ENVIRONMENTAL IMPACT STATEMENT

Draft Plan of Subdivision / Zoning By-law Amendment

5782 6th Line, Hamlet of Ariss, Township of Guelph/Eramosa

7 September 2023

TERRASTORY
environmental consulting inc.

ENVIRONMENTAL IMPACT STATEMENT

Draft Plan of Subdivision / Zoning By-law Amendment
5782 6th Line, Hamlet of Ariss, Township of Guelph/Eramosa

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Project No.: 23038
7 September 2023

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1 INTRODUCTION

1.1 Study Background

Terrastory Environmental Consulting Inc. (hereinafter "Terrastory") was retained by Will-O Homes (hereinafter "the Applicant") to prepare this Environmental Impact Statement (EIS) in support of a Zoning By-law Amendment (hereinafter "rezoning") and Plan of Subdivision application at 5782 6th Line (hereinafter "Subject Property") in the Hamlet of Ariss, Guelph/Eramosa Township. The Subject Property is an approximately 7.82 hectare (19.32 acre) parcel bounded by 6th Line East (northeast), agricultural and estate parcels (southeast, northwest), and the Kissing Bridge Trail and Wellington Road 86 (southwest). The Subject Property consists of agricultural fields, branches of the Kurtz Drainage Works (municipal drain), and hedgerows. The location of the Subject Property within its broader landscape setting is shown in Figure 1.

The Subject Property is located within the Hamlet of Ariss per Schedule A-3 (Guelph/Eramosa Land Use Plan) of Wellington County's Official Plan (OP). Schedule A-3 also indicates that portions of the Kurtz Drainage Works municipal drain system flow through the Subject Property. Grand River Conservation Authority (GRCA) regulates development activities (including grading) in the vicinity of the municipal drain.

The rezoning and subdivision applications will facilitate the creation of 16 residential lots. Through a 21 October 2022 letter circulated to support pre-consultation, GRCA requested the preparation of this EIS to support the aforementioned applications as the Subject Property is partially located within a regulated area. A Terms of Reference (ToR) which scopes the conduct and content of this study was prepared by Terrastory and reviewed by GRCA planning staff (C. Lorenz) on 8 May 2023. Further comments on the ToR were received by R. J. Burnside & Associated Ltd. (C. Knechtel) on behalf of the County of Wellington on 30 May 2023. These comments and the final ToR are provided in Appendix 1.

1.2 Study Purpose

The purpose of this study is to present a biophysical characterization of the Subject Property and Adjacent Lands (i.e., those within 120 m of the Subject Property) as a means to assess the potential for adverse effects on the natural environment and natural heritage features stemming from the rezoning and subdivision applications. The scope and approach of this study address the reporting requirements of Appendix 1 and s. 4.6.3 (Environmental Impact Study) of the County's OP. It is understood that this report will form part of the application package to be submitted for consideration by the Township, County, and GRCA.

2 APPROACH AND METHODS

This study is composed of five (5) discrete components which are bulleted below and further described in the following sections.

1. Acquire background biophysical information and mapping available for the local landscape surrounding the Subject Property (see Section 2.1).
2. Conduct a site assessment and ecological surveys to field-verify the accuracy of the acquired background biophysical information and collect additional biophysical information as necessary (see Section 2.2).

3. Assess the significance of the biophysical information collected and natural features identified within the context of applicable natural heritage and environmental policies (see Section 2.3).
4. Predict the effects of the application on the identified significant natural features and natural environment, particularly the net effects once mitigation measures and technical recommendations are implemented (see Section 2.4).
5. Determine whether the proposed application addresses applicable natural heritage and environmental policies at municipal, provincial, and federal levels (see Section 2.5).

2.1 Background Biophysical Information Assessment

This study is supported by background biophysical information and mapping acquired and reviewed from a variety of sources which are listed below in Table 1.

Table 1. Background Biophysical Information Acquired and Reviewed.

Type of Information Acquired	Description
Ortho-rectified Aerial Photographs	• 1934, 1954, 2006, 2009, 2012, 2013-2023.
Natural Feature Mapping	• Wellington County Official Plan (June 2022) Schedules A3. • Land Information Ontario (LIO) accessed via the "Make a Map: Natural Heritage Areas" web-based platform (accessed 1 August 2023). • Grand River Conservation Authority (GRCA) regulation mapping (accessed 1 August 2023).
Physiographic Resource Mapping and Datasets	• Ontario Base Mapping produced by MNR (1:10,000) with 5 m contours. • Provincial Digital Terrain Model (LiDAR-derived) • Soil Survey of Wellington County (Hoffman et al. 1963). • Agricultural Information Atlas (accessed 1 August 2023). • Surficial Geology of Southern Ontario (Ontario Geological Survey 2010). • Physiography of Southern Ontario (Chapman and Putnam 1984).
Ecological Resource Mapping and Datasets	• Natural Heritage Information Centre (NHIC) database accessed via the "Make a Map: Natural Heritage Areas" web-based platform (squares: 17NJ4926, 17NJ5026, 17NJ126, 17NJ4925, 17NJ5025, 17NJ5125, 17NJ4924, 17NJ5024, 17NJ5124; accessed 1 August 2023). • iNaturalist "(NHIC) Rare species of Ontario" project (accessed 1 August 2023). • Ontario Breeding Bird Atlas (OBBA) database and the Atlas of the Breeding Birds of Ontario, 2001–2005 (Cadman et al. 2007) (square: 17NJ52). • eBird (accessed 1 August 2023). • iNaturalist "Herps of Ontario" project and Ontario Reptile & Amphibian Atlas (accessed 1 August 2023). • Ontario Butterfly Atlas database (square: 17NJ52; accessed 1 August 2023). • iNaturalist "Ontario Odonata" project (accessed 1 August 2023). • Bumble Bee species distributions maps from iNaturalist and Bumble Bee Watch. • Aquatic Species at Risk Maps produced by Fisheries and Oceans Canada (accessed 1 August 2023). • Atlas of the Mammals of Ontario (Dobbyn 2005).

Type of Information Acquired	Description
	• East Side Subwatershed Study: Hopewell, Chilligo and Freeport Creeks, and Breslau and Randall Drains (GRCA 2014). • East Side Subwatershed Study: Scoped State of the Watershed Update – Hopewell and Chilligo Creeks (GRCA 2020).

2.2 Site Assessment and Surveys

Site assessments were carried out by Terrastory staff (R. Aitken) on 10 May 2023 and May 30 2023. The site assessments and surveys centred on characterizing the land use (e.g., historical development patterns, existing built features, land maintenance, etc.), physiographic (e.g., topography, drainage, surface water features, etc.), and ecological (e.g., vegetation, wildlife, habitats, etc.) conditions and features of the Subject Property and (where appropriate) Adjacent Lands (i.e., those within 120 m of the Subject Property). All land-use, physiographic, and ecological information described for Adjacent Lands was collected from either current aerial photographs or observations from inside the Subject Property and/or publicly-accessible areas (e.g., rights-of-way, etc.). The locations and boundaries of significant natural features and/or habitats were recorded on-site with a high-accuracy GPS supported by representative photographs.

In addition to collecting general biophysical information, the following targeted assessments (i.e., feature- or species-specific surveys) were undertaken:

- Vegetation Mapping according to Ecological Land Classification (ELC): Vegetation communities on the Subject Property were characterized and mapped according to Ecological Land Classification (Lee et al. 1998) and the 2008 update to the Vegetation Type List (Lee 2008). Vegetation communities were initially identified based on current aerial photographs and then verified and refined (as necessary) on-site. ELC mapping was scaled to the finest level of resolution deemed appropriate (i.e., either Ecosite or Vegetation Type). Vegetation communities mapped on Adjacent Lands were delineated predominantly via aerial photograph interpretation.
- Vascular Plant Survey: Vascular plants were recorded based on a comprehensive area search ("wandering transects") within naturally-occurring (i.e., non-planted) or naturalizing areas of vegetation. Particular effort was paid to areas with the greatest potential to support significant vascular plants (i.e., designated Species at Risk, provincially rare, etc.) and areas with the greatest potential for impact based on the proposed development plan. Nomenclature and common names for the recorded vascular plant species are generally consistent with the Southern Ontario Vascular Plant Species List (Bradley 2013) except where a name change has more recently been adopted by NHIC.
- Ontario Stream Assessment Protocol (OSAP): Fish and aquatic habitat conditions within all on-site surface water features were assessed in accordance with the Ontario Stream Assessment Protocol (OSAP) (Stanfield 2010). A modified-version of the OSAP Section 4, Module 1 (Rapid Assessment Methodology for Channel Structure) was employed to collect the aquatic data. OSAP provides a standard assessment technique for characterizing watercourses and their attendant fish and aquatic habitat conditions at specific locations (stations). Information to collect includes bankfull and wetted widths, channel structure, evidence of erosion, instream cover, substrate type, stability, and aquatic and riparian vegetation, and other relevant characteristics.

- Fish Community Survey of the Kurtz Drainage Works (i.e., Electrofishing): A single-pass electrofishing survey was undertaken in spring (i.e., at high water levels) to verify the presence or absence of direct fish habitat in the Kurtz Drainage Works.

2.3 Significance Assessment

2.3.1 Definitions and Criteria

"Significant natural features" as described herein represent natural features and habitats that have recognized status (and therefore policy significance) within the planning jurisdiction in which an application is proposed. Significant natural features are defined herein to include those referenced in section 2.1 of the 2020 Provincial Policy Statement (PPS), namely:

- Significant Wetlands;
- Significant Woodlands;
- Significant Valleylands;
- Significant Wildlife Habitat (SWH);
- Significant Areas of Natural and Scientific Interest (ANSIs);
- Habitat of Endangered and Threatened Species; and
- Fish Habitat.

Defining "significant natural features" pursuant to the PPS is considered warranted herein as such features form part of the County's Greenlands Natural Heritage System and are shown on Schedule A4 of the County's OP. It is noted that Wellington County's OP provides provisions that consider and/or protect additional natural features beyond the requirements of the PPS. The potential presence of these regionally/locally significant features are also considered herein and include:

- Other Wetlands (considered Core Greenlands per OP Section 5.4.1);
- Streams and Valleylands (considered Greenlands per OP Section 5.5.3);
- Woodlands (considered Greenlands per OP Section 5.5.4);
- Environmentally Sensitive Areas (considered Greenlands per OP Section 5.5.5);
- Ponds, Lakes, and Reservoirs (considered Greenlands per OP Section 5.5.6); and
- Natural Links (referenced as part of the Greenlands system per Section 5.5).

Criteria used to determine the presence or absence of the above significant natural features within the Subject Property and Adjacent Lands were considered from a variety of sources including the local and Regional OPs, Natural Heritage Reference Manual (MNR 2010a), and (for Significant Wildlife Habitat) the Ecoregion 6E Criteria Schedule (MNRF 2015).

Apart from PPS and County significant natural features, this study also seeks to determine whether any natural features or hazards regulated by GRCA pursuant to O. Reg. 150/06 occur within the Subject Property and/or Adjacent Lands. GRCA regulated features and hazard lands include:

- Wetlands (significant, evaluated, or identified);

- Watercourses and their associated meanderbelts and floodplains;
- Valleylands;
- Steep slopes and other hazard lands; and
- Shorelines.

Like significant natural features, "significant species" represent individuals of wild species which have recognized status (and therefore policy significance) within the planning jurisdiction in which an application is proposed. Significant species are defined herein to include:

- Species designated Endangered, Threatened, or Special Concern under O. Reg. 230/08 pursuant to the provincial *Endangered Species Act, 2007*.
- Species designated Provincially Rare (i.e., S1, S2, or S3) by NHIC.

2.3.2 Determination

After collecting the background biophysical information and conducting the site assessments, the data was interpreted to determine whether any significant natural features, natural features/hazards regulated by GRCA, and/or significant species occur on the Subject Property and/or Adjacent Lands. If a natural feature or species met the significance criteria, it is considered "confirmed". If a natural feature or species may be present on the Subject Property and/or Adjacent Lands given the prevailing biophysical or habitat conditions but was not confirmed based on either background or site-specific biophysical data, it is considered potential or "candidate". Candidate significant natural features and species are treated as confirmed where no additional information is available.

2.4 Effects Assessment and Mitigation

The potential ecological effects of an application can be understood spatially as zones that radiate outward from the direct project footprint (e.g., building envelope, etc.) and associated areas of site alteration (e.g., grading, etc.). While the greatest potential for effects typically occurs within areas directly subject to development or disturbance, surrounding areas may also be affected indirectly. Such indirect effects can include light or noise pollution that affects wildlife communities on Adjacent Lands, or degradation of water quality within a downstream receptor resulting from sediment runoff during construction.

The following five-pronged approach is employed herein to assess the effects of an application on significant natural features and species and (where warranted) the natural environment in general:

1. Scope the effects assessment to environmental components that warrant consideration. The effects assessment herein centres principally on significant natural features and species (i.e., those that have policy significance within the planning jurisdiction, as defined in Section 2.3) but may also consider general environmental effects where warranted.
2. Identify the predicted direct and indirect effects of the application on each significant natural feature or species during all project stages (i.e., pre- to -post-development) in the absence of mitigation. Direct effects are those where there is a cause-effect relationship between a proposed activity and an effect on a natural feature or species (e.g., tree clearance within a building footprint, etc.). Indirect effects result when an activity is linked to a direct effect through a chain of foreseeable interactions or steps.

