DANCE ENVIRONMENTAL INC.

# EIS
# for
# Proposed Severance
# at
# 1891 Reidsville Road,
# Township of North Dumfries
# Region of Waterloo.

**Prepared for:**
Joy Roberts
5204 7th Line
Rockwood, ON
N0B 2Ko

**Prepared by:**
Dance Environmental Inc.
R.R. #1 Drumbo, ON.
N0J 1G0

519-463-6156

**May 8, 2026.**

**DE-493.**

## 1.0 INTRODUCTION

Joy Roberts, the owner of 1891 Reidsville Road, wishes to sever a portion of the property to create a new single family residential lot. Since natural heritage features are located nearby, the Township of North Dumfries and GRCA have requested that an EIS be prepared, as required by the Official Plan. The location is shown on Figure 1.

## 2.0 BACKGROUND

A scoped EIS has been requested. A draft Terms of Reference (TOR) for the EIS was circulated for review by the Township and GRCA. Following minor revisions the final TOR was approved on or about July 10, 2025. The TOR is contained in Appendix 1. The EIS is to determine whether the proposed undertaking can be completed without negative impact on the Environmentally Sensitive Landscape (Dumfries Carolinian), Core Environmental Feature and Hazard Lands features, and whether the proposal conforms to natural heritage policies in the Regional Official Plan and Provincial Planning Statement (2024). Hydrologic and ecological factors are to be considered to ensure no negative impact on natural features or ecological functions.

## 3.0 RATIONALE

Current policies allow for severances for single family rural residences in Waterloo Region. The existing lot has an approximate area of 5.14 ha. Consent is being sought to sever off an area of approximately 0.63 ha.

A number of studies are required to support the proposed severance. Dance Environmental Inc. was retained to prepare the Natural Environment EIS which is required.

The proposed severance area is not suitable for agricultural use and a suitably – sized parcel outside of natural environment constraints and buffers appears to be available. The EIS will evaluate the suitability of the subject parcel for residential use, relative to natural environment policies.

## 4.0 DESCRIPTION OF THE PROPOSED UNDERTAKING

Figure 2 shows the proposed extent of the severance and its location relative to Reidsville Road and an existing lane.

The proposed severance is to accommodate a single family residence. Private services will provide for water supply and sewage disposal.

Figure 2 shows the boundaries of the proposed severance; the proposed development footprint: including driveway, house placement, septic tank and tile field;the location of the 294.81m Regulatory Flood Elevation (RFE) and other natural environment features and associated setbacks/buffers.

# Figure 1. GRCA Constraints and Bird Inventory Polygons

**LEGEND**

| Bird Unit | Description |
|---|---|
| A | Turf Grass, Potential Severance |
| B | Off site : Natural Area |
| C | Off site: Owned by Others to South |
| D | Off site: West of Reidsville Road. |

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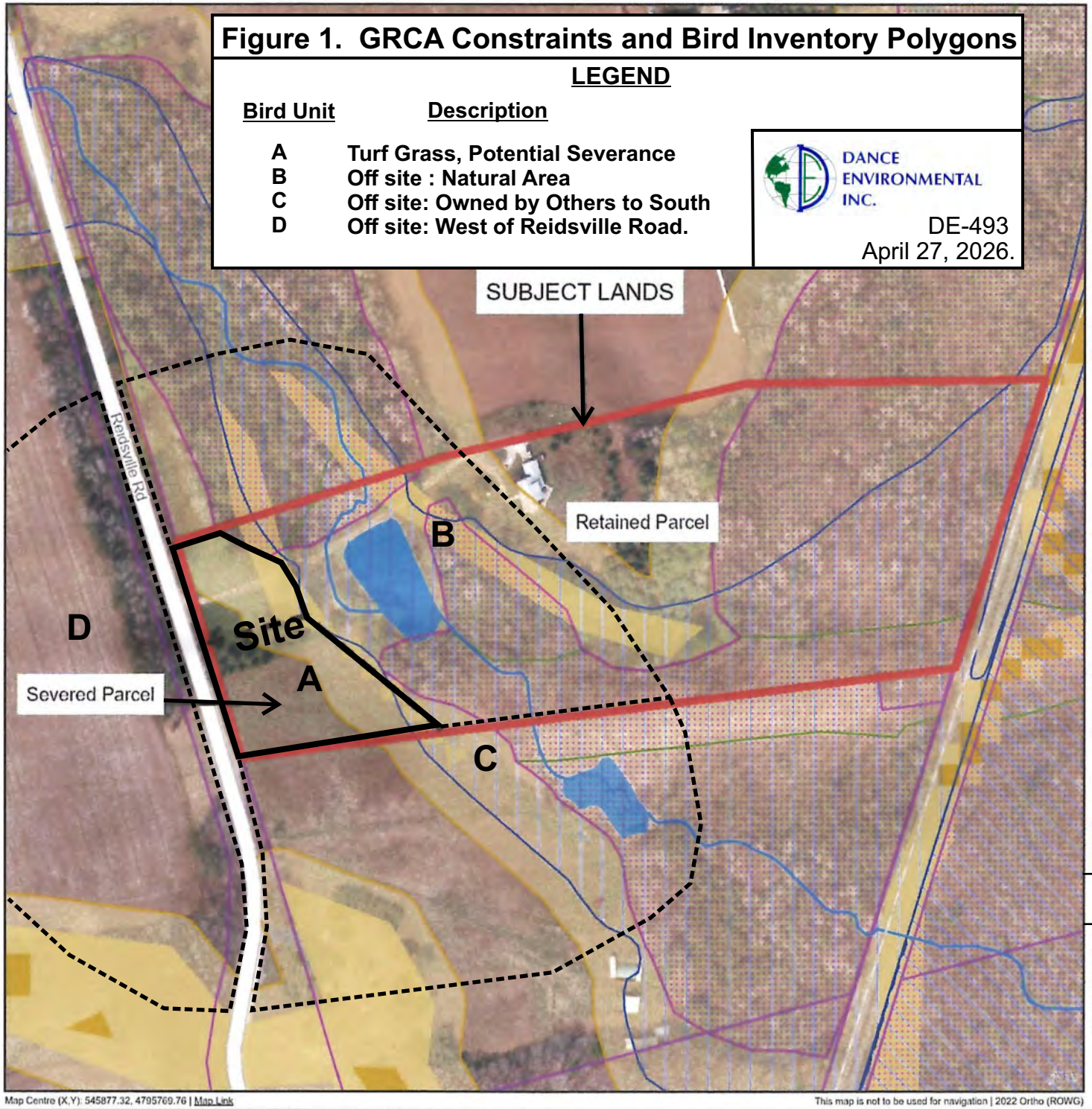


Grand River Conservation Authority

Date: Mar 12, 2025
Author: J. Brum

PC-03/25 (1891 Reidsville Rd)

Legend

- Regulation Limit (GRCA)
- Floodplain (GRCA)
  - Engineered
  - Estimated
  - Approximate
- Floodplain - Special Policy Area (GRCA)
- Slope Erosion (GRCA)
  - Steep
  - Oversteep
  - Toe
- Slope Valley (GRCA)
  - Steep
  - Oversteep
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Property - PIN (GRCA)
- Wetland (MNRF)
  - Provincially Significant
  - Locally Significant
  - Unevaluated
- Parcel - Assessment (MPAC/MNRF)
- Conservation Area Boundary (GRCA)

**Base Map Source:**
**GRCA March 2025**



The source for each data layer is shown in parentheses in the map legend. See Sources and Citations for details.

0 15 30
Meters

Scale 1:2,645

NAD83 UTM zone 17 (EPSG:26917)

N
W E
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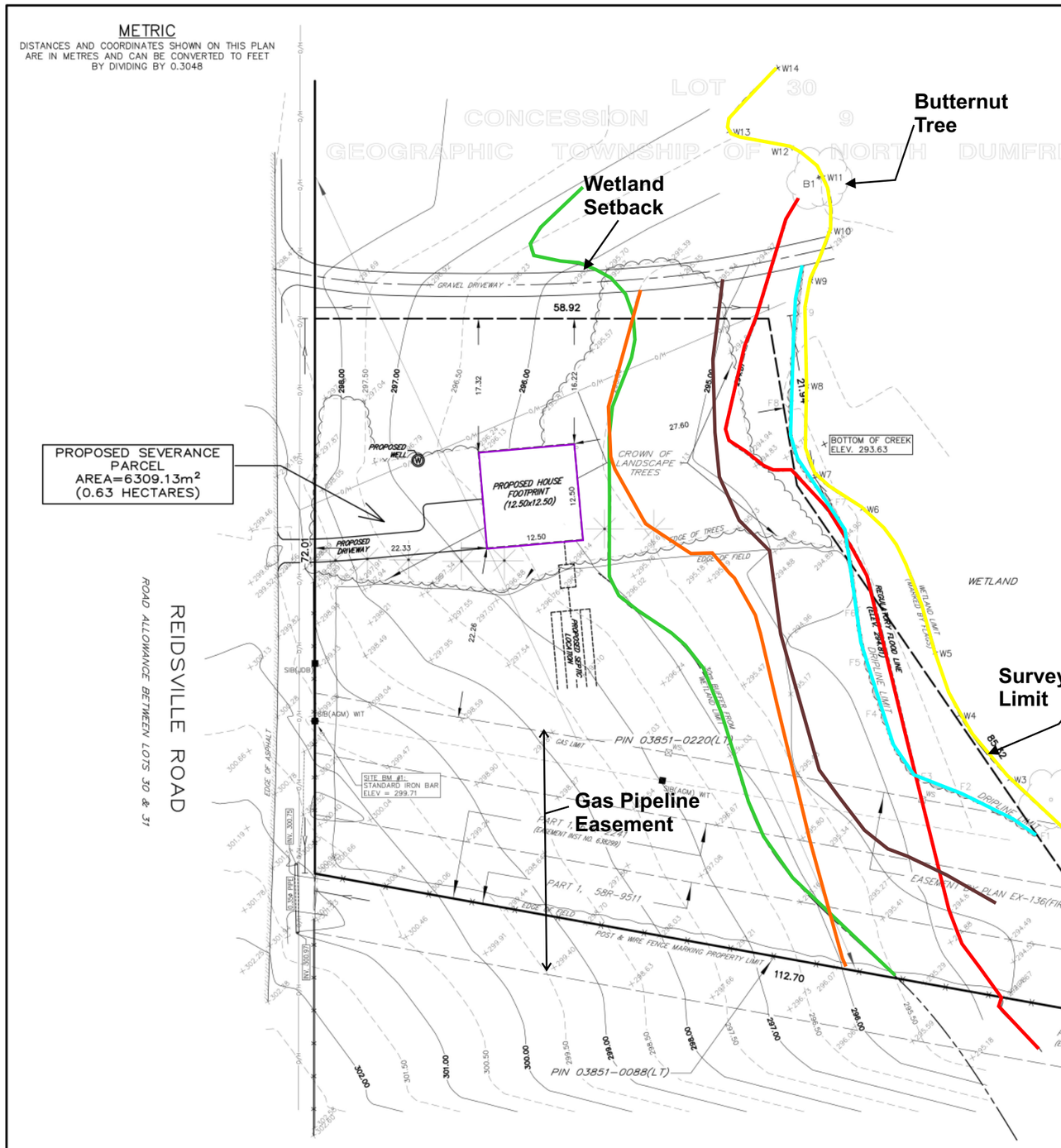
Map Centre (X,Y): 545877.32, 4795769.76 | Map Link

