Ayton Scoped EIS Terms of Reference.pdf; EIS+Technical+Guide (9).pdf

Hi Shannon,

Thanks again for providing the attached ToR.

Grey County Planning staff are generally satisfied with the content of the ToR and we would defer to SVCA and Municipal staff for any further comments on their end. Given the slope of the lands and proximity to Saugeen River, I think that protection of fish habitat and water resources will be an important consideration for this project. I must admit that these comments are provided with the caveat that I don't personally have an Ecology background and the County has typically relied on Conservation Authority staff to undertake these reviews.

In measuring the boundaries of the identified natural heritage features, we would appreciate if you could also indicate the recommended buffer distance from each identified natural feature on site (or adjacent). If there are any changes to the Hazard Lands mapping (likely to be determined by the floodplain/slope assessment, separately), it could be helpful if the prepared mapping references the natural heritage features, confirmed hazard lands, and any recommended development setbacks on the same map, for clarity purposes.

In case it's not been shared with you already, I'm attaching a copy of the County's Technical Guidelines for preparing EIS's.

Thanks again for touching base on this one, Shannon, and just let me know of any questions.

Warm Regards,

Becky Hillyer
Intermediate Planner
Phone: +1 519-372-0219 ext. 1233

From: Becky Hillyer
Sent: May 4, 2023 2:24 PM
To: Shannon Davison <sdavison@aboudtng.com>

Cc: m.cook@svca.on.ca; Lorelie Spencer <lspencer@westgrey.com>; Natalie Mechalko <Natalie.Mechalko@grey.ca>
Subject: FW: AA23-087A 1035 Victoria Street, Ayton Scoped EIS Terms of Reference

Hi Shannon,

Many thanks for sending this along. We will have an internal review and get back to you as soon as we can.

Warm Regards,

Becky Hillyer
Intermediate Planner
Phone: +1 519-372-0219 ext. 1233

From: Shannon Davison <sdavison@aboudtng.com>
Sent: May 2, 2023 8:34 AM
To: m.cook@svca.on.ca; Becky Hillyer <becky.hillyer@grey.ca>
Cc: Scott Patterson <scott@lpplan.com>; Cheryl-Anne Ross <Cheryl@aboudtng.com>; Lorelie Spencer <lspencer@westgrey.com>
Subject: AA23-087A 1035 Victoria Street, Ayton Scoped EIS Terms of Reference

[EXTERNAL EMAIL]

Good morning Mr. Cook & Ms. Hillyer,

Please find attached the proposed Terms of Reference for the scoped Environmental Impact Study for the property located at 1035 Victoria Street in the Village of Ayton. If you could circulate, review and provide comments at your earliest convenience that would be much appreciated.

Regards,

Shannon Davison . **B.Env, Eco. Rest. Cert. CERPIT**
Ecologist
MNRF Certified Ecological Land Classification
MNRF Certified Ontario Wetland Evaluation System
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
C: 226.581.0707 www.aboudtng.com . sdavison@aboudtng.com

Shannon Davison

From: Michael Cook <Michael.Cook@grey.ca>
Sent: May 17, 2024 11:23 AM
To: Michael Oberle; Shannon Davison
Cc: David Smith; Becky Hillyer; Stephen Cobean
Subject: RE: 1035 Victoria Street, Ayton Scoped EIS Terms of Reference

Hi Michael and Shannon,

Michael – Thanks for the explanation.

Shannon – Thanks for the submission of the ToR, it is acceptable. A couple comments:

1) Please note that this proposal may require stormwater management (SWM) infrastructure. Grey County recommends a naturalized stormwater system with enhancement plantings, etc. Unsure of the SWM system will be outlet directly to the South Saugeen River, but if so, a determination of the thermal regime of the South Saugeen River will be needed. I suggest you work collaboratively with the SWM engineer to ensure no negative impacts to fish habitat, thermal regime of the watercourse, etc. Enhanced treatment will be required as per the Stormwater Management Planning and Design Manual (MECP, 2003). If the South Saugeen is determined to be a cold/cool water system, a minimum setback is usually 30 meters from top of bank/valley.
2) The sig. valleylands overlay is eliminated for settlement areas. Please do comment on if this feature is present on the property, and any mitigation required if this feature is determined to be present as per the definition within the Natural Heritage Reference Manual (MNRF, 2005).

If you have any questions or concerns, please feel free to reach out.

Kind regards,

Michael Cook
Planning Ecologist
Grey County

From: Michael Oberle <m.oberle@SVCA.ON.CA>
Sent: Wednesday, May 15, 2024 10:47 AM
To: sdavison@aboudtng.com
Cc: Michael Cook <Michael.Cook@grey.ca>; David Smith <planning@westgrey.com>; Becky Hillyer <Becky.Hillyer@grey.ca>; Stephen Cobean <scobean@cobideeng.com>
Subject: 1035 Victoria Street, Ayton Scoped EIS Terms of Reference

Good morning Shannon Davidson,

This email is further to the emails of below regarding the above refenced file.
Please be advised that Michael Cook has not been with the SVCA since August, 2023. Michael Cook, since August 2023, is one of the planning ecologist at the County of Grey, and so I copied him on this email. Also , please be advised that as of January 2023, conservation authorities no longer review natural heritage, and specifically for this proposal, will not be reviewing the TOR for the attached proposed EIS.

The SVCA will still be involved in the review of the proposal as it relates to natural hazards, and I (Michael Oberle) will be the SVCA staff person reviewing this file going forward. Please see the attached email dated November 30, 2023 and attached SVCA mapping dated November 30, 2023 related to SVCA's recommended NE zone for the property based on the natural hazard features that exist.

For their refence, I am copying on this email:
Michael Cook, planning ecologist at Grey County,
Becky Hillyer, planner at Grey County,
David Smith, manager of planning at Municipality of West Grey,
Steve Cobean, engineer at Cobide Engineering

I trust that this is helpful.
Any questions, please ask.

Kind regards,
Mike
Michael Oberle
Environmental Planning Coordinator
Cell: 519-373-4175
1078 Bruce Road 12, PO Box 150, Formosa, ON N0G 1W0
m.oberle@svca.on.ca
www.saugeenconservation.ca

From: Shannon Davison <sdavison@aboudtng.com>
Sent: Monday, May 13, 2024 8:33 PM
To: Michael Cook <m.cook@svca.on.ca>
Subject: RE: AA23-087A 1035 Victoria Street, Ayton Scoped EIS Terms of Reference

Good evening Mr. Cook,

I'm following up on any response regarding the EIS Terms of Reference submitted for 1035 Victoria Street in Ayton, last May. I don't believe I have any response from the SVCA in our files for this Terms of Reference. If you're able to provide comment, or forward on any earlier comments that would be appreciated.

Regards,

Shannon Davison . **B.Env, Eco. Rest. Cert. CERPIT**
Terrestrial & Wetland Ecologist

MNRF Certified Ecological Land Classification
MNRF Certified Ontario Wetland Evaluation System
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
C: 226.581.0707 www.aboudtng.com . sdavison@aboudtng.com

From: Shannon Davison
Sent: May 2, 2023 8:34 AM
To: 'm.cook@svca.on.ca' <m.cook@svca.on.ca>; 'becky.hillyer@grey.ca' <becky.hillyer@grey.ca>
Cc: 'Scott Patterson' <scott@lpplan.com>; Cheryl-Anne Ross <Cheryl@aboudtng.com>; 'lspencer@westgrey.com' <lspencer@westgrey.com>
Subject: AA23-087A 1035 Victoria Street, Ayton Scoped EIS Terms of Reference

Good morning Mr. Cook & Ms. Hillyer,

Please find attached the proposed Terms of Reference for the scoped Environmental Impact Study for the property located at 1035 Victoria Street in the Village of Ayton. If you could circulate, review and provide comments at your earliest convenience that would be much appreciated.

Regards,

Shannon Davison . **B.Env, Eco. Rest. Cert. CERPIT**
Ecologist
MNRF Certified Ecological Land Classification
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ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
C: 226.581.0707 www.aboudtng.com . sdavison@aboudtng.com

APPENDIX 3

Background Wildlife List

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
	INSECTS											
iNat (2022)	Asian Lady Beetle	*Harmonia axyridis*					SNA		NNA			
iNat (2019)	Carolina Grasshopper	*Dissosteira carolina*					S4S5		N5			
iNat (2019)	Carrot Seed Moth	*Sitochroa palealis*					SNA	GNR	NNA			
iNat (2020)	Dark Paper Wasp	*Polistes fuscatus*					S4		N4N5			
iNat (2021)	European Mantis	*Mantis religiosa*					SNA		NNA			
iNat (2020)	Margined Calligrapher	*Toxomerus marginatus*					S5		N5			
iNat (2022)	Meadow Spittlebug	Philaenus spumarius					SNA		NNA			
iNat (2020)	Red Milkweed Beetle	*Tetraopes tetrophthalmus*					S5		N5			
iNat (2019)	Rough Hermit Beetle	*Osmoderma scabra*					S4S5		N5			
iNat (2019)	Seven-spotted Lady Beetle	*Coccinella septempunctata*					SNA		NNA			
iNat (2021)	Spotted Lady Beetle	*Coleomegilla maculata*					S4S5		N5			
iNat (2021)	Striped Cucumber Beetle	*Acalymma vittatum*					S4S5		N5			
iNat (2022)	Three-lined Potato Beetle	*Lema daturaphila*					S4S5	G5	N4N5			
iNat (2021)	Western Conifer Seed Bug	*Leptoglossus occidentalis*										
iNat (2019)	European Earwig	*Forficula auricularia*					SNA	GNR	NNA			
iNat (2019)	Hermit Flower Beetle	*Osmoderma eremicola*					S4S5	G5	N5			
iNat (2020)	Oak Beauty	*Phaeoura quernaria*					S4?	G5	N5			
iNat (2020)	Swamp Milkweed Leaf Beetle	*Labidomera clivicollis*					S4S5	G5	N5			
iNat (2020)	Roesel's Bush-cricket	*Roeseliana roeselii*					SNA	GNR	NNA			
iNat (2020)	Bean Leaf Beetle	*Cerotoma trifurcata*					S4S5	G5	N5			
iNat (2021)	Common Carpet Beetle	*Anthnus scrophulariae*					SNA	GNR	NNA			
iNat (2022)	Brickwork Woodlouse	*Porcellio spinicornis*										
iNat (2022)	Maple Bladdergall Mite	*Vasates quadripedes*										
iNat (2022)	Maple Spindle Gall Mite	*Vasates aceriscrumena*										
iNat (2019)	Canada Fire-colored Beetle	*Dendoirdes canadensis*										
iNat (2019)	Ferruginous Tiger Crane Fly	*Nephrotoma ferruginea*										
iNat (2020)	Jagged Ambush Bug	*Phymata americana*										
iNat (2020)	Tree Cattle	*Cerastipsocus venosus*										

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
iNat (2020)	Twice-stabbed Stink Bug	*Cosmopepla linterneriana*										
iNat (2020)	Giant Crane Fly	*Tipula abdominalis*										
iNat (2020)	Brown Stink Bug	*Euschistus servus*										
iNat (2021)	Small Milkweed Bug	*Lygaeus kalmii*										
iNat (2021)	Willow Pinecone Gall Midge	*Rabdophaga strobiloides*										
iNat (2021)	Apple Leaf Skeletonizer Moth	*Choreutis pariana*										
iNat (2021)	Goldenrod Bunch Gall Midge	*Rhopalomyia solidaginis*										
iNat (2021)	American Idia Moth	*Idia americalis*										
iNat (2021)	Aspen Serpentine Leafminer Moth	*Phyllocnistis populiella*										
iNat (2021)	Green Stink bug	*Chinavia hilaris*										
iNat (2021)	Rhododendron Leafhopper	*Graphocephala fennahi*										
iNat (2022)	Face Fly	*Musca autumnalis*										
iNat (2022)	Willow Beaked-gall Midge	*Rabdophaga rigidae*										
iNat (2022)	Meadow Plant Bug	*Leptoterna dolabrata*										
iNat (2022)	Alfalfa Plant Bug	*Adelphocoris lineolatus*										
	BEES											
iNat (2019)	Western Honey Bee	*Apis mellifera*					SNA		NNA			
	BUTTERFLIES & MOTHS											
OBA (2015)	Delaware Skipper	*Anatrytone logan*					S4	G5	N4N5			
OBA (2015)	Least Skipper	*Ancyloxypha numitor*					S5	G5	N5			
OBA (2022) iNat (2022)	Hobomok Skipper	*Poanes hobomok*					S5	G5	N5			
OBA (2021) iNat (2021)	Long Dash Skipper	*Polites mystic*					S5	G5	N5			
OBA (2015)	Peck's Skipper	*Polites peckius*					S5	G5	N5			
OBA (2022) iNat (2021)	European Skipper	*Thymelicus lineola*					SNA	G5	NNA			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
OBA (2021) iNat (2021)	Acadian Hairstreak	*Satyrium acadica*					S4	G5	N5			
OBA (2021) iNat (2021)	Common Wood-Nymph	*Cercyonis pegala*					S5	G5	N5			
OBA (2021) iNat (2019)	Monarch	*Danaus plexippus*	SC	SC	END	SC	S2N,S4B	G5	N3B,NNRM			
OBA (2020) iNat (2020)	Northern Pearly-Eye	*Enodia anthedon*					S5	G5	N5			
OBA (2020) iNat (2020)	White Admiral	*Limenitis arthemis arthemis*					S5	G5T5	N5			
OBA (2020) iNat (2020)	Red-spotted Purple	*Limenitis arthemis astyanax*					S5	G5T5	N5			
OBA (2021) iNat (2019)	Mourning Cloak	*Nymphalis antiopa*					S5	G5	N5			
OBA (2021) iNat (2021)	Compton Tortoiseshell	*Nymphalis l-album*					S5	G5	N5			
OBA (2015) iNat (2022)	Northern Crescent	*Phyciodes cocyta*					S5	G5	N5			
OBA (2015)	Pearl Crescent	*Phyciodes tharos*					S4	G5	N5			
OBA (2015)	Great Spangled Fritillary	*Speyeria cybele*					S5	G5	N5			
OBA (2015)	Red Admiral	*Vanessa atalanta*					S5B	G5	N5B,N5M			
OBA (2021) iNat (2021)	Black Swallowtail	*Papilio polyxenes*					S5	G5	N5			
OBA (2022) iNat (2021)	Clouded Sulphur	*Colias philodice*					S5	G5	N5			
OBA (2015) iNat (2019)	Cabbage White	*Pieris rapae*					SNA	G5	NNA			
iNat (2022)	Speckled Green Fruitworm Moth	*Orthosia hibisci*					S4S5	G5	N5			
iNat (2019)	Virginia Ctenucha	*Ctenucha virginica*					S5	G5	N5			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
iNat (2020)	Bristly Cutworm Moth	*Lacinipolia renigera*					S5	G5	N5			
iNat (2020)	Salt Marsh Moth	*Estigmene acrea*					S4S5	G5	N5			
iNat (2019)	Virginian Tiger Moth	*Spilosoma virginica*					S5	G5	N5			
iNat (2020)	Once-married Underwing	*Catocala unijuga*					S5?	G5	N5			
iNat (2019)	Spongy Moth	*Lymantria dispar*					SNA	G5	NNA			
iNat (2019)	Forest Tent Caterpillar Moth	*Malacosoma disstria*					S5	G5	N5			
iNat (2020)	Little Virgin Tiger Moth	*Grammia virguncula*					S4S5	G5	N5			
iNat (2019)	Banded Tussock Moth	*Halysidota tessellaris*					S5	G5	N5			
iNat (2020)	Small-eyed Sphinx	*Paonias myops*					S5	G5	N5			
iNat (2019)	Elm Spanworm Moth	*Ennomos subsignaria*					S4S5	G5	N4N5			
iNat (2021)	Polyphemus Moth	*Antheraea polyphemus*					S5	G5	N5			
iNat (2022)	Walnut Sphinx	*Amorpha juglandis*					S5	G5	N5			
iNat (2022)	Pale Glyph Moth	*Lithacodia albidula*					S5	G5				
iNat (2021)	Meal moth	*Pyralis farinalis*					SNA		NNA			
iNat (2021)	Primrose Moth	*Schinia florida*					S5		N5			
iNat (2021)	White-spotted Sable	*Anania funebris*					S5?		NNR			
iNat (2020)	Grayish Fan-foot	*Zanclognatha pedipilalis*					S4S5	G5	N4N5			
iNat (2021)	Bog Lygropia Moth	*Lygropia rivulalis*					S4S5	GNR	NNR			
iNat (2020)	Cream-edged Dichomeris Moth	*Dichomeris flavocostella*					S4	GNR	NNA			
iNat (2020)	Saddled Prominent Moth	*Cecrita guttivitta*					S5	G5	N5			
iNat (2020)	Intermediate Hooded Owlet	*Cucullia intermedia*					S4	G5	N5			
iNat (2019)	Sweetheart Underwing	*Catocala amatrix*					S4	G5	N5			
iNat (2022)	Common Bagworm Moth	*Psyche casta*										
iNat (2022)	Purple Carrot-seed moth	*Depressaria depressana*										
iNat (2022)	Beggar Moth	*Eubaphe mendica*										
iNat (2022)	Mint-loving Pyrausta Moth	*Pryausta acrionalis*										
iNat (2022)	Oblique-banded Leafroller moth	*Choristoneura rosaceana*										
	DRAGONFLIES & DAMSELFLIES											