3. Evaluate the significance of the predicted effects for each environmental component based on their attributes (i.e., spatial extent, magnitude, timing, frequency, and duration) and likelihood (i.e., high, medium, low).
4. Where the potential for negative effects are anticipated, recommend ecologically-meaningful mitigation measures to avoid such impacts first (where possible), and where impacts cannot be avoided to minimize, compensate, and/or enhance as appropriate.
5. Identify the predicted residual or net effects of the application assuming implementation of all recommended mitigation measures.

Per step 4, mitigation measures are offered where the potential for negative effects are anticipated to a degree that cannot be supported given the prevailing policy context. Whenever possible, Terrastory works iteratively with the project team as a means to identify development plan options that avoid negative effects first; options that would minimize or mitigate such negative effects are less preferred and considered secondarily. In general, avoidance measures that have already been incorporated into the application or project design are not duplicated as technical recommendations herein. The effects assessment and any recommended mitigation measures are provided in Section 5.

2.5 Natural Heritage Policy Context

There is an overlapping municipal, provincial, and federal policy framework respecting the protection of natural heritage features and areas across southern Ontario. These requirements include objectives, policies, and directives which are principally contained in federal and provincial statutes, regulations, policy statements, Official Plans, and guidance documents. The overarching natural heritage policy framework directing development activities within the Subject Property is outlined below in Table 2. A determination of whether the application considered herein addresses such policies is provided in Section 6.

Table 2. Applicable Natural Heritage Policies.

Level of Government	Natural Heritage or Environmental Policy Requirements
Municipal	County of Wellington Official Plan (June 2022 Office Consolidation).
Provincial	Growth Plan for the Greater Golden Horseshoe 2019, pursuant to the Places to Grow Act, S.O. 2005, c. 13. Provincial Policy Statement 2020, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13, including: • Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (MNR 2010a). • Significant Wildlife Habitat Technical Guide (MNR 2010b). • Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF 2015a). • Significant Wildlife Habitat Mitigation Support Tool (MNRF 2014). *Conservation Authorities Act*, R.S.O. 1990, c. C.27, including: • Ontario Regulation 150/06 – Grand River Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. • GRCA Polices for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (GRCA 2015).

Level of Government	Natural Heritage or Environmental Policy Requirements
	Endangered Species Act (ESA), S.O. 2007, c. 6, including: • Ontario Regulation 230/08 – Species at Risk in Ontario List • Ontario Regulation 242/08 – General • Ontario Regulation 832/21 – Habitat *Fish and Wildlife Conservation Act,* S.O. 1997, c. 41.
Federal	*Fisheries Act*, R.S.C. 1985, c. F-14, including: • Fish and Fish Habitat Protection Policy Statement (DFO 2019). *Migratory Birds Convention Act*, S.C. 1994, c. 22, including: • Migratory Birds Regulations, C.R.C., c. 1035.

3 EXISTING BIOPHYSICAL CONDITIONS

The following is a description of the biophysical features and conditions of the Subject Property, which are shown spatially on Figure 2. Representative photographs are provided in Appendix 2.

3.1 Land-use and Landscape Setting

The Subject Property is situated within the community of Ariss north of Wellington Road 51 between 6 Line East and Wellington Road 86. Parcels immediately adjacent to the Subject Property contain estate residential development and a mixture of agricultural land (mostly cash crops).

3.2 Physical Setting

3.2.1 Surficial Geology and Soils

The majority of the Subject Property is classified as London Loam, with narrow bands of Donnybrook Sandy Loam and Parkhill Loam that cross the eastern half of the Subject Property. The London soils series is described as imperfectly drained soils on gently undulating upland areas where surface runoff is slow and internal drainage is moderate. The Donnybrook soil series is described as gravelly soils occurring in hills and ridges that are more specifically designated as kames and eskers with rapid drainage. The Parkhill soil series is described as poorly drained soils that occur in depressions that can be wet at certain parts of the year (Hoffman et al. 1963).

3.2.2 Topography and Drainage

The Subject Property is relatively flat, with a slight slope trending in a southern direction. Provincial geographic information (i.e., Ontario Base Maps) indicates approximately 5 m of relief between the topographic apex (i.e., 350 m above sea level[masl]) and low (~345 masl) of the Subject Property. Overall, surface water is shed in a predominantly southerly direction based on the topographic contours.

There are a number of branches associated with the Kurtz Drainage Works that flow on or adjacent to the Subject Property, along with a few private drainage channels/private drains that outlet to the Kurtz Drainage Works. These branches, private drainage channels, and private drains that are connected to them have been classified using letters (Branch A, Branch B, Branch E, Ditch B, etc.) are described.

Branch E briefly flows along the southern boundary on the eastern half of the Subject Property within an unopened road allowance. This feature receives flow from a private drain that flows across the eastern half of the Subject Property and is a dug ditch with steep banks bordered by a mixture of grasses, trees, and shrubs that drains in the Branch A of the Kurtz Drainage Works south of the Subject Property. During the site visit shallow flowing water was observed approximately 5 to 10 cm deep and 30 cm wide. Substrates within this drainage feature are predominantly gravel.

A small part of Branch "A" of the Kurtz Drainage works flows into the unopened road allowance south of the Subject Property before out letting into Branch "C" of the Kurtz Drainage Works. This part of the drain was recently reconstructed and consists of a wide, flat bottom channel with steep banks occupied by grasses. During the site visit, shallow flowing water approximately 5 to 10 cm deep and 2 m wide with a gravel substrate was documented within this feature.

Kurtz Drainage Works "Branch C" is the main branch of the Kurtz Drainage Works and flows southward through the middle of the Subject Property. It is part of the drain that was recently realigned and consists of a wide grassed flat bottom channel approximately 10 to 12 m wide at the base with limited channel definition and steep banks occupied by grasses. During the site visit a pool of shallow standing water approximately 5 to 10 cm deep was present at the southern edge of Branch "C" where it flows off of the Subject Property.

Kurtz Drainage Works "Branch F" is located along the northern edge of the western half of the Subject Property. It is part of the drain that was recently realigned and consists of a wide flat bottom grassed channel approximately 8 to 10 m wide at the base with limited channel definition and steep banks with grasses. During the site visit no water was observed within this branch.

Ditch "B" is located along the southern edge of the western half of the Subject Property and is the former location of Branch "F" of the Kurtz Drainage Works prior to its realignment. This branch is comprised of a dug ditch with steep banks bordered by a mixture of trees and shrubs. During the site visit, a small amount of standing water was observed at the downstream limit of the channel. This section is to be abandoned as outlined in the 2022 Kurtz Drainage Works – Relocation of Branch F and Section of Branch C report prepared by R.J. Burnside

All sections of the Kurtz Drainage Works on the Subject Property with flowing or standing water of sufficient depth to sample using a backpack electro fisher were surveyed on 10 May 2023. No fish were captured, and no mussels or crayfish were observed.

3.3 Ecological Setting

3.3.1 Vegetation Communities

Vegetation communities on the Subject Property consist of culturally-influenced communities including Hedgerows (HE), Thickets (THD), and Graminoid Meadows (MEG) (see Figure 2).

Hedgerows (HE) on the eastern half of the Subject Property were dominated by Manitoba Maple (*Acer negundo*) and Trembling Aspen (*Populus tremuloides*) with pockets of dead or dying ash (*Fraxinus sp.*). Shrubs within this area consist primarily of Common Buckthorn (*Rhamnus cathartica*) alongside willow shrubs (*Salix* sp.) growing in the agricultural drain. Hedgerows (HE) on the west half of the Subject Property were dominated by a mixture of Trembling Aspen, Norway Spruce (*Picea abies*), Sugar Maple (*Acer saccharum*), American Basswood (*Tilia americana*), and Black Walnut (*Juglans nigra*).

Shrubs within this area consists of Common Buckthorn, Chokecherry (*Prunus virginiana*), and occasional willow shrubs growing in the agricultural drain.

The Thicket (THD) is located on the west half of the Subject Property and is dominated by Common Buckthorn, Red Raspberry (*Rubus idaeus*), and Riverbank Grape (*Vitis riparia*).

Meadow (MEG) habitat on the Subject Property primarily consists of planted grasses associated with the banks of recently realigned branches of the Kurtz Drainage Works.

The remainder of the Subject Property consists of agricultural lands that were planted in row crops at the time of the site visit. One of the fields contained recently graded soils which are the result of the Kurtz Drainage Works Relocation of Branch F and a Section of Branch C which was completed in 2022.

Other vegetation communities located offsite within the Adjacent Lands include Deciduous Forests (FOD).

3.3.2 Vascular Plants

A total of 68 vascular plant species were recorded within the Subject Property (see Appendix 3). No provincially rare or species at risk vascular plants were documented.

3.3.3 Incidental Wildlife Recorded

Incidentally documented wildlife (birds, mammals, terrestrial insects) recorded by Terrastory during the May 2023 site visit included:

- American Goldfinch (*Spinus tristis*);
- American Robin (*Turdus migratorius*);
- Baltimore Oriole (*Icterus galbula*);
- Black capped Chickadee (*Poecile atricapillus*);
- Blue Jay (*Cyanocitta cristata*);
- European Starling (*Sturnus vulgaris*);
- Gray Squirrel (*Sciurus carolinensis*);
- Killdeer (*Charadrius vociferus*); and
- Cabbage White (*Pieris rapae*).

4 SIGNIFICANCE ASSESSMENT

Based on the biophysical information collected during background information gathering (per Table 1) and the results of Terrastory's site assessment (per Sections 2.2 and 3), Table 3 below provides a determination of the presence (or potential presence) of each significant natural feature considered herein. Shaded rows denote features which were confirmed or may be present within the Subject Property or Adjacent Lands and are considered further as part of the effects assessment in Section 5. Significant natural feature mapping is provided in Figure 2. Features that are absent from the Subject Property and Adjacent Lands are not considered further herein unless further information about them was warranted.

Table 3. Summary of the Assessment of Significant Natural Features on the Subject Property and Adjacent Lands.

Significant Natural Feature	Status on the Subject Property	Status on Adjacent Lands (i.e., < 120 m from the Subject Property)
PPS Significant Natural Features		
Significant Wetlands	Absent.	Absent.
Significant Woodlands	Absent.	Absent.
Significant Valleylands	Absent.	Absent.
Significant Wildlife Habitat	Candidate. See Section 4.1.	Candidate. See Section 4.1.
Significant Areas of Natural and Scientific Interest	Absent.	Absent.
Habitat of Endangered and Threatened Species (per ESA)	Absent. See Section 4.2.	Candidate. See Section 4.2.
Fish Habitat (per *Fisheries Act*)	Absent. See Section 4.3.	Absent. See Section 4.3.
County Significant Natural Features (i.e., apart from PPS requirements)		
Other Wetlands	Absent.	Absent.
Hazard Lands	Confirmed. See Section 4.4.	Confirmed. See Section 4.4.
Streams and Valleylands	Confirmed. See Section 4.3.	Confirmed. See Section 4.3.
Environmentally Sensitive Areas	Absent.	Absent.
Ponds, Lakes, and Reservoirs	Absent.	Absent.
Natural Links	Absent.	Absent.
Conservation Authority Regulated Features and Hazard Lands		
Wetlands, watercourses, valleylands, meanderbelts, floodplains, steep slopes, and shorelines.	Confirmed. See Section 4.4.	Confirmed. See Section 4.4.

4.1 Significant Wildlife Habitat

An assessment of the likelihood that any candidate or confirmed SWH types occur within the Subject Property or Adjacent Lands is provided in Appendix 4. Based on the results of this assessment, one (1) SWH type is considered further through this study:

- Habitat of Species of Conservation Concern
    1. Special Concern and Rare Wildlife Species

A total of three Special Concern or provincially rare species are considered to have a low likelihood of occurrence on the Subject Property given their habitat associations and current distribution in southern Ontario:

1) Monarch (*Danaus plexippus*)
2) Yellow-banded Bumblebee (*Bombus terricola*)
3) Snapping Turtle (*Chelydra serpentina*)

These species could potentially be periodically associated with the hedgerows and thickets on the Subject Property or habitats associated with the Kurtz Drainage Works. While these species could periodically be present, given the anthropogenic nature of the habitats on the Subject Property (i.e., hedgerows, thickets, agricultural drains) it is unlikely that any of these habitats are used routinely or significantly by any of the above-noted species of conservation interest.

An assessment of potential effects to the identified candidate SWH types and Special Concern/provincially rare species associated with the proposed development plan is provided in Section 5.2.1.

4.2 Habitat of Endangered and Threatened Species

An assessment of the likelihood that any Endangered and Threatened species or their habitats occur within the Subject Property or Adjacent Lands is provided in Appendix 5.

An assessment of potential effects to Endangered and Threatened species associated with the proposed development plan is provided in Section 5.2.2.

4.3 Kurtz Drainage Works (Indirect Fish Habitat / Streams and Valleylands)

No fish were captured within the Kurtz Drainage Works during the May 2023 electrofishing survey, suggesting that this municipal drain does not function as direct fish habitat. Flows from the drain do contribute flow and nutrients to downstream fish habitat.

