

ENVIRONMENTAL IMPACT STUDY:
St. David St. N - South Lands
Fergus, ON

PREPARED FOR: Polocorp Inc.

DATE: February 2025

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LIMITATIONS OF USE

This document, St. David's St. Environmental Impact Study (EIS), was prepared by Dougan Ecology for Polocorp Inc. on March 3, 2025. The purpose of this document is to provide an ecological impact study (EIS) in support of a proposed residential development, at St. David's St. Fergus, ON.

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1. INTRODUCTION

1.1. Study Purpose & Objectives

Dougan Ecology (Dougan) was retained by Polocorp Inc. to complete a scoped Environmental Impact Study (EIS) in support of a Draft Plan approval for the St Davids St N (Highway 6) South Lands Development in Fergus (Figure 1).

The 19.39 ha development (site) lies within the Grand River Conservation Authority (GRCA) watershed and is located north of St. David Street N (Highway No. 6), east of existing commercial development, and south of existing agricultural lands in Fergus. The subject lands are largely agricultural and contain one (1) dwelling which is to remain post-development. Natural heritage features limited primarily to the southeastern corner including woodland and unevaluated wetland designated as Core Greenlands. These features trigger the need for an EIS under the Township of Centre Wellington Official Plan (2024).

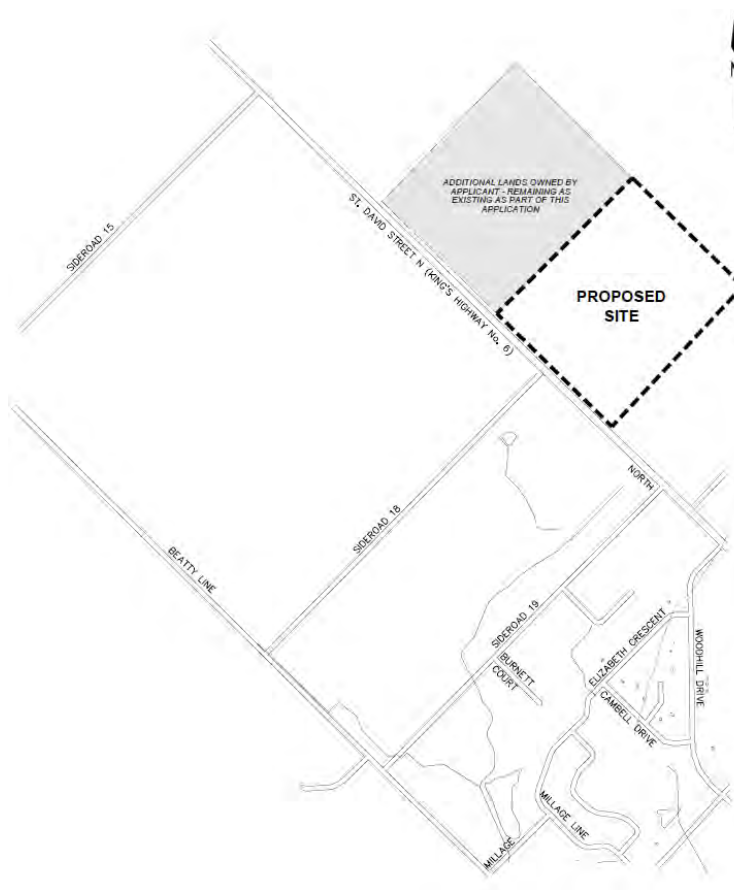


Figure 1. Site location (GEI, 2025)

1.2. Proposed Development

The proposed 19.39 ha residential development generally consists of 62-88 single-detached lots, 80-118 on-street townhouse units, 71-102 medium density residential units, 8-14 mixed use residential units, an open space block, internal roadways, and a stormwater management block (Appendix F). Connection to the site will be via the Street B connection to St. David Street N (Highway No. 6).

1.3. Terms of Reference

Dougan prepared a Terms of Reference (TOR) for the EIS, which was submitted to the client and agencies in May 2024. The TOR was prepared for the north and south lands combined, and studies were undertaken in 2024 across both properties. This EIS contains findings for the south lands only. A separate EIS will be prepared under separate cover for the north lands.

The County of Wellington states that Environmental Impact Assessments (equivalent of an EIS by County of Wellington standards) prepared by a qualified person may be required to evaluate the impacts a proposed development may have on the natural environment and the means by which negative impacts may be reduced or eliminated should the proposed development be major in nature with the potential for significant potential impacts. Specifically, development or site alteration adjacent to significant habitat of endangered or threatened species shall require a satisfactory Environmental Impact Assessment that demonstrates there will be no negative impact on the significant habitat of endangered or threatened species or its ecological function. Generally, development is discouraged within Environmental Constraint Areas that as it would detract from the functions performed by the natural environment such as groundwater recharge, erosion control, wildlife habitat, or where environmental constraints exist. However, such development may be permitted where it can be demonstrated that the proposal will not adversely affect the Environmental Constraint Areas (County of Wellington, 2024).

This EIS serves as a due diligence exercise to screen for ancillary impacts of the proposed development on the adjacent natural feature and any additional natural heritage constraints within the study area. The final EIS will meet the criteria outlined in Section E.1.3 of the Centre Wellington OP as well as the GRCA EIS guideline document including the following components:

- description of the proposal;
- description of the existing land use and surrounding environment, including adjacent lands;

- identification and assessment of the potential impacts of the proposal on the environment and the significant features and functions of the natural heritage features;
- assessment of the potential effects of the proposal such as enhancement and/or restoration of significant features;
- delineation of any environmental constraint area on a site plan;
- assessment of the feasibility of alternative mitigation measures or techniques and the ability of such measures to prevent or minimize impacts;
- recommendations on the advisability of proceeding with the proposal, appropriate mitigation measures, changes to the proposal;
- a statement of the relative environmental and ecological significance of the nature features and functions affected by the proposal;
- a statement that there are no negative impacts on provincially significant natural heritage features and functions; and,
- if necessary, recommendations relating to a monitoring plan and contingency plans and funds should the proposal result in any unexpected impacts to the natural features.

The study area for the EIS includes the properties and 120 m adjacent lands (Map 2). Based on the TOR, the scope of this EIS includes:

- Background and Policy Review
- Significant Wildlife Habitat (SWH) Screening
- Species at Risk (SAR) Screening
- Ecological Land Classification (ELC)
- Botanical Inventory (3 surveys: spring, summer, fall)
- Tree Inventory and Arborist Assessment
- Breeding Bird Surveys (2 surveys: May 24-July 10)
- Nocturnal Amphibian Call Surveys (3 surveys: April, May, June)
- Bat Visual Exit Surveys (VES) (2 surveys in June)
- Incidental Wildlife Observations

Table 1 summarizes the field surveys completed in accordance with the Terms of Reference.



Table 1: Summary of Field Surveys Completed to Date vs. Outstanding Data

Field Surveys Required	Completed and Included Within this Report
Ecological Land Classification (ELC)	3 visits: Fall 2023, Spring 2024, Summer 2024
Botanical Inventory (3 surveys: spring, summer, fall)	3 visits: Fall 2023, Spring 2024, Summer 2024
Tree Inventory and Arborist Assessment	Fall 2023
Breeding Bird Surveys (2 surveys: May 24-July 10)	2 visits: May 2024, June 2024
Nocturnal Amphibian Call Surveys (3 surveys: April, May, June)	2 visits: May 2024, June 2024*
Bat Visual Exit Surveys (VES) (2 surveys in June)	2 visits: June 2024
Incidental Wildlife Observations	Observations submitted alongside completed surveys listed above

**First window (April) of Nocturnal Amphibian Call Surveys was missed due to the timing of initiation of this report, therefore, will be surveyed in April of 2025. However, for the purpose of this EIS a safe assumption has been made by Dougan ecologists depicting what species are expected to have been observed during the April survey window.*

For further details on the scope of this EIS, please see Appendix G: Approved Terms of Reference (TOR).

1.4. Background Review

1.4.1. Natural Heritage Information Centre (NHIC) Biodiversity Atlas

The NHIC maintains a database of information on natural heritage features and rare species occurrences in Ontario using a 1km x 1km data grid. The NHIC database was reviewed to identify any known natural heritage features or species at risk records within the subject and adjacent lands (data squares 17NJ4841, 17NJ4840, 17NJ4940, and 17NJ4941). The results of the NHIC query can be found in Appendix A.

1.4.2. GRCA Mapping

Subject to the Conservation Authorities Act, the Grand River Conservation Authority (GRCA) regulates development and activities in or adjacent to natural hazard features (i.e. watercourses, wetlands, steep slopes, shorelines). GRCA regulation mapping was reviewed to identify the approximate regulation boundaries within and adjacent to the study area to inform future permitting requirements. Upon review, it was found that portions of the site are within the GRCA regulated area (Ontario Regulation 41/24) and

they will need to be consulted in order to proceed with the proposed development. See Map 4 for a depiction of the GRCA regulated area relative to the site.

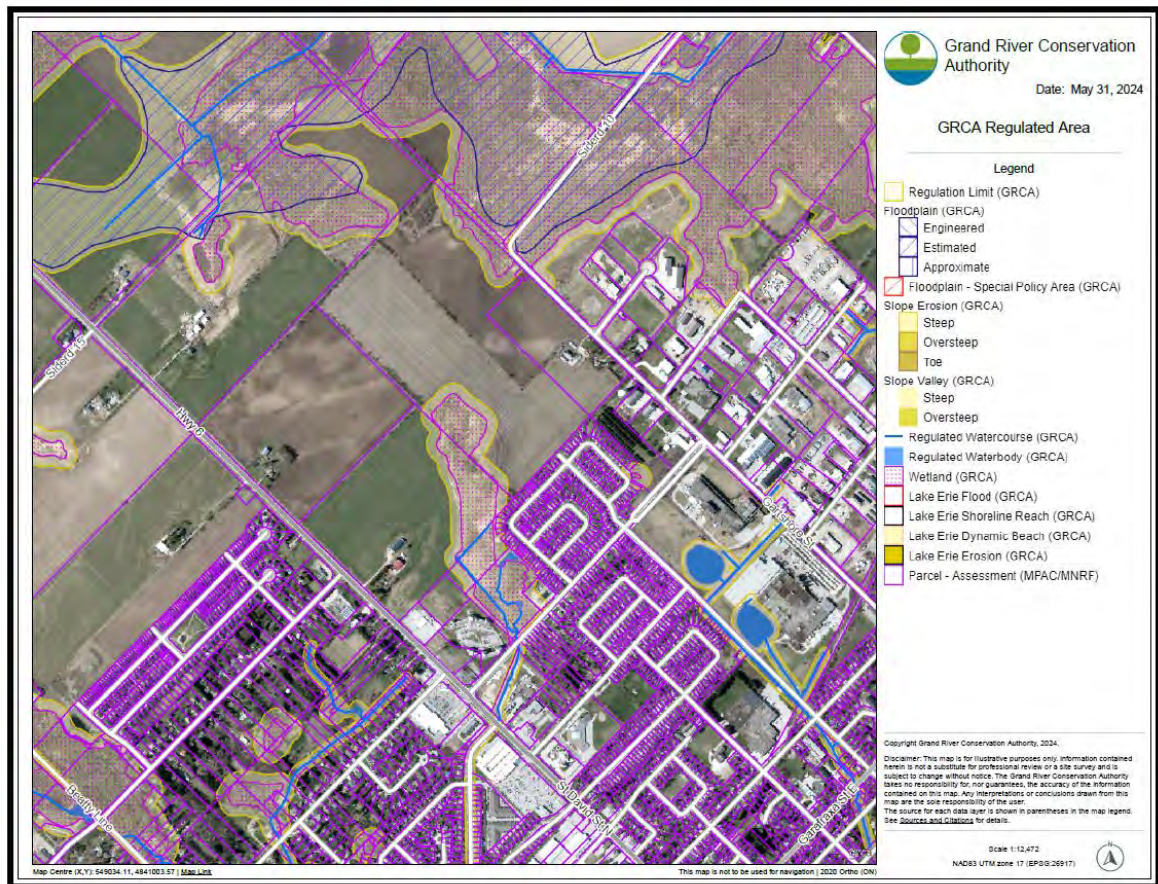


Figure 2: GRCA Regulated Areas for the Subject and Adjacent Lands

1.4.3. Global Biodiversity Information Facility

The Global Biodiversity Information Facility (GBIF) is a platform that compiles and provides access to a vast global database of biodiversity information, including records of various species and their occurrences from around the world. To assess the presence of natural heritage features and records of species at risk within the study area, a query was conducted in the GBIF database, encompassing not only the specific study area but also its adjacent lands and the surrounding regions. The results of this GBIF query can be found in Appendix A.

1.4.4. Online Citizen Science Databases

iNaturalist

iNaturalist is an online platform and mobile app that encourages individuals to observe, document, and share their observations of the natural world, including plants, animals, and fungi. iNaturalist serves as a valuable tool for biodiversity research and

citizen science, enabling people to contribute to a global database of species observations and supporting conservation efforts. iNaturalist records were queried and results can be found in Appendix A.

Nature Counts

Nature Counts is an online platform that allows users to collect, archive, interpret and access wildlife data to advance the understanding of bird populations across the Western Hemisphere. It is a program of Birds Canada and is partnered with the Avian Knowledge Network. Nature Counts records were queried and examined data from the Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas and the Ontario Butterfly Atlas. Results of this query can be found in Appendix A.

2. METHODS

2.1. Vegetation

2.1.1. Ecological Land Classification (ELC)

This EIS report contains vegetation data collected from fall, spring and summer vegetation surveys that were completed on September 20, 2023, June 6, 2024, and July 23, 2024, respectively.

Vegetation communities within the study area were characterized according to the Ecological Land Classification (ELC) System protocol for Southern Ontario, 1st approximation (Lee et al., 1998). ELC classification and mapping was produced via high quality aerial photo interpretation and confirmation through field surveys.

All vascular plant species encountered within the canopy, sub-canopy, understory, or ground layer were recorded along with relative abundance. Soil texture and moisture regime were also characterized within one of the polygons to confirm the wetland boundary. ELC field data was linked to mapped ELC units in an ArcGIS feature class where it was managed, reviewed, and exported for analysis and reporting.

2.1.2. Vascular Plant Inventory

Vascular plant inventories were carried out simultaneously with the ELC surveys that occurred on the above dates in September 2023 and June and July 2024.

Vascular plant surveys involved taking an inventory of vascular plant species growing within each ELC polygon. A plant list was collected and digitally uploaded to an ArcGIS database to facilitate data management, QA/QC, analysis, and mapping. The taxonomy, nomenclature and provincial ranks for each of the species are consistent with the Natural Heritage Information Centre. Plant rarity status was assessed using



COSEWIC rankings for federal status (COSEWIC, 2023), SARO ranks for Species at Risk in Ontario (NHIC, 2021), and Srank for rarity in Ontario (NHIC, 2021). Local status will be based on the information provided within The Flora of Wellington County (Frank and Anderson, 2009).

2.1.3. Tree Inventory & Arborist Assessment

An inventory and arborist assessment of all trees within the anticipated limit of development (LOD) was completed as part of the Arborist Report and Tree Preservation Plan (TPP) for St David St, submitted under separate cover (Dougan, 2024). The arborist assessment was completed by an International Society of Arboriculture (ISA) Certified Arborist on October 3 and 12, 2023. All trees 10 cm DBH (diameter at breast height) and over were tagged and documented using a custom Survey 123 ArcGIS application and geolocated using the Trimble Catalyst GNSS receiver.

The following data was collected on each tree:

- Unique tree tag number;
- Species (common name, botanical name);
- DBH recorded at 1.4m (in cm);
- Crown reserve i.e. canopy diameter (in m);
- Tree height (in m);
- Structure condition (high, medium, low);
- Biological health (high, medium, low);
- Preservation priority (high, medium low);
- Any additional comments.

For further details, please refer to the Arborist Report and Tree Preservation Plan (TPP) for St. David St. (Dougan, 2024).

2.2. Wildlife

2.2.1. Nocturnal Amphibian Call Surveys

Nocturnal amphibian call surveys (NACS) were conducted in accordance with the Marsh Monitoring Program (BSC, 2009). Three (3) visits are required in late April, May and June to ensure that all frog species' calling windows are covered during surveys. Surveys commenced 30 minutes after sunset and were concluded by midnight under appropriate weather conditions stipulated in the Marsh Monitoring Program (i.e. low



winds, no rain, minimum temperature thresholds met). Due to the timing of project award, the April 2024 survey window was missed; therefore this submission includes NACS findings for May and June only. The final round of surveys are scheduled for April 2025.

2.2.2. Breeding Bird Surveys

Two (2) breeding bird surveys were completed for this site by a qualified avian ecologist, as per the Ontario Breeding Bird Atlas (2021) protocol, with surveys taking place between May 24 and July 10. Surveys were carried out at least seven days apart between sunrise and approximately 10:00 am, under suitable weather conditions (i.e. light winds, good visibility, and no heavy rain). Breeding bird surveys were conducted using an area search methodology, to ensure full coverage of the site and its varying habitats. In addition to species and numbers of individuals, breeding evidence was also documented.

2.2.3. Bat Habitat & Visual Exit Surveys

An assessment of candidate bat roosting trees within the anticipated limit of development was undertaken during the arborist assessment in September 2023. Trees 25cm DBH or greater that were in various levels of decline exhibiting snag characteristics such as cracks, crevices, loose bark etc. were identified as candidate roosting trees.

Following an assessment of the structures on site, visual exit surveys of the on-site barn (Map 2) were undertaken on June 18 and 26, 2024. Surveys were undertaken in accordance with MECP's *Use of Buildings by Species at Risk Bats Survey Methodology* whereby surveys occurred under appropriate weather conditions; surveyors were in place by sunset with a clear view of suitable exit holes. Surveys occurred for 1 hour after the first bat emerged or for 1.5 hours after sunset, if no bats were seen emerging. Wildlife Acoustics Echo Meter Touch 2 Pro units were used during surveys to capture species occurrences. Manual vetting of auto-identified bat species was completed following surveys using Kaleidoscope Pro software.

2.2.4. Incidental Wildlife

All wildlife encountered incidentally during the completion of other surveys on site were recorded and assessed for significance. This includes direct observations and detection of evidence, including tracks and other sign, particularly of mammals. Incidental observations will be captured concurrently with all field investigations.



2.3. Special Features & Ecological Functions

2.3.1. Species at Risk (SAR)

A Species at Risk (SAR) screening was undertaken based on background records gleaned from available sources (ref. section 1.3) and species records confirmed during fieldwork.

2.3.2. Significant Wildlife Habitat (SWH)

An SWH desktop screening was conducted based on the MNRF's (2015) Significant Wildlife Habitat Criteria for Ecoregion 6E. On-site habitat and results of targeted fieldwork completed thus far in 2023 and 2024 informed the overall SWH status as absent, candidate, or confirmed.

2.3.3. Woodlands

Woodlands were identified based on MNRF online natural heritage mapping and onsite Ecological Land Classification assessment. The Wellington County Official Plan (2024) provides local policy guidance on assessing the significance of woodlands, which were referenced in this assessment. The dripline of the woodland/wetland complex in the southeast corner of the site were delineated by Dougan in 2023 and a significance assessment was conducted based on Official Plan (2024) criteria (ref. section 3.4.3 and Map 1).

2.3.4. Wetlands

Provincial LIO (Land Information Ontario) and GRCA online mapping identified an unevaluated wetland in the southeast corner of the property, which is also mapped as Core Greenlands in the County of Wellington Official Plan (2024) (ref. Map 4).

The wetland extent was confirmed through a boundary delineation conducted by Dougan in 2023 (Map 1). Buffer requirements and mitigation recommendations are provided in section 8 of this report.

2.4. Geotechnical (CVDE, 2024)

A Preliminary Geotechnical Investigation was completed by Chung & Vander Doelen Engineering's (CVDE) (2024) to determine the subsurface conditions and relevant soil properties on site. Preliminary geotechnical recommendations were provided for the design and construction of site grading operations, municipal site servicing, internal roadways, and residential foundations.

Eight (8) of the originally seventeen (17) proposed boreholes were completed to depths between 5.20 and 8.25 m below existing grade between January 15 to 17,

2024. The remaining nine (9) boreholes are anticipated to be completed as part of the final geotechnical investigation.

2.5. Hydrogeology (CVDE, 2024)

A Preliminary Hydrogeological Investigation was completed by Chung & Vander Doelen Engineering Ltd. in 2024. A total of five (5) monitoring wells and four (4) shallow piezometers were installed between December 2023 and March 2024, as well as three (3) additional monitoring wells on the adjacent property owned by the applicant.

2.6. Functional Servicing and Stormwater Management (GEI, 2025)

GEI Consultants Canada Ltd. prepared a Functional Servicing Report (FSR) to address the site servicing and stormwater management requirements for the proposed development in support of the Draft Plan approval, dated February 2025.

This report includes an assessment of the following items related to the proposed development:

- Site grading;
- Streets;
- Water supply;
- Sanitary and storm sewers;
- Stormwater management;
- Preliminary infiltration assessment;
- Sediment and erosion control plan; and
- Maintenance plan.

Details on the proposed servicing and stormwater management for the site are provided in section 6.

3. EXISTING CONDITIONS

3.1. Physiography & Topography

The site is positioned within the Lake Simcoe Rideau ecoregion of Ontario, with the property resting within the Guelph Drumlin Field, an area of drumlinized till plain and glacial spillways (Chapman & Putnam, 2007). The soils in this area are primarily loam,



but with some fine sandy loam pockets and rest atop glacial till parent material derived from underlying limestone (Ontario Geological Survey, 2010).

According to GEI's FSR (2025), most of the site drains in a sheetflow pattern toward the wetland on the northeast edge. A smaller section of the site along the southern boundary flows southward into a roadside ditch along the Highway 6 right-of-way. This ditch eventually empties into a regulated watercourse located downstream of the wetland on the northeast side.

Three soil surveys were completed at three locations in order to confirm ELC vegetation communities, specifically which ones constituted part of the unevaluated wetland. The first survey was conducted within Polygon 1 (MAM2-10 Forb Mineral Meadow Marsh, Map 1) to confirm the wetland boundary (see Figure 2 below for the specific location), the second within Polygon 2 (SWM3-1) and the third within the inclusion of Polygon 3 (MAM2-10), both to supplement the ELC vegetation communities taken last and confirm wetland status. Soils within all three polygons extended beyond the length of the soil auger (i.e. did not hit bedrock) indicating that the soils were > 120cm in depth. Each of the three soil samples taken consisted of only two horizons (A and B) and revealed rich dark brown mineral soils likely with much organic matter mixed in to the A horizon (also known as an Ah layer). Within Polygon 1, the B horizon was textured as Sandy Clay Loam (SCL) and was the diagnostic horizon in terms of moisture and drainage and yielded a moisture of moist with poor drainage, and with a depth to gley of 40cm, depth to mottles of 42cm, and a depth to the water table of 80cm. The soil sample taken within the inclusion of Polygon 2 also demonstrated a diagnostic B horizon with a texture of Sandy Loam (SL) and yielded a moisture regime of moist with imperfect drainage a depth to mottles of 32cm and depth to the water table of 52cm. Soils in Polygon 3 revealed a diagnostic B layer with a texture of Loamy Sand (LS), which provided a moisture regime of moderately moist with imperfect drainage, a depth to mottles of 35cm and a depth to the water table of 55cm.





Figure 3: Soil sample locations (red X) on the St. David's South Lands Property.

3.2. Vegetation

3.2.1. Ecological Land Classification

A total of 16 ELC polygons were documented on subject and adjacent lands composed of 6 unique vegetation community types (Table 2). A full discussion of these communities can be found below. See Map 1 for locations of ELC polygons on subject and adjacent lands.

Table 2: Summary Community Series

COMMUNITY SERIES	POLYGON NO.	INCLUSION	On Subject Lands	Total Area (ha)
MAM2-10 - Forb Mineral Meadow Marsh	1	SWD4-1 - Willow Mineral Deciduous Swamp	Yes	1.72



		FOD8-1 - Fresh-Moist Poplar Deciduous Forest		
SWM3-1 - Birch Conifer Mineral Mixed Swamp	2	FOD8-1 - Fresh-Moist Poplar Deciduous Forest	Partially	0.89
CUM1 - Mineral Cultural Meadow	3	MAM2-10 - Forb Mineral Meadow Marsh	Yes	0.06
SWM3-2 - Poplar-Conifer Mineral Mixed Swamp	4	---	Yes	0.20
FOD8-1 - Fresh-Moist Poplar Deciduous Forest	5	---	Yes	0.53
AGR - Agricultural	6	---	Yes	20.92
ANTH - Anthropogenic	7	---	Yes	1.73
HR - Hedgerow	8	---	Yes	0.20
AGR - Agricultural	13	---	No*	3.76
AGR - Agricultural	15	---	No*	< 0.01
ANTH - Anthropogenic	16	---	No*	8.12
AGR - Agricultural	17	---	No*	1.24
CUM - Cultural Meadow	18	---	No*	1.68
ANTH - Anthropogenic	19	---	No*	2.53
MAM - Meadow Marsh	21	---	No*	1.01
FOD8-1 - Fresh-Moist Polar Deciduous Forest	22	---	No*	0.58

*Polygon is present within 120m adjacent lands. Surveyors did not have access to these lands; vegetation communities were assessed based on visual inspection from the subject lands.

Polygon 1: Forb Mineral Meadow Marsh (MAM2-10) / Inclusion: Willow Mineral Deciduous Swamp (SWD4-1) and Fresh-Moist Poplar Deciduous Forest (FOD8-1)

Polygon 1 is a forb mineral meadow marsh that is comprised mostly of an understory and a ground layer, with some Willow species (*Salix sp.*) sparsely making up the subcanopy later. The most abundant understory species are Canada Goldenrod (*Solidago canadensis*), Panicked Aster (*Symphyotrichum lanceolatum*), Spotted Jewelweed (*Impatiens capensis*) and Spotted Joe Pye Weed (*Eutrochium maculatum*).



The ground layer is dominated by Kentucky Bluegrass (*Poa pratensis*), Common Timothy (*Phleum pratense*) and a number of sedge species including Bebb's Sedge (*Carex bebbii*), Slender Loose-flowered Sedge (*Carex gracilescens*) and Awl-fruited sedge (*Carex stipata*).

Embedded within Polygon 1 is a willow mineral deciduous swamp inclusion at the southernmost tip of the feature. The dominant and only canopy species in this inclusion is Crack Willow (*Salix euxina*), likely because it has shaded out all other potential canopy species. The understory and ground layer are primarily composed of invasive species including European Buckthorn (*Rhamnus cathartica*) most prevalent in the understory and Garlic Mustard (*Alliaria petiolata*) in the ground layer.

Also embedded within Polygon 1 is a small fresh-moist poplar deciduous forest stand located in the center of the polygon dominated by Trembling Aspen (*Populus tremuloides*) with little to no subcanopy or understory, and almost completely Spotted Jewelweed (*Impatiens capensis*) as the ground cover.

Polygon 2: Birch Conifer Mineral Mixed Swamp (SWM3-1) / Inclusion: Fresh-Moist Poplar Deciduous Forest (FOD8-1)

This polygon is comprised of a birch conifer organic mixed swamp. The canopy and subcanopy are primarily Eastern White Cedar (*Thuja occidentalis*) and some very old Yellow Birch (*Betula alleghaniensis*). The understory is made up of mostly North American Red Raspberry (*Rubus idaeus* spp. *strigosus*), Spotted Jewelweed (*Impatiens capensis*) and Canada Goldenrod (*Solidago canadensis*), all of which have been heavily browsed by deer. The ground layer is mostly Garlic Mustard (*Alliaria petiolata*), White Avens (*Geum canadense*) and Northeastern Lady Fern (*Athyrium filix-femina* var. *angustum*). This polygon is also where the Butternut (*Juglans cinerea*) later found to be a hybrid Butternut x Japanese Walnut (*J. cinerea* x *J. ailantifolia*) through genetic testing, was found. Note that during the spring 2024 visit, 4 additional butternut trees (presumed to be hybrid due to the proximity to the tree that was sent for genetic testing) were found within this polygon (3 saplings and 1 tree).

A small pocket of fresh-moist poplar deciduous forest adjacent to the forb organic meadow marsh (Polygon 1) was present as an inclusion within Polygon 2. This inclusion is dominated by Trembling Aspen (*Populus tremuloides*) in the dense canopy and subcanopy, followed by Eastern White Cedar (*Thuja occidentalis*) and Alternate-leaved Dogwood (*Cornus alternifolia*) in the subcanopy. The understory is composed of mostly North American Red Raspberry (*Rubus idaeus* spp. *strigosus*) and Red Osier Dogwood (*Cornus sericea*). Garlic Mustard (*Alliaria petiolata*) dominates the ground layer followed by Wood Avens (*Geum urbanum*). There is also a significant amount of garbage (i.e. old farming equipment) and dumping within this portion of the polygon.



Polygon 3: Mineral Cultural Meadow (CUM1) / Inclusion: Forb Mineral Meadow Marsh (MAM2-10)

Polygon 3 is a mineral cultural meadow where there is no canopy or subcanopy and where Reed Canary Grass (*Phalaris arundinacea*), Canada Goldenrod (*Solidago canadensis*) and Panicked Aster (*Symphyotrichum lanceolatum*) are most abundant. In the ground layer, the grasses are the dominant group which include Kentucky Blue Grass (*Poa pratense*) and Creeping Bentgrass (*Agrostis stolonifera*) being the most abundant species. This polygon also is largely dumped/waste soil with old farm equipment.

Embedded within Polygon 3 is a reed-canary grass bedrock meadow marsh inclusion that is dominated by Reed-Canary Grass (*Phalaris arundinacea*) in the understory. This is a very common invasive species that often outcompetes other species by altering soil conditions to make them more favourable for its growth. In addition to this species, the understory also consists of young Trembling Aspen saplings and Narrow-leafed Cattail (*Typha angustifolia*).

Polygon 4: Poplar-Conifer Mineral Mixed Swamp (SWM3-2)

Polygon 4 is a poplar-conifer mixed swamp primarily containing Balsam Poplar (*Populus balsamifera*) and Trembling Aspen (*Populus tremuloides*) in the canopy. The same two species are most prevalent within the subcanopy, but with the addition of Eastern White Cedar (*Thuja occidentalis*). North American Red Raspberry (*Rubus idaeus* spp. *strigosus*), Red Oiser Dogwood (*Cornus sericea*) and Elderberry (*Sambucus canadensis*) are the most abundant species in the understory. Garlic Mustard (*Alliaria petiolata*) is the dominant ground cover followed by Spotted Jewelweed and young North American Red Raspberry (*Rubus idaeus* spp. *strigosus*).

Polygon 5: Fresh-Moist Poplar Deciduous Forest (FOD8-1)

Similar to Polygon 2, Polygon 5 is a fresh-moist poplar deciduous forest dominated entirely by Trembling Aspen in the canopy (*Populus tremuloides*). The subcanopy is mainly European Buckthorn (*Rhamnus cathartica*) followed by some smaller Trembling Aspen (*Populus tremuloides*) and Red Ash (*Fraxinus pennsylvanica*). The understory is composed mostly of Red Osier Dogwood (*Cornus sericea*) and Common Elderberry (*Sambucus canadensis*), while the ground layer contains many Trembling Aspen (*Populus tremuloides*) saplings, Wood Aven (*Geum urbanum*), Wild Strawberry (*Fragaria virginiana*) and Thicket Creeper (*Parthenocissus vitacea*).

Polygon 6: Agricultural (AGR)

Polygon 6 is an agricultural field spanning both farm properties of the St. David's St. N site. The primary species is alfalfa and occurs in the ground layer, likely to provide the soil with nitrogen for future farming endeavors. During the spring of 2024, the property was revisited and the farm property containing the environmental feature at the east corner appears to contain hay grasses (i.e. alfalfa and tall grasses) but is very long and



possibly been left to fallow for this year. The neighbouring field on the other farm property has been planted with barley.

Polygon 7: Anthropogenic (ANTH)

This anthropogenic polygon is mostly dominated by open lawn and mowed grass. Some mature trees are present in the canopy with little to no natural understory or ground layer present. The main house is central to the polygon, accompanied by landscaped gardens, a driveway, a garage and a couple of barns. The adjacent strip of wrapped hay bales leading back to the feature is also included in this polygon. The most abundant trees planted near the buildings are White Spruce (*Picea glauca*) and Sugar Maple (*Acer saccharum*).

Polygon 8: Hedgerow (HR)

This hedgerow polygon stretches from the edge of the feature along the back of the property to the far corner of the second farm field. The hedgerow mainly consists of Black Cherry (*Prunus serotina*) and Sugar Maple (*Acer saccharum*) with some scattered White Ash (*Fraxinus americana*) snags. Beneath the trees are dense stands of European Buckthorn (*Rhamnus cathartica*).

Polygon 13: Agricultural (AGR)

No access, determined visually from subject lands.

Polygon 15: Agricultural (AGR)

No access, determined visually from subject lands.

Polygon 16: Anthropogenic (ANTH)

No access, determined visually from subject lands.

Polygon 17: Agricultural (AGR)

No access, determined visually from subject lands.

Polygon 18: Cultural Meadow (CUM)

No access, determined visually from subject lands.

Polygon 19: Anthropogenic (ANTH)

No access, determined visually from subject lands.

Polygon 21: Meadow Marsh (MAM)

No access, determined visually from subject lands.

Polygon 22: Fresh-Moist Poplar Deciduous Forest (FOD8-1)

No access, determined visually from subject lands.



3.2.2. Vascular Plant Inventory

Of the 177 vascular plants observed on site, 156 were identified to species level with 21 identified to genus level only. Of the species identified to species level, 104 (67%) are native and 52 (33%) are considered introduced.

A potential Butternut (*Juglans cinerea*) was recorded in ELC polygon 2. This Species at Risk is designated Endangered by COSEWIC, SARA and SARO. It is also ranked S2? within the province, indicating that it is considered provincially imperiled, but there is some level of uncertainty regarding status. A sample collected from this tree was sent to NatureMetrics for genetic testing to confirm if it was a true butternut or a hybrid. Results from the genetic analysis revealed that the tree is a hybrid between Butternut and Japanese Walnut (*J. cinerea* x *J. ailantifolia*) and therefore, not a Species at Risk and not subject to policy protections. One additional species of provincial significance was recorded; Cup Plant (*Silphium perfoliatum*). This species is ranked S2, indicating that it is considered imperiled within the province. The origin of this species at the site, whether naturally occurring or a horticultural escape, is undetermined. The population of Cup Plant is located in ELC polygon 3 near the agricultural field edge. Although the Cup Plant appears to be naturally occurring based on the context in which it is growing, the site location is somewhat outside of this species' typical native habitat and range suggesting that it may have originated from horticultural materials (i.e. dumped garden waste).

Three (3) regionally rare species were recorded based on the Flora of Wellington County status (2009). Two species ranked R1 (known from 1 – 3 sites in the County) were recorded including Round-leaved Dogwood, and Downy Willowherb. One additional species ranked R3 (documented from 6 – 10 sites in the County) was recorded; Common Woolly Bulrush.

An assessment of vegetation quality was undertaken using the Coefficient of Conservatism (CC). This is a value (0 to 10) assigned to native species in Ontario based on their degree of fidelity to a specific vegetation community type (Oldham et al., 1999). Of the 156 species identified to species level, 101 have been assigned CC values. Of these 101 species, 48 had CC values in the range of 0 – 3. These species are typically more generalist species found in a range of habitat conditions and often at disturbed sites. Forty seven (47) plant species were recorded with CC values in the mid-range from 4 – 6. Lastly, there were 6 plant species recorded with high CC values in the 7 – 10 range. The average CC for the St. David's St. property is 3.6, indicating a relatively low quality and highly disturbed site.

For a comprehensive list of all plants found on the property see Appendix B.

3.2.3. Tree Inventory & Arborist Assessment

A total of 159 trees of 10 cm DBH or larger were tagged and assessed within the anticipated disturbance limit and overlapping natural heritage features, comprised of 21 species. Of the 21 species observed, the most frequently encountered species were native species including White Spruce (*Picea glauca*), Trembling Aspen (*Populus tremuloides*), and Black Cherry (*Prunus serotina*).

Surveyed trees were composed of 74% native and 26% non-native species.

The majority of the trees were assessed as having medium structural condition and high biological health (Table 3). The rankings are based on the following criteria:

Structural Condition: Related to defects in a tree's structure, (i.e., lean, codominant trunks).

- High - No structural defects, well-developed crown.
- Medium - Presence of minor structural defects.
- Low - Presence of major structural defects including drastic leans and imminent branch and/or trunk failure.

