TULLOCH

Degagne – Park Street Reference Plan

Project #242097

Marcel and Dan Degagne

Rutherglen Subdivision

September 2024

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Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1. INTRODUCTION

TULLOCH Environmental, a division of TULLOCH Engineering (TULLOCH), was retained by Marcel and Dan Degagne (the 'Proponent') to undertake Natural Heritage assessments and Scoped Environmental Impact Studies for the creation of 18 new lots associated with a plan of subdivision on Lot 32 Concession 8 in Bonfield Township, ON (the 'Project'). These environmental studies were completed over the course of the summer 2024. Study methods, results, impact assessments and mitigation strategies are outlined in the Environmental Impact Study ('EIS') prepared for the Project.

1.1 Project Location Description

The proposed new lots are located on private land (owned by the Proponent) south of Highway 17 East and west of Rutherglen Line. The Site is accessed from Talon Crescent off Rutherglen Line, Rutherglen, ON (Figure 1). Studies were scoped to selected portions of Lot 32 Concession 8, in Bonfield Township where the new lots are proposed.

1.2 Site, Study Area, and Scope of this Report

The Study Area is defined in this report as the proposed new lots (the 'Site') and areas within 120m (Figure 1). All results, impacts and mitigations provided in this report are scoped to this 18-lot Site and adjacent 120m. The intent of this report is to delineate the boundary of the wetland associated with the Study Area and assess the Site for the presence of Bobolink and Eastern Meadowlark (Threatened Species) and their habitats.

2. NATURAL HERITAGE DESKTOP REVIEW

TULLOCH undertook a background Natural Heritage review in July 2024 that included the full scope of the 18-lot subdivision. This review included the following sources:

- Ontario GeoHub by Land Information Ontario ('LIO'; https://geohub.lio.gov.on.ca/)
- Crown Land Use Policy Atlas ('CLUPA'; https://www.ontario.ca/page/crown-land-use-policy-atlas)
- MNRF Natural Heritage Information Center ('NHIC'; https://www.ontario.ca/page/natural-heritage-information-centre)
- Atlas of the Breeding Birds of Ontario ('ABBO'; https://www.birdsontario.org/)
- Ontario Reptile and Amphibian Atlas ('ORAA'; https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/)
- Global Biodiversity Information Facility ('GBIF'; www.gbif.org)
- Bat Conservation International ('BCI'; https://www.batcon.org/about-bats/bat-profiles/)
- Ontario Fish ON-line (https://www.ontario.ca/page/how-use-fish-line)

- Environment and Climate Chance Canada Nesting Periods (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html)
- eBird (www.ebird.org)
- iNaturalist (www.iNaturalist.org)
- Ontario Butterfly Atlas Online Review ('OBAO'; https://www.ontarioinsects.org/atlas/)

Results are provided in Section 2 of the Scoped EIS report and are summarized here in Table 1.

Table 1 – Review of Natural Heritage features associated with the Site and Study Area and identification of studies carried forward to the field investigations.

Feature	Records Review	Carried Forward to Habitat Descriptions
Significant Wetlands	Wetlands exist immediately south of the Site. The significance of these wetlands has not been evaluated per OWES.	**Yes.** • General Study Area Reconnaissance • Ecological Land Classification (ELC) • Wetland Delineations (per OWES) • Candidate Natural Heritage Feature Identification
Species at Risk (SAR): Threatened and Endangered	Records exist in vicinity of the Study Area for: • Eastern Meadowlark • Bobolink • Loggerhead Shrike • Bank Swallow • Chimney Swift • Blanding's Turtle Note – Eastern-Small Footed Myotis, Little Brown Myotis, and Northern Long-Eared Myotis are bat species with ranges that overlap with the Site.	**Yes**. • General Study Area Reconnaissance • Ecological Land Classification (ELC) • Candidate Natural Heritage Feature Identification
ANSI and other Protected Areas	No Parks, Conservation Reserves, EMAs, PSWs or ANSI within 1000m of Study Area.	**No**.
Significant Wildlife Habitat (SWH)	43 SWH are associated with Ecoregion 5E. No existing records of SWH within the Study Area. Records of Special Concern species were identified in proximity to the Site: • Evening Grosbeak	**Yes.** • General Study Area Reconnaissance • Ecological Land Classification (ELC) • Candidate Natural Heritage Feature Identification

Feature	Records Review	Carried Forward to Habitat Descriptions
	• Eastern Wood Pewee • Olive-sided Flycatcher • Rusty Blackbird • Wood Thrush • Snapping Turtle • Bald Eagle • Barn Swallow • Canada Warbler • Common Nighthawk	
Significant Woodlands and Valleylands	There are no Significant Woodlands or Valleylands identified on or adjacent to the Site within the Study Area	**No.**
Fish and Aquatic Habitat	There are no watercourses identified on Site. There is a drainage ditch found within the Study Area. Wetlands are within the Study Area.	**Yes**. • General Study Area Reconnaissance • Candidate Natural Heritage Feature Identification
Migratory Birds	Migratory birds are associated with the Study Area.	**Yes**. • General Study Area Reconnaissance • Ecological Land Classification (ELC)

3. FIELD INVESTIGATION METHODS

All areas of the Site, and accessible portions of the Study Area, were walked by qualified environmental professionals for the general assessment of habitat and identification of candidate Natural Heritage features. Areas that could not be accessed (i.e. neighboring private lands) were assessed, to the extent possible, based on observations from nearby vantage points, and interpretation of aerial imagery. Field investigations were undertaken by qualified professionals in June and July of 2024. See Section 4 of the report for details of the methods and layout of field investigations.

3.1.1 Terrestrial Habitat Description (Ecological Land Classification)

Terrestrial habitat was described across the entire Study Area according to Ontario's Ecological Land Classification (ELC) system (MNR 2009) (Figure 3). The minimum mappable 'ecosite' community size was considered to be 0.5 ha (an industry standard). Each ELC polygon was visited in the field to ground truth delineation accuracy and to classify the area to ecosite.

Data collected at ELC plots were supplemented with visual plant community descriptions made throughout the Study Area in transit between plots and during periods of Site reconnaissance.

These visual plant community descriptions typically included the overstory forest compositions (in tenths), ELC vegetation cover class, and an estimated moisture class based on slope position and plant community composition.

3.1.2 Bobolink and Eastern Meadowlark Habitat

The Site was assessed for the presence of Bobolink (Threatened) and Eastern Meadowlark (Threatened) and their protected habitat. Species assessments followed Bobolink and Meadowlark Surveys Standard Operating Procedure (SOP) (TULLOCH, January 12, 2024). The survey plot can be seen in Figure 3 and the SOP can be reviewed in Appendix 1

3.1.3 Wetland Delineation

Wetland boundaries throughout the Study Area were delineated according to OWES criteria by walking the boundary on foot and GPS way-pointing the wetland / upland interface. The wetland ELC ecosite boundaries depicted in this report are adjusted to reflect these OWES boundaries.

Data collected within the wetland were supplemented with visual plant community descriptions made through the wetland area and contrasted to the adjacent upland area.

3.1.4 Aquatic Habitat Description

Field investigators searched for evidence of fish habitat while completing on-site investigations July 4, 2024. While there was a culvert identified running east-west under Rutherglen Line leading into the mineral thicket swamp, there was no water flowing at the time of the investigation and there was no evidence of a defined channel to convey flows. It is expected this culvert is in place to address storm water after rain events.

There is no fish habitat on the Site. Sharpes Creek is located approximately 200m from the Site and is considered to support fish and fish habitat. Due to the general topography of the Site, any future work on the Site may have potential to create disturbed soils and result in runoff in the general direction of Sharpes Creek. Mitigative measures to control the release of sediments from the Site and prevent their release off-site into Sharpes Creek are recommended.