An assessment of potential effects to fish habitat associated with the proposed development plan is provided in Section 5.2.3.

4.4 Conservation Authority Regulated Areas

Natural features / hazards within the Subject Property which are regulated by the GRCA include the Kurtz Drainage Works and associated floodplain, along with it's associated flood allowance.

5 EFFECTS ASSESSMENT AND MITIGATION

The purpose of this EIS is to present a biophysical characterization of the Subject Property and Adjacent Lands as a means to identify the potential for adverse effects on the natural environment and natural heritage features stemming from the proposed subdivision. Several significant natural features and species were documented (or may occur) within the Subject Property pursuant to the assessments presented in Section 4. The following effects assessment provides an evaluation of the potential for the proposed application to result in negative effects to such environmental components and offers technical recommendations to mitigate such effects where warranted. Certain technical recommendations offered herein apply to several natural features and/or species simultaneously; as such, all technical recommendations should be read and considered in their entirety. The baseline or existing conditions against which the application is assessed are treated as the state of the Subject Property at the time of the site assessment. The effects assessment herein is based on the proposed Draft Plan of Subdivision provided in Appendix 6.

5.1 Proposed Development Plan

The proposed development and site alteration activities consist of the following elements:

- Creation of 16 residential lots on private servicing, each of which will contain a building envelope, septic system (tertiary), drilled well, and driveway.
- Construction of a municipal road on which the aforementioned lots will be located that will connect to 6th Line and Ariss Glen Drive.
- Construction of a new road crossing over the recently realigned Kurtz Drainage Works.

As stated in the 2022 Kurtz Drainage Works – Relocation of Branch F and Section of Branch C report prepared by R.J. Burnside the drain relocation was requested to improve the effective use of the Subject Property for development and to improve the overall channel capacity and conveyance. This includes the floodplain limist associated with the drain, which coincides with the top of bank of the recently constructed channel.

To facilitate the development, the private agricultural drain/pipe that outlets into 'Branch E' will be removed from within the limits of the development and terminated at the northern property boundary. 'Branch E' will also be removed from within the limits of development. Flows from this private drain/pipe will then outlet into a proposed private swale that will be constructed on the adjacent lands to the north of the Subject Property flowing westward and discharging into the main branch (Branch C) of the Kurtz Drainage Works.

Minor grading of the upper banks of Branch A of the Kurtz Drainage Works, which were graded as part of the recent relocation of the Kurtz Drainage Works, is required to suit the proposed road alignment and the right-of-way cross-section for the proposed road. These works will be completed as part of the subdivision grading works

Information provided within GM BluePlan Engineering Hydrological Study (2023) identifies that no impacts to water quality to the Kurtz Drainage Works and downstream habitats are anticipated as a result of the development. Information provided within the GM BluePlan Engineering FSR related to water balance for the site identified an increase of approximately 5% in the total estimated groundwater recharge post-development and of approximately 21% runoff post-development. Detailed information pertaining to these assessments can be found within these reports, which will also be submitted as part of the application.

5.2 Feature-based Effects Assessment and Technical Recommendations

5.2.1 Significant Wildlife Habitat

Per the assessment in Section 4.1, a total of one (1) candidate SWH types were considered further through this study:

- Habitat of Species of Conservation Concern
    1. Special Concern and Rare Wildlife Species

A total of three Special Concern or provincially rare species are considered to have at least a possible likelihood of occurrence on the Subject Property given their habitat associations and current distribution in southern Ontario (or were confirmed based on the site assessment):

1) Monarch (*Danaus plexippus*)
2) Yellow-banded Bumblebee (*Bombus terricola*)
3) Snapping Turtle (*Chelydra serpentina*)

No specific recommendations are offered herein to minimize impacts to potential foraging and breeding habitat for Monarch or Yellow-banded Bumblebee as potential habitat on the Subject Property is limited to hedgerows, thickets, and the edges of the Kurtz Drainage Works. Oviposition sites for Monarch (e.g., Common Milkweed, Swamp Milkweed), overwintering habitat for Yellow-banded Bumblebee, and general nectaring habitat for both species is present within the wider local landscape.

It is possible that Snapping Turtle could occupy Branch C of the Kurtz Drainage Works as a refuge or corridor while migrating through the landscape. Recommendations provided in Section 5.2.3 to protect the Kurtz Drainage Works will provide overlapping protection for Snapping Turtle and its potential use of the habitat.

5.2.2 Habitat of Endangered and Threatened Species

Per the assessment in Appendix 5, no habitat for Endangered or Threatened species are considered to occur on the Subject Property given their habitat associations and current distribution in southern Ontario. Notwithstanding this, given the presence of treed hedgerows it is possible that individual Myotis bats (designated Endangered in Ontario) could occasionally or rarely roost in on-site trees associated with the treed hedgerow. Given this, the following measure is recommended to mitigate potential impacts to individual roosting bats:

- Any necessary tree removal within the proposed development area will only take place between October 1 and March 31 to avoid the active season for bats. Should minor tree removal be required between April 1 and September 30, a qualified professional will complete an exit survey of suitable maternal roosting sites identified for removal a maximum of 24 hours before removal. The exit survey must make use of a bat detector and will occur for no less than the time period between sunset and 60 minutes after sunset. If an Endangered bat is identified during the survey, MECP should be contacted to obtain further direction prior to removal of the tree.

5.2.3 Kurtz Municipal Drain (Intermittent Stream / Contributing Fish Habitat)

Where development and/or site alteration activities are proposed adjacent to watercourses that support provide downstream inputs to fish habitat and/or aquatic organisms, adverse effects may occur via the following pathways (amongst others):

- Alterations to surface water and/or groundwater contributions to the watercourse from construction (e.g., dewatering, etc.), grading that modifies the existing topography or drainage, and/or increased coverage of impervious surfaces (e.g., roads, roofs, etc.);
- Increased sediment loadings and/or nutrient enrichment within the watercourse via runoff exiting from development areas during and post construction. This may alter water quality and/or degrade habitat quality via increased turbidity, eutrophication, contamination by toxic substances, changes in pH, etc.
- Introduction of invasive species including aquatic organisms and aquatic plants.
- Increased human activity (i.e., encroachment) in the vicinity of the watercourse which may result in bank compaction, exploitation of fish, dumping, etc.

Information provided by GM BluePlan Engineering identify no impacts to water quality to the Kurtz Drainage Works and downstream habitats. It also identifies a small increase in infiltration and an increase in runoff from the Subject Property. Based on this no loss of flows to downstream fish habitat is anticipated because of the development.

During construction it is anticipated that the proposed development areas will contain exposed soils, which are inherently unstable and have a greater potential for runoff into adjacent areas during rainfall events. The most effective erosion and sediment control system emphasizes the prevention of erosion first, minimizes sediment transport off-site through a multi-barrier approach, and involves regular inspection and maintenance. To protect the Kurtz Drainage Works and downstream fish habitat from construction-related impacts, the following measures are recommended:

- Works will be completed consistent with the Erosion and Sediment Control (ESC) Plan measures contained within the Functioning Servicing Report prepared by GM BluePlan Engineering.

As shown on the Engineering Drwaing all buildable areas within the lots are located outside of the Kurtz Drainage Works and its associated floodplain, which coincides with the top of bank that was designed as part of the recently completed. Given the need for vehicular access along the drain during routine maintenance ("clean-out") activities, the installation of woody plantings within the riparian zone of the Kurtz Drainage Works is not recommended. Rather, the banks of the tributary on the Subject Property will be subject to application of an appropriate native seed mix to enhance buffer functioning and wildlife habitat (e.g., nectaring opportunities for pollinators). As such, the following measure is recommended:

- The banks of the recently realigned section of Branch C of the Kurtz Drainage Works on the Subject Property will be overseeded with Ontario Seed Company Rural Ontario Roadside Native Seed Mixture (#8145) at a rate of 25 kgs/ha. Where the existing grasses are not overly established soils can be loosened with a stiff rake or hoe prior to seed application to enhance seed application. Further directions/details of seed application are available here: https://www.oscseeds.com/product/rural-ontario-roadside-native-seed-mixture-8145/.

5.2.4 Other Natural Environment Considerations

While the recommendations offered herein restrict development activities from all significant natural heritage features, some vegetation removal (i.e., woody and herbaceous vegetation) is required to facilitate development. To further minimize potential adverse effects to the natural environment and breeding birds during construction, the following measures are recommended:

- The removal of trees will generally be restricted to areas in direct conflict with the proposed road alignment and right-of-way cross-section, along with the footprints of the proposed development features (e.g., residence, septic system, driveway, etc.) and grading, along with any hazardous trees in the immediate vicinity that pose an unacceptable risk to human life or property.

- All necessary vegetation removal (e.g., trees, meadow vegetation, etc.) will be completed outside the primary bird nesting period (i.e., to be completed between September 1 and March 31). Should minor vegetation removal be proposed during the bird nesting period, a bird nesting survey will be undertaken to confirm the presence or absence of nesting birds or bird nests within or adjacent to the areas subject to vegetation clearance. The survey is to take place within 48 hours of vegetation removal.

5.2.5 Summary of Technical Recommendations

All technical recommendations provided in Section 5.2 are reiterated in Appendix 7.

6 APPLICABLE NATURAL HERITAGE AND ENVIRONMENTAL POLICIES

The following sections summarize the various municipal, provincial, and federal environmental policies that may apply to the proposed development plan and describe how the recommendations provided in this EIS will address these policies (where applicable).

6.1 Wellington County Official Plan (June 2022)

The County's OP is a legal document prepared as required under section 14.7(3) of the *Planning Act*. An OP sets out goals, objectives, and policies that direct and manage land-use and future development activities and their effects on the social and natural environment of a municipality. Provincial plans that offer direction on matters of provincial interest are implemented principally through the County's OP. Provided herein is a description of relevant environmental and natural heritage policies contained within the County's OP and an assessment of whether the application addresses such policies.

The Subject Property forms part of the Hamlet of Ariss per Schedule A-3 (Guelph/Eramosa Land Use Plan) of Wellington County's OP. Schedule A-3 also identifies parts of the Kurtz Drainage Works flowing through the Subject Property from north to south.

A summarized and condensed list of key natural heritage provisions of the County's OP that pertain to the application considered herein is provided below.

- Section 5.4 defines Core Greenlands as PSWs, all other wetlands, habitat of endangered or threatened species, fish habitat, and hazardous lands.
- Section 5.4.2 states that development and site alteration will not be allowed in significant habitat of endangered or threatened species or fish habitat except in accordance with provincial and federal requirements.
- Section 5.4.3 states that development shall generally be directed away from areas in which conditions exist which would pose risks to public health and safety or property caused by natural hazards.
- Section 5.5 defines Greenlands as other significant natural heritage features including habitat, ANSIs, streams and valleylands, woodlands, ESAs, ponds, lakes, and reservoirs, and natural links, all of which are intended to be afforded protection from development or site alteration which would have negative impacts.

- Section 5.5.1 states that development and site alteration shall not be allowed in SWH unless it has been demonstrated that there will be no negative impacts on the habitat or its ecological functions or fish habitat except in accordance with provincial and federal requirements.
- Section 5.5.3 states that all streams and valleylands will be protected from development or site alterations which would negatively impact on the stream or valleyland or their ecological functions.
- Section 5.6.1 lists permitted usings within Core Greenlands and also identifies requirements for development in or adjacent to the Greenland System including:
    - Identifying the nature of the features potentially impacted by the development;
    - The preparation of an Environmental Impact Assessment to ensure the requirements of the OP are met, and enhancements of the natura area are considered where appropriate and reasonable.
- Section 5.6.3 defines Adjacent Lands, which includes lands within 120m of significant habitat of endangered and threatened species, fish habitat, and significant wildlife habitat.
- Section 5.6.7 requires Core Greenland areas to be placed in a restrictive zone that prohibits buildings, structures and site alterations except as necessary for the management or maintenance of the natural environment. It also identifies that other Greenlands may be given a restrictive zoning by municipal council.
- Section 5.6.7 identifies that mapping of Core Greenlands and Greenlands in the OP may need to be refined by more detailed mapping on individual sites.
- Section 5.6.8 requires that where development or site alteration is proposed within an area regulated under the Conservation Authorities Act, the Conservation Authority should be consulted before development.

Terrastory reviewed potential impacts to the identified significant natural features – including candidate SWH, contributing fish habitat, and a "stream" which is also a Municipal Drain (Kurtz Drainage Works) – in Section 5.2 of this EIS. Provided that Terrastory's recommended mitigation measures (summarized in Appendix 7) are carried out in full, no negative impacts are anticipated to these features. Based on the preceding discussion, Terrastory can conclude that the proposed development plan appropriately addresses the natural heritage protection provisions of the County's OP.

6.2 Provincial Policy Statement 2020, pursuant to the *Planning Act*, R.S.O. 1990, c. P. 13

The Provincial Policy Study (PPS) is promulgated under the authority of the *Planning Act* and came into effect on 1 May 2020. The PPS provides direction to municipalities on land-use matters of provincial interest and sets the policy framework for regulating the use and development of land. Municipal OP's must be consistent with the PPS. Per its preamble, the PPS *provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment*.