Biological Health: Related to presence and extent of disease/disease symptoms and the vigour of the tree.

- High - No diseases/disease symptoms present, and moderate to high vigour.
- Medium - Presence of minor diseases/disease symptoms, and/or moderate vigour.
- Low - Presence of major diseases/disease symptoms, (i.e., extensive crown dieback), and/or severely poor vigour.

Preservation Priority: A rating of each tree's projected survival related to existing conditions.

- High - High to moderate biological health, and well developed crown. Well suited as a shade tree or screen planting. Will survive existing conditions indefinitely.
- Medium - One or more moderate to severe defects in biological health and/or structural condition. Marginally suited as a shade tree or screen planting. Can survive at least 3 - 5 years under existing conditions.
- Low - Low biological health and/or severely damaged/defective structural condition, and/or unsuitable for urban uses. If biologically defective, survival for more than 1-3 years under existing conditions is unlikely.



Table 3: Summary of Structural Condition, Biological Health, and Preservation Priority of Inventoried Trees

Arborist's Ranking	Number of Trees		
	Structural Condition	Biological Health	Preservation Priority
High	63	92	72
Medium	74	56	75
Low	22	11	12
Total	159	159	159

For further details, please refer to the Arborist Report and Tree Preservation Plan for St David St South Lands (Dougan, 2024).

3.3. Wildlife

3.3.1. Nocturnal Amphibian Call Surveys

A total of four (4) species of amphibians were heard calling during targeted nocturnal call surveys at station 1 (Map 2). American Toad (*Anaxyrus americanus*), Gray Treefrog (*Dryophytes versicolor*), Green Frog (*Lithobates clamitans*) and Spring Peeper (*Pseudacris crucifer*) are all native amphibians that are commonly found within the region. All four species were assigned an Srank of S5 by the Natural Heritage Information Center (NHIC 2021), indicating the stability of populations at the provincial level.

American Toad (2 individuals), Gray Treefrog (2 individuals), and Spring Peeper (1 individual) were detected at station 1 during the first May NACS survey, never exceeding call code 1 (individuals can be counted; calls not simultaneous). Gray Treefrog (1 individual) was also detected during the June visit, along with a full chorus of Green Frog (calls continuous and overlapping, reliable counts are unrealistic).

A final visit will be completed in April 2025.

3.3.2. Breeding Bird Surveys

A total of thirty-six (36) bird species were recorded during two rounds of breeding bird surveys (BBS). Of these, thirty-two (32) were exhibiting breeding evidence, either within the subject property or on adjacent lands (120m). One (1) of the species observed with breeding evidence, European Starling (*Sturnus vulgaris*), is considered introduced (non-native) in the province.

Two (2) Species at Risk (SAR) were detected during the two BBS visits: Bobolink (*Dolichonyx oryzivorus*) and Barn Swallow (*Hirundo rustica*). These two species are designated as Threatened at the federal level (SARA, 2002). At the provincial level

(ESA, 2007), Bobolink are considered Threatened, whereas the Barn Swallow is designated as Special Concern. Endangered and Threatened species receive protection under the Provincial Endangered Species Act (2007), whereas Special Concern species receive habitat protection under the Province's SWH provisions under the PPS, 2020, for Special Concern and Rare Wildlife Species. These two SAR bird species are typically found in and around agricultural land in southern Ontario. Refer to sections 4.2.1 and 3.4 for more information.

A total of three (3) individual male Bobolink were detected during the first bird survey, mostly associating with adjacent property to the north. No females were detected. During the second visit, several males (up to 3) and one (1) female were observed on the subject property, (with the field containing alfalfa and other tall grasses, planted for hay), indicating Probable breeding due to the presence of a pair. Both properties contain suitable breeding habitat.

Across both breeding bird surveys up to five (5) individual Barn Swallows were observed, foraging over the agricultural field located on the subject property. There is suitable nesting habitat in the barn and buildings located on the subject property, in addition to suitable buildings located on the two properties immediately adjacent to the north. During the second breeding bird survey (June 12th), several adult birds were observed entering the older barn in a manner suggesting nest occupancy, and recently constructed nests were also observed, indicating Confirmed breeding. The barns on the subject property provide suitable nesting habitat for Barn Swallow, and the agricultural fields within the study area provide habitat suitable for foraging.

Of the thirty-one (31) native breeding species detected, all have been assigned provincial conservation status (S-rank) of either S4 or S5 by the Natural Heritage Information Center (NHIC, 2021), which indicates that their provincial populations are "apparently secure" or "secure", respectively.

The Ontario Ministry of Natural Resources (OMNR, 2000) considers the following species to be Area Sensitive (AS): American Redstart (*Setophaga ruticilla*), Bobolink, Northern Harrier, and Savannah Sparrow (*Passerculus sandwichensis*). Area Sensitive species are defined as requiring relatively large areas of suitable habitat for their long-term survival and therefore can be sensitive to development. No breeding evidence was detected on the subject property for Northern Harrier.

Based on the 2009 Guelph Natural Heritage Study (2009) report, Great Blue Heron (*Ardea herodias*) and Turkey Vulture (*Cathartes aura*) are species known to be a locally rare breeder within the Wellington County. Both species were observed flying over the subject property, but showed no breeding evidence. None of the other breeding species recorded are considered to have a locally rare breeding status at present.



A full list of all birds recorded within and adjacent to the study area can be found in Appendix C.

3.3.3. Bat Habitat & Visual Exit Surveys

The bat roosting tree assessment identified one (1) tree as candidate bat roosting tree due to size ($\geq 25\text{cm}$ DBH) and presence of bat roosting habitat attributes such as loose/peeling bark, cavities, cracks, crevices, and/or knot holes. Tree 1490 is located on the North Lands property, and its action (preserve, injure, remove) will be determined through the Arborist Report and TPP for the North Lands (Dougan, 2025). Legislative compliance under the Endangered Species Act (2007) and mitigation strategies related to potential Species at Risk bat habitat are discussed in sections 4 and 7.

Results from the bat visual exit surveys conducted at the barn identified five bat species recorded during surveys (Table 4). A total of 175 bat call sequences were recorded though no bats were seen emerging from the barn; All recordings were incidental occurrences of bats flying within range of the EchoMeter Touch Pro during surveys and do not represent bats roosting/emergence from the barns.

A single occurrence of Species at Risk (Little Brown Myotis) was recorded during the survey. This was an incidental observation (flyover) and does not represent roosting activity within the structures, nor does this single observation trigger habitat protection of the barn under the Endangered Species Act (2007).

Table 4: Results of Bat Visual Exit Surveys

Species	Number of recordings
Big Brown Bat	100
Northern Hoary Bat	31
Silver-haired Bat	43
Little Brown Myotis	1
Total	175

3.3.4. Incidental Wildlife

A total of one (1) species was detected as an incidental wildlife observation in 2024. Coyote (*Canis latrans*) White-tailed Deer (*Odocoileus virginianus*) tracks were observed within the subject property. Direct observations of Eastern Chipmunk (*Tamias striatus*) and Woodchuck (*Marmota momax*) were also recorded incidentally. These species have all been assigned provincial conservation status (S-rank) of S5 by the Natural Heritage Information Center (NHIC, 2021), which indicates that the provincial populations are "secure". White-tailed Deer are also considered Area Sensitive species, according to Ontario Ministry of Natural Resources (OMNR, 2000).



A full list of all wildlife recorded within and adjacent to the study area can be found in Appendix C.

3.4. Special Features & Ecological Functions

3.4.1. Species at Risk (SAR) Assessment

A detailed SAR screening table was completed based on the background review, features present, and species recorded, and is presented in Appendix D.

A desktop screening of background sources (including Global Biodiversity Information Facility (GBIF), Natural Heritage Information Centre (NHIC) iNaturalist, eBird and known SAR from the Guelph area (MNR)) was completed prior to fieldwork and identified nine (9) SAR summarized in Table 5.

Table 5: SAR Records from Background Sources

Common Name	Scientific Name	SARA Status	SARO Status	S Rank	Wellington County Rarity (Dougan, 2009)
BIRDS					
Barn Swallow	<i>Hirundo rustica</i>	THR	SC	S4B	--
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	THR	S4B	--
Eastern Meadowlark	<i>Stiurnella magna</i>	THR	THR	S4B	--
Wood thrush	<i>Hylocichla mustelina</i>	SC	SC	S4B	--
MAMMALS					
Eastern Small-footed Myotis	<i>Myotis leibii</i>	--	END	S2S3	X
Little Brown Myotis	<i>Myotis lucifugus</i>	END	END	S3	--
Northern Myotis	<i>Myotis septentrionalis</i>	END	END	S3	X
REPTILES					
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	SC	--	S4	--
INVERTEBRATES					
Monarch	<i>Danaus plexippus</i>	END	SC	S2N, S4B	X

Barn Swallow

Barn Swallow is designated Threatened federally (SARA) and Special Concern provincially (SARO). Barn Swallows historically nested in crevices, holes, and ledges within cliff faces. However, with the rise of industrialization throughout the last century,

they have shifted to nest primarily in human-made structures like barns, sheds, garages, bridges, and culverts.

This species was recorded during the first Breeding Bird Area Search on May 29th, 2024. Multiple observations were made during this first survey, including sightings of individuals foraging over the agricultural fields within the study area (up to 5 birds) and near the existing barns, indicating active use of these habitats. During the second breeding bird survey (June 12th) several adult birds were observed, and recently (2024 breeding season) constructed nests were observed in the older barn located on the subject property, indicating Confirmed breeding. The barns provide suitable nesting habitat for Barn Swallow and the agricultural field provides suitable foraging habitat.

Bobolink

Bobolink is designated Threatened federally (SARA) and provincially (SARO). Provincially threatened species, including Bobolink, and their habitat, are protected under the Endangered Species Act (2007). This species was observed during the first Breeding Bird Area Search on May 29th, and subsequently on the second visit on June 12th, 2024. On the first visit, multiple observations were made, including sightings of singing males (3) and territorial displays, indicating active breeding territories, mostly in the wheat field on the adjacent northern property. No females were observed, and it was uncertain if the territories were established. An additional incidental observation of a singing male during June 6th botanical surveys indicated 'Possible' breeding.

During the second visit, several males (up to 3) and one (1) female were observed in the southeast agricultural field (alfalfa and other tall grasses, planted for hay). As of the second breeding bird survey (June 12th) this species should be considered 'Probably' breeding, due to presence of a presumed pair (one male and one female) and of presumed territories (males observed singing in the same general area, at least 7 days apart).

The agricultural lands on and adjacent to the site provide suitable habitat for Bobolink. The species nests in open country habitats consisting of natural and semi-natural grassland (including but not limited to tallgrass prairie, alvar grasslands, beaver meadows, and grassy peatlands), hayfields, pastures, grassland habitat restoration sites, and abandoned fields. In at least some parts of southwest Ontario, in the absence of natural grasslands, or the more commonly preferred alternatives of hayfields and pastures, Bobolinks will nest in some large (i.e., >50 ha) fields of winter wheat and rye.

The agricultural field, planted as alfalfa and other hay species during 2024, should be considered suitable habitat, with occupancy during the second survey of at least one pair.



Eastern Meadowlark

Eastern Meadowlark is designated Threatened federally (SARA) and provincially (SARO). This species was only recorded associating with properties to the north during the first Breeding Bird Area Search on May 29th, and none were detected during the second breeding bird survey on June 12th. Potentially suitable habitat to the north (two properties over) was mowed sometime between the first and second breeding bird survey. Following completion of two rounds of breeding bird surveys, this species was determined to not be breeding on the subject property or adjacent lands (120m).

Wood Thrush

Wood Thrush is designated Special Concern federally and provincially. This species tends to inhabit large patches of mature, moist forest which are absent from the study area. This species was not detected during either breeding bird survey visit.

Monarch

Monarch is designated Endangered federally (SARA), Special Concern provincially (SARO), and is regionally rare in Wellington County (Dougan, 2009). This species was noted during the desktop background study, with a single record existing for the adjacent park (Gibbons Drive Park). Suitable habitat for this species is present both on the subject property within the agricultural fields, the meadow marsh in the northern portion of the site, as well as on the adjacent agricultural, forested and riparian lands. Monarch was not observed during field studies.

Midland Painted Turtle

Midland Painted Turtle inhabits waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. While the study area contains wetland communities (meadow marsh, mixed swamp, and deciduous swamp) and a channelized feature on the eastern property boundary, there is not sufficient water depth to provide suitable overwintering habitat for turtles. The immediately adjacent stormwater management pond to the east, associated with Gibbons Drive Park provides potentially suitable habitat for this species. It should be noted that stormwater management (SWM) ponds are municipal infrastructure requiring regular monitoring and maintenance, and while they may provide suitable conditions for turtles, SWM ponds are not considered natural or significant habitat. This species was not detected during field studies.

Eastern Small-footed Myotis

Eastern Small-footed Myotis is the smallest, rarest and least known bat in Ontario (Humphrey, 2017). This species is provincially Endangered (SARO) and is not listed as a federal SAR. As with other Myotis species, this bat is nocturnal and roosts in trees and occasionally in buildings during the day. This species tends to switch roosting sites often, even daily, and preferred sites may include crevices and cracks associated with



rocky sites, as well as barns and older buildings. As aerial insectivores, foraging habitat can include forests, water bodies and riparian forests (Johnson et al., 2009). This species was not recorded during bat targeted visual exit/acoustic surveys in June 2024.

Little Brown Myotis

Little Brown Myotis is Endangered provincially and federally, despite being one of the most common bat species in Canada. Little Brown Myotis inhabit maternity roost spaces during the summer months where they rear their pups. Maternity roosts are often selected within tree cavities or in abandoned / less disturbed buildings such as barns and attics. (Syme et al., 2001). The Little Brown Myotis prefer warm, dark areas close to water with entrances typically 4 metres or higher from the ground (CWF, 2018). Foraging habitat includes over water and in open areas when insects are abundant. In agricultural areas, Little Brown Myotis tend to follow linear wooded features (such as hedgerows) for commuting and foraging (Humphrey & Fotherby, 2019). One (1) occurrence of this species was recorded during visual exit/acoustic surveys in June 2024. The occurrence was a flyover and was not observed emerging from on-site structures. This occurrence is not indicative of Species at Risk bat roosting habitat on site, given the observation type (flyover) and detection of only one individual.

Northern Myotis

Northern Myotis is Endangered provincially and federally. Northern Myotis inhabit maternity roost spaces during the summer months where they rear their pups. This species favours tree cavities for roosting but have also been found in anthropogenic structures (e.g. under shingles) particularly when habitat is fragmented and roost trees are minimal (Foster & Kurta 1999, Caceres & Barclay 2000). These bats prefer roosting sites that are associated with forest cover and streams (Caceres & Barclay 2000). Unlike other Myotis species, Northern Myotis switch roosting sites very often (i.e. every 1-5 days). Northern Myotis are more adapted to hunting in cluttered environments, such as along forest edges and are relatively slower flyers than other bat species. Foraging habitat includes over water and in open areas when insects are abundant. This species was not recorded during targeted bat visual exit/acoustic surveys in June 2024.

3.4.2. Significant Wildlife Habitat (SWH) Assessment

Potential Significant Wildlife Habitat (SWH) categories identified through a desktop screening were reviewed on-site during field investigations to confirm habitat (ELC) and/or indicator species presence, in accordance with the MNRF's SWH Criteria for Ecoregion 6E (2015). This assessment confirmed the presence of the following seven (7) candidate and one (1) confirmed SWH category, based on desktop and field data collected:

Candidate SWH:

- Waterfowl Stopover and Staging Areas (Terrestrial)

- Bat Maternity Colonies
- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)
- Amphibian Breeding Habitat (Woodland)
- Amphibian Breeding Habitat (Wetlands)
- Terrestrial Crayfish
- Amphibian Movement Corridors

Confirmed SWH:

- Special Concern and Rare Wildlife Species:
 - o Barn Swallow

In accordance with the PPS (2020) development and site alteration are not permitted within or adjacent to SWH unless it has been demonstrated that there will be no negative impacts on the habitat or its ecological functions (policy 2.1.5).

Please refer to Appendix E and Maps 6-1 to 6-4 for the complete SWH screening.

3.4.3. Woodlands

Woodlands are defined by the County of Wellington (2024) as *“treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrologic and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels.”*

Regionally significant woodlands are included in the County’s Greenlands system; the criteria for which are outlined in policy 5.5.4 of the County of Wellington Official Plan (2024):

“In the Urban System, woodlands over 1 hectare are considered to be significant by the County and are included in the Greenlands System. Woodlands of this size are important due to their economic, visual and environmental contributions to the urban landscape. Detailed studies such as environmental impact assessments may be used to identify, delineate and evaluate the significance of woodlands based on other criteria such as: proximity to watercourses, wetlands, or other woodlands; linkage functions; age of the stand or individual trees; presence of endangered or threatened species; or overall species composition. Significant woodlands will be protected from development or site alterations which would negatively impact the



woodlands or their ecological functions. Good forestry practices will be encouraged and tree removal shall be subject to the Wellington County Forest Conservation Bylaw.

Smaller woodlands may also have local significance and, where practical, these smaller woodlands should be protected.”

Woodlands on the subject lands are limited to six (6) ELC polygons associated with the protected natural heritage feature in the southeast corner of the site, totaling 2.4 ha within the study area, shown on Map 1:

- **Fresh-Moist Poplar Deciduous Forest** (Polygon 1 inclusion) - 0.05 ha
- **Willow Mineral Deciduous Swamp** (Polygon 1 inclusion) - 0.12 ha
- **Birch - Conifer Mineral Mixed Swamp** (Polygon 2) - 0.79 ha
- **Fresh-Moist Poplar Deciduous Forest** (Polygon 2 inclusion) - 0.10 ha
- **Poplar - Conifer Mineral Mixed Swamp** (Polygon 4) - 0.20 ha
- **Fresh-Moist Poplar Deciduous Forest** (Polygon 5) - 0.53 ha
- **Fresh-Moist Poplar Deciduous Forest** (Polygon 22) - 0.52 ha

Due to proximity (i.e. are within 20 m of each other), **Polygons 2 and 22** are considered to be contiguous and collectively comprise an area >1 ha, meeting the County’s significant woodland criteria. This feature will be entirely preserved in-situ.

3.4.4. Wetlands

All wetlands are included in the County’s **Core Greenlands** designation. Significant wetlands are defined by the County (2024) as “an area identified as provincially significant by the Ministry of Natural Resources using evaluation procedures established by the province, as amended from time to time.” The wetland present in the southeastern corner of the subject lands is currently unevaluated by MNRF.

The **unevaluated wetlands** are comprised of the following communities comprising approximately **3.71 ha** within the study area:

- Forb Mineral Meadow Marsh and Willow Mineral Deciduous Swamp (Polygon 1 and Polygon 1 inclusion) - 1.7 ha
- Birch - Conifer Mineral Mixed Swamp (Polygon 2) - 0.79 ha
- Forb Mineral Meadow Marsh (Polygon 3 inclusion) - 0.01 ha
- Poplar - Conifer Mineral Mixed Swamp (Polygon 4) - 0.20 ha
- Meadow Marsh (Polygon 21) - 1.01 ha



These wetlands will be entirely preserved in-situ.

3.5. Geotechnical (CVDE, 2024)

Chung & Vander Doelen's Preliminary Geotechnical Investigation (2024) determined that native soil conditions at all borehole locations are capable of supporting future residential development. However, very loose to loose and/or firm soil conditions were encountered in the near-surface soils at four of the eight boreholes. These soils are not suitable to support future house foundations in their current condition. Removing these zones and replacing them with engineered fill, where necessary, is considered a suitable and practical remedy.

3.6. Hydrogeology (CVDE, 2024)

Groundwater monitoring results indicated that the seasonal high groundwater levels on site vary from 0.25 m below ground surface at the northeast limits of the site (BH/MW 8) to approximately 3.61 m below ground surface towards the southwest limits of the site (BH / MW 4).

Chung & Vander Doelen, 2024, recommended that a permanent groundwater management system be implemented for the development of the subdivision lands to control future groundwater levels and prevent wet basement problems, specifically for houses located in the southern portion of the site.

Furthermore, CVDE recommended that any existing below-grade drains, drainage tiles, or drainage tile networks be fully investigated to understand how their presence (or removal) would impact the shallow groundwater system and the proposed development.

3.7. Functional Servicing and Stormwater Management (GEI, 2025)

According to GEI's FSR (2025), there is an existing sanitary sewer and watermain (in addition to a wastewater treatment plan (WWTP)) that would each be extended to service the lands. The Street B right-of-way connection would be located off of St. David Street N (Highway No. 6). Grading has been designed to match the Street B entrance elevation and property boundaries along the north, south, east and west portions of the site (GEI, 2025).

In terms of stormwater management, existing conditions on the south lands modelled by GEI (2025) include three (3) drainage catchments (10, 30 and 40):



- **Catchment 10 (31.11 hectares, 2% impervious)** represents the majority of the site. Runoff generated from Catchment 10 sheetflows east to the wetland along the northeast limits of the site.
- **Catchment 30 (2.00 hectares, 5% impervious)** represents the southwesterly portion of the site. Runoff generated from Catchment 30 sheetflows overland to the roadside ditch in the Highway 6 right-of-way which then continues to sheetflow to and offsite regulated watercourse.
- **Catchment 40 (3.33 hectares, 0% impervious)** represents the northeast portion of the site consisting of an existing wetland. Runoff generated from Catchment 40 contributes to the wetland extending north and east past the limits of the site.

Refer to Figure 3 in GEI's FSR (2025) for details.

4. LEGISLATION & POLICY REVIEW

The following is an assessment of federal, provincial, and local legislation and policies that have implications for development activities of the property.

4.1. Federal

4.1.1. Species at Risk Act, 2002

The federal *Species at Risk Act (SARA)*, 2002, is a key piece of legislation which aims to protect at risk plant and animal species and their critical habitat. This legislation provides the federal mandate for the protection of species identified as Endangered, Threatened or Special Concern on federal lands.

Site Implications:

The *SARA (2002)* legislation is not relevant to this site, as this parcel of land is not federally owned. Species at Risk protection on non-federal lands are protected through the *Endangered Species Act (2007)* and the Province's Significant Wildlife Habitat provisions contained in the *Provincial Planning Statement (2024)*. These pieces of legislation are discussed below.

4.1.2. Migratory Bird Convention Act, 1994, and Migratory Bird Regulations, 2022

The *Migratory Birds Convention Act (MBCA)*, 1994, policies and regulations ensure legal protection of listed migratory bird species, their nests, eggs and offspring. In its application, it requires best management practices to detect and avoid disturbance to active nests during development activities.

The MBCA protects migratory birds and their nests (S.4). Section 6 of the Migratory Bird Regulations (Consolidated Regulations of Canada (CRC), c. 1035) prohibits the disturbance, destruction or taking of a nest, egg, or nest shelter of a migratory bird. The MBCA is the enabling statute for the Migratory Birds Regulations, which were updated in May 2022 (MBR, 2022). Under the 2022 MBR, nests for 18 bird species (7 of which occur in Ontario) receive year-round protection for a prescribed length of time ranging from 24-36 months (Schedule 1), and all other nests of migratory birds are protected when they contain a live bird or viable egg (S. 5(2)(b)). Birds that are listed on Schedule 1 (those that receive year-round protection) were not identified for the Subject Project during breeding bird surveys.

Disturbance to nests of other MBCA protected species during the course of vegetation clearing is a contravention of the MBCA. The primary nesting period (i.e., the period when the percent of total nesting species is greater than 10%) identified for southern Ontario is April 9 - August 15, although nesting also can occur outside of this period (Environment Canada 2014). To significantly reduce the risk of damaging or disturbing bird nests and contravening the MBCA, vegetation clearing will occur between August 16 and April 8. However, it is the responsibility of the proponent to ensure no birds are nesting before clearing vegetation.

Site Implications:

Disturbance to nests of other MBCA protected species during the course of vegetation clearing is a contravention of the MBCA. Incidental take of migratory birds, nests or eggs must be avoided by limiting activities during sensitive periods, and migration measures should be implemented to ensure appropriate nesting areas are re-established on the site. Tree and vegetation clearing should not take place within the active nesting season between approximately **April 9 and August 15**. If the areas proposed for removal are thoroughly checked during the active breeding season for bird nests by a qualified biologist during the construction phase, and no nests are found, then construction may be permitted. Although nesting activity outside of this timing window is unlikely, to ensure compliance with the MBCA and the MBR, construction activities should be halted if an active nest or eggs of protected birds are found until the period of occupancy concludes.

4.2. Provincial

4.2.1. Provincial Planning Statement, 2024

The Provincial Planning Statement (PPS), 2024 is issued under the authority of Section 3 of the Planning Act. Section 4.1 of the PPS contains natural heritage policies and establishes clear direction on the adoption of an ecosystem approach and the protection of significant natural heritage resources including: *significant woodlands, wetlands, and valleylands in Ecoregions 6E and 7E; significant wildlife habitat;*

significant areas of natural and scientific interest; and habitat of Endangered and Threatened species.

Policies 4.1.4, 4.1.5, and 4.1.6 of the PPS prohibits development and site alteration within and adjacent to *significant wildlife habitat and significant woodlands* unless there has been an evaluation of the ecological function of the adjacent lands and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. MNRF (2015) identifies the categories and criteria for evaluation of SWH in Ecoregion 7E (Appendix E).

Policies 4.1.4, 4.1.5, and 4.1.6 of the PPS state that development and site alterations within or adjacent to habitat of *Endangered and Threatened species* is not permitted, except in accordance with provincial and federal requirements.

Site Implications:

The subject property contains significant natural heritage features, including *Significant Woodlands, Significant Wildlife Habitat (SWH), wetlands, and habitat of Endangered and Threatened species*. In accordance with PPS (2024) development within or adjacent to significant natural heritage features is not permitted unless it can be demonstrated that there will be no negative impacts to natural heritage features or on their ecological functions.

4.2.2. Endangered Species Act, 2007

The *Endangered Species Act (ESA), 2007* and associated regulation (O.Reg. 230/08) provide the provincial mandate for protection of species identified as Endangered or Threatened and their habitats.

Site Implications:

A desktop review of available species records from background sources was conducted and field studies were conducted in accordance with the approved Terms of Reference to identify SAR and/or SAR habitat within the study area (Appendix G). A total of 5 regulated species were identified through desktop study including Bobolink, Eastern Meadowlark, Eastern Small-footed Myotis, Little Brown Myotis, and Northern Myotis.

Of the potential SAR listed above, **three (3) regulated SAR** were confirmed during field investigations:

- Bobolink
- Eastern Meadowlark
- Little Brown Myotis (incidental flyover)



Bobolink and Eastern Meadowlark

Under the ESA, 2007 and O. Reg. 242/08, a permit is required from MECP (Ministry of Environment, Conservation and Parks) to develop land over 30 ha that will damage or destroy the habitat of these species. An ESA permit is not required if impacting up to 30 ha of land. In either case, requirements under the ESA and O. Reg. 242/08 with respect to damaging or destroying habitat for Bobolink and Eastern Meadowlark include:

- register the work and the affected species with the Ministry of the Environment, Conservation and Parks (before work begins)
- prepare and follow a habitat management plan
- create or enhance habitat, and manage that habitat
- provide a written commitment (also called an undertaking) to the Ministry of the Environment, Conservation and Parks that says you will manage the habitat over time
- minimize effects to the protected species (e.g. put access roads outside the habitat)
- avoid activities that are likely to affect habitat or the birds between May 1 – July 31 (e.g. do not excavate land or plough fields during this time)
- prepare and maintain records that relate to the work and the habitat
- report sightings of rare species (and update registration documents, if needed).

Alternatively, developers might have the option to pay into a Species at Risk Conservation Fund, as a condition of a permit, agreement or conditional exemption. Eligibility and the subsequent amount would be determined by MECP.

Little Brown Myotis

Targeted visual exit surveys confirmed presence of one (1) Little Brown Myotis occurrence (incidental flyover) which was not observed emerging from or entering the barn. Due diligence to ensure compliance with the ESA, 2007 requires removal of candidate roosting trees be conducted outside of the bat active season which occurs from April 1 – September 30. Under the precautionary approach, it is also recommended the barn demolition occur outside of the bat roosting season.

Under the ESA, 2007 and O. Reg. 242/08, an Overall Benefit permit may be required from MECP if impacts to SAR bat roosting habitat is expected (including structures or trees). Regarding treed habitat, if a “small number” of trees are being removed or stubbed, and critical timing windows for the species are avoided (i.e. April 1 – September 30), the ESA, 2007 is not triggered (MECP, 2021). Only one (1) candidate roosting tree was recorded, and its action (preserve, injure, remove) will be address in



the North Lands Arborist Report and TPP (Dougan, 2025). Based on the identification of only one (1) potential roosting tree that may be impacted, tree removals do not trigger the ESA, 2007 as long as tree removal occurs outside of the bat roosting season (April 1 – September 30).

Bat Visual Exit surveys of the barn confirmed no SAR bats entering or emerging from the barn which indicates the barn does not trigger ESA, 2007 regulations.

4.2.3. O. Reg. 41/24: Prohibited Activities, Exemptions and Permits

Under the Conservation Authorities Act and Ontario Regulation 41/24, Conservation Authorities in Ontario are empowered to regulate development activities to protect wetlands, watercourses, and hazard lands. The regulation outlines that development activities within 30 meters of a wetland are generally prohibited unless specific conditions are met. These conditions include ensuring that the activity will not exacerbate flooding risks, adversely affect the stability of the wetland or watercourse, or negatively impact the ecological functions of the area. Development must also conform to applicable undergo pre-submission consultation and permit application processes as required by the Conservation Authorities. Exceptions to these prohibitions include minor activities that do not significantly impact wetlands or watercourses. These include small docks, certain types of fencing, minor agricultural structures, non-habitable accessory buildings under 15 square meters, and specific maintenance or repair activities for infrastructure like drains and roads. This high-level framework is designed to safeguard Ontario's vital natural resources by preventing detrimental alterations and ensuring sustainable land use practices.

Site Implications:

A preliminary review using GRCA's Regulated Area Search tool indicates that a portion of the property on the southeast side is regulated by the GRCA, including an isolated wetland and a regulated watercourse and their associated buffers. Development within GRCA regulated areas is subject to the policies outlined in O.Reg 41/24.

4.3. Local

4.3.1. Wellington County Official Plan, 2024

The 2024 Wellington County Official Plan (WCOP) delineates a strategic framework for land use planning and development across the county, focusing significantly on the Greenland's system. This system is categorized into Core Greenlands and Greenlands, each with specific roles and regulatory guidelines.

Core Greenlands are designated areas within Wellington County recognized for their high ecological sensitivity or significance, warranting the utmost level of protection.



These areas are essential due to their ecological roles or potential public safety hazards. Core Greenlands encompass:

- Provincially significant wetlands;
- All other wetlands;
- Habitats for endangered or threatened species and fish habitats;
- Hazardous lands.

According to Section 5.6.1 of the WCOP, development or site alteration is prohibited within all Core Greenlands, including Provincially Significant Wetlands or significant habitats of threatened or endangered species, except as allowed by provincial and federal regulations. Approvals for development are contingent upon demonstrating no adverse impacts on significant features and functions, and minimal negative effects on other Greenland features.

Greenlands are recognized as vital natural heritage features and areas in Wellington County, crucial for supporting biodiversity, ecological functions, and overall environmental health. Although significant, they are not subject to the stringent protections of Core Greenlands. This category includes:

- Fish and wildlife habitats;
- Areas of Natural and Scientific Interest;
- Streams and valley lands;
- Woodlands;
- Environmentally Sensitive Areas (ESAs);
- Ponds, lakes, and reservoirs.

Section 5.6.2 of the Official Plan stipulates that for proposed developments within the Greenland system or on adjacent lands, the County or local municipality must require the developer to:

- a) Identify the nature of the features potentially impacted by the development;
- b) Prepare, where necessary, an environmental impact assessment to confirm compliance with the Plan's requirements and consider potential enhancements to the natural area where feasible and reasonable;
- c) Fulfill any other relevant criteria outlined in Section 4.6.3 concerning Environmental Impact Assessments.



Additionally, development or site alteration on adjacent lands to Core Greenlands or Greenlands must comply with specific requirements to ensure no negative impacts on the natural features or their ecological functions. Adjacent lands are defined as areas of land that are in proximity to significant natural heritage features and ecological systems. Specifically, for the purposes of the Wellington County Official Plan, adjacent lands include:

- Lands within 120 metres of provincially significant wetlands, provincially significant Life Science Areas of Natural and Scientific Interest (ANSIs), significant habitat of endangered and threatened species, fish habitat, significant wildlife habitat, significant valleylands, and significant woodlands.
- Lands within 50 metres of provincially significant Earth Science Areas of Natural and Scientific Interest.
- Lands within 30 metres of all other Core Greenlands and Greenlands areas.

Permitted uses within the Core Greenlands outlined in Section 5.6 of the OP include agriculture, existing uses, conservation, forestry, aggregate extraction within Mineral Aggregate Areas, open space, and passive recreation. Additionally, other uses permitted in the adjacent or underlying designations may also be allowed, provided that there are no negative impacts on significant features and functions and no significant negative impacts on the ecological features and functions. This provision ensures flexibility, allowing for a range of compatible activities that support the area's primary ecological and conservation objectives while accommodating existing land use practices and needs.

Development or site alteration within or adjacent to Core Greenlands or Greenlands will only be approved if the County is satisfied that the Greenland and Environmental Impact Assessment policies are met.

Site Implications:

The subject property contains **Core Greenlands** as mapped in the Wellington County Official Plan (Map 4), triggered by the presence of the unevaluated wetland/ significant woodland complex present in the southeast corner of the subject lands. This feature also contains candidate Significant Wildlife Habitat (ref. Maps 6-1 to 6-3).

With respect to wetlands, section 5.4.1 of the WCOP states:

"All wetlands in the County are included as Core Greenlands. Development and site alteration will not be permitted in wetlands which are considered provincially significant[...] All other wetlands will be protected in large measure and development that would seriously impair their future ecological functions will not be permitted."



Streams are discussed under the Greenlands designation; WCOP section 5.5.3 states:

"Streams and valleylands are included in the Greenlands system. All streams and valleylands will be protected from development or site alterations which would negatively impact on the stream or valley- land or their ecological functions."

In accordance with the WCOP, an Environmental Impact Statement (EIS) must confirm that the development will not adversely affect the Core Greenland features and their ecological functions. Approval of the EIS by the County is therefore required prior to development or site alteration on the subject lands.

4.3.2. Township of Centre Wellington Official Plan, 2005

As a lower-tier municipality, the Township relies heavily on the Wellington County Official Plan (2024). The Township of Centre Wellington's Official Plan (TCWOP, 2005) is formulated exclusively for Urban Centers which are comprised of: Fergus, Elora-Salem, and Belwood. For non-urban centres, the Township relies on the County's OP.

Site Implications:

The subject lands fall outside of the Fergus Primary Urban Centre, therefore the TWCOP does not apply to the site (TWCOP, 2005: Schedule 1A and 1B).

4.3.3. County of Wellington Conservation and Sustainable Use of Woodlands By-Law (5115-09)

By-law 5115-09, established by the Corporation of the County of Wellington, aims to safeguard trees within woodlands to preserve the health of natural environments and promote good forestry practices. To be subject to this by-law, a woodland must cover at least one hectare and meet the following tree density criteria:

- A minimum of 1,000 trees per hectare of any size.
- At least 750 trees per hectare with a diameter over five centimeters.
- A minimum of 500 trees per hectare with a diameter over 12 centimeters.
- At least 250 trees per hectare with a diameter over 20 centimeters.

These density requirements set the scope for the by-law's protection, ensuring that significant tree populations are regulated to maintain the integrity of woodland ecosystems

Site Implications:

Polygons 2 and 22 are considered contiguous due to proximity (i.e. within 20m of each other); collectively these woodland communities comprise an area of 1 ha or greater. Trees in polygons 2 and 22 are therefore regulated under By-law 5115-09. No direct



impacts to trees within these polygons are anticipated; see the Arborist Report and Tree Preservation Plan (Dougan, 2025) for details.

4.3.4. Township of Centre Wellington Public Tree By-Law (2002-57)

The Township's bylaw 2002-57 authorizes and regulates the planting, care, maintenance, and removal of trees on Township property. This bylaw stipulates that no person shall injure, destroy, or plant a tree on Township property without a permit.