As the footprint of the proposed 18 lots is in upland ecosites, further aquatic habitat investigations are not required.

4. FIELD INVESTIGATION RESULTS

Environmental assessments throughout the Study Area included five (5) visits conducted over the course of June and July of 2024 (Table 2). Existing environmental conditions and the presence / potential presence of Natural Heritage features within the Study Area were assessed by qualified

environmental professionals. Staff have extensive experience in the identification of flora and fauna (including SAR and their habitat), as well as the identification of SWH as described in the *Significant Wildlife Habitat Technical Guide* (MNR 2000).

Study results are summarized in Section 4, below.

Table 2 – Summary of field assessments performed throughout the Study Area in June and July 2024.

Date	Survey Type*	Staff on Site**	Weather Conditions		
			Air Temp. (°C)	Wind (Beaufort)	Cloud Cover (%)
June 11, 2024	General Recon Bobolink/Eastern Meadowlark Survey Plant Searches Incidental Obs.	VM + JM	9	1	25-50%
June 21, 2024	General Recon Bobolink/Eastern Meadowlark Survey ELC Plant Searches Incidental Obs.	VM + JM	18	2	25-50%
June 28, 2024	General Recon Bobolink/Eastern Meadowlark Survey ELC Plant Searches Incidental Obs.	VM + JM	12	2	0%
July 4, 2024	Wetland Delineation Aquatic Habitat ELC Plants Searches Incidental Obs.	VM + MO'B	23	3	25-50%
July 11, 2024	General Recon ELC Incidental Obs.	VM + MP + ME	19	3	0-25%

* Survey Types
- Aquatic Habitat – General encounter survey for aquatic habitat (streams, creeks, wetlands, ponds, etc.).
- ELC – Ecological Land Classification of the Study Area based on properties of the soil and plant community.
- General Recon – General reconnaissance of Study Area habitat, noting plant community composition and structure as well as suitability to support SAR and SWH.
- Incidental Obs. – Records kept of wildlife observed incidentally while within the Study Area.
- Plant Searches – Searches for plant species suitability for Bobolink/Eastern Meadowlark nesting.
- Bobolink/Eastern Meadowlark Surveys – Standard provincial survey protocol to assess the presence of Bobolink and Eastern Meadowlark using the Site.
- Wetland Delineation – Delineation of wetland boundaries per OWES standards.

** Investigators
- VM – Valerie Murphy (Senior Environmental Specialist)
- JM – Jeff Miller (Engineering Project Manager)
- MO'B – Malcolm O'Bright (Engineering Technician)
- MP – Matthew Parfitt (Senior Geological Engineer)
- ME - Molly Einarson (Office Administration)

4.1 Terrestrial Habitat Description (Ecological Land Classification)

Terrestrial habitat descriptions are provided below.

4.1.1 Ecological Land Classification (ELC)

A total of six (6) ecosites were found to be present in the Study Area (Figure 2). The ecosites are described with representative photos below. The Study Area is dominated by the G060N Field ecosite. Neighbouring properties are primarily agricultural and low-density residential developments.

4.1.2 Ecosites

Ecosite 1: G060N Moist, Coarse: Field

This ecosite is the largest ecosite in the Study Area. It is characterized by agricultural operations and dominated by graminoids, Canada goldenrod (*Solidago canadensis*), aster species (*Asteraceae species)*, red clover (*Trifolium pratense)*, hop clover (*Trifolium campestre)*, white clover (*Trifolium repens),* and ox-eye daisy (*Chrysanthemum leucanthemum)*. There is evidence of human alteration within this ecosite (baled hay), left within the field. The surface of the ground is covered in an herbaceous litter layer.

Photo 1: Ecosite G060N Moist, Coarse: Field

Ecosite 2: G061N Moist, Coarse: Meadow

This area is found between ecosite G060N and Rutherglen Line. It is dominated by graminoids, wild red raspberry (*Rubus idaeus)*, rough bedstraw (*Galium asprellum),* and meadow buttercup (*Ranunculus acris)* but also supports a low-density shrub and tree layer (less than 10% cover) of Bebb's willow (*Salix bebbiana)*, trembling aspen (*Populus tremuliodes)* and one large white pine (*Pinus strobus)*. This area does not appear to be used for agricultural purposes; however, human alteration is evident as an access road crossing the ecosite from Rutherglen Line to the G060N Field ecosite. Agricultural equipment is also stored within this ecosite.