The principal PPS policies that apply to natural heritage protection are outlined in section 2.1. While recognizing that the natural heritage protection framework is not intended to limit the ability of agricultural uses to continue (Policy 2.1.9), the PPS instructs that *natural features and areas shall be protected for the long term* (Policy 2.1.1) and that their diversity and connectivity be *maintained, restored or,*

where possible, improved (Policy 2.1.2). In Ecoregions 6E the PPS separates significant features into three categories:

1) Those in which development and site alteration are not permitted, including 1) Provincially Significant Wetlands and 2) Significant Coastal Wetlands (Policy 2.1.4);
2) Those in which development and site alteration are not permitted unless it can be demonstrated that no negative impacts on the significant natural feature and/or its functions will occur, including: 1) Significant Woodlands, 2) Significant Valleylands, 3) Significant Wildlife Habitat, 4) Significant Areas of Natural and Scientific Interest, 5) Non-significant Coastal wetlands, and 6) Adjacent Lands (Policy 2.1.5 and 2.1.8).
3) Those in which development and site alteration are not permitted except in accordance with federal/provincial requirements, including: 1) fish habitat (Policy 2.1.6) and 2) habitat of Endangered and Threatened Species (Policy 2.1.7).

In considering the aforementioned PPS policies, it has been determined that the proposed development plan addresses relevant natural heritage provisions of the PPS for the following reasons:

- Per Table 3 of this report, no Provincially Significant Wetlands, Significant Woodlands, Significant Valleylands, Significant Areas of Natural or Scientific Interest, direct Fish Habitat, or habitat of Endangered and Threatened Species are present within the Subject Property.
- Per Section 5.2 of this report, no negative impacts to any candidate SWH (low potential for occurrence) are anticipated given implementation of the proposed development plan provided that the recommended mitigation measures are implemented in full.
- Per Section 5.2 of this report, Fish Habitat will be protected in accordance with provincial and federal requirements.

6.3 Growth Plan 2019, pursuant to the *Places to Grow Act*, S.O. 2005, c. 13

The Growth Plan provides a framework for growth management across the Greater Golden Horseshoe. Provisions related to the protection of natural heritage features and areas are contained in sections 4.2.2 through 4.2.4.

- Policy 4.2.2 authorizes the creation of a Natural Heritage System which is to be incorporated by municipalities as an overlay into their OP schedules. New development or site alteration within the Natural Heritage System must demonstrate that there will be no negative impacts to KNHF's and KHF's or their functions (Policy 4.2.2[3][i]), and that the connectivity between KNHF's and KHF's located within 240 metres of each other will be maintained or enhanced (Policy 4.2.2[3][ii]). New development and site alteration must also consider and avoid other non-significant natural features where possible.

The Subject Property is located within a Country Residential Settlement Area as identified in Schedule A3 of the County's OP. Also, Natural Heritage System mapping prepared by the province does not overlap with the Subject Property. Furthermore, it is Terrastory's understanding that the County's interpretation and application of its OP and Growth Plan policies is such that wetlands are the only component of the County Greenlands system that are subject to Growth Plan Natural

Heritage System policies until the OP has been updated to include mapping of the Natural Heritage System for the Growth Plan (Z. Prince to R. Aitken, pers. comm. 29 September 2021).

6.4 *Conservation Authorities Act*, R.S.O. 1990, c. C.27

GRCA's regulatory jurisdiction includes areas within and adjacent to valley and stream corridors, the Lake Erie shoreline, hazard lands (e.g., floodplains, steep slopes), watercourses, and wetlands as provided under O. Reg. 150/06 of the *Conservation Authorities Act*. GRCA's Consolidated Policies document (October 2015 consolidation) provides guidance for the administration of O. Reg. 150/06. Provided herein is a description of relevant policies and an assessment of whether the subdivision applications considered herein addresses such policies.

Activities that constitute development (as defined in the *Conservation Authorities Act*, which includes grading) within 15 m of the regulatory floodplain of the Kurtz Drainage Works are regulated by GRCA per clause 2(1)(b) of O. Reg. 150/06. The Kurtz Drainage Works and the flood hazard associated with it are the only GRCA regulated feature/area within the Subject Property.

To facilitate the development, the private agricultural drain/pipe that outlets into 'Branch E' and the private drain that is its primary source of water will be removed from the limits of the development. Flows from this private drain/pipe will then outlet into a proposed private swale that will be constructed on the adjacent lands to the north of the Subject Property flowing westward and discharging into the main branch (Branch C) of the Kurtz Drainage Works.

Minor grading of the upper banks of Branch A of the Kurtz Drainage Works, which were graded as part of the recent relocation of the Kurtz Drainage Works, is required to suit the proposed road alignment and the right-of-way cross-section for the proposed road. These works will be completed as part of the Subdivision grading works.

Both these activities constitute development activities within GRCA's regulatory jurisdiction, and will require permission (i.e., permitting) to proceed under the current regulatory framework. Per Section 5.2.3 herein, ESC measures are contained within the FSR and naturalization measures for the Kurtz Drainage Works (e.g., native seed mix) have been recommended to protect the Kurtz Drainage Works during and following construction.

6.5 Provincial *Endangered Species Act*, S.O. 2007, c. 6

The *Endangered Species Act* (ESA) is administered by MECP and protects designated Endangered and Threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). The protection afforded to Endangered and Threatened species "habitat" is either prescribed by O. Reg. 832/21, or (for those species that lack regulated habitat) is defined as *an area on which the species depends, directly or indirectly, to carry on its life processes, including life processes such as reproduction, rearing, hibernation, migration or feeding.* Development activities that constitute habitat damage and/or destruction typically require permitting under section 17 of the ESA, or proceed through registration of the activity as a conditional exemption under O. Reg. 242/08 or O. Reg. 830/21 (where applicable).

A detailed assessment of Endangered and Threatened habitat within the Subject Property is provided in Appendix 5. Per this assessment, no habitat for Endangered or Threatened species is present on the Subject Property and it has been determined that the proposed development plan is

consistent with the species and habitat protection provisions of the ESA provided that a timing window restriction on vegetation removal (to protect potentially roosting individual Endangered bats) is applied.

6.6 Federal *Fisheries Act*, R.S.C. 1985, c. F-14

The amended federal *Fisheries Act* (Bill C-68) received Royal Assent in June 2019 while the updated fish and fish habitat protection provisions came into force in August 2019. Subsection 34.4(1) of the amended *Fisheries Act* prohibits all work, undertaking, or activity from causing the death of fish (other than fishing). Subsection 35(1) requires that project activities not result in the "*harmful alteration, disruption or destruction of fish habitat*" (HADD) unless undertaken in accordance with the requirements of a statutory exemption per subsection 35(2). Based on the Fish and Fish Habitat Protection Policy Statement (August 2019), HADD is interpreted by DFO to include "*any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat's capacity to support one or more life processes of fish*".

The Kurtz Drainage Works on the Subject Property provides indirect habitat for fish by providing flow and nutrients to downstream habitats. By relocating 'Branch E' of the Kurtz Drainage Works so that is located upstream of the property, the proposed works will provide similar contributions in flow and nutrients to downstream fish habitat. Consistent with the assessment carried out in Section 5.2.3 and provided that relevant technical recommendations outlined in Section 5.2 are implemented in full, it has been determined that the proposed development plan is consistent with the fish and fish habitat protection provisions outlined in the *Fisheries Act*.

6.7 Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22

Section 6 of the Migratory Birds Regulations under the *Migratory Birds Convention Act, 1994* (MBCA) prohibits the disturbance or destruction of nests, eggs, or nest shelters of a migratory bird. The provincial *Fish and Wildlife Conservation Act, 1997* (FWCA) extends the protection of bird nests and eggs to certain species not listed under the Migratory Birds Regulations (e.g., Corvids, Strigids, Accipitrids, etc.).

Provided that the recommendations outlined in Section 5.2.4 are implemented in full (i.e., prohibition on vegetation removal during the bird breeding season), no impacts to breeding birds or bird nests protected by the MBCA or FWCA are anticipated.

7 CONCLUSIONS

In accordance with the Terms of Reference for this study (Appendix 1) and relevant environmental policies, the preceding EIS provides a detailed characterization of the natural environment occurring within and adjacent to location. This EIS has been prepared in support of rezoning and subdivision applications submitted to construct 16 residential lots and to support GRCA's regulatory review under the *Conservation Authorities Act*. Included herein is a comprehensive approach to identifying the presence or absence of several significant natural features afforded varying degrees of protection by applicable environmental policies. Potential negative impacts to the identified significant natural features are described with mitigation measures and technical recommendations offered to avoid or minimize such impacts and/or offer enhancements as appropriate.

Based on the findings presented in this report, the following natural features with ecological and/or policy significance have been identified:

- Candidate Significant Wildlife Habitat including limited potential habitat for Monarch, Yellow-banded Bumble Bee, and Snapping Turtle.
- Contributing Fish Habitat in the Kurtz Drainage Works.

Based on the presence of the above-mentioned significant natural heritage features, a comprehensive set of recommendations and mitigation measures are offered in Section 5.2 to achieve "no negative impact" and address applicable municipal, provincial, and federal policies outlined in Section 6. A permit from GRCA is required to facilitate development within a regulated area.

It has been determined that no negative impacts to the above-noted features will occur and that the application appropriately addresses applicable natural heritage policies provided that all technical mitigation measures recommended herein (summarized in Appendix 7) are implemented in full. It is advised that such technical recommendations be incorporated into any necessary development approvals that permit the application.

8 REFERENCES

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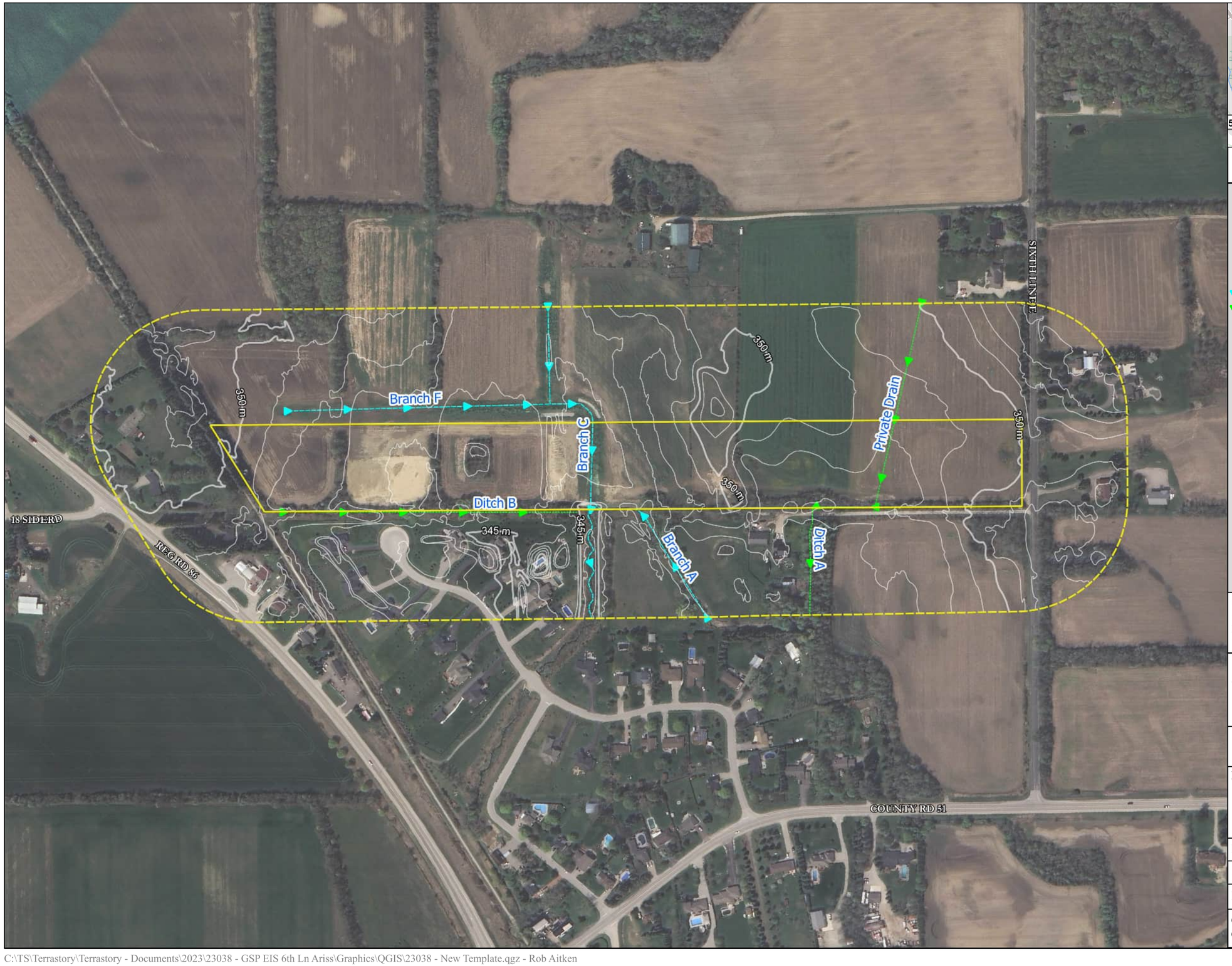

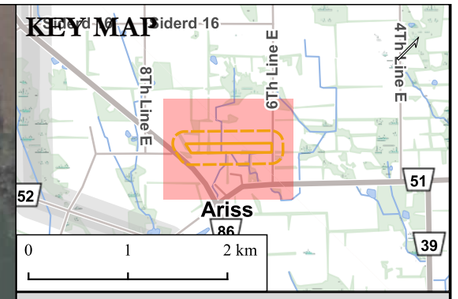

Legend

Area of Assessment
- Subject Property
- Adjacent Lands

Surface Water Drainage Features
- Kurtz Drainage Works
- Ditch / Private Drain

GENERAL NOTES:
-Features depicted herein should not be used in place of a professional survey.
-Numeric scale is for a 11x17 inch print.