A permit may be issued up on submission of an application including the following:

- a) *a complete application in the form provided by the **Township**;*
- b) *when applicable, the Business Name Registration and/or Articles of Incorporation obtained from the applicable provincial or federal Ministry;*
- c) *a landscape plan;*
- d) *when applicable, an **Arborist Report** and **Tree Preservation and Enhancement Plan** that identifies the **tree protection zone**;*
- e) *a certificate of insurance in a form satisfactory to the **Township** naming the **Township** as an additional insured with a coverage limit not less than two (2) million dollars in Commercial General Liability;*
- f) *payment of **compensation value** for each **tree** to be removed in the form of a money order, certified cheque or any other method of payment approved by the **Township**, or submission of compensation planting plan to the satisfaction of the **Township**;*
- g) *securities in the form of a Letter of Credit or in any alternate form of financial security as approved by the **Township** in the amount of the **compensation value of the tree(s)**, removal and replacement costs;*
- h) *any other documents as may be required by the **Township** to the satisfaction of the **Township**;*
- i) *the required application fee, administrative, approval and inspection fees as provided for in the **Township's Fees and Charges By-law**.*

Compensation for tree removals is defined as "the ratio of compensation trees identified in **Public Forest Policy** multiplied by the tree compensation rate identified in the **Township's Fees and Charges By-law**, or the amenity value of the tree calculated in accordance with the Guide for Plant Appraisal, 10th Edition as published by the International Society of Arboriculture, as amended or replaced, and as approved by the **Director**".

It should be noted that the Township does not have a **Private Tree Bylaw** in effect.



Site Implications:

Publicly owned trees are protected from damage or destruction under By-Law 2022-57. If it is determined through detailed design that publicly owned trees may be impacted by the proposed work, a permit under this by-law is required. As part of the permitting process, compensation value for trees anticipated to be removed will need to be calculated and confirmed with the Township.

5. KEY FINDINGS

Based on a review of the available background information, existing site conditions including species and vegetation communities, and relevant policy applicable to the subject lands, the following natural heritage features & functions (Table 6) are present and may serve as constraints to the proposed activities.



Table 6: List of Sensitive Natural Heritage Features and Functions

NATURAL HERITAGE FEATURES	PRESENCE WITHIN STUDY AREA (ref. Map 4)	CONSTRAINT IMPLICATIONS	POLICY REFERENCE
Wetland - Woodland Complex	The primary natural feature associated with the site is a complex of woodland and wetland in the southeast corner that extends off-site. The woodland portions of the feature encompass 2.4 ha of the study area in total, including ELC polygons 1 (incl.), 2, 4, 5, and 22,. The wetland portions of the feature encompass 3.71 ha within the study area, and include ELC polygons 1, 2, 3 (inclusion), 4 & 21.	This feature has the potential to pose constraint to future development based on provincial and/or local policies. <u>Provincial</u> The wetland is unevaluated, and an evaluation has not been undertaken to determine provincial significance level since there is currently no proposal to directly impact it. Due to its minimal size and general isolation from other wetlands within the larger landscape it is unlikely to merit Significant Wetland status. <u>Local</u> Woodland polygons 2 and 22 meet criteria to be a regionally significant based on size (>1 ha) and are included in the County's Greenlands System. Wetlands are also included in the County's Core Greenlands designation. The entirety of the woodland/wetland feature has been mapped as Core Greenlands in the County OP (Schedule B-1). Generally, the OP prohibits development and site alteration within Core Greenlands. No buffer requirements are specified in the County OP for Core Greenland features, however Section 10.2 mentions that new proposed lots should have "sufficient area outside the Core Greenland System for all its intended functions including suitable buffering...". A 10 m buffer to Core Greenland features present on the subject property is proposed.	PPS, 2024 Wellington County Official Plan (2024)

NATURAL HERITAGE FEATURES	PRESENCE WITHIN STUDY AREA (ref. Map 4)	CONSTRAINT IMPLICATIONS	POLICY REFERENCE
Watercourse	This small, channelized feature extends along a portion of the southeastern property boundary (see Map 4) and connects with a system of streams on the neighbouring property (Gibbons Drive Park).	According to GRCA online interactive mapping, this is a Regulated Watercourse. Development within GRCA regulated areas is subject to the policies outlined in O.Reg 41/24. No aquatic studies or assessment of fish habitat were completed as part of this EIS because the watercourse will be fully protected within the Core Greenlands feature and associated buffer.	PPS, 2024 O.Reg 41/24 Wellington County OP, 2024
Habitat for Endangered and Threatened Species	Habitat for three (3) Endangered and Threatened species is present including: 1) <u>Bobolink</u>: Observed as a Probable breeder in the southeastern half of polygon 6 (Hayfield) 2) <u>Eastern Meadowlark</u>: Observed as a possible breeder on adjacent lands. Suitable habitat is also present in ELC polygon 6, however to date this species has not been confirmed within the property boundary. 3) <u>Little Brown Myotis</u>: one (1) observation as an incidental	The ESA protects species identified as Endangered or Threatened and their associated habitats. Habitats of provincial Special Concern species are not protected by the ESA, but recognized under the Province's Significant Wildlife Habitat (SWH) categories. 1) <u>Bobolink</u>: is designated Threatened (THR) in Canada and Ontario. Significant habitats of provincially Endangered and Threatened species are protected from development under the PPS and the ESA. If impacts cannot be avoided MECP should be contacted for guidance; there may be opportunity for a compensation approach. 2) <u>Eastern Meadowlark</u>: is designated Threatened (THR) in Canada and Ontario. Significant habitats of provincially Endangered and Threatened species are protected from development under the PPS and the ESA. If impacts cannot be avoided MECP should be contacted for guidance; there may be opportunity for a compensation approach.	PPS, 2024 ESA, 2007

NATURAL HERITAGE FEATURES	PRESENCE WITHIN STUDY AREA (ref. Map 4)	CONSTRAINT IMPLICATIONS	POLICY REFERENCE
	flyover during visual exit surveys.	3) <u>Little Brown Myotis</u> : Targeted visual exit surveys recorded one (1) Little Brown Myotis occurrence (incidental flyby), confirming the barn is <u>not</u> in use as SAR habitat or an ESA trigger. Only one (1) candidate roosting tree may be impacted on the North Lands (to be addressed in North Lands submission). To ensure due diligence under the precautionary principle it is recommended that tree and vegetation clearing and barn demolition be conducted outside of the bat active season (April 1 - September 30).	
Confirmed Significant Wildlife Habitat (SWH)	<u>Confirmed Special Concern and Rare Wildlife</u> : <u>Barn Swallow</u> : Confirmed nesting in the barn structure on the property.	No development is permitted within or adjacent to Significant Wildlife Habitat unless it can be demonstrated that the proposal will result in no negative impacts to SWH. <u>Special Concern and Rare Wildlife (Barn Swallow)</u> : The Provincial Recovery Strategy for Barn Swallow (Heagy et. al., 2014) describes the habitat needs of this species; foraging habitat, nest sites and nests, and nocturnal roost sites. Nesting and roosting habitats for this species are currently unconfirmed, however foraging habitat is present. Conversion of the agricultural fields to developed land would likely result in an impact to Barn Swallow and its associated SWH. Barn structures providing nesting habitat on both properties would be lost, and suitable foraging habitat in the surrounding landscape dramatically reduced. Mitigation strategies include installation of replacement nesting structures.	PPS, 2024
Migratory Birds	Present within vegetated areas of the study area.	Breeding birds that are protected under the MBCA are present within the study area. Due diligence to ensure compliance with the MBCA will require that vegetation clearing does not occur within the active nesting season	MBCA, 1994

NATURAL HERITAGE FEATURES	PRESENCE WITHIN STUDY AREA (ref. Map 4)	CONSTRAINT IMPLICATIONS	POLICY REFERENCE
		(approx. April 9 - August 15). If this cannot be accommodated, a qualified Wildlife Biologist should be retained to thoroughly check the areas to be disturbed to ensure there are no active nests present.	
Natural Heritage Corridor	The hedgerow along the northeastern property edge (ELC polygon 8) has the potential to function as an ecological linkage between the natural feature on the property and the Irvine Creek Provincially Significant Wetland Complex to the north, which is part of the larger provincial Natural Heritage System.	As per Section c.3.12 of the Township OP, the connection of Natural Heritage features through corridor systems is encouraged. Care should be taken to preserve trees along the northeastern boundary, and match grade lines should attempt to preserve root zones.	Township of Centre Wellington OP, 2005
Potential Groundwater Recharge Function	The entirety of the property is mapped as "Potential Recharge Area" on the Groundwater Management Plan in the Township of Centre Wellington Official Plan (Schedule C).	Maintenance of groundwater quantity and quality should be adequately considered with respect to the proposed development. See CVDE's (2024) Hydrogeological Report for details.	Township of Centre Wellington OP, 2005 Wellington County OP, 2024
Trees on Private Property	See the Arborist Report & Tree Preservation Plan (Dougan, 2025) under	The Township OP specifies that proposed removal of individual trees require replacement with an appropriate quantity and quality of vegetation on site or elsewhere in the Township.	Township of Centre Wellington OP (2005)

NATURAL HERITAGE FEATURES	PRESENCE WITHIN STUDY AREA (ref. Map 4)	CONSTRAINT IMPLICATIONS	POLICY REFERENCE
	separate cover for detailed tree data.	Approval of an appropriate tree replacement plan is required prior to impacting trees.	

6. DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed 19.39 ha residential development generally consists of 62-88 single-detached lots, 80-118 on-street townhouse units, 71-102 medium density residential units, 8-14 mixed use residential units, an open space block, internal roadways, and a stormwater management block (Table 7; Appendix F). The natural heritage feature and associated buffer will be preserved in-situ.

Table 7: Summary of Proposed Land Use (Polocorp, 2025)

Description	Lots/Blocks	Units	Area (ha)
Single Detached	1-10	62-88	8.006
Street Townhouses	11-18	80-118	6.185
Medium Density	19, 20	71-102	1.617
Mixed Use	21	8-14	0.338
Existing House	22		0.330
Stormwater Management Facility	23		2.412
Trail	24		0.417
Parkland	25		0.806 (5.2%)
Pedestrian Walkway	26, 27		0.077
Environmental Feature & Buffer	28		3.340
MTO Allowance	29, 30		0.527
Roads			3.502
TOTAL		221-323	19.389

Connection to the site will be via the Street B connection to St. David Street N (Highway No. 6). Details on the site servicing are provided below, summarized from GEI's FSR (2025).

6.1. Grading

The grading plan for the proposed residential lots, internal roads, and stormwater management facility aligns with the elevations of Street B entrance at Highway 6 and the site boundaries. Internal road slopes range from 0.6% to 1.5%, while lot slopes range from 2% to 4%. The grading pattern consists of split-drainage and back-to-front draining lots, with 3:1 transition slopes in select rear yard areas for grade relief.



6.2. Roads

The internal roads will be constructed with urban cross-sections (20-23 meters wide) and include concrete curb and gutter, following Township standards. The Street B connection at St. David Street N (Highway 6) will be 26 meters wide.

6.3. Water supply

The development will be served by an extended watermain along St. David Street N (Highway 6) to the site entrance, with a local watermain extending throughout the site along internal roads. Watermain sizing will be finalized during the detailed design phase after Draft Plan approval.

Each dwelling will receive a 25mm diameter water service lateral, with fire hydrants installed within a 150m radius as per Township standards. The watermain layout is shown on the Servicing Plans.

An existing 300mm diameter watermain runs along the east side of St. David Street North/Highway 6, extending across part of the site frontage and terminating at Sideroad 18. Extending this watermain will provide sufficient domestic and fire flow protection for the approximately 19.39-hectare development through the existing watermain. The Township is also conducting a Municipal Class Environmental Assessment (EA) to ensure adequate water supply for the additional demand from this development as part of the Municipal Comprehensive Review process.

6.4. Sanitary sewers

Each dwelling will be serviced by a 100mm diameter sanitary service lateral, in accordance with Township standards. The sanitary sewer layout is shown in the Servicing Plans (GEI, 2025).

A recently constructed 300mm diameter sanitary sewer runs along the east side of St. David Street North/Highway 6, terminating just south of Sideroad 18. This existing sewer can be extended to provide a gravity outlet for the approximately 19.39-hectare development. Discussions between GEI, the Township and Triton Engineering confirmed that there is sufficient capacity in the existing downstream sanitary sewer system and wastewater treatment plant (WWTP) to service the site. Planned upgrades to the WWTP in 2029 will ensure adequate capacity for the development. Overall, minimal work is required to support sanitary sewer servicing, with the development efficiently connected to the existing sewer system.

6.5. Storm sewers

The storm sewer system for the internal roads will be designed to handle a 5-year design storm, directing the flow to the stormwater management facility as per



Township standards. For major storm events, water will flow overland through municipal rights-of-way to the facility. Storm sewer design calculations are included in Appendix B. The stormwater facility will discharge into the wetland along the northeast boundary of the site to maintain existing drainage patterns.

Each lot will have a 100mm diameter storm service lateral connected to the municipal storm sewer system. Foundation drainage will be managed through sump pump discharge to the storm service lateral.

6.6. Stormwater Management

GEI (2025) proposes a “treatment train” approach for the Subdivision to remove sediments and any absorbed contaminants prior to the discharge of runoff from the development to the receiving outlets. This approach will include a combination of lot level, conveyance and end-of-pipe best management practices including:

- Rooftop infiltration
- Rear yard swales
- Foundation drainage
- Municipal maintenance of the storm sewer system
- Stormwater management facility (SWMF)

The proposed SWMF is located near the southeast edge of the property and has been designed as wetland type facility complete with a forebay and a 0.3 m deep permanent pool to provide the required water quality controls (GEI, 2025). The facility will have two (2) outlets - both discharging to the wetland.

7. IMPACT ASSESSMENT

This section presents a detailed discussion of the potential impacts that could occur based on consideration of the key findings (Section 5) and the proposed development (Section 6). Direct, indirect, and cumulative impacts have been considered and are discussed in the following subsections.

7.1. Cumulative Impacts

7.1.1. Land Use Transition

This proposed development will contribute to land-use changes as this landscape transitions from agricultural towards increased residential/mixed land use to accommodate provincial and regional growth targets.



7.2. Direct Impacts

Direct impacts associated with the proposal include the removal of privately-owned trees and vegetation within cultural vegetation communities, disturbance of potential Species at Risk habitat in buildings on site, and biodiversity enhancements as described below.

7.2.1. Tree and Vegetation Removal

Tree and vegetation removal to accommodate grading will be limited to low-functioning communities including agricultural land, hedgerows and anthropogenic communities. Table 8 summarizes the impacted areas anticipated based on the current site plan (Map 5) and may be further refined through detailed design.

Table 8: Impacted Area by ELC Community Based on Site Plan

Polygon #	ELC Code	ELC Description	Impacted Area within Subject Property (ha)
6	AGR	Agricultural	13.952
8	HR	Hedgerow	0.04
16	ANTH	Anthropogenic	0.01
17	AGR	Agricultural	0.01
Total			14.07

The Arborist Report and Tree Preservation Plan submitted under separate cover (Dougan, June 2024), indicates a total of 96 trees are proposed to be impacted, **including 87 trees proposed for removal and 9 proposed to be injured** based on the assumed limit of disturbance and existing tree locations, illustrated in



Table 9 below. A total of **56 trees will be preserved** on site. The remaining seven (7) trees are located on the North Lands, but have driplines extending into the South Lands property. The action for these trees will be determined through the North Lands Arborist Report and TPP (Dougan, 2025).

Tree replacement is addressed in section 8.3.1. Details can be found in the Arborist Report and Tree Preservation Plan submitted under separate cover (Dougan, 2025).



Table 9: Tree action summary (refer to Arborist Report for details)

Tree Action	Tree Count
Preserve	56
Injure	9
Remove	87
To be addressed in North Lands submission	7
Total	159

Mitigation and enhancement strategies to address impacts to trees and other vegetation on site is provided in section 8.

7.2.2. Removal of Bobolink & Eastern Meadowlark Habitat

The hay field (Polygon 6 - AGR: 14.77 ha) has been assessed as suitable habitat for Bobolink, a provincially Threatened SAR, with occupancy observed during the second breeding bird survey by at least one pair.

Under the ESA, 2007 and O. Reg. 242/08, a permit is only required if over 30 ha of habitat is being impacted (ref. section 4.2.2). Standard requirements under the ESA, 2007 and O. Reg. 242/08 are to be followed with respect to damaging or destroying <30 ha of habitat for Bobolink (ref. section 4.2.2).

Alternatively, developers might have the option to pay into a Species at Risk Conservation Fund, as a condition of a permit, agreement or conditional exemption. Eligibility and the subsequent amount would be determined by MECP.

7.2.1. Disturbance of Migratory Birds

In the absence of mitigative actions, clearing operations and construction activities (noise, light, and removal of vegetation) may temporarily disturb wildlife and interfere with nesting birds protected under the MBCA, 1994, if conducted during the breeding bird season.

Avoidance strategies to address impacts to migratory breeding birds and Endangered bats are provided in section 8.1.2.

7.3. Indirect Impacts

7.3.2. Alterations to Water Balance and Drainage

Site grading and increases in impermeable surface post-development could result in altered drainage patterns with potential to impact the wetland/woodland feature if no mitigation is put in place. Impacts may include altered hydroperiod of the wetland,



and/ changes to water quality or quantity inputs. Such changes have the potential to alter the ecological form and function of the natural feature.

Based on review of the FSR (GEI, 2025) and the Hydrogeological Report (CVDE, 2024), it is apparent that under current conditions the wetland receives some surface water inputs from precipitation and through overland sheet flow from the surrounding agricultural fields, but that the high groundwater table is the primary hydrologic influence sustaining the wetland. The boreholes dug by CVDE as part of their preliminary geotechnical investigation report, revealed seasonally high groundwater levels with boreholes reaching the water table at depths of 0.25 m. The proposed development is not expected to significantly alter groundwater levels. Minor changes to controlled surface water inputs are expected post-development. Specifically, some surface water inputs will be directed to the stormwater management facility and piped to the wetland feature; these will be decreased post-development but to such a minor degree that ecological impacts are expected to be negligible. Uncontrolled flows (ie. direct precipitation to the wetland, precipitation to be infiltrated via lot-level controls etc) will also help to offset changes to drainage patterns. Therefore, we conclude that the minor alterations to water balance will not significantly impact the wetland feature.

Mitigation strategies to address impacts associated with water balance and drainage pattern alterations are provided in section 8.2.3.

7.3.3. Sedimentation and Erosion

Decreased soil stability is caused by clearing of vegetation and grading activities as it breaks up soil layers, reduces compaction, and increases bare soil which is then more susceptible to erosion and/or sedimentation which can lead to loss of soil, sedimentation of adjacent natural areas, disturbance to natural vegetation and decreased water quality.

Mitigation strategies to address sedimentation and erosion related impacts are provided in section 8.2.4.

7.3.4. Future Human Encroachment

The conversion of agricultural land to residential will inevitably result in land use changes that may affect the adjacent natural area. Normal use of dwellings, yards, roads, parks, and trails introduce a large and uncertain number of practices, but they are generally associated with recreation, residential landscaping and other passive activities.

Impacts to mapped natural heritage features that may result from the land use change from agriculture to residential include:

- Increased dumping/trampling within natural areas:



- Noise and light pollution;
- Extension of mowed, planted or cleared property;
- Private laneways, buildings, fences, sheds constructed;
- Pool construction and associated drainage;
- Introduction of exotic (garden) species and/or predators (off-leash pets) into natural areas.

In the absence of mitigation and enhancement strategies, each of these activities outlined would be likely to impact the natural heritage features present on the subject lands. However, these impacts can be addressed through mitigation strategies outlined in section 8.

8. AVOIDANCE, MITIGATION & ENHANCEMENT MEASURES

Section 7 has provided an assessment of the potential impacts that could occur as a result of the proposed development. This section follows by providing a plan of action to address any impacts perceived as negative or detrimental to natural heritage features or functions. This plan was created based on a hierarchy of decision making, as illustrated in Figure 4.



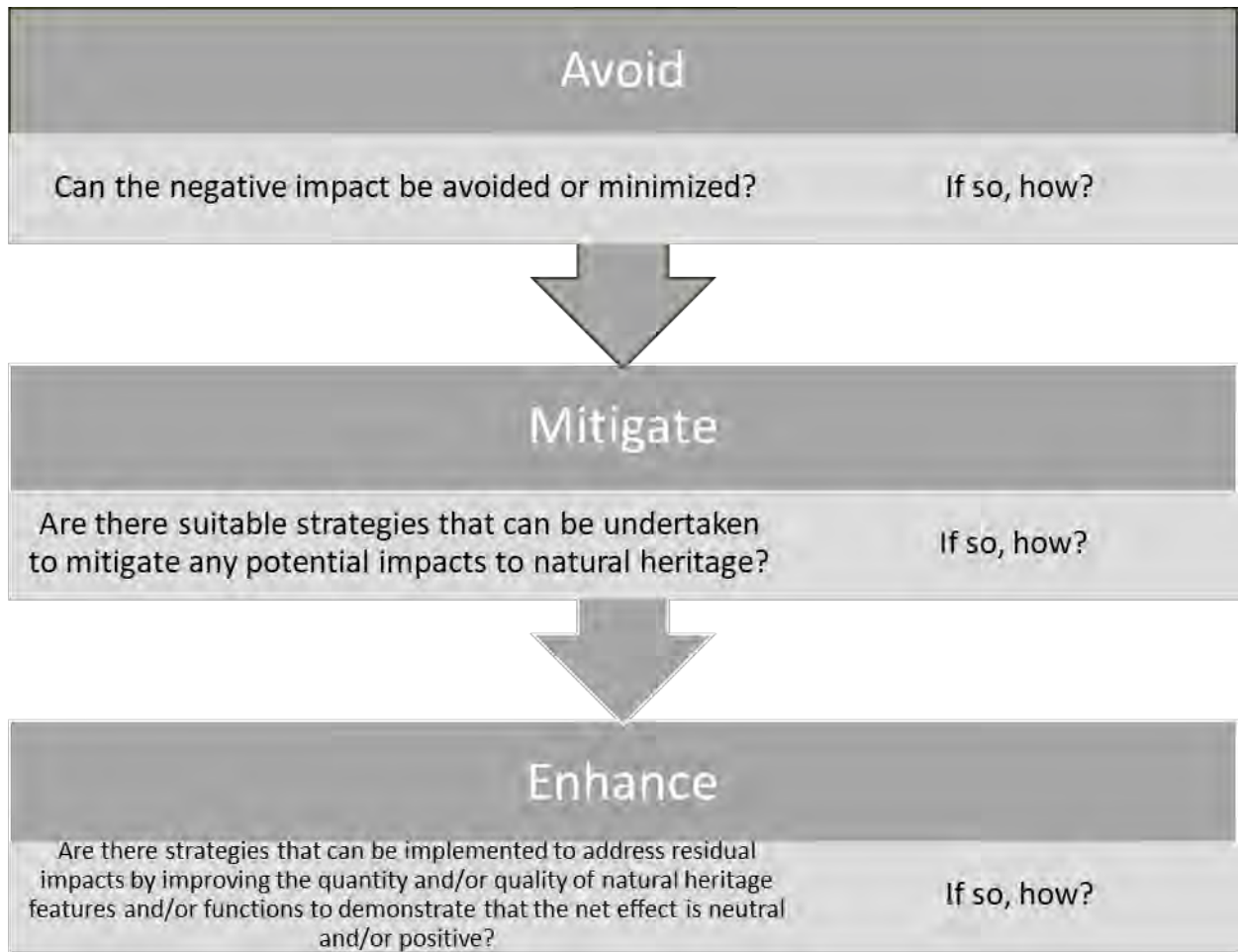


Figure 4: Impact Assessment Hierarchy Approach

8.1. Avoidance Strategies

8.1.1. Site Plan Design

Prior to development of the concept plan (Appendix F), Dougan conducted a preliminary constraint assessment for Polocorp based on background material and existing policy. Through this assessment, Dougan advised that the Core Greenlands feature in the southeast corner of the property is a valued ecological feature that receives protection under regional policy. This feature, comprised of GRCA-regulated unevaluated wetlands and woodlands, has been preserved in the concept plan and further protected with a 10 m buffer. Parkland has been located adjacent to the buffer, which will further contribute to the preservation of the natural heritage feature.

All grading, trails, paved surfaces, servicing, stormwater management and building development is located outside of this buffer except for a portion of Block 11 that abuts the edge of the natural feature. It is proposed that a portion of the Trail Block 24 could be used as enhancement area to account for this buffer encroachment. Further, Tree



Protection Zones will be established along this entire edge of the feature to protect tree root zones (see Arborist Report and Tree Preservation Plan, Dougan 2025).

Therefore, the current concept plan avoids directly impacting policy-protected natural heritage features on the site, including the Core Greenlands designated wetland/woodland complex (Appendix F, Map 5).

8.1.2. Timing Windows for Construction

Tree and vegetation removal, and barn demolition should be avoided between April 1 and September 30 in order to avoid impacting species protected under the *Endangered Species Act, 2007* and the *Migratory Birds Convention Act, 1994*, as discussed below.

Endangered Species Act, 2007

Under the precautionary principle for **SAR bats**, tree removals and barn demolition should not be conducted during the bat active season which occurs from **April 1 to September 30**. bat

Bobolink and Eastern Meadowlark habitat is regulated under the ESA, 2007. Vegetation removal should avoid activities that are likely to affect habitat or the birds between **May 1 - July 31** (e.g. do not excavate land or plough fields during this time).

Migratory Bird Convention Act, 1994

To ensure compliance with the Migratory Bird Convention Act (MBCA, 1994), any vegetation removal on the site should be done outside of the breeding bird window which occurs from **April 9 to August 15**. If any vegetation removal is to occur within this window, a qualified avian ecologist should first check the vegetation to be removed to ensure that there are no migratory birds covered by the Act nesting within it.

If construction occurs during the breeding bird window that may impact vegetation and/or trees, nest sweeps of the site should be conducted prior to construction to ensure that unusually early or late nesting is not taking place, or that dependent young, even though fully fledged, are not in the area and unable to disperse

If any birds are found nesting, the avian biologist will recommend a suitable buffer be established around the nest, in which no constructions activities will be permitted until the birds have left nesting sites.

8.2. Mitigation Strategies

8.2.1. Tree Preservation

An Arborist Report and Tree Protection Plan (TPP) has been developed under separate cover, based on the proposed limit of grading/disturbance (Dougan, 2025). A summary of the mitigation strategies recommended include:



- Tree Protection Zones (TPZ) and Tree Protection Fencing (TPF) should be installed pre-construction to mitigate impacts to trees marked as “Injure” or “Preserve” (refer to Arborist Report Map 2, Dougan, 2025). Areas within the fenced TPZ should remain undisturbed and not be used for material or debris storage, access routes, or excavation.
- General best management practices to mitigate pre-construction and construction impacts to trees marked as “preserve” and “injure” should be followed and carried through to detailed design, as recommended in the Arborist Report (Dougan, June 2025).

Please refer to the Arborist Report (Dougan, 2025) for further details.

8.2.2. Ecological Buffer & Fencing

Buffers are permanent vegetated areas located between natural features and developed lands. Their role is to provide adequate distance for structural integration of most natural features and functions, including root zones, space for tree fall, and immediate interactions with water tables. Buffers serve to reduce habitat loss and fragmentation, impacts to biodiversity, noise, light pollution, and other human encroachment issues.

Buffers should be of sufficient width to protect the natural heritage feature and its ecological functions from negative impacts, and where possible, restore or enhance the feature and/or its ecological function. Typically, buffers are established to achieve, and be maintained as areas of native, self-sustaining vegetation.

Under the proposed concept plan, the Core Greenlands feature comprised of unevaluated wetlands and woodlands will be preserved with a 10 m enhanced buffer measured from the greater of the woodland or wetland boundary (as delineated by Dougan in 2023, see Map 5). It is also recommended that permanent fencing and/or deterrent plantings be installed along the buffer edge to prevent human encroachment within the natural feature.

No buffer requirements are specified in the County OP for Core Greenland features, however OP Section 10.2 mentions that new proposed lots should have *“sufficient area outside the Core Greenland System for all its intended functions including suitable buffering...”*.

The watercourse within the site will be preserved with a 15m buffer measured from the top of riverbank (refer to Map 5). Section 4.12 of the Township Centre Wellington Zoning By-Law No. 2009-045 states that no structure, building, or sewage treatment system shall be constructed within 15-30m to the top of the bank of any watercourse without an approved permit from the Grand River Conservation Area.

Furthermore, Section C.1 in the Township of Centre Wellington Official Plan (2005) requires a buffer range of 15 – 30m from a watercourse in new developments. It states *“...development should be set back from the river, as a guideline 30 metres from the*

river edge or 15 metres from the top of bank where there is a steep slope adjacent to the river...".

A 10 m enhanced buffer combined with permanent fencing and associated natural heritage oriented areas (i.e. Trail Block 24) is proposed to mitigate impacts from the development on Core Greenlands features. It is recommended that the buffer and portions of the Trail Block are restored with native species plantings as further discussed in Section 8.3.

8.2.3. Water Balance

As discussed in Section 7.3.2, the pre-to-post changes to the wetland water balance will be within reasonable variance such that no substantial negative impacts are expected if the recommendations of the FSR (GEI, 2025) and the Hydrogeologic Study (CVDE, 2024) (ie. lot-level infiltration, vegetation plantings within the SWM facility etc) are implemented. This EIS poses no additional mitigation actions related to water balance or wetland hydrology.

8.2.4. Erosion & Sediment Control

An Erosion and Sediment Control Plan was prepared by GEI (2025). The following is a summary of their recommendations that should be carried through detailed design:

- Primary sediment control will be achieved through the installation of heavy-duty sediment fencing around the property boundary to prevent waterborne sediments from leaving the site.
- Temporary rock check dams will be placed in swales after initial grading to slow water flow and encourage sediment settlement before reaching the silt fences and stormwater management facility.
- Any non-active construction areas will be topsoiled and seeded within 30 days of grading completion.
- The stormwater management facility will act as a sediment pond, designed with a required permanent pool volume of 4,496 m³, providing 4,080 m³.
- Silt fences will be placed around outlet structures. Once catch basins are installed, grates will be wrapped in filter cloth until construction is complete.
- Sediment control features will be inspected weekly or after significant rainfall, with repairs made within 48 hours if necessary.
- After construction, the silt fence will be removed, sediment will be cleared, and the landscaping of the stormwater facility will be completed.
- Once construction is finished, erosion will be minimal and sediment transport will be controlled by the stormwater management facility.



8.3. Enhancement Strategies

8.3.1. Tree Replacement

The Landscape Plans for the South Lands includes a total of **326 replacement trees** within the buffer enhancement area. It is the intention that these replacement trees will also address tree removals on the adjoining North Lands (to be address in separate submission) to ensure a **minimum 1:1 replacement ratio**.

All replacement trees should be native species suited to onsite habitat conditions.

8.3.2. Restoration & Biodiversity Enhancement

The Restoration Plan (Dougan, 2025) includes the replacement trees discussed above (at a minimum 1:1 ratio), along with other native species plantings. The Restoration Plan consider the long-term land use and focus on opportunities to enhance the ecological condition of the Core Greenlands feature that is to be preserved.

The proposed buffer enhancement area is **0.42 ha**.

The existing condition of the proposed buffer area is disturbed cultural meadow/active agriculture. The proposed enhancements include native species plantings targeting a climax community of meadow marsh/deciduous forest complex (dependent on existing drainage patterns), which will support and improve the function of the existing natural communities by further preventing edge effects and increasing habitat patch size.



Healthy woodland edges typically include a “mantel” or zone of shrubs and saplings, and “saum” or zone of perennial herbaceous plant cover (Forman & Gordon, 1986). These areas are indicated on Figure 5. A mantel of at least 3 m is desirable to create a dense edge condition. Currently, the Core Greenland woodland/wetland edges do not contain defined mantle or saum, as the lands are actively managed as agriculture up to the edge of the feature.

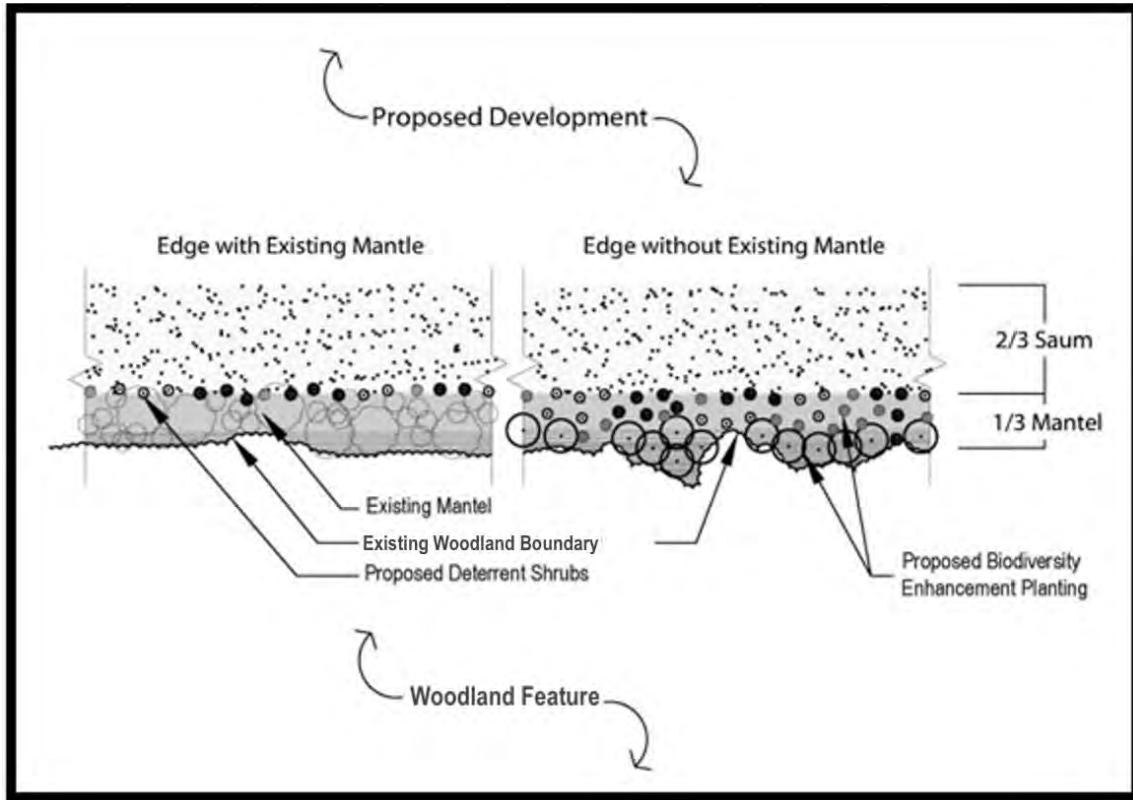


Figure 5: Edge Conditions of Proposed Saum and Mantel

The Restoration Plan includes treatment to restore mantle in areas where it is not present such as:

- Provide 10m band of colonial and deterrent shrubs spaced 1.5 m OC with tree whips representing ~30% of planted areas.
- Fast-growing early successional tree and shrub species (*Cornus*, *Populus*, *Prunus*, *Sambucus*, *Rosa*, *Rubus*, *Viburnum*) planted to speed canopy development and rapidly stabilize conditions (i.e., soil, moisture, nutrients).
- Concentrate deterrent species (generally any densely-growing shrub species, but in particular red/black raspberry, wild roses) along the outer edge of the mantle facing the development to minimize intrusions by domestic pets and humans

- A fence along the boundary of the buffer to deter encroachment from the development.
- Proposed treatment methods to restore saum should also be considered, such as:
- Soil preparation to facilitate restoration of outer band (saum) by native meadow seeding for any disturbed / formerly cultivated soils. Common Milkweed (*Asclepias syriaca*) is recommended to be included in the seed mix to provide additional habitat for Monarch.
- Inversion of mantle/saum orientation in the buffer adjacent to the wetland to increase the extent of continuous herbaceous vegetation and provide a dense woody barrier around the perimeter.

It is the intention of the Restoration Plan to restore a stable edge condition to the preserved environmental feature. Enhancement plantings will provide increased habitat function by introducing wildlife forage and cover species and deterring encroachment.