This map is not to be used for navigation | 2022 Ortho (ROWG)




N
W E
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TOPOGRAPHIC SKETCH
SHOWING EXISTING FEATURES OF
1891 REIDSVILLE ROAD
IN THE
TOWNSHIP OF NORTH DUMFRIES
REGIONAL MUNICIPALITY OF WATERLOO

SCALE: 1 : 400 METRIC

10 0 10 20 30 metres

McKECHNIE SURVEYING LTD.
ONTARIO LAND SURVEYORS



## Figure 2. Natural Environment Constraints & Conceptual House Location.

**LEGEND**

= Surveyed Wetland Limit
= Flagged & Surveyed Mature Tree Dripline: ESL Edge
= Regulatory Flood Elevation (294.81m)

Setbacks

= Wetland Setback: 30m
= ESL Tree Dripline: 10m
= Regulatory Flood Elevation: 15m

= Conceptual House Location

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ELEVATION INFORMATION

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM GPS OBSERVATION RTK CAN-NET (CGVD2013) ZONE 17, NAD '83 (2010) AND ARE RELATED TO SITE BM #1 STANDARD IRON BAR, 19.80m NORTHWEST FROM SW CORNER OF SUBJ PROP. ELEVATION.....299.71

IF ELEVATIONS ARE REQUIRED FOR NAD '83 (CGVD '28) VERTICAL DATUM ADD 0.40 m TO ELEVATIONS SHOWN ON THIS PLAN.

LEGEND

| | | | |
|---|---|---|---|
| □ | denotes SET | LS | denotes LIGHT STANDARD |
| ■ | denotes FOUND | UP | denotes UTILITY POLE |
| IB | denotes IRON BAR | R/W | denotes RETAINING WALL |
| SIB | denotes STANDARD IRON BAR | S/W | denotes SIDEWALK |
| SSIB | denotes SHORT STANDARD IRON BAR | WV | denotes WATER VALVE |
| PB | denotes CONCRETE PIN | OBV. | denotes OBVERT ELEVATION |
| -x-x-x- | denotes FENCE | INV. | denotes INVERT ELEVATION |
| | denotes SWALE | WL | denotes WATER LEVEL |
| | denotes EDGE OF FIELD | GV | denotes GAS VALVE |
| | denotes EDGE OF TREES | CB | denotes CATCH BASIN |
| | denotes EDGE OF WET AREA | MH | denotes MANHOLE |
| | denotes TOP OF BANK | HYD | denotes FIRE HYDRANT |
| | denotes BOTTOM OF BANK | TRANS | denotes TRANSFORMER |
| | denotes CENTERLINE OF DITCH | ASPH | denotes ASPHALT |
| | denotes RAILINGS | W | denotes WETLAND LIMIT |
| SAN | denotes SANITARY LINE | F | denotes DRIPLINE LIMIT |
| STM | denotes STORMWATER LINE | | |
| W | denotes WATER LINE | | |
| GAS | denotes GAS LINE | | |
| E | denotes ELECTRICAL LINE | | |
| O/H | denotes OVERHEAD HYDRO | | |
| | denotes RETAINING WALL | | |
| | denotes EDGE OF GRAVEL | | |
| | denotes ANCHOR | | |
| | denotes EDGE OF ASPHALT | | |

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :
1. THE SURVEY WAS COMPLETED ON OCTOBER 01, 2025.

DATE

DAVID J. RAITHBY, OLS
McKECHNIE SURVEYING LTD.

| DRAWN BY | CHECKED BY | FILE NO. |
|---|---|---|
| S.R. | D.J.R. | 25-076 |

CADD: 2025\25-076_TOPO_Fa
FOR: JOY ROBERTS
DATE: 24/03/2026

McKECHNIE SURVEYING LTD. SINCE 1982

85 McINTYRE DRIVE
KITCHENER, ONTARIO
N2R 1H6

TEL : (519) 578-5570
email : plans@kwsurveys.ca

25-076

**Base Map Source:**
March 24, 2026.

The proposed lot will cover 0.63 ha. Cut and fill will be balanced as much as is possible. Tree removal will be minimized. A few coniferous trees that were planted by the owner's family on an existing turf grass portion of the site, will need to be removed.

Short-term, very localized impacts of minor earth moving and building construction would result. The impacts would be minimized through use of standard mitigation measures.

In the long-term, only on-going typical lawn and tree management activities, such as grass cutting and snow ploughing would occur on the lot.

## 5.0 DESCRIPTION OF THE NATURAL ENVIRONMENT

### 5.1 Study Methods

On line existing information sources for atlas square 17TNH49 were researched. These include:

- NHIC – Biodiversity Explorer Species at Risk query
- 2nd Ontario Breeding Bird Atlas
- The Ontario Herpetofauna Atlas
- The Ontario Butterfly Atlas, and
- DFO Aquatic Species at Risk mapping.

The Grand River Fisheries Management Plan was reviewed for information on Cedar Creek, the receiver for drainage from the creek that flows through the study area.

Soil and groundwater conditions on the site and in adjacent areas were reported on by HCS Inc. (2026). This report was reviewed and cited in the present EIS.

### 5.2 Ecological Inventories

#### 5.2.1 Vegetation

Vascular Plant Inventory and ELC Community Identification

Detailed vascular plant surveys were conducted during Spring, Summer and Autumn (see Table 1 for dates). The plant surveys also focused on determining whether any regionally or provincially rare plants were present within the study area.

The findings of the vascular plant inventory conducted within the study area boundaries were used to assist with the determination of ELC polygons within the study area. Vegetation community mapping was completed using the Ecological Land Classification (ELC) methods described in Lee et al. (1998), with vegetation community types being classified using Harold Lee's 2008 update to the ELC vegetation community types and community codes (Lee 2008).

Searches for Butternut trees occurred during both leaf on and leaf off seasons to confirm whether or not this SAR tree species was present on site or adjacent to the study site. The surveys were completed by a certified Butternut Health Assessor.

5.2.2 Wildlife

5.2.2.1 Breeding Birds

Breeding bird surveys conducted in 2025 were completed following the breeding bird survey protocol used for the Ontario Breeding Bird Atlas (OBBA 2001). The “site” study area is shown on Figure 1. At the time of the bird inventory the “site” study area was the existing lawn and landscape tree area along the Reidsville Road frontage of the existing lot. Later, the area to be severed was refined and it does not include the entire lawned area and the proposed severance now extends only slightly into the edge of the bird unit B natural area in a few very small locations. The off site study area was the off site area within approximately 120m of the site boundary. The breeding bird surveys focused on assessing the breeding bird activity within the study area over two survey visits, at least 10 days apart. All visits were conducted during early morning hours between a half hour before sunrise and 09:00 hrs.

The breeding bird surveys involved a Dance Environmental Inc. biologist conducting walking area searches throughout the various vegetation communities within the study area.

The benefits of conducting walking area searches over other methods include: being able to cover a greater amount of area within the study area; increased amount of time spent on site (compared with 5 or 10 minute point counts) and therefore a higher likelihood of observing more bird species; and allows for greater evidence of species presence to be observed such as active nests, used nests, and recently fledged young, which are more likely to be observed by walking through various vegetation communities.

All bird species observed or heard within the study area during each breeding bird site visit were recorded. See Table 1 for inventory dates. Any birds which were observed or heard outside of when the breeding bird surveys were being conducted, were recorded as incidental observations. If any Species at Risk were observed, their locations were to be mapped and any details of the observations recorded.

5.2.2.2 Reptiles and Amphibians

Searches for snakes included searching under logs, boards, metal, mulch, debris and stones.

Site visits were undertaken (October 3, 2025) to identify any potential hibernation sites for snakes which would identify whether there was any significant wildlife habitat present for snakes. The searches for snakes were undertaken on dates with suitable weather conditions including sunny, warm, with low wind conditions.