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
iNat (2021)	Widow Skimmer	*Libellula luctuosa*					S5	G5	N5			
iNat (2021)	Common Whitetail	*Plathemis lydia*					S5	G5	N5			
iNat (2021)	Band-winged Meadowhawk	*Sympetrum semicinctum*					S4	G5	N5			
iNat (2019)	Eastern Pondhawk	*Erythemis simplicicollis*					S5	G5	N5			
	AMPHIBANS											
iNat (2020)	American Toad	*Anaxyrus americanus*					S5	G5	N5			
ORAA (1993) iNat (2020)	Gray Treefrog	*Hyla versicolor*					S5	G5	N5			
ORAA (1993)	Spring Peeper	*Pseudacris crucifer*					S5	G5	N5			
ORAA (1996) iNat (2020)	Green Frog	*Lithobates clamitans*					S5	G5	N5			
ORAA (1990)	Eastern Red-backed Salamander	*Plethodon cinereus*					S5	G5	N5			
ORAA (1988)	Red-spotted Newt	*Notophthalmus viridescens viridescens*					S5	G5	N5			
	SNAKES AND LIZARDS											
ORAA (1990)	Eastern Gartersnake	*Thamnophis sirtalis sirtalis*					S5	G5T5	N5			
	TURTLES											
ORAA (1987)	Snapping Turtle	*Chelydra serpentina*	NL	SC	SC	SC	S4	G5T5	N4			
ORAA (1987)	Midland Painted Turtle	*Chrysemys picta marginata*	NAR	NAR	SC	SC	S4	G5T5	N4			
OBBA e-Bird (2017) iNat (222)	Canada Goose	*Branta canadensis*					S5	G5	N5B,N5N,N5M			
OBBA e-Bird (2022)	Wood Duck	*Aix sponsa*					S5B, S3N	G5	N5B,N4N5N,N5M			
OBBA iNat (2020)	Mallard	*Anas platyrhynchos*					S5	G5	N5B,N5N,N5M			
OBBA	American Black Duck	*Anas rubripes*					S4	G5	N5B,N5N,N5M			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
iNat (2022)	Common Goldeneye	*Bucephala clangula*					S5	G5	N5B,N5N,N5M	✓		
iNat (2022) eBird (2023)	Wild Turkey	*Meleagris gallopavo*					S5	G5	N5			
OBBA e-Bird (2022)	Ruffed Grouse	*Bonasa umbellus*					S5	G5	N5			
OBBA	Mourning Dove	*Zenaida macroura*					S5	G5	N5B,N5N,N5M			
OBBA	Virginia Rail	*Rallus limicola*					S4S5B	G5	N5B,NUM,N5M			
OBBA	Sora	*Porzana carolina*					S5B	G5	N5B,N5M			
OBBA	Killdeer	*Charadrius vociferus*					S4B	G5	N5B,N4N5N,N5M			
OBBA	American Woodcock	*Scolopax minor*					S4B	G5	N5B,N5M			
OBBA	Spotted Sandpiper	*Actitis macularius*					S5B	G5	N5B,N3N,N5M			
OBBA iNat (2020)	Great Blue Heron	*Ardea herodias*					S4	G5	N5B,N3N,N5M			
OBBA iNat (2020)	Green Heron	*Butorides virescens*					S4B	G5	N4N5B,N3N4N,N4N5M			
OBBA e-Bird (2022)	Turkey Vulture	*Cathartes aura*					S5B, S3N	G5	N5B,N5M			
iNat (2020)	Bald Eagle	*Haliaeetus leucocephalus*	NAR	NAR	NAR	NAR	S4	G5	N5B,N5N,N5M	✓		✓
OBBA iNat (2022) eBird (2023)	Red-tailed Hawk	*Buteo jamaicensis*		NAR	NAR		S5	G5	N5B,N5N,N5M			
OBBA	Eastern Screech-Owl	*Megascops asio*		NAR	NAR		S4	G5	N4N5			
OBBA	Great Horned Owl	*Bubo virginianus*					S4	G5	N5			
OBBA	Barred Owl	*Strix varia*					S5	G5	N5	✓	>100ha	
OBBA	Belted Kingfisher	*Megaceryle alcyon*					S5B,S4N	G5	N5B,N4N5N,N5M			✓
OBBA iNat (2019) eBird (2023)	Yellow-bellied Sapsucker	*Sphyrapicus varius*					S5B,S3N	G5	N5B,N5M	✓	2-5ha	

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
OBBA iNat (2022)	Downy Woodpecker	*Picoides pubescens*					S5	G5	N5			
OBBA e-Bird (2022)	Hairy Woodpecker	*Picoides villosus*					S5	G5	N5B,N5N,NUM	✓	4-8ha	
OBBA iNat (2022)	Northern Flicker	*Colaptes auratus*					S5	G5	N5B,N5N,N5M			✓
OBBA e-Bird (2017)	Pileated Woodpecker	*Dryocopus pileatus*					S5	G5	N5	✓	>40ha	
OBBA	American Kestrel	*Falco sparverius*					S4	G5	N5B,N1N,N5M			✓
iNat (2020)	Merlin	*Falco columbarius*		NAR	NAR		S5	G5	N5B,N5N,N5M			
OBBA	Great Crested Flycatcher	*Myiarchus crinitus*					S5B	G5	N5B,N5M			
OBBA iNat (2020)	Eastern Kingbird	*Tyrannus tyrannus*					S4B	G5	N5B,N5M			✓
OBBA	Eastern Wood-Pewee	*Contopus virens*	SC	SC	SC	SC	S4B	G5	N5B,N5M			✓
OBBA	Alder Flycatcher	*Empidonax alnorum*					S5B	G5	N5B,N5M			
OBBA	Willow Flycatcher	*Empidonax traillii*					S4B	G5	N5B,N5M			✓
OBBA	Least Flycatcher	*Empidonax minimus*					S5B	G5	N5B,N5M	✓	>100ha	
OBBA iNat (2021)	Eastern Phoebe	*Sayornis phoebe*					S5B	G5	N5B,N5M			
OBBA	Warbling Vireo	*Vireo gilvus*					S5B	G5	N5B,N5M			
OBBA	Red-eyed Vireo	*Vireo olivaceus*					S5B	G5	N5B,N5N,N5M			
OBBA e-Bird (2017)	Blue Jay	*Cyanocitta cristata*					S5	G5	N5B,N5N,NNRM			
OBBA e-Bird (2022) iNat (2022)	American Crow	*Corvus brachyrhynchos*					S5	G5	N5B,N5N,N5M			
OBBA e-Bird (2022)	Black-capped Chickadee	*Poecile atricapillus*					S5	G5	N5			
OBBA	Horned Lark	*Eremophila alpestris*					S4	G5	N5B,N5N,N5M			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
OBBA iNat (2022)	Tree Swallow	*Tachycineta bicolor*					S4S5B	G5	N5B,N5M			
OBBA	Barn Swallow	*Hirundo rustica*	SC	SC	THR	THR	S4B	G5	N3N4B,N3N4M			
OBBA	Cliff Swallow	*Petrochelidon pyrrhonota*					S4S5B	G5	N5B,N5M			
e-Bird (2017)	Golden-crowned Kinglet	*Regulus satrapa*					S5	G5	N5B,N5N,N5M			
OBBA iNat (2021)	Cedar Waxwing	*Bombycilla cedrorum*					S5	G5	N5B,N5N,N5M			
e-Bird (2022)	Red-breasted Nuthatch	*Sitta canadensis*					S5	G5	N5B,N5N,N5M	✓	>10ha	
OBBA e-Bird (2017) iNat (2020)	White-breasted Nuthatch	*Sitta carolinensis*					S5	G5	N5	✓	>10ha	
e-Bird (2017)	Brown Creeper	*Certhia americana*					S5	G5	N5B,N5N,N5M	✓	>30ha	
OBBA	House Wren	*Troglodytes aedon*					S5B	G5	N5B,N5M			
OBBA e-Bird (2017)	Winter Wren	*Troglodytes troglodytes*					S5B,S4N	G5	N5B,N5M	✓	>30ha	
OBBA	Gray Catbird	*Dumetella carolinensis*					S5B,S3N	G5	N5B,N5M			
OBBA	Brown Thrasher	*Toxostoma rufum*					S4B	G5	N5B,NUN,N5M			✓
OBBA iNat (2022)	European Starling	*Sturnus vulgaris*					SNA	G5	NNA			
iNat (2022)	Eastern Bluebird	*Sialia sialis*		NAR	NAR		S5B,S4N	G5	N5B,N5M			
OBBA	Veery	*Catharus fuscescens*					S5B	G5	N5B,N5M	✓	>10ha	
e-Bird (2017)	Hermit Thrush	*Catharus guttatus*					S5B,S4N	G5	N5B,NUN,N5M	✓	>100ha	
OBBA	Wood Thrush	*Hylocichla mustelina*	SC	SC	THR	THR	S4B	G4	N4B,NUM			✓
OBBA e-Bird (2022) iNat (2022)	American Robin	*Turdus migratorius*					S5	G5	N5B,N4N5N,N5M			
OBBA	House Sparrow	*Passer domesticus*					SNA	G5	NNA			
OBBA	House Finch	*Carpodacus mexicanus*					SNA	G5	N5			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
OBBA e-Bird (2017)	American Goldfinch	*Carduelis tristis*					S5	G5	N5B,N5N,N5M			
OBBA eBird (2023)	Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	SC	SC	S4B	G5	N4N5B,N4N5M	✓	>10ha	✓
OBBA iNat (2022)	Chipping Sparrow	*Spizella passerina*					S5B,S3N	G5	N5B,N5M			
OBBA	Field Sparrow	*Spizella pusilla*					S4B,S3N	G5	N4B,NUM			✓
e-Bird (2022)	Dark-eyed Junco	*Junco hyemalis*					S5	G5	N5B,N5N,N5M			
OBBA e-Bird (2017)	White-throated Sparrow	*Zonotrichia albicollis*					S5	G5	N5B,N5N,N5M			
OBBA	Savannah Sparrow	*Passerculus sandwichensis*					S5B,S3N	G5	N5B,N4N,N5M	✓	>50ha	✓
OBBA e-Bird (2022) iNat (2021)	Song Sparrow	*Melospiza melodia*					S5	G5	N5B,N5N,N5M			
OBBA	Swamp Sparrow	*Melospiza georgiana*					S5B,S4N	G5	N5B,NUN,N5M			
OBBA eBird (2023)	Bobolink	*Dolichonyx oryzivorus*	THR	THR	THR	THR	S4B	G5	N5B,N4N5M	✓	>10ha	✓
OBBA eBird (2023)	Eastern Meadowlark	*Sturnella magna*	THR	THR	THR	THR	S4B,S3N	G5	N4B,NUM	✓	>10ha	✓
OBBA iNat (2021)	Baltimore Oriole	*Icterus galbula*					S4B	G5	N5B,N5M			✓
OBBA e-Bird (2022)	Red-winged Blackbird	*Agelaius phoeniceus*					S5	G5	N5B,N5N,N5M			
OBBA	Brown-headed Cowbird	*Molothrus ater*					S5	G5	N5B,NUN,N5M			
OBBA iNat (2022)	Common Grackle	*Quiscalus quiscula*					S5	G5	N5B,NUN,N5M			
OBBA	Ovenbird	*Seiurus aurocapilla*					S5B	G5	N5B,N5M	✓	>70ha	
OBBA	Northern Waterthrush	*Seiurus noveboracensis*					S5B	G5	N5B,N5M			
OBBA	Nashville Warbler	*Vermivora ruficapilla*					S5B	G5	N5B.N5M			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
OBBA	Mourning Warbler	*Oporornis philadelphia*					S5B	G5	N5B,N5M			
OBBA	Common Yellowthroat	*Geothlypis trichas*					S5B,S3N	G5	N5B,N5M			
OBBA	American Redstart	*Setophaga ruticilla*					S5B	G5	N5B,N5M	✓	>100ha	
OBBA	Yellow Warbler	*Dendroica petechia*					S5B	G5	N5B,N5M			
OBBA	Chestnut-sided Warbler	*Dendroica pensylvanica*					S5B	G5	N5B,N5M			
e-Bird (2017)	Yellow-rumped Warbler	*Dendroica coronata*					S5B,S4N	G5	N5B,N4N,N5M			
OBBA	Scarlet Tanager	*Piranga olivacea*					S5B	G5	N5B,N4N5M	✓	>20ha	
OBBA	Northern Cardinal	*Cardinalis cardinalis*					S5	G5	N5			
OBBA	Rose-breasted Grosbeak	*Pheucticus ludovicianus*					S5B	G5	N5B,N5M			✓
OBBA iNat (2022)	Indigo Bunting	*Passerina cyanea*					S5B	G5	N5B,N5M			
	MAMMALS											
OMA iNat (2019)	White-tailed Deer	*Odocoileus virginianus*					S5	G5	N5			
iNat (2020)	Coyote	*Canis latrans*					S5	G5	N5			
OMA	Red Fox	*Vulpes vulpes*					S5	G5	N5			
OMA	Striped Skunk	*Mephitis mephitis*					S5	G5	N5			
iNat (2021)	American Ermine	*Mustela richardsonii*					S5	G5	N5			
OMA	American Mink	*Neovison vison*					S4	G5	N5			
OMA	Northern Raccoon	*Procyon lotor*					S5	G5	N5			
iNat (2021)	Snowshoe Hare	*Lepus americanus*					S5	G5	N5			
OMA	Beaver	*Castor canadensis*					S5	G5	N5			
OMA	Muskrat	*Ondatra zibethicus*					S5	G5	N5			
iNat (2020)	Porcupine	*Erethizon dorsatum*					S5	G5	N5			
iNat (2019)	Woodchuck	*Marmota monax*					S5	G5	N5			
iNat (2022)	Eastern Gray Squirrel	*Sciurus carolinensis*					S5	G5	N5			
OMA iNat (2022)	Red Squirrel	*Tamiasciurus hudsonicus*					S5	G5	N5			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
	FISH											
MNRF	Western Blacknose Dace	*Rhinichthys obtusus*					S5	G5	N5			
MNRF	Blacknose Shiner	*Notropis heterolepis*					S5	G5	N5			
MNRF	Blackside Darter	*Percina maculata*					S4	G5	N5			
MNRF	Bluntnose Minnow	*Pimephales notatus*					S5	G5	N5			
MNRF	Brook Stickleback	*Culaea inconstans*					S5	G5	N5			
MNRF	Central Mudminnow	*Umbra limi*					S5	G5	N5			
MNRF	Chinook Salmon	*Oncorhynchus tshawytscha*					SNA	G5	N4N5B,N5N			
MNRF	Coho Salmon	*Oncorhynchus kisutch*					SNA	G5	N4N5B,N5N			
MNRF	Common Shiner	*Luxilus cornutus*					S5	G5	N5			
MNRF	Creek Chub	*Semotilus atromaculatus*					S5	G5	N5			
MNRF	Fantail Darter	*Etheostoma flabellare*					S4	G5	N5			
MNRF	Fathead Minnow	*Pimephales promelas*					S5	G5	N5			
MNRF	Finescale Dace	*Chrosomus neogaeus*					S5	G5	N5			
MNRF	Hornyhead Chub	*Nocomis biguttatus*					S4	G5	N4N5			
MNRF	Iowa Darter	*Etheostoma exile*					S5	G5	N5			
MNRF	Johnny Darter	*Etheostoma nigrum*					S5	G5	N5			
MNRF	Least Darter	*Etheostoma microperca*					S4	G5	N4			
MNRF	Longnose Dace	*Rhinichthys cataractae*					S5	G5	N5			
MNRF	Northern Pearl Dace	*Margariscus nachtriebi*					S5	G5	N5			
MNRF	Northern Pike	*Esox lucius*					S5	G5	N5			
MNRF	Northern Redbelly Dace	*Chrosomus eos*					S5	G5	N5			
MNRF	Pumpkinseed	*Lepomis gibbosus*					S5	G5	N5			
MNRF	Rainbow Darter	*Etheostoma caeruleum*					S4	G5	N4			
MNRF	Rainbow Trout	*Oncorhynchus mykiss*					SNA	G5	N5B,N5N,N5M			
MNRF	River Chub	*Nocomis micropogon*					S4	G5	N4			
MNRF	Rock Bass	*Ambloplites rupestris*					S5	G5	N5			
MNRF	Rosyface Shiner	*Notropis rubellus*					S4	G5	N4			

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]
MNRF	Smallmouth Bass	*Micropterus dolomieu*					S5	G5	N5			
MNRF	Stonecat	*Noturus flavus*					S4	G5	N5			
MNRF	White Sucker	*Catostomus commersonii*					S5	G5	N5			
	MUSSELS											
DFO	Rainbow Mussel	*Villosa iris*	SC	SC	SC	SC	S1	G4	N1			
	ARACHNIDS											
iNat (2019)	Yellow Garden Spider	*Argiope aurantia*					S5		N5			
iNat (2020)	Bold Jumping Spider	*Phidippus audax*					SU		NU			
iNat (2019)	Cross Orbweaver	*Araneus diadematus*					SNA		NNA			
iNat (2019)	Zebra Jumping Spider	*Salticus scenicus*					SNA		NNA			
iNat (2021)	Goldenrod Crab Spider	*Misumena vatia*					S5	G5	N5			
iNat (2019)	Grey Cross Spider	*Larinioides sclopetarius*					SNA	GNR	NNA			
iNat (2019)	Spotted Orbweaver	*Neoscona crucifera*					S3S4	GNR	N3N4			
iNat (2019)	Common House Cobweaver	*Parasteatoda tepidariorum*					SNA	GNR	NNA			
iNat (2019)	Six-spotted Orbweaver	*Araniella displicata*					S5	G5	N5			
iNat (2020)	Striped Tufted Jumping Spider	*Phidippus clarus*					S5	G5	N5			
iNat (2021)	Drumming Sword Wolf Spider	*Gladicosa gulosa*					S5	G5	N5			
iNat (2019)	European Harvestman	Phalangium opilio										
	CENTIPEDES AND MILLIPEDES											
iNat (2022)	House Centipede	*Scutigera coleoptrata*					SNA		NNA			