TERRASTORY
environmental consulting inc.
info@terrastoryenviro.com 905.745.5398

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0 50 100 150 m

Location:
5782 6th Line, Ariss
Guelph Eramosa Township

Project No.: 22038

Date: 2023-08-18

By: RA

Orthophotograph Date: Google, 2023

Figure 1:
Location of the Subject Property

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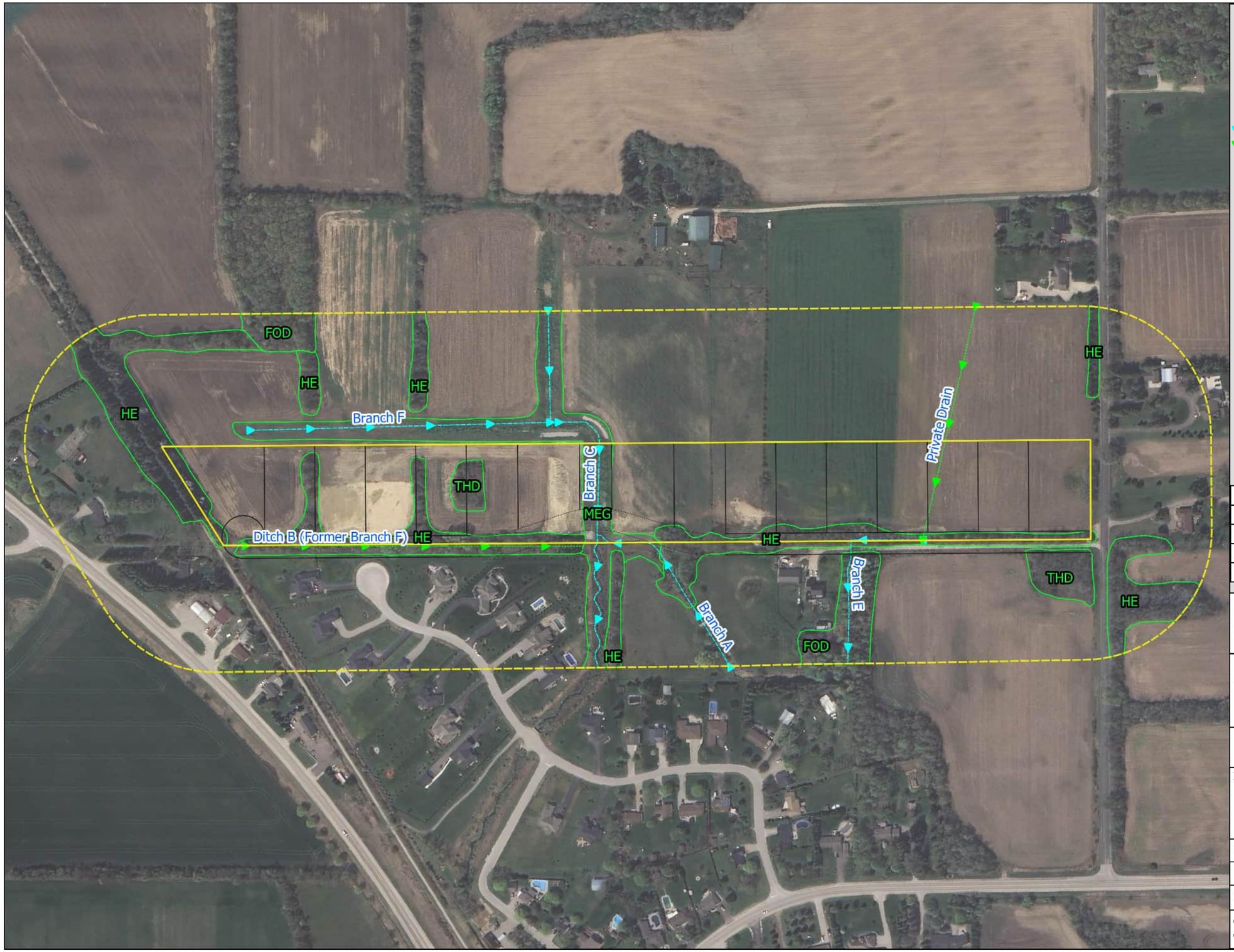

Legend

Area of Assessment
- Subject Property
- Study Area

Biophysical Features and Conditions
- Vegetation Communities
- Kurtz Drainage Works
- Private Drain / Ditch

Proposed Activities
- Proposed Lot Fabric

ELC Vegetation Community Codes:
HE - Hedgerow
MEG - Graminoid Meadow
THD - Deciduous Thicket
FOD - Deciduous Forest

GENERAL NOTES:
-Features depicted herein should not be used in place of a professional survey.
-Numeric scale is for a 11x17 inch print.

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1:3,500

0 25 50 75 100 m

Location:
5782 6th Line, Ariss
Guelph Eramosa Township

Project No.: 22038
Date: 2023-09-06
By: RA
Orthophotograph Date: Google, 2023

Figure 2:
Biophysical Features and Conditions with Proposed Development Overlay

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Appendix 1. Terms of Reference

August 9, 2023
Project No.: 23038

TERRASTORY
environmental consulting inc.

Attn: Chirs Lorenz, Planner
Grand River Conservation Authority
400 Clyde Road
Cambridge, ON N1R 5W6
clorenz@grandriver.ca

Attn: Zach Prince, RPP MCIP
Senior Planner
Planning and Development Department
County of Wellington
74 Woolwich Street
Guelph, ON N1H 3T9

SUBJECT: Scoped EIS Terms of Reference
5782 6th Line
Community of Ariss, Township of Guelph/Eramosa

Please find below a Terms of Reference which directs the conduct and content of a Scoped Environmental Impact Statement (EIS) to be prepared in support of a subdivision application at the above-captioned location (hereinafter "Subject Property") in the Hamlet of Ariss (Township of Guelph/Eramosa).

The Subject Property is located within the Hamlet of Ariss per Schedule A-3 (Guelph/Eramosa Land Use Plan) of Wellington County's Official Plan (OP). Schedule A-3 also shows parts of the Kurtz Drainage Works that flow through the Subject Property. It is also located within an area that is partially regulated by the Grand River Conservation Authority (GRCA).

See Figure 1 which indicates the location of the Subject Property.

OVERALL APPROACH AND METHODOLOGY

The EIS will be undertaken consistent with the requirements provided within Section 4.6.3 of the County's OP. The Study Area will include lands within 120 m of the Subject Property.

BACKGROUND INFORMATION GATHERING

- Background biophysical information will be gathered from the following sources (minimum):
  - Current and historical aerial photographs
  - Existing natural feature mapping (e.g., NHIC, GRCA regulation mapping, etc.).
  - Ontario Base Mapping and other sources of topographic information (e.g., LiDAR).
  - Ontario well records from the local landscape
  - Soils mapping for the local landscape
  - NHIC element occurrences
  - iNaturalist element occurrences, including rare species records retrieved through the "(NHIC) Rare Species of Ontario" project.
  - eBird
  - Ontario Breeding Bird Atlas database
  - Ontario Butterfly Atlas
  - DFO Aquatic Species at Risk Maps

- Atlas of the Mammals of Ontario
- The Ontario Reptile and Amphibian Atlas
- MNRF Aquatic Resource Area Mapping
- OMAFRA AgMaps
- East Side Subwatershed Study: Hopewell, Chilligo and Freeport Creeks, and Breaslau and Randal Drains (GRCA, 2014) and East Side Subwatershed Study: Scoped State of the Watershed Update – Hopewell and Chilligo Creeks (GRCA, 2020).

Requests from GRCA from their review of the Terms of Reference related to site perviousness, water balance, and hydrology have been forwarded to the project engineer for their consideration and will be incorporated into the EIS where available and appropriate.

SITE ASSESSMENT AND ECOLOGICAL SURVEYS (SPRING 2023)

- Assessment of site drainage to locate any wetlands or any permanent, seasonal, or intermittent streams (where present).
- Characterization and mapping of vegetation communities following the Ecological Land Classification (ELC) protocol.
- Aquatic Habitat Assessment of the Kurtz Drainage Works based on relevant modules contained in the Ontario Stream Assessment Protocol (OSAP).
- Fish community assessment of the Kurtz Drainage Works (electrofishing survey).
- Identification of any designated or field-identified key natural features or sensitive habitats and delineation of their boundaries based on relevant protocols.
- Incidental wildlife species sightings and potential wildlife corridors.
- List of vascular plants.

The locations and boundaries of key natural features and habitats will be recorded (where present) on-site with a high-accuracy GPS. Representative photographs of the Subject Property and key natural features (where present) will be incorporated into the report.

SIGNIFICANCE ASSESSMENT

- Determination of whether any confirmed or potential significant natural heritage features and/or natural hazards are present within the Subject Property (or Adjacent Lands).
- Mapping of significant natural heritage feature boundaries per provincial protocols.
- Full screening for Significant Wildlife Habitat (based on the Ecoregion 6E Criteria Schedule) and Species at Risk.
- If any Endangered/Threatened species are documented, their locations will be mapped, and the extent of their habitat will be delineated. Any correspondence with Ministry of Environment, Conservation and Parks (if required) will be appended to the EIS.
- All species documented will include their relevant local, provincial, and federal rankings. If any S1-S3 species are found on-site, their locations and habitat extent will be mapped and considered through the impact assessment.

IMPACT ASSESSMENT AND RECOMMENDATIONS

- Description of the proposed development plan and any related technical plans/documents where available (e.g., Grading Plan, etc.).

- Mapping that indicates the proposed development plan overlaid with the significant natural feature mapping on a current air photo base.
- Impact assessment for all-natural heritage/hazard features identified and their functions from an ecological perspective, including direct, indirect, and cumulative effects.
- Recommendations related to the preferred development plan based on the data collected, impact assessment, and conformity with applicable policies and legislation.
- Recommendations for buffers/vegetation protection zones for significant features will include both widths and design recommendations.
- General mitigation measures to avoid/minimize impacts (e.g., tree removal timing window, ESC measures, etc.) when development does occur.

POLICY CONFORMITY ASSESSMENT

- An overall assessment of whether the proposed application, combined with any design changes and mitigation measures, conform to relevant natural heritage policies in the County OP, PPS, MBCA and any other applicable natural heritage policy/legislation.
- Confirmation that relevant County OP policies and other legislative requirements (e.g., *Endangered Species Act*, *Migratory Birds Convention Act*, etc.) are addressed by the proposed development plan.

NEXT STEPS

Should you have any questions or require further clarification regarding the contents of this letter, I would be pleased to discuss them further and can be reached by phone (519.362.3871) or email (rob@terrastoryenviro.com).

Regards,

Terrastory Environmental Consulting Inc.

Rob Aitken, B. Sc.
Senior Ecologist | GIS Specialist

Rob Aitken

From: Zachary Prince <zacharyp@wellington.ca>
Sent: May 30, 2023 2:30 PM
To: Rob Aitken
Cc: Tristan Knight; Chris Knechtel; Harry Niemi
Subject: RE: 5782 6th Line Ariss, Township of Guelph/Eramosa EIS Terms of Reference - 23038

Categories: FileChimp

Hi Rob,

Here are the comments from RJ Burnside. Harry and Chris are copied here as well.

We have completed our review of the attached EIS TOR and have the following comments.

- The Scoped EIS follow the guidance in Section 4.6.3 of the Wellington County Official Plan
- Provide rationale as to why the study area is restricted to 50 meters, if possible provide proposed project footprint of conceptual drawings.
- In addition to the sources included within the TOR, the proponent should also review the following
    - The Ontario Reptile and Amphibian Atlas (ORAA)
    - MNRF Aquatic Resource Area (ARA) mapping
    - OMAFRA AgMaps
    - It is recommended the proponent review any relevant sub watershed study reports and the *Guidance for Maintaining and Repairing Municipal Drains in Ontario* (Kavanagh et al. 2017).
    - Consideration should also be provided for citizen science sources such as eBird and iNaturalist for reviewing the potential for rare and endangered / threatened species to occur within the Study Area
- A single-season vegetation inventory is sufficient. Vegetation inventories should be completed during the growing season (roughly late May – early October)
- It appears that portions of the riparian areas along the Kurtz Drain are treed, consideration for SAR bats should be provided
- A thermal regime for the watercourse and any considerations associated with the thermal regime and supported fish communities should be included in the Significance and Impact Assessment

In addition, this would likely fall more towards the pre-consult requirements, but is based on what was listed under the EIS requirements for the County.