8.3.3. Habitat Structures for Wildlife

Given the impacts to Barn Swallow and SAR bat habitat, it is recommended replacement habitat structures be installed post-construction, including:

- One (1) bat rocketbox or condo certified by BCI (Bat Conservation International) and/or endorsed by MECP. Ideally bat condos should be installed on suitable trees with minimal surrounding clutter at a height of 4-6 m, with southerly exposure to provide sufficient solar heating. Boxes can also be installed on buildings or free-standing poles (BC Community Bat Program, 2019)
- One (1) artificial nesting structures for Barn Swallow that generally meets the following requirements:
 - o provides horizontal ledges or rough vertical surfaces with a sheltered overhang;
 - o provides surface areas suitable for nest attachment at a height that minimizes disturbances to Barn Swallow and in a location that minimizes predation;
 - o allows barn swallow to freely enter and exit nests;
 - o provides suitable area to accommodate appropriate spacing between nests; and
 - o be structurally sound and capable of providing habitat for barn swallow on a long term basis



8.4. Monitoring & Adaptive Management

Monitoring objectives for before, during and after construction have been recommended below. The purpose of the monitoring program is to ensure mitigation measures are correctly implemented and maintained, and to evaluate the performance and effectiveness (i.e., adequacy) of mitigation measures. Implementation and execution of the monitoring program would be undertaken as part of future work.

8.4.1. Pre- and During Construction

Tree Protection & Buffer Zone Monitoring

Temporary tree protection hoarding / silt fencing should be inspected upon installation before construction begins, and on a monthly basis until construction has been completed. Inspections should be carried out by a qualified Tree Management Professional. Inspections should ensure the integrity of the fencing is adequately maintained and document any encroachments within tree protection zones such as equipment storage, unauthorized tree or vegetation damage/removal, dumping etc. Monitoring reports, including documentation and photos of any encroachment or fencing issues, should be submitted to the responsible planning authority immediately following each inspection. If damaged fencing is observed, it should be repaired or replaced within 48 hours of inspection.

8.4.2. Post-Construction

Restoration Monitoring

The Restoration Plan would be implemented post-construction. All enhancement areas should be monitored 1, 3, and 5-years after implementation to allow for assessment of success and early detection of any issues that require reparative action.. Details of a restoration monitoring plan should be established through a Terms of Reference process in consultation with Township staff.

SWMF Maintenance

As recommended by GEI (2025), annual monitoring of the SWMF is recommended to ensure it continues to function as intended. Monitoring and maintenance inspections should include the following assessments (GEI, 2025):

- *Is there any indication of a spill (i.e. frothy water, oily sheen on the water)? If yes, investigate, inform the appropriate agencies and complete the necessary clean-up and restoration.*
- *Inspect the orifice plates. Remove and dispose of any accumulated sediment, trash/litter, debris (i.e. sediment, garbage, leaves, etc.).*
- *Inspect all catch basins and manholes. Remove and dispose of any accumulated sediment, trash/litter, debris (i.e. sediment, garbage, leaves, etc.).*

- *Inspect all swales and overflow locations. Remove and dispose of any accumulated sediment, trash/litter, debris (i.e. sediment, garbage, leaves. etc.).*

9. SUMMARY OF RECOMMENDATIONS

Table 10 summarizes the recommendations of this EIS and demonstrates how each potential impacts can be addressed through avoidance, mitigation, or compensation.

Table 10: Significant Natural Heritage Features, Their Potential Negative Impacts and Recommendations for Avoidance, Mitigation or Compensation

NATURAL HERITAGE FEATURES / FUNCTIONS (Section 5)	POTENTIAL NEGATIVE IMPACTS (Section 7)	RECOMMENDATIONS (Section 8)
Core Greenlands (woodlands and wetlands)	DIRECT: none anticipated; all development activities located outside the edge of features	n/a
	INDIRECT: future human encroachment	Buffer and installation of permanent fencing between developed lands and preserved natural feature.
Watercourse	DIRECT: none anticipated	n/a
	INDIRECT: alterations to water balance & drainage patterns; sedimentation & erosion; future human encroachment	• Implement erosion & sediment control plan. • Restore buffer with native plantings and install permanent fence between developed lands and natural feature to be preserved.
Species at Risk (SAR) & Associated Habitat	DIRECT: tree and vegetation removal, specifically: • Bobolink and Eastern Meadowlark: removal of 32.82 ha of suitable nesting habitat (ELC polygon 6).	• Bobolink & Eastern Meadowlark: Consult with MECP and follow standard requirements under the ESA, 2007 and O. Reg. 242/08 • SAR bats: Schedule tree and vegetation clearing, and building demolition outside



	Little Brown Myotis: tree removal and barn demolition.	of the bat active season (April 1 – September 30). Install 1 replacement bat rocket-box. Consult with MECP to determine any additional studies or requirements..
	INDIRECT: temporary disturbance of protected wildlife; future human encroachment	Construction timing to be completed outside of key timing windows for sensitive wildlife
Confirmed Significant Wildlife Habitat (SWH)	DIRECT: Barn Swallow: removal of 32.82ha of foraging habitat from ELC polygon 6 and nesting structure (barn)	- Barn Swallow: Schedule barn demolition and vegetation removal outside of the breeding bird window (April 9 – August 15) - Install 1 replacement nesting structure
	INDIRECT: temporary disturbance of protected wildlife; and future human encroachment. Specifically: Monarch: indirect disturbance to suitable habitat in ELC polygon 1.	Monarch: Plant Common Milkweed (<i>Asclepias syriaca</i>) as part of the Restoration Plan
Migratory Birds	DIRECT: tree & vegetation removal	Vegetation clearing to occur outside of the breeding bird window which occurs from April 9 to August 15. If this timing cannot be avoided, a qualified avian ecologist should complete surveys prior to clearing to ensure that no MBCA-protected bird species are present.
	INDIRECT: temporary disturbance of protected wildlife; future human encroachment	Avoid construction activities during breeding bird window (April 9 to August 15). Install permanent fencing along natural heritage feature buffer to prevent encroachment.
Natural Heritage Corridor	DIRECT: Grading works in close proximity to trees just outside of the property	If any potential impacts to offsite trees are anticipated as a result of the development, written



	boundary could smother or cut tree roots and negatively impact individual trees and/or the linkage function of the hedgerow.	permission is needed from the adjacent property landowner prior to removal. Appropriate tree setbacks should be incorporated into site design and tree protection fencing should be utilized to protect trees during clearing/grading activities.
	INDIRECT: sedimentation & erosion; increased future human encroachment	Implement erosion and sedimentation plan (GEI, 2025); install fencing along the edge of the natural feature/buffer (ref. Section 8.2.2)
Potential Groundwater Recharge Function	DIRECT: alterations to water balance and drainage patterns	Enhanced infiltration system (GEI, 2025)
	INDIRECT: none anticipated (CVDE, 2024)	n/a
Trees on Private Property (see <i>Arborist Report & Tree Preservation Plan</i> under separate cover for additional details)	DIRECT: Removal of 87 trees	Trees proposed for removal to be replaced by native tree species plantings at a 1:1 ratio in buffer enhancement area.
	INDIRECT: Injury of 9 trees to remain post-construction	Establishment of Tree Protection Zones and installation of tree protection fencing prior to site clearing (<i>as per specifications of the Arborist Report & Tree Preservation Plan</i>)

10. NET RESULTS

Table 11 below provides a summary of the anticipated net ecological impacts based on the proposal and the natural heritage features present within the study area. This assessment results in an overall net ecological benefit to the features and functions of the natural heritage features present within the study area.





Table 11: Net Results of Ecological Impact Assessment

Anticipated Impact	Key Natural Heritage Sensitivity	Regulatory Policy	Magnitude, Duration and Frequency of impact	Avoidance / Mitigation Strategy	Residual Impact	Enhancement Strategy	Net Ecological Result
CUMULATIVE: Land Use Transition and Human Encroachment	-Unevaluated Wetlands -Woodlands -Regulated watercourse -Core Greenlands -Natural Heritage Corridor -Significant Wildlife Habitat	-O. Reg. 41/24 -County of Wellington Official Plan (2024) -Township of Centre Wellington Official Plan (2005)	-Magnitude: High -Duration: Permanent -Frequency: Ongoing	Ecological buffer and chain link fencing to preserve natural feature	n/a	Buffer enhancement	Positive: 0.42 ha of biodiversity enhancements; reduction of edge effects; improvement in habitat quality and function.
DIRECT: Tree and vegetation removal	-Privately-owned trees	-Township of Centre Wellington Official Plan (2005)	-Magnitude: High - 87 trees proposed for removal and 9 proposed to be injured -Duration: Temporary -Frequency: Single occurrence	-Site plan avoids development within Core Greenlands feature and buffer -Avoid tree and vegetation removal between April 1-Sept 30	Removal of 87 trees	Replacement of trees on-site at 1:1 ratio Restoration and biodiversity enhancements within buffer	Positive: 326 replacement trees (+239 trees)

Anticipated Impact	Key Natural Heritage Sensitivity	Regulatory Policy	Magnitude, Duration and Frequency of impact	Avoidance / Mitigation Strategy	Residual Impact	Enhancement Strategy	Net Ecological Result
			during site grading/prep	-Nest sweeps required if tree removals occur between April 9 - Aug 15 -Preserve 56 trees -Establish Tree Protection Zones and Tree Protection Fencing in accordance with Arborist Report and Tree Preservation Plan (Dougan, 2025)			

Anticipated Impact	Key Natural Heritage Sensitivity	Regulatory Policy	Magnitude, Duration and Frequency of impact	Avoidance / Mitigation Strategy	Residual Impact	Enhancement Strategy	Net Ecological Result
DIRECT: Removal of habitat for Endangered & Threatened species (Bobolink + Eastern Meadowlark)	-Bobolink and Eastern Meadowlark habitat	Endangered Species Act, 2007	Magnitude: Moderate (14.77 ha) Duration: Permanent Frequency: Single-occurrence	-Avoid vegetation removal during breeding bird window (April 9 - August 15) -Follow standard <i>ESA, 2007</i> rules for impacting <30 ha of Bobolink and Eastern Meadowlark	-Removal of 14.77 ha of habitat	Eastern Meadowlark and Bobolink Habitat Enhancement Plan under <i>ESA, 2007</i> permitting	Negligible; to be addressed through ESA requirements
DIRECT: Removal of habitat for Endangered & Threatened species (SAR Bats)	-Little Brown Myotis	Endangered Species Act, 2007	Potential removal of 1 potential roosting tree; demolition of barn	-Avoid tree and barn demolition between April 1 - September 30	-Potential habitat removal	-Install 1 bat rocketbox / condo	Negligible

Anticipated Impact	Key Natural Heritage Sensitivity	Regulatory Policy	Magnitude, Duration and Frequency of impact	Avoidance / Mitigation Strategy	Residual Impact	Enhancement Strategy	Net Ecological Result
INDIRECT: Temporary disturbance of wildlife	-Migratory birds -Species at Risk bats -Barn Swallow	-Migratory Birds Convention Act, 1994 -PPS, 2024	-Magnitude: Moderate -Duration: Temporary -Frequency: Single occurrence during construction	-Tree and vegetation removal should not be conducted between April 1-Sept 30 -Nest sweeps required if tree removals occur between April 9 - Aug 15	n/a	-Install artificial nesting structure for Barn Swallow	Negligible
INDIRECT: Alterations to water balance and drainage patterns	-Unevaluated wetland -Core Greenlands -Regulated watercourse -Significant Wildlife Habitat -Natural Heritage Corridor	-O. Reg. 41/24 -County of Wellington Official Plan (2024) -Township of Centre Wellington Official Plan (2005)	-Magnitude: Minor -Duration: Permanent -Frequency: Ongoing during and post-construction	-Conduct pre- to post-water balance to ensure water flow to wetland is maintained	- Post-development flow rates during the 2 to 100-year design storm events are less	Enhanced infiltration system and SWM (GEI, 2025)	Negligible

Anticipated Impact	Key Natural Heritage Sensitivity	Regulatory Policy	Magnitude, Duration and Frequency of impact	Avoidance / Mitigation Strategy	Residual Impact	Enhancement Strategy	Net Ecological Result
					than existing -Flow rate during the Regional storm event is greater than existing (GEI, 2025)		
INDIRECT: Sedimentation and erosion	-Unevaluated wetland -Woodlands -Core Greenlands -Significant Wildlife Habitat -Regulated watercourse -Natural Heritage Corridor	-O. Reg. 41/24 -County of Wellington Official Plan (2024) -Township of Centre Wellington Official Plan (2005)	-Magnitude: Moderate -Duration: Temporary -Frequency: Single occurrence during site prep and construction	-Follow erosion and sediment control plan (GEI, 2025)	n/a	n/a	Negligible

11. CONCLUSION & RECOMMENDATIONS

This preliminary EIS has been prepared for Polocorp in support of a Settlement Area Boundary Expansion as part a planned residential/mixed use development proposal at 968 St. David's St. N and 6581 Highway 6, Fergus, Centre Wellington.

Key findings of the site characterization identified the following key natural heritage features and functions:

- Core Greenlands (significant woodland and unevaluated wetland)
- Watercourse
- Habitat for Endangered and Threatened Species
- Confirmed Significant Wildlife Habitat (SWH)
- Migratory Birds
- Potential Natural Heritage Corridor
- Potential Groundwater Recharge Function
- Trees on private lands

Anticipated potential impacts associated with the proposal include:

CUMULATIVE:

- Land use transition and human encroachment

DIRECT:

- Tree and vegetation removal
- Removal of Bobolink and Eastern Meadowlark habitat
- Disturbance of migratory birds

INDIRECT:

- Alterations to water balance and drainage patterns
- Sedimentation and erosion
- Future human encroachment

Proposed avoidance, mitigation, and enhancement strategies to address potential impacts include:



AVOIDANCE:

- Site plan design sited outside of Core Greenlands;
- Avoid trees and vegetation removal during critical wildlife breeding/roosting periods.

MITIGATION:

- Tree preservation strategies including installation of tree protection zones/fencing and mitigation best management practices per Arborist Report (Dougan, 2025);
- Establish an ecological buffer and fencing to preserve the Core Greenlands feature and prevent human encroachment;
- Maintain water balance to the wetland post-development (GEI, 2025);
- Adhere to the erosion and sediment control plan (GEI, 2025).

ENHANCEMENT:

- Tree replacement on site at a minimum 1:1 ratio in the buffer enhancement area using native species appropriate for planting site;
- Restoration and biodiversity enhancements within the ecological buffer (0.42 ha);
- Install one bat rocket-box /condo;
- Install one artificial nesting structure for Barn Swallow.

Compliance monitoring recommendations include:

- Tree protection and buffer zone monitoring upon installation and throughout construction;
- Post-construction restoration monitoring.

We trust this EIS provides a summary of ecological sensitivities, potential impacts and appropriate recommendations to demonstrate no negative impact to natural heritage features and their ecological functions. The recommendations provided herein should be followed and carried through to detailed design.



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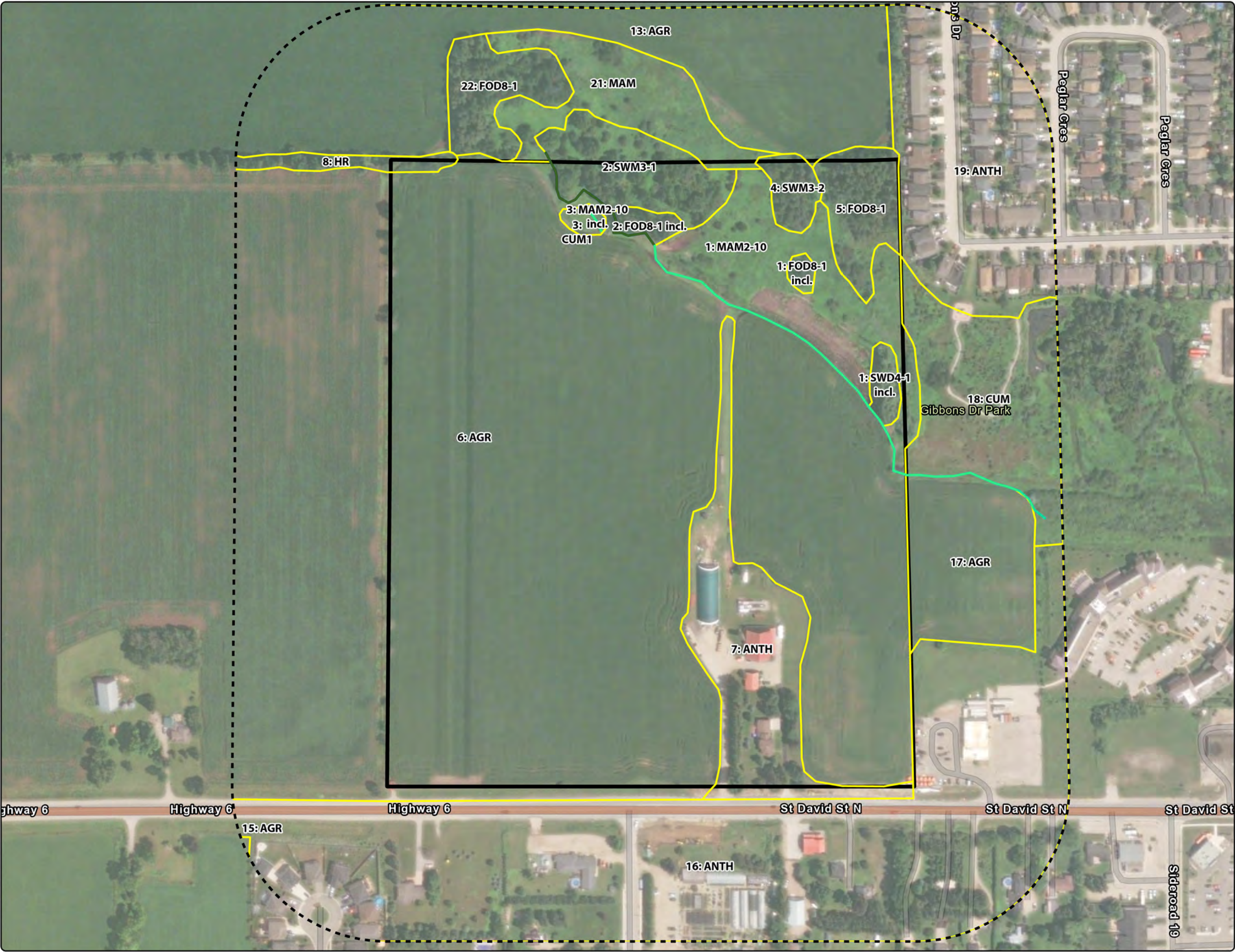


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Map 1: Ecological Land Classification

St. David Street N - South Land EIS

Site Boundary (Polocorp, 2025)

Study Area Adjacent Lands
(120m)

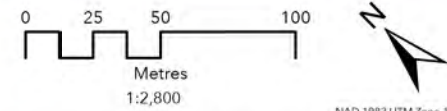
Ecological Land Classification
(D&A, June 2024)

Feature Delineation (Dougan, 2023)

Dripline

Wetland

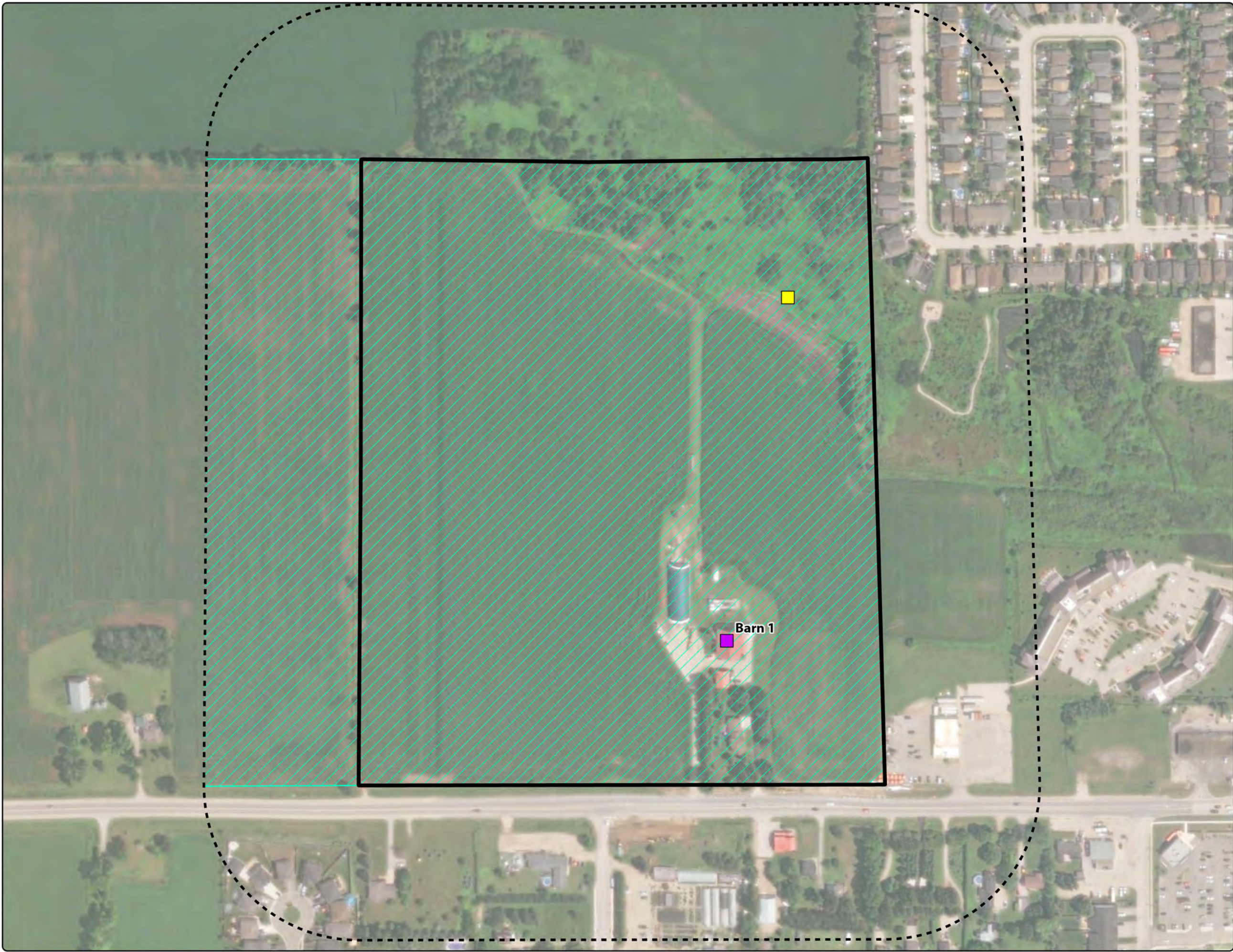
ELC Code	Description
AGR	Agricultural
ANTH	Anthropogenic
CUM	Cultural Meadow
CUM1	Mineral Cultural Meadow
FOD8-1	Fresh - Moist Poplar Deciduous Forest
HR	Hedgerow
MAM	Meadow Marsh
MAM2-10	Forb Mineral Meadow Marsh
SWD4-1	Willow Mineral Deciduous Swamp
SWM3-1	Birch - Conifer Mineral Mixed Swamp
SWM3-2	Poplar - Conifer Mineral Mixed Swamp



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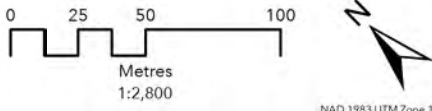
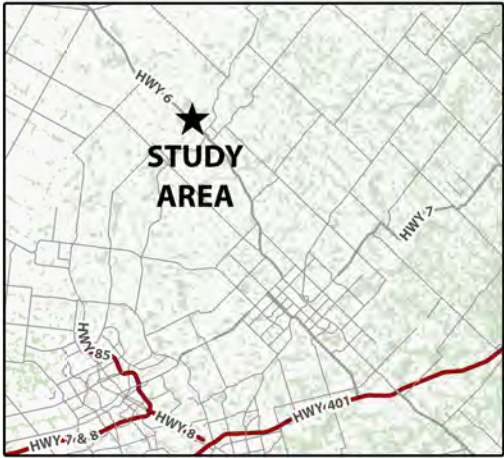




Map 2: Survey Coverage

St. David Street N - South Land EIS

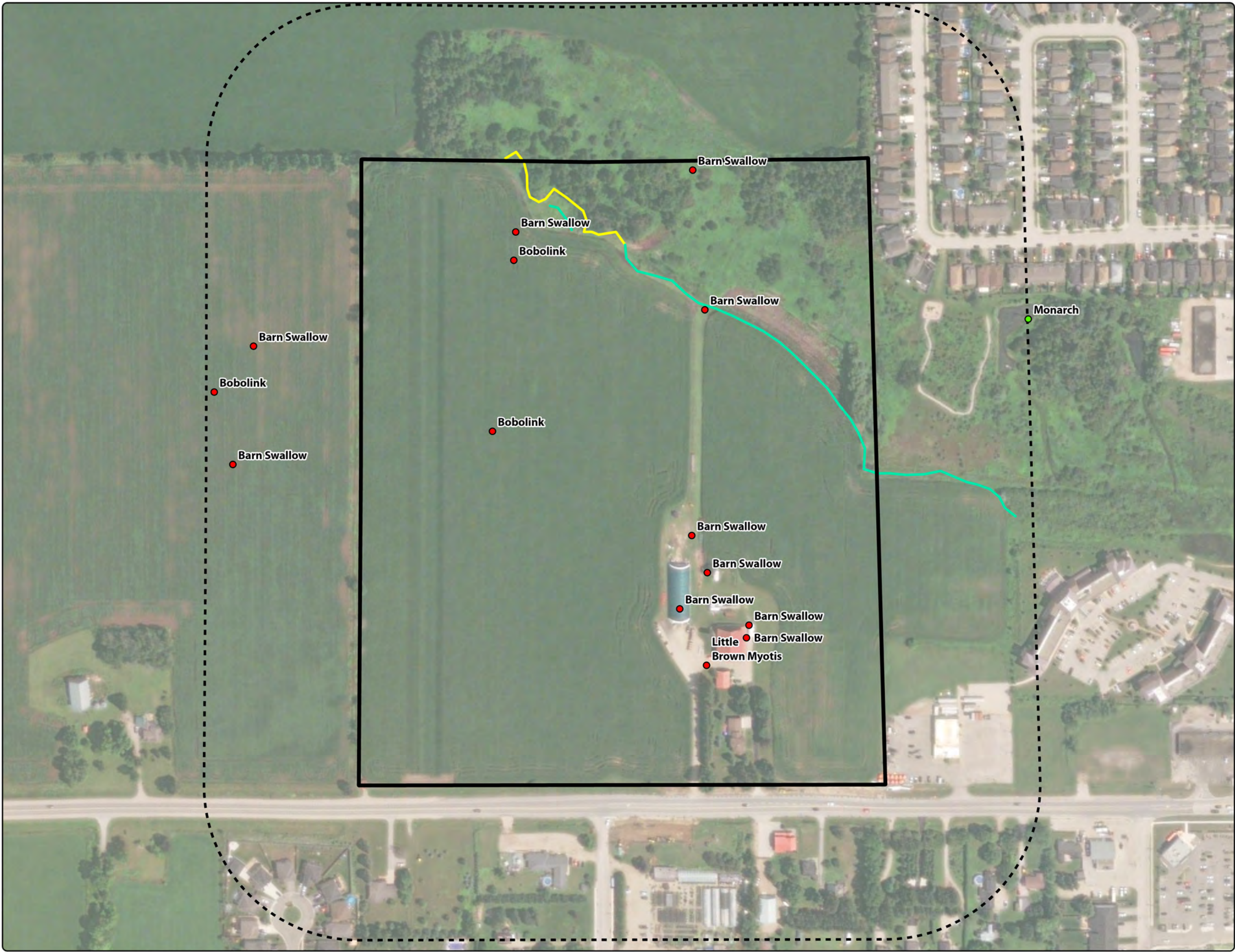
-  Site Boundary (Polocorp, 2024)
-  Adjacent Lands (120m)
-  Bat Visual Exit Survey
-  Nocturnal Amphibian Survey
-  Breeding Bird Area Search, Ecological Land Classification, Incidental Wildlife



Orthoreimagery Source: Maxar, Microsoft

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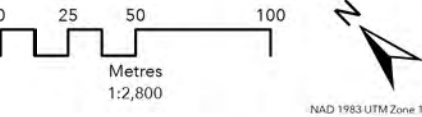
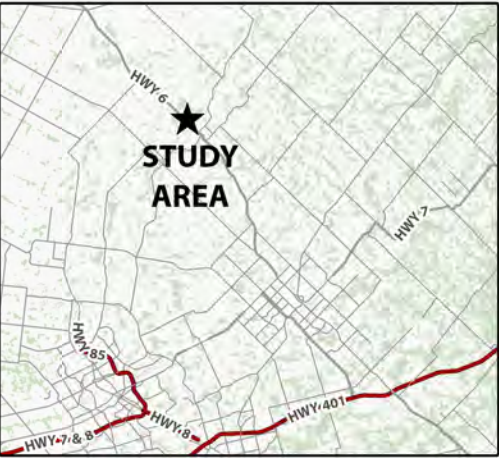




Map 3: Significant Observations

St. David Street N - South Land EIS

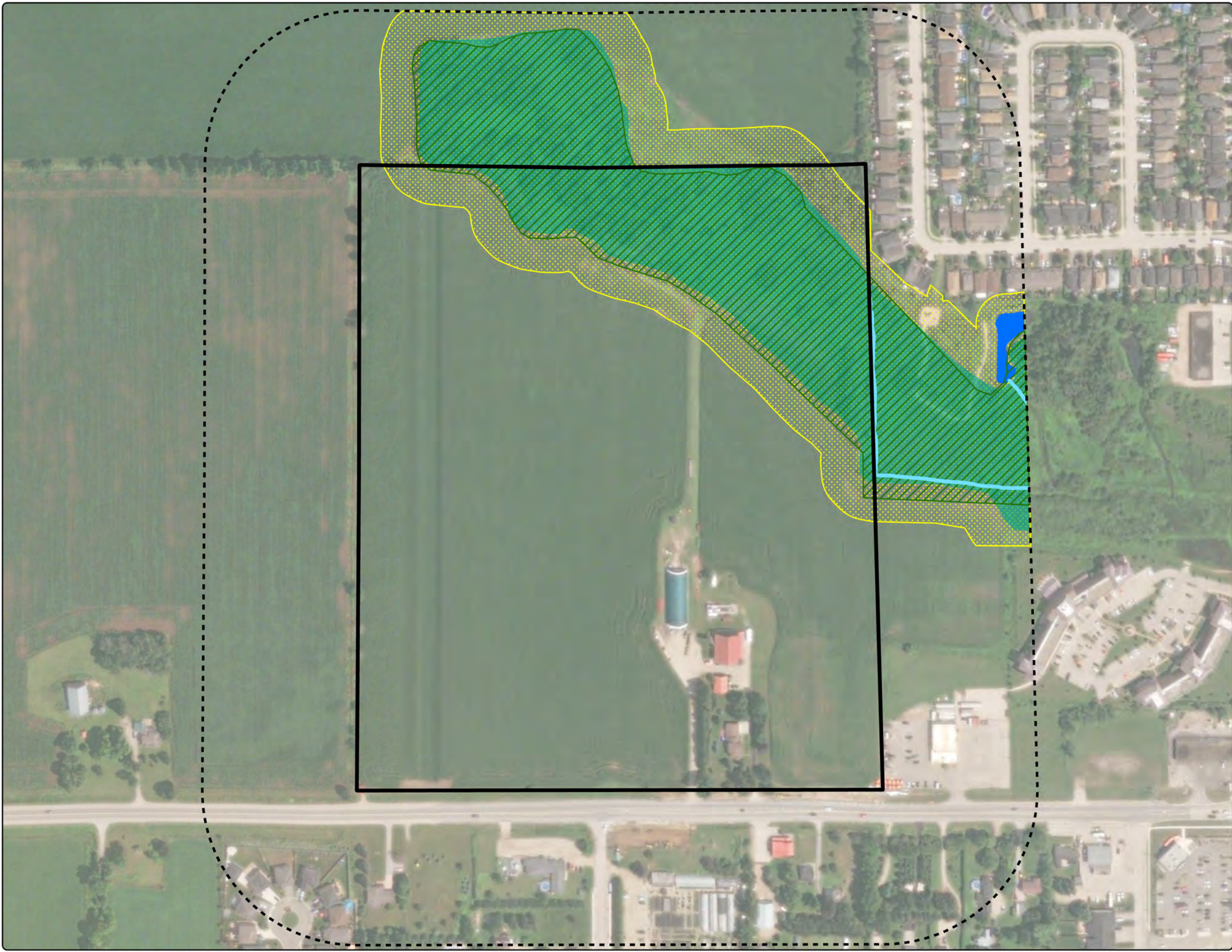
- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Species-At-Risk Observation (Dougan, 2024)
- Species-At-Risk Observation (GBIF, 2024)
- Feature Delineation (Dougan, 2023)**
 - Dripline
 - Wetland



Orthoimagery Source: Maxar

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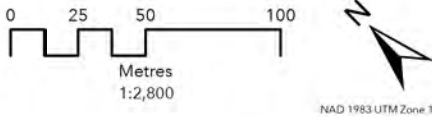
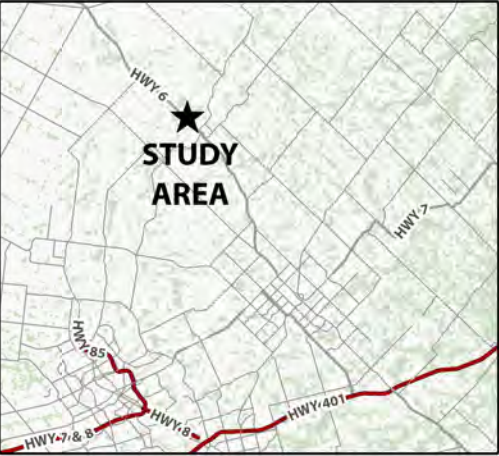


Map 4: Existing Policy Designations

St. David Street N - South Land EIS

- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- MNRF Watercourse¹
- MNRF Unevaluated Wetland¹
- MNRF Waterbody¹
- CWOP Core Greenlands (Approximate) (Schedule B1, February 2024)²
- GRCA Regulation Limit³

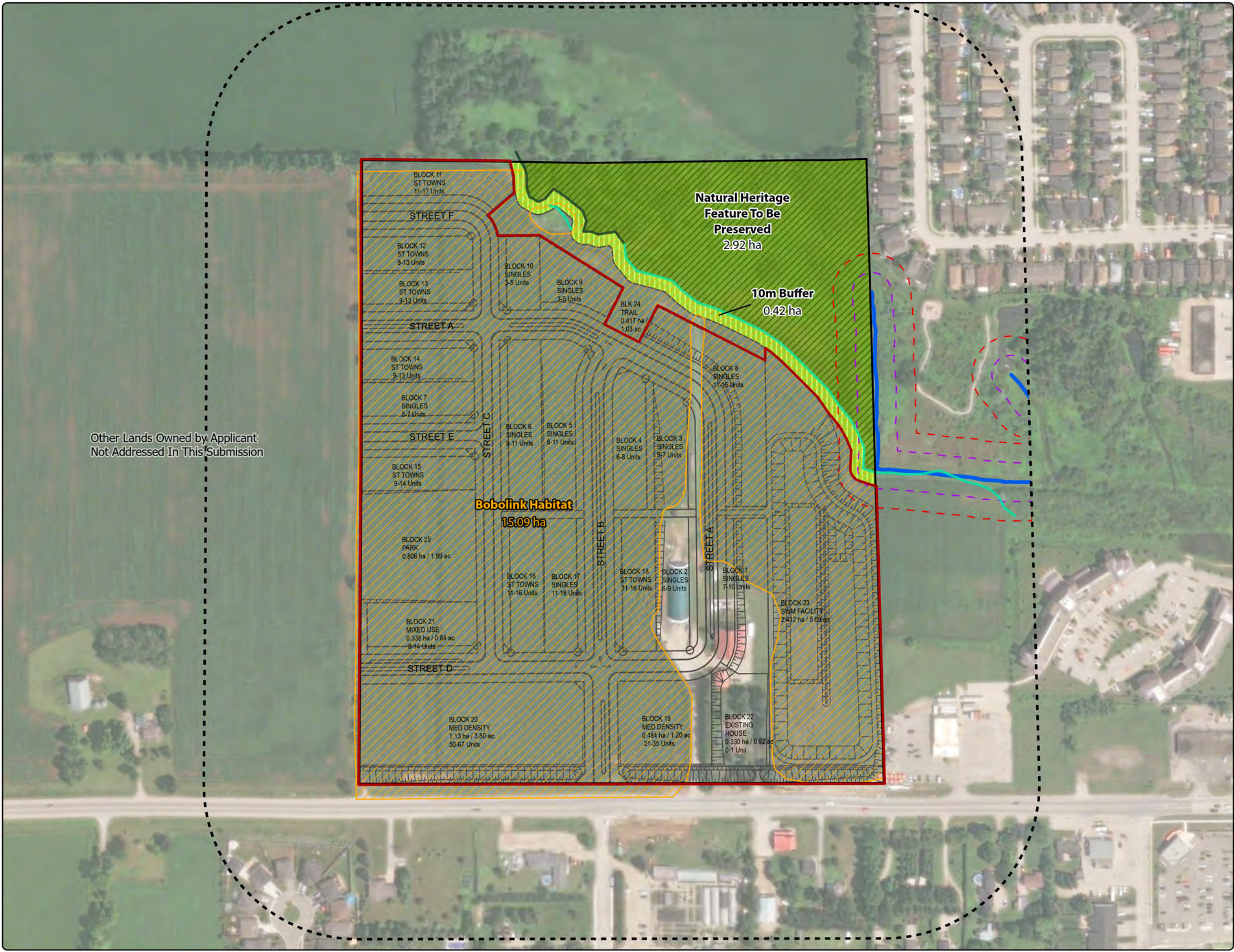
- Notes:
- 1. MNRF: Ministry of Natural Resources & Forestry
 - 2. CWOP: County of Wellington Official Plan
 - 3. GRCA: Grand River Conservation Authority