Legend:
COSARO: Committee on Species at Risk Ontario
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
SARA: Species at Risk Act
ESA: Endangered Species Act
END: Endangered
THR: Threatened
SC: Special Concern
EXP: Exterpated from Ontario
NAR: Not At Risk
NL: Not listed
DD: Data Deficient

S-Rank:
S1: Critically Imperiled—Critically imperiled in the province (often 5 or fewer occurrences)
S2: Imperiled—Imperiled in the province, very few populations (often 20 or fewer),
S3: Vulnerable—Vulnerable in the province, relatively few populations (often 80 or fewer)
S4: Apparently Secure—Uncommon but not rare
S5: Secure—Common, widespread, and abundant in the province
SX: Presumed extirpated
SH: Possibly Extirpated (Historical)
SNR: Unranked
SU: Unrankable—Currently unrankable due to lack of information
SNA: Not applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities
S#S#: Range Rank—A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species
S#B- Breeding status rank
S#N- Non Breeding status rank
?: Indicates uncertainty in the assigned rank

G-Rank:
G1: Extremely rare globally
G1G2: Extremely rare to very rare globally
G2: Very rare globally
G2G3: Very rare to uncommon globally
G3: Rare to uncommon globally
G3G4: Rare to common globally
G4: Common globally
G4G5: Common to very common globally
G5: Very common globally; demonstrably secure
T: Denotes that the rank applies to a subspecies or variety

Source codes
OBA: Ontario Butterfly Atlas
ORAA: Ontario Reptile and Amphibian Atlas
OMA: Ontario Mammal Atlas
OBBA: Ontario Breeding Bird Atlas
eBird: eBird
iNat: iNaturalist
NHIC: Natural Heritage Information Centre
DFO: Department of Fisheries and Oceans Species at Risk Mapping
MNRF: Ministry of Natural Resources

References:

1.COSSARO Status Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. June 30 2008.
2.Species at Risk in Ontario List. Endangered Species Act, 2007 (Ontario Regulation 230/08). January 25, 2023.
3.COSEWIC Status COSEWIC. 2014. Canadian Species at Risk. Committee on the Status of Endangered Wildlife in Canada.
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2.Ontario Nature. 2019. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Ontario Nature, Ontario. (Available online here: http://www.ontarionature.org/atlas;
3.Dobbyn,J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Altona Manitoba, Canada.
(available online here: http://www.ontarionature.org/discover/resources/publications.php)
4.Cadman, M.D.,D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. The Atlas of the Breeding Birds Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto,xxii + 706pp. (Available online here: http://www.birdsontario.org/atlas/datasummaries.jsp)
5.NHIC, 2023. MNRF Make a map: Natural Heritage Areas.
(Available online: http://www.ontario.ca/environment-and-energy/make-natural-heritage-area-map)
6. iNaturalist, 2023. (Available online here: https://www.inaturalist.org/observations)
7. eBird, 2023. (Available online here: https://ebird.org/explore)

APPENDIX 4

Ecological Land Classification Forms

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: AA23-087		POLYGON: C
	SURVEYOR(S): SD	DATE: June 8, 2023	
	START: 9:23	END: 9:58	COORDS: 44.0560955, -80.934947

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL	☐ RIVERINE	■ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
		☐ TERRACE		☐ GRAMINOID	☐ STREAM
		☐ VALLEYSLOPE		☐ FORB	☐ MARSH
		☐ TABLELAND		☐ LICHEN	☐ SWAMP
		■ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
	☐ ACIDIC BEDRK.	☐ CLIFF		☒ DECIDUOUS	☐ BOG
SITE		☐ TALUS	COVER	☐ CONIFEROUS	☐ BARREN
☐ OPEN WATER		☐ CREVICE/CAVE	☐ OPEN	☐ MIXED	☐ MEADOW
☐ SHALLOW WATER	☐ BASIC BEDRK.	☐ ALVAR	☐ SHRUB		☐ PRAIRIE
☒ SURFICIAL DEP.		☐ ROCKLAND	■ TREED		☐ THICKET
☐ BEDROCK	☐ CARB BEDRK.	☐ BEACH/BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Fraxinus americana>Acer saccharum
2	SUBCANOPY	3	3	Fraxinus americana>Juglans nigra>Pinus strobus=Malus pumila
3	UNDERSTOREY	4	2	Acer negundo=Vitis riparia=Prunus serotina=Rhamnus cathartica
4	GRD. LAYER	6	3	Bromus erectus> Parthenocissus quinquefolia=Solidago canadensis =Dactylis glomerata

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	A	<10	A	10-24	O	25-50	O	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	R	<10	R	10-24	N	25-50	N	>50
COMM. AGE.	Mid-aged							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Agriculture		CODE: AG
COMMUNITY SERIES: Treed Agriculture		CODE: TAG
ECOSITE: Fencerow		CODE: TAGM5
VEGETATION TYPE:		CODE:
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Fraxinus americana	A-O	A-O		
Pinus strobus		R		
Acer negundo			O	
Juglans nigra		O	O-R	
Pinus resinosa			R	
Malus pumila		R		
Acer saccharum	O			
Thuja occidentalis			R	

SPECIES	LAYER			
	C	SC	U	GL
Vitis riparia			O	
Parthenocissus quinquefolia			O-R	O
Rubus occidentalis			O-R	
Rubus idaeus ssp strigosus			O-R	
Prunus serotina			O	
Cornus sericea				R
Rhamnus cathartica			O	
Lamium maculatum				R
Hesperis matronalis				R
Silene vulgaris				R
Symphyotrichum novae-angliae				R
Bromus inermis				R
Erigeron annuus				R
Fragaria virginiana				O-R
Tussilago farfara				R
Ranunculus acris				R
Taraxacum officinale				R
Arctium minus				R
Solidago canadensis				O
Dactylis glomerata				O
Geum aleppicum				O-R
Leucanthemum vulgare				R
Medicago lupulina				R
Bromus erectus				A-O

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: AA23-087A		POLYGON: D	
	SURVEYOR(S): SD		DATE: June 8, 2023	
	START: 9:23	END: 10:30	COORDS: 44.0560955, -80.934947	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	■ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	■ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
		☐ TERRACE		☐ GRAMINOID	☐ STREAM
		☐ VALLEYSLOPE		☐ FORB	☐ MARSH
		☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
	☐ ACIDIC BEDRK.	☐ CLIFF		☒ DECIDUOUS	☐ BOG
SITE		☐ TALUS	COVER	☐ CONIFEROUS	☐ BARREN
☐ OPEN WATER	☐ BASIC BEDRK.	☐ CREVICE/CAVE	☐ OPEN	☐ MIXED	☐ MEADOW
☐ SHALLOW WATER		☐ ALVAR	☐ SHRUB		☐ PRAIRIE
☒ SURFICIAL DEP.		☐ ROCKLAND	■ TREED		☐ THICKET
☐ BEDROCK	☐ CARB BEDRK.	☐ BEACH/BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☒ FOREST
					☐ PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Acer saccharum>Poplus balsamifera=Fraxinus pensylvanica>Thuja occidentalis
2	SUBCANOPY	3	3	Acer negundo=Ulmus americana>Tilia americana=Thuja occidentalis
3	UNDERSTOREY	4	3	Cornus alternifolia>Acer negundo=Rhamnus cathartica=Vitis riparia
4	GRD. LAYER	6	4	Hesperis matronalis>Pathenocissus quinquefolia=Circaea canadensis=Thalictrum pubescens

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	A	<10	A	10-24	A	25-50	O	>50
STANDING SNAGS:	N	<10	R	10-24	N	25-50	N	>50
DEADFALL/LOGS:	R	<10	R	10-24	N	25-50	N	>50
COMM. AGE.	Mid-aged							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Forest		CODE: FO
COMMUNITY SERIES: Deciduous Forest		CODE: FOD
ECOSITE: Fresh- Moist Sugar Maple Deciduous Forest Ecosite		CODE: FODM6
VEGETATION TYPE: Fresh- Moist Sugar Maple- Lowland Ash Deciduous Forest Type		CODE: FODM6-1
INCLUSION	Graminoid Mineral Marsh	CODE: MAMM1
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Acer negundo		O	O	
Thuja occidentalis	O-R	O-R		
Fraxinus pensylvanica	O			
Acer saccharum	A-O			
Juglans nigra	R			
Betula alleghaniensis	R			
Poplus balsamifera	O			
Tilia americana		R		
Ulmus americana		O		
Malus pumila		R		
Prunus serotina		O-R		
Rubus idaeus ssp strigosus			O	
Cornus alternifolia			A-O	
Pathenocissus quinquefolia			O-R	R
Rosa multiflora			R	
Convolvulus arvensis				O-R
Rubus occidentalis			O-R	
Rhamnus cathartica			O	
Vitis riparia			O	
Leersia oryzoides				O-R
Angelica atropurpurea				R
Verbena hastata				R
Typha latifolia			R	
Tussilago farfara				R
Eutrochium maculatum			R	
Allium tricoccum				R

SPECIES	LAYER			
	C	SC	U	GL
Monarda didyma				R
Phleum pratense				R
Verbena urticifolia				R
Helianthus tuberosis				R
Alliaria petiolata				O
Arctium minus				O-R
Ranunculus acris				R
Veronica arvensis				R
Solidago canadensis				O
Oxalis stricta				O-R
Brassica rapa				R
Nasturtium officinale				R
Matteuccia struthiopteris				O-R
Circaea canadensis				O
Viola sp				O
Fragaria virginiana				O-R
Asclepias syriaca				R
Taraxacum officinale				R
Solidago canadensis				O
Ranunculus acris				R
Hesperis matronalis				A-O
Geranium robertianum				R
Veronica filiformis				R
Anemonastrum candense				R
Thalictrum pubescens				O
Phalaris arundinacea				O-R
Impatiens capensis				O-R
Poa palustris				R
Arisaema triphyllum				R
Echium vulgare				R
Securigera varia				O-R
Erigeron annuus				O

NOTES:

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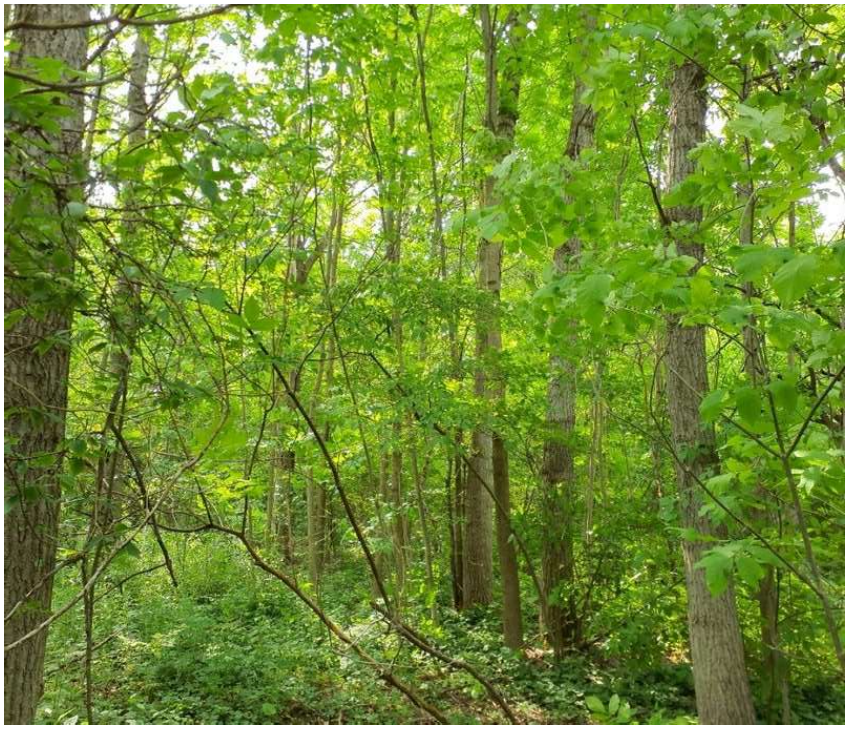

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: AA23-087A		POLYGON: E	
	SURVEYOR(S): SD		DATE: June 8, 2023	
	START: 9:23	END: 10:30	COORDS: 44.0560955, -80.934947	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[■] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[ ] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[■] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
		[ ] VALLEYSLOPE		[ ] FORB	[ ] MARSH
		[ ] TABLELAND		[ ] LICHEN	[ ] SWAMP
		[ ] ROLL. UPLAND		[ ] BRYOPHYTE	[ ] FEN
	[ ] ACIDIC BEDRK.	[ ] CLIFF		[ ] DECIDUOUS	[ ] BOG
		[ ] TALUS		[x] CONIFEROUS	[ ] BARREN
SITE		[ ] CREVICE/CAVE	COVER	[ ] MIXED	[ ] MEADOW
[ ] OPEN WATER	[ ] BASIC BEDRK.	[ ] ALVAR	[ ] OPEN		[ ] PRAIRIE
[ ] SHALLOW WATER		[ ] ROCKLAND	[ ] SHRUB		[ ] THICKET
[x] SURFICIAL DEP.		[ ] BEACH/BAR	[■] TREED		[ ] SAVANNAH
[ ] BEDROCK	[ ] CARB BEDRK.	[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[x] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Thuja occidentalis >>Acer saccharum
2	SUBCANOPY	3	3	Thuja occidentalis
3	UNDERSTOREY	4	1	Tilia americana
4	GRD. LAYER	7	2	Taraxacum officinale=Carex blanda=Rhamnus cathartica> Vinca minor

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	O	<10	A	10-24	A	25-50	R	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	O	<10	R	10-24	N	25-50	N	>50
COMM. AGE.	Mid-aged							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Forest		CODE: FO
COMMUNITY SERIES: Coniferous Forest		CODE: FOC
ECOSITE: Dry- Fresh Cedar Coniferous Forest Ecosite		CODE: FOCM2
VEGETATION TYPE: Dry- Fresh White Cedar Coniferous Forest Type		CODE: FOCM2-2
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Thuja occidentalis	D	D		
Acer saccharum	O-R			
Tilia americana			R	
Prunus serotina				R
Rhamnus cathartica				O-R
Rubus occidentalis				R
Echinocystis lobata			R	

SPECIES	LAYER			
	C	SC	U	GL
Carex blanda				O-R
Vinca minor				R
Anemonastrum canadense				R
Oxalis stricta				R
Taraxacum officinale				O-R
Geum aleppicum				R
Impatiens pallida				R
Dryopteris cristata				R
Dactylis glomerata				O
Matteuccia struthiopteris				R

NOTES:

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APPENDIX 5
Vascular Plant List

Season		Plant [1] Type	Scientific Name	Common Name	CC [2]	CW [3]	SARO [4] Status	SARA [5] Status	Global [6] Rank	Prov. [7] Rank
Spring	Summer									
✓	✓	TR	*Acer negundo*	Manitoba Maple	0	0	NL	NL	G5	S5
✓	✓	TR	*Acer saccharum*	Sugar Maple	4	3	NL	NL	G5	S5
✓	✓	FO	*Alliaria petiolata*	Garlic Mustard	*	0	NL	NL	GNR	SNA
	✓	FO	*Allium tricoccum var. tricoccum*	Wild Leek	7	3	NL	NL	G--T5	S4
✓		FO	*Anemonastrum canadense*	Canada Anemone	3	-3	NL	NL	G5	S5
	✓	FO	*Angelica atropurpurea*	Purple-stemmed Angelica	6	-5	NL	NL	G5	S5
✓	✓	FO	*Arctium minus*	Common Burdock	*	3	NL	NL	GNR	SNA
✓		FO	*Arisaema triphyllum*	Jack-in-the-pulpit	5	-3	NL	NL	G5	S5
✓	✓	FO	*Asclepias syriaca*	Common Milkweed	0	5	NL	NL	G5	S5
✓		TR	*Betula alleghaniensis*	Yellow Birch	6	0	NL	NL	G5	S5
	✓	FO	*Brassica rapa*	Field Mustard	*	5	NL	NL	GNR	SNA
✓		GR	*Bromus erectus*	Meadow Brome	*	5	NL	NL	GNR	SNA
✓		GR	*Bromus inermis*	Awnless Brome	*	5	NL	NL	G5	SNA
✓		SE	*Carex blanda*	Woodland Sedge	3	0	NL	NL	G5	S5
	✓	FO	*Centaurea jacea*	Brown Knapweed	*	5	NL	NL	GNR	SNA
	✓	FO	*Cichorium intybus*	Chicory	*	5	NL	NL	GNR	SNA
✓	✓	FO	*Circaea canadensis ssp. canadensis*	Broad-leaved Enchanter's Nightshade	2	3	NL	NL	GNR	S5
✓	✓	FO	*Clinopodium vulgare*	Field Basil	4	5	NL	NL	G5	S5
	✓	VI	*Convolvulus arvensis*	Field Bindweed	*	5	NL	NL	GNR	SNA
✓	✓	SH	*Cornus alternifolia*	Alternate-leaved Dogwood	6	3	NL	NL	G5	S5
✓		SH	*Cornus sericea*	Red-osier Dogwood	2	-3	NL	NL	G5	S5
✓	✓	GR	*Dactylis glomerata*	Orchard Grass	*	3	NL	NL	GNR	SNA
	✓	FO	*Daucus carota*	Wild Carrot	*	5	NL	NL	GNR	SNA
	✓	FE	*Dryopteris cristata*	Crested Wood Fern	7	-5	NL	NL	G5	S5
✓	✓	VI	*Echinocystis lobata*	Wild Mock-cucumber	3	-3	NL	NL	G5	S5
	✓	FO	*Echium vulgare*	Common Viper's Bugloss	*	5	NL	NL	GNR	SNA
✓	✓	FO	*Erigeron annuus*	Annual Fleabane	0	3	NL	NL	G5	S5
	✓	FO	*Eutrochium maculatum var. maculatum*	Spotted Joe Pye Weed	3	-5	NL	NL	G5T5	S5
✓		FO	*Fragaria virginiana*	Wild Strawberry	2	3	NL	NL	G5	S5
✓	✓	TR	*Fraxinus americana*	White Ash	4	3	NL	NL	G5	S4