- Per the County of Wellington OP, an assessment of the impact on groundwater resources and in particular existing private wells and municipal supply wells in the area should be provided.

Chris Knechtel, P.Eng.
Senior Vice President, Municipal Services and Structures

R.J. Burnside & Associates Limited
www.rjburnside.com
Office: +1 800-265-9662 Direct: +1 519-938-3012

Thanks,

Zach Prince, RPP MCIP
Senior Planner
Planning and Development Department

County of Wellington
74 Woolwich Street
Guelph ON N1H 3T9
T (519) 837-2600 x2064
E zacharyp@wellington.ca

From: Rob Aitken <rob@terrastoryenviro.com>
Sent: Wednesday, May 24, 2023 4:16 PM
To: Zachary Prince <zacharyp@wellington.ca>
Cc: Tristan Knight <tristan@terrastoryenviro.com>
Subject: RE: 5782 6th Line Ariss, Township of Guelph/Eramosa EIS Terms of Reference - 23038

Hi Zach,

I have received the attached comments from the GRCA on our Terms of Reference for this site.

Does the County or Township have any comments to provide at this date?

Also, could you provide me with the contact at the Township who you provided the terms of reference too and that will be working on this file so I can email with them as well?

Thanks,

Rob Aitken B. Sc.
Senior Ecologist | GIS Specialist
Terrastory Environmental Consulting Inc.
(c) 519-362-3871
www.terrastoryenv.com

From: Zachary Prince <zacharyp@wellington.ca>
Sent: Friday, April 21, 2023 12:02 PM
To: Rob Aitken <rob@terrastoryenviro.com>
Cc: Tristan Knight <tristan@terrastoryenviro.com>
Subject: RE: 5782 6th Line Ariss, Township of Guelph/Eramosa EIS Terms of Reference - 23038

Hi Rob,

Thanks, I've sent this to the Township. RJ Burnside will likely be providing comments.

Thanks,

Zach Prince, RPP MCIP
Senior Planner
Planning and Development Department
County of Wellington
74 Woolwich Street
Guelph ON N1H 3T9
T (519) 837-2600 x2064
E zacharyp@wellington.ca

From: Rob Aitken <rob@terrastoryenviro.com>
Sent: Friday, April 21, 2023 9:30 AM

To: Zachary Prince <zacharyp@wellington.ca>
Cc: Tristan Knight <tristan@terrastoryenviro.com>
Subject: 5782 6th Line Ariss, Township of Guelph/Eramosa EIS Terms of Reference - 23038

Hi Zach,

Please find attached the terms of reference that was submitted to the GRCA to review for a scoped EIS that is being prepared in support of a subdivision application at 5782 6th Line in the community of Ariss in response to GRCA pre-submission comments on the application from 21 October 2022.

If you have any questions or comments let me know.

Thanks,

Rob Aitken B. Sc.
Senior Ecologist | GIS Specialist
Terrastory Environmental Consulting Inc.
(c) 519-362-3871
www.terrastoryenv.com

Rob Aitken

From: Chris Lorenz <clorenz@grandriver.ca>
Sent: May 8, 2023 1:47 PM
To: Rob Aitken
Subject: RE: 5782 6th Line Ariss, Township of Guelph/Eramosa EIS Terms of Reference - 23038

Categories: FileChimp

Good afternoon Rob,

Thank you for the TOR. GRCA offer the following comments:

1. The EIS ToR should indicate that potential impacts to local site perviousness and water balance will be assessed and addressed. If a water balance assessment is being completed under separate cover (e.g. in a separate water balance study or stormwater management report), the relevant results of that report should be incorporated appropriately into the EIS, such that impacts to the Kurtz Drain (or any wetlands that may be discovered during field work) can be assessed and mitigated. Water balance study protocols, hydroperiod resolution (e.g. monthly), and proposed mitigations should be scoped to the sensitivity of the features present, and the scale of the developments impact on the hydrology.
2. The finalized EIS ToR should be submitted for approval by GRCA and included as an appendix in the EIS report.
3. It is recommended that the East Side Subwatersheds Study: Hopewell, Chilligo and Freeport Creeks, and Breslau and Randall Drains (2014) and East Side Subwatersheds Study: Scoped State of the Watershed Update – Hopewell and Chilligo Creeks (2020) reports be reviewed for potentially relevant background information.

Thanks Rob. If you have any questions please let me know.

Chris

Chris Lorenz, M.Sc.
Resource Planner
Grand River Conservation Authority
519-621-2763 ext. 2236

From: Rob Aitken <rob@terrastoryenviro.com>
Sent: Thursday, April 20, 2023 5:00 PM
To: Chris Lorenz <clorenz@grandriver.ca>
Cc: Tristan Knight <tristan@terrastoryenviro.com>
Subject: 5782 6th Line Ariss, Township of Guelph/Eramosa EIS Terms of Reference - 23038

Hi Chris,

Please find attached the terms of reference for a scoped EIS that is being prepared in support of a subdivision application at 5782 6th Line in the community of Ariss in response to GRCA pre-submission comments on the application from 21 October 2022.

Once you have had an opportunity to review the Terms of Reference let me know if you have any questions or comments.

Thanks,

Rob Aitken B. Sc.
Senior Ecologist | GIS Specialist
Terrastory Environmental Consulting Inc.
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Appendix 2. Representative Photographs

Photo 1. Subject Property from 6th Line (10 May 2023).

Photo 2. Branch E (10 May 2023).

Photo 3. Hedgerow (HE) along southern boundary on east half of Subject Property (10 May 2023).

Photo 4. Kurtz Drainage Works (Branch A) flowing onto Subject Property (10 May 2023).

Photo 5. Kurtz Drainage Works (Branch AB flowing into Branch C) along southern boundary of Subject Property (10 May 2023).

Photo 6. Standing water within Kurtz Drainage Works (Branch C at area of proposed crossing) (10 May 2023).

Photo 7. Standing water within Kurtz Drainage Works (Branch C at area of proposed crossing) (10 May 2023).

Photo 8. Ditch B (former Kurtz Drainage Works Branch F) (10 May 2023).

Photo 9. Thicket (THD) on west half of Subject Property (10 May 2023).

Photo 10. Hedgerow (HE) on west half of Subject Property (10 May 2023).

Photo 11. Kurtz Drainage Works (Branch F) along northern Subject Property boundary looking east (10 May 2023).

Photo 12. Hedgerow (HE) along western boundary of Subject Property (10 May 2023).

Photo 13. Deciduous Forest (FOD) / Hedgerow (HE) north of Subject Property (10 May 2023).

Photo 14. Kurtz Drainage Works (Branch C) looking north from Subject Property Boundary (10 May 2023).

Photo 15. Kurtz Drainage Works (Branch F) looking east towards Kurtz Drainage Works (Branch C) (10 May 2023).

Photo 16. Field / fill (assumed to be from drainage works) on west half of Subject Property (10 May 2023.

Appendix 3. Vascular Plant List

Scientific Name	Common Name	Family	S-Rank (per NHIC)	Coefficient of Conservatism	Coefficient of Wetness
Abies balsamea	Balsam Fir	Pinaceae	S5	5	-3
Acer negundo	Manitoba Maple	Aceraceae	S5	0	0
Acer saccharum	Sugar Maple	Aceraceae	S5	4	3
Achillea millefolium	Common Yarrow	Asteraceae	SNA	0	3
Alliaria petiolata	Garlic Mustard	Brassicaceae	SNA	0	0
Ambrosia artemisiifolia	Common Ragweed	Asteraceae	S5	0	3
Amelanchier arborea	Downy Serviceberry	Rosaceae	S5	5	3
Arctium lappa	Great Burdock	Asteraceae	SNA	0	3
Arctium minus	Common Burdock	Asteraceae	SNA	0	3
Asclepias syriaca	Common Milkweed	Asclepiadaceae	S5	0	5
Bromus inermis	Smooth Brome	Poaceae	SNA	0	5
Caulophyllum thalictroides	Blue Cohosh	Berberidaceae	S5	5	5
Circaea alpina	Small Enchanter's Nightshade	Onagraceae	S5	6	-3
Cirsium arvense	Canada Thistle	Asteraceae	SNA	0	3
Cirsium vulgare	Bull Thistle	Asteraceae	SNA	0	3
Cornus sericea	Red-osier Dogwood	Cornaceae	S5	2	-3
Crataegus punctata	Dotted Hawthorn	Rosaceae	S5	4	5
Dactylis glomerata	Orchard Grass	Poaceae	SNA	0	3
Daucus carota	Wild Carrot	Apiaceae	SNA	0	5
Equisetum arvense	Field Horsetail	Equisetaceae	S5	0	0
Erigeron annuus	Annual Fleabane	Asteraceae	S5	0	3
Erigeron philadelphicus	Philadelphia Fleabane	Asteraceae	S5	1	-3
Fragaria virginiana	Wild Strawberry	Rosaceae	S5	2	3
Fraxinus americana	White Ash	Oleaceae	S4	4	3
Fraxinus pennsylvanica	Green Ash	Oleaceae	S4	3	-3
Galium aparine	Cleavers	Rubiaceae	S5	4	3
Geranium maculatum	Spotted Geranium	Geraniaceae	S5	6	3
Geum aleppicum	Yellow Avens	Rosaceae	S5	2	0
Juglans nigra	Black Walnut	Juglandaceae	S4?	5	3
Lonicera tatarica	Tartarian Honeysuckle	Caprifoliaceae	SNA	0	3
Lythrum salicaria	Purple Loosestrife	Lythraceae	SNA	0	-5
Medicago lupulina	Black Medic	Fabaceae	SNA	0	3
Medicago sativa	Alfalfa	Fabaceae	SNA	0	5
Melilotus albus	White Sweet-clover	Fabaceae	SNA	0	3
Parthenocissus vitacea	Thicket Creeper	Vitaceae	S5	4	3
Phalaris arundinacea	Reed Canary Grass	Poaceae	S5	0	-3
Phleum pratense	Common Timothy	Poaceae	SNA	0	3
Picea glauca	White Spruce	Pinaceae	S5	6	3
Poa pratensis	Kentucky Bluegrass	Poaceae	S5	0	3
Podophyllum peltatum	May-apple	Berberidaceae	S5	5	3
Populus tremuloides	Trembling Aspen	Salicaceae	S5	2	0
Potentilla recta	Sulphur Cinquefoil	Rosaceae	SNA	0	5

Scientific Name	Common Name	Family	S-Rank (per NHIC)	Coefficient of Conservatism	Coefficient of Wetness
Prunus serotina	Black Cherry	Rosaceae	S5	3	3
Prunus virginiana	Choke Cherry	Rosaceae	S5	2	3
Quercus macrocarpa	Bur Oak	Fagaceae	S5	5	3
Rhamnus cathartica	Common Buckthorn	Rhamnaceae	SNA	0	0
Rhus typhina	Staghorn Sumac	Anacardiaceae	S5	1	3
Rosa multiflora	Multiflora Rose	Rosaceae	SNA	0	3
Rubus idaeus	Common Red Raspberry	Rosaceae	S5	2	3
Rubus occidentalis	Black Raspberry	Rosaceae	S5	2	5
Rumex crispus	Curly Dock	Polygonaceae	SNA	0	0
Salix eriocephala	Heart-leaved Willow	Salicaceae	S5	4	-3
Salix x fragilis	(Salix alba X Salix euxina)	Salicaceae	SNA	0	0
Sanguinaria canadensis	Bloodroot	Papaveraceae	S5	5	3
Setaria pumila	Yellow Foxtail	Poaceae	SNA	0	0
Solidago altissima	Tall Goldenrod	Asteraceae	S5	1	3
Symphyotrichum lanceolatum	Panicled Aster	Asteraceae	S5	3	-3
Symphyotrichum novae	Calico Aster	Asteraceae	S5	3	0
Taraxacum officinale	Common Dandelion	Asteraceae	SNA	0	3
Thuja occidentalis	Eastern White Cedar	Cupressaceae	S5	4	-3
Toxicodendron radicans	Poison Ivy	Anacardiaceae	S5	2	0
Trifolium pratense	Red Clover	Fabaceae	SNA	0	3
Trillium grandiflorum	White Trillium	Liliaceae	S5	5	3
Ulmus americana	American Elm	Ulmaceae	S5	3	-3
Urtica dioica	Stinging Nettle	Urticaceae	S5	2	0
Viburnum acerifolium	Maple-leaved Viburnum	Caprifoliaceae	S5	6	5
Viburnum lentago	Nannyberry	Caprifoliaceae	S5	4	0
Vitis riparia	Riverbank Grape	Vitaceae	S5	0	0

Appendix 4. Significant Wildlife Habitat Assessment

1 SIGNIFICANT WILDLIFE HABITAT ASSESSMENT METHODOLGY

The PPS protects Significant Wildlife Habitat (SWH) from development and site alteration unless it can be demonstrated that no negative impacts on the feature or its function will occur. As outlined in the SWH Technical Guide (OMNR 2000) and supporting Ecoregion Criteria Schedules (OMNRF 2015), SWH is composed of four (4) principal components:

- Seasonal Concentration Areas of Animals
- Rare Vegetation Communities or Specialized Habitats;
- Habitat of Species of Conservation Concern; and
- Animal Movement Corridors.