Orthoimagery Source: Maxar

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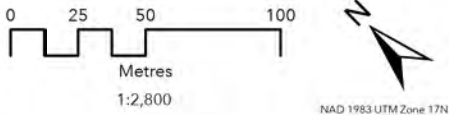
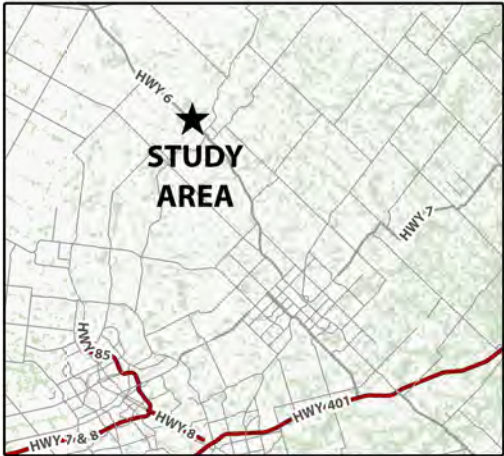


Map 5: Impact Assessment

St. David Street N - South Land EIS

- Site Plan (Polocorp, 2024)
- Adjacent Lands (120m)
- Bobolink Habitat (Dougan, 2024)
- Feature Delineation (Dougan, 2023)**
 - Dripline
 - Wetland
 - MNRF Watercourse¹
 - MNRF Watercourse (15m Buffer)¹
 - MNRF Watercourse (30m Buffer)¹
 - Natural Heritage Feature
 - Natural Heritage Feature Buffer (10m)

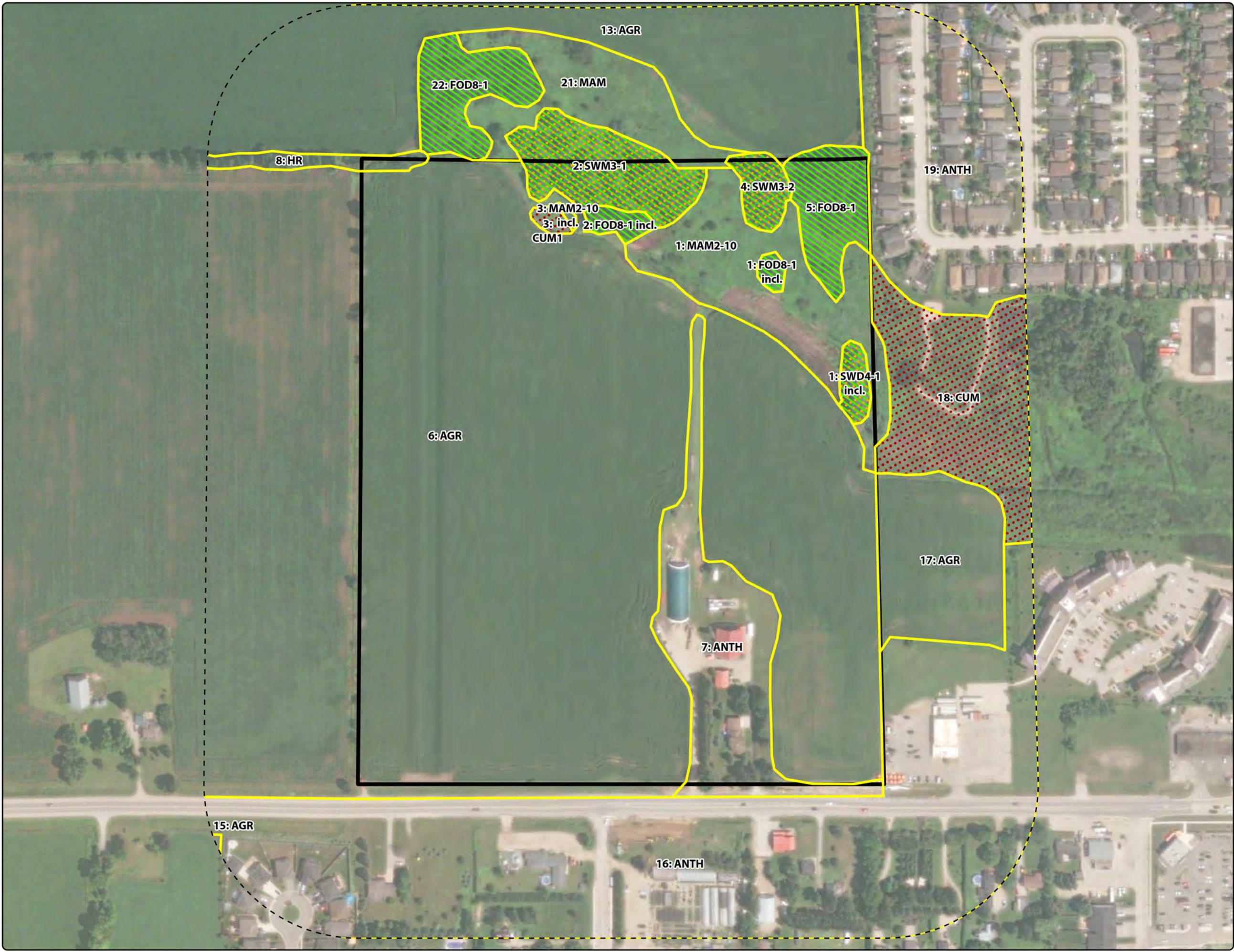
Note:
1. MNRF: Ministry of Natural Resources and Forestry



Orthoimagery Source: Maxar, Microsoft

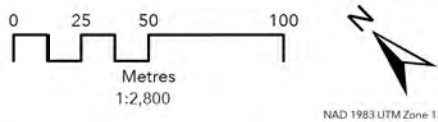
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Map 6-1: SWH Candidate
Seasonal Concentration
Areas of Animals
St. David Street N - South Land EIS

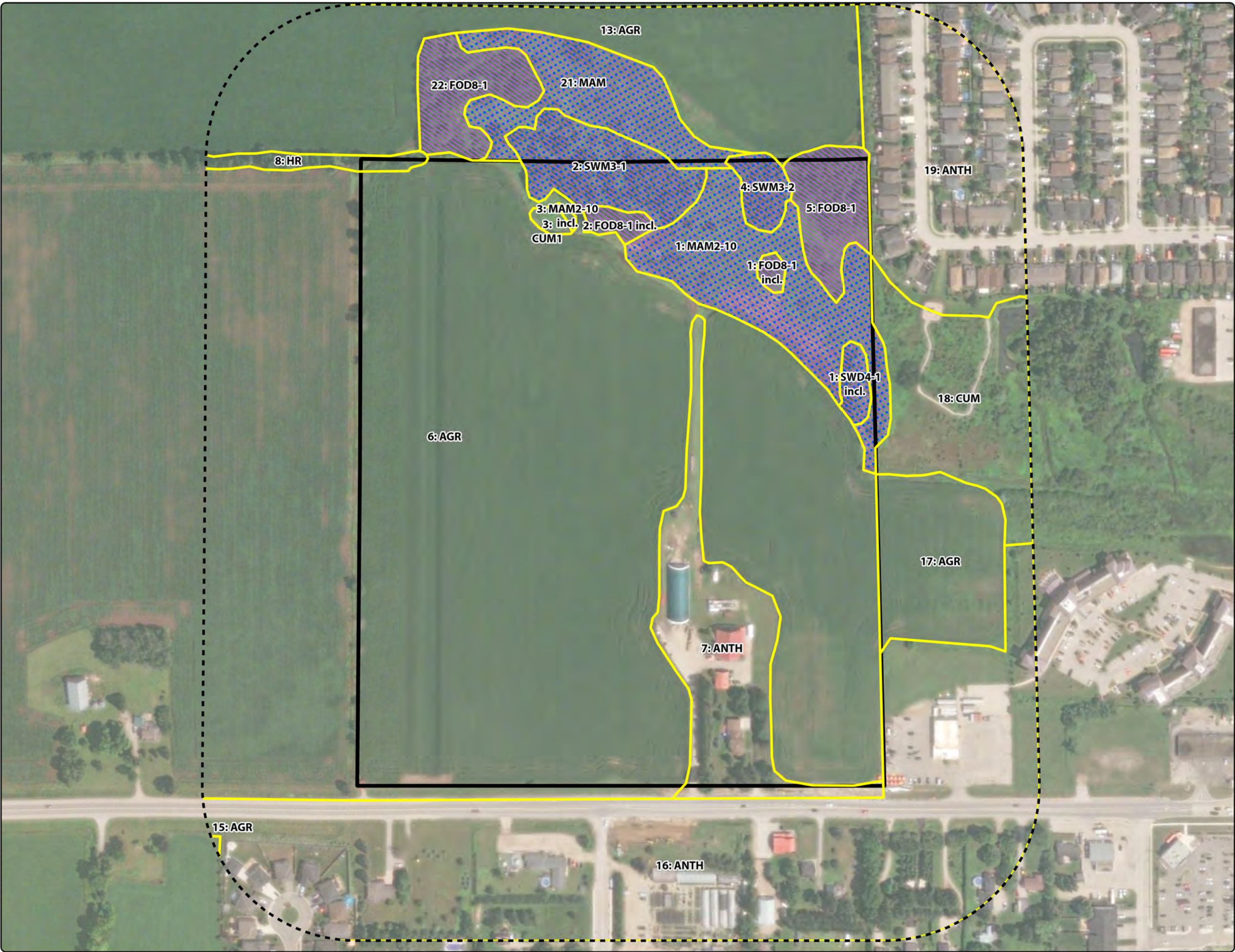
- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Ecological Land Classification (Dougan, June 2024)
- Candidate Seasonal Concentration Areas of Animals**
 - Waterfowl Stopover (Terrestrial)
 - Colonial Nesting Bird Breeding Habitat (Trees and Shrubs)
 - Bat Maternity Colonies



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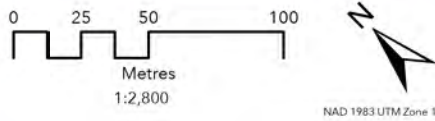




Map 6-2: SWH Candidate Specialized Habitat for Wildlife

St. David Street N - South Land EIS

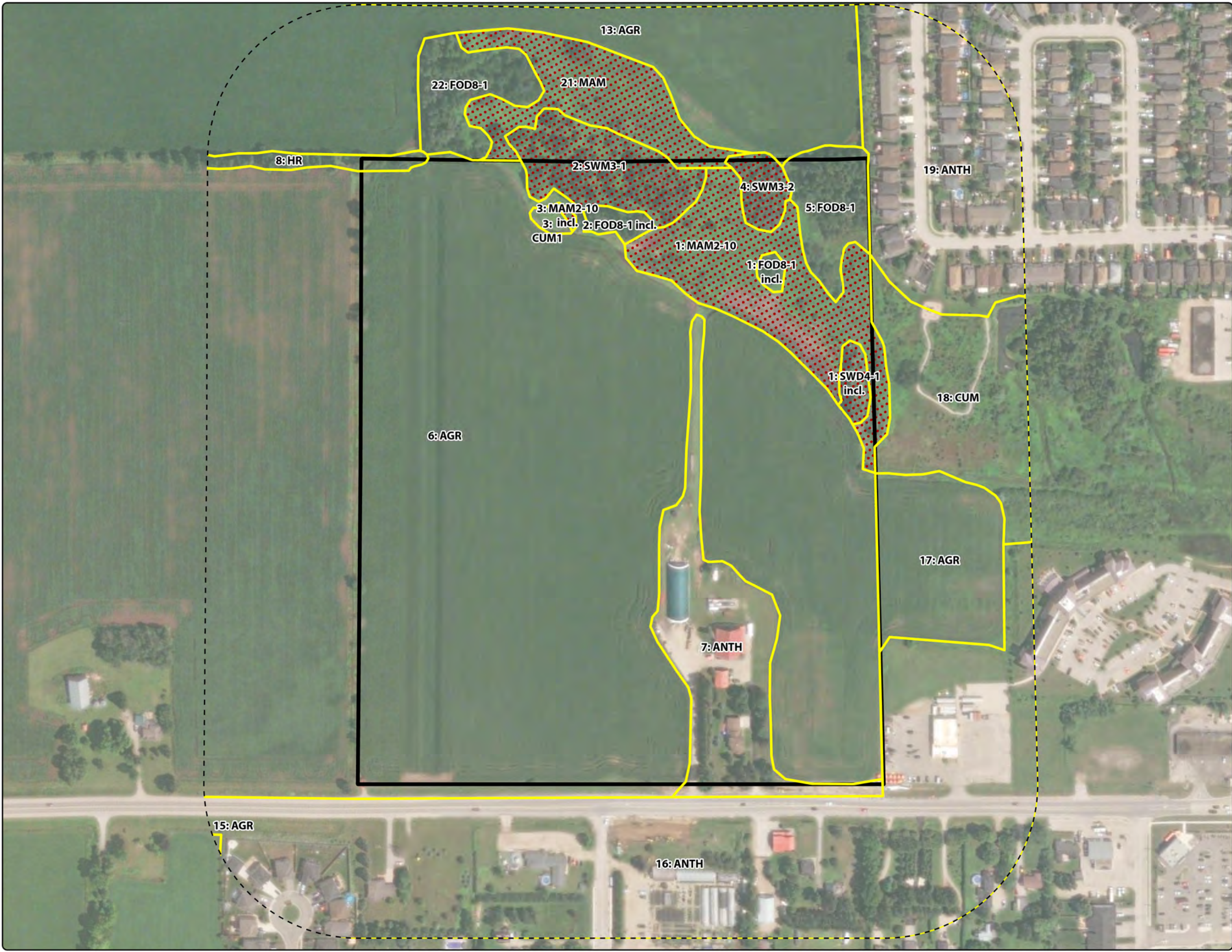
- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Ecological Land Classification (Dogan, June 2024)
- Amphibian Breeding Habitat (Wetland)
- Amphibian Breeding Habitat (Woodlands)



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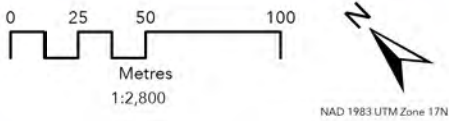
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Map 6-3: SWH Candidate
Habitat for Species of
Conservation Concern
St. David Street N - South Land EIS

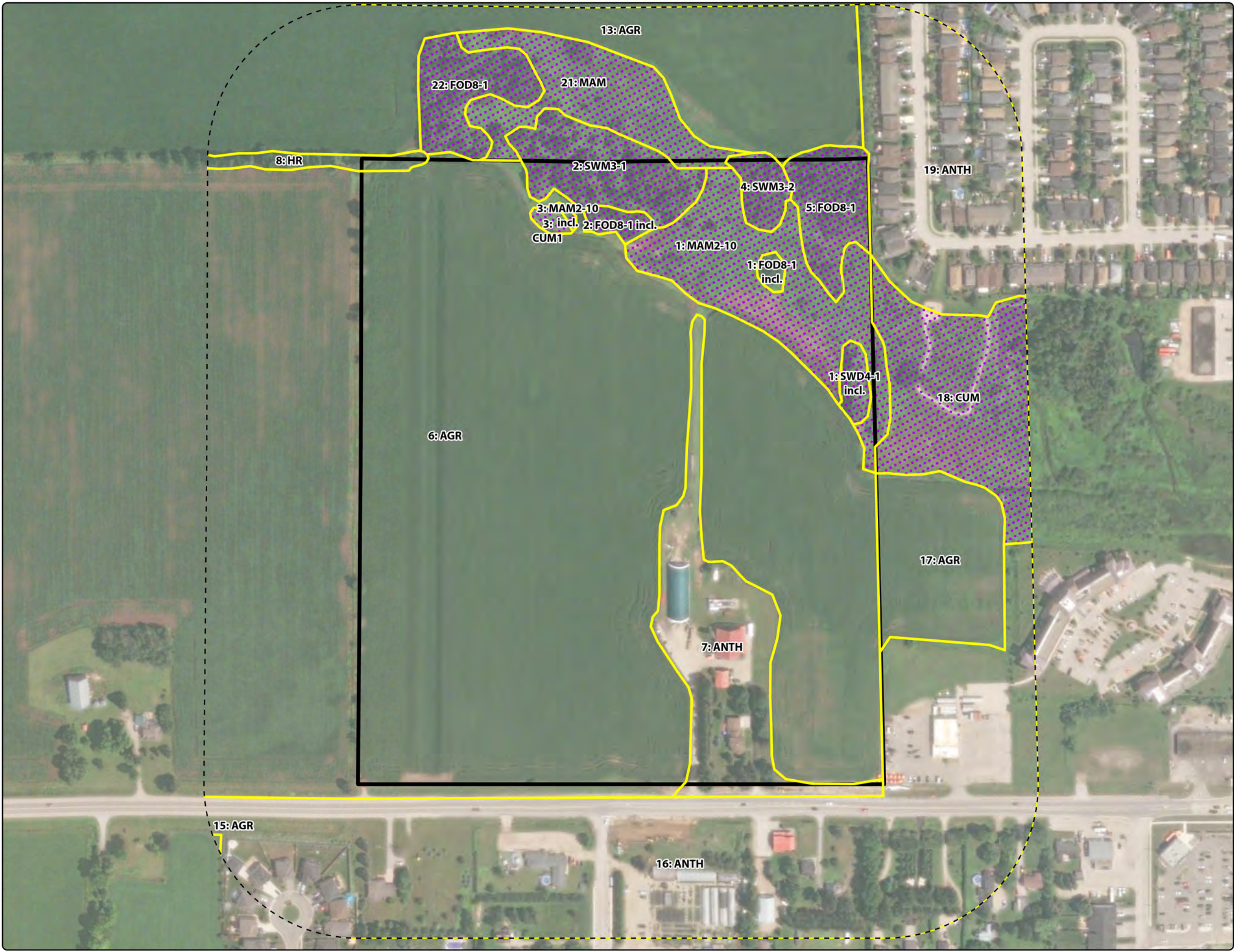
- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Ecological Land Classification (Dougan, June 2024)
- Terrestrial Crayfish



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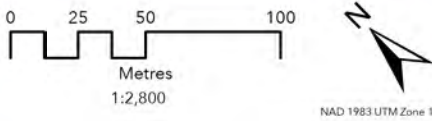




Map 6-4: SWH Candidate
Animal Movement Corridors

St. David Street N - South Land EIS

- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Ecological Land Classification (Dogan, June 2024)
- Amphibian Movement Corridors



Orthoimagery Source: Maxar, Microsoft, Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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A large, stylized graphic of a plant with five leaves. The leaves are light gray and arranged in a symmetrical, fan-like pattern. The top leaf is vertical, and the other four are curved outwards and downwards, creating a balanced, organic shape.

Appendix A: Background Species Records

Appendix A. Background Species Records

South Lands - St. David's St. N, Fergus ON

Common Name	Scientific Name	SARA Status	COSEWIC Status	ESA/SARO Status	Srank	Wellington	Source
American Crow	<i>Corvus brachyrhynchos</i>	--	--	--	S5	--	Nature Counts
Barn Swallow	<i>Hirundo rustica</i>	S4B	THR	THR	--	--	GBIF
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	SC	THR	S4B	C	NHIC
Canada Goose	<i>Branta canadensis</i>	--	--	--	S5	--	iNat
Eastern Meadowlark	<i>Sturnella magna</i>	THR	THR	THR	S4B,S3N	C	NHIC
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	SC	SC	SC	S4	C	NHIC
Monarch Butterfly	<i>Danaus plexippus</i>	END	END	SC	S2N,S4B	--	GBIF
Mourning Dove	<i>Zenaida macroura</i>	--	--	--	S5	--	Nature Counts
Ring-billed Gull	<i>Larus delawarensis</i>	--	--	--	S5B,S4N	--	Nature Counts
Trumpeter Swan	<i>Cygnus buccinator</i>	--	NAR	NAR	S4	--	Nature Counts
Tundra Swan	<i>Cygnus columbianus</i>	--	--	--	S4	--	GBIF
Wood Thrush	<i>Hylocichla mustelina</i>	THR	THR	SC	S4B	C	NHIC / GBIF

SARA: **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)

COSEWIC: **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)

ESA: **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)

S Rank:

SX Presumed Extirpated; **SH** Possibly Extirpated (Historical);

S1 Critically Imperiled;

S2 Imperiled;

S3 Vulnerable;

S4 Apparently Secure;

S5 Secure;

SNR Unranked;

SU Unrankable (conflicting information about status or trends);

SNA A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

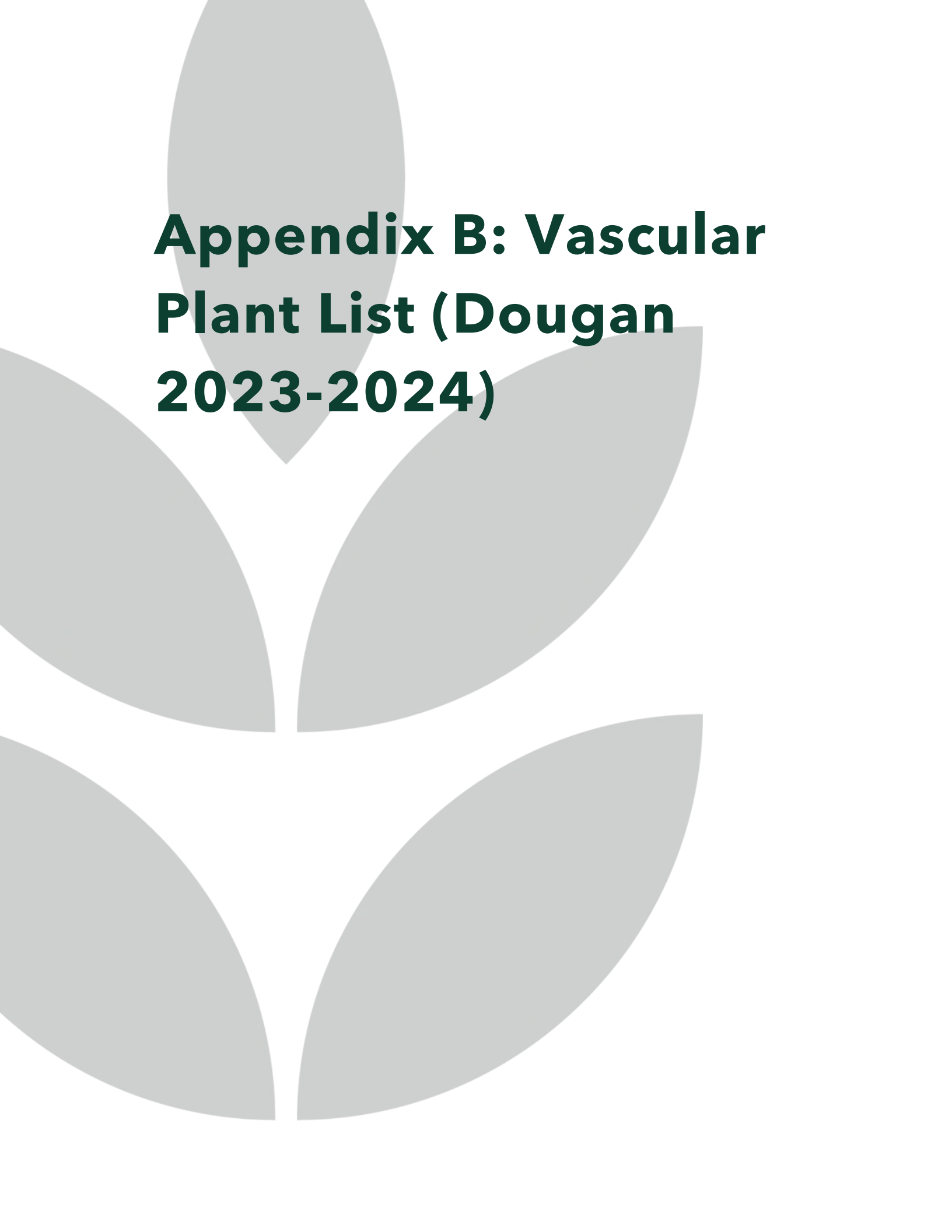
WC - RARE IN WELLINGTON COUNTY (informal).

R-A: Included based on "rare" status (i.e., occurrence at between 1 and 10 natural sites in the County) in the Flora of Wellington County.

R-B: Added as a plant record from post-1990 environmental studies within Guelph with global and/or provincial significance.

R-C: Added based on records provided by Mike Oldham (NHIC) for Wellington County in 2005.

R-D: New record for Wellington County (observed during field work conducted by Dougan & Associates 2005-2006).



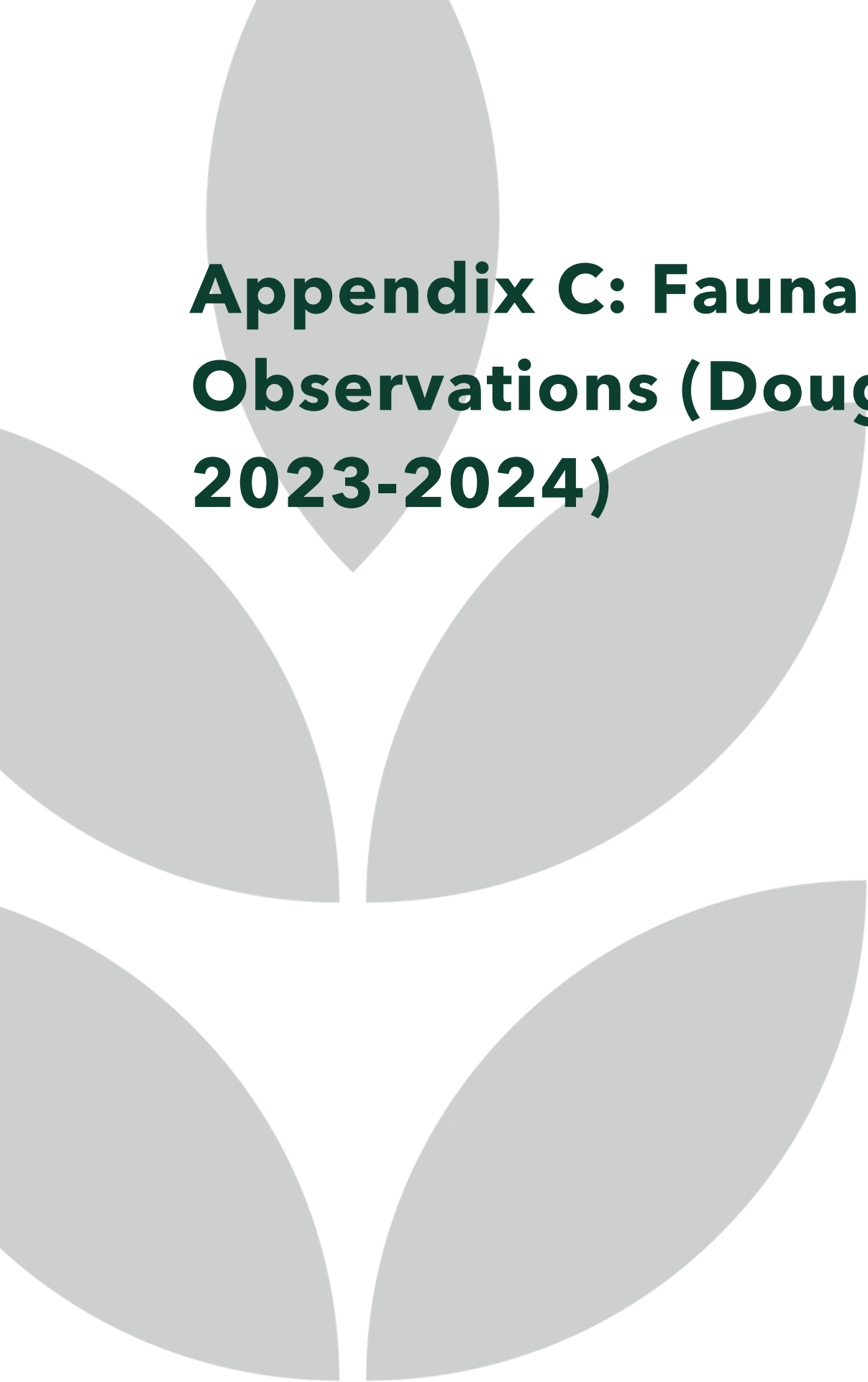
Appendix B: Vascular Plant List (Dougan 2023-2024)

Appendix B. Vascular Plant List Legend
 South Lands - St. David's St. N, Fergus ON

Scientific Name (ALPHA ORDER)	Common Name	SARA Schedule 1 Status	COSEWIC Status	SARO (ESA) Status	S Rank2	Wellington Country 2009	Native Status	CC	CW
<i>Abutilon theophrasti</i>	Velvetleaf	---	---	---	SNA	---	I	---	3
<i>Actaea rubra</i> ssp. <i>rubra</i>	Red Baneberry	---	---	---	S5	---	---	6	3
<i>Alliaria petiolata</i>	Garlic Mustard	---	---	---	SNA	---	I	---	0
<i>Amaranthus retroflexus</i>	Redroot Amaranth	---	---	---	SNA	---	I	---	3
<i>Ambrosia artemisiifolia</i>	Common Ragweed	---	---	---	S5	---	N	0	3
<i>Anthriscus sylvestris</i>	Wild Chervil	---	---	---	SNA	---	I	---	5
<i>Arctium minus</i>	Common Burdock	---	---	---	SNA	---	I	---	3
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	---	---	---	S5	---	N	5	-3
<i>Asclepias incarnata</i>	Swamp Milkweed	---	---	---	S5	---	N	6	-5
<i>Asclepias syriaca</i>	Common Milkweed	---	---	---	S5	---	N	0	5
<i>Asparagus officinalis</i>	Garden Asparagus	---	---	---	SNA	---	I	---	3
<i>Athyrium filix-femina</i> var. <i>angustum</i>	Northeastern Lady Fern	---	---	---	S5	---	N	4	0
<i>Betula alleghaniensis</i>	Yellow Birch	---	---	---	S5	---	N	6	0
<i>Bidens cernua</i>	Nodding Beggarticks	---	---	---	S5	---	N	2	-5
<i>Bidens</i> sp	Beggar's Ticks Species	---	---	---	---	---	---	---	---
<i>Bromus inermis</i>	Smooth Brome	---	---	---	SNA	---	I	---	5
<i>Carex bebbii</i>	Bebb's Sedge	---	---	---	S5	---	N	3	-5
<i>Carex crinita</i>	Fringed Sedge	---	---	---	S5	---	N	6	-5
<i>Carex gracillima</i>	Graceful Sedge	---	---	---	S5	---	N	4	3
<i>Carex retrorsa</i>	Retorse Sedge	---	---	---	S5	---	N	5	-5
<i>Carex rosea</i>	Rosy Sedge	---	---	---	S5	---	N	2	5
<i>Carex</i> sp	---	---	---	---	S5	---	N	6	-3
<i>Carex stipata</i>	Awt-fruited Sedge	---	---	---	S5	---	N	3	-5
<i>Carex stricta</i>	Tussock Sedge	---	---	---	S5	---	N	4	-5
<i>Carex sychnocephala</i>	Many-headed Sedge	---	---	---	S4	---	N	5	-3
<i>Carex vulpinoidea</i>	Fox Sedge	---	---	---	S5	---	N	3	-5
<i>Cerastium fontanum</i>	Common Mouse-ear Chickweed	---	---	---	SNA	---	I	---	3
<i>Chelidonium majus</i>	Greater Celandine	---	---	---	SNA	---	I	---	5
<i>Chelone glabra</i>	White Turtlehead	---	---	---	S5	---	N	7	-5
<i>Chenopodium album</i>	Common Lamb's-quarters	---	---	---	SNA	---	I	---	3
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	---	---	---	S5	---	N	2	3
<i>Circaea canadensis</i> ssp. <i>canadensis</i>	Canada Enchanter's Nightshade	---	---	---	S5	---	N	2	3
<i>Cirsium arvense</i>	Canada Thistle	---	---	---	SNA	---	I	---	3
<i>Cirsium</i> sp	---	---	---	---	---	---	---	---	---
<i>Cirsium vulgare</i>	Bull Thistle	---	---	---	SNA	---	I	---	3
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	---	---	---	S5	---	N	6	3
<i>Cornus obliqua</i>	Silky Dogwood	---	---	---	S5	---	N	2	-3
<i>Cornus racemosa</i>	Grey Dogwood	---	---	---	S5	---	N	2	0
<i>Cornus rugosa</i>	Round-leaved Dogwood	---	---	---	S5	R1	N	6	5
<i>Cornus sericea</i>	Red-osier Dogwood	---	---	---	S5	---	N	2	-3
<i>Crataegus punctata</i>	Dotted Hawthorn	---	---	---	S5	---	N	4	5
<i>Dactylis glomerata</i>	Orchard Grass	---	---	---	SNA	---	I	---	3
<i>Daucus carota</i>	Wild Carrot	---	---	---	SNA	---	I	---	5
<i>Dipsacus fulonum</i>	Common Teasel	---	---	---	SNA	---	I	---	3
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	---	---	---	S5	---	N	5	-3
<i>Dryopteris</i> sp	Wood Fern Species	---	---	---	---	---	---	---	---
<i>Echinochloa crus-galli</i>	Large Barnyard Grass	---	---	---	SNA	---	I	---	-3
<i>Echinocystis lobata</i>	Wild Cucumber	---	---	---	S5	---	N	3	-3
<i>Eleocharis</i> sp	Spikerush Species	---	---	---	---	---	---	---	---
<i>Epilobium ciliatum</i>	Northern Willowherb	---	---	---	S5	---	N	3	-3
<i>Epilobium hirsutum</i>	Hairy Willowherb	---	---	---	SNA	---	I	---	-3
<i>Epilobium</i> sp	Willow-herb Species	---	---	---	---	---	---	---	---
<i>Epilobium strictum</i>	Downy Willowherb	---	---	---	S4	R1	N	9	-5
<i>Epipactis helleborine</i>	Broad-leaved Helleborine	---	---	---	SNA	---	I	---	3
<i>Equisetum arvense</i>	Field Horsetail	---	---	---	S5	---	N	0	0
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	---	---	---	S5	---	N	1	-3
<i>Erigeron</i> sp	Fleabane Species	---	---	---	---	---	---	---	---
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	---	---	---	S5	---	N	2	0
<i>Eutrochium maculatum</i>	Spotted Joe Pye Weed	---	---	---	S5	---	N	3	-5
<i>Fagopyrum esculentum</i>	Common Buckwheat	---	---	---	SNA	---	I	---	5
<i>Fragaria vesca</i>	Woodland Strawberry	---	---	---	S5	---	N	4	3
<i>Fragaria virginiana</i>	Wild Strawberry	---	---	---	S5	---	N	2	3
<i>Fraxinus pennsylvanica</i>	Red Ash	---	---	---	S4	---	N	3	-3
<i>Galium aparine</i>	Common Bedstraw	---	---	---	S5	---	N	4	3
<i>Galium mollugo</i>	Smooth Bedstraw	---	---	---	SNA	---	I	---	5
<i>Galium palustre</i>	Common Marsh Bedstraw	---	---	---	S5	---	N	5	-5
<i>Galium</i> sp	Rough Bedstraw	---	---	---	S5	---	N	6	-5
<i>Geranium robertianum</i>	Herb-Robert	---	---	---	S5	---	N	2	3
<i>Geum canadense</i>	Canada Avens	---	---	---	S5	---	N	3	0
<i>Geum</i> sp	Avens Species	---	---	---	---	---	---	---	---
<i>Geum urbanum</i>	Wood Avens	---	---	---	SNA	---	I	---	5
<i>Glyceria grandis</i>	Tall Mannagrass	---	---	---	S5	---	N	5	-5
<i>Glyceria striata</i>	Fowl Mannagrass	---	---	---	S5	---	N	3	-5
<i>Hackelia virginiana</i>	Virginia Stickseed	---	---	---	S5	---	N	5	3
<i>Helianthus divaricatus</i>	Woodland Sunflower	---	---	---	S5	---	N	7	5
<i>Hemerocallis fulva</i>	Orange Daylily	---	---	---	SNA	---	I	---	5
<i>Hesperis matronalis</i>	Dame's Rocket	---	---	---	SNA	---	I	---	3
<i>Ilex verticillata</i>	Common Winterberry	---	---	---	S5	---	N	5	-3
<i>Impatiens capensis</i>	Spotted Jewelweed	---	---	---	S5	---	N	4	-3
<i>Juglans cinerea</i>	Butternut	END	END	END	S2?	---	N	6	3
<i>Juncus effusus</i>	Soft Rush	---	---	---	S5	---	N	4	-5
<i>Juncus tenuis</i>	Path Rush	---	---	---	S5	---	N	0	0
<i>Lactuca biennis</i>	Tall Blue Lettuce	---	---	---	S5	---	N	6	0
<i>Lactuca</i> sp	Lettuce Species	---	---	---	---	---	---	---	---
<i>Leersia oryzoides</i>	Rice Cutgrass	---	---	---	S5	---	N	3	-5
<i>Leonurus cardiaca</i>	Common Motherwort	---	---	---	SNA	---	I	---	5
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	---	---	---	SNA	---	I	---	3
<i>Lonicera tatarica</i>	Tatarian Honeysuckle	---	---	---	SNA	---	I	---	3
<i>Lycopus americanus</i>	American Water-horehound	---	---	---	S5	---	N	4	-5
<i>Lycopus uniflorus</i>	Northern Water-horehound	---	---	---	S5	---	N	5	-5
<i>Lysimachia</i> sp	Loosestrife Species	---	---	---	---	---	---	---	---
<i>Matteuccia struthiopteris</i>	Ostrich Fern	---	---	---	S5	---	N	5	0
<i>Mentha canadensis</i>	Canada Mint	---	---	---	S5	---	N	3	-3
<i>Nepeta cataria</i>	Catnip	---	---	---	SNA	---	I	---	3
<i>Oenothera biennis</i>	Common Evening-primrose	---	---	---	S5	---	N	0	3
<i>Oenothera</i> sp	Evening-primrose Species	---	---	---	---	---	---	---	---
<i>Onoclea sensibilis</i>	Sensitive Fern	---	---	---	S5	---	N	4	-3
<i>Oxalis stricta</i>	Upright Yellow Wood-sorrel	---	---	---	SNA	---	N	---	3