Season		Plant [1] Type	Scientific Name	Common Name	CC [2]	CW [3]	SARO [4] Status	SARA [5] Status	Global [6] Rank	Prov. [7] Rank
Spring	Summer									
✓		FO	*Geranium robertianum*	Herb-Robert	2	3	NL	NL	G5	S5
✓	✓	FO	*Geum aleppicum*	Yellow Avens	2	0	NL	NL	G5	S5
	✓	FO	*Helianthus tuberosus*	Jerusalem Artichoke	1	0	NL	NL	G5	SU
	✓	FO	*Heracleum mantegazzianum*	Giant Hogweed		0	NL	NL	GNR	SNA
✓	✓	FO	*Hesperis matronalis*	Dame's Rocket	*	3	NL	NL	G4G5	SNA
	✓	FO	*Hypericum perforatum*	Common St. John's-wort	*	5	NL	NL	GNR	SNA
	✓	FO	*Impatiens capensis*	Spotted Jewelweed	4	-3	NL	NL	G5	S5
	✓	FO	*Impatiens pallida*	Pale Jewelweed	7	-3	NL	NL	G5	S4
✓	✓	TR	*Juglans nigra*	Black Walnut	5	3	NL	NL	G5	S4?
✓		FO	*Lamium maculatum*	Spotted Deadnettle		5	NL	NL	GNR	SNA
	✓	GR	*Leersia oryzoides*	Rice Cutgrass	3	-5	NL	NL	G5	S5
✓		FO	*Leucanthemum vulgare*	Oxeye Daisy		5	NL	NL	GNR	SNA
	✓	FO	*Lotus corniculatus*	Garden Bird's-foot Trefoil	*	3	NL	NL	GNR	SNA
✓	✓	TR	*Malus pumila*	Common Apple	*	5	NL	NL	G5	SNA
✓	✓	FE	*Matteuccia struthiopteris*	Ostrich Fern	5	0	NL	NL	G5T5	S5
✓		FO	*Medicago lupulina*	Black Medic	*	3	NL	NL	GNR	SNA
	✓	FO	*Monarda didyma*	Scarlet Beebalm	8	3	NL	NL	G5	S3
✓	✓	FO	*Nasturtium officinale*	Watercress	*	-5	NL	NL	GNR	SNA
	✓	FO	*Oxalis stricta*	Upright Yellow Wood-sorrel	0	3	NL	NL	G5	S5
✓	✓	VI	*Parthenocissus quinquefolia*	Virginia Creeper	6	3	NL	NL	G5	S4?
✓	✓	GR	*Phalaris arundinacea*	Reed Canary Grass	0	-3	NL	NL	G5	S5
	✓	GR	*Phleum pratense*	Common Timothy	*	3	NL	NL	GNR	SNA
✓		TR	*Pinus resinosa*	Red Pine	8	3	NL	NL	G5	S5
✓		TR	*Pinus strobus*	Eastern White Pine	4	3	NL	NL	G5	S5
	✓	FO	*Plantago major*	Common Plantain	*	3	NL	NL	G5	S5
✓	✓	GR	*Poa palustris*	Fowl Bluegrass	5	-3	NL	NL	G5	S5
✓	✓	TR	*Populus balsamifera*	Balsam Poplar	4	-3	NL	NL	G5	S5
✓	✓	TR	*Prunus serotina*	Black Cherry	3	3	NL	NL	G5	S5
✓	✓	FO	*Ranunculus acris*	Tall Buttercup	*	0	NL	NL	G5	SNA
✓		SH	*Rhamnus cathartica*	Common Buckthorn	*	0	NL	NL	GNR	SNA

Season		Plant [1] Type	Scientific Name	Common Name	CC [2]	CW [3]	SARO [4] Status	SARA [5] Status	Global [6] Rank	Prov. [7] Rank
Spring	Summer									
✓	✓	SH	*Rosa multiflora*	Multiflora Rose	*	3	NL	NL	GNR	SNA
✓	✓	SH	*Rubus idaeus ssp. strigosus*	Wild Red Raspberry	2	3	NL	NL	G5T5	S5
✓	✓	SH	*Rubus occidentalis*	Black Raspberry	2	5	NL	NL	G5	S5
	✓	FO	*Securigera varia*	Common Crown-vetch		5	NL	NL	GNR	SNA
✓		FO	*Silene vulgaris*	Bladder campion	*	5	NL	NL	GNR	SNA
	✓	FO	*Solidago canadensis var. canadensis*	Canada Goldenrod	1	3	NL	NL	G5T5	S5
✓		FO	*Symphyotrichum novae-angliae*	New England Aster	2	-3	NL	NL	G5	S5
✓	✓	FO	*Taraxacum officinale*	Common Dandelion	*	3	NL	NL	G5	SNA
✓		FO	*Thalictrum pubescens*	Tall Meadow-rue	5	-3	NL	NL	G5	S5
✓	✓	TR	*Thuja occidentalis*	Eastern White Cedar	4	-3	NL	NL	G5	S5
✓	✓	TR	*Tilia americana*	American Basswood	4	3	NL	NL	G5	S5
✓	✓	FO	*Tussilago farfara*	Colt's-foot	*	3	NL	NL	GNR	SNA
	✓	FO	*Typha latifolia*	Broad-leaved Cattail	1	-5	NL	NL	G5	S5
✓	✓	TR	*Ulmus americana*	American Elm	3	-3	NL	NL	G5	S5
	✓	FO	*Verbena hastata*	Blue Vervain	4	-3	NL	NL	G5	S5
	✓	FO	*Verbena urticifolia*	White Vervain	4	0	NL	NL	G5	S5
	✓	FO	*Veronica arvensis*	Corn Speedwell	*	5	NL	NL	GNR	SNA
✓		FO	*Veronica filiformis*	Slender Speedwell	*	5	NL	NL	GNR	SNA
✓	✓	FO	*Vinca minor*	Periwinkle	*	5	NL	NL	GNR	SNA
✓	✓	VI	*Vitis riparia*	Riverbank Grape	0	0	NL	NL	G5	S5
	✓	GR	*Zea mays*	Corn	*	5	NL	NL	GNR	SNA

1.	Plant Types: AL = Algae; FE = Fern; FO = Forb; GR = Grass; LC = Lichen; LV = Liverwort; MO = Moss; RU = Rush; SE = Sedge; SH = Shrub; TR = Tree; VI = Herbaceous vine; VW = Woody Vine
2.	CC: Coefficient of Conservatism reflects a species' fidelity to a specific habitat. Range from 0 to 10; 10 = very conservative, not likely in disturbed habitats, 1
3.	CW: Coefficient of Wetness reflects a species' affinity for wet soil conditions. Range from -5 to 5; -5 = obligate wetland species, 5 = obligate upland species.
4.	SARO: Status under the Provincial Endangered Species Act, listed on the Species at Risk in Ontario (SARO) list. In order of severity, statuses include: EXP = Extirpated; END = Endangered; THR= Threatened; SC= Special Concern; NL= Not Listed
5.	SARA: Status under the National Species at Risk Act (SARA), assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In
6.	Global rarity rank. Range from G1 to G5; G1 = Extremely rare, G5 = Very Common. NR = Unranked; U = Unrankable.

Season		Plant [1] Type	Scientific Name	Common Name	CC [2]	CW [3]	SARO [4] Status	SARA [5] Status	Global [6] Rank	Prov. [7] Rank
Spring	Summer									

7. Provincial rarity rank. Range from S1 to S5; S1 = Extremely rare, S5 = Very Common. NR = Unranked; U = Unrankable.

APPENDIX 6
Significant Wildlife Habitat Assessment

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
1	Waterfowl Stopover and Staging Areas (Terrestrial)	Seasonal concentration areas of animals	- Fields with Sheet water in spring (incl. agricultural)	- Mixed species aggregations of 100 or more individuals confirms SWH	Flooded field ecosite and 100-300m radius is the SWH	No Habitat matching Criteria identified in Study Area.	No	None required	No
2	Waterfowl Stopover and Staging (Aquatic)	Seasonal concentration areas of animals	- Ponds, marshes, lakes, bays, coastal inlets and watercourses and reservoirs - SWTP & SWMP are not SWH	- Aggregations of 100 or more listed species for 7 days (i.e., >700 waterfowl use days) confirms SWH	Aquatic ecosite and 100m radius is the SWH	River present with shallow sections	Yes	None required, no aggregations of waterfowl observed incidentally.	Assumed.
3	Shorebird Migratory Stopover	Seasonal concentration areas of animals	- Shorelines of Lakes, rivers, wetlands, beaches, bars; seasonally flooded, muddy, and un-vegetated shoreline habitat	- 3 or more listed species and >1000 shorebird use days, or >100 whimbrel, confirms SWH	Shoreline ecosite and 100m radius is the SWH	No Habitat matching Criteria identified in Study Area, >5km from any Lake Ontario	No	None required	No
4	Raptor Wintering Area	Seasonal concentration areas of animals	- Combination of upland field and woodland habitat >20ha total (includes,>15ha upland field) - Least disturbed sites, idle, fallow or lightly grazed field/meadow best	- 1 or more Short-eared Owl, or at least 10 individuals and 2 listed species for a minimum of 20 days, and 3 of 5 years, confirms SWH	Ecosite communities (field and woodland) is the SWH	Combination of woodlands and fields present; however, they do not meet the size requirements.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
5	Bat Hibernacula	Seasonal concentration areas of animals	- Caves, mine shafts, underground foundations, karsts. - Buildings are not SWH	- All sites with confirmed hibernating bats, confirms SWH	Ecosite and 200m radius is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
6	Bat Maternity Colony	Seasonal concentration areas of animals	- All forested ecosites, FOD, FOC, FOM, SWD, SWM, SWC with >10/ha trees (>25cm DBH) in early stages of decay (class 1-3) - Buildings are not SWH	- >10 Big Brown Bats, >20 Little Brown Myotis, >5 adult female Silver-haired Bats confirms SWH	Entire woodland or forest stand ELC ecosite containing colony is the SWH	Forested ecosites present in Study area with trees >25cm DBH.	Yes	Bat habitat assessment study completed.	Assumed
7	Turtle Wintering Area	Seasonal concentration areas of animals	- Areas with permanent water deep enough not to freeze, with mud/soft substrates	- 5 over-wintering Midland Painted Turtles, 1 or more Northern Map Turtle or Snapping Turtle confirms SWH	Mapped ELC ecosite, or deep pool element where turtles overwinter is the SWH	River present on site with sections deep enough not to freeze.	Yes	No turtles identified incidentally or observed in community during spring and summer surveys. No anticipated affects-outside study area	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
8	Reptile Hibernaculum	Seasonal concentration areas of animals	- Sites below the frost line; rock barren, crevice and cave, talus, alvar, rock piles, slopes, stone fences, and crumbling foundations	- Presence of hibernacula with minimum 5 individuals of 1 snake species/ individuals of 2 or more species confirms SWH. - Congregations of a minimum of 5 snakes of 1 species/ individuals of 2 or more snake species, near potential hibernacula on sunny warm days in spring and fall confirms SWH	Feature hibernacula is in, and 30m radius is the SWH	Candidate hibernacula feature identified in study area. Rockpiles present, however they were not below the frostline.	No	None required	No
9	Colonially-nesting Bird Habitat (Cliff/bank)	Seasonal concentration areas of animals	- Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns	- 1 or more nest sites with 8 or more Cliff Swallow or, 50 Bank Swallow and Rough-winged Swallow pairs during the breeding season.	Colony and 50m radius around peripheral nest are the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
10	Colonially-nesting Bird Habitat (Tree/shrub)	Seasonal concentration areas of animals	- Live or dead standing trees in wetlands, lakes, islands and peninsulas, occasionally shrubby and emergent vegetation	- 5 or more active Great-blue Heron or other listed species nests	Edge of the colony plus minimum 300m radius, or extent of the forest ecosite, or entire island <15ha is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
11	Colonially-nesting Bird Habitat (Ground)	Seasonal concentration areas of animals	- Rocky islands or peninsulas within a lake or large river (natural or artificial)	- >25 active nests of Herring Gull, Ring-billed Gull, >5 active nests of Common Tern, or >2 active nests of Caspian Tern. 5 or more pairs of Brewer's Blackbird. Any active nesting colony of Little Gull, Great Black-backed Gull.	Edge of colony plus min 150m radius or extent of ELC ecosite, or island <3ha is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
12	Migratory Butterfly Stopover Area	Seasonal concentration areas of animals	- At least 10ha, with undisturbed field/meadow and forest or woodland edge habitat present, within 5km of Lake Ontario.	- Presence of Monarch use days >5000 or >3000 where there is a mix of Monarch with Painted Ladies or White Admirals	Field/meadow and forest/woodland is the SWH	No Habitat matching Criteria identified in Study Area, >5km from Lake Ontario	No	None required	No
13	Land bird Migratory Stopover Area	Seasonal concentration areas of animals	- Woodlots >5ha in size - Within 5km of Lake Ontario	- Use by >200 birds/day, with >35species, with at least 10sp recorded on 5 different survey dates.	Woodlot is the SWH	No Habitat matching Criteria identified in Study Area, >5km from Lake Ontario	No	None required	No
14	Deer Yarding Areas	Seasonal concentration areas of animals	- ELC communities providing Thermal cover (FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT)	- Deer yards are managed by MNRF, available through district offices and LIO.	LIO mapping	No Deer yarding areas identified on LIO Mapping	No	None required.	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
15	Deer Winter Congregation Areas	Seasonal concentration areas of animals	- All forested ecosites >100ha - Conifer Plantations <50ha may be used	- Deer management is the responsibility of the MNRF. - Contact MNRF or LIO for known deer winter areas.	LIO mapping	No Deer Winter Congregation areas identified on LIO Mapping	No	None required.	No
16	Cliffs & Talus Slopes	Rare vegetation communities	- Cliff: vertical to near vertical bedrock >3m in height - Talus slope: rock rubble at the base of a cliff made up of coarse rocky debris	- Confirm any ELC Vegetation Type for Cliffs or Talus Slopes	Area of ELC sites: TAO, TAS, TAT, CLO, CLS, CLT	No Habitat matching Criteria identified in Study Area	No	None required	No
17	Sand Barren	Rare vegetation communities	- Exposed, sparsely vegetated & caused by lack of moisture, fires, and erosion.	- Area >0.5ha in size - Confirm any ELC vegetation Type for Sand Barren - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
18	Alvar	Rare vegetation communities	- Level, mostly un-fractured calcareous bedrock feature, overlain by a thin veneer or soil	- Area >0.5ha in size - Field Studies that identify four of the five Alvar Indicator Species - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
19	Old Growth Forest	Rare vegetation communities	- >30ha forests with at least 10ha interior habitat and multi-layered canopy	- Dominant Tree Species >140 years old - No recognizable signs forestry practices (old stumps)	Area of ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
20	Savannah	Rare vegetation communities	- Tall Grass Prairie Habitat with 25%-60% Tree cover - Remnant sites such as Railway Right of ways are not SWH	- No minimum size and must be restored to a natural state. - Confirm one or more savannah indicator species. - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
21	Tallgrass Prairie	Rare vegetation communities	- Ground cover dominated by prairie grasses with <25% tree cover. - Remnant sites such as Railway Right of ways are not SWH	- No minimum size and must be restored to a natural state. - Confirm one or more prairie indicator species. - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
22	Other Rare Vegetation Communities	Rare vegetation communities	- All Provincially Rare S1, S2, S3 Vegetation Communities (Appendix M of SWHTG)	- Field Studies Confirming ELC vegetation type is a rare vegetation community	Area of ELC ecosite is the SWH	No communities identified on site are S1-S3 communities	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
23	Waterfowl Nesting Areas	Specialized habitat for wildlife	- Upland Habitat, adjacent to Wetland ELC ecosites (except SWC, SWM) - Extends 120m from a wetland (>0.5ha) and any small wetlands (<0.5ha) within a cluster of at least 3. - Upland area at least 120m wide	- Presence of 3 or more nesting pairs of listed species excluding Mallards - Presence of 10 or more nesting pairs including mallards - Any active Black Duck nesting site	SWH may be greater than or less than 120m from the wetland edge and must provide enough habitat for waterfowl to successfully nest	No Habitat matching Criteria identified in Study Area	No	None required	No
24	Bald Eagle or Osprey Nesting, Foraging and Perching Habitat	Specialized habitat for wildlife	- Forest communities, adjacent to riparian areas - Osprey nests usually at top of tree - Bald Eagle nest usually in super canopy tree in a notch within canopy	- Studies confirm one or more active Bald Eagle or Osprey nest. - Alternate nests included in SWH. - Nests must be used annually, if found inactive, must be known inactive at least 3 years, or suspected unused for 5 years if unknown	- Active nest plus 300m for OSPR - Active nest plus 400-800m for BAEA	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
25	Woodland Raptor Nesting Habitat	Specialized habitat for wildlife	- Forested communities, forested swamp communities and cultural Plantations - Natural Forested/conifer plantations >30ha with >10ha interior habitat (200m buffer)	- One or more active nest of listed species	Nest protection radius: - RSHA, NOGA 400m - BAOW 200m. - Broad-winged Hawk, COHA 100m - SSHA 50	No Habitat matching Criteria identified in Study Area	No	None required	No
26	Turtle Nesting Areas	Specialized habitat for wildlife	- Exposed Mineral soil (sand or gravel) adjacent (<100m) or within shallow marsh, shallow submerged, shallow floating, bog or fen communities. - Located in open sunny areas, away from roads and less prone to predation. - Municipal and provincial road shoulders are not SWH.	- Confirm 5 or more nesting Midland Painted Turtles, 1 or more nesting Northern Map Turtle or Snapping Turtle	Area or sites with exposed mineral soils, plus a radius of 30-100m around the nesting area is the SWH.	No habitat matching criteria identified in study area.	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
27	Seeps and Springs	Specialized habitat for wildlife	- Areas where ground water comes to the surface. - Any forested area within the headwaters of a stream or river system	- Confirm site with 2 or more seeps/springs.	Area of ELC forest ecosite containing seep/spring is the SWH	Seeps and springs possible within forested and wetland communities	Yes	ELC complete	No seeps or springs identified
28	Amphibian Breeding Habitat (Woodland)	Specialized habitat for wildlife	- Breeding pools within woodlands - Wetland, pond, or pool >500m^2 within or adjacent (<120m) to a woodland. - Woodlands with permanent ponds, or those with water until mid-July more likely to be used.	- Confirm Breeding population of 1 or more listed newt/salamander species, 2 or more of the listed frog species with at least 20 individuals (adults or egg masses), 2 or more of the listed frog species with call code levels of 3. - Wetland adjacent to woodlands includes travel corridor connecting features as SWH.	Wetland area, plus 230m radius of woodland is the SWH.	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
29	Amphibian Breeding Habitat (Wetland)	Specialized habitat for wildlife	- Swamp, marsh, fen, bog, open aquatic, and shallow aquatic ELC communities. - Typically isolated from woodlands (>120m) but includes larger wetlands with primarily aquatic species (bull frogs) that are adjacent to woodlands. - Wetlands >500m2 - Presence of shrubs & logs - Bullfrogs require permanent water bodies and abundant emergent vegetation.	- Confirm Breeding populations of 1 or more listed newt/salamander species, or 2 or more listed frog/toad species with at least 20 individuals (adults or egg masses), or 2 or more listed frog/toad species with a call code level of 3 - Or any wetland with confirmed breeding Bullfrog.	- ELC ecosite and shoreline is the SWH. - Movement corridors (SWH) must be considered if this habitat is significant	No wetlands >120m from woodland habitat	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
30	Area-sensitive Breeding Bird Habitat	Specialized habitat for wildlife	- Habitats where interior breeding birds are breeding. - Large mature (>60 years) forest stands or woodlots >30ha. - Forest and swamp ELC communities - Interior habitat at least 200m from edge	- Presence of nesting or breeding pairs of 3 or more of the listed species - Any site with Cerulean Warbler or Canada Warbler is SWH	ELC ecosite is the SWH	No interior habitat (>200m) identified in study area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
31	Marsh Bird Breeding Habitat	Habitats of species of conservation concern considered SWH	- Some meadow marsh, shallows submerged, shallow floating, mixed shallow floating, fen, and bog communities (see SWH Ecoregion guide for specifics) - Nesting occurs in wetlands, all wetland habitat is considered with presence of shallow water with emergent aquatic vegetation - Green heron at edge of water sheltered by shrubs and trees.	- 5 or more nesting pairs of Sedge Wren or Marsh Wren, 1 pair of Sandhill Crane, or breeding by any combination of 5 or more of the listed species - Any Wetland with 1 or more breeding pair Black Tern, Trumpeter Swan, Green Heron or Yellow Rail	ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
32	Open Country Bird Breeding Habitat	Habitats of species of conservation concern considered SWH	- Grassland area >30ha (natural & cultural fields and meadows) - Grasslands not class 1 or 2 agriculture (no row crops or intensive hay or livestock pasturing) - Mature hayfields or pasture at least 5 years old	- Nesting or breeding of 2 or more of the listed species - Field with 1 or more Short-eared Owls	Contiguous ELC ecosite is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
33	Shrub/Early Successional Bird Breeding Habitat	Habitats of species of conservation concern considered SWH	- Cultural thickets, savannah, and woodland habitat - Large field area succeeding to shrub and thicket habitat >10ha in size - Patches of shrub ecosite may be complexed into larger old field ecosites for some species	- Confirm nesting or breeding of 1 of the listed indicator species and at least 2 of the common species - Habitat with Yellow-breasted Chat or Golden-winged Warbler is SWH	SWH is contiguous ELC ecosite field/thicket area	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
34	Terrestrial Crayfish	Habitats of species of conservation concern considered SWH	- Meadow marsh, shallow marsh, swamp thicket, deciduous swamp, and mixed swamp communities - Cultural meadow with inclusions of meadow marsh may be used - Wet edges of marshes and wet meadows should be surveyed for crayfish	- Presence of 1 or more individuals of listed species or their chimneys in suitable habitat	Area of ELC ecosite or Eco element area of meadow marsh or swamp within the larger ecosite area is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
35	Special Concern & Rare Wildlife Species	Habitats of species of conservation concern considered SWH	- All Special concern and Provincially Rare plant and animal species - Where an element occurrence is identified within a 1 or 10km grid for a species listed, linking candidate habitat on the site must be completed to ELC ecosites	- Assessment/inventory of site for identified special concern or rare species completed during time of year when species is present or easily identifiable - Habitat must be easily mapped and cover an important life stage component (specific nesting habitat, foraging)	SWH is the finest ELC scale that protects the form and function of the habitat	One element occurrence for Special Concern or rare Wildlife Species was identified within 1km of the study area Monarch (OBA, iNat) Seven element occurrences were identified within 10km of the study area. - Snapping Turtle (ORAA) - Midland Painted Turtle (ORAA) - Eastern Wood-pewee (OBBA) - Barn Swallow (OBBA) - Wood Thrush (OBBA) - Grasshopper Sparrow (OBBA) - Rainbow Mussel (DFO)	Yes- Woodlands on site and within 120m may provide habitat for Eastern-Wood-pewee and Wood Thrush.	Two season Botanical Survey, Breeding Bird Survey, incidental wildlife.	Yes, monarch larvae & Scarlet Beebalm identified on site by Aboud & Associates during Summer Botanical Survey.