The off site pond was checked for frog and turtle use during site visits.

Table 1 Lists the dates and purposes of ecological inventory site visits. Site visits occurred between May 24 and October 3, 2025 and April 17, 2026.

**TABLE 1. Dates, Times and Weather, 2025 & 2026 Site Visits.**

| DATE | START (24hrs) | END (24hrs) | WEATHER | STAFF | PURPOSES OF VISIT |
|---|---|---|---|---|---|
| May 24/25 | 16:33 | 16:53 | $20^0$C, 50% cloud Wind: Beauf. 1 | KWD | Site overview, birds |
| June 11/25 | 06:48 | 07:59 | $18^0$C, 90% cloud Wind: Beauf. 1 | KWD | Breeding bird visit #1 |
| June 24/25 | 05:59 | 06:59 | $20^0$C, 20% cloud Wind: Beauf. 0 | KWD | Breeding bird visit #2 |
| July 8/25 | 09:40 | 11:40 | $21^0$C, 80% cloud Wind: Beauf. 1 | KSD | ELC vegetation, birds, flag wetland edge |
| July 28/25 | 09:10 | 12:00 | $24^0$C, 0% cloud Wind: Beauf. 1 | KWD, KSD | Meet GRCA on site, insects, Butternut Health Assessment |
| Sept. 11/25 | 11:19 | 11:52 | $20^0$C, 40% cloud Wind: Beauf. 1 | KWD | General site conditions. |
| Oct. 3/25 | 09:50 | 10:11 | $14^0$C, 5% cloud Wind: Beauf. 0 | KWD | Birds, snakes |
| April 17/26 | 21:20 | 21:35 | $13^0$C, 100% cloud Wind: Beauf. 1 | KWD | Frog chorus inventory |

**LEGEND**

KWD = Ken Dance, M.Sc.
KSD = Kevin Dance, M.E.S.

### 5.3 Findings

#### 5.3.1 Soils and Drainage

Chapman and Putnam (2007) indicate that the property is located within kame moraine, with hummocky mounds of irregular bedded sand and gravel, with till deposits beneath.

Water well records in the area confirm an overburden of 44.5m or more of inter-layered sand, gravel and clay over bedrock.

The site generally slopes to the north/northeast with soil surface at 300.4m ASL at the southern boundary, sloping down to roughly 294.9m ASL near the northern boundary of the proposed severance.

Test pit logs contained in the hydrgeology report (HCS 2026) indicate that the test pit holes were wet at depths of 1.45 to 1.65m below ground surface.

Figure 1 (based on GRCA mapping) indicates that to the northeast of the northeastern severance boundary there is a small surface water creek and a man-made pond which

abuts an existing lane. This pond contains water year round and is thougth to receive input from the shallow groundwater system. The flow direction in these surface water systems is from northwest to southeast. The tributary creek flows into Cedar Creek.

### 5.3.2 Vegetation

**Proposed Severance Lot:**

Rural Property (CVR_4)

The northern portion of the proposed severance lot is part of the existing rural residential property which contains a portion of existing laneway and manicured lawn, with scattered mature trees with some herbaceous species at the base of the trees not being mowed. Figure 3 shows the location and extent of this unit. The western boundary of this community is adjacent to Reidsville Road. There is a large flowerbed on the east side of Reidsville Road and the existing house lane which contains mainly day-lilies. The planted trees in the southern portion of the CVR_4 community, are mostly coniferous species comprising of White Pine (12), and White Spruce (8). At the northwest edge of the CVR_4 community against Reidsville Road, is a hedgerow of primarily deciduous tree species dominated by mature American Basswood and Black Cherry.

Species within the CVR_4 community in addition to those mentioned above include: Glossy Buckthorn, Riverbank Grape, Common Buckthorn, Kentucky Bluegrass (Dominant), Dog-strangling Vine, *Plantago major*, Common Dandelion, Heal-all, Black Medic, Tufted Vetch, White Clover, Wild Madder, Fringed Loosestrife, Canada Thistle, Ox-eye Daisy, and May-apple.

Perennial Cover Crops (OAGM2)

The southern portion of the proposed severance lot is a small hay field (OAGM2) of Grasses and Alfalfa, and has not been cut in recent years. A portion of the southern end of the hay field is within a natural gas pipeline right-of-way, as shown on Figure 3. The western boundary of the OAGM2 field is adjacent to Reidsville Road, and to the south on the adjacent property appears to be unused fenced pasture (OAGM4).

Species that were present within the OAGM2 community included: Orchard Grass, Smooth Brome, Alfalfa, Early Goldenrod, Common Milkweed, Dog-strangling Vine, Common Dandelion, Canada Goldenrod, Common St. Johns-wort, Ribbon Grass, Common Yarrow, Birds-foot Trefoil, White Campion, Riverbank Grape, Philadelphia Fleabane, Wild Carrot, Nodding Thistle, Rough Cinquefoil, Bladder Campion, and Red Raspberry.

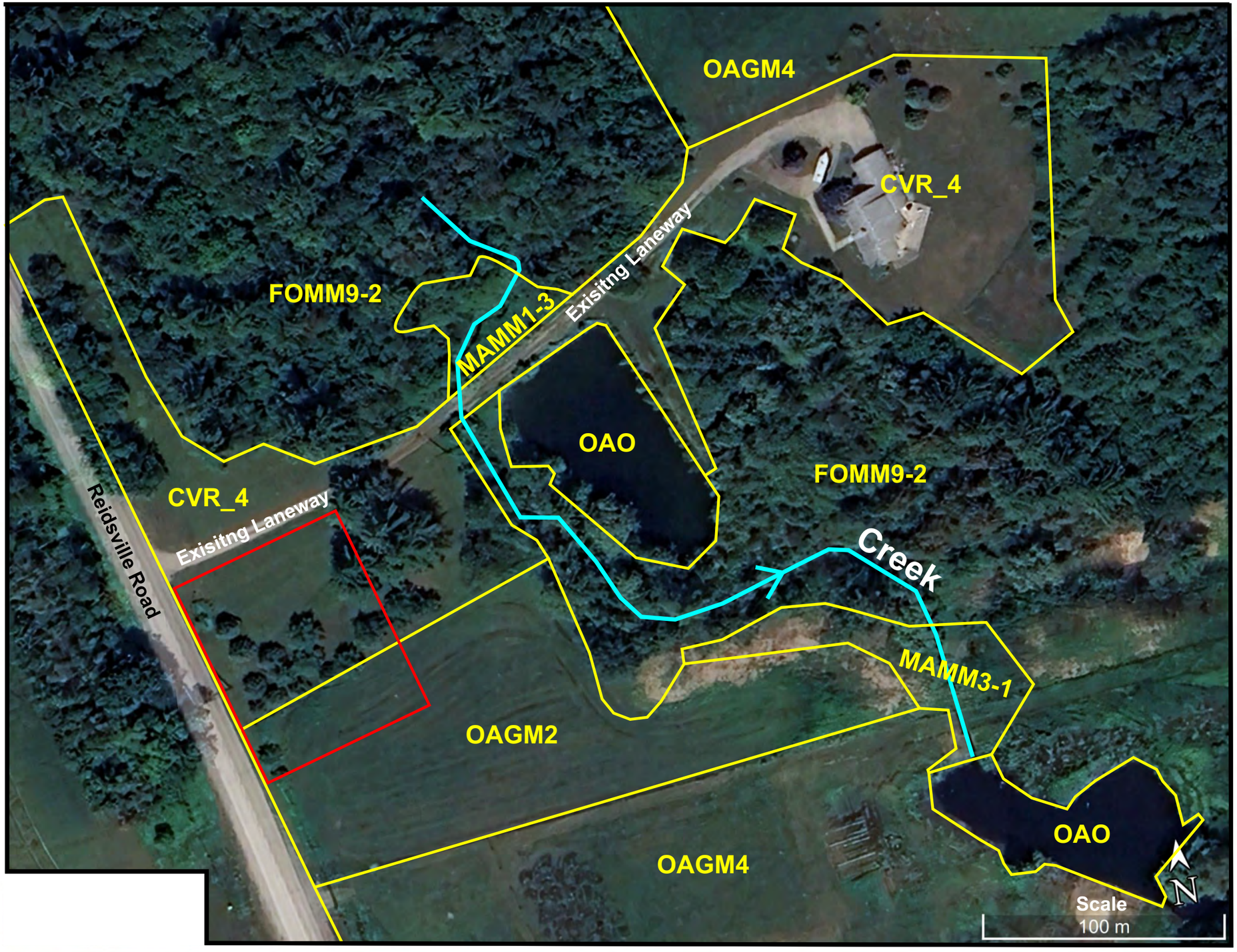
Fresh –Moist White Pine –Hardwood Mixed Forest (FOMM9-2)

A small area of this woodland type is present along the eastern margin of the proposed severance parcel. Since the majority of the community is not within the proposed severance the description of this unity is documented in detail within the text section which follows.

**Outside of the Proposed Severance Lot:**

Mixed Mineral Meadow Marsh (MAMM3-1)

Located to the east of the proposed severance lot is an area of wetland which is an open habitat with limited tree and shrub cover, dominated by herbaceous vegetation. The open habitat adjacent to forested wetland is suggestive of a historical legacy of disturbance,




## Figure 3. ELC Vegetation Communities, Roberts EIS

**LEGEND**

| Code | Community Type |
|---|---|
| FOMM9-2 | Fresh-Moist White Pine -Hardwood Mixed Forest |
| MAMM1-3 | Reed Canary Grass Mineral Meadow Marsh |
| MAMM3-1 | Mixed Mineral Meadow Marsh |
| OAGM2 | Perrenial Cover Crops |
| OAGM4 | Open Pasture |
| CVR_4 | Rural Property |
| OAO | Open Aquatic |

= Approximate Location of Creek

= Approximate Location of Development Envelope

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likely from farming. The high water table is the likely reason that this area is no longer farmed, so it returned to a wet meadow on the mineral soils that are present. The western edge of the MAMM3-1 community is adjacent to the OAMG2 hay field and mixed swamp to the north, see Figure 3.