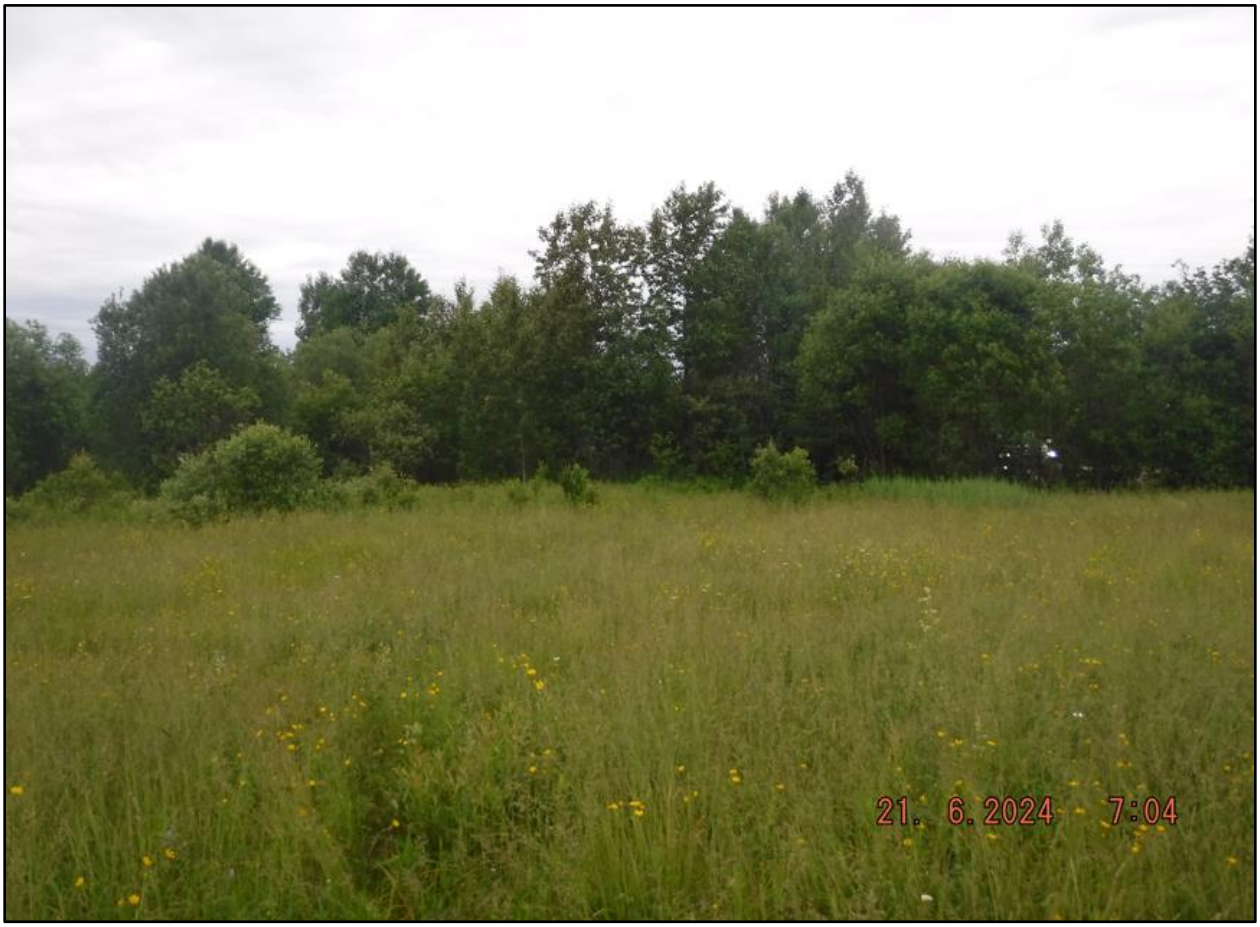

Photo 2: Ecosite G061N Moist, Coarse: Meadow

Ecosite 3: G070Tt Moist, Coarse: Aspen- Birch Hardwood

There are two locations within the Study Area identified as the G070Tt ecosite. These areas are found along the northwest portion of the Study Area and the southern portion of the Study Area. Both areas are dominated by trembling aspen (*Populus tremuloides)*, white spruce (*Picea glauca)* and balsam fir (*Abies balsamea)* with an understory of fallen dead coniferous trees, bracken fern (*Pteridium aquilinum)*, Canada mayflower (*Maianthemum canadense)*, large-leaved aster (*Eurybia macrophylla)*, red currant (*Ribes rubrum)*, red maple (*Acer rubrum)* and a dense layer of leaf litter.

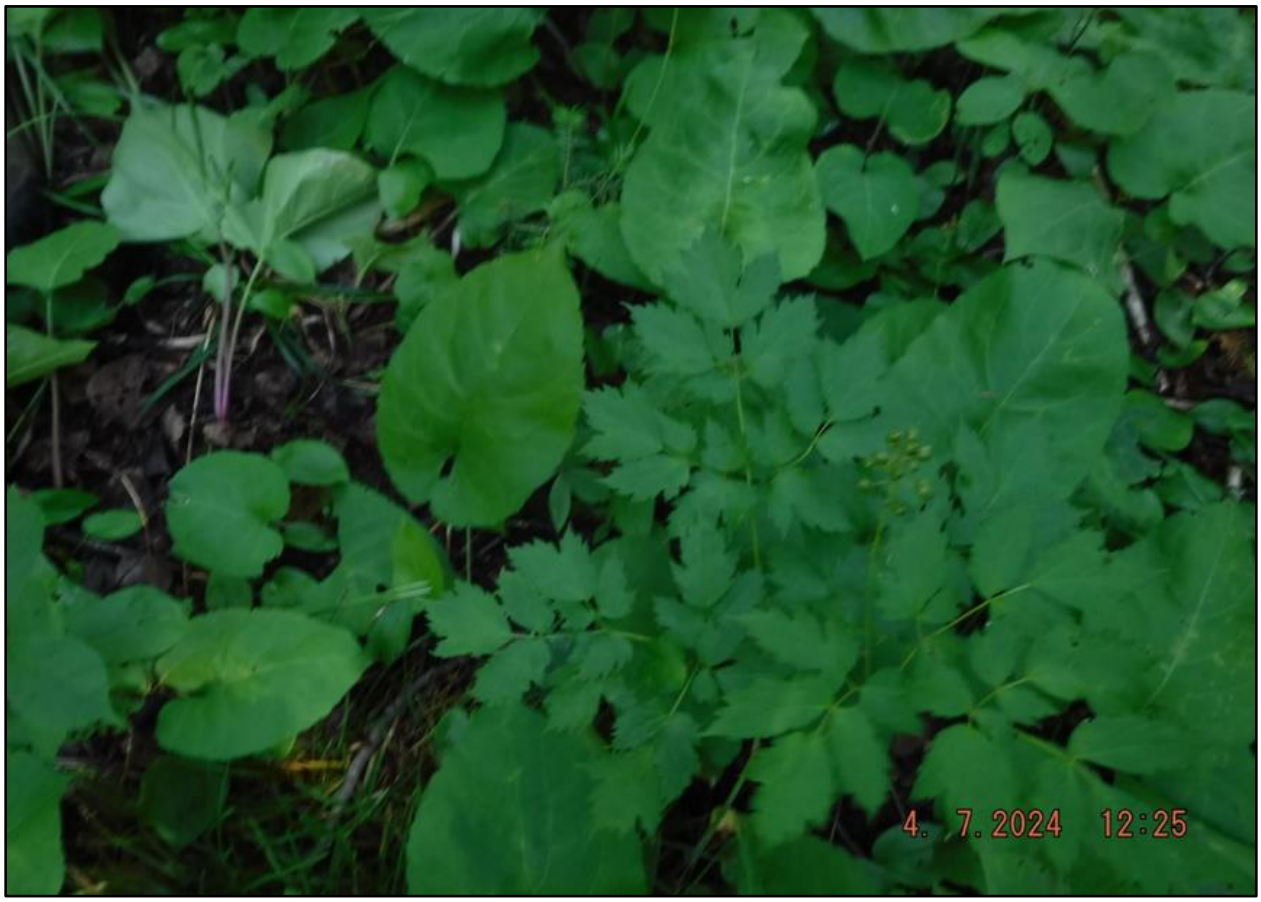

Photo 3: Ecosite G070Tt Moist, Coarse: Aspen-Birch Hardwood

Ecosite 4: G134S Mineral Thicket Swamp

This ecosite is located in the southeast corner of the Study Area. It is found adjacent to Rutherglen Line in a small valley between two elevated fields. The ecosite is dominated by Bebb's willow (*Salix Bebbiana)* and speckled alder (*Alnus incana)* with an understory of Cattail (*Typha latifolia)*, Canada Rush (*Juncus canadensis)* and Meadow Horsetail (*Equisetum pratense)*. A high ground water table is present slightly below the surface.

Photo 4: Ecosite G134S Mineral Thicket Swamp

Ecosite 5: G142N Mineral Meadow Marsh

This ecosite is located within a small pocket directly adjacent to the Mineral Thicket Swamp. The ecosite is dominated by grasses, including Canada blue joint (*Calamagrostis canadensis)* and wool-grass (*Scirpus cyperinus)*. Other herbaceous species such as cows vetch (*Vicia cracca)* and meadow buttercup (*Ranunculus acris)* can also be found in the ecosite. The ground water table within this ecosite is slightly below the surface.