#	Significant wildlife habitat (SWH)	Candidate SWH type	Candidate SWH criteria	Criteria for SWH confirmation	SWH protected area	Site assessment details	Candidate SWH	Field studies required/ completed	Confirmed SWH
36	Amphibian Movement Corridor	Animal movement corridors	- Corridors may occur in all ecosites associated with water. - Presence of significant amphibian breeding indicates the requirement for identifying corridors - Movement corridors between breeding habitat and summer habitat	- Corridors typically include areas with native vegetation, with several layers of vegetation, unbroken by roads, waterways or waterbodies are most significant - At least 15 of vegetation on both sides of the waterway or up to 200m wide of woodland habitat with gaps of <20m - Shorter corridors are more significant than longer, but amphibians must be able to get to and from their summer breeding habitat	Corridor is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No
37	Deer Movement Corridor	Animal movement corridors	- May occur in all forested ecosites. - Determined when deer wintering habitat is confirmed as SWH	- Corridors at least 200m wide with gaps <20m leading to wintering habitat - Unbroken by roads and residential areas - Shorter corridors are more significant	Corridor is the SWH	No Habitat matching Criteria identified in Study Area	No	None required	No

APPENDIX 7
Species at Risk Habitat Assessment

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Western Chorus Frog – Great Lakes / St. Lawrence - Canadian Shield Population	*Pseudacris triseriata pop. 2*	Amphibians	NAR	THR	S4	MNRF Species Occurrence Mapping	Generally found in lowland communities, such as swamps, inhabiting lowland shrubs and grasses in the community, near breeding habitat. Breeding occurs in lowland, ephemeral ponds, devoid of predatory fish species (COSEWIC 2008a).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2008. COSEWIC assessment and update status report on the Western Chorus Frog (*Pseudacris triseriata*) Carolinian population and Great Lakes/St. Lawrence – Canadian Shield population in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
Monarch	*Danaus plexippus*	Butterflies, bees, damselflies, dragonflies & insects	SC	SC	S2N, S4B	OBA (2021) iNat (2019) MNRF Species Occurrence Mapping	Requires milkweed for larval feeding, other wildflower species are also important for adult feeding when milkweed is not in flower; often found in abandoned farmland, along roadsides, and other open spaces (COSEWIC 2010b)	Milkweed identified within study area. Plants were located on the edge of the agricultural field.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	Larvae observed during ELC survey	COSEWIC. 2010. COSEWIC assessment and status report on the Monarch (*Danaus plexippus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.
West Virginia White	*Pieris virginenisis*	Butterflies, bees, damselflies, dragonflies & insects	SC	NAR	S3	MNRF Species Occurrence Mapping	Found in rich deciduous and mixed forests and swamps with a poorly vegetated shrub layer. The larvae feed only on the leaves of a few host plants, including the Two-leaved Toothwort (*Cardamine diphylla*) and cut-leaved toothwort (Burke 2013).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	Peter S. Burke. 2013. Management Plan for the West Virginia White (*Pieris virginiensis*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. v + 44 pp.
Yellow-banded Bumble Bee	*Bombus terricola*	Butterflies, bees, damselflies, dragonflies & insects	SC	SC	S3S5	MNRF Species Occurrence Mapping	Occur in a diverse range of habitat, including mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands and boreal habitats. Queens overwinter underground and in decomposing organic material such as rotting lots (COSEWIC 2015)	No habitat matching criteria identified in study area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2015. COSEWIC assessment and status report on the Yellow-banded Bumble Bee (*Bombus terricola)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 60 pp. *rank considered out of date
Acadian Flycatcher	*Empidonax virescens*	Birds	END	END	S2S3B	MNRF Species Occurrence Mapping	Breeds in mature deciduous and mixed forests, using tableland forests and ravine habitats. Nests are often located over vernal pools, trails or bare ground in tablelands or over streams in ravines (COSEWIC 2010d).	The Deciduous Forest and Swamp communities within the study area may provide suitable habitat.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Acadian Flycatcher (*Empidonax virescens)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 38 pp.
Bank Swallow	*Riparia riparia*	Birds	THR	THR	S4B	MNRF Species Occurrence Mapping	Breeds in a variety of natural and artificial bank type habitat, such as bluffs, stream and river banks, sand and gravel pits, piles of sand, topsoil and other material. Nests are typically in vertical or near-vertical surfaces (COSEWIC 2013b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2013. COSEWIC assessment and status report on the Bank Swallow (*Riparia riparia*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.
Barn Swallow	*Hirundo rustica*	Birds	SC	THR	S5B	OBBA MNRF Species Occurrence Mapping	Occurs in farmland, along lake/river shorelines, in wooded clearings and in urban populated areas. Nesting may occur inside or outside buildings; under bridges and in road culverts (COSEWIC 2011a).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2011. COSEWIC assessment and status report on the Barn Swallow (*Hirundo rustica)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Black Tern	*Chlidonias niger*	Birds	SC	NAR	S3B	MNRF Species Occurrence Mapping	Breeds in large, freshwater marshes, with emergent vegetation, and large areas of open water. Nests are typically within 6 meters of the water, on low emergent vegetation (Burke 2012).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed.	Peter S. Burke. 2012. Management Plan for the Black Tern (*Chlidonias niger*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources (OMNR), Peterborough, Ontario. vi + 47 pp.
Bobolink	*Dolichonyx oryzivorus*	Birds	THR	THR	S4B	OBBA, eBird (2023) MNRF Species Occurrence Mapping	Nest in grassland habitats, including hayfields and meadows with a mixture of grasses and broad-leaved forbs with a high litter cover. Area Sensitive, with increased density in grasslands greater than 10ha (Renfrew et. al. 2015)	Hayfields present on adjacent properties within the study area may provide suitable habitat.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	Renfrew, R., A.M. Strong, N.G. Perlut, S.G. Martin and T.A. Gavin. 2015. Bobolink (*Dolichonyx oryzivorus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Birds of North America Online: http://bna.birds.cornell.edu/bna/species/176
Canada Warbler	*Wilsonia canadensis*	Birds	SC	THR	S4B	MNRF Species Occurrence Mapping	Prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer (COSEWIC 2008b).	The Lowland Deciduous Forest and Deciduous/Coniferous Swamp communities within the study area may provide suitable habitat.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2008. COSEWIC assessment and status report on the Canada Warbler (*Wilsonia Canadensis*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
Cerulean Warbler	*Setophaga cerulea*	Birds	THR	END	S3B	MNRF Species Occurrence Mapping	Occur in older, mature, deciduous forests, preferentially oak-maple composition, with a full, to partially open canopy, and little to no understory cover. Often in bottomland forests, or adjacent to treed swamplands (COSEWIC 2010f).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Cerulean Warbler (*Dendroica cerulea*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.
Common Nighthawk	*Chordeiles minor*	Birds	SC	THR	S4B	MNRF Species Occurrence Mapping	Breeds in open habitat, on the ground, in areas with no vegetation, including sand dunes, burned areas, open forests, railways, and gravel rooftops. Eggs are laid directly on the ground (COSEWIC 2007b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC 2007. COSEWIC assessment and status report on the Common Nighthawk (*Chordeiles minor)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 25 pp.
Eastern Meadowlark	*Sturnella magna*	Birds	THR	THR	S4B	OBBA, eBird (2023) MNRF Species Occurrence Mapping	Nest in grassland habitats, including hayfields, pasture, savannahs, and other open areas. Preferential habitat includes areas with good grass and thatch (litter) cover (Jaster et. al. 2012).	Hayfields present on adjacent properties within the study area may provide suitable habitat	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	Jaster, Levi A., William E. Jensen and Wesley E. Lanyon. (2012). Eastern Meadowlark (*Sturnella magna*), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: https://birdsna.org/Species-Account/bna/species/easmea