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Species identified within this community included: Fox sedge, *Schoenoplectus tabernaemontani, Common Beaked Sedge (Carex utr*iculata), Fringed Loosestrife, Slender Willow, Shinning Willow, *Salix purpurea*, *Salix eriocephola*, Black Bulrush, Spotted Joe-pye Weed, Sensitive Fern, Narrow-leaved Cattail, Field Bindweed, Skunk Cabbage, Birds-foot Trefoil, Trembling Aspen, Spotted Touch-me-not, Canada Anemone, Tall Meadow Rue, and Rough Goldenrod.

*Fresh-Moist White Pine –Hardwood Mixed Forest (FOMM9-2)*

The majority of treed habitat to the north and east of the proposed severance lot is Fresh-moist White Pine –Hardwood Mixed Forest (FOMM9-2). A creek flows through portions of the FOMM9-2 community with water flowing generally in an northwest to southeasterly direction. The canopy is comprised of large mature White Pine, with a mix of less dominant canopy species in the community including Green Ash, Black Cherry, and Tamarack. Some Green Ash dieback was noted with evidence of Emerald Ash Borer being the cause of declines in numbers of healthy trees of this species. Understory was made up of Eastern White Cedar, younger Green Ash, Silver Maple, and Balsam Poplar. A single Butternut was found within the community on the north side of the existing laneway to the existing house, see Figure 2. A small area at the southwest corner of this community has extended south into the OAGM2 field, where Trembling Aspen saplings have established.

Groundcover comprised of a variety of species, and with topography varying within the forest, species present vary between wet tolerant species and those tolerant of drier conditions. Species identified include: Poison Ivy, White Trillium, Woodbine, Alternate-leaved Dogwood, Thimbleweed, Skunk Cabbage, Tall Meadow Rue, Field Horsetail, Crested Fern, Jack-in-the Pulpit, Coltsfoot, Early Goldenrod, Enchanter's Nightshade, Common Buckthorn, Bitter Nightshade, Canada Mayflower, Riverbank Grape, Helleborine, Common Elderberry, and *Fragaria virginiana*.

Mixed Mineral Meadow Marsh (MAMM3-1)

An area of largely open wet meadow was present containing limited mature trees, and primarily herbaceous species which have established in the historically farmed areas, but due to a high water table the area supports wetland vegetation. The Mixed Mineral Meadow Marsh at the southern end of the community contains the outflow of an OAO pond located off site to the south. This community contains a variety of sedges, grass and broad-leaved species. Sedges dominated this community with Fox Sedge and *Carex utriculata* being abundant throughout it. Trees and shrubs were located primarily along the other edges of the community and included: Trembling Aspen, Balsam Poplar, Staghorn Sumac, *Salix eriocephala*, Slender Willow, Shining Willow, and Basket Willow. Groundcover species within the community included: Softstem Bulrush, Phragmites, Black Bulrush, Fringed Loosestrife, Field Bindweed, Skunk Cabbage, Sensitive Fern, Narrow-leaved Cattail, Spotted Touch-me-not, Canada Anenome, Tall Meadow Rue, Rough Goldenrod, and Riverbank Grape.

Reed Canary Grass Mineral Meadow Marsh (MAMM1-3)
Located on the northwest side of the lane into the existing house (CVR_4) is an open wetland habitat where the creek flows through before re-entering the FOMM9-2 forest. This community is identified as Reed Canary Grass Mineral Meadow Marsh (MAMM1-3), as Reed Canary Grass dominates this community. Other species identified within this community included Spotted Joe-pye Weed, Spotted Touch-me-not, Ostrich Fern, Purple-stemmed Aster, Broad-leaved Cattail, Red-osier Dogwood, Gray Dogwood, Water Hemlock, Boneset, Tall Meadow Rue, *Salix eriocephala*, and Eastern White Cedar. Trees and shrubs were present primarily along the outer edges of the community.

Open Pasture (OAGM4)
There are two areas of Open Pasture habitat (OAGM4) which are located on adjacent properties. One OAGM4 field is a cattle pasture located to the north of the existing house on the proponent's property. The other is a pasture located to the south of the OAGM2 hayfield. Both pasture fields are dominated by Kentucky Bluegrass and a variety of common agricultural weeds, and face regular disturbance by livestock or machinery.

Open Aquatic (OAO)
A man-made pond, dug within the shallow water table to the east of the proposed severance lot, is largely surrounded by the FOMM9-2 forest community. This habitat has been identified as an open aquatic (OAO) community.

The OAO pond is located on the east side of the creek that flows from northwest to southeast. A small amount of emergent vegetation is present along a few areas of the pond edges and trees and shrubs are present along much of the top of bank of the pond.

Vegetation species noted within this community included Broad-leaved Cattail, Riverbank Grape, Green Ash, Common Buckthorn, Eastern White Cedar, Soft-stem Bulrush, Sensitive Fern, Black-eyed Susan, Common Arrowhead, Watershield, Heal-all, *Nitella*, Canada Anemone, and Rough Goldenrod.

### 5.3.3 Birds

Table 2 contains the bird inventory results for the study area. Figure 1 shows the boundaries of the 4 study units.

The Ontario Breeding Bird Atlas (OBBA) data from the most recent two atlases were reviewed for known Species at Risk (SAR) for atlas square 17TNH49. Provincially Endangered or Threatened species with historical records in the study area include: Chimney Swift, Least Bittern, Acadian Flycatcher, Bank Swallow, Bobolink, Eastern Meadowlark and Cerulean Warbler. Also in the Atlas square were two Federally listed species, Wood Thrush which is Threatened and Grasshopper Sparrow which is listed as Special Concern. All of these bird species are protected under the Migratory Bird Convention Act (MBCA 1994). None of these SAR birds were found during the site inventories in 2025.

The potential development envelope and adjacent turf grass and planted landscape trees (bird inventory Unit A) supported the variety of breeding bird species expected from a rural

**Table 2. Bird Inventory Results, Roberts Severance Study Area.**
**DE-493**

| Scientific Name | Common Name | Dance Environmental Biologist Observations - 2025 | | | | SRANK | COSEWIC | SARO |
|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | | | |
| | **Ducks, Geese & Swans** | | | | | | | |
| *Aix sponsa* | Wood Duck | | | P | | S5 | | |
| *Anas platyrhynchos* | Mallard | | | S,B(O) | | S5 | | |
| *Bonasa umbellus* | Ruffed Grouse | | B | | | S4B, S4N | | |
| | **PLOVERS** | | | | | | | |
| *Charadrius vociferus* | Killdeer | | | B | B | S5B, S5N | | |
| | **PIGEONS & DOVES** | | | | | | | |
| *Zenaida macroura* | Mourning Dove | B | B | B | | S5 | | |
| | **CUCKOOS & ANIS** | | | | | | | |
| *Coccyzus americanus* | Yellow-billed Cuckoo | | S | | | S4B | | |
| | **WOODPECKERS** | | | | | | | |
| *Melanerpes carolinus* | Red-bellied Woodpecker | | B | | | S4 | | |
| *Picoides pubescens* | Downy Woodpecker | | | B | | S5 | | |
| *Colaptes auratus* | Northern Flicker | | B | B | B | S4B | | |
| | **TYRANT FLYCATCHERS** | | | | | | | |
| *Empidonax traillii* | Willow Flycatcher | | | B | | S5B | | |
| *Myiarchus crinitus* | Great Crested Flycatcher | | | S | | S4B | | |
| *Tyrannus tyrannus* | Eastern Kingbird | | B | S,B | B | S4B | | |
| | **VIREOS** | | | | | | | |
| *Vireo gilvis* | Warbling Vireo | | B | B | | S5B | | |
| | **CROWS & JAYS** | | | | | | | |
| *Cyanocitta cristata* | Blue Jay | | P | B | B | S5 | | |
| *Corvus brachyrhynchos* | American Crow | S | B,P | | B | S5B | | |
| | **SWALLOWS** | | | | | | | |
| *Tachycineta bicolor* | Tree Swallow | B | | B | B | S4B | | |
| | **CHICKADEES & TITMICE** | | | | | | | |
| *Poecile atricapillus* | Black-capped Chickadee | B | B,P | | | S5 | | |
| | **NUTHATCHES** | | | | | | | |
| *Sitta canadensis* | Red-breasted Nuthatch | | B | | | S5 | | |
| | **WRENS** | | | | | | | |
| *Troglodytes aedon* | House Wren | | B | B | | S5B | | |
| | **KINGLETS** | | | | | | | |
| *Regulus calendula* | Ruby-crowned Kinglet | | P | | | S4B | | |
| | **THRUSHES** | | | | | | | |
| *Sialia sialis* | Eastern Bluebird | | | S | | S5B | NAR | NAR |
| *Catharus fuscescens* | Veery | | B | | | S4B | | |
| *Turdus migratorius* | American Robin | S,B | P | B | B | S5B | | |
| | **WAXWINGS** | | | | | | | |
| *Bombycilla cedrorum* | Cedar Waxwing | B | B | B | B | S5B | | |
| | **WOOD-WARBLERS** | | | | | | | |
| *Dendroica petechia* | Yellow Warbler | | | S,B | | S5B | | |
| *Dendroica pinus* | Pine Warbler | | B | | | S5B | | |
| *Seiurus noveboracensis* | Northern Waterthrush | | B | | | S5B | | |
| | **SPARROWS** | | | | | | | |
| *Spizella passerina* | Chipping Sparrow | S | | B | | S5B | | |
| *Spizella pusilla* | Field Sparrow | | | | B | S4B | | |
| *Melospiza melodia* | Song Sparrow | S,B | B | B | | S5B | | |
| *Zonotrichia albicollis* | White-throated Sparrow | | P | | | S5B | | |
| | **CARDINALS & ALLIES** | | | | | | | |
| *Cardinalis cardinalis* | Northern Cardinal | | B | B | B | S5 | | |
| *Passerina cyanea* | Indigo Bunting | | | | B | S4B | | |
| | **BLACKBIRDS** | | | | | | | |
| *Agelaius phoeniceus* | Red-winged Blackbird | B | | B | | S4 | | |
| *Quiscalus quiscula* | Common Grackle | B | B | B | | S5B | | |
| *Molothrus ater* | Brown-headed Cowbird | B | | B | B | S4B | | |
| *Icterus galbula* | Baltimore Oriole | | B | S | B | S4B | | |
| | **FINCHES** | | | | | | | |
| *Carduelis tristis* | American Goldfinch | | B | B | | S5B | | |