The process for identifying SWH is outlined in s. 9.2.3 of the Natural Heritage Reference Manual (OMNR 2010). Step 1 considers the nature of the development application proposed and involves the assembly of background ecological information for the Study Area and Adjacent Lands. If the application triggers a need to protect SWH (e.g., change in land-use that requires approval under the Planning Act, etc.), a more thorough investigation of potential SWH features within the Study Area or Adjacent Lands must occur. Any confirmed SWH for the Study Area and Adjacent Lands as identified in relevant planning documents or by the MNRF should be noted at this stage.
Where a need to protect SWH is triggered, step 2 involves undertaking a more thorough analysis of features, functions, and habitats within the Study Area via Ecological Land Classification (see Section 2.8). The list of ELC Ecosite codes generated for the Study Area is compared to those codes considered candidate SWH in the relevant Ecoregion Criterion Schedule (i.e., 5E, 6E, or 7E) in step 3. Where a positive match between an ELC Ecosite and candidate SWH exists, the area is considered candidate SWH.

Two options are available for candidate SWH: 1) the area may be protected without further study, or 2) the area may be evaluated to ascertain whether confirmed SWH is present. Evaluation may involve generating more detailed maps of vegetation cover, or conducting surveys of the wildlife population within the candidate SWH including reproductive, feeding, and movement patterns. If the area is confirmed SWH, the final step in the process is the completion of an impact assessment to demonstrate that no negative impacts to the confirmed SWH or its function will occur. The impact assessment process is assisted by SWH Mitigation Support Tool (OMNRF 2014).

2 RESULTS

Table 1. Results of the Significant Wildlife Habitat Assessment.

Ecoregion 6E	Do any Features, Habitats, or Areas within the Study Area meet relevant criteria (Ecoregion 6E Criteria Schedule) as Candidate SWH?	Do any Features, Habitats, or Areas within the Study Area meet relevant criteria (Ecoregion 6E Criteria Schedule) as Confirmed SWH?	Likelihood that Negative Effects to SWH (i.e., "degradation that threatens the health and integrity" as defined in the 2020 PPS) will occur based on the Proposed Development Plan and any related Site Alteration Activities.
Seasonal Concentration Areas of Animals			
Waterfowl Stopover and Staging Areas (Terrestrial)	No. Meadows, fields, and/or thickets that annually flood during spring and could support significant congregations of migrating waterfowl are absent.	--	--
Waterfowl Stopover and Staging Areas (Aquatic)	No. Large surface water features (e.g., ponds, lakes, bays, coastal inlets, large watercourses, etc.) and/or wetlands that annually flood during spring and could support significant congregations of migrating waterfowl are absent.	--	--
Shorebird Migratory Stopover Areas	No. Unvegetated open areas adjacent to surface water features (e.g., shorelines, beaches, mudflats, etc.) which could support significant congregations of migrating shorebirds are absent	--	--
Raptor Wintering Areas	No. While forest and (to a lesser extent) meadow habitats are present, which may occasionally support wintering raptors, such habitats are too small to support significant congregations of wintering raptors.	--	--
Bat Hibernacula	No. Features that could support hibernating bats (e.g., caves, mine shafts, karsts, etc.) are absent.	--	--
Bat Maternity Colonies	No. Mature deciduous and mixed forests with a high-density (i.e., >10/ha) of large-diameter (i.e., ≥25 cm DBH) trees containing cracks/cavities are absent from the Subject Property.	--	--
Turtle Wintering Areas	No. Surface water features and/or wetlands with soft, muddy substrate which do not freeze to the bottom during winter are absent.	--	--
Reptile Hibernaculum	No. Features (e.g., small mammal burrows, rock crevices, etc.) and/or habitats (e.g., certain wetlands with a fluctuating water table, etc.) that could provide snakes with access below the frost line are present.	--	--
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	No. Features that could support nesting by Cliff Swallow and Northern Rough-winged swallow (e.g., eroding banks, sandy hills, borrow pits, steep slopes, cliff faces, etc.) are absent.	--	--
Colonially - Nesting Bird Breeding Habitat Breeding Habitat (Tree/Shrubs)	No. Swamp and treed fen communities are absent.	--	--
Colonially - Nesting Bird Breeding Habitat (Ground)	No. Rocky islands or peninsulas along lakes or large rivers are absent.	--	--
Migratory Butterfly Stopover Areas	No. A mixture of fields and forests within 5 km from the shoreline of Lake Ontario are absent.	--	--

Ecoregion 6E	Do any Features, Habitats, or Areas within the Study Area meet relevant criteria (Ecoregion 6E Criteria Schedule) as Candidate SWH?	Do any Features, Habitats, or Areas within the Study Area meet relevant criteria (Ecoregion 6E Criteria Schedule) as Confirmed SWH?	Likelihood that Negative Effects to SWH (i.e., "degradation that threatens the health and integrity" as defined in the 2020 PPS) will occur based on the Proposed Development Plan and any related Site Alteration Activities.
Landbird Migratory Stopover Areas	No. While migrating landbirds may temporarily stopover on the Subject Property to feed and rest, it is unlikely that the Subject Property supports significant congregations of migrating landbirds as it is greater than 5 km from the shoreline of Lake Ontario.	--	--
Deer Yarding Areas	No. MNRF has not identified any deer yarding areas and the Subject Property lacks vegetation communities that could provide thermal cover and lower snow depths in winter (e.g., coniferous woodlands and plantations, etc.).	--	--
Deer Winter Congregation Areas	No. See above.	--	--
Rare Vegetation Communities or Specialized Habitats for Wildlife			
Cliffs and Talus Slopes	No. Cliffs and talus slope communities are absent.	--	--
Sand Barren	No. Sand barren communities are absent.	--	--
Alvar	No. Flora characteristic of alvars are absent.	--	--
Old Growth Forest	No. Based on a review of historical aerial photographs, the deciduous forest has emerged recently and would not be expected to exhibit old-growth characteristics (e.g., old trees, abundant snags and downed woody debris, canopy gaps caused by species turnover, limited disturbance, etc.).	--	--
Savannah	No. Flora characteristic of savannahs are absent.	--	--
Tallgrass Prairie	No. Flora characteristic of tallgrass prairies are absent.	--	--
Other Rare Vegetation Community	No. Provincially rare vegetation communities are absent.	--	--
Waterfowl Nesting Area	No. Wetlands which may support nesting waterfowl are absent.	--	--
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No. Forest communities adjacent to large surface water features are absent.	--	--
Woodland Raptor Nesting Habitat	No. On-site forest communities are unlikely to support nesting raptors.	--	--
Turtle Nesting Areas	No. Exposed mineral soils adjacent to surface water features (e.g., lakes, ponds, etc.) and/or wetlands that may support turtles are absent.	--	--
Seeps and Springs	No. Areas where groundwater emerges at the surface and may support specialized habitat for plants and wildlife are absent.	--	--
Amphibian Breeding Habitat (Woodland)	No. Forests with wetlands, ponds, and/or pools that may support significant congregations of breeding amphibians are absent.	--	--

Ecoregion 6E	Do any Features, Habitats, or Areas within the Study Area meet relevant criteria (Ecoregion 6E Criteria Schedule) as Candidate SWH?	Do any Features, Habitats, or Areas within the Study Area meet relevant criteria (Ecoregion 6E Criteria Schedule) as Confirmed SWH?	Likelihood that Negative Effects to SWH (i.e., "degradation that threatens the health and integrity" as defined in the 2020 PPS) will occur based on the Proposed Development Plan and any related Site Alteration Activities.
Amphibian Breeding Habitat (Wetlands)	No. Wetlands and surface water features (e.g., ponds, lakes, etc.) that may support significant congregations of breeding amphibians are absent.	--	--
Woodland Area-Sensitive Bird Breeding Habitat	No. Interior forest interior conditions (i.e., >200 m from edge) are absent.	--	--
Habitat for Species of Conservation Concern			
Marsh Bird Breeding Habitat	No. Wetland habitats of sufficient size with shallow water and emergent aquatic vegetation are absent.	--	--
Open Country Bird Breeding Habitat	No. Meadow habitats of sufficient size are absent.	--	--
Shrub/Early Successional Bird Breeding Habitat	No. Shrub/early-successional habitats of sufficient size are absent.	--	--
Terrestrial Crayfish	Yes. Marsh and swamp communities and/or wet fields are present	No. Terrestrial crayfish chimneys were not documented.	--
Special Concern and Rare Wildlife Species	Yes. See Table 2 below.	Yes. See Table 2 below.	Possible. See Table 2 below.
Animal Movement Corridors			
Amphibian Movement Corridors	No. Significant amphibian breeding habitat is absent. Subject Property is not expected to act as a significant movement corridor between breeding and summer habitat for amphibians.	--	--
Deer Movement Corridors	No. As MNRF has not identified any Deer Yarding Areas, significant Deer Movement Corridors are by extension also absent.	--	--

Table 2. Results of the Special Concern and Provincially Rare Species Assessment.

Species	Status per O. Reg. 242/08 under the ESA and/or NHIC	Rationale for Consideration in this Study	General Description of Habitats and Features which the Species is Known to Occupy or Use within the Ecoregion in which this Study is Located	Likelihood that the Species Occupies the Study Area	Likelihood that Negative Effects to the Species or its Habitat (i.e., "degradation that threatens the health and integrity" as defined in the 2020 PPS) will occur based on the Proposed Development Plan and any related Site Alteration Activities
Birds					
Barn Swallow (*Hirundo rustica*)	SC	NHIC; Ontario Breeding Bird Atlas	• Nests in barns, bridge/culvert undersides, awnings/overhangs on sides of buildings, and (historically) tree cavities. • Forages in a variety of open areas including agricultural lands, meadows, prairies, woodland clearings, marshes, and above waterbodies.	Negligible. While this species may forage over open areas on the Subject Property for brief periods during migration or forays from adjacent breeding sites, suitable breeding sites within the Subject Property are absent.	--
Canada Warbler (*Cardellina canadensis*)	SC	Ontario Breeding Bird Atlas	• Breeds and forages in a wet thickets, swamps, and mature deciduous forest.	Negligible. Suitable habitat is absent from the Subject Property.	--
Common Nighthawk (*Chordeiles minor*)	SC	Ontario Breeding Bird Atlas	• Breeds and forages in a variety of open habitats with sparse cover of woody vegetation. • Also occupies urban areas and nests on flat roof tops.	Negligible. Suitable habitat is absent from the Subject Property.	--
Eastern Wood-pewee (*Contopus virens*)	SC	NHIC	• Breeds and forages in relatively open, deciduous and mixed forests of various sizes (including urban forest fragments) and along forest edges.	Negligible. Suitable habitat is absent from the Subject Property.	--
Peregrine Falcon (*Falco peregrinus*)	SC	iNaturalist	• Nests on tall, steep ledges usually close to waterbodies, including cliffs, quarry walls, and buildings.	Negligible. Suitable habitat is absent from the Subject Property.	--
Insects					
Monarch (*Danaus plexippus*)	SC	Ontario Butterfly Atlas	• Oviposits on Milkweeds (*Asclepias* spp.). • Generalist foraging that nectars in most areas with wildflowers.	Possible. Ovipositing sites (i.e., species in the genus *Asclepias*) are present but not abundant, and species may forage on the Subject Property.	Negligible. Proposed development and disturbance will not adversely affect oviposition and nectaring opportunities for this species within the wider landscape.
River Bluet (*Enallagma anna*)	S3	iNaturalist	• Restricted to streams and rivers preferring slow streams and small rivers mostly in open country with a riparian component.	Negligible. Kurtz Drainage Works is an intermittent watercourse and man made ditch located in an agricultural landscape and does not represent ideal habitat for this species.	--
Spatterdock Darner (*Rhionaeschna mutata*)	S3	iNaturalist	• Typically associated with fishless ponds, pools, open marshes and bogs, usually with water lily and spatterdock.	Negligible. Kurtz Drainage Works is an intermittent watercourse and man made ditch located in an agricultural landscape and does not represent ideal habitat for this species.	--
Swamp Darner (*Epiaeschna heros*)	S3S4	iNaturalist	• Shaded ponds, streams, swamps, temporary ponds.	Negligible. Kurtz Drainage Works is an intermittent watercourse and man made ditch located in an agricultural landscape and does not represent ideal habitat for this species.	--
Unicorn Clubtail (*Arigomphus villosipes*)	S3	iNaturalist	• Occupies ponds and sluggish streams with mucky bottoms and little emergent vegetation.	Negligible. Kurtz Drainage Works is an intermittent watercourse and man made ditch located in an agricultural landscape and does not represent ideal habitat for this species.	--

Species	Status per O. Reg. 242/08 under the ESA and/or NHIC	Rationale for Consideration in this Study	General Description of Habitats and Features which the Species is Known to Occupy or Use within the Ecoregion in which this Study is Located	Likelihood that the Species Occupies the Study Area	Likelihood that Negative Effects to the Species or its Habitat (i.e., "degradation that threatens the health and integrity" as defined in the 2020 PPS) will occur based on the Proposed Development Plan and any related Site Alteration Activities
Yellow Banded Bumble Bee (*Bombus terricola*)	SC	NHIC; iNaturalist	• Occupies a range of open areas with nectaring sites. • Nests underground in abandoned rodent burrows or decomposing logs.	Possible. Species is a habitat generalist and occupies a wide range of areas.	Negligible. Proposed development and disturbance will not adversely affect nectaring opportunities for this species within the wider landscape.
Reptiles					
Snapping Turtle (*Chelydra serpentina*)	SC	NHIC; iNaturalist	• Occupies a variety of aquatic habitats with slow moving water. • Nests in exposed, usually coarse, friable substrate. • Known to make long-distance overland movements (i.e., several kilometers) between habitats.	Possible. Kurtz Drainage Works, and ditches do not provide ideal habitat for Snapping Turtle, aside from a potential refuge while migrating through the landscape.	Negligible. Kurtz Drainage Works through the Subject Property will be preserved as part of the development application.