Appendix B. Vascular Plant List Legend
South Lands - St. David's St. N, Fergus ON

<i>Panicum capillare</i>	Common Panicgrass	---	---	---	S5	---	N	0	0
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	---	---	---	S4?	---	N	6	3
<i>Parthenocissus sp</i>	Virginia Creeper Species	---	---	---	---	---	---	---	---
<i>Parthenocissus vitacea</i>	Thicket Creeper	---	---	---	S5	---	N	4	3
<i>Persicaria maculosa</i>	Spotted Lady's-thumb	---	---	---	SNA	---	I	---	-3
<i>Persicaria virginiana</i>	Virginia Smartweed	---	---	---	S4	---	N	6	0
<i>Phalaris arundinacea</i>	Reed Canarygrass	---	---	---	S5	---	N	0	-3
<i>Phalaris arundinacea var. arundinacea</i>	Reed Canarygrass	---	---	---	S5	---	N	0	-3
<i>Phalaris sp</i>	Canary Grass Species	---	---	---	---	---	---	---	---
<i>Phleum pratense</i>	Common Timothy	---	---	---	SNA	---	I	---	3
<i>Phragmites australis</i>	Common Reed	---	---	---	SU	---	N	0	-3
<i>Plantago major</i>	Common Plantain	---	---	---	SNA	---	I	---	3
<i>Poa palustris</i>	Fowl Bluegrass	---	---	---	S5	---	N	5	-3
<i>Poa pratensis</i>	Kentucky Bluegrass	---	---	---	S5	---	N	0	3
<i>Populus balsamifera</i>	Balsam Poplar	---	---	---	S5	---	N	4	-3
<i>Populus tremuloides</i>	Trembling Aspen	---	---	---	S5	---	N	2	0
<i>Potentilla norvegica</i>	Rough Cinquefoil	---	---	---	S5	---	N	0	0
<i>Prunus serotina</i>	Black Cherry	---	---	---	S5	---	N	3	3
<i>Prunus virginiana</i>	Chokecherry	---	---	---	S5	---	N	2	3
<i>Ranunculus acris</i>	Common Buttercup	---	---	---	SNA	---	I	---	0
<i>Ranunculus caricetorum</i>	Northern Swamp Buttercup	---	---	---	S5	---	N	5	-5
<i>Ranunculus macounii</i>	Macoun's Buttercup	---	---	---	S4	---	N	---	-5
<i>Rhamnus cathartica</i>	European Buckthorn	---	---	---	SNA	---	I	---	0
<i>Ribes cynosbati</i>	Eastern Prickly Gooseberry	---	---	---	S5	---	N	4	3
<i>Ribes rubrum</i>	European Red Currant	---	---	---	SNA	---	I	---	5
<i>Ribes sp</i>	Currant Species	---	---	---	---	---	---	---	---
<i>Rubus idaeus ssp. strigosus</i>	Red Raspberry	---	---	---	S5	---	N	2	3
<i>Rubus idaeus ssp. strigosus</i>	North American Red Raspberry	---	---	---	S5	---	N	2	3
<i>Rumex crispus</i>	Curled Dock	---	---	---	SNA	---	I	---	0
<i>Salix bebbiana</i>	Bebb's Willow	---	---	---	S5	---	N	4	-3
<i>Salix caprea</i>	Goat Willow	---	---	---	SNA	---	I	---	-3
<i>Salix discolor</i>	Pussy Willow	---	---	---	S5	---	N	3	-3
<i>Salix elaeagnifolia</i>	Cottony Willow	---	---	---	S5	---	N	4	-3
<i>Salix petiolaris</i>	Meadow Willow	---	---	---	S5	---	N	3	-3
<i>Salix sp</i>	Willow Species	---	---	---	---	---	---	---	---
<i>Sambucus canadensis</i>	Common Elderberry	---	---	---	S5	---	N	5	-3
<i>Sambucus sp</i>	Elderberry Species	---	---	---	---	---	---	---	---
<i>Scirpus atrovirens</i>	Dark-green Bulrush	---	---	---	S5	---	N	3	-5
<i>Scirpus cyperinus</i>	Common Woolly Bulrush	---	---	---	S5	R3	N	4	-5
<i>Scirpus hattorianus</i>	Mosquito Bulrush	---	---	---	S4	---	N	6	-3
<i>Scirpus sp</i>	Bulrush Species	---	---	---	---	---	---	---	---
<i>Setaria sp</i>	Foxtail Species	---	---	---	---	---	---	---	---
<i>Silene latifolia</i>	White Campion	---	---	---	SNA	---	I	---	5
<i>Silphium perfoliatum</i>	Cup Plant	---	---	---	S2	---	N	9	-3
<i>Sinapis arvensis</i>	Corn Mustard	---	---	---	SNA	---	I	---	5
<i>Solanum dulcamara</i>	Bittersweet Nightshade	---	---	---	SNA	---	I	---	0
<i>Solanum nigrum</i>	Black Nightshade	---	---	---	SNA	---	I	---	0
<i>Solanum sp</i>	Nightshade Species	---	---	---	---	---	---	---	---
<i>Solidago canadensis</i>	Canada Goldenrod	---	---	---	S5	---	N	1	3
<i>Solidago gigantea</i>	Giant Goldenrod	---	---	---	S5	---	N	4	-3
<i>Sonchus arvensis</i>	Field Sow-thistle	---	---	---	SNA	---	I	---	3
<i>Sorbus aucuparia</i>	European Mountain-ash	---	---	---	SNA	---	I	---	5
<i>Spiraea alba</i>	White Meadowsweet	---	---	---	S5	---	N	3	-3
<i>Symphotrichum lanceolatum</i>	Paricled Aster	---	---	---	S5	---	N	3	-3
<i>Symphotrichum novae-angliae</i>	New England Aster	---	---	---	S5	---	N	2	-3
<i>Symphotrichum puniceum</i>	Purple-stemmed Aster	---	---	---	S5	---	N	6	-5
<i>Taraxacum officinale</i>	Common Dandelion	---	---	---	SNA	---	I	---	3
<i>Thlaspi arvense</i>	Field Pennycress	---	---	---	SNA	---	I	---	5
<i>Thuja occidentalis</i>	Eastern White Cedar	---	---	---	S5	---	N	4	-3
<i>Tilia cordata</i>	Little-leaved Linden	---	---	---	SNA	---	I	---	5
<i>Toxicodendron radicans</i>	Poison Ivy	---	---	---	S5	---	N	2	0
<i>Tragopogon pratensis</i>	Meadow Goatsbeard	---	---	---	SNA	---	I	---	5
<i>Trifolium pratense</i>	Red Clover	---	---	---	SNA	---	I	---	3
<i>Tsuga canadensis</i>	Eastern Hemlock	---	---	---	S5	---	N	7	3
<i>Tussilago farfara</i>	Coltsfoot	---	---	---	SNA	---	I	---	3
<i>Typha angustifolia</i>	Narrow-leaved Cattail	---	---	---	SNA	---	I	---	-5
<i>Typha latifolia</i>	Broad-leaved Cattail	---	---	---	S5	---	N	1	-5
<i>Ulmus americana</i>	White Elm	---	---	---	S5	---	N	3	-3
<i>Urtica dioica</i>	Stinging Nettle	---	---	---	SNA	---	N	---	0
<i>Urtica dioica ssp. dioica</i>	European Stinging Nettle	---	---	---	SNA	---	I	---	0
<i>Verbascum thapsus</i>	Common Mullein	---	---	---	SNA	---	I	---	5
<i>Verbena hastata</i>	Blue Vervain	---	---	---	S5	---	N	4	-3
<i>Veronica beccabunga</i>	European Speedwell	---	---	---	SNA	---	I	---	-5
<i>Viburnum lentago</i>	Nannyberry	---	---	---	S5	---	N	4	0
<i>Viburnum opulus</i>	Cranberry Viburnum	---	---	---	S5	---	N	5	-3
<i>Vicia cracca</i>	Tufted Vetch	---	---	---	SNA	---	I	---	5
<i>Viola pubescens</i>	Yellow Violet	---	---	---	S5	---	N	5	3
<i>Viola selkirkii</i>	Selkirk's Violet	---	---	---	S5	---	N	8	5
<i>Viola sp</i>	Violet Species	---	---	---	---	---	---	---	---
<i>Vitis riparia</i>	Riverbank Grape	---	---	---	S5	---	N	0	0

A large, stylized graphic of a plant with five leaves, rendered in a light gray color. The leaves are arranged in a symmetrical, fan-like pattern, with one leaf at the top and four others branching out downwards and outwards. The leaves have a smooth, curved shape with pointed tips.

Appendix C: Fauna Observations (Dougan, 2023-2024)

Appendix C. Fauna Observation List Legend

South Lands - St. David's Street N, Fergus ON

Common Name ¹	Scientific Name ¹	BBS Evidence (Birds Only) ²	SARA Status ³	COSEWIC Status ⁴	ESA Status ⁵	S Rank ⁶	Area Sensitivity ⁷	Wellington County ⁸
American Toad	<i>Anaxyrus americanus</i>	---	---	---	---	S5	---	---
Gray Treefrog	<i>Hyla versicolor</i>	---	---	---	---	S5	---	---
Green Frog	<i>Lithobates clamitans</i>	---	---	---	---	S5	---	---
Spring Peeper	<i>Pseudacris crucifer</i>	---	---	---	---	S5	---	---
Alder Flycatcher	<i>Empidonax alnorum</i>	Possible	---	---	---	S5B	---	---
American Crow	<i>Corvus brachyrhynchos</i>	Possible	---	---	---	S5B	---	---
American Goldfinch	<i>Spinus tristis</i>	Possible	---	---	---	S5B	---	---
American Redstart	<i>Setophaga ruticilla</i>	Possible	---	---	---	S5B	AS	---
American Robin	<i>Turdus migratorius</i>	Probable	---	---	---	S5B	---	---
Baltimore Oriole	<i>Icterus galbula</i>	Probable	---	---	---	S4B	---	---
Barn Swallow	<i>Hirundo rustica</i>	Confirmed	THR	SC	SC	S4B	---	---
Black-capped Chickadee	<i>Poecile atricapillus</i>	Possible	---	---	---	S5	---	---
Blue Jay	<i>Cyanocitta cristata</i>	Possible	---	---	---	S5	---	---
Bobolink	<i>Dolichonyx oryzivorus</i>	Probable	THR	SC	THR	S4B	AS	---
Brown-headed Cowbird	<i>Molothrus ater</i>	Probable	---	---	---	S4B	---	---
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Probable	---	---	---	S5B	---	---
Chipping Sparrow	<i>Spizella passerina</i>	Possible	---	---	---	S5B	---	---
Common Grackle	<i>Quiscalus quiscula</i>	Confirmed	---	---	---	S5B	---	---
Common Yellowthroat	<i>Geothlypis trichas</i>	Possible	---	---	---	S5B	---	---
Downy Woodpecker	<i>Dryobates pubescens</i>	Confirmed	---	---	---	S5	---	---
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Possible	---	---	---	S4B	---	---
European Starling	<i>Sturnus vulgaris</i>	Confirmed	---	---	---	SNA	---	---
Gray Catbird	<i>Dumetella carolinensis</i>	Possible	---	---	---	S4B	---	---
Great Blue Heron	<i>Ardea herodias</i>	Observed	---	---	---	S4	---	X
House Finch	<i>Haemorhous mexicanus</i>	Possible	---	---	---	SNA	---	---
House Wren	<i>Troglodytes aedon</i>	Possible	---	---	---	S5B	---	---
Indigo Bunting	<i>Passerina cyanea</i>	Possible	---	---	---	S4B	---	---
Killdeer	<i>Charadrius vociferus</i>	Possible	---	---	---	S5B,S5N	---	---
Mallard	<i>Anas platyrhynchos</i>	Observed	---	---	---	S5	---	---
Mourning Dove	<i>Zenaida macroura</i>	Possible	---	---	---	S5	---	---
Mourning Warbler	<i>Geothlypis philadelphia</i>	Possible	---	---	---	S4B	---	---
Northern Cardinal	<i>Cardinalis cardinalis</i>	Possible	---	---	---	S5	---	---
Northern Flicker	<i>Colaptes auratus</i>	Possible	---	---	---	S4B	---	---
Northern Harrier	<i>Circus hudsonius</i>	Observed	---	NAR	NAR	S4B	AS	---
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Confirmed	---	---	---	S4	---	---
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Probable	---	---	---	S4B	AS	---
Song Sparrow	<i>Melospiza melodia</i>	Probable	---	---	---	S5B	---	---
Swamp Sparrow	<i>Melospiza georgiana</i>	Possible	---	---	---	S5B	---	---
Turkey Vulture	<i>Cathartes aura</i>	Observed	---	---	---	S5B	---	X
Yellow Warbler	<i>Setophaga petechia</i>	Possible	---	---	---	S5B	---	---

Appendix C. Fauna Observation List Legend

South Lands - St. David's Street N, Fergus ON

Big Brown Bat	<i>Eptesicus fuscus</i>	---	---	---	---	S4	---	---
Coyote	<i>Canis latrans</i>	---	---	---	---	S5	---	---
Eastern Chipmunk	<i>Tamias striatus</i>	---	---	---	---	S5	---	---
Little Brown Myotis	<i>Myotis lucifugus</i>	---	END	END	END	S3	---	---
Northern Hoary Bat	<i>Lasiurus cinereus</i>	---	---	---	---	S4	---	---
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	---	---	---	---	S4	---	---
Unidentified bat species	<i>Chiroptera sp.</i>	---	---	---	---	?	---	---
White-tailed Deer	<i>Odocoileus virginianus</i>	---	---	---	---	S5	---	---
Woodchuck	<i>Marmota monax</i>	---	---	---	---	S5	---	---

Weather and Survey Times

Breeding Bird Survey 1: May 29th, 2024, light breeze, cloudy, 12°C

Breeding Bird Survey 2 - June 12th, 2024, light breeze, damp/haze/fog, 9°C

Legend:

1. Common names, scientific names and taxonomic order consistent with the American Ornithologists' Union's "Check-list of North American Birds. 7th edition" (AOU, 1998) and the American Ornithologists' Society's 64th supplement (Chesser et al., 2023).

2. **OBBA (Ontario Breeding Bird Atlas)**. 2021. Breeding Evidence Codes. Observed: **X** Species observed in its breeding season (no breeding evidence); **Possible: H** Species observed in its breeding season in suitable nesting habitat C, **S** Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season; **Probable: M** At least 7 individuals singing or producing other sounds associated with breeding, heard during the same visit to a single square and in suitable nesting habitat during the species' breeding season, **P** Pair observed in suitable nesting habitat in nesting season, **T** Permanent territory presumed through registration of territorial song, or the occurrence of an adult bird, at the same place, in breeding habitat, on at least two days a week or more apart, during breeding season, **D** Courtship display, including interaction between a male and female or two males, **V** Visiting probable nest site, **A** Agitated behaviour or anxiety call of an adult, **B** Brood Patch on adult female or cloacal protuberance on adult male, **N** Nest-building or excavation of nest hole, by a wren or woodpecker; **Confirmed: DD** Distraction display or injury feigning, **NB** Nest-building or excavation of nest hole (excluding wrens/ woodpeckers), **NU** Used nest or egg shells found (occupied or laid within the period of the survey), **FY** Recently fledged young incapable of sustained life, **AE** Adults leaving or entering nest site in circumstances indicating occupied nest, **FS** Adult carrying fecal sack, **CF** Adult carrying food for young, **NE** Nest containing eggs, **NY** Nest with young seen or heard.

3. **SARA Schedule1 Status:** Status as depicted in Schedules 1 of the Species at Risk Act (Government of Canada, 2002) **SC** = Special Concern: A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats. **THR** = Threatened: A wildlife species that is likely to become an endangered species if nothing is done to reverse the factors leading to its extirpation or extinction. **END** = Endangered: A wildlife species that is facing imminent extirpation or extinction.

4. **COSEWIC** (Committee on the Status of Endangered Wildlife in Canada) 2024.

5. **SARO (ESA) Status:** Status as per the Species at Risk in Ontario (SARO) List which is the official list of endangered, threatened, special concern and extirpated animals and plants in Ontario (OMECP, 2024). It is provided in Ontario Regulation 230/08 under the Endangered Species Act, 2007, S.O. 2007, c. 6 (Government of Ontario, 2007). **NAR** = Not at Risk **SC** = Special Concern = A species that lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered because of a combination of biological characteristics and identified threats. **END** = A species that lives in the wild in Ontario but is facing imminent extinction or extirpation.

Appendix C. Fauna Observation List Legend

South Lands - St. David's Street N, Fergus ON

6. **Srank**: Sub-national ranks (SRanks) are evaluated & assigned by the Natural Heritage Information Centre (NHIC, 2024). Subnational conservation status definitions set by NatureServe Explorer (2024). **S5** = Secure: Common, widespread, and abundant in the nation or state/province. **S4** = Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors. **S3** = Vulnerable: Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. **_B** = Conservation status refers to the breeding population of the species in the nation or state/province. Those without any suffixes are considered resident species. **SNA** = Not Applicable: A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

7. **Area Sensitivity**: Identified by OMNR (2000). **AS** = Area Sensitive.

8. **Wellington County (2009)**: City of Guelph Natural Heritage Strategy - Phase 2: Terrestrial Inventory & Natural Heritage System (VOL. 2 - APPENDICES). Final Report March 2009.



Appendix D: Species at Risk (SAR) Screening

Appendix D. Species at Risk Screening for St. David's St. N. - South Lands EIS, Fergus

SPECIES LIST (MNR, November 2018)	SAR Designation (if different = federal / provincial)	Status in Ontario	Key Habitats Used By Species	Status at St. David's St. N EIS site and adjacent lands (within 120 metres)
AMPHIBIANS				
Jefferson Salamander (<i>Ambystoma jeffersonianum</i>)	Endangered	Southern Ontario, mainly along the Niagara Escarpment	Inhabits deciduous and mixed deciduous forests with suitable breeding areas which generally consist of ephemeral (temporary) bodies of water that are fed by spring runoff, groundwater, or springs.	Suitable habitat of adequate size to provide ephemeral ponds is absent on site or in adjacent lands. This species is found mainly along Niagara Escarpment; the NHIC and MECF databases do not have records from this area (most populations in Ontario have been identified). Given the isolated nature of these habitats, with surrounding urban and agricultural habitats, it is highly unlikely that this species is present.
BIRDS				
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Special Concern (provincial only)	Widespread in southern Ontario	Prefers deciduous and mixed-deciduous forest; and habitat close to water bodies such as lakes and rivers; they roost in super canopy trees such as pine.	No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.
Bank Swallow (<i>Riparia riparia</i>)	Threatened	Widespread in southern Ontario	Low areas along rivers, streams, coasts or reservoirs; nest in natural bluffs and eroding streamside banks, also sand and gravel quarries and road cuts	No suitable breeding habitat found on site or in adjacent lands. None detected during breeding bird surveys.
Barn Swallow (<i>Hirundo rustica</i>)	Threatened / Special Concern	Widespread in southern Ontario	Prefers farmland, lake/river shorelines, wooded clearings, urban populated areas, rocky cliffs, and wetlands. They nest inside or outside buildings; under bridges and in road culverts; on rock faces and in caves, etc.	NHIC records exist for the general area. A conservative estimate of up to five (5) individuals were observed foraging over both fields. There is suitable nesting habitat in barns located within the subject property. During the second BBS visit, recently (2024 breeding season) constructed nests were observed in the older barn located on the subject property, indicating Confirmed breeding.
Bobolink (<i>Dolichonyx oryzivorus</i>)	Threatened	Widespread in southern Ontario	Generally prefers open grasslands and hay fields. In migration and in winter uses freshwater marshes and grasslands.	NHIC records exist for the general area. On the first visit, multiple observations were made, including sightings of singing males (3) and territorial displays, indicating active breeding territories, mostly in the wheat field on the adjacent northern property. No females were observed, and it was uncertain if the territories were established. An additional incidental observation of a singing male during June 6th botanical surveys indicated 'Possible' breeding. During the second BBS visit, several males (3) and one (1) female were observed in the southeast agricultural field (alfalfa and other tall grasses, planted for hay). As of the second breeding bird survey (June 12th) this species should be considered 'Probably' breeding, due to presence of a presumed pair
Canada Warbler (<i>Wilsonia canadensis</i>)	Threatened / Special Concern	Absent in southwestern Ontario; primarily breeds in Southern Shield	Generally prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest.	No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.
Chimney Swift (<i>Chaetura pelagica</i>)	Threatened	Widespread in southern Ontario	Historically found in deciduous and coniferous, usually wet forest types, all with a well developed, dense shrub layer; now most are found in urban areas in large uncapped chimneys.	No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.
Common Nighthawk (<i>Chordeiles minor</i>)	Special Concern	Widespread in southern Ontario	Generally prefers open, vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and river banks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nests on flat roof-tops).	No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.
Eastern Meadowlark (<i>Sturnella Magna</i>)	Threatened	Widespread in southern Ontario	Generally prefers grassy pastures, meadows and hay fields. Nests are always on the ground and usually hidden in or under grass clumps.	NHIC records exist for the general area. This species was only recorded associating with properties to the north during the first Breeding Bird Area Search on May 29th, and none were detected during the second breeding bird survey on June 12th. Potentially suitable habitat to the north (two properties over) was mowed sometime between the first and second breeding bird survey. Following completion of two rounds of breeding bird surveys, this species was determined to not be breeding on the subject property or adjacent lands (120m).
Eastern Wood-Pewee (<i>Contopus virens</i>)	Special Concern	Widespread in southern Ontario	Found in deciduous, mixed woods, or pine plantations; also found in mature woodlands, urban shade trees, roadsides, and orchards; usually found in clearings and forest edges.	Potentially suitable habitat present surround existing properties and at city park on adjacent lands. None detected during breeding bird surveys.
Golden-winged Warbler (<i>Vermivora chrysoptera</i>)	Threatened / Special Concern	Local; primarily central-eastern Ontario	Generally prefers areas of early successional vegetation, found primarily on field edges, hydro or utility right-of-ways, or recently logged areas.	Some potentially suitable habitat present between southern field and wetland. None detected during breeding bird surveys.

Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	Endangered	Widespread but rare in southern Ontario	Generally prefers open oak and beech forests, grasslands, forest edges, orchards, pastures, riparian forests, roadsides, urban parks, golf courses, cemeteries, as well as along beaver ponds and brooks.	None detected during breeding bird surveys. There are suitable snag trees present in the study area.
Wood Thrush (<i>Hylocichla mustelina</i>)	Threatened / Special Concern	Widespread in southern Ontario	Breeds in mature deciduous and mixed forests, most commonly those with American beech, sweet gum, red maple, black gum, eastern hemlock, flowering dogwood, American hornbeam, oaks, or pines; nests less successfully in fragmented forests and suburban parks with enough large trees for a territory; ideal habitat includes trees over 50 feet tall, a moderate understory of saplings/shrubs, an open floor with moist soil and decaying leaf litter, and water nearby.	NHIC records exist for the general area. No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.
Yellow-breasted Chat (<i>Icteria virens</i>)	Endangered	Breeds mainly Point Pelee and Pelee Island	Generally prefers dense thickets around wood edges, riparian areas, and in overgrown clearings.	No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.
INSECTS				
Monarch (<i>Danaus plexippus</i>)	Endangered / Special Concern	Widespread in southern Ontario	Exist primarily wherever milkweed and wildflowers exist, such as abandoned farmland, along roadsides, and other open spaces.	GBIF records exist for the general area - a single record for the adjacent park (Gibbons Drive Park). Suitable habitat for this species is present both on the subject property within the agricultural fields, the meadow marsh in the northern portion of the site, as well as on the adjacent agricultural, forested and riparian lands. Likely found on site during fall migration but in non-significant numbers. Likely breeds within the study area, as Common Milkweed is found in disturbed areas of site and adjacent lands.
Rusty-patched Bumble Bee (<i>Bombus affinis</i>)	Endangered	The only sightings of this bee in Canada since 2002 have been at The Pinery Provincial Park on Lake Huron.	Can be found in open habitat such as mixed farmland, urban settings, savannah, open woods and sand dunes.	Potential habitat found on site or in adjacent lands. No NHIC or MECP records from area.
West Virginia White (<i>Pieris virginienensis</i>)	Special Concern (provincial only)	50 sites in south and central Ontario; primarily western Lake Ontario region	Generally prefer moist, deciduous woodlands; the larvae feed only on the leaves of the two-leaved toothwort (<i>Cardamine diphylla</i>), which is a small, spring-blooming plant of the forest floor.	No suitable habitat found on site or in adjacent lands. No NHIC or MECP records from area; most sites in southern Ontario are generally known.
MAMMALS				
Eastern Small-footed Myotis (<i>Myotis leibii</i>)	Endangered (provincial only)	Widespread in southern Ontario	Overwintering habitat: caves and mines that remain above 0 degrees Celsius; Maternal roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses, and under tree bark.	Maternity roosts may occur in wooded areas adjacent to the wetlands; may form temporary roosts in trees during migration (April and May; August to October). May also inhabit the existing structures on site. Bat visual exit surveys targeting suitable structures on site are forthcoming in June 2024 to confirm species presence/absence. Any snag trees or structures slated for removal should not be removed between April 1 and September 30.
Little Brown Myotis (<i>Myotis lucifugus</i>)	Endangered	Widespread in southern Ontario	Overwintering habitat: caves and mines that remain above 0 C; Maternal roosts: Often associated with buildings (attics, barns, etc.). Occasionally found in trees (25-44 cm dbh).	Maternity roosts may occur in wooded areas adjacent to the wetlands; may form temporary roosts in trees during migration (April and May; August to October). May also inhabit the existing structures on site. Bat visual exit surveys targeting suitable structures on site are forthcoming in June 2024 to confirm species presence/absence. Any snag trees or structures slated for removal should not be removed between April 1 and September 30.
Northern Myotis (<i>Myotis septentrionalis</i>)	Endangered	Widespread in southern Ontario	Overwintering habitat: caves and mines that remain above 0 C; Maternal roosts: often associated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns, etc.)	See Eastern Small-footed Myotis.
REPTILES				
Blanding's Turtle (<i>Emydonidea blandingii</i>)	Threatened	Widespread in south, central, and eastern Ontario	Generally occurs in freshwater lakes, permanent or temporary pools, slow-flowing streams, marshes and swamps. Prefers shallow water that is rich in nutrients, organic soil and dense vegetation. Adults are generally found in open or partially vegetated sites, and juveniles prefer areas that contain thick aquatic vegetation including sphagnum, water lilies and algae. They dig their nest in a variety of loose substrates, including sand, organic soil, gravel and cobblestone. Overwintering occurs in permanent pools that average about one metre in depth, or in slow-flowing streams.	No large open bodies of water. No NHIC or MECP records from area (the locations of most populations in this region of Ontario are known). Given the isolated nature of this site, surrounded by anthropogenic and agricultural habitats, it is highly unlikely that a population of this species persists in the area.
Eastern Ribbonsnake (<i>Thamnophis sauritus</i>)	Special Concern		Generally occur along the edges of shallow ponds, streams, marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant exposure to sunlight is also required, and adjacent upland areas may be used for nesting.	Potential habitat found on site or in adjacent lands. However, soils are not sandy in nature so not suitable for egg-laying or overwintering. No NHIC or MECP records from area.

Midland Painted Turtle (<i>Chrysemys picta marginata</i>)	Special Concern (federal only)	Very widespread and common in southern Ontario	Painted turtles inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. The midland painted turtle hibernates on the bottom of waterbodies.	NHIC records exist for the general area. Potential habitat is found on site (Polygon 1) and adjacent lands (Gibbons Drive Park). If present, the proposed development will not adversely impact this species as mitigation measures will be in place; see report for details.
Snapping Turtle (<i>Chelydra serpentina</i>)	Special Concern	Very widespread and common in southern Ontario	Generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.	This species can utilize habitats such as ditches and small watercourses and wetlands. No records for area in the NHIC and MECP databases. If present, the habitat for this species will be preserved and no adverse impacts are anticipated. See report for mitigation measures.
VASCULAR PLANTS				
Butternut (<i>Juglans cinerea</i>)	Endangered	Found throughout the southwest, north to the Bruce Peninsula, and south of the Canadian Shield.	Generally grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows.	Potential Butternut were identified in polygon 2 during 2023 field investigations. Genetic analysis revealed that the identified individual is a hybrid Butternut x Japanese Walnut (<i>J. cinerea</i> x <i>J. ailantifolia</i>) and therefore not SAR. See report and Appendix F for details.

A large, stylized graphic of a plant with five leaves. The leaves are light gray and arranged in a symmetrical, fan-like pattern. The top leaf is the largest and is positioned behind the text. The other four leaves are arranged in two pairs, one pair on the left and one pair on the right, pointing outwards and downwards.

Appendix E: Significant Wildlife (SWH) Screening

Appendix E: Significant Wildlife Habitat (SWH) Assessment for St David St. N. South Lands and adjacent 120 m using SWH Criteria Schedules for Ecoregion 6E (OMNRF, 2015)

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
Seasonal Concentration Areas of Animals				
Waterfowl Stopover and Staging Areas (Terrestrial)	Fields with sheet water during mid-Mar to May. <u>ELC¹ Ecosites</u> : CUM1 & CUT1 plus evidence of annual spring flooding; does not include agricultural fields, unless spring sheet water is available. <u>Qualifying spp.</u> : ABDU ² , AMBD, AMWI, BWTE, GADW, GWTE, MALL, NOPI, NSHO &, WODU. <u>Confirmed SWH</u> : Any mixed species groups of 100+ birds.	Air photo interpretation, possibly followed by ELC confirmation and spring bird surveys conducted between mid-March to May according to “Bird and Bird Habitats: Guidelines for Wind Power Projects” (OMNR, 2010).	SWH Candidate. Qualifying habitat appears to be present in the Study Area (CUM1). To be confirmed during field investigations.	SWH Candidate. Suitable habitat is present within the study area (polygon 3 and offsite polygon 18).
Waterfowl Stopover and Staging Areas (Aquatic)	Ponds, marshes, lakes, bays, coastal inlets, and watercourses are used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. <u>ELC Ecosites</u> : MAS1–MAS3, SAS1, SAM1, SAF1, & SWD1–SWD7. <u>Qualifying species</u> : ABDU, AMWI, BLSC, BRAN, BUFF, BWTE, CACG, CANG, CANV, COGO, COME, GADW, GRSC, GWTE, HOME, LESC, LTDU, NOPI, NSHO, RBME, REDH, RNDU, RUDU, SNGO, SUSO & WWSC. <u>Confirmed SWH</u> : 100+ of listed species for 7 days; areas with annual staging of Canvasback, Redhead, and Ruddy Duck.	Air photo interpretation, possibly followed by ELC confirmation, and spring or fall migratory bird surveys conducted according to “Bird and Bird Habitats: Guidelines for Wind Power Projects” (OMNR, 2010).	SWH Absent. Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations.	SWH Absent. Qualifying habitats are not present within the study area.
Shorebird Migratory Stopover Area	Shorelines of lakes, rivers and wetlands, incl. beach areas, bars & seasonally flooded, muddy and un-vegetated shoreline habitats. Also groynes and other forms of armour rock lakeshores. Habitat is extremely rare; typically has a long history of use. Does not include sewage treatment ponds or SWM ponds. <u>ELC Ecosites</u> : BB01, BB02, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, & MAM1–MAM5. <u>Qualifying spp.</u> : AGPL, BASA, BBPL, DUNL, GRYE, HUGO, LESA, LEYE, MAGO, PESA, PUSA, RNPH, RUTU, SAND, SBDO, SEPL, SESA, SOSA, SPSA, STSA, WHIM, & WRSA. <u>Confirmed SWH</u> : 3+ qualifying spp. and 1000+ “shorebird use days ³ ” during spring or fall; sites with > 100 WHIM used for 3+ years.	Air photo interpretation, possibly followed by ELC confirmation, and migratory bird surveys conducted during spring (May 1 – mid-June) or fall (early July –October) according to “Bird and Bird Habitats: Guidelines for Wind Power Projects” (OMNR, 2010).	SWH Absent. Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations.	SWH Absent. Qualifying habitats were not present within the study area.
Raptor Wintering Area	Hawks/Owls: Combination of upland fields and woodland providing roosting, foraging & resting habitat. Sites are 20+ ha, but least disturbed sites (i.e., idle/fallow or lightly grazed fields/meadows) need only be >15 ha with adjacent woodlands. Field should be wind swept with low snow depth. <u>ELC Community Series</u> : FOD, FOM, FOC & CUM, CUT, CUS, & CUW. Bald Eagle: Eagle sites have open water & large trees/snags for roosting. <u>ELC Community Series</u> : FOD, FOM, FOC, SWD or SWC on shoreline areas next to large rivers or adjacent to lakes with open water. <u>Qualifying spp.</u> : AMKE, BAEA, NOHA, RLHA, RTHA, SEOW, & SNOW. <u>Confirmed SWH</u> : 1 SEOW, 1 BAEA, or 10+ birds of 2 listed spp. Also must be used regularly (3 in 5 years) for 20+ days by the above number of birds.	Air photo interpretation, possibly followed by ELC confirmation, and multi-year winter bird surveys conducted according to “Bird and Bird Habitats: Guidelines for Wind Power Projects” (OMNR, 2010).	SWH Absent. Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations.	SWH Absent. Qualifying habitats were not present within the study area.
Bat Hibernacula	May be found in caves, mine shafts, underground foundations and karsts. (Note: active mine shafts or buildings are not SWH). <u>ELC Ecosites</u> : CCR1,	Check with MNDMNRF. Air photo interpretation, followed by ELC survey, and possibly bat surveys conducted during the peak	SWH Absent. Available aerial photo and topographic mapping suggests there are no areas of exposed bedrock suitable for	SWH Absent. Qualifying habitats were not present within the study area. No qualifying species were

¹ Ecological Land Classification (ELC) information/codes are based on the Ecological Land Classification for Southern Ontario: First Approximation and Its Application (Lee et al., 1998).

² Four-letter codes for birds are based on the 2023 list prepared by Peter Pyle and David F. DeSante (The Institute for Bird Populations).

³ Shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period.

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
	CCR2, CCA1, & CCA2. <u>Qualifying spp.</u> : Big Brown Bat & Tri-colored Bat. <u>Confirmed SWH</u> : All sites with confirmed hibernating bats.	swarming period (Aug. – Sept.) according to “ <i>Bats and Bat Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2011).	hibernation. To be verified during field investigations.	observed when conducting field investigations.
Bat Maternity Colonies	Found in tree cavities & vegetation in mature deciduous or mixed forest stands with 10+ large diameter (25+ cm dbh) snag trees/ha. Also found in buildings, but buildings are not SWH. Females prefer snags in early stages of decay (Class 1 –3). <u>ELC Ecosites</u> : All Ecosites in FOD, FOM, SWD, & SWM Community Series. <u>Qualifying spp.</u> : Big Brown Bat & Silver-haired Bat. <u>Confirmed SWH</u> : Colonies with 10+ Big Brown Bats or 5+ Silver-haired Bats.	Air photo interpretation of vegetation communities. ELC confirmation, and specialized bat habitat surveys conducted according to “ <i>Bats and Bat Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2011).	SWH Candidate. Desktop review determined suitable ELC communities present in the Study Area (FOD8-1, SWM3-1, SWD4-1).	SWH Candidate. Qualifying habitats are present in polygons 1, 2, 4 5, and 22. These polygons are within the designated Core Greenlands feature and will be preserved in-situ.
Turtle Wintering Areas	Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen; usually in the same area as their core habitat, where water is deep enough not to freeze and have soft mud substrates. Does not include man-made ponds such as sewage lagoons/stormwater ponds. Snapping/Midland Painted Turtles: Includes SW, MA, OA, & SA <u>ELC Community Classes</u> and FEO and BOO <u>ELC Community Series</u> . Northern Map Turtle: open water areas (e.g. deeper rivers, streams) and lakes with current can be used. <u>Qualifying spp.</u> : Midland Painted Turtle, Northern Map Turtle & Snapping Turtle. <u>Confirmed SWH</u> : 5+ ‘Painted’ or 1+ Snapping/Northern Map Turtles.	Air photo interpretation, to help guide spring (March – May) and/or fall (Sept. – Oct.) basking turtle surveys	SWH Absent. Available aerial photos suggest that there are no wetland habitats of adequate size, or large permanent water bodies within the Study Area.	SWH Absent. Qualifying habitats were not present within the study area. No qualifying species were observed when conducting field investigations.
Reptile Hibernaculum	Snakes: Any ELC <u>ecosite</u> except very wet ones; talus, rock barren, crevice, cave, and alvar sites may be directly related. Occurs below frost lines in burrows, rock crevices/fissures & other natural or naturalized locations. <u>Qualifying spp.</u> : E. Gartersnake, N. Watersnake, Red-bellied Snake, DeKay’s Brownsnake, Smooth Greensnake, Ring-necked Snake, E. Milksnake, E. Ribbonsnake. <u>Confirmed SWH</u> : Presence of a hibernaculum/congregations near potential hibernaculum used by 5+ individuals of a snake spp., <u>or</u> 2+ snake species, <u>or</u> presence of 1+ Special Concern spp. (i.e., E. Ribbonsnake). Comom Five-lined Skink: Prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. <u>ELC Community Series</u> : FOD & FOM; <u>ELC Ecosites</u> : FOC1 & FOC3. <u>Confirmed SWH</u> : Presence of any active hibernaculum.	Air photo interpretation, to help guide visual encounter surveys conducted on sunny warm days in spring (i.e., Apr/May) and/or autumn (i.e., Sept/Oct).	SWH Absent. Desktop review determined a lack of suitable habitat despite natural and cultural habitats being present, including forest/agricultural edge.	SWH Absent. Qualifying habitats were not present within the study area.
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	Any sites/areas with exposed, eroding soil banks, sandy hills, borrow pits, steep slopes, sand piles, & cliff faces that are undisturbed or naturally eroding, that is <u>not</u> a licensed/permitted aggregate area. Excludes man-made structures such as bridges or buildings or recently (2 years) disturbed soil areas, e.g. berms, embankments, soil/aggregate stockpiles. <u>ELC Ecosites</u> : CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, & CLT1. <u>Qualifying spp.</u> : Cliff Swallow & Northern Rough-winged Swallow. <u>Confirmed SWH</u> : 8+ CLSW or NRWS nesting pairs or any combination.	Air photo interpretation, ELC surveys, and possibly breeding bird surveys conducted during the breeding season according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Absent. Desktop review determined a lack of suitable habitat	SWH Absent. Qualifying habitats were not present within the study area.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and occasionally emergent vegetation are also used. <u>ELC Ecosites</u> : SWM2; SWM3; SWM5; SWM6; SWD1 –SWD7; & FET1. <u>Qualifying spp.</u> : Great Blue Heron, Black-crowned Night-Heron, Great Egret & Green Heron. <u>Confirmed SWH</u> : Presence of 5+ active Great Blue Heron nests or other listed species.	Air photo interpretation, ELC surveys, breeding bird surveys (April to August) or site visits outside the nesting season for evidence of the presence of fresh guano, dead young, and/or eggshells.	SWH Candidate. Desktop review determined suitable habitat is present within the study area (SWM3-2).	SWH Candidate. Suitable habitat is present in polygons 1, 2 and 4. These polygons are within the designated Core Greenlands feature and will be preserved in-situ. One (1) indicator species, Great Blue Heron, was detected as a “possible” breeder during targeted breeding bird

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
				surveys. No active nests were detected during surveys.
Colonially - Nesting Bird Breeding Habitat (Ground)	Gulls/Terns: On rocky islands/peninsulas (natural or artificial) in a lake or large river, or in marshy areas. Brewer’s Blackbird: Open fields/pastures with scattered trees/shrubs in close proximity to streams/ditches. <u>ELC Ecosites/Community Series:</u> MAM1 – MAM6, MAS1 – MAS3, CUM, CUT, & CUS. <u>Qualifying spp.:</u> HERG, GBBG, LIGU, RBGU, COTE, CATE & BRBL. <u>Confirmed SWH:</u> 25+ active HERG or RBGU nests; 5+ COTE nests; 2+ CATE nests; 1+ GBBG/LIGU nests; or 5+ Brewer’s Blackbird pairs.	Air photo interpretation, ELC surveys, and possibly breeding bird surveys conducted in May/June according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Absent. Desktop review determined suitable ELC communities being present in the Study Area (MAM2-10, CUM1).	SWH Absent. Suitable ELC habitat is present within the study area, however no indicator species were detected during targeted breeding bird surveys.
Migratory Butterfly Stopover Areas	Sites are a combination of field and forest, 10+ ha in size, ≤ 5 km of Lake Erie or Lake Ontario, should not be disturbed, and include an abundance of preferred nectar plants/ woodland edge (for shelter). Includes one Community Series from each of the following Community Class groups: <u>Field:</u> CUM, CUS, CUT. <u>Forest:</u> FOC, FOD, FOM, CUP. <u>Qualifying spp.:</u> Painted Lady, Red Admiral & Monarch. <u>Confirmed SWH:</u> 5000+ “Monarch Use Days” ⁴ (i.e., MUD), or 3000+ MUD with the presence of Painted Lady or Red Admiral.	GIS analysis to measure distance from the Lake Ontario shoreline, and if applicable, size of qualifying ELC communities, as well as frequently conducted observational studies during the fall migration (i.e., Aug./Oct.).	SWH Absent. The Study Area is > 5 km from the Lake Ontario/Erie shoreline.	SWH Absent. n/a
Landbird Migratory Stopover Areas	Woodlots >10 ha in size and ≤ 5 km of Lake Ontario, If multiple woodlands are located along the shoreline, those ≤ 2 km are more significant. Sites have a variety of habitats: forest, grassland & wetland complexes. <u>ELC Community Series:</u> FOC, FOM, FOD, SWC, SWM & SWD. <u>Qualifying spp.:</u> All migratory songbirds and all migrant raptors. <u>Confirmed SWH:</u> Use of the habitat by >200 birds/day and with >35 spp. with at least 10 bird spp. recorded on at least 5 different survey dates.	GIS analysis to measure distance from the Lake Ontario shoreline and if applicable, size of woodlots. Migratory bird surveys would be completed during spring (April – May) and/or fall (Aug – Oct) migration using standardized assessment techniques. Evaluation methods to follow “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Absent. The Study Area is > 5 km from the Lake Ontario/Erie shoreline.	SWH Absent. n/a
Deer Yarding Area	Habitat to be determined by MNDMNRF. Deer yards are composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse, available for food. Agricultural lands can also be included in this area. The Stratum I area, considered the core of a deer yard, is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. <u>ELC Community Series:</u> FOM, FOC, SWM and SWC, and <u>ELC Ecosites:</u> CUP2, CUP3, FOD3 and CUT. However, woodlots with high densities of deer due to artificial feeding are not significant. <u>Qualifying spp.:</u> White-tailed Deer. <u>Confirmed SWH:</u> Identified and mapped by MNDMNRF District Offices; snow depth must be > 40 cm for more than 60 days in a typical winter to be considered SWH.	Review of Land Information Ontario (LIO) database and potential confirmation with MNDMNRF District office, as deer yards are Identified and mapped by MNDMNRF using the methods outlined in “ <i>Selected Wildlife and Habitat Features: Inventory Manual</i> ” (OMNR, 1998).	SWH Absent. LIO database did not reveal any deer yarding areas in the study area.	SWH Absent. n/a
Deer Winter Congregation Areas	Typically includes woodlots >100 ha in size, but conifer plantations much smaller than 50 ha may also be used. Winter deer movement in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large #'s in suitable woodlands. If deer are constrained by snow depth, assess for Deer Yarding Area SWH. <u>All Forested Ecosites with these ELC Community Series:</u> FOC, FOM, FOD, SWC, SWM, and SWD. However, woodlots with high densities of deer due to artificial feeding are not significant. <u>Qualifying spp.:</u> White-tailed Deer. <u>Confirmed SWH:</u> Areas considered significant will be mapped by MNDMNRF. Woodlots that are >100	Land Information Ontario (LIO) database query and consultation with MNDMNRF District office, as use of a woodlot by White-tailed Deer is determined by MNDMNRF. Studies are completed during winter (Jan/Feb) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys or a pellet count deer density survey.	SWH Absent. LIO database did not reveal any deer winter congregation areas in the study area.	SWH Absent. n/a

⁴ “Monarch Use Days” (i.e., MUD) is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site.

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
	ha in size are significant unless determined not to be significant by MNDMNRF. Woodlots <100 ha may be considered as significant based on MNDMNRF studies or assessment.			
Rare Vegetation Communities				
Cliffs and Talus Slopes	Cliffs are vertical to near vertical bedrock > 3 m in height. Talus slopes are rock rubble at the base of a cliff. Most cliffs & talus slopes occur along the Niagara Escarpment. <u>ELC Community Series</u> : TAO, TAS, TAT, CLO, CLS, CLT. Most occur along the Niagara Escarpment. <u>Confirmed SWH</u> : Any ELC Vegetation Type for Cliffs of Talus Slopes.	Air photo interpretation and ELC surveys to ELC Vegetation Type.	SWH Absent. The terrain within the Study Area is flat to gently undulating, precluding the possibility of any cliffs or talus slopes.	SWH Absent. The terrain within the Study Area is flat to gently undulating, precluding the possibility of any cliffs or talus slopes.
Sand Barren	Typically consists of exposed sand and generally sparsely vegetated (due to lack of moisture, periodic fires, and erosion). Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to continuous meadow, thicket-like, or more closed and treed. Treed cover is always ≤ 60%. Sites must be 0.5+ ha in size. <u>ELC Ecosites</u> : SBO1, SBS1, & SBT1. <u>Confirmed SWH</u> : Any ELC Vegetation Type for Sand Barren with < 50% exotic vegetative cover spp.	Air photo interpretation and ELC surveys to ELC Vegetation Type.	SWH Absent. No areas of exposed sand with sparsely vegetated cover were observed on available aerial photography.	SWH Absent. No areas of exposed sand with sparsely vegetated cover were observed on available aerial photography.
Alvar	Typically, a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Must be 0.5+ ha in size. Vegetation cover varies from patchy to barren with < 60% tree cover. Must be ≥ 0.5 ha in size. <u>ELC Ecosites</u> : ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2. <u>Indicator spp.</u> : <i>Carex crawei</i> , <i>Panicum philadelphicum</i> , <i>Eleocharis compressa</i> , <i>Scutellaria parvula</i> , & <i>Trichostema brachiatum</i> . <u>Confirmed SWH</u> : Sites with 4+ of 5 alvar indicator species, in excellent condition, fit in with adjacent landscape, & with < 50% of the vegetative cover exotic spp.	Air photo interpretation, ELC surveys to ELC Ecosite, and botanical surveys.	SWH Absent. No areas of shallow, exposed limestone bedrock were visible on available aerial photography or are likely to be present.	SWH Absent. No areas of shallow, exposed limestone bedrock were visible on available aerial photography or are likely to be present.
Old Growth Forest	Woodland area 30+ ha in size with 10+ ha of interior habitat (assuming 100 m buffer from edge of forest) and characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and abundance of snags and downed woody debris. <u>ELC Community Series</u> : FOD, FOC, FOM, SWC, SWD, SWM. <u>Confirmed SWH</u> : Dominant tree species are > 140 years old, and the candidate area has not experienced recognizable forestry activities.	Air photo interpretation and ELC surveys.	SWH Absent. The forested area within the Study Area is not of sufficient size.	SWH Absent. The forested area within the Study Area is not of sufficient size.
Savannah	A savannah is a tallgrass prairie habitat that has 25 - 60% tree cover and is natural or restored. There is no minimum size; does not include remnant sites such as railway right of ways. <u>ELC Ecosites</u> : TPS1, TPS2, TPW1, TPW2, & CUS2. <u>Confirmed SWH</u> : Presence of 1+ Savannah indicator sp. listed in Appendix N (OMNR, 2000) using Savannah plant list from Ecoregion 6E. Sites should be composed of <50% exotic/introduced species.	Air photo interpretation, ELC surveys to ELC Ecosite, and botanical surveys.	SWH Absent. No areas of tree cover between 25 and 60% were observed on available aerial photography.	SWH Absent. No areas of tree cover between 25 and 60% were observed on available aerial photography.
Tallgrass Prairie	A Tallgrass Prairie has ground cover dominated by prairie grasses, with < 25% tree cover. There is no minimum size to site, and it must be restored or in a natural state. Remnant sites (e.g. railway right of ways) are not SWH. <u>ELC Ecosites</u> : TPO1 & TPO2. <u>Confirmed SWH</u> : 1+ Prairie indicator species listed in Appendix N (OMNR, 2000) & using Prairie plant list from Ecoregion 6E. Sites should be composed of <50% exotic/introduced species.	Air photo interpretation, ELC surveys to ELC Ecosite, and botanical surveys.	SWH Absent. No areas of ground cover dominated by prairie grasses, with < 25% tree cover were observed.	SWH Absent. No areas of ground cover dominated by prairie grasses, with < 25% tree cover were observed.

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
Other Rare Vegetation Communities	May include beaches, fens, forest, marsh, barrens, dunes, swamps, etc. <u>ELC Ecosites</u> : Any ELC Ecosite that has a possible ELC Vegetation Type that is Provincially Rare (i.e., S1, S2, or S3) according to Appendix M of the SWHTG (OMNR, 2000) is Candidate SWH. <u>Confirmed SWH</u> : Field studies confirming ELC Vegetation Type is a rare vegetation community according to Appendix M of the SWHTG (OMNR, 2000), or updated lists.	Air photo interpretation and ELC surveys to ELC Vegetation Type.	SWH Absent. No Provincially Rare ELC Vegetation Types appear to be present. To be confirmed in the field.	SWH Absent. No Provincially Rare ELC Vegetation Types present in the study area.
Specialized Habitat for Wildlife				
Waterfowl Nesting Area	All upland habitats located adjacent to these wetland <u>ELC Ecosites</u> are Candidate SWH: MAS1 – MAS3, SAS1, SAM1, SAF1, MAM1 – MAM6, SWT1, SWT2, & SWD1 – SWD4. A waterfowl nesting area extends 120 m from (1) a wetland (> 0.5 ha) <u>or</u> , (2) a wetland (>0.5 ha) and any small wetlands (0.5 ha) within 120 m, <u>or</u> (3) a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. Upland areas should be 120+ m in width. <u>Qualifying spp.</u> : ABDU, BWTE, GWTE, GADW, HOME, MALL, NOPI, NSHO & WODU. <u>Confirmed SWH</u> : 3+ nesting pairs of listed species (excluding MALL); <u>or</u> 10+ nesting pairs of listed species (including MALL); <u>or</u> any active ABDU nest.	Air photo interpretation, ELC surveys, and nesting studies completed between April and June according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Candidate. Qualifying ELC communities are present and are of sufficient size.	SWH Absent. Suitable ELC habitat is present within the study area. One (1) indicator species, Mallard, was observed (not breeding). Indicator species thresholds not met during targeted surveys.
Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat	Nests are in forest communities directly adjacent to riparian areas – rivers, lakes, ponds & wetlands. Nests located on man-made objects are not SWH (e.g., telephone poles and constructed nesting platforms). <u>Qualifying spp.</u> : Osprey, Bald Eagle. <u>ELC Community Series</u> : FOD, FOM, FOC, SWD, SWM and SWC. <u>Confirmed SWH</u> : 1+ active nests. However, to be significant, a site must be used annually. If found inactive, must be known inactive 3+ years (or suspected 5+ years) before considered not significant.	Air photo interpretation, ELC surveys, and observational studies conducted between mid-March and mid-August according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Candidate. Qualifying ELC vegetation communities are present (FOD8-1, SWM3-1, SWD4-1).	SWH Absent. Suitable ELC habitat is present within the study area; indicator species or nests were not detected during targeted breeding bird surveys.
Woodland Raptor Nesting Habitat	All natural or conifer woodland/forest stands that are 30+ ha in size with 10+ ha interior habitat (determined using 200 m buffer). Stick nests found within the tops or crotches of trees in a variety of intermediate-aged to mature forests. <u>ELC Ecosites</u> : All forested ELC ecosites & CUP3; <u>ELC Community Series</u> : SWC, SWM, & SWD. <u>Qualifying spp.</u> : AGOS, BADO, BWHA, COHA, RSHA, & SSHA. <u>Confirmed SWH</u> : 1+ active nests of listed species.	Air photo interpretation, GIS analysis, ELC surveys, and nesting surveys conducted mid-March to end of May, using call broadcasts to help locate territorial raptors and facilitate the discovery of nests by narrowing sown the search area.	SWH Absent. Forested vegetation communities within the Study Area are less than 30 ha in size.	SWH Absent. Forested vegetation communities within the Study Area are less than 30 ha in size.
Turtle Nesting Areas	Nesting areas must provide exposed mineral soil (i.e., sand and gravel) to dig in and be located in open, sunny areas. Best sites are close to water and away from roads. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, & rivers are most frequently used. Municipal/provincial road embankments and shoulders are <u>not</u> SWH. Sites are adjacent (< 100 m) or within these <u>ELC Ecosites</u> : MAS1 – MAS3, SAS1, SAM1, SAF1, BOO1, & FEO1. <u>Qualifying spp.</u> : Midland Painted Turtle, Northern Map Turtle, & Snapping Turtle. <u>Confirmed SWH</u> : 5+ nesting Midland Painted Turtles, or 1+ Snapping/Northern Map Turtles.	Air photo interpretation, ELC surveys, and dedicated turtle nesting activity surveys/turtle nest search surveys conducted between the last week of May and first week of July.	SWH Absent. Desktop review determined a lack of suitable qualifying habitat.	SWH Absent. Qualifying habitats were not present within the study area.
Seeps and Springs	Seeps/Springs are areas where ground water comes to the surface. Any forested ecosite (with <25% meadow/field)/pasture) within headwater area of stream/river system. <u>Indicator spp.</u> : WITU, RUGR, SPGR, White-tailed Deer, and salamander spp. <u>Confirmed SWH</u> : Presence of 2+ seeps/springs. The area of the Ecosites or Ecoelements is the SWH.	Air photo interpretation, ELC surveys, and wildlife habitat assessment. Review of site-specific hydrogeologic information.	SWH Absent. Desktop review determined a lack of suitable qualifying habitat.	SWH Absent. Qualifying habitats were not present within the study area.
Amphibian Breeding Habitat (Woodland)	Presence of wetland, pond or woodland pool (incl. vernal pool) 500+ m ² (i.e., 25 m dia.) within or adjacent (≤ 120 m) to a woodland (any size). All <u>ELC Ecosites</u> associated within FOC, FOM, FOD, SWC, SWM, & SWD Community	Air photo interpretation, GIS analysis of wetland size, and a combination of observational study (for salamanders <u>and</u> frogs) and nocturnal call	SWH Candidate. Qualifying ELC vegetation communities are present within the study area.	SWH Candidate. Qualifying habitat is present. Nocturnal amphibian call surveys are underway to determine if

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
	Series. <u>Qualifying spp.</u> : Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, & Wood Frog. <u>Confirmed SWH</u> : breeding population of any listed newts/ salamanders; or 2+ listed frogs with at least 20 individuals (adults or egg masses); or 2+ listed frog sp. with Call Level Code 3.	counts (for frogs & toads) during the spring (March – June). Call counts typically occur in April, May & June) as per the Marsh Monitoring Program (BSC, 2009).		Significant Wildlife Habitat is confirmed or absent (1 more visit is required in April 2025).
Amphibian Breeding Habitat (Wetlands)	These wetland ecosites (500+ m ² in size, i.e., 25 m dia.) are typically 120+ m from woodlands. However, larger wetlands containing predominantly aquatic species (e.g. American Bullfrog) may be adjacent to woodlands. <u>ELC Community Class</u> : SW, MA, FE, BO, OA, & SA. <u>Qualifying spp.</u> : Eastern Newt, Blue-spotted..., Spotted..., & Four-toed Salamander, American Toad, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog & Bullfrog. <u>Confirmed SWH</u> : breeding population of any listed newts/salamanders; or 2+ listed frogs with at least 20 individuals (adults or egg masses); or 2+ listed frog sp. with Call Level Code 3.	Air photo interpretation, GIS analysis of wetland size, proximity to woodland ecosites, ELC surveys, and a combination of observational study (for salamanders <u>and</u> frogs) and nocturnal call counts (for frogs & toads) during the spring (March – June). Call counts typically occur in April, May & June, as per the Marsh Monitoring Program (BSC, 2009).	SWH Candidate. Qualifying ELC vegetation communities are present within the study area.	SWH Candidate. Qualifying habitat is present. Nocturnal amphibian call surveys are underway to determine if Significant Wildlife Habitat is confirmed or absent (1 more visit is required in April 2025)
Woodland Area-Sensitive Bird Breeding Habitat	Habitats where forest interior birds are breeding, Typically mature (60+ years) stands or woodlots 30+ ha in size with forest interior habitat (measured 200+ m from edge). <u>ELC Community Series</u> : FOC, FOM, FOD, SWC, SWM & SWD. <u>Qualifying spp.</u> : BHVI, BLBW, BTBW, BTNW, CAWA, CERW, NOPA, OVEN, RBNU, SCTA, VEER, WIWR, & YBSA. <u>Confirmed SWH</u> : Presence of 3+ nests/breeding pairs of qualifying spp., <u>or</u> any breeding by CAWA or CERW.	GIS analysis of size of woodlot/forest, as well as interior forest habitat. ELC survey confirmation and breeding bird surveys conducted according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Absent. Qualifying large, mature forest stands appear to be absent.	SWH Absent. Qualifying large, mature forest stands appear to be absent. No qualifying species were observed when conducting field investigations.
Habitats for Species of Conservation Concern (not including END or THR species)				
Marsh Breeding Bird Habitat	Candidate wetland habitats must contain shallow water & aquatic emergent vegetation. Although nesting usually occurs in wetlands, Green Heron may nest in upland shrubs or trees. <u>ELC Ecosites</u> : MAM1 – MAM6, SAS1, SAM1, SAF1, FEO1, BOO1, <u>and</u> SW, MA, CUM1 sites (for Green Heron). <u>Qualifying spp.</u> : AMBI, AMCO, BLTE, COGA, COLO, GRHE, MAWR, PBGR, SACR, SEWR, SORA, TRUS, VIRA & YERA. <u>Confirmed SWH</u> : 5+ nesting pairs of MAWR/ SEWR; <u>or</u> any 5+ listed spp.; <u>or</u> 1+ pairs of SACR; <u>or</u> any wetland with 1+ nesting BLTE, GRHE, TRUS, or YERA.	Air photo interpretation, ELC surveys and breeding bird surveys conducted in late May/June, according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Candidate. Qualifying wetland communities appear to be present. To be confirmed during field investigations.	SWH Absent. Suitable ELC habitat is present within the study area; indicator species were not detected during targeted breeding bird surveys.
Open Country Bird Breeding Habitat	Grassland areas (incl. natural & cultural fields & meadows) >30 ha., but not Class 1 or 2 agricultural lands, or areas actively used for farming (i.e., row cropping or intensive hay or livestock pasturing) in the last 5 years. Sites should have a history of longevity of 5+ years. <u>ELC Ecosites</u> : CUM1 & CUM2. <u>Qualifying spp.</u> : GRSP, NOHA, SAVS, SEOW, UPSA, & VESP. <u>Confirmed SWH</u> : Nesting of 2+ listed spp. or any SEOW.	Air photo interpretation, ELC, GIS analysis of the size of natural & cultural fields & meadows, and review of agricultural land classification mapping. If necessary, breeding bird surveys conducted in late May/June according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Absent. Non-agricultural grassland communities >30 ha are absent from the Study Area.	SWH Absent. Non-agricultural grassland communities >30 ha are absent from the Study Area.
Shrub/Early Successional Bird Breeding Habitat	Large field areas succeeding to shrub and thicket habitats >10 ha in size, but not class 1 or 2 agricultural lands, or being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years). <u>ELC Ecosites</u> : CUT1, CUT2, CUS1, CUS2, CUW1, & CUW2. <u>Qualifying spp.</u> : BRTH, BBCU, CCSP, EATO, FISP, GWWA, WIFL, & YBCH. <u>Confirmed SWH</u> : Nesting/breeding of BRTH or CCSP <u>and</u> then 2+ qualifying spp.; <u>or</u> any GWWA/YBCH breeding.	Air photo interpretation, ELC, GIS analysis of the size of the qualifying cultural communities, and review of agricultural land classification mapping. If necessary, breeding bird surveys conducted in late May/June according to “ <i>Bird and Bird Habitats: Guidelines for Wind Power Projects</i> ” (OMNR, 2010).	SWH Absent. Shrub/early successional communities > 10 ha are absent from Study Area.	SWH Absent. Shrub/early successional communities > 10 ha are absent from Study Area.
Terrestrial Crayfish	Often occur in wet meadows and edges of shallow marshes, mudflats (no minimum size) where they construct burrows. However, can be found far from water. <u>ELC Ecosites</u> : MAM1 – MAM6, MAS1 – MAS3, and CUM1 with inclusions of above MAM or swamp ecosites. <u>ELC Community Series</u> : SWD, SWM, &	Air photo interpretation, ELC surveys, and searches for crayfish chimneys from April to August (although early spring is best, when vegetation is lowest).	SWH Candidate. Qualifying wetland communities appear to be present. To be confirmed during field investigations.	SWH Candidate. Suitable habitat is present in wetland polygons in the study area that are within the

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
	SWT. <u>Qualifying spp.</u> : Digger Crayfish (<i>Creaserinus fodiens</i>) and Great Plains Mudbug (<i>Lacunicambarus nebrascensis</i>). <u>Confirmed SWH</u> : Presence of either qualifying sp. or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites.			designated Core Greenlands feature which will be preserved in-situ.
Special Concern and Rare Wildlife Species	May occur in any habitat type. <u>Qualifying spp.</u> : All plant and animal species designated “Special Concern” or provincially rare (i.e., S1, S2, S3, and SH). <u>Confirmed SWH</u> : Presence of any qualifying plant or animal species/habitat.	Review of aerial photography and background information sources (e.g., NHIC Make-a-Map rare species query results). ELC surveys, botanical surveys, and seasonally appropriate breeding bird surveys, and other wildlife habitat assessments.	SWH Candidate. A desktop review of known SAR records within the area, and ELC habitat types present on site determined candidate habitat for the following Special Concern species: Barn Swallow Wood Thrush	SWH Confirmed. Barn Swallow was confirmed breeding during targeted breeding bird surveys in suitable habitat. SWH Absent. Wood Thrush was not observed during targeted breeding bird surveys.
Animal Movement Corridors				
Amphibian Movement Corridors	Corridors between breeding habitat and summer habitat may be in all ecosites associated with water. However, an assessment is only required if Confirmed or Candidate Amphibian Breeding Habitat SWH is present based on these Criterion Schedules or the Significant Wildlife Habitat Technical Guide (OMNR, 2000). <u>Qualifying spp.</u> : Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, American Toad, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog & Bullfrog. <u>Confirmed SWH</u> : No thresholds for numbers/diversity. However, corridors should consist of several layers of native vegetation, have 15+ m of veg on both sides of waterway, or up to 200 m of woodland habitat (with gaps < 20 m), and must provide a connection between summer & breeding habitat. They should also be unbroken by roads, waterways or bodies.	Air photo interpretation and ELC when amphibian call count surveys (typically during April, May & June) and observational study confirm Amphibian Breeding Habitat SWH is present.	SWH Candidate. Candidate amphibian movement corridor is present in the southeast corner of the study area, where suitable candidate woodland and wetland amphibian breeding habitat is present, consisting of summer (woodland) and breeding (wetland) habitat.	SWH Candidate. Suitable habitat is present within the study area. Nocturnal amphibian call surveys are underway to determine if Significant Wildlife Habitat is confirmed or absent (1 more visit required in April 2025).
Deer Movement Corridors	Movement corridors may be found in all forested ecosites and must be determined when Deer Wintering Habitat is confirmed as SWH. They have potential to occur within Stratum II Winter Congregation Areas; MNDMNRF to confirm if such occurs. Typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). <u>ELC Ecosites</u> : All forested ecosites. <u>Qualifying sp.</u> : White-tailed Deer. <u>Confirmed SWH</u> : Studies confirming usage.	Review of Land Information Ontario (LIO) database, consultation with MNDMNRF, and studies conducted at the time of year when deer are migrating or moving to and from winter concentration areas.	SWH Absent. There are no corridors leading to a nearby Stratum II area that are unbroken by roads and residential areas, and 200+ m wide with gaps < 20 m; riparian corridors didn’t have 15+ m of vegetation on both sides of waterway.	SWH Absent. There are no corridors leading to a nearby Stratum II area that are unbroken by roads and residential areas, and 200+ m wide with gaps < 20 m; riparian corridors didn’t have 15+ m of vegetation on both sides of waterway.
Exceptions for Ecoregion 6E – Exceptions are candidate wildlife habitats that will have different criteria than what is proposed in the above schedules for an area within an Eco-region. These are based on Eco-Districts and municipalities can apply the exception for the eco-district within their planning area.				
Eco-District 6E-14 (i.e., Bruce Peninsula) – Mast Producing Areas for Black Bears	Candidate forested habitats need to be large enough to provide cover and protection for Black Bears. These are woodland ecosites >30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). <u>Qualifying sp.</u> : Black Bear. <u>ELC Community Series</u> : All Forested habitat within FOM & FOD. <u>Confirmed SWH</u> : All woodlands > 30ha with a 50% composition of these ELC Vegetation Types are considered SWH: FOM1-1, FOM2-1, FOM3-, FOD1-1, FOD1-2, FOD2-1, FOD2-, FOD2-3, FOD2-, FOD4-1, FOD5-, FOD5-3, FOD5-7, & FOD6-5.	Review of Eco-District mapping. If necessary, GIS analysis of the size of woodland area, review of Land Information Ontario (LIO) database, consultation with MNDMNRF, air photo interpretation, ELC/botanical surveys, and seasonally appropriate wildlife surveys.	SWH Absent. Site is not located in Ecodistrict 6E-14 (i.e., the Bruce Peninsula).	SWH Absent. Site is not located in Ecodistrict 6E-14 (i.e., the Bruce Peninsula).

SWH Type	SWH description/qualifying ELC codes/species + other criteria/ thresholds	Methods used to assess SWH	Results of Desktop Habitat Assessment	Results of Field Investigations
Eco-District 6E-17 (i.e., on Manitoulin Island) - Sharp-tailed Grouse Lek	Leks or ‘dancing grounds’ consist of bare, grassy, or sparse shrubland, often on a hill or rise in topography; used annually. Grasslands (field/meadow) are >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous woodland, and undisturbed with low intensities of agriculture (light grazing or late haying). Conifer trees within 500 m are not tolerated. <u>Qualifying sp.</u> : Sharp-tailed Grouse. <u>ELC Community Series</u> : CUM, CUS & CUT. <u>Confirmed SWH</u> : Any site with confirmed Sharp-tailed Grouse courtship activities.	Review of Eco-District mapping. If necessary, GIS analysis of the size of woodland area, review of Land Information Ontario (LIO) database, consultation with MNDMNRF, air photo interpretation, ELC/botanical surveys, and studies confirming lek habitat completed from late March to June.	SWH Absent. Site is not located in Ecodistrict 6E-17 (i.e., Manitoulin Island).	SWH Absent. Site is not located in Ecodistrict 6E-17 (i.e., Manitoulin Island).

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A large, stylized graphic of a plant with five leaves, rendered in a light gray color. The leaves are arranged in a symmetrical, fan-like pattern, with one leaf at the top and four others branching out downwards and outwards. The leaves have a smooth, curved shape with pointed tips.

Appendix F: Concept Plan (Polocorp, 2024)



KEY MAP - N.T.S.

DRAFT PLAN OF SUBDIVISION

PT OF LOT 17, CONCESSION 16
IN THE FORMER GEOGRAPHIC TWP OF NICHOL
CENTRE WELLINGTON

POLOCORP INC.

SCALE = 1:1400 (metric)

DESCRIPTION	LOTS/BLKS.	UNITS	AREA (ha.)
Single Detached	1-10	62-88	8.006
Street Townhouses	11-18	80-118	6.185
Medium Density	19, 20	71-102	1.617
Mixed Use	21	8-14	0.338
Existing House	22	-	0.330
Stormwater Management Facility	23	-	2.412
Trail	24	-	0.417
Parkland	25	-	0.806 (5.2%)
Pedestrian Walkway	26, 27	-	0.077
Environmental Feature & Buffer	28	-	3.340
MTO Allowance	29, 30	-	0.527
Roads	-	-	3.502
TOTAL	-	221-323	19.389

SALEABLE FRONTAGE	LENGTH	UNIT SMALL	UNIT LARGE
Single Detached	1,014.5m	36' (11.0m)	50' (15.2m)
Street Townhouses	530.0m	18' (5.5m)	27' (8.3m)
TOTAL	1,844.5m	-	-

DENSITY

Gross Area (ha)	19.389 ha (47.91 ac)
Developable Area (ha)	15.477 ha (38.25 ac)
Net Density (upha)	14.3 - 20.9 upha
Net People-Jobs (3.05 per unit)	43.6 - 63.8 PU pha

LEGEND

- Wetland Limit
- Wetland 30m Buffer

INFORMATION REQUIRED

UNDER SECTION 51 (17) OF THE PLANNING ACT, R.S.O. 1990, c.P.13 AS AMENDED

INFORMATION REQUIRED BY CLAUSES a,b,c,d,e,f,g,j AND I ARE AS SHOWN ON THE DRAFT PLAN.