**LEGEND**

S= Spring ( May 24, 2025)
B= Breeding 2025 (June 11 and 24)
P = Post-breeding 2025 (July 28, Sept.11, and Oct. 3)
(o)= Observed Overhead

**Wildlife Polygons:**

A = Site turf grass/potential severance area
B = Offsite; natural area (ESL)
C = Offsite; owned by others to the south
D = Offsite; west of Reidsville Road

**S-Rank (Provincial):**

SNA = A status rank is not applicable because the species is not a suitable target for conservation activities.
S4 (Apparently Secure) = Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 (Secure) = Common, widespread, and abundant in the nation or state/province.
B = "B" after S-Rank code indicates the species rank is based on whether it is present breeding.

**SARO:**

NAR = Species is currently not at risk of extripation or extinction.

Note: See Figure 1 for bird inventory polygon Locations.

residential lot. Examples of such species include: Mourning Dove, Black-capped Chickadee, American Robin and Song Sparrow.

The Ecologically Significant Landscape (ESL) has both woodland and wetland habitats within it (bird inventory Unit B) and consequently supports a greater variety of breeding bird species. Two of the species documented, Ruffed Grouse and Pine Warbler, are considered to be significant breeding bird species within the Region of Waterloo (RMOW 1999 b).

It is worth noting that these birds were present 95 to 110m north of the existing laneway into the proposed retained parcel. A distance of approximately 115 to 125m or more separates the sighting stations from the closest edge of the proposed development envelope.

Study unit C is located south of the Roberts lands and contains meadow habitat over the pipeline right-of-way and some ESL landscape with woodland and wetland habitat present. A pond is also present in Unit C. A considerable variety of breeding bird species are present because of the habitat diversity.

Study Unit D is located west of Reidsville Road and contains pipeline right-of-way, small wooded patches, and agricultural fields. Bird species found here were typical of rural farmland habitats.

#### 5.3.4 Other Wildlife

The few mammals observed included Eastern Chipmunk, Red Squirrel and Woodland Jumping Mouse.

Review of the Ontario Herpetofauna Atlas identified records of 30 species within atlas square 17NH49. Provincially Endangered or Threatened species with historical records in the study area included: Blanding's Turtle (THR) and Queensnake (END).

Amphibians present in the study area include: Spring Peeper, American Toad, Green Frog and Northern Leopard Frog. No snakes or turtles were observed in the study area. None of the SAR herptiles documented by the atlas were present in the EIS study area.

Insects observed in the study area included damselfly and dragonfly species: Ebony Jewelwing, Widow Skimmer, Twelve-spotted Skimmer, Common Pondhawk, Amberwing, and Black Saddlebags. Butterflies present included: Common Wood Nymph, Monarch and Columbine Duskywing. These are all common species.

The Ontario Butterfly Atlas was reviewed for any historical presence of any Species at Risk within atlas square 17NH49. A total of 71 butterfly species have been recorded within the Atlas square between 1962 and 2025. None of the species recorded are considered Species at Risk in Ontario.

#### 5.3.5 Provincially Significant Wetland (PSW)

Figure 1 shows the GRCA mapping of wetland in the subject area. Portions of the Roseville Swamp Creek PSW are located within the subject lands. The wetland boundary

was flagged by K.S. Dance of Dance Environmental Inc. on July 8, 2025. During a site visit on July 28, 2025, Robert Messier of the GRCA confirmed his agreement with the wetland flagging. Shortly after this date, McKechnie Surveying surveyed in and plotted the wetland flag locations, which are shown on Figure 2. The yellow-coloured line on Figure 2 represents the location of the wetland habitat boundary in the area of the proposed severance.

Dominant plant species in the area are described in Section 5.3.2 of the present EIS.

5.3.6 Fish Habitat

The pond shown on Figure 1, located to the northeast of the proposed severance was observed to contain sunfish. The small creek which flows through the wooded area located to the east of the proposed severance is expected to contain small fish species such as dace, minnows and chub. This tributary creek flows into Cedar Creek. Cedar Creek is known to contain cold water habitat that supports Brook and Brown Trout populations (OMNR and GRCA 1998).

A review of the DFO Aquatic Species at Risk Mapping was completed with the review area being a circle (1km in radius) centered on the proposed severance area. The Aquatic Species at Risk mapping confirmed that there is no known Critical Habitat of aquatic Species at Risk and no species records for any aquatic Species at Risk within 1km of the proposed severance lands.

5.3.7 Other Constraint Lines

5.3.7.1 Ecologically Significant Landscape (ESL)

The location of this line was determined and flagged by Dance Environmental Inc. in July 2025 based on field location of the mature tree dripline. The precise location of The ESL flagging was surveyed on site and plotted by McKechnie Surveying Ltd. The ESL boundary is shown in pale blue on Figure 2.

5.3.6.2 Regulatory Flood Elevation (RFE)

The GRCA has determined that the RFE falls at 294.81m elevation on this site. McKechnie Surveying Ltd. determined the location of the RFE and plotted it on their Topographic Sketch. The RFE is the red line on Figure 2.

5.3.6.3 NHIC Database

The NHIC Make-a-Map database was reviewed for historical information and results included records of only two turtle species, Snapping Turtle and Midland Painted Turtle. Neither of these species have status under the new Species Conservation Act (SCA 2025), but both are listed Federally as Species of Special Concern. Mapping identified the presence of Woodland and PSW within the study area, but no ANSIs are present.

## 6.0 ENVIRONMENTAL IMPACT ASSESSMENT

### 6.1 Mitigation

In order to avoid and minimize the potential for impact on the significant natural environment features and functions a variety of proven techniques were applied in the

present instance. These include: use of setbacks between the features and the proposed development envelope, timing of vegetation clearing, and use of silt control fence.

Each of these approaches is discussed, as follows.

**Setbacks**

Figure 4 shows the outline of the proposed development. Figure 4 also demonstrates that the required setbacks from the three natural environment constraint lines have been provided. The outer boundary of the 30m wide setback from the wetland limit is shown in green. The outer boundary of the 10m wide setback from the ESL limit is shown in brown. The outer boundary of the 15m wide setback from the RFE is shown in orange.

It is worth noting that we did not find any site conditions that would require the setbacks to be greater than the typical, standard setbacks applied above.

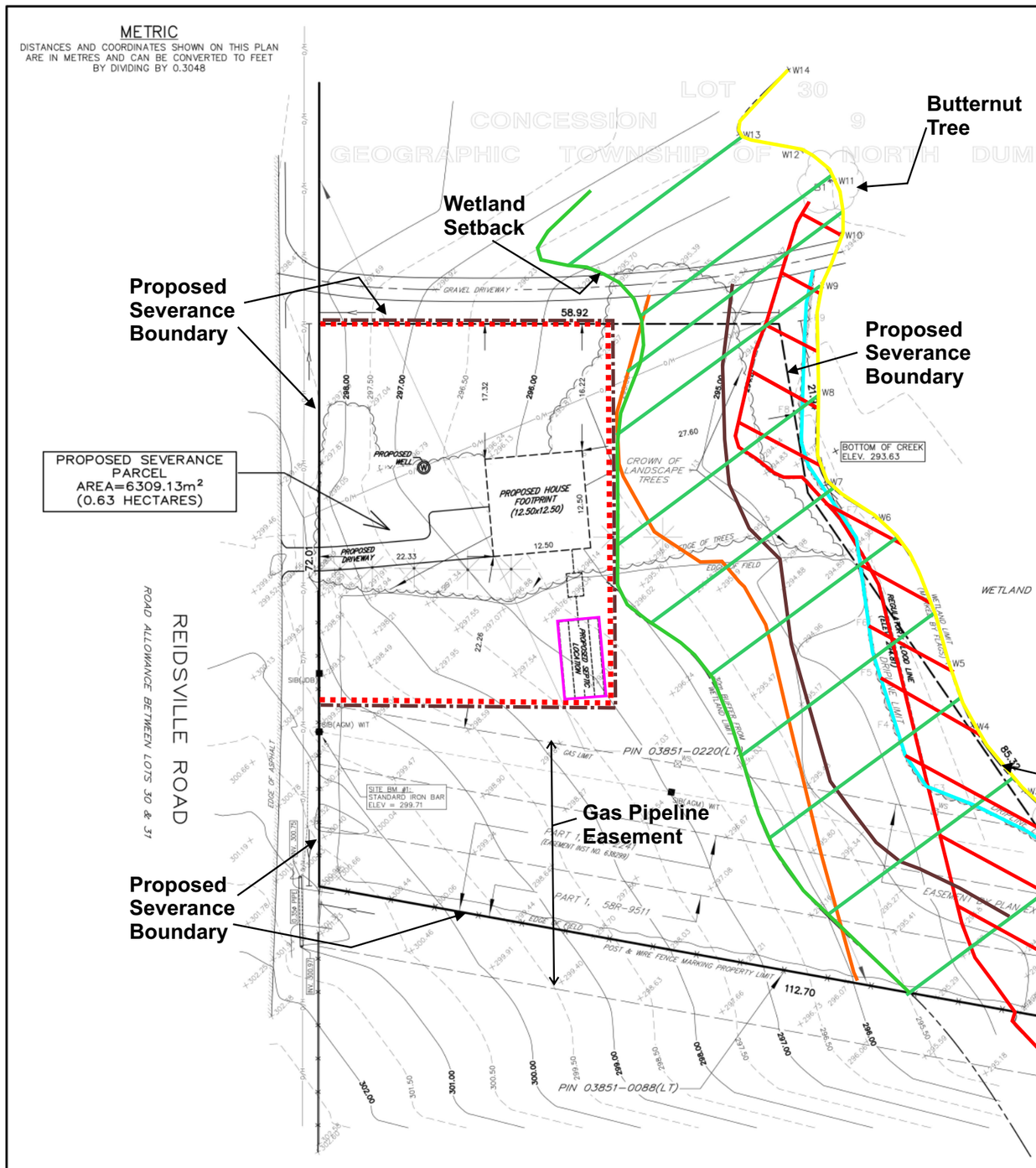
Figure 4 illustrates that the proposed development envelope is located upslope of all of the combined setbacks. Figure 4 also shows that the proposed severance limits do not significantly extend into the upslope limits of the natural environment constraint areas. In fact, no wetland habitat is located within the proposed severance.