[1] Likelihood categories should be interpreted as follows:

Negligible: so limited that the assessed species can be assumed absent.

Unlikely: while theoretically conceivable, species presence very improbable or temporary based on available information (e.g., habitat conditions, range, abundance in local landscape, etc.).

Possible: species presence plausible based on available information; no convincing evidence suggesting species could not occur on-site.

Probable: while not confirmed, available information suggests species has a high likelihood of being present.

Confirmed: species observed and/or evidence of occupation (e.g., tracks, etc.) documented.

Appendix 5. Endangered and Threatened Species Assessment

Status per O. Reg. 230/08 of the ESA	Rational for Consideration in this Study	Species	General Description of Habitats and Features which the Species is Known to Occupy within the Ecoregion in which this Study is Located	Likelihood that the Species Occupies the Study Area[1]	Likelihood that Negative Effects to the Species or its Habitat (i.e., "Damage" or "Destruction" as defined in the ESA) will occur based on the Proposed Development Plan and any related Site Alteration Activities
			Birds		
THR	NHIC; Ontario Breeding Bird Atlas	Bobolink (*Dolichonyx oryzivorus*)	•Breeds and forages in hayfields, pastures, meadows, grasslands, and prairies which are often (but not always) greater 4 ha. •May be found in more marginal habitats (e.g., shrubby fields, smaller fields, etc.) during migration or following disturbance to breeding habitats (e.g., hay cutting).	Negligible. Suitable breeding habitat is absent from the Subject Property.	--
THR	NHIC; Ontario Breeding Bird Atlas	Eastern Meadowlark (*Sturnella magna*)	•Breeds and forages in hayfields, savannahs, pastures, meadows, grasslands, prairies, and shrubby fields.	Negligible. Suitable breeding habitat is absent from the Subject Property.	--
			Mammals		
END	Species distribution and on-site habitats	Little Brown Myotis (*Myotis lucifugus*)	•Maternity roosts sites most often include buildings and large diameter trees with cracks, crevices, and/or exfoliating bark. •Overwinters in caves and mines that maintain temperatures above 0°C.	Negligible. Woodlands not present on the Subject Property. Woodlands on Adjacent Lands may provide suitable habitat. Notwithstanding this, individual bats may occassionally roost in trees associated with the on-site hedgerow.	Negligible. A timing window restriction will be applied to tree removal activities to avoid impacting individually roosting bats (if present).
END	Species distribution and on-site habitats	Northern Myotis (*Myotis septentrionalis*)	•Maternity roosts most often include large diameter trees with cracks, crevices, and/or exfoliating bark (buildings rarely used). •Overwinters in caves and mines that maintain temperatures above 0°C.	Negligible. Woodlands not present on the Subject Property. Woodlands on Adjacent Lands may provide suitable habitat. Notwithstanding this, individual bats may occassionally roost in trees associated with the on-site hedgerow.	Negligible. A timing window restriction will be applied to tree removal activities to avoid impacting individually roosting bats (if present).
END	Species distribution and on-site habitats	Tri-colored Bat (*Perimyotis subflavus*)	•Maternal roosting sites include Maple (Acer spp.) and Oak (Quercus spp.) with dead/dying leaf clusters. •Overwinters in caves and mines that maintain temperatures above 0°C.	Negligible. Woodlands not present on the Subject Property. Woodlands on Adjacent Lands may provide suitable habitat. Notwithstanding this, individual bats may occassionally roost in trees associated with the on-site hedgerow.	Negligible. A timing window restriction will be applied to tree removal activities to avoid impacting individually roosting bats (if present).
			Plants		
END	Species distribution and on-site habitats	Black Ash (*Fraxinus nigra*)	•Occupies deciduous swamps (often peaty), floodplains, and wet woods.	Negligible. Species not documented during vascular plant surveys.	--
END	iNaturalist	Butternut (*Juglans cinerea*)	•Occupies a variety of treed habitats including mature forests, early-successional forests, and hedgerows.	Negligible. Species not documented during vascular plant surveys.	--

[1] Likelihood categories are to be interpreted as follows:

Negligible: so limited that the assessed species can be assumed absent.

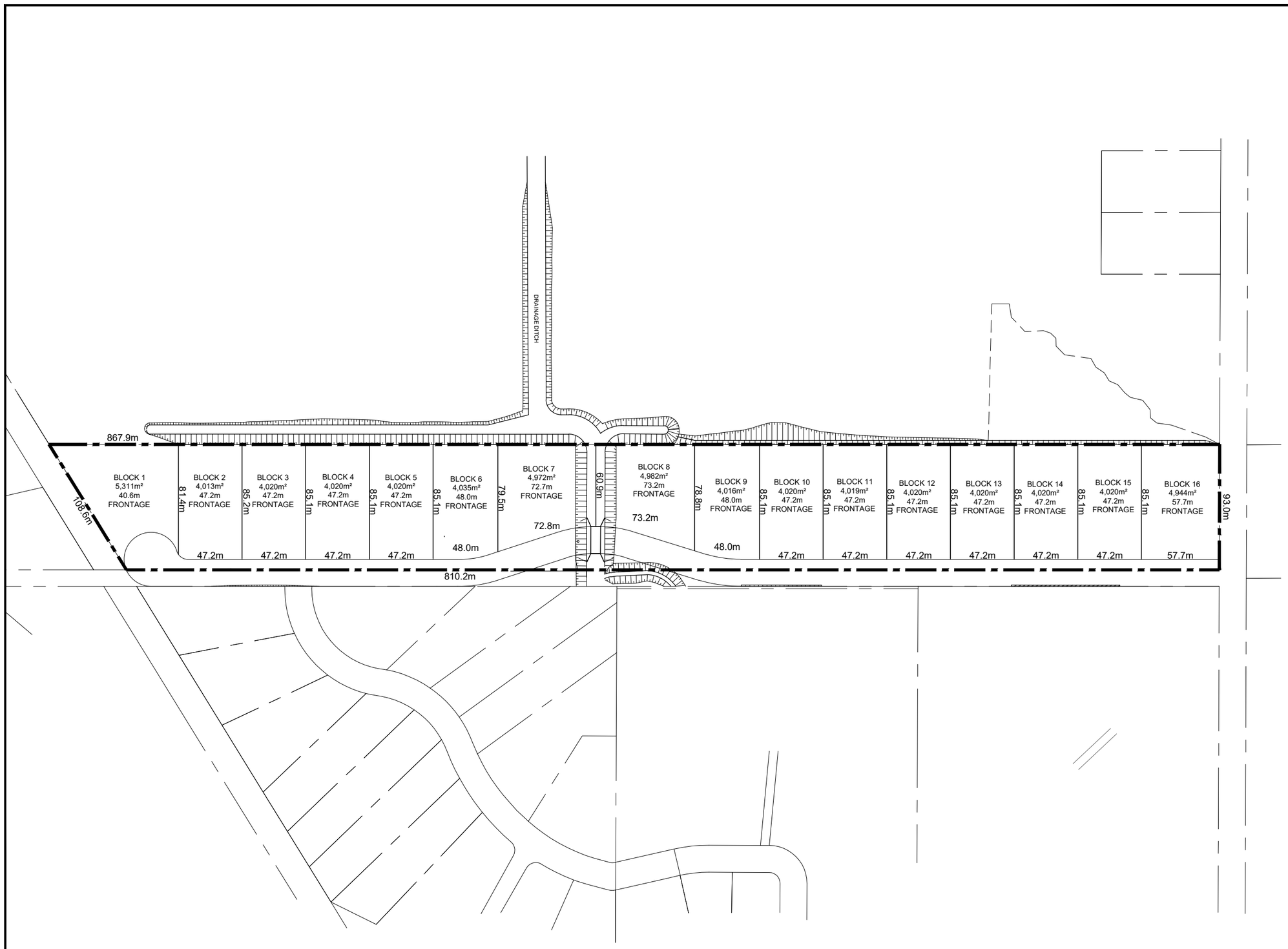
Unlikely: while theoretically conceivable, species presence very improbable or temporary based on available information (e.g., habitat conditions, range, abundance in local landscape, etc.).

Possible: species presence plausible based on available information; no convincing evidence suggesting species could not occur on-site.

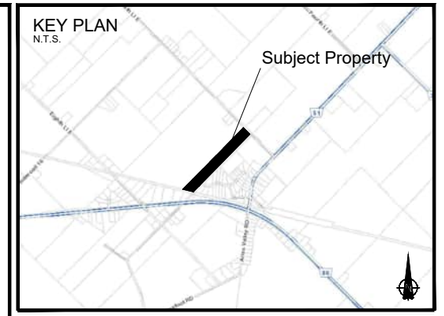
Probable: while not confirmed, available information suggests species has a high likelihood of being present.

Confirmed: species observed and/or evidence of occupation (e.g., tracks, etc.) documented.

Appendix 6. Proposed Development Plan.



KEY PLAN
N.T.S.



DRAFT PLAN OF SUBDIVISION

Part of Lot 17, Concession 4
Geographic Township of Guelph-Eramosa
Township of Guelph-Eramosa

5782 6th Line East - Kurtz Municipal Drain

LAND USE SCHEDULE

DESCRIPTION	LOTS/BLKS.	UNITS	AREA (ha.)
Single Detached Residential	1-16	16	6.84
Open Space	17		0.31
Roads			0.80
Total		16	7.95

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

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

h) Municipal water supply
i) Sandy silt trace gravel
k) All sanitary and storm sewers as required

OWNER'S CERTIFICATE

I AUTHORIZE THE GSP GROUP INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF OXFORD.

OWNERS SIGNATURE _____ DATE _____

SURVEYOR'S CERTIFICATE

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

SURVEYORS SIGNATURE _____ DATE _____

GSP group
PLANNING | URBAN DESIGN | LANDSCAPE ARCHITECTURE
gspgroup.ca

REVISIONS

Date: April 26, 2022	Drawn By: E.F	Dwg. File Name:dp19274a.dwg
Scale: 1:285 metric	Project No.: 19274	

Appendix 7. Summary of Technical Recommendations

Natural Feature	Technical Recommendations (per Section 5 of report)
Significant Wildlife Habitat	● Potential for impacts will be addressed through full implementation of other overlapping mitigation measures.
Habitat of Endangered and Threatened Species	● Any necessary tree removal within the proposed development envelopes will only take place between October 1 and March 31 to avoid the active season for bats. Should minor tree removal be required between April 1 and September 30, a qualified professional will complete an exit survey of suitable maternal roosting sites identified for removal a maximum of 24 hours before removal. The exit survey must make use of a bat detector and will occur for no less than the time period between sunset and 60 minutes after sunset. If an Endangered bat is identified during the survey, MECP should be contacted to obtain further direction prior to removal of the tree.
Kurtz Municipal Drain (Intermittent Stream / Contributing Fish Habitat)	● Works will be completed consistent with the Erosion and Sediment Control (ESC) Plan measures contained within the Functioning Servicing Report prepared by GM BluePlan Engineering. ● The banks of the recently realigned section of Branch C of the Kurtz Drainage Works on the Subject Property will be overseeded with Ontario Seed Company Rural Ontario Roadside Native Seed Mixture (#8145) at a rate of 25 kgs/ha. Where the existing grasses are not overly established soils can be loosened with a stiff rake or hoe prior to seed application to enhance seed application. Further directions/details of seed application are available here: https://www.oscseeds.com/product/rural-ontario-roadside-native-seed-mixture-8145/.
Other Natural Environment Considerations	● The removal of trees will generally be restricted to areas in direct conflict with the proposed road alignment and right-of-way cross-section, along with the footprints of the proposed development features (e.g., residence, septic system, driveway, etc.) and grading, along with any hazardous trees in the immediate vicinity that pose an unacceptable risk to human life or property. ● All necessary vegetation removal (e.g., trees, meadow vegetation, etc.) will be completed outside the primary bird nesting period (i.e., to be completed between September 1 and March 31). Should minor vegetation removal be proposed during the bird nesting period, a bird nesting survey will be undertaken to confirm the presence or absence of nesting birds or bird nests within or adjacent to the areas subject to vegetation clearance. The survey is to take place within 48 hours of vegetation removal.