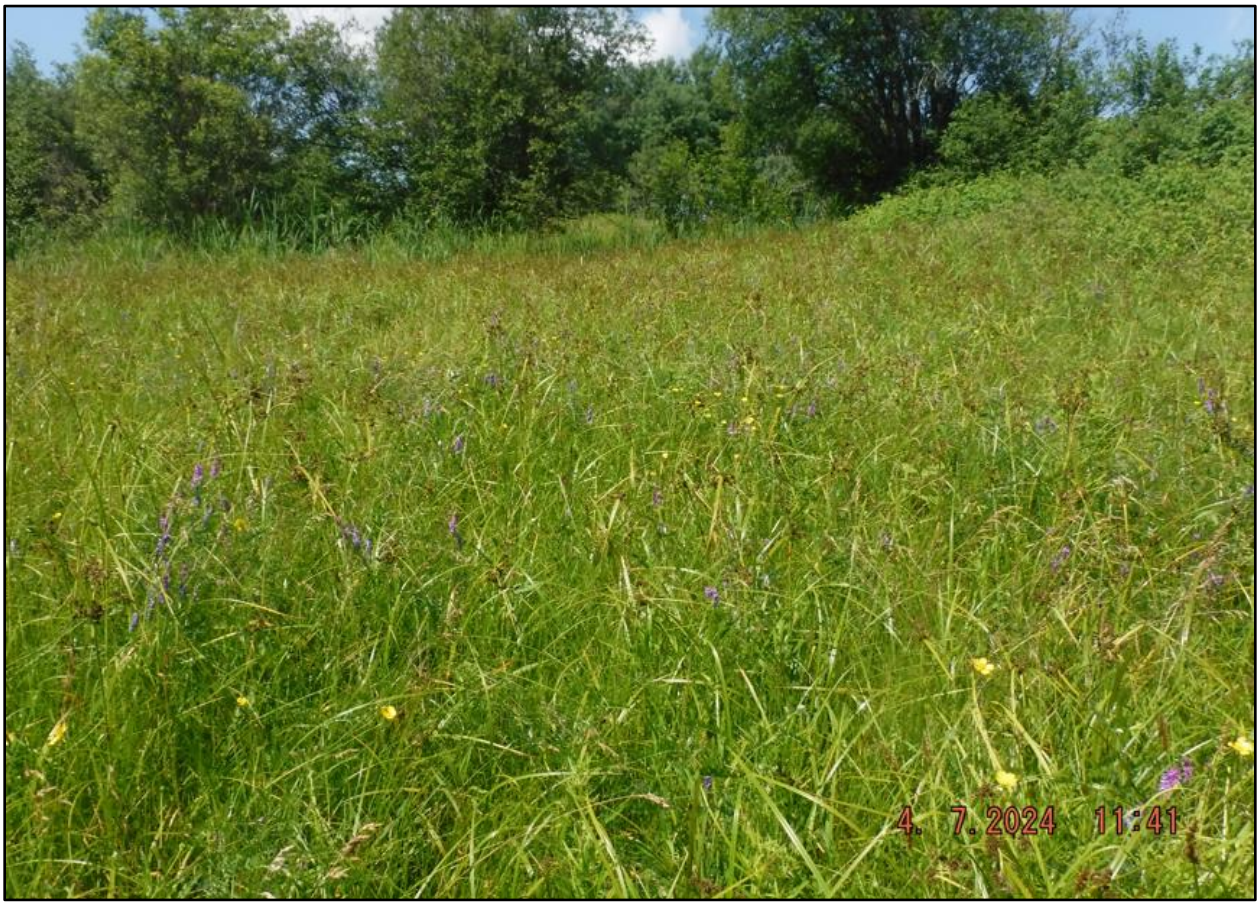

Photo 5: Ecosite G141N Mineral Meadow Marsh

Ecosite 6: G130Tt Intolerant Hardwood Swamp

This ecosite spans the western edge of the Thicket Swamp and Meadow Marsh. It is dominated by tall trees such as Balsam Fir (*Abies balsamea),* Black Ash (*Fraxinus nigra)* and White Spruce (*Picea Glauca)*. The understory is made up of red maple (*Acer rubrum)*, sensitive fern (*Onoclea sensibilis)* and many dead standing and fallen trees. There are mosses covering the fallen dead trees.

Table 3 – Ecosites observed within the Study Area. Ecosites are depicted in Figure 2. Photos are provided in Section 4.1.2 above.

Type	Ecosite Code	Name	Intersects With Lots	Photo(s)
Upland Areas	G060N	Moist, Coarse: Field	Yes	Photo 1
	G061N	Moist, Coarse: Meadow	Yes	Photo 2
	G070Tt	Moist, Coarse: Aspen-Birch Hardwood	Yes	Photo 3
Wetland Areas	G134S	Mineral Thicket Swamp	Yes (portion of Lot #2 only)	Photo 4
	G142N	Mineral Meadow Marsh	No	Photo 5
	G130Tt	Intolerant Hardwood Swamp	No	No photo

4.2 Bobolink and Eastern Meadowlark Habitat

Suitable habitat for Bobolink (Threatened) and Eastern Meadowlark (Threatened) exists within the G060N Moist, Coarse: Field and potentially within the G061N Moist, Coarse: Meadow ecosites within the Study Area. Although these ecosites do show evidence of human alteration (mowing), the vegetation species grow throughout the year creating suitable nesting habitat for the species.

Bobolink and Eastern Meadowlark are known to occur in the vicinity of this Site (see Section 2, Table 1, above). During field assessments, multiple male Bobolink were observed and heard on the Site on June 11, 21, 28, 2024 and July 11, 2024 (Photo 6). These individuals were located within the G060N Moist, Coarse: Meadow ecosite (Figure 4).

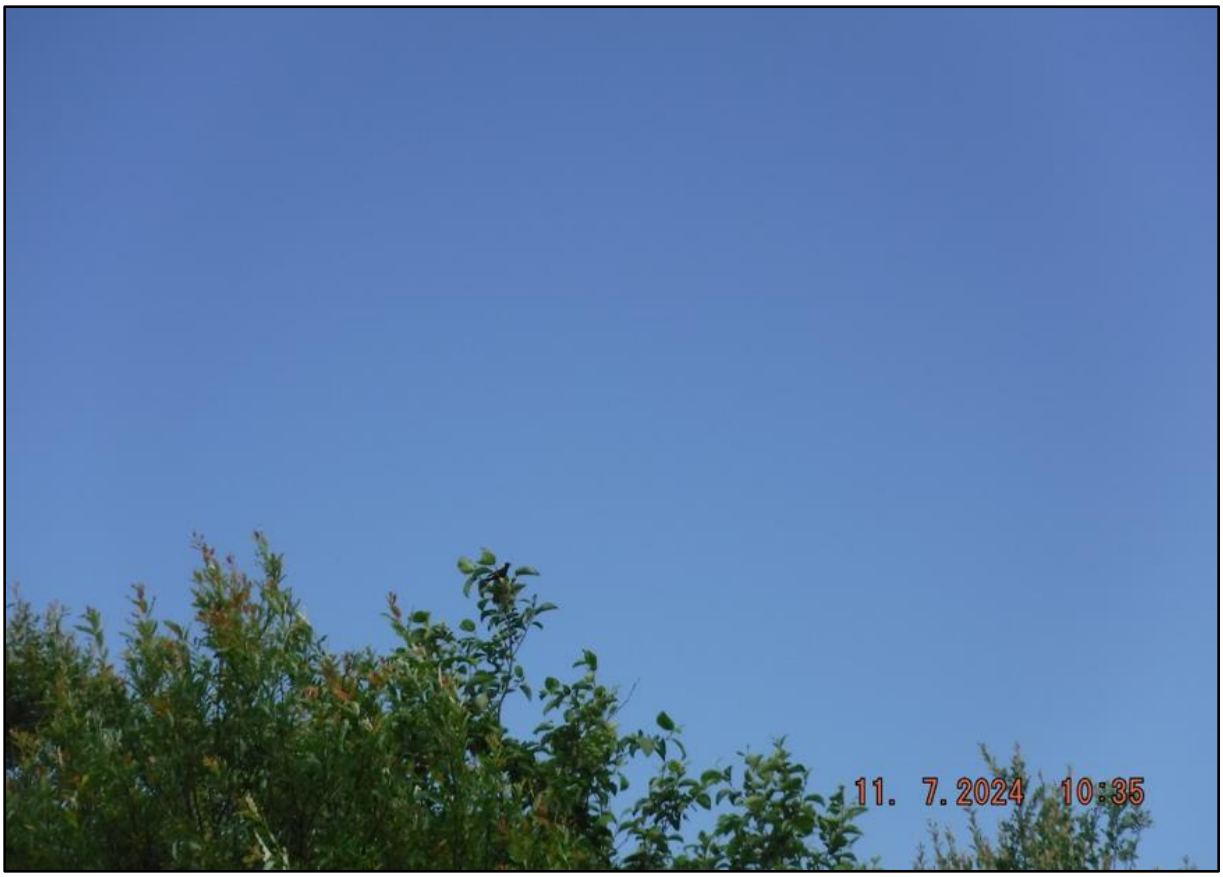

Photo 6: Male Bobolink observed perched and calling on the crown of tree.