**Timing of Vegetation Clearing**

As can be seen in Photo 1, the trees that are present in the development envelope are planted conifers.

**PHOTO 1. Conditions in Development Envelope Area.**

**Date: October 1, 2025.**

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S

TOPOGRAPHIC SKETCH
SHOWING EXISTING FEATURES OF
1891 REIDSVILLE ROAD
IN THE
TOWNSHIP OF NORTH DUMFRIES
REGIONAL MUNICIPALITY OF WATERLOO

SCALE: 1 : 400 METRIC

10 0 10 20 30 metres

McKECHNIE SURVEYING LTD.
ONTARIO LAND SURVEYORS



## Figure 4. Development Envelope, Setbacks, and Natural Environment Constraint Lines.

**LEGEND**

= Surveyed Wetland Limit
= Flagged & Surveyed Mature Tree Dripline: ESL Edge
= Regulatory Flood Elevation (294.81m)

Setbacks

= Wetland Setback: 30m
= ESL Tree Dripline: 10m
= Regulatory Flood Elevation: 15m

= Septic Field Location

= Approximate Development Envelope

= Silt Control Fence

=Outer Limits of all Constraints
= Outer Limit of Setbacks

DANCE ENVIRONMENTAL INC.

DE-493
April 29, 2026.

**Base Map Source:**
March 24, 2026.

LEGEND

| | | | |
|---|---|---|---|
| □ | denotes SET | LS | denotes LIGHT STANDARD |
| ■ | denotes FOUND | UP | denotes UTILITY POLE |
| IB | denotes IRON BAR | R/W | denotes RETAINING WALL |
| SIB | denotes STANDARD IRON BAR | S/W | denotes SIDEWALK |
| SSIB | denotes SHORT STANDARD IRON BAR | WV | denotes WATER VALVE |
| PB | denotes CONCRETE PIN | OBV. | denotes OBVERT ELEVATION |
| -x-x-x- | denotes FENCE | INV. | denotes INVERT ELEVATION |
| - - - - | denotes SWALE | WL | denotes WATER LEVEL |
| - - - - | denotes EDGE OF FIELD | GV | denotes GAS VALVE |
| ~~~~ | denotes EDGE OF TREES | CB | denotes CATCH BASIN |
| ~~~~ | denotes EDGE OF WET AREA | MH | denotes MANHOLE |
| | denotes TOP OF BANK | HYD | denotes FIRE HYDRANT |
| | denotes BOTTOM OF BANK | TRANS | denotes TRANSFORMER |
| | denotes CENTERLINE OF DITCH | ASPH | denotes ASPHALT |
| -x-x-x- | denotes RAILINGS | W | denotes WETLAND LIMIT |
| SAN | denotes SANITARY LINE | F | denotes DRIPLINE LIMIT |
| STM | denotes STORMWATER LINE | | |
| W | denotes WATER LINE | | |
| GAS | denotes GAS LINE | | |
| E | denotes ELECTRICAL LINE | | |
| O/H | denotes OVERHEAD HYDRO | | |
| | denotes RETAINING WALL | | |
| | denotes EDGE OF GRAVEL | | |
| | denotes ANCHOR | | |
| | denotes EDGE OF ASPHALT | | |

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

1. THE SURVEY WAS COMPLETED ON OCTOBER 01, 2025.

DATE

DAVID J. RAITHBY, OLS
McKECHNIE SURVEYING LTD.

| DRAWN BY | CHECKED BY | FILE NO. |
|---|---|---|
| S.R. | D.J.R. | 25-076 |

SINCE 1982
McKECHNIE SURVEYING LTD.

CADD: 2025\25-076_TOPO_Fa
FOR: JOY ROBERTS
DATE: 24/03/2026

85 McINTYRE DRIVE
KITCHENER, ONTARIO
N2R 1H6

TEL : (519) 578-5570
email : plans@kwsurveys.ca

25-076

In order to avoid impact to nesting birds, eggs, and adults and to avoid interference with bat habitat any vegetation clearing that is necessary should be completed between September 30 and April 1.

**Use of Silt Control Fence**

As shown on Figure 4, prior to any grading or filling silt fence would be installed around the southern, eastern and northern margins of the development envelope. Since the existing Reidsville Road road bed is raised above the proposed development area silt fence would not be required along this edge of the lot.

An opening in the silt fence may be required along the northern margin for construction access. The details regarding the northern silt fence would be determined at the time of development.

## 6.2 Features and Functions Requiring Assessment

The natural environment features and functions which require assessment include the following:

- Surface water quantity and quality, including the Regulatory Flood Elevation and fish habitat;
- Vegetation communities, extent, including wetland;
- Wildlife, including birds; and
- The Ecologically Significant Landscape.

### 6.2.1 Surface Water Quantity and Quality

Runoff from any hard surfaces eg. roofs and driveways will be directed to grassed areas to infiltrate.

No significant changes in water quality conditions are expected. HCS Inc. (2026) has completed a water supply potential assessment which concluded that there is sufficient groundwater supply from the overburden aquifer deposits.

This being the case, there should be no impact from potable water taking on the natural environment features, which are dependent on the shallow water table which is 40m or more above the overburden aquifer.

Silt control fencing will be in place before any grading occurs to prevent any soil from washing from the development envelope toward the natural features. Once construction is complete the disturbed soils will be seeded or sodded. When vegetative cover is well established the silt fence will be removed.

The nitrate impact assessment completed by HCS Inc. (2026) has concluded that no material impacts to surface water features would be expected from the lot severance and associated single-family residential dwelling. The Cedar Creek tributary, wetland and ESL are expected to experience no negative water quality impacts from the proposed dwelling.

6.2.2 Regulatory Flood Elevation (RFE)

Figure 4 illustrates that no earthmoving/development is proposed within the 15m setback from the RFE. This will mean that the proposed development will not negatively impact the hydrology of the floodplain located to the east.

6.2.3 Fish Habitat

No negative changes in water quantity or quality are expected to be associated with the undertaking. No trees will be removed within 30m of the creek or pond so no fish habitat changes are expected.

6.2.4 Vegetation Communities Including Wetlands

As is evident from Figure 3 and Photo 1, the development envelope consists of existing lawn, planted landscape conifers and some hay field.

The key vegetated features: ESL and PSW, are located more than 40m away from the development envelope. The development will not result in removal of trees in the natural feature polygons. It is also worth noting that the proposed severance boundary does not intrude into the wetland habitat, see Figure 4.

A single Butternut tree was found in the woodland located to the north of the existing laneway, see Figure 2. This butternut is 55m or more away from the closest corner of the development envelope. The raised grade of the existing laneway would prevent any potential development impacts from affecting the Butternut tree.

The use of silt control fence will protect vegetation in the ESL and PSW, as well as the Butternut tree. This fence will contain any sediment and it will prevent any machinery from damaging any significant vegetation.

The removal of a few planted conifers to accommodate the development footprint is not considered an impact to vegetation in the study area.

6.2.5 Wildlife, Including Birds

No significant wildlife habitat or corridors will be affected by the proposed development on the severed parcel. As noted previously, there will be very little tree loss and the significant habitat polygons (ESL and Wetland) will be protected by setbacks, and silt fence, which will confine sediment and machinery movement.

No Endangered or Threatened wildlife species were found during the inventory visits to the study area. Two regionally rare breeding birds (Ruffed Grouse and Pine Warbler) were observed. Both were in locations more than 100m north of the proposed development envelope. These locations were on lands to the north of the retained parcel, on lands owned by others. During the inventory visits there was no evidence that the regionally rare birds were using the proposed development envelope as breeding habitat. The proposed development is not expected to create any negative impacts on the two regionally rare bird species.

No registration under the Species Conservation Act (SCA 2026) is required.