(h) Municipal Water Supply

(i) Sandy Loam

(k) Municipal Sanitary and Storm Sewers

SURVEYOR'S CERTIFICATE

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

O.L.S. Surveying Inc. XX XX, 2024 DATE

OWNER'S CERTIFICATE

I HEREBY CONSENT TO THE FILING OF THIS PLAN BY POLOCORP INC., IN DRAFT FORM

MIKE PUOPOLO Polocorp Inc. DATE

APPROVALS

REGIONAL MUNICIPALITY OF WATERLOO APPROVAL BLOCK

DRAFT FOR DISCUSSION PURPOSES ONLY

APPROVED: DATE:

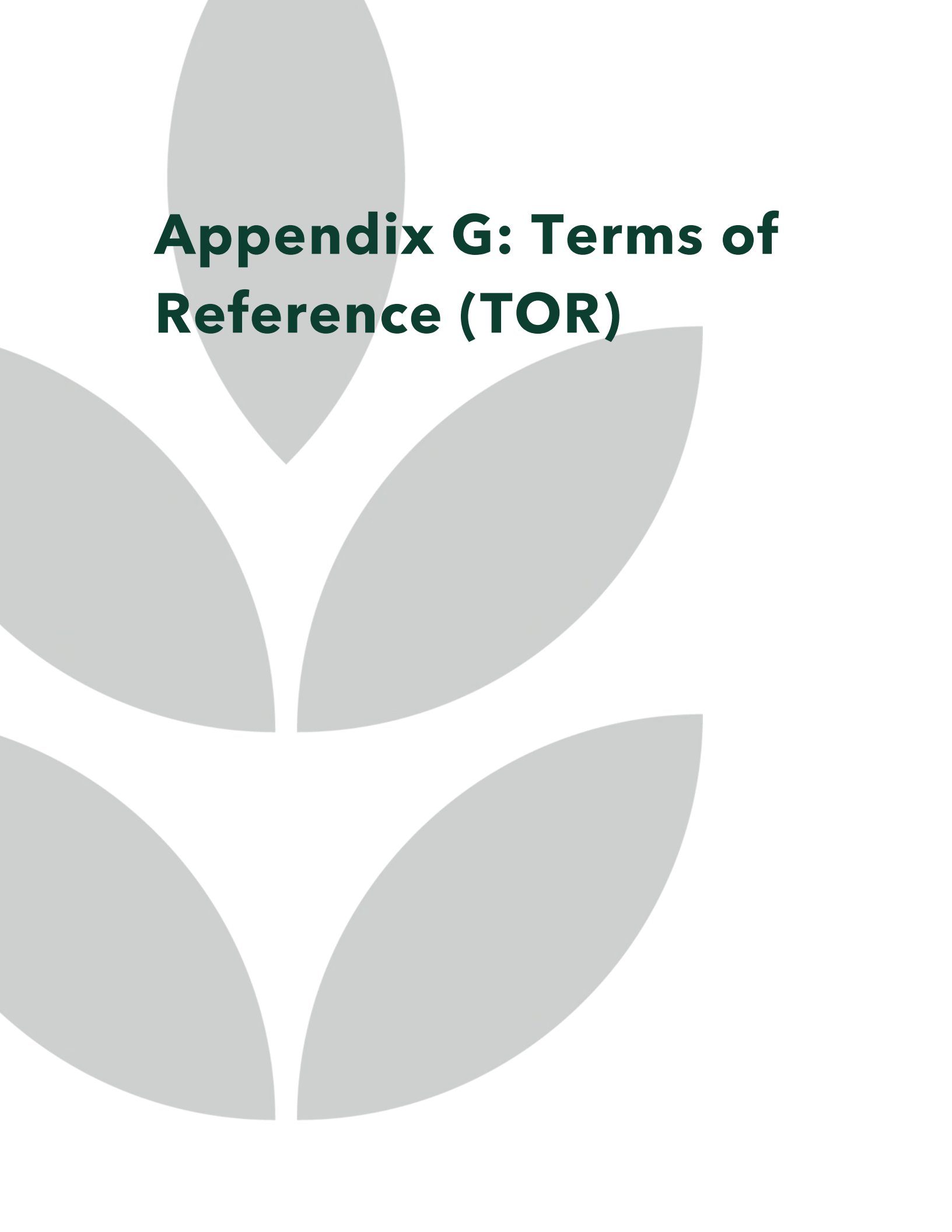
DATE	BY	REVISIONS	DESCRIPTION

POLOCORP

379 Queen Street South, Kitchener | N2T 1W6 | 519-745-3249 | polocorpinc.com

DATE: December 10, 2024 SCALE 1:4000 (metric)

PROJECT: 1012 (Fergus) DRAWN BY: GFE



Appendix G: Terms of Reference (TOR)

DOUGAN & ASSOCIATES

ECOLOGICAL CONSULTING & DESIGN

3-7 EDINBURGH ROAD SOUTH GUELPH ON N1H 5N8 T 519.822.1609 F 519.822.5389 www.dougan.ca

May 13, 2024

Mike Puopolo
Chief Operating Officer, Polocorp Inc.
379 Queen Street South, Kitchener, Ontario N2G 1W6
(519)-745-3249, ext. 201

RE: 968 ST. DAVID ST. N (FERGUS) – TERMS OF REFERENCE (TOR) FOR SCOPED ENVIRONMENTAL IMPACT STUDY (EIS)

Dear Mike,

D&A was retained by Polocorp Inc. to prepare a Terms of Reference (TOR) and scoped EIS in support of a proposed development. The property, located on the east side of St. David's St. N in Fergus, ON, Township of Centre Wellington, County of Wellington is subject to the Township of Centre Wellington Municipal Official Plan (OP).

The enclosed TOR outlines D&A's proposed approach for the EIS, following a desktop review of the proposal in the context of existing natural heritage background data, policy mapping, known survey protocols, and professional experience in the locality.

We trust this information is sufficient for your review and we look forward to a response at your earliest convenience to finalize the scope of the EIS and schedule a site visit with GRCA and agency staff. Please do not hesitate to contact the undersigned with any questions or concerns.

Respectfully submitted,



Todd Fell, OALA, CSLA, CERP
Principal, Landscape Architect, Restoration Ecologist
tfell@dougan.ca

Bianca Marcellino

Bianca Marcellino, MSc., BSc. [ENV]
Ecologist
bmarcellino@dougan.ca

Terms of Reference

Scoped Environmental Impact Statement

ST. DAVID ST. NORTH, FERGUS, ONTARIO

Dougan & Associates (D&A) was retained by Polocorp to prepare a Terms of Reference (ToR) for an Environmental Impact Statement (EIS) for a 75-ha property located at 968 St. David St. North, Fergus, Ontario (see Figure 1). The proposed development will consist of 340 stacked townhouses, 307 street townhouses, and 188 single units including a parkette, SWM facilities, mixed use area, associated servicing, and village green. The development is proposed on existing farm/agricultural lands zoned primarily for agriculture (see Concept Plan provided in **Appendix A**). The site lies within the watershed managed by the Grand River Conservation Authority (GRCA). Directly adjacent to the proposed development area is a natural feature (wetland) zoned for Environmental Protection, triggering the need for an EIS. The area surrounding the wetland is also part of the GRCA regulated area.

PURPOSE AND SCOPE

The Township of Centre Wellington requires an EIS for any proposed development with the potential to negatively impact natural areas designated under their Official Plan (Centre Wellington, 2005). The subject lands are almost entirely agricultural, however the proposed development is adjacent to an wetland designated as “Environmental Protection” and within a GRCA regulated area.

This EIS serves as a due diligence exercise to screen for ancillary impacts of the proposed development on the adjacent natural feature and any additional natural heritage constraints within the study area. The EIS will meet the criteria outlined in Section E.1.3 of the Centre Wellington OP as well as the GRCA EIS guideline document including the following components:

- description of the proposal;
- description of the existing land use and surrounding environment, including adjacent lands;
- identification and assessment of the potential impacts of the proposal on the environment and the significant features and functions of the natural heritage features;
- assessment of the potential effects of the proposal such as enhancement and/or restoration of significant features;
- delineation of any environmental constraint area on a site plan;
- assessment of the feasibility of alternative mitigation measures or techniques and the ability of such measures to prevent or minimize impacts;
- recommendations on the advisability of proceeding with the proposal, appropriate mitigation measures, changes to the proposal;
- a statement of the relative environmental and ecological significance of the nature features and functions affected by the proposal;
- a statement that there are no negative impacts on provincially significant natural heritage features and functions; and,
- if necessary, recommendations relating to a monitoring plan and contingency plans and funds should the proposal result in any unexpected impacts to the natural features.

Recommendations will be made for avoiding or mitigating impacts to natural heritage features. Opportunities for restoring and enhancing natural heritage features will also be identified.

The proposed study area for the EIS is shown on Figure 1. This will include the subject property, the adjacent 120m lands and any natural heritage features that overlap the 120m adjacent lands. Areas outside the subject property may be surveyed indirectly (e.g., aerial/satellite interpretation, roadside survey) if property access is not available.

BACKGROUND REVIEW

The EIS will include review of background data, documents, plans and legislation relevant to the subject property. Key background sources will include:

- Natural Heritage Information Centre (NHIC) Biodiversity Atlas;
- Grand River Conservation Authority mapping and data request;
- Township of Centre Wellington Official Plan and Schedules and relevant zoning by-laws;
- Other data or mapping from City Natural Heritage Planners;
- Global Biodiversity Information Facility;
- Review of online citizen science databases (i.e., iNaturalist);
- Ontario Breeding Bird Atlas;
- Ontario Reptile & Amphibian Atlas;
- Ontario Butterfly Atlas and,
- Any other relevant background documents.

The information gathered in this phase will provide a preliminary understanding of the natural heritage features and functions present on the subject lands, facilitate decision-making during the study, and will be incorporated into subsequent reporting.

POLICY CONTEXT

The policy context will be reviewed, and relevant natural heritage designations and regulations will be discussed in the EIS where applicable, including:

- Migratory Birds Convention Act (1994);
- Endangered Species Act (2007);
- Provincial Policy Statement (2020);
- Greenbelt Plan (2017);
- Conservation Authorities Act/O.Reg. 150/06 and GRCA Policies;
- Township of Centre Wellington Official Plan (2005);
- Township of Centre Wellington Zoning By-laws;
- Township of Centre Wellington Site Alteration By-law;
- Township of Centre Wellington Public Forest Policy;
- Wellington County Conservation and Sustainable Use of Woodlands Bylaw

DESKTOP AND FIELD STUDIES

The scope of desktop and field studies for this EIS is proposed based on the presence of documented constraint features or anticipated constraints. The proposed study area boundary is shown on Figure 1. Table 1 summarizes the proposed desktop and field studies for this study:

Table 1. Proposed desktop and field studies for St. David St. North EIS

Activity	Details	Timing
Desktop Studies		
Background and Policy Review	The background and policy documents listed above will be reviewed for natural heritage information to form a preliminary understanding of natural heritage features and functions on the study site. The EIS will clearly demonstrate how the proposal is consistent with the Natural Heritage Policies contained within the City's Official Plan.	Fall 2023
Significant Wildlife Habitat Screening	A desktop screening will be completed for Significant wildlife habitat (SWH) criteria for Ecoregion 7E (per MNRF 2015) prior to fieldwork. Field results will inform and/or confirm SWH presence/status.	Following 2024 vegetation and wildlife field surveys
Species at Risk Screening	A desktop screening of the Global Biodiversity Information Facility (GBIF) and Natural Heritage Information Centre (NHIC) will be completed prior to fieldwork which will inform and/or confirm SAR presence/status.	Following 2024 vegetation and wildlife field surveys
Vegetation Surveys		
Ecological Land Classification	Three (3) season vegetation surveys (spring, summer, and fall) will be used to delineate communities to vegetation type based on the ELC system for Southern Ontario, 1st approximation (Lee et al, 1998).	September 2023 May 2024 July/August 2024 (concurrent with Botanical Inventory and Tree Inventory visits)
Botanical Inventory	Three (3) season botanical inventories will be conducted in spring, summer, and fall 2023 to capture all vascular plants observable in the study area. This inventory will also determine if locally, provincially, or federally significant species are present. Local status will be based on the information provided within the Wellington Flora inventory (Anderson & Frank, 2009).	September 2023 May 2024 July/August 2024 (concurrent with ELC and Tree Inventory visits)

Activity	Details	Timing
Tree Inventory and Arborist Assessment	An ISA certified arborist will conduct a tree inventory and arborist assessment within the study area (Figure 1) to collect data for all trees that are ≥10cm DBH (diameter-at-breast height) that have driplines extending within the proposed limit of disturbance. Trees will be tagged with a uniquely numbered metal forestry tag that will correspond with mapping and reporting.	September 2023 (concurrent with ELC and Botanical Inventory)
Wildlife Surveys		
Breeding Bird Survey	Breeding bird surveys will take place following protocols outlined in the Ontario Breeding Bird Atlas (OBBA 2001), i.e. two surveys taking place at least seven days apart between May 24 and July 10. Surveys will occur between sunrise and approximately 10:00 a.m. under suitable weather conditions (i.e. light winds, good visibility, and no heavy rain).	Survey 1: May 24 – June 15 Survey 2: June 15 – July 10
Nocturnal Amphibian Call Survey	Nocturnal amphibian call surveys will be conducted in accordance with the Marsh Monitoring Program (BSC, 2009). Three (3) visits are required, in April, May and June to ensure that all frog species' calling windows are covered during surveys. Surveys will commence 30 minutes after sunset and will conclude at midnight.	Survey 1: April 15 – April 30 Survey 2: May 15 – May 30 Survey 3: June 15 – June 30
Bat Visual Exit Surveys*	Visual exit surveys (VES) for Species at Risk (SAR) bats will be undertaken in accordance with MECP's (2021) "Bats & Buildings – Exit & Roost Surveys" protocol which stipulates two (2) visits be undertaken in June under suitable weather conditions, with observers positioned from sunset to one (1) hour after the first emergence of bats (or longer if bats continue to emerge), or 1.5 hours after sunset, if no bats are observed emerging. Information that will be collected includes: • Date • Start and end time of survey • Temperature • Wind and sky condition • Species present • # of exit points monitored • Numbers counted • Names of surveyors	Survey 1: June 1 – 15 Survey 2: June 15 – 30
Incidental Wildlife Observations	Wildlife will be noted on an incidental basis during all field investigations. Any incidental observations of Species at Risk (SAR) will be used in addition to desktop queries of the Global Biodiversity Facility (GBFI) and Natural Heritage Information Centre (NHIC).	Concurrent with all field investigations

* VES for SAR bats will be undertaken at the buildings proposed for demolition. Based on on-site knowledge, these buildings present potentially suitable habitat for SAR bats and MECP requires visual exit surveys be conducted prior to demolition:

“If a proposed activity or project will remove or alter an anthropogenic structure in a way that would negatively affect use of the structure by SAR bats then bat surveys are warranted. This applies whether the structure provides potential SAR bat habitat or was known to provide bat habitat historically.” (MECP, 2022).

REPORTING AND MAPPING

The findings of the background review and field studies will be integrated into a scoped EIS report that will characterize natural heritage features, summarize identified constraints and opportunities, assess potential impacts and mitigation measures (including vegetative protection zone requirements) consistent with GRCA’s Environmental Impact Study Guidelines and Submission Standards for Wetlands (2005). The impact assessment will examine the proposed development and address the direct, indirect and cumulative impacts to the natural heritage features and landscape functions. As required by GRCA guidelines, an assessment of potential impacts that the proposal may have on the natural heritage features will include:

- A description of the negative or positive impacts associated with the development proposal
- The potential for impacts on specific wetland features and/or functions
- The spatial extent, magnitude, frequency, and duration of wetland impacts (direct and indirect)
- The extent and degree to which lands adjacent to wetlands will be affected
- The possibility of cumulative impacts

Avoiding negative impacts is preferred over mitigation; as such, avoidance strategies undertaken will be listed and evaluated, including any modifications considered to the proposal. Where negative impacts are unavoidable, mitigation strategies to reduce or minimize significant impacts to Core Areas will be evaluated for relative effectiveness, and the extent of any residual impacts will be discussed. This section should include the following:

- an analysis of buffers and setbacks that are relevant to the potential impacts of the proposal and the Core Area features to be protected.
- how the proposal was designed to avoid and/or minimize impacts;
- a description of any proposed compensation for impacts that cannot be mitigated (e.g. fragmented habitat), or restoration plans for disturbed areas; and,
- mitigation measures (e.g. lighting, fencing, erosion control, landowner stewardship brochures) proposed to eliminate or reduce impacts.

GIS tools will produce mapping products that support a scoped report. A summary of the proposed Table of Contents for the scoped EIS can be found in Appendix B.

A Parks and Landscape Plan will be completed by an OALA in good standing and will be forthcoming after the final EIS submission, which will document 1:1 compensation for all private tree removals.

CONCLUSION

A summary of the findings, potential impacts on natural features and functions, recommended mitigation, monitoring and residual impacts will be provided within the EIS. The EIS will provide the

foundation for future requirements for development approval as it relates to the natural heritage system. As the EIS progresses, consultation with the Township of Centre Wellington and GRCA will be maintained throughout to disclose observations and identify concerns and constraints. The EIS will also provide the foundation for impacts (if any) to SAR and/or their habitat and denote recommendations for next steps should SAR be identified.

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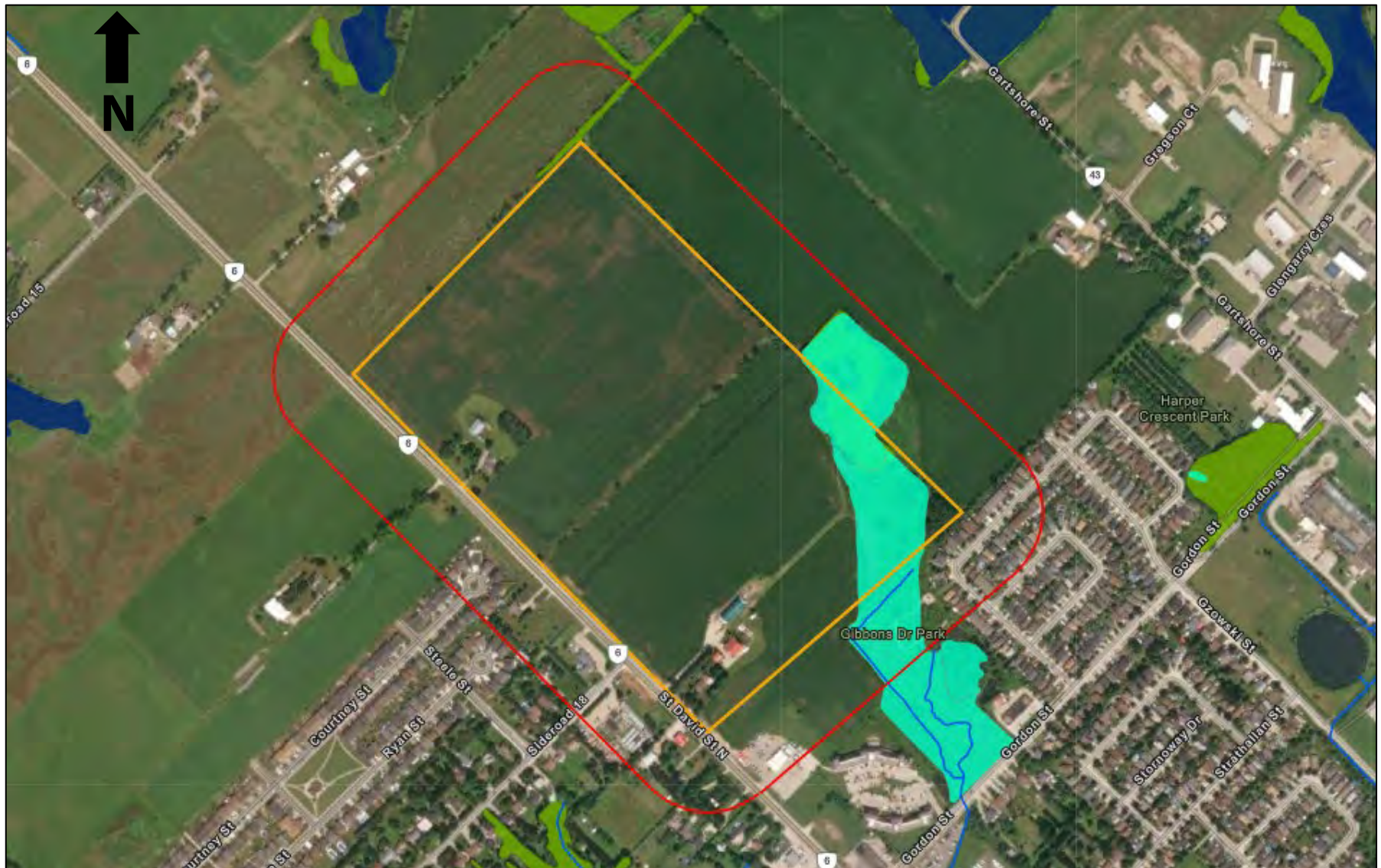
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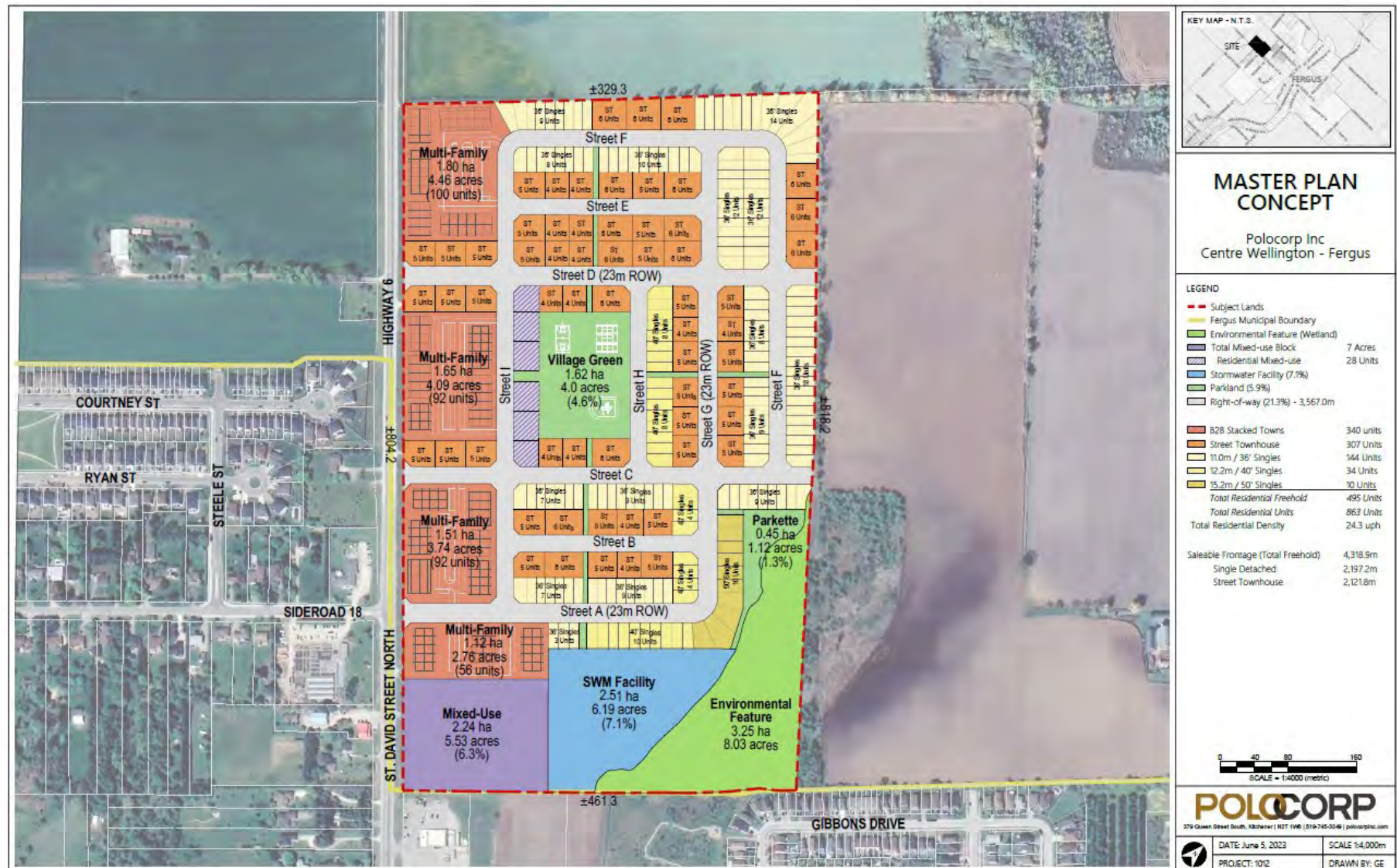
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Wellington County. 2009. Conservation and Sustainable Use of Woodlands Bylaw. <https://www.wellington.ca/en/resident-services/resources/Planning/Forest-Conservation/Approved-Forest-Conservation-By-law-5115-09.pdf>

Figure 1. Site location and Study area (yellow line) including 120 m adjacent lands (red line) – St. David St. North EIS



Appendix A – Concept Plan



Appendix B

Proposed EIS Table of Contents

1. **INTRODUCTION**
 - 1.1. STUDY PURPOSE & OBJECTIVES
 - 1.2. BACKGROUND INFORMATION REVIEW
2. **POLICY REVIEW**
 - 2.1. FEDERAL
 - 2.1.1. MIGRATORY BIRDS CONVENTION ACT (GOVERNMENT OF CANADA, 1994)
 - 2.2. PROVINCIAL
 - 2.2.1. PROVINCIAL POLICY STATEMENT
 - 2.2.2. ENDANGERED SPECIES ACT
 - 2.2.3. CONSERVATION AUTHORITIES AND GRCA POLICIES
 - 2.3. LOCAL
 - 2.3.1. TOWNSHIP OF CENTRE WELLINGTON OFFICIAL PLAN
 - 2.3.2. TOWNSHIP OF CENTRE WELLINGTON ZONING BY-LAW
 - 2.3.3. TOWNSHIP OF CENTRE WELLINGTON SITE ALTERATION BY-LAW
 - 2.3.4. TOWNSHIP OF CENTRE WELLINGTON PUBLIC FOREST POLICY
3. **STUDY APPROACH**
 - 3.1. PHYSIOGRAPHY AND TOPOGRAPHY
 - 3.2. VEGETATION
 - 3.2.1. ECOLOGICAL LAND CLASSIFICATION (ELC)
 - 3.2.2. BOTANICAL INVENTORY
 - 3.2.4. TREE INVENTORY & ARBORIST ASSESSMENT
 - 3.3. WILDLIFE
 - 3.3.1. BREEDING BIRD SURVEYS
 - 3.3.2. NOCTURNAL AMPHIBIAN CALL SURVEYS
 - 3.3.3. INCIDENTAL WILDLIFE
4. **EXISTING CONDITIONS**
 - 4.1. PHYSIOGRAPHY
 - 4.1.1. PHYSICAL SETTING
 - 4.2. VEGETATION

- 4.2.1. ECOLOGICAL LAND CLASSIFICATION
 - 4.2.2. BOTANICAL INVENTORY
 - 4.2.3. TREE INVENTORY AND ARBORIST ASSESSMENT
- 4.4. WILDLIFE
 - 4.4.1. BREEDING BIRD SURVEYS
 - 4.4.2. NOCTURNAL AMPHIBIAN CALL SURVEYS
 - 4.4.3. INCIDENTAL WILDLIFE
- 4.5. SIGNIFICANT WILDLIFE HABITAT (SWH) ASSESSMENT
- 4.6. SPECIES AT RISK (SAR) ASSESSMENT
- 4.7. SUMMARY OF ECOLOGICAL FUNCTIONS AND ATTRIBUTES
- 5. **DESCRIPTION OF PROPOSED DEVELOPMENT**
 - 5.1 STORMWATER MANAGEMENT
 - 5.2. GRADING
 - 5.3. SERVICING
 - 5.4. CONSTRUCTION
- 6. **IMPACT ASSESSMENT**
 - 6.1. DIRECT IMPACTS
 - 6.2. INDIRECT IMPACTS
 - 6.3 CUMULATIVE IMPACTS
- 7. **MITIGATION AND ENHANCEMENT MEASURES**
- 8. **CONCLUSIONS AND RECOMMENDATIONS**
- 9. **REFERENCES**

ANTICIPATED MAPS

Map 1: Study Area Landscape Context

Map 2: ELC Vegetation Communities and Survey Locations

Map 3: Tree Inventory and Arborist Assessment

Map 4: Impact Assessment

Map 5: Constraints and Opportunities

Map 6: Tree Protection Plan

ANTICIPATED APPENDICES

- Flora and Fauna Species Lists (including Federal, Provincial, and Local Rankings Species Checklist According to the Wellington Flora inventory (Anderson & Frank, 2009).
- ELC Data;
- Background Review Species List;

- SAR Screening List;
- SWH Screening List;
- Relevant Policy Summaries.

The background features a decorative graphic of stylized leaves. There are five leaves in total, arranged in a symmetrical pattern. One leaf is at the top, pointing downwards. Below it are two leaves, one on the left and one on the right, pointing outwards. At the bottom are two more leaves, one on the left and one on the right, pointing outwards. All leaves are a light gray color.

Appendix H: Butternut Evaluation & Report



BUTTERNUT HYBRIDITY TESTING RESULTS

Order number:	NA-SO00325
Report number:	NM-XZO819
Company:	Dougan & Associates
Contact:	Bianca Marcellino
Project:	968 St. David's St. N, Fergus
Sample type:	Plant tissue
Date of report:	27 Oct 2023
Number of samples:	1

Thank you for sending your samples for analysis by NatureMetrics. Your samples have been **analysed** following our **Butternut RFLP (Restriction Fragment Length Polymorphism)** pipeline supplemented by **Sequence Characterized Amplified Region (SCAR)** codominant marker.

Butternut (*Juglans cinerea* L.) is considered an **endangered (EN)** tree species in Ontario. This report contains biodiversity information that may be sensitive, particularly with respect to endangered or protected species. It is the responsibility of the client to ensure that due consideration is given to the data and that the information is shared in a responsible way.

Disclaimer: Provided test only detects the occurrence of a hybridization event between butternut (*J. cinerea* L.) and Japanese Walnut (*J. ailantifolia* Carr.) similar to the previous OFRI test derived from the publication by Zhao and Woeste (2011).

Here we present an overview of the key results, followed by a more detailed report that starts with the taxonomic composition of the samples followed by a more detailed look at the steps taken to extract, amplify, sequence, and analyse your DNA. A glossary for terms in **bold** is provided at the end of the report to define key terms used within the report.

OVERVIEW OF YOUR RESULTS

- A total of 0 **butternut** sample(s) and 1 **hybrid** sample(s) (see **Disclaimer**) were identified.
- All laboratory **controls** performed as expected.



FULL REPORT

Sample composition

A total of 0 butternut sample(s) and 1 hybrid sample(s) were identified (**Table 1**).

High-quality PCR products were obtained from all four tested markers with corresponding restriction enzyme profiles, where applicable.

All laboratory controls performed as expected.

Table 1. The summary of RFLP and SCAR results of the sample(s) submitted.

Customer ID	Barcode	Date arrived	trnT-R RFLP	ITS RFLP	15R-8 RFLP	22-5 SCAR	Identification
DA23-034-02	NAS-01-H0473	06-Oct-23	<i>J. aillantifolia</i>	Hybrid	<i>J. cinerea</i>	Hybrid	Hybrid



METHODS

DNA from plant sample(s) was extracted using a commercial plant DNA extraction kit with a protocol modified to produce standard DNA yields suitable for PCR and restriction analysis. An extraction blank was also processed for the extraction batch.

Extracted DNAs for sample(s) and negative extraction control were amplified with **PCR** for four regions: trnT-F, ITS, 15R-8 and 22-5.

All PCRs were performed using pre-validated PCR mixes in the presence of both a **negative DNA extraction control** and a **negative PCR control**. Amplification and restriction enzyme digestion products were analyzed by **gel electrophoresis**.

Markers and corresponding restriction digests:

Assay #1) PCR amplification of chloroplast gene trnT-F, followed by restriction digest with enzyme MbolI.

Assay #2) PCR amplification of ITS region of ribosomal nuclear DNA, followed by restriction digest with enzyme BsiEI.

Assay #3) PCR amplification of random nuclear fragment called “15R-8”, followed by restriction digest with enzyme AclI.

Assay #4) PCR amplification of SCAR marker 22-5 without restriction digest.

Comment: PCR reactions were consistently successful for all four markers for 1 sample(s). Electrophoresis bands were strong and of the expected size and no PCRs required repeating. No bands were observed on electrophoresis gels for the extraction blank or negative controls.

END OF REPORT

Report issued by: **May Mei**

Report reviewed by: **Natalia Ivanova**

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REFERENCES

Zhao, P. & Woeste, K. E. (2011). DNA markers identify hybrids between butternut (*Juglans cinerea* L.) and Japanese walnut (*Juglans ailantifolia* Carr.). *Tree Genetics & Genomes*, 7, 511-533.



GLOSSARY

Butternut

Extraction Blank

Gel Electrophoresis

Inhibitors/inhibition

Hybrid

IUCN Red List

Juglans cinerea L.

A DNA extraction with no sample added to assess potential contamination during the DNA extraction process.

The process in which DNA is separated according to size and electrical charge via an electric current, while in a gel. The process is used to confirm the successful amplification of a specific size fragment of DNA.

Naturally-occurring chemicals/compounds that cause DNA amplification to fail, potentially resulting in false negative results. Common inhibitors include tannins, humic acids and other organic compounds. Inhibitors can be overcome by either diluting the DNA (and the inhibitors) or by additional cleaning of the DNA, but dilution carries the risk of reducing the DNA concentration below the limits of detection. At NatureMetrics, inhibition is removed using a commercial extraction/purification kit.

In this report – hybrid between butternut (*J. cinerea* L.) and Japanese Walnut (*J. ailantifolia* Carr.).

The IUCN (International Union for the Conservation of Nature) is a global union of government and civil organisations that disseminates information to assist conservation. The IUCN Red List of Threatened Species is an inventory of the conservation status of over 100,000 species worldwide. The Red List evaluates data such as population trends, geographic range and the number of mature individuals in order to categorise species based on their extinction risk:

Extinct (EX) - No individual of this species remains alive.

Extinct in the Wild (EW) - Surviving individuals are only found in captivity.

Critically Endangered (CE) - species faces an extremely high risk of extinction in the wild. e.g. Population size estimated at fewer than 50 mature individuals.

Endangered (EN) - species faces a very high risk of extinction in the wild. e.g. Population size estimated at fewer than 250 mature individuals.

Vulnerable (VU) - species faces a high risk of extinction in the wild. e.g. Population size estimated at fewer than 10,000 mature individuals and declining.

Near Threatened (NT) - species is below the threshold for any of the threatened categories (CE, E, V) but is close to this threshold or is expected to pass it in the near future.

Least Concern (LC) - species is not currently close to qualifying for any of the other categories. This includes widespread and abundant species.

Data Deficient (DD) - There is currently insufficient data available to make an assessment of extinction risk. This is not a threat



Negative Control PCR

category - when more data becomes available the species may be recategorised as threatened.

Used to determine if PCR reactions are contaminated.

Short for Polymerase chain reaction. A process by which millions of copies of a particular DNA segment are produced through a series of heating and cooling steps. Known as an 'amplification' process. One of the most common processes in molecular biology and a precursor to most sequencing-based analyses.

RFLP

Short for Restriction Fragment Length Polymorphism which is a difference in homologous DNA sequences that can be detected by the presence of fragments of different lengths after digestion of the DNA samples in question with specific restriction endonucleases.

Positive Control Primers

Used to determine whether the assay is working correctly.

Short sections of synthesised DNA that bind to either end of the DNA segment to be amplified by PCR. Can be designed to be totally specific to a particular species (so that only that species' DNA will be amplified from a community DNA sample), or to be very general so that a wide range of species' DNA will be amplified. Good design of primers is one of the critical factors in DNA-based monitoring.

SCAR

Short for Sequence Characterized Amplified Region. SCARs are DNA fragments amplified by the PCR using specific 15-30 bp primers, designed from nucleotide sequences established from cloned RAPD fragments linked to a trait of interest. Obtaining a codominant marker may be an additional advantage of converting RAPDs into SCARs, although SCARs may exhibit dominance when one or both primers partially overlap the site of sequence variation. Length polymorphisms are detected by gel electrophoresis.

Taxon (s.) / **taxa** (pl.)

Strictly, a taxonomic group. Here we use the term to describe groups of DNA sequences that are equivalent to species. We do not use the term species because we are unable to assign complete identifications to all of the groups at this time due to gaps in the available reference databases.

Taxonomy

species (s./pl.) - A group of individuals capable of interbreeding.

This is the most important taxonomic unit defined by scientists and the population trends of individual species are a key indicator in judging the effect of conservation programs. Related species are grouped together into progressively larger taxonomic units, from genus to kingdom. *Homo sapiens* (human) is an example of a species.

genus (s.) / **genera** (pl.) - A group of closely related species. Each genus can include one or more species. *Homo* is an example of a genus.

family (s.) / **families** (pl.) - A group of closely related genera. *Homo sapiens* is in the family Hominidae (great apes).

order (s.) / **orders** (pl.) - A group of closely related families. *Homo sapiens* is in the order Primates.

class (s.) / **classes** (pl.) - A group of closely related orders. *Homo sapiens* is in the class Mammalia.



REALIZING THE ECOLOGICAL POTENTIAL OF EVERY PLACE