The confirmed presence of multiple Bobolink individuals on and around the Site, during nesting season suggests that all habitat suitable for supporting Bobolink life functions should be considered significant unless otherwise indicated by future studies. Based on Ontario's General Habitat Description for Bobolink and Eastern Meadowlark the nest and the area within 10m of the nest is identified as Category 1 Habitat. The area between 10m and 60m of the nest or centre of approximate defended territory as Category 2 Habitat, and the area of continuous suitable habitat between 60m and 300m of the nest or approximate center of defended territory as Category 3 Habitat.

Field assessments of the Study Area found the Site provides Category 1, Category 2 and Category 3 Habitat for Bobolink (Figure 4). Category 1 and Category 2 Habitat is considered G060N Moist, Coarse: Meadow ecosite. Areas within 240m of this Category 2 Habitat are considered Category 3 Habitat.

The proponent is advised to consult the MECP prior undertaking any activities within Categories 1 and 2 Habitats should those activities have a potential to harm / harass Bobolink or alter their habitat. Such activities may require authorizations or permitting under the Endangered Species Act.

Results of the Bobolink and Eastern Meadowlark assessment can be found in Table 4.

Table 4 – Results of Bobolink and Eastern Meadowlark species and habitat assessments.

Date and Time of Survey	Site Number	Species Present	Use of Site	Type of Observation
June 11, 2024 5:39am	2	Unidentified – small black bird in distance	Bird landed and perched on hay bale	Visual
June 11, 2024 6:29am	3	Unidentified - black bird flew across Site, landed at top of tree on east side if Site	Bird landed and perched in tree	Visual
June 11, 2024 5:58am	4	Male Bobolink	In field	Acoustic
June 11, 2024 6:23am	5	Unidentified – small black bird landed in field 340 degrees from opening in hedgerow	Bird landed in field	Visual
June 21, 2024 5:57am	2	2 Bobolink (1 male, 1 female)	Presumed nesting. Two birds landing on ground in area dominated by graminoids and ox-eye daisy, perch in near by trees then return.	Visual
June 21, 2024	In transit to Site 5	Ground Nest	Nesting Nest in good shape, no eggs or egg fragments.	Visual
June 21, 2024 6:25am	5	Bobolink	When preparing for survey, heard Bobolink call from other side of hedgerow	Acoustic
June 21, 2024 6:30am	5	Bobolink	Heard calling from other side of	Acoustic

			hedgerow, did not see use of site.	
June 28, 2024 6:30am	3	Bobolink	Heard Bobolink calling from north of survey site	Acoustic
June 28, 2024 6:31am	*3*	Male Bobolink	Bobolink landed in field at west side of site.	Acoustic and visual
June 28, 2024 6:44am	Newly added site (survey #2)	Male Bobolink	Bobolink flying between tree along east edge of agricultural field, prolific calling and perching at top of trees.	Acoustic and visual

4.3 Wetland Delineation

Wetland boundaries throughout the Site have been delineated according to OWES criteria (MNRF 2014) by a trained wetland evaluator. The wetland and upland interfaces were walked and GPS way pointed at approximately 10 to 20m intervals. The accuracy of the handheld GPS unit is assumed to be +/- 3m. A full OWES evaluation was not performed, but wetlands were described using ELC systems. Species used to identify the wetland boundary are provided in Table 5 (Wetland Plants). Portions of the wetland ecosites do appear to be seasonally or intermittently flooded.

The northern boundary of the wetland overlapping onto the Site can be seen in Figure 5.

This report was not intended to be a full assessment of all upland ecosites, however, some upland plant species were recorded to provide a contrast between wetland and upland areas. Upland vegetation species present on the Site can be seen in Table 6.

Table 5 – List of vegetation found in Wetland ecosites.

Form	Common Name	Scientific Name	Notes
Trees	Balsam Fir	*Abies balsamea*	
	White Spruce	*Picea Glauca*	
	Trembling Aspen	*Populus tremuloides*	
Shrubs	Speckled Alder	*Alnus incana*	
	Bebb's Willow	*Salix bebbiana*	
	Slender Willow	*Salix petiolaris*	
	Choke Cherry	*Prunus virginiana*	
Forbs	Swamp Milkweed	*Asclepias incarnata*	
	Aster spp.	*Asteraceae spp.*	
	Cows Vetch	*Vicia cracca*	
	Canada Goldenrod	*Solidago canadensis*	
	Wool-grass	*Scirpus cyperinus*	
	Meadow Buttercup	*Ranunculus acris*	
	Canada Blue Joint	*Calamagrostis canadensis*	
Emergents	Sedge spp.	*Carex spp.*	Indicator Species
	Common Cattail	*Typha latifolia*	Indicator Species*
	Canada Rush	*Juncus canadensis*	
Mosses and Horsetails	Meadow Horsetail	*Equisetum pratense*	
Ferns	Sensitive Fern	*Onoclea sensibilis*	

* Indicator Species are considered here to be wetland plant species that best illustrated the wetland boundaries due to their dominance within the wetland and absence from the upland.

Table 6 – List of vegetation found in Upland ecosites.

Form	Common Name	Scientific Name	Notes
Trees	Red Pine	*Pinus resinosa*	
	White Pine	*Pinus strobus*	
	White Spruce	*Picea glauca*	
	Red Maple	*Acer rubrum*	
	Balsam Fir	*Abies balsamea*	
	Trembling Aspen	*Populus tremuloides*	
Shrubs	Red Osier Dogwood	*Cornus sericea*	
	Hawthorn spp.	*Crataegus spp.*	
	Choke Cherry	*Prunus virginiana*	
	Red Currant	*Ribes rubrum*	
	American Mountain Ash	*Sorbus americana*	
	Smooth Serviceberry	*Amelanchier laevis*	
Forbs	Tiger Lily	*Lilium lancifolium*	
	Rough bedstraw	*Galium asprellum*	
	Cows Vetch	*Vicia cracca*	
	Canada Goldenrod	*Solidago canadensis*	
	Cows Vetch	*Scirpus cyperinus*	
	Meadow Buttercup	*Ranunculus acris*	
	Large-leaf Aster	*Eurybia macrophylla*	
	Graminoid spp.	*Graminoid spp.*	
	Common Cattail	*Typha latifolia*	Indicator Species*

	Canada Rush	*Juncus canadensis*	
	Ox-eye Daisy	*Chrysanthemum leucanthemum*	
	Hop Clover	*Trifolium campestre*	
	Orange Hawkweed	*Pilosella aurantiaca*	
	Red Clover	*Trifolium pratense*	
	Wild Strawberry	*Fragaria vesca*	
	Cinquefoil	*Potentilla recta*	
	Common Yarrow	*Achillea millefolium*	
	White Clover	*Trifolium repens*	

4.4 Black Ash

Black Ash is a wetland tree species that typically occupies periodically flooded swamps, floodplains, and fens. This species is present in low amounts in the Study Area in association with the G130Tt Intolerant Swamp ecosite (Figure 2).

Black Ash is a newly listed Endangered tree with provincial Endangered Species Act protections that came into effect January 2024. The Government of Ontario has chosen not to impose protections for Black Ash universally across the entire province. Instead, protections apply only to those municipalities and townships in which Emerald Ash Borer (the primary driver of Ash decline) is prevalent. Rutherglen and the Study Area is in a location in which the protections do not currently apply to Black Ash.