6.2.6 Ecologically Significant Landscape and Core Environmental Features

The outer limit of these features in the vicinity of the proposed development evelope is considered to be the flagged, surveyed and plotted mature tree dripline that is shown as a pale blue line on Figure 2. The wetland habitat is downslope of this dripline.

As shown on Figure 4, the ESL dripline and the 10m setback from it are separated from the development envelope by an additional 20m.

No clearing of trees or other vegetation within the mature tree dripline will occur and the silt fence around the development envelope will confine sediment and machinery, thus preventing impact on the ESL.

During inventory, the few landscape conifer trees that would be cleared were not found to play a conneciton role to the ESL.

If the recommended mitigation measures are implemented successfully it is expected that the proposed undertaking will have no negative impact on the ESL/Core Environmental Feature.

## 7.0 RECOMMENDATIONS

Certain mitigation measures will be implemented to avoid and minimize potential impacts. Since the expected impacts on natural environmental features and funcitons are very limited in geographic area and duration, no compensation measures are needed, nor recommended.

The following recommendations should be implemented during the construction phase.

1. Vegetation clearing should occur between September 30 and April 1.
2. Prior to any grading or filling in the development envelope, silt fence should be installed as shown on Figure 4.
3. Silt fence should be inspected daily and if any maintenance or repair is needed, this should be completed as soon as is practical.
4. Soils in the construction area should be revegetated as soon as is practical and once soils are stabilized by vegetation the silt fence should be removed.

## 8.0 RESIDUAL IMPACTS AND CONCLUSIONS ON DEVELOPMENT POTENTIAL

The only residual natural environment impact will be the removal of a few landscape conifer trees and replacement with a house and tile field. New landscape plantings around the house would introduce new flowers,shrubs, and trees which may provided some replacement insect and bird habitat.

The duration of site disturbance is expected to be short (12 months or less) during house construction.

Since standard, required setbacks for all of the significant natural environment features have been provided outside of the proposed development envelope, it is our opinion that

the severance and construction of a single family dwelling can be completed in compliance with pertinent policies of North Dumfries Township, Waterloo Region, the PPS, GRCA, Fisheries Act, the Species Conservation Act (SCA), and Migratory Birds Convention Act (MBCA).

## 9.0 MONITORING

Silt fence monitoring is recommended. See EIS Section 7.0.
No other monitoring is necessary or recommended.

## 10.0 PROTECTIVE MEASURES

See EIS Section 7.0 for mitigation/protective measures recommendedations.

Compliance with these recommendaitons could be implemented during inspections by the Township's Building Inspector.

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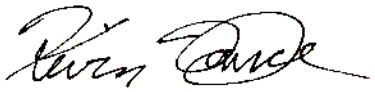
**Report prepared by:**
Dance Environmental Inc.

K.W. Dance, M.Sc.
President



K.S. Dance, M.E.S.
Senior Terrestrial Ecologist
And Partner

# APPENDIX 1

Revised – Final
TOR
for
EIS
Dated July 10, 2025.

DANCE ENVIRONMENTAL INC.

DE-493
July 10, 2025.

**Revised – Final**

# Terms of Reference for EIS for Severance at 1891 Reidsville Road Township of North Dumfries, Region of Waterloo.

Address: #807566 Oxford Rd. 29, R.R. #1 Drumbo, ON N0J 1G0
TEL (519) 463-6156 Email: dancenvironment@rogers.com

## 1.0 INTRODUCTION

Joy Roberts, the Owner of 1891 Reidsville Road, wishes to sever a portion of the property to create a new single family residential lot. Since natural heritage features are located nearby, the Township of North Dumfries and GRCA have requested that an EIS be prepared, as required by the Official Plan. The location is shown on Figure 1.

## 2.0 BACKGROUND

A scoped EIS has been requested. The EIS is to determine whether the proposed undertaking can be completed without negative impact on the Environmentally Sensitive Landscape (Dumfries Carolinian), Core Environmental Feature and Hazard Lands features, and whether the proposal conforms to natural heritage policies in the Regional Official Plan and Provincial Planning Statement (2024). Hydrologic and ecological factors are to be considered to ensure no negative impact on natural features or ecological functions.

## 3.0 RATIONALE

The rationale for the specifics of the undertaking, relative to the natural environment will be provided in the EIS.

## 4.0 DESCRIPTION OF THE PROPOSED UNDERTAKING

The EIS will summarize and include the following general information on the proposed undertaking.

- Location map;
- Purpose of the development proposal;
- Conceptual plan showing locations of development footprints, setback boundaries, and driveway location. The location of the 294.81m Regulatory Flood Elevation will be shown on the plan.
- The development limits, square footage of the dwelling, and areas of grading: including estimated amounts of cut and fill will be shown on the conceptual plan.
- Activities associated with the proposed undertaking that may have direct or indirect, short term or ongoing environmental impacts during construction and post-construction.
- General areas of any proposed grading and drainage or vegetation alterations.

## 5.0 DESCRIPTION OF NATURAL ENVIRONMENT

**Study Methods**

Existing information sources will be obtained on line, and these will be reviewed in the EIS. Data sources which will be used include:

- NHIC –Biodiversity Explorer Species at Risk query
- 2nd Ontario Breeding Bird Atlas;

- The Ontario Herpetofauna Atlas;
- DFO Aquatic Species at Risk mapping; and
- Also, Natural Heritage Reference Manual Significant Wildlife Habitat and
- Guidelines for EcoRegion 7E.

The following ecological inventories/surveys will be completed, including:

- Breeding bird surveys (2);
- ELC vegetation community mapping;
- The wetland boundary will be staked/flagged and it will be checked by GRCA staff before the wetland boundary is surveyed in by an OLS. The outer boundary of the woodland, which would define the limit of the ESL, will also be flagged and surveyed in;
- Search for Butternuts and other Species at Risk; and
- Recording of general wildlife observations.

Surveys will occur during May, June and July 2025.

The existing conditions within the study area will be described based on the background information collected on the site and the findings of the biological inventory site visits. Descriptions of the proposed development concept in relation to existing soils, vegetation, fauna, site topography, drainage, habitat areas and other applicable matters will be provided.

The study area will include the site (proposed severance lands) and lands visible from the site margins, out to 120m. For lands not owned by the applicant, off site observations will involve air photo interpretation and observations from the site margins using binoculars.

The GRCA mapping of the Regulation Limit, floodplain and wetland locations and extents will be included in the EIS. The impact analysis will interpret the potential of the proposed undertaking to impact the functions within the Regulated Area, as well as the natural features.

## 6.0 ENVIRONMENTAL IMPACT ANALYSIS

A description and evaluation of significance of all natural heritage features and areas and their ecological and hydrological functions that might directly or indirectly be negatively impacted as a result of the proposed undertaking will be prepared. This section will also include a description of the negative impacts that might reasonably be caused to any natural heritage features and its associated ecological and hydrologic functions by the development proposal.

## 7.0 MITIGATION/COMPENSATION MEASURES

The EIS will describe the necessary mitigation actions to prevent, change, mitigate or remedy any expected negative impacts upon the woodlands, wetlands, and water bodies, and any significant wildlife habitat or communities which are identified through the collection of the baseline data. The location and width of setbacks and buffers will be mapped and described. If habitat of threatened and endangered species is present on and/or adjacent to the site, the EIS will outline any preservation proposed or authorization required under the ESA.

Where relevant, a description of methods to protect the ecological and hydrological functions of the areas affected will be provided. Buffers and setbacks from the woodland/wetland edges will be addressed. The EIS will outline how recommendations will be implemented through the planning process (eg. conditions of approval).

## 8.0 RESIDUAL IMPACTS AND CONCLUSIONS ON DEVELOPMENT POTENTIAL

The EIS will summarize the nature and magnitude of impacts after mitigation actions are taken and will provide conclusions regarding conformity with Waterloo Region, PPS, and GRCA policies and the advisability of allowing the undertaking.

## 9.0 MONITORING

Any monitoring recommended during construction and after, including any specific compliance and performance monitoring will be described in the EIS.

## 10.0 PROTECTIVE MEASURES

The EIS will describe any protective measures, including mitigation and remediation, which are recommended, including how they will be implemented through the planning process.

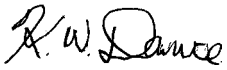
## 11.0 BIBLIOGRAPHY

The EIS will include a bibliography which will detail the sources of information which were utilized to prepare the EIS.

## 12.0 STUDY TEAM

The C.V.s of EIS authors will be provided in the EIS report.

**Prepared by:**



Ken Dance, M.Sc.
President, Dance Environmental Inc.

# APPENDIX 2

CVs of EIS Authors

DANCE ENVIRONMENTAL INC.

# KEN DANCE
# CONSULTING BIOLOGIST

## EDUCATION

- M.Sc., Biology, 1977; University of Waterloo
- B.Sc., Honours Biology, 1975; University of Waterloo

## COURSES

- Butternut Health Assessment Workshop & Update – OMNR, 2010 & 2013
- Preparation of E.I.S. Reports – OMNR, 1995
- Bioassessments & Biological Criteria for Warmwater Streams – AFS 1993
- Ontario Wetland Evaluation System, 3rd Edition – OMNR, 1993
- Creating and Using Wetlands – University of Wisconsin, 1992
- Fluvial Geomorphology – University of Guelph and AFS, 1992

## PROFESSIONAL EXPERIENCE

1991 to date. Consulting Biologist and President, Dance Environmental Inc.
The firm has completed over 440 assignments.

Mr. Dance has been consulting for 42 years and has gained extensive experience on the following types of studies: ecological inventory, biological monitoring, environmental planning, Species at Risk Overall Benefit Plans, watershed management, no net loss of fish habitat, tree saving plans, vegetation management, wetland Environmental Impact Studies, non-game wildlife and environmental assessments.