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Eastern Whip-poor-will	*Caprimulgus vociferus*	Birds	THR	THR	S4B	MNRF Species Occurrence Mapping	Often found breeding in semi-open habitats, with little ground cover, and canopy openings allowing light to penetrate the forest floor, often associated with pine or oak, savannahs and barrens, early-successional poplar stands and open conifer plantations (COSEWIC 2009a)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed.	COSEWIC. 2009. COSEWIC assessment and status report on the Whip-poor-will (*Caprimulgus vociferus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 28 pp.
Eastern Wood-Pewee	*Contopus virens*	Birds	SC	SC	S4B	OBBA MNRF Species Occurrence Mapping	Associated with mid-age mixed and deciduous forest stands, often dominated by Maple (Acer), Elm (Ulmus) or Oak (Quercus), and include areas with clear-cuts, openings or forest edges. Also prefers forest stands with little to no understory vegetation (COSEWIC 2012a).	The Sugar Maple-Lowland Ash Deciduous Forest within the study area may provide suitable habitat.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	Yes, male heard singing from the Fencerow, habitat not considered suitable for successful breeding.	COSEWIC. 2012. COSEWIC assessment and status report on the Eastern Wood-Pewee (*Contopus virens*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.
Evening Grosbeak	*Coccothraustes vespertinus*	Birds	SC	SC	S4B	MNRF Species Occurrence Mapping	Breeding habitat includes open, mature mixed wood forests, where fir species and/or White Spruce are dominant, and Spruce Budworm is abundant (COSEWIC 2016)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2016. COSEWIC assessment and status report on the Evening Grosbeak (*Coccothraustes vespertinus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 64 pp.
Grasshopper Sparrow	*Ammodramus savannarum*	Birds	SC	SC	S4B	OBBA, eBird (2023) MNRF Species Occurrence Mapping	Prefers moderately open grasslands and prairies with patchy bare ground; avoids grasslands with extensive shrub cover (Vickery 1996).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	Vickery, Peter D. 1996. Grasshopper Sparrow (*Ammodramus savannarum*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/239\
Henslow's Sparrow	*Ammodramus henslowii*	Birds	END	END	SHB	MNRF Species Occurrence Mapping	Breeds in grassland habitat and is area sensitive. Grasslands with tall, dense cover a thick thatch layer, and are greater than 30ha, but preferentially larger than 100ha are preferred (COSEWIC 2011b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2011. COSEWIC assessment and status report on the Henslow's Sparrow (*Ammodramus henslowii)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 37 pp.
Least Bittern	*Ixobrychus exilis*	Birds	THR	THR	S4B	MNRF Species Occurrence Mapping	Breeds in large marshes (>5ha) with emergent vegetation, typically cattails, with at least 50% open water, and relatively stable water levels (COSEWIC 2009b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2009. COSEWIC assessment and update status report on the Least Bittern (*Ixobrychus exilis*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Lesser Yellowlegs	*Tringa flavipes*	Birds	THR	THR	S3S4B, S5M	MNRF Species Occurrence Mapping	Nests on dry ground near peatlands, marshes, ponds, and other wetlands in the boreal forest and taiga. In winter and during migration, the species frequents coastal salt marshes, estuaries and ponds, as well as lakes, other freshwater wetlands, and anthropogenic wetlands such as flooded rice fields and sewage lagoons (COSEWIC 2020).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed.	COSEWIC. 2020. COSEWIC assessment and status report on the Lesser Yellowlegs (*Tringa flavipes*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 64 pp.
Loggerhead Shrike	*Lanius ludovicianus*	Birds	END	END	S2B	MNRF Species Occurrence Mapping	Nests in open, low, grassy habitat with scattered shrubs. Presence of thorny shrubs, such as hawthorn, or barbwire fencing required for impaling prey. Only two recent areas of breeding in the province (Carden Plain and Napanee Plain) (Environment Canada 2015).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	Environment Canada. 2015. Recovery Strategy for the Loggerhead Shrike, *migrans* subspecies (*Lanius ludovicianus migrans*), in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vii + 35 pp.
Louisiana Waterthrush	*Seirus motacilla*	Birds	SC	THR	S3B	MNRF Species Occurrence Mapping	Nests along headwater streams and associated wetlands which occur within large tracts of mature forest especially mixed wood forests with a component of hemlock. Nests are in stream bank niches, under mossy logs, and within the roots of fallen trees (COSEWIC 2006b)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC 2006. COSEWIC assessment and update status report on the Louisiana Waterthrush (*Seiurus motacilla*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 26 pp.
Olive-sided Flycatcher	*Contupus cooperi*	Birds	SC	THR	S4B	MNRF Species Occurrence Mapping	Associated with natural forest openings (usually conifer or mixed), and edges of forests adjacent wetlands or watercourses, will also use open and semi-open forests and clear-cuts. Presence of tall snags and residual live trees required for nesting and foraging (COSEWIC 2007c).	Forest communities immediately adjacent the South Saugeen River within the Study Area may provide suitable habitat.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2007. COSEWIC assessment and status report on the Olive-sided Flycatcher (*Contopus cooperi*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 25 pp.
Peregrine Falcon	*Falco peregrinus*	Birds	SC	SC	S3B	MNRF Species Occurrence Mapping	Nests on cliff-ledges (50-200m preferred) near foraging areas. Also nests on anthropomorphic structures, such as tall building ledges, bridges, quarries, mines and cuts for road beds (COSEWIC, 2007a).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC 2007. COSEWIC assessment and update status report on the Peregrine Falcon (*Falco peregrinus*) (*pealei* subspecies - *Falco peregrinus* and *pealei anatum/tundrius* - *Falco peregrinus anatum/tundrius*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 pp.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	Birds	END	THR	S4B	MNRF Species Occurrence Mapping	Found in a variety of open areas, with a high density of dead or dying trees, particularly forests dominated by oak or beech (COSEWIC 2007d).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC 2007. COSEWIC assessment and update status report on the Red-headed Woodpecker (*Melanerpes erythrocephalus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Wood Thrush	*Hylocichla mustelina*	Birds	SC	THR	S4B	OBBA MNRF Species Occurrence Mapping	Prefers second growth moist deciduous forests, with tall trees, and a dense understory of low saplings and an open forest floor with decaying leaf litter. Often nests in saplings, shrubs or occasionally dead stumps (COSEWIC 2012b).	Deciduous forest present within Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. Breeding bird surveys were completed.	None observed	COSEWIC. 2012. COSEWIC assessment and status report on the Wood Thrush (*Hylocichla mustelina*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.
Northern Sunfish (Great Lakes-Upper St. Lawrence Population)	*Lepomis peltastes*	Fish	SC	SC	S3	MNRF Species Occurrence Mapping	Prefers shallow, vegetated areas of warm lakes, ponds, and slowly flowing watercourses. Usually occurs in clear waters and is considered intolerant of siltation. Substrate usually consists of sand and gravel, as in the Thames River (COSEWIC 2016)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2016. COSEWIC assessment and status report on the Northern Sunfish (*Lepomis peltastes*) Saskatchewan- Nelson River populations and the Great Lakes- Upper St. Lawrence populations, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xv + 51 pp.
Redside Dace	*Clinostomus elongatus*	Fish	END	END	S1	MNRF Species Occurrence Mapping	Associated with small, clear, head water streams and creeks with abundant overhanging vegetation and both pool and riffle habitat, often with gravel substrates and cool water temperature regimes (COSEWIC, 2007e).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2007. COSEWIC assessment and update status report on the Redside Dace (*Clinostomus elongatus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vii + 59pp.
Upper Great Lakes Kiyi	*Coregonus kiyi kiyi*	Fish	SC	SC	S3	MNRF Species Occurrence Mapping	Prefers the deepest parts of lakes in which it is found. Rarely collected in waters less than 108m deep and has been reported at depths ranging from 35-200m (COSEWIC 2005).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2005. COSEWIC assessment and update status report on the Lake Ontario kiyi (*Coregonus kiyi orientalis)* and Upper Great Lakes kiyi (*Coregonus kiyi kiyi)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 17 pp.
Rainbow	*Villosa iris*	Molluscs	SC	SC	S2S3	DFO MNRF Species Occurrence Mapping	Most abundant in small to medium-sized rivers but can also be found in inland lakes. Usually found in or near riffles and along the edges of emergent vegetation in moderate to strong current. Occupies substrate mixtures of cobble, gravel, sandy and occasionally mud or boulder (COSEWIC 2015)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2015. COSEWIC assessment and status report on the Rainbow (*Villosa iris)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 82 pp.
American Badger	*Taxidea taxus*	Mammals	END	END	S1	MNRF Species Occurrence Mapping	Associated with open habitat, including agricultural hedgerows, grasslands, fallow habitat and open linear corridors in forests. Soil composition must be coherent to maintain structure for digging and tunneling, usually coarse silts to fine sands, in Ontario usually found in areas of sandy and loam soils. Prey availability is also important for site suitability (COSEWIC, 2012c).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2012. COSEWIC assessment and status report on the American Badger (*Taxidea taxus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. iv + 63 pp.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Eastern Small-footed Myotis	*Myotis leibii*	Mammals	END	NA	S2S3	MNRF Species Occurrence Mapping	Associated with hilly or mountainous terrain, in or near coniferous or deciduous forest habitat. Maternity roosts located in cracks and crevices of talus slopes and rocky outcrops, or, occasionally in bridges, old buildings, hollow trees (or loose bark) and caves and mines during the maternity season. Hibernate singly or in small clusters in mines and caves (NatureServe, 2015).	Suitable habitat identified within limits of subject property and in adjacent woodland communities.	The Study Area was investigated for habitat during ELC, Bat Habitat Assessment and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Little Brown Myotis	*Myotis lucifugus*	Mammals	END	END	S3	MNRF Species Occurrence Mapping	Hibernate in Caves; maternity colonies located in warm sites, often associated with human habitation; including attics, old buildings, under bridges, rock crevices and cavities in canopy trees in wooded areas (COSEWIC, 2013c).	Suitable habitat identified within limits of subject property and in adjacent woodland communities.	The Study Area was investigated for habitat during ELC, Bat Habitat Assessment and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Northern Myotis	*Myotis septentrionalis*	Mammals	END	END	S3	MNRF Species Occurrence Mapping	Hibernate in Caves; maternity colonies usually located in trees, and are closely associated with specific tree characteristics and density of suitable trees. Characterized by tall, large diameter trees in early stages of decay, located in openings in mature forest canopies (COSEWIC, 2013c).	Suitable habitat identified within limits of subject property and in adjacent woodland communities.	The Study Area was investigated for habitat during ELC, Bat Habitat Assessment and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Tri-colored Bat	*Perimyotis subflavus*	Mammals	END	END	S3?	MNRF Species Occurrence Mapping	Hibernate in caves, abandoned mines, wells, and tunnels. Summer roosts include clumps of dead foliage and lichens, typically found in forested habitat close to water sources. May also use anthropogenic structures such as barns for maternity roosts. Foraging habitat includes forested riparian areas over water in relatively open areas (Environment Canada.2015).	Suitable habitat identified within limits of subject property and in adjacent woodland communities.	The Study Area was investigated for habitat during ELC, Bat Habitat Assessment and Vegetation Surveys. No further studies required.	None observed	Environment Canada. 2015. Recovery Strategy for Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. ix + 110 pp
Blanding's Turtle	*Emydoidea blandingii*	Reptiles	THR	THR	S3	MNRF Species Occurrence Mapping	Use a variety of eutrophic wetland habitat types, including lakes, ponds, watercourses, marshes, man-made channels, farm fields, coastal areas and bays. Seasonal overland terrestrial movements up to 2.5 km occur to reach nesting and overwintering areas, generally through wooded coniferous or mixed forest habitat. Nests are usually laid in loose sand or organic soil (COSEWIC 2005b).	The South Saugeen River may provide suitable habitat; however, no suitable overwintering sites identified through aerial photo interpretation.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2005. COSEWIC assessment and update status report on the Blanding's Turtle (*Emydoidea blandingii*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 40 pp.

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Snapping Turtle	*Chelydra serpentina*	Reptiles	SC	SC	S4	ORAA (1987) MNRF Species Occurrence Mapping	Inhabit slow-moving waters with soft, muck bottom and dense aquatic vegetation. Ponds, sloughs and shallow bays are all often used as summering and overwintering habitat (COSEWIC 2008d).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle (*Chelydra serpentina*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
Spotted Turtle	*Clemmys guttata*	Reptiles	END	END	S2	MNRF Species Occurrence Mapping	Found in wetlands with high organic content, including bogs, fens, marshes, woodland streams, sedge meadows, and shallow bays. Only one population is known from Wellington County, in Luther Marsh. Preferential to unpolluted shallow water with aquatic vegetation and soft substrates. Presence of Sphagnum moss, sedge tussocks, cattails and water lilies, may be important to Canadian populations (COSEWIC, 2002b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2004. COSEWIC assessment and update status report on the Spotted Turtle (*Clemmys guttata*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.
Eastern Ribbonsnake	*Thamnophis sauritus*	Reptiles	SC	SC	S4	MNRF Species Occurrence Mapping	A semi-aquatic species that inhabits dense, low- vegetation, edges of ponds, streams, marshes, fens and bogs, with open sunlit areas for basking (COSEWIC 2002c).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC, Aquatic Habitat Assessments and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2002. COSEWIC assessment and status report on the Eastern Ribbonsnake (*Thamnophis sauritus*). Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.
Milksnake	*Lampropeltis triangulum*	Reptiles	SC	SC	S4	MNRF Species Occurrence Mapping	Habitat generalists often associated with edge habitat, meadows, prairies, pastures, rocky outcrops and human disturbances such as hydro corridors and railway embankments. Habitat is usually close to a water source. Hibernation occurs in a variety of natural and man-made features, including rotting logs, old foundations, basements and burrows (COSEWIC 2014).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2014. COSEWIC assessment and status report on the Eastern Milksnake (*Lampropeltis Triangulum*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 61 pp.
Massassauga Rattlesnake	*Sistrurus catenatus*	Reptiles	SC	THR	S3	MNRF Species Occurrence Mapping	Only historic observations of Masassauga in the north western portion of Wellington County. Found in wet prairies, old fields, peatlands, rock barrens and coniferous forests, with open-areas, and areas of dense shrub cover. Hibernate in damp areas below the frost line (COSEWIC, 2012b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC. 2012. COSEWIC assessment and status report on the Massasauga (*Sistrurus catenatus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 84 pp.
American Hart's Tongue Fern	*Asplenium scolopendrium*	Vascular plants	SC	SC	S3	MNRF Species Occurrence Mapping	Grows on rocks or rocky substrates and requires calcareous soils, preferential to sites with dolomitic limestone, in Ontario found in upper talus and mid-slopes of the Niagara Escarpment (Environment Canada 2013).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	Environment Canada. 2013. Management Plan for the Hart's-tongue Fern (*Asplenium scolopendrium*) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iii + 16 pp

Common name	Scientific name	Group	SARO	Cosewic	S-rank	Background sources	Habitat requirements	Suitable habitat in study area	Field studies completed/ required	Observed by AA	Reference
Broad Beech Fern	*Phegopteris hexagonoptera*	Vascular plants	SC	SC	S3	MNRF Species Occurrence Mapping	Prefers rich, undisturbed deciduous forest, particularly mature Beech-maple forests. Typically occurs in moister areas such as lower valley slopes, bottomlands and even swamps. Primarily a shade-tolerant species and is unlikely to withstand major opening of the forest canopy (van Overbeeke et. al., 2013)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	van Overbeeke, J.C., J.V. Jalava and R.H. Donley. 2013. Management Plan for the Broad Beech Fern (*Phegopteris hexagonoptera*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. V + 25 pp.
Butternut	*Juglans cinerea*	Vascular plants	END	END	S2?	MNRF Species Occurrence Mapping	Occur in rich moist sites, that are well-drained, often found along stream banks or gravelly sites. Butternut is shade intolerant (COSEWIC, 2003b).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2003. COSEWIC assessment and status report on the butternut (*Juglans cinerea*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.
Eastern Prairie-fringed Orchid	*Platanthera leucophaea*	Vascular plants	END	END	S2	MNRF Species Occurrence Mapping	Habitat includes fens, wet tallgrass prairie and moist old fields with open growing conditions. Species does not flower annually (Environment Canada 2012).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	Environment Canada. 2012. Recovery Strategy for the Eastern Prairie Fringed-orchid (*Platanthera leucophaea*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. ii + 11 pp. + Appendices.
Gattinger's Agalinis	*Agalinis gattingeri*	Vascular plants	END	END	S2S3	MNRF Species Occurrence Mapping	Native to both alvar and tallgrass prairie habitat and requires open unshaded conditions for growth (Environment and Climate Change Canada 2019)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	Environment and Climate Change Canada. 2019. Recovery Strategy for the Gattinger's Agalinis (*Agalinis gattingeri*) in Canada. *Species at Risk Act* Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. 3 parts, 44 pp. + vi + 33 pp. + 7 pp.
Hill's Pondweed	*Potamogeton hillii*	Vascular plants	SC	SC	S2S3	MNRF Species Occurrence Mapping	Occur in cold clear calcareous streams, ponds, and ditches, which are alkaline in nature (COSEWIC 2005c).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2005c COSEWIC assessment and update status report on the Hill's Pondweed (*Potamogeton hillii*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 19 pp.
Kentucky Coffee-tree	*Gymnocladus dioicus*	Vascular Plants	THR	THR	S2	MNRF Species Occurrence Mapping	Grows best on fertile loam soil with ample moisture and tolerates alkaline soils and dry sandy soils. Typically found in rich floodplain woodlands and woodland edges of marshes where open canopy conditions exist (Environment Canada 2014)	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed.	Environment Canada. 2014. Recovery Strategy for the Kentucky Coffee-tree (*Gymnocladus dioicus*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 36 pp.
Tuberous Indian Plantain	*Arnoglossum plantagineum*	Vascular plants	SC	SC	S2	MNRF Species Occurrence Mapping	Habitat includes open, sunny areas in wet calcareous soils, including wet meadows and shoreline fens (COSEWIC 2002).	No habitat matching criteria identified in Study Area.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None observed	COSEWIC 2002. COSEWIC assessment and update status report on the tuberous Indian-plantain (*Arnoglossum plantagineum*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 11 pp.