4.5 Incidental Observations

Incidental observations of bird species within the Study Area were collected by field crews whenever possible. Incidental observations were collected throughout the Study Area and included acoustic and visual observations of birds as well as any identifiable bird signs (e.g. nests, tracks, etc.). Any calls observed from SAR birds (including Special Concern species) were investigated to confirm species location and to assess the likelihood of breeding.

The following table lists the incidental observations recorded during field reconnaissance and surveys.

Table 7. Incidental bird observations during field assessments.

Table 7 – Incidental bird observations during Bobolink and Eastern Meadowlark surveys.

Species	
Common Name	**Scientific Name**
Alder Flycatcher	*Empidonax alnorum*
American Crow	*Corvus brachyrhynchos*
American Redstart	*Setophaga ruticilla*
American Goldfinch	*Spinus tristis*
American Robin	*Turdus migratorius*
Black-and-White Warbler	*Mniotilta varia*
Black-capped Chickadee	*Poecile atricapilla*
Bluejay	*Cyanocitta cristata*
Cedar Waxwing	*Bombycilla cedrorum*
Chestnut-sided Warbler	*Setophaga pensylvanica*
Common Grackle	*Quiscalus quiscula*
Common Yellowthroat	*Geothlypis trichas*
Eastern Phoebe	*Sayornis phoebe*
European Starling	*Sturnus vulgaris*
Gold Finch	*Spinus tristis*
Hairy Woodpecker	*Leuconotopicus villosus*
House Wren	*Troglodytes aedon*
Magnolia Warbler	*Setophaga magnolia*
Nashville Warbler	*Vermivora ruficapilla*
Northern Parula	*Setophaga americana*
Ovenbird	*Seiurus aurocapilla*
Red-eyed Vireo	*Vireo olivaceus*
Red-winged Blackbird	*Agelaius phoeniceus*
Sandhill Crane	*Grus canadensis*
Savannah Sparrow	*Passerculus sandwichensis*
Swamp Sparrow	*Melospiza georgiana*
Song Sparrow	*Melospiza melodia*
Veery	*Catharus fuscescens*
White-throated Sparrow	*Zonotrichia albicollis*
Yellow Warbler	*Setophaga petechia*
Yellow-rumped Warbler	*Dendroica coronata*

5. IMPACT ASSESSMENT AND MITIGATIONS

This project includes the clearing, grading and development of an existing agricultural field to support the development of an 18-lot rural subdivision. This report assesses the development plan of the 18-lot subdivision proposed within the Site. The Proponent must notify TULLOCH should there be any changes to site plans that may affect these assessments of impact and/or mitigations (such as changes to the footprints and project implementation).

Investigations completed as part of these studies have found Natural Heritage features (as identified in the PPS) within the Study Area. A summary of anticipated Project impacts and mitigations are outlined in Table 8, below.

Table 8 – Assessment of impacts associated with the Project and avoidance / mitigations to eliminate or otherwise minimize those impacts.

Feature Group	Natural Heritage Feature(s)	Potential Impacts (without Mitigations)	Avoidance and Mitigations	Residual Effects (After all Avoidances and Mitigations)

Wetlands	Unevaluated (per the OWES) wetland is found along the southern boundary of the Site.	The potential for Project impacts on this wetland has been minimized as:
		• No development is proposed within these wetlands.
		• The lot that intersects with this wetland provides ample space greater than 30m from the boundary of the wetland for future residential development.
		• Residential dwelling development is a relatively low impact land use.
		• There are no surficial water features within the Site that would outlet to this wetland (i.e., no changes to surface water drainage that would affect water quantity or risk sediment mobilization / transport).
		
		The lots are being developed by the owner and will not be sold as vacant lots. None-the-less, should any activities be proposed at this site (e.g., road maintenance or ditching) some negative impacts could be possible. This section focuses on water quality, water quantity and plant community. Ecological functions relating to wildlife are addressed individually below.
		Potential Impacts:
		• **Mobilized Sediments.** Sediment generated by activities on Site, if allowed to enter the wetland, could temporarily reduce water quality.
		• **Deleterious Substances and Spills.** Deleterious substances (e.g., fuels, lubricants, paints, solvents), if improperly stored or released by equipment, could reduce water quality in the wetland.
		• **Invasive Species.** Invasive plant species (e.g., Phragmites) could be introduced to the Site.
			The Project includes the following avoidances:
			• **No Work will be Undertaken in any Wetland.** Site access can be gained by Talon Crescent and access will not be required through or directly adjacent to the wetland.
			• **Ensuring Adequate Building Space.** No lots are being created that necessitate future development within this wetland. It is recommended that any future residential development is set back at least 30m from the wetland boundary. The proposed lot transecting this wetland has at least 30m of upland buildable envelope adjacent the access road (Talon Crescent) to promote appropriate setbacks.
			
			The lots are being developed by the owner and will not be sold as vacant lots. None-the-less, should any activities be proposed at this site (e.g., road maintenance or ditching), the following mitigations are recommended:
			• **Sediment Control:** Any work (e.g., access driveway improvements) undertaken within 30m of a wetland should have a sediment control plan prepared and enacted to ensure that any sediments mobilized by the activity are contained on the worksite and not allowed to enter adjacent wetted habitat.
			• **Spills Prevention and Control.** A Spills Prevention Plan should be prepared to reduce the potential for spills on Site and provide procedures for properly isolating, remediating, and reporting spills, if they occur. This plan will include, at minimum:
			  ○ No deleterious substances (e.g., fuels, lubricants, solvents, paints, etc.) are to be stored within 30m of a wetland or waterbody.
			  ○ No vehicles or equipment are to be fueled within 30m of a wetland or waterbody.
			  ○ All vehicles and equipment are to be kept in good mechanical condition; free of fluid leaks.
			  ○ One or more spills kits are to be kept on Site and staff will be trained in their proper use.
			  ○ Construction waste will be properly handled, stored, and disposed of offsite.
			  ○ Spills will be reported to the Ontario's Spills Action Centre at 1-866-MOETIPS (663-8477).
			• **Clean Equipment.** Equipment should be brought to Site clean ("power washed'). Soil and debris deposited on equipment from other sites should be washed off at an off-site location prior to arrival. This will prevent the spread of invasive plant species by limiting the spread of seed.
			• **Clean Fill.** Where possible, make use of fill obtained on Site. When fill must be imported, use only locally sourced clean fill that is devoid of plant matter.
			• **Future Landowner Education.** Future landowners should be made aware of the existence of this habitat and the potential for environmental constraints to be
				Without confirmation of the significance (or not) of this wetland, all avoidance and mitigations were prepared as though this feature is significant. In this way, an abundance of caution is adopted by the Proponent to ensure the Project is undertaken in an appropriate manner even should the significance of these features be confirmed at a later date.
				
				The large lot sizes proposed in this Project are intended to allow sufficient areas beyond the wetland to support future residential development. Future development is beyond the scope of this Project, but the avoidance and mitigations provided here are generally advisable, applicable, and feasible for such future work.
				
				It is expected that the scope of this Project coupled with the avoidances and mitigations provided herein, if properly enacted, will ensure that the ecological function of these candidate Natural Heritage features will be safeguarded. In this way, the Project would remain in compliance with Section 2.1 of the PPS.
				
				It is recommended that no future development occurs within 30m of the mapped boundary of this wetland.