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APPENDIX 8
Breeding Bird Survey Codes & Results

COMMON NAME	SCIENTIFIC NAME	COSSARO	SARO	COSEWIC	SARA	S-RANK	G-RANK	AREA SENSITIVE	AREA REQUIRED	PIF SPECIES (BCR 13)	Habitat: Agriculture	
											Date: 06/28/2023	
											COUNT	HBE
Chipping Sparrow	Spizella passerina					S5B,S3N	G5				1	S
Baltimore Oriole	Icterus galbula					S4B	G5			✓	1	A
Rose-breasted Grosbeak	Pheucticus ludovicianus					S5B	G5			✓	1	FY

COMMON NAME	SCIENTIFIC NAME	COSSARO	SARO	COSEWIC	SARA	S-RANK	G-RANK	AREA SENSITIVE	AREA REQUIRED	PIF SPECIES	HAMILTON CA (2014)	TRCA(2009)	GRCA(date unk.)	CVC (2010)	CH (2006)	CITY OF GUELPH (2012)	WELLINGTON COUNTY (2009)	REGION OF WATERLOO (1986-2007)	NIAGARA REGION NAI (2010)	PC 1	Habitat: Row Crop										PC 2	Habitat: Row Crop									
																				R1	date: 06/07/2023						R2	date: 06/28/2023						Sum		R1	date: 06/07/2023						R2	date: 06/28/2023					
																				>50	50-100	>100	FO	total	HBE	>50	50-100	>100	FO	total	HBE	TOTAL	HBE	>50	50-100	>100	FO	total	HBE	>50	50-100	>100	FO	total	HBE
Mourning Dove	Zenaida macroura					S5	G5				A	L5		4						0	1	0	0	1	S	2	0	0	0	2	H	2	S	2	0	0	0	2	S					0	NA
Killdeer	Charadrius vociferus					S4B	G5				A	L4		3										0	NA					0	NA	0	NA					0	NA	0	0	0	1	0	X
Turkey Vulture	Cathartes aura					S5B, S3N	G5				U	L5	CP	3			x	R		0	0	0	1	0	X					0	NA	0	X					0	NA					0	NA
Red-bellied Woodpecker	Melanerpes carolinus					S5	G5				U	L5	CP	2	U	☒	☒	☼	UC					0	NA					0	NA	0	NA	1	0	0	0	1	S	0	1	0	0	1	S
Great Crested Flycatcher	Myiarchus crinitus					S5B	G5				C	L4		3										0	NA	0	1	0	0	1	S	1	S					0	NA					0	NA
Eastern Wood-Pewee	Contopus virens	SC	SC	SC	SC	S4B	G5			✓	C	L4		1		☒	x							0	NA					0	NA	0	NA	0	1	0	0	1	S					0	NA
Eastern Phoebe	Sayornis phoebe					S5B	G5				U	L5	CP	3										0	NA					0	NA	0	NA					0	NA					0	NA
Blue Jay	Cyanocitta cristata					S5	G5				A	L5		4					VC					0	NA	1	0	0	0	1	S	1	S					0	NA	0	3	0	2	3	S
American Crow	Corvus brachyrhynchos					S5	G5				C	L5		2										0	NA					0	NA	0	NA	0	0	1	0	0	X	0	0	1	0	1	X
Black-capped Chickadee	Poecile atricapillus					S5	G5				A	L5	CP	4					C					0	NA					0	NA	0	NA	1	0	0	0	1	S	0	4	0	0	4	S
Horned Lark	Eremophila alpestris					S4	G5				C	L3	CP	3	U									0	NA	0	0	1	0	0	S	0	S					0	NA					0	NA
House Wren	Troglodytes aedon					S5B	G5				C	L5		4										0	NA					0	NA	0	NA					0	NA	0	1	1	0	1	S
Gray Catbird	Dumetella carolinensis					S5B,S3N	G5				A	L4	CP	3										0	NA					0	NA	0	NA	1	0	0	0	1	S					0	NA
Eastern Bluebird	Sialia sialis		NAR	NAR		S5B,S4N	G5				U	L4	CP	3	U			☼						0	NA					0	NA	0	NA					0	NA	0	1	0	0	1	S
American Robin	Turdus migratorius					S5	G5				A	L5		4						0	1	0	0	1	S	0	3	0	0	3	S	3	S	1	1	0	0	2	S	3	3	0	0	6	S
American Goldfinch	Carduelis tristis					S5	G5				A	L5	CP	4										0	NA	0	0	0	1	0	X	0	X					0	NA	0	1	0	0	1	S
Chipping Sparrow	Spizella passerina					S5B,S3N	G5				A	L5		4										0	NA					0	NA	0	NA	2	0	0	0	2	S					0	NA
Song Sparrow	Melospiza melodia					S5	G5				A	L5		4										0	NA	1	1	0	0	2	S	2	S					0	NA					0	NA
Baltimore Oriole	Icterus galbula					S4B	G5			✓	C	L5		3		☒	x			0	1	0	0	1	S					0	NA	1	S	2	0	0	0	2	P	1	1	0	0	2	NU
Red-winged Blackbird	Agelaius phoeniceus					S5	G5				A	L5		4						10	0	0	0	10	M	0	3	0	0	3	S	10	M	5	0	0	0	5	S					0	NA
Brown-headed Cowbird	Molothrus ater					S5	G5				A	L5		4										0	NA	1	1	0	0	2	S	2	S	0	2	0	0	2	S	1	1	0	0	2	S
Common Grackle	Quiscalus quiscula					S5	G5				A	L5		4						25	5	0	0	30	M					0	NA	30	M	2	1	0	0	3	S	0	2	0	0	2	S
Northern Cardinal	Cardinalis cardinalis					S5	G5				A	L5		4					C					0	NA	0	1	0	0	1	S	1	S	0	1	0	0	1	S	0	1	0	0	1	S
Indigo Bunting	Passerina cyanea					S5B	G5				C	L4								1	0	0	0	1	S	0	2	0	0	2	S	2	S					0	NA					0	NA

Breeding Evidence:

Observed	Probable	Confirmed
FO-flyover	M-multiple singing individuals	NB-nest building
X- species observed in breeding season	P-pair observed in suitable habitat	AE-adult entering,
	T-presumed territory based on presence of singing bird at least one week apart	NU-empty nest used in the same
Possible	D-courtship or display	FY-recently fledged young
H-suitable habitat	V-visiting probabale nest site	DD-distraction display
S-singing male	A-agitated behaviour	FS-adult carrying fecal sac
	B-brood patch or cloacal protuberance	CF-adult carrying food
	N-nest building by wrens or woodpeckers	NE-nest with eggs

		PC 3	Habitat: Row Crop														
Sum		R1	date: 06/07/2023					R2	date: 06/28/2023					Sum		SITE SUM	
TOTAL	HBE	>50	50-100	>100	FO	total	HBE	>50	50-100	>100	FO	total	HBE	TOTAL	HBE	TOTAL	HBE
2	S					0	NA	0	0	1	0	0	H	0	H	6	S
0	X					0	NA					0	NA	0	NA	0	X
0	NA					0	NA					0	NA	0	NA	0	X
1	S					0	NA	0	1	0	0	1	S	1	S	2	S
0	NA					0	NA					0	NA	0	NA	2	S
1	S					0	NA					0	NA	0	NA	1	S
0	NA	0	0	1	0	0	S					0	NA	0	S	0	S
3	S	0	1	0	0	1	S	0	0	1	0	1	H	1	S	6	S
1	X	0	2	1	0	2	S	0	0	3	0	3	H	3	S	4	S
4	S					0	NA	3	1	0	0	4	S	4	S	8	S
0	NA					0	NA					0	NA	0	NA	0	S
1	S	0	1	0	0	1	S	0	1	0	0	1	S	1	S	2	S
1	S					0	NA	1	0	0	0	1	S	1	S	2	S
1	S					0	NA					0	NA	0	NA	1	S
6	S	0	2	0	0	2	H	1	0	0	0	1	S	2	S	14	S
1	S	0	0	0	1	0	X	0	0	0	1	0	X	0	X	1	S
2	S					0	NA	0	1	1	0	1	S	1	S	3	S
0	NA	0	1	0	0	1	S	0	1	0	0	1	S	1	S	5	S
2	NU	0	1	0	0	1	S					0	NA	1	S	4	NU
5	S	0	1	0	0	1	S	0	1	0	1	2	S	2	S	20	M
2	S					0	NA					0	NA	0	NA	6	S
3	S	1	3	0	0	4	S					0	NA	4	S	37	M
1	S	0	2	0	0	2	S	0	1	0	0	1	S	2	S	5	S
0	NA	2	0	0	0	2	S	0	1	0	0	1	S	2	S	6	S

APPENDIX 9

Site Investigation Details

Survey	Time	Date	Staff	Temp. (°C)	Wind (Beaufort)	Cloud Cover %	Precipitation	Past Precipitation
Bat Maternity Habitat Survey	11:04-11:45	2023-04-25	SD, HD	4	2	70	None	None
Breeding Bird Survey #1	09:22-10:06	2023-06-07	BV	15	3	40	None	None
ELC, Spring botanical, SWH/SAR Habitat Investigation	09:23-10:24	2023-06-08	SD	17	2	70	None	None
Breeding Bird Survey #2	08:11- 08:56	2023-06-28	BV	15	2	0	None	Rain
Summer Botanical Inventory, Aquatic Habitat Assessment, SWH/SAR Habitat Investigation	09:41-11:10	2023-07-26	SD, HD	22	1	0	None	None
Woodland Dripline Delineation	09:30-10:15	2024-07-17	SD	23	1	20	None	None

APPENDIX 10

Project Impact Table

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING[1,3]	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING[2,3]	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Vegetation Removal – Clearing & Grubbing *Upland Area*	Site Preparation and Servicing	Loss of vegetation and wildlife habitat	Minor	▪ Avoid Significant Wildlife Habitat ▪ Design to avoid or minimize loss of vegetation and edge habitat. ▪ Implement compensation plan where possible, using native tree, shrub, and vegetative species.	Minor	Site Preparation and Servicing, Construction, Post-Construction/Site Restoration	Monitor restoration/compensation plantings to ensure proper establishment.
Vegetation Removal – Clearing & Grubbing *Upland Area*	Site Preparation and Servicing	Disturbance of wildlife species	Minor	▪ Avoid removal or destruction of animal movement corridors. ▪ Time activities to avoid wildlife disturbance during important life stages (Generalized breeding bird nesting period (Apr 1-Aug 30) and Bat maternity window (Apr 1- Sept 30)).	Minor-None	Site Preparation and Servicing, Construction.	
Vegetation Removal – Clearing & Grubbing *Upland Area*	Site Preparation and Servicing	Impacts to nesting birds protected under the Migratory Bird Convention Act	Moderate	▪ Complete all vegetation removal outside the Environment Canada breeding bird nesting window (April 1- August 31) ▪ Where vegetation removal must occur during the nesting window, conduct a bird nest survey to determine locations of active nests prior to construction works including installation of Erosion Sediment Control (ESC) fence and any site clearing. ▪ Create nest protection zones where active bird nests are found and monitor (as needed, e.g., weekly) until inactive.	Minor-None	Site Preparation and Servicing, Construction, Post-Construction/Site Restoration	Monitor active nests as needed (e.g., weekly) until inactive.
Grading	Site Preparation and Servicing	Increased erosion, sedimentation, and turbidity	Moderate	▪ Maintain or restore vegetative buffers through a Restoration Plan by installing native plantings suitable to the soil and moisture conditions within the woodland buffer. ▪ Develop and implement an ESC Plan as per GGH Erosion and Sediment Guidelines (TRCA, 2019)	Minor-None	Site Preparation and Servicing, Construction, Post-construction/Site Restoration	Monitor restoration/compensation plantings to ensure proper establishment.

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING[1,3]	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING[2,3]	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Grading	Site Preparation and Servicing	Increase nutrient inputs and contaminants to waterbodies and wetlands	Minor	▪ Develop & implement ESC Plan per GGH Erosion and Sediment guidelines (TRCA, 2019) ▪ Designate areas for equipment storage.	Minor-None	Site Preparation and Servicing, Construction	
Grading	Site Preparation and Servicing	Increased soil compaction	Minor	▪ Control access and movement of equipment and people	None	Site Preparation and Servicing, Construction, Post-construction/Site Restoration	
Grading	Site Preparation and Servicing	Changes to drainage	Minor	▪ Schedule grading to avoid high runoff volumes. ▪ Minimize changes to land contours and natural drainage	None	Site Preparation and Servicing, Construction	
Grading	Site Preparation and Servicing	Changes to surface runoff	Minor	▪ Maintain streams and timing, quantity of flows. ▪ Implement site designed SWM plan	None	Site Preparation and Servicing, Construction	
Grading	Site Preparation and Servicing	Changes in soil moisture, tree cover and vegetation	Minor	▪ Minimize the area and duration of soil exposure ▪ Implement a Restoration Plan within the woodland buffer. Install native plantings suitable for the moisture and soil conditions. ▪ Implement appropriate protocols from the Clean Equipment Protocol (Halloran et al., 2013).	Minor	Site Preparation and Servicing, Construction	Monitor restoration/compensation plantings to ensure proper establishment.
Grading	Site Preparation and Servicing	Disturbance to wildlife	Minor	▪ Time activities and conduct work outside timing windows of sensitive species and avoid sensitive periods (Breeding birds, bat maternity)	None	Site Preparation and Servicing, Construction, Post-construction/Site Restoration	

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING[1,3]	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING[2,3]	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Grading	Site Preparation and Servicing	Alteration or destruction of wildlife habitat	Minor	▪ Identify sensitive species prior to work and design grading to avoid disturbing sensitive species. ▪ Consult with MECP regarding Bat Species at Risk, if required.	None	Site Preparation and Servicing, Construction	Per requirements of ESA and MECP.
Grading	Site Preparation and Servicing	Wildlife entering construction areas	Minor	▪ Develop & implement ESC plan to exclude wildlife	None	Site Preparation and Servicing, Construction, Post-construction/Site Restoration.	
Installation of Services and utilities	Site Preparation and Servicing	Increased erosion, sedimentation, and turbidity	Minor	▪ Maintain vegetated buffers. ▪ Develop sediment and erosion control plan per the GGH Erosion and Sediment Guidelines (TRCA, 2019)	None	Site Preparation and Servicing, Construction	
Installation of Services and Utilities	Site Preparation and Servicing	Increased nutrient and contaminant inputs to waterbodies	Minor	▪ Re-establish vegetation as soon as possible. ▪ Implement Restoration Plan within woodland buffer.	None	Construction, Post-Construction/Site Restoration	Monitor plantings/compensation to ensure proper establishment.
Installation of Services and Utilities	Site Preparation and Servicing	Disturbance to wildlife including sensitive species	Moderate	▪ Conduct work outside timing windows of sensitive species and time sensitive periods (Generalized Breeding Bird nesting period (Apr 1-Aug 30) and bat maternity window (Apr 1- Sept 30)).	None	Site Preparation and Servicing, Construction.	
Installation of Services and Utilities	Site Preparation and Servicing	Wildlife entering construction areas	Minor	▪ Develop & implement ESC plan to exclude wildlife	None	Site Preparation and Servicing, Construction	
Building Construction (including accessory uses and amenities)	Construction	Increased erosion, sedimentation and turbidity	Minor	▪ Maintain vegetated buffers. ▪ Develop sediment and erosion control plan per GGH Erosion and Sediment Control Guidelines (TRCA, 2019). ▪ Implement Restoration Plan within the woodland buffer using native species suitable to the moisture and soil conditions	None	Site Preparation and Servicing, Construction, Post-construction/Site Restoration.	Monitor plantings/compensation to ensure proper establishment.

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING[1,3]	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING[2,3]	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Building Construction (including accessory uses and amenities)	Construction	Increased impervious surfaces causing increased runoff, reduced infiltration and groundwater discharge	Moderate	▪ Implement a Restoration Plan within the woodland buffer Install native plantings suitable for the existing moisture and soil conditions. ▪ Implement infiltration techniques. ▪ Control quantity and quality of stormwater discharge.	Minor	Site Preparation and Servicing, Construction, Post-Construction/Site Restoration.	Monitor restoration/compensation plantings to ensure proper establishment.
Building Construction (including accessory uses and amenities)	Construction	Disturbance to wildlife from sounds and activity associated with occupancy	Minor	▪ Restrict access and buffer natural areas to discourage landowner encroachment and improper use. ▪ Provide homeowners manual to encourage stewardship ▪ Recommend native landscaping plants/materials to use within garden features.	Minor-None	Construction, Post-construction/Site Restoration.	
Building Construction (including accessory uses and amenities)	Construction	Loss of wildlife (mortality) due to collisions with buildings	Minor	▪ Design buildings to minimize/prevent mortality.	None	Construction, Post-construction/Site Restoration	
Use of Septic Systems	Post-Construction	Adverse effects to vegetation from faulty septic system	Minor	▪ Avoid installing system near sensitive vegetation or landforms	None	Construction, Post-construction/Site Restoration	
Human Occupation	Post-Construction	Noise and light pollution from pets and residents	Minor	▪ Provide homeowners manual to promote stewardship ▪ Direct outdoor lighting downwards. ▪ Install lighting that automatically turns off during certain hours.	Minor-None	Post-Construction	
Human Occupation	Post-Construction	Predation of wildlife by pets	Minor	▪ Provide homeowners manual to promote stewardship	Minor	Post-Construction	

ACTIVITY	PROJECT PHASE	POTENTIAL IMPACTS	INITIAL IMPACT RATING[1,3]	MITIGATION RECOMMENDATIONS/COMMENTS	FINAL IMPACT RATING[2,3]	PROPOSED IMPLEMENTATION PHASE	MONITORING/ FOLLOW-UP RECOMENDATIONS
Human Occupation	Post-Construction	Non-native species introductions, increased competition, predators, and parasites	Minor	• Create natural fences and berms within buffers to natural areas to reduce potential for dumping.	Minor-None	Post- Construction.	
Human Occupation	Post-Construction	Increased erosion and sedimentation from dumping of debris and compost in natural areas	Minor	• Create natural fences and berms within buffers to natural areas to reduce potential for dumping.	Minor-None	Post- Construction.	
Recreation Activities	Post-Construction	Introduction of invasive & non-native plant species	Minor	• Recommend native landscaping plants/materials to use within garden features.	Minor-None	Post- Construction	
Recreation Activities	Post-Construction	Attraction of some wildlife species and scavengers due to human activities, including garbage and bird feeders, causing increased human wildlife interactions	Minor	• Provide homeowners manual to promote stewardship	Minor	Post- Construction	

LEGEND:
[1] *Initial Impact* is a relative rating of the expected impact to occur in the absence of any mitigation measures. It evaluates the impact based on the duration, reversibility, extend of influence, frequency, existing ecological site context, likelihood of occurring and cumulative effects.

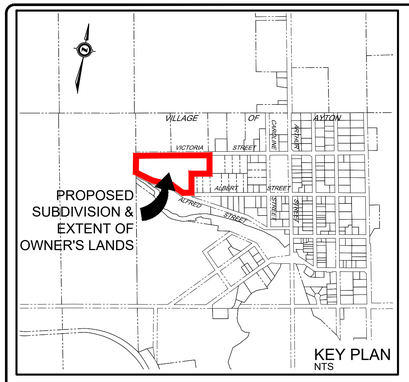
[2] *Actual Impact* is the expected impact in consideration of implementation of mitigation measures or where potential impact may cause little to no actual impact.