Feature Group	Natural Heritage Feature(s)	Potential Impacts (without Mitigations)	Avoidance and Mitigations	Residual Effects (After all Avoidances and Mitigations)
			imposed on future construction (on some portions of the lots) under the Provincial Policy Statement.	
Bobolink and Eastern Meadowlark	Confirmed use of the site by Bobolink during Breeding Season	The potential for Project impacts Bobolink and Eastern Meadowlark have been minimized as: • No vegetation or site clearing will take place during the bird breeding season (April 12 to August 27).	The Project includes the following avoidances: • **No Work will be Undertaken between May 1 and July 31** of any year**.** Vegetation or site clearing will avoid the sensitive breeding bird season. • **Registration with MECP.** The Project will be required to Register with MECP for work within the habitat of Bobolink and Eastern Meadowlark. • **Registration requirements.** The requirements set out by MECP for habitat management and monitoring will need to be implemented.	Ontario Regulation 830/21 provides for project exemptions for Bobolink and Eastern Meadowlark. The exemption allows for the development and alteration of the species' habitat for a person who meets the requirements of the regulation. **Exemptions** **13.(1)** Clause 9 (1)(a) and subsection 10(1) of the Act do not apply to a person who, while carrying out an activity described in subsection (3), kills, harms, harasses, captures or takes a bobolink or an eastern meadowlark, or damages or destroys its habitat, if the size of the area of habitat of bobolinks or eastern meadowlarks that is damaged or destroyed by the activity is equal to or less than 30 hectares and, **(a) the person satisfies all of the conditions set out in section 14; or** **(b)the person** **(i) pays a species conservation charge to the Species at Risk Conservation Trust in accordance with paragraph 5 of subsection 20.3 (1) of the Act and Ontario Regulation 829/21 (Species Conservation Charges) made under the Act, and** **(ii) satisfies the conditions in paragraphs 1 to 4 of section 14. O. Reg. 830/21, s. 37 (5).** (Full Regulation attached) **Owner to review and discuss preferred option to proceed.** **TULLOCH can assist with notifications, applications and reporting with MECP should the Proponent wish.**
Black Ash	Confirmed Black Ash is present on Site • Present within Intolerant Hardwood Swamp	The potential for Project impacts to Black Ash has been minimized as: • No development is proposed within the Intolerant Hardwood Swamp or any wetland area identified within the report. • There are no proposed lots that intersect with the Intolerant Hardwood Swamp which supports Black Ash. • Residential development is a relatively low impact land use. • There are no surficial water features within the Site that would outlet to wetlands (i.e., no changes to surface water drainage that would affect water quantity or risk sediment mobilization / transport).	The Project includes the following avoidances: • **No Work will be Undertaken in any Wetland.** The Project will make use of an existing access road corridor (Talon Crescent). • **Ensuring Adequate Building Space.** No lots are being created that necessitate future development within Black Ash habitat •	Black Ash is a newly listed Endangered tree with provincial Endangered Species Act protections that came into effect in January 2024. This species prefers moist habitats and generally occurs in wetlands and beside waterbodies. It sometimes also occurs on moist upland sites and where water tables are shallow. The Government of Ontario has chosen not to impose protections for Black Ash universally across the entire province. Instead, protections apply only to those municipalities and townships where Emerald Ash Borer (the primary driver of Ash decline) is prevalent. Rutherglen is not within an area of the province where Black Ash protections are in effect.

6. CONCLUSIONS AND CLOSING

TULLOCH is pleased to provide this report as a record of studies performed at this Site over the course of 2024. This report focuses on Natural Heritage as outlined in Section 2.1 of the PPS and in Section 1.2 of this report. The work contained herein has been undertaken by qualified subject experts according to industry and provincial standards that are appropriate and defensible for the scope and location of this Project. The results obtained during these investigations are summarized in Section 4 or this report, and impacts, avoidance and mitigations are provided in Table 8.

The Project includes the creation of 18 lots that will be developed and sold. Development mitigations are provided within this report.

Several Natural Heritage features are known to occur within and adjacent to these new lots. It is expected that the scope of this report with the avoidances and mitigations provided herein, if properly enacted, will ensure that the ecological function of these Natural Heritage features will be safeguarded. We therefore expect that this Project can remain in compliance with Section 2.1 of the PPS as well as Sections 9 and 10 of the ESA.

Observations made in this report are representative of the Study Area conditions as they existed at the time of the field investigations. Habitat changes over time, which can affect suitability to support species of conservation concern. Many wildlife species are migratory and their individual habitat fidelities will vary. TULLOCH Environmental has used its best professional judgment to interpret the background information and field observations to produce accurate and defensible conclusions that are in keeping with established provincial standards.

To further discuss the exemption options available through MECP to address the confirmed habitat of Bobolink on the Site (summarized in Table 8) and remain in compliance with the requirements of the *Endangered Species Act,* please contact the undersigned.

TULLOCH ENVIRONMENTAL

Report prepared by:

Valerie Murphy
Senior Environmental Specialist

APPENDIX A

Figures

APPENDIX B

Bobolink and Meadowlark Survey SOP

APPENDIX C

Ontario Regulation 830/21

Rutherglen subdivision
Degagne

Site and Study Area

Legend

- Site
- Study Area (120m)

100 0 100 200 300 400 m

Projection: UTM (NAD83)
1:6,000

TULLOCH ENVIRONMENTAL

Figure 1
2024-07-11T16:21:39.000

Project: 242097

Notes: None.

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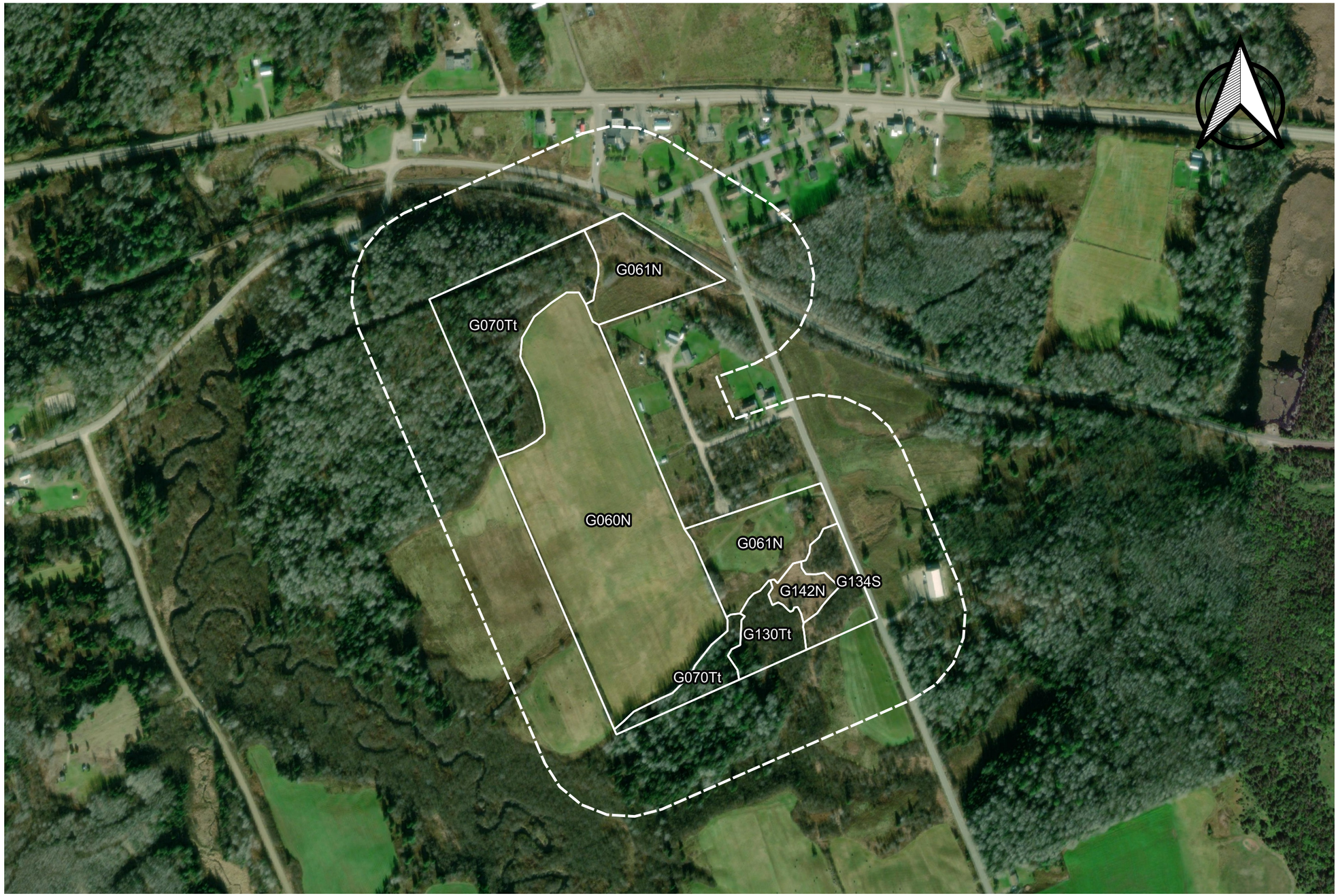
TULLOCH
ENGINEERING



Rutherglen Subdivision Degagne

Ecological Land Classification

Legend

- Site
- Study Area (120m)
- Ecosites

100 0 100 200 300 400 m

Projection: UTM (NAD83)
1:6,000

TULLOCH ENVIRONMENTAL

Figure 2
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Project: 242097

Notes: None.

\\sud-filer\tul-proj-aws\Sud-Local\No Lock\2024\242097 Degagne - Park Street- Reference Plan\6_Mapping (No Locks)\242097 - Degagne Rutherglen Subdivision -Wetland Delineation Map 2024 July 4.qgz - Valerie Murphy

Rutherglen Subdivision
Degagne

Bobolink and Eastern Meadowlark Survey Points

Legend

- Site Boundary
- Study Area (120m)
- Bobolink Survey Points

100 0 100 200 300 400 m

Projection: UTM (NAD83)
1:6,000

TULLOCH ENVIRONMENTAL

Figure 3
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Project: 242097

Notes: None.

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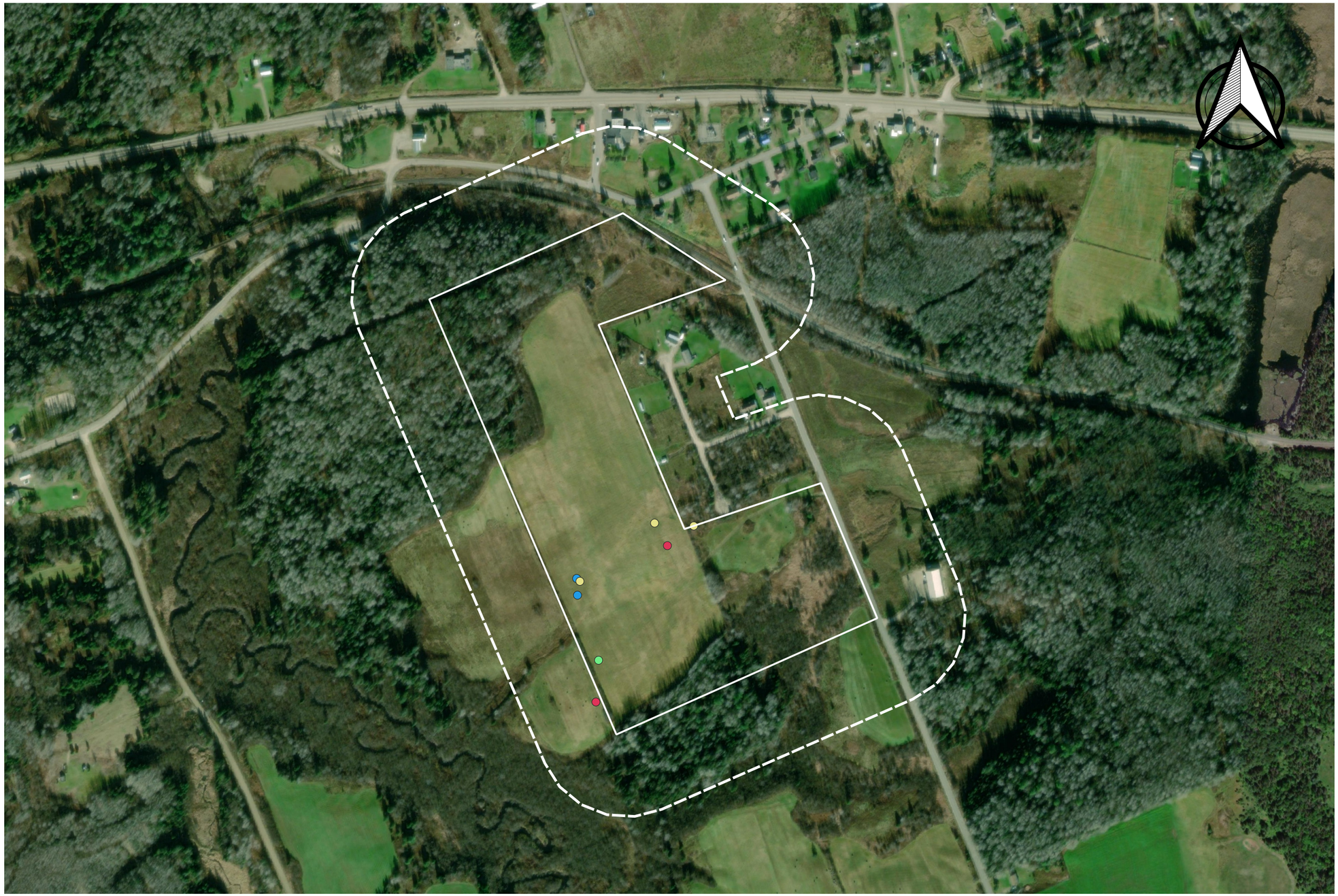
Rutherglen Subdivision
Degagne

Bobolink and Eastern Meadowlark Survey Findings



Legend

- Site
- Study Area (120m)

Bobolink Survey Findings

- BOBO Heard
- BOBO Sighting
- Nest
- Possible BOBO

100 0 100 200 300 400 m

Projection: UTM (NAD83)
1:6,000

TULLOCH ENVIRONMENTAL

Figure 4
2024-09-05T13:26:25.795

Project: 242097

Notes: None.

\\sud-filer\tul-proj-aws\Sud-Local\No Lock\2024\242097 Degagne - Park Street- Reference Plan\6_Mapping (No Locks)\242097 - Degagne Rutherglen Subdivision -Wetland Delineation Map 2024 July 4.qgz - Valerie Murphy

Rutherglen Subdivision
Degagne

OWES Wetland Boundary

Legend

- Site
- Study Area (120m)
- Field Waypoints
- Assessed Wetland Boundary
- OWES Wetland Area

100 0 100 200 300 400 m

Projection: UTM (NAD83)
1:6,000

TULLOCH ENVIRONMENTAL

Figure 5
2024-09-05T13:26:25.795

Project: 242097

Notes: None.

\\sud-filer\tul-proj-aws\Sud-Local\No Lock\2024\242097 Degagne - Park Street- Reference Plan\6_Mapping (No Locks)\242097 - Degagne Rutherglen Subdivision -Wetland Delineation Map 2024 July 4.qgz - Valerie Murphy