[3] *Impact Rating*

None: An event that, if it occurs, will cause no foreseeable impact.
Minor: An event that, if it occurs, will cause small, reversible, and geographically localized impact that can be easily mitigated.
Moderate: Significant but reversible, OR irreversible and geographically localized, impact that requires significant mitigation.
Severe: Significant AND irreversible impact on the environment, impacts cannot be fully mitigated.

APPENDIX 11

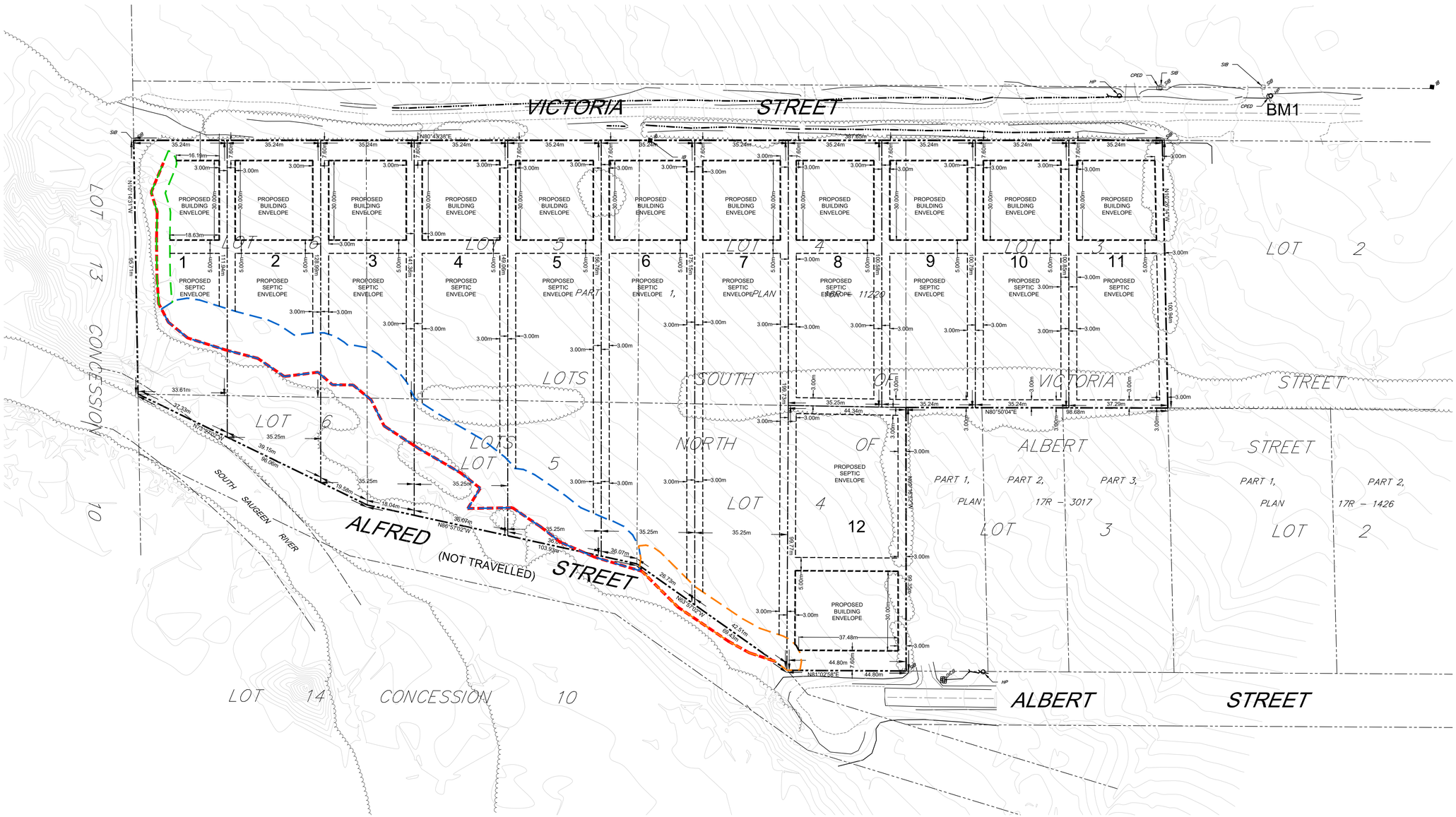
Proposed Draft Plan of Subdivision



LEGEND

- PROPERTY BOUNDARY
- PROPOSED STREET/PROPERTY LINES
- EDGE OF EXISTING PAVEMENT
- EDGE OF EXISTING GRAVEL
- DRIP LINE
- 5m WOODLAND BUFFER
- 10m WOODLAND BUFFER
- 15m WOODLAND BUFFER
- BM — BENCHMARK
- XXX.XX — EXISTING CONTOUR LINE
- EXISTING HYDRO GUY WIRE
- HP — EXISTING HYDRO POLE
- CATV — EXISTING CABLE TV PEDESTAL
- BPED — EXISTING TELEPHONE PEDESTAL
- SIB — STANDARD IRON BAR
- IB — IRON BAR
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- EXISTING TREE LINE

Lot Information												
Lot Number	1	2	3	4	5	6	7	8	9	10	11	12
Frontage (m)	35.24	35.24	35.24	35.24	35.24	35.24	35.24	35.24	35.24	35.24	35.24	44.8
Area (sq.m)	3566.7	4245.2	4805.0	5117.5	5388.8	5776.6	6584.3	3533.6	3550.0	3552.9	3658.8	4447.8



DRAFT PLAN OF SUBDIVISION

LOTS 3, 4, 5 & 6 SOUTH OF VICTORIA STREET
AND LOTS 4, 5 & 6 NORTH OF ALBERT STREET
REGISTERED PLAN No. 153
(VILLAGE OF AYTON)
GEOGRAPHIC TOWNSHIP OF NORMANBY
MUNICIPALITY OF WEST GREY
COUNTY OF GREY

RELEVANT SITE INFORMATION

DETACHED RESIDENTIAL LOTS (LOTS 1-12)	5.423 ha.
TOTAL PROPOSED SUBDIVISION	5.423 ha.

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 OF THE PLANNING ACT

a. AS SHOWN
b. AS SHOWN
c. AS SHOWN
d. SINGLE FAMILY RESIDENTIAL,
e. AS SHOWN
f. AS SHOWN
g. AS SHOWN
h. PRIVATE WELLS
i.SANDY SILT & GRAVEL
j. AS SHOWN
k. HYDRO, TELEPHONE
l. AS SHOWN

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:
THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE CORRECTLY SHOWN.

XX
DATE

D. A. CULBERT
ONTARIO LAND SURVEYOR
D. CULBERT LTD.

OWNER'S CERTIFICATE

I, THE REGISTERED OWNER OF THESE LANDS, HEREBY AUTHORIZE COBIDE ENGINEERING INC. TO SUBMIT THIS DRAFT PLAN FOR APPROVAL.

XX
DATE

XX

Notes

1. PROPERTY BOUNDARY DERIVED FROM INFROMATION SHOWN ON PLAN 16R-11220.
2. TOPOGRAPHICAL INFORMATION DERIVED FROM SURVEY PERFORMED BY COBIDE ENGINEERING INC. ON DECEMBER 08, 2023 & JANUARY 03, 2024.

Benchmark Information

BM1 — NAIL IN HYDRO POLE ON VICTORIA STREET AS SHOWN

ELEVATION 348.18m

SCALE 1:750 (24 x 36)

10 0 10 20 50 METRES
50 0 25 50 100 FEET

No.	DATE	DESCRIPTION	BY	APPD
2	AUG 13/24	REVISED PRELIMINARY SUBMISSION	TLB	SJC
1	FEB 14/24	REVISED PRELIMINARY SUBMISSION	TLB	SJC
0	OCT 23/23	PRELIMINARY SUBMISSION	TLB	SJC

REVISION / ISSUE

COBIDE ENGINEERING INC
517 - 10th STREET, Hanover, Ontario N4N 1R4
Telephone: (519) 506-5959
www.cobideeng.com

Client: DOMM CONSTRUCTION

Design:	TLB	Scale:	1:750
Drawn:	JAF	Approved:	
Checked:	SJC		
Date:	OCT 2023		Design Engineer

DRAWING No. 05069-DP1

H:\Domm Construction\05069 - Domm Subdivision - Ayton\Drawings\Submissions\2024-09-19 Draft Plan & BLDG Env\05069 Draft Plan 2024-09-19.dwg Sep 23, 2024 - 8:38am

APPENDIX 12

MECP Request for Information

ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects

3-5 Edinburgh Road South
Guelph . Ontario
N1H 5N8

T: 519.822.6839
info@aboudtng.com
www.aboudtng.com

May 2, 2023

Our Project #: AA23-087A
Sent by email: SAROntario@ontario.ca

Ministry of the Environment, Conservation and Parks
Permissions and Compliance Section, Species at Risk Branch

Re: 1035 Victoria Street, Ayton, Municipality of Grey West
Request for Species at Risk and Local Site Information

To whom it may concern:
Please accept this request for information regarding:
☒ Species at Risk

Any other possible site constraints or information would also be greatly appreciated as it applies to a scoped Environmental Impact Study for a proposed subdivision in the village of Ayton, Municipality of West Grey (Figure 1). The information provided will be used to inform the Terms of Reference and field program, which will be prepared in consultation with the Municipality of West Grey, Grey County and Saugeen Valley Conservation Authority (SVCA).

Project Proponent and Location

Proponent: Patterson Planning Consultants Inc.

Email Address: scott@lpplan.com

Township/Municipality: Municipality of Grey West

Lot/Concession: Lot 14, Concession 10

UTM Coordinates: 505062E 4877997N

Proposed Activity

The client requires the preparation of a scoped Environmental Impact Study to proceed with a proposed application for the development of a subdivision, including 13 lots, on the subject property. The scoped EIS must identify that the proposed development will not negatively impact the existing natural heritage features.

Existing Site Conditions

The subject property is located within a Secondary Settlement Area and contains lands designated as 'Hazard Lands' per the Grey County Official Plan (2019). The subject lands also contain Significant Woodlands and are adjacent to the Saugeen River to the south, and Significant Valleylands to the immediate west. The SVCA mapping tool indicates a portion of the subject lands are within the SVCA approximate regulated area.

Background Information

A thorough background search has been completed using available resources provided online related to the subject property and adjacent lands, and is listed below:

1. The Ontario Reptile and Amphibian Atlas indicates that eight species have been identified within the 10 x 10 km square containing the study area, including two species of conservation concern listed under SARO and SARA, respectively (Midland Painted Turtle (*Chrysemys picta marginata*) (NAR, SC), Snapping Turtle (*Chelydra serpentina*) (SC, SC)).

2. The Natural Heritage Information Center (NHIC) does not have any records of species of conservation concern within the 1km square containing the subject property, however it does not the presence of a mixed wader nesting colony.

3. The Ontario Mammal Atlas (1994) identified eight species within the 10 x 10 km square containing the subject property, none of which are considered species of conservation concern. It is expected that any Species at Risk Bat have the potential to occur in candidate trees that may occur on site.

4. The Ontario Breeding Bird Atlas 2 and 3 show within a 10 x 10 km square containing the subject lands, the recent and historical presence of 80 species of birds, including five species of conservation concern listed under SARO and SARA, respectively (Eastern Wood-pewee (*Contopus virens*) (SC, SC), Barn Swallow (*Hirundo rustica*) (SC, THR), Wood Thrush (*Hylocichla mustelina*) (SC, THR), Bobolink (*Dolichonyx oryzivorus)* (THR, THR) and Eastern Meadowlark (*Sturnella magna*) (THR, THR).

5. The Ontario Butterfly Atlas indicates the recent and historical presence of 24 species within the 10 x 10 km square containing the subject property, including one species of conservation concern (Monarch (*Danaus plexippus*) (SC, SC))

6. iNaturalist indicates the presence of 267 species within a radius of 1 km around the study area, including two species of conservation concern (Bald Eagle (*Haliaeetus leucocephalus*) (SC, NAR)), Monarch).

7. eBird reports 22 species from Normanby Tract, the closest reporting location to the study area, none of which are considered species of conservation concern.

8. The Federal Department of Fisheries and Oceans Aquatic Species at Risk mapping identified Species at Risk found (or potentially found) within proximity of the subject property include Rainbow (*Villosa iris*) (SC, SC).

9. A review of the SVCA web mapping identifies a portion of the subject property along the southwestern boundary is within the SVCA Regulation Limit.

10. A review of the Land Information Ontario mapping (2007) indicates the presence of an unevaluated wetland south of the subject property.

Please contact the undersigned should you require additional information of the above.

Sincerely,

ABOUD & ASSOCIATES INC.

Shannon Davison B. Env, Eco. Rest. Cert. CERPIT #0499
Ecologist
T:226.581.0707
sdavison@aboudtng.com

CC: Scott Patterson (Patterson Planning Consultants Inc.)
Cheryl-Anne Ross (Aboud & Associates Inc.)

Attachment: Figure 1. Study Area

S:\A+A Projects\2023\Approved\23-087A 1035 Victoria Street Ayton Scoped EIS\Approvals, Comments\MECP & MNDNRF\AA23-087A MECP Request for Information.docx

LEGEND

- STUDY AREA
- SUBJECT LANDS
- WATERCOURSE
- WETLAND
- WOODLAND

Information Sources:

1. Orthophotography provided by SWOOP Accessed April 2023.
2. Woodlands, wetlands & watercourse provided by LIO Open Data, Accessed April 2023.

Title:

STUDY AREA

Project:

1035 VICTORIA STREET
AYTON, ON

Date: APRIL 2023

Project: AA23-087A

Scale: 1 : 3500

ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects
3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8 . 519.822.6839 . www.aboudng.com

Figure No: 1

APPENDIX 13

MNRF Request for Information

ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects

3-5 Edinburgh Road South
Guelph . Ontario
N1H 5N8

T: 519.822.6839
info@aboudtng.com
www.aboudtng.com

May 2, 2023

Our Project #: AA23-087A
Sent by email: midhurstinfo@ontario.ca

Ministry of Natural Resources and Forestry
1450 7th Ave E
Owen Sound, ON N4K 2Z1

Re: 1035 Victoria Street, Ayton, Municipality of West Grey
Request for Local Site Information

Dear MNRF Staff:
Please accept this request for Information regarding:
☒ Fish Dot Information

Any other possible site constraints or information would also be greatly appreciated as it applies to a scoped Environmental Impact Study for a proposed subdivision in the village of Ayton (Figure 1). The information provided will be used to inform the Terms of Reference and field program, which will be prepared in consultation with the Saugeen Valley Conservation Authority (SVCA), Municipality of West Grey and Grey County.

Project Proponent and Location

Proponent: Patterson Planning Consultants Inc.

Email Address: Scott@lpplan.com

Municipality/Township: Municipality of Grey West

Lot: 14

Concession: 10

UTM Coordinates: 505062E 4877997N

Proposed Activity

The client requires the preparation of a scoped Environmental Impact Study to proceed with a proposed application for the development of a subdivision, including 13 lots, on the subject property. The scoped EIS must identify that the proposed development will not negatively impact the existing natural heritage features.

Existing Site Conditions

The subject property is located within a Secondary Settlement Area and contains lands designated as 'Hazard Lands' per the Grey County Official Plan (2019). The subject lands also contain Significant Woodlands and are adjacent to the Saugeen River to the south, and Significant Valleylands to the immediate west. The SVCA mapping tool indicates a portion of the subject lands are within the SVCA approximate regulated area.

Background Information

A thorough background search has been completed using available resources provided online related to the subject property and adjacent lands, and is listed below:

1. A review of the SVCA web mapping indicates that a portion of the subject lands along the south-western boundary are within the Regulation Limit.

2. A review of the Land Information Ontario mapping (2007) indicates the presence of an unevaluated wetland south of the subject property.

Please contact the undersigned should you require additional information of the above.
Kind regards,

ABOUD & ASSOCIATES INC.

Shannon Davison, B. Env. Eco. Rest. Cert. CERPIT #0499
Ecologist
T:226.581.0707
sdavison@aboudtng.com

CC: Scott Patterson (Patterson Planning Consultants Inc.)
Cheryl-Anne Ross (Aboud & Associates Inc.)

Attachment: Figure 1. Study Area

LEGEND

- STUDY AREA
- SUBJECT LANDS
- WATERCOURSE
- WETLAND
- WOODLAND

Information Sources:

1. Orthophotography provided by SWOOP Accessed April 2023.
2. Woodlands, wetlands & watercourse provided by LIO Open Data, Accessed April 2023.

Title:

STUDY AREA

Project:

1035 VICTORIA STREET
AYTON, ON

Date: APRIL 2023

Project: AA23-087A

Scale: 1 : 3500

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Figure No: 1

APPENDIX 14

Aquatic Habitat Assessment Site Photos

Aquatic Habitat Assessment Site 1

Aquatic Habitat Assessment Site 2

Aquatic Habitat Assessment Site 3

Aquatic Habitat Assessment Site 4

Aquatic Habitat Assessment Site 5

- Urban Forestry
- Ecological Restoration
- Landscape Architecture
- Environmental Studies
- Expert Opinion

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