He also has experience in biological resource inventory, impact prediction, management option development and comparison, attendance at public information centres and as an expert witness before boards and tribunals.

1988-1991 Senior Biologist, Ecologistics Limited. As Senior Biologist, Ken was responsible for review of all biological projects. He consulted to private and public sector clients on management of fish, vegetation, and wildlife resources.

1985-1988 Associate and Manager of Biological Services, Gartner Lee Limited. Mr. Dance consulted to industrial and government clients.

1982-1985 Senior Biologist and Project Manager, Gartner Lee Limited.

1977-1982 Biologist and Project Manager, Ecologistics Limited.

1975-1976 Research Technician, University of Waterloo. Mr. Dance acted as a research technician on a PLUARG contract study of two streams.

**KEN DANCE**
**CONSULTING BIOLOGIST**

## PROJECT EXAMPLES

### E.I.S. Reports

Undertook inventory, site assessments and reporting for over one thousand sites relating to residential, industrial, aggregate and waste management proposals.

### Highways and Roads

Examples of Environmental Assessment and highway construction projects, which Mr. Dance has worked on follow.

- Parkhill Road and Bridge, Cambridge – inspection of in-water construction to minimize erosion and sedimentation and construction of fish pool habitat.
- Gordon Street Bridge, Guelph – inspection of in-water construction and placement of fish habitat rock, 2000-2002.
- Highway 60 at Huntsville – inspection of in-water work during replacement of 4 culverts, including trout habitat; inspection of tree and shrub plantings.
- Highway 35 Minden – inspection of stream habitat restoration construction and inspection of tree and shrub plantings.
- Wellington County Roads – fisheries assessments for 3 culvert replacements.

### Wastewater Management

- Etobicoke and Mimico Creek Watersheds: Toronto Wet Weather Flow Management Master Plan – ecological consultant addressing fish, wildlife, forests, wetlands and Lake Ontario near shore habitat.
- Thunder Bay Water Pollution Prevention Study – biological consultant addressing fish, wildlife, forests, wetlands and Lake Superior near shore habitat.
- Cincinnati and Cleveland, Ohio – CSO Review Studies: biological consultant addressing existing impacts on aquatic ecosystems and advice regarding solution options.
- Wastewater Treatment Plant Class E.A.s: biological consultant for Ayr, Flesherton, Ingersoll, Keswick, Lambeth, Tavistock and Wellesley plant upgrades/expansions.

### Water Supply

Fisheries/biological assessments regarding water taking and/or facility siting for projects in Elmira, Georgetown, Acton, Cambridge, Caledon and Brampton.

## Publications

Published chapters in three books. Over forty papers on fish, wildlife, wetland and vegetation management, as well as water quality and fisheries. Articles in publications such as Ontario Birds, Ontario Field Biologist, Newsletter of the Field Botanists of Ontario, Recreation Canada, Landscape Architectural Review and the Water Research Journal of Canada.

07/19

DANCE ENVIRONMENTAL INC.

**KEVIN DANCE, M.E.S.**
**TERRESTRIAL BIOLOGIST**
**AND PARTNER**

## EDUCATION

- M.E.S., Masters of Environment and Resource Studies, 2011; University of Waterloo.
  *Thesis Title: "Raptor Mortality and Behavior at Wind Turbines Along the North Shore of Lake Erie During Autumn Migration 2006-2007"*
- B.E.S., Honours Bachelor of Environment and Resource Studies with Parks Option, 2006; University of Waterloo.

## CERTIFICATIONS & PROFESSIONAL ASSOCIATIONS

Workshops/Certifications:

- Wildlife Acoustics: Kaleidoscope In-depth Seminar for Bat Research. Royal Ontario Museum, Toronto, Ontario. March 29, 2019. Instructor: Ian Agranat (creator of Kaleidoscope Pro).
- Wildlife Acoustics: Kaleidoscope In-depth Seminar for Non Bat Research. Royal Ontario Museum, Toronto, Ontario. March 28, 2019. Ian Agranat (creator of Kaleidoscope Pro).
- Ontario Bat Working Group, Spring 2017, Toronto Zoo.
- Bat Survey Solutions LLC. Bat Acoustic Fieldwork and Data Management Workshop. Instructors: Janet D. Tyburec and Joseph M. Szewezak (creator of SonoBat and Professor at Humbolt State University, California). February 2016, Punta Gorda, Florida.
- Wildlife Acoustics: Bat Acoustics Training with Dr. Lori Lausen, February 2015, Miami, Florida
- Butternut Health Assessment Workshop, BHA #486, July 16, 2014, re-certified in 2019.
- Dragonfly and Damselfly Identification Workshop, 2013, Guelph Arboretum.
- OMNR, Ontario Wetland Evaluation System, Northern Manual and Southern Manual. North Bay, 2012
- OMNR Ecological Land Classification for Southern Ontario, Lindsay, 2010
- Diploma of Environmental Assessment, University of Waterloo, 2006
- Member, Ontario Field Ornithologists (OFO)
- Member, Waterloo Region Nature
- Member, Canadian Herpetological Society
- Member, The Orianne Society –Reptile and Amphibian Conservation
- Member, North American Society for Bat Research (NASBR)
- Member, Bat Conservation International (BCI)
- Member, Northeast Naturalist
- Member, Canadian Field Naturalist

## AREAS OF PROFESSIONAL EXPERIENCE

Kevin Dance has over 10 years of consulting experience on a wide range of projects throughout Ontario. Kevin specializes in inventories, evaluations, research, and impact studies of natural resources. He is experienced in identifying important natural features and evaluating the significance and sensitivity of these features. Kevin regularly works with multidisciplinary study teams focusing on the management of terrestrial and wetland ecosystems.

***Terrestrial Vegetation and Wildlife Studies***

Kevin has worked on various studies investigating a variety of wildlife habitats, determining wildlife populations including numbers and seasonal trends and monitoring of long-term impacts of

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developments on species. Kevin has conducted a wide range of monitoring surveys and inventories to identify the presence of wildlife on study sites as well as species specific guided surveys for Species at Risk and Species of Conservation Concern including:
Bobolink, Barn Swallow, Bank Swallow, Eastern Meadowlark, American Badger, Milksnake, Blanding's Turtle, Wood Turtle, Jefferson Salamander, Common Nighthawk, Whip-poor-will, Henslow's Sparrow, Short-eared Owl, Least Bittern, and all Endangered *Myotis* bat species.

He has completed numerous detailed vegetation community mapping inventories and conducted vegetation monitoring at permanent sample plots, as well as transects and random sample quadrats to assess short-term and long-term impacts of developments on vegetation. Kevin is trained and experienced in applying the Ecological Land Classification System in projects in Southern Ontario to delineate, describe and map vegetation communities.

Kevin's specific terrestrial expertise includes:

- wildlife and vegetation habitat mapping, evaluations, and research.
- surveys of plants, birds, mammals: including bats, reptiles, amphibians, dragonflies and butterflies.
- identification of rare and sensitive species and habitats.
- bat acoustic monitoring and data analysis for Ontario bat species
- development of monitoring methodologies for Species at Risk
- preparing Overall Benefit Plans and Management Plans for Species at Risk
- obtaining permitting from MNR to conduct Jefferson Salamander trapping surveys, and snake coverboard surveys
- over 15 years of bird identification experience
- identification and analysis of potential wildlife corridors.
- short-term and long-term monitoring techniques for flora and fauna

***Wetland Studies***

Kevin is certified to conduct Ontario Wetland Evaluations and has worked in habitats throughout Ontario using the Ontario Wetland Evaluation System for Wetlands in Southern and Northern Ontario. Kevin has also participated in numerous studies focusing on the impact of development on wetland ecology and function.

Kevin's specific wetland expertise includes:

- inventories and mapping of wetland flora and fauna.
- wetland evaluations using the Ontario Wetland Evaluation System (OWES).
- wetland boundary delineation, and regularly working with relevant Conservation Authority staff to obtain approval of boundaries
- wetland Environmental Impact Studies (EISs).

***Aquatic Studies***

Kevin has assisted with numerous long-term fish monitoring programs using electrofishing to sample reaches of streams to assess and monitor development impacts to cold water streams. Kevin has experience collecting fish during electrofishing sampling, fish identification, marking and measuring. He also has experience identifying aquatic and wetland vegetation as well as collection of aquatic habitat data including stream depth, temperature, stream bed composition, flow speed and invertebrate sampling. Kevin has assisted with electrofishing surveys and aquatic habitat assessments within Wellington County and the Region of Waterloo.

***Renewable Energy Projects:***

Kevin has extensive experience conducting and organizing both pre-construction and post-construction studies at wind farms in Ontario, Manitoba and Alberta. Kevin has been developed monitoring methodologies for mortality searches, scavenger removal trials and searcher efficiency studies. Kevin has been involved in post-construction studies at four large scale wind farms and has conducted pre-construction studies at over a fifteen wind farms throughout Ontario, Manitoba

and Alberta.

Kevin's specific renewable energy expertise includes:

- development of mortality search methodologies and conducting mortality searches, organizing and conducting scavenger removal studies and searcher efficiency trials
- identification of bird and bat fatalities
- developing study methods for pre-construction wind farm studies, including: migration surveys (dawn and dusk), daytime soaring surveys, waterfowl surveys, shorebird surveys, winter raptor and diurnal owl surveys, walking transect surveys, and driving transect surveys.

## EMPLOYMENT HISTORY

**Terrestrial Biologist and Project Manager**
Dance Environmental Inc., Drumbo, Ontario. 2011 to present

**Terrestrial and Wetland Biologist**
Natural Resource Solutions Inc., Waterloo, Ontario. 2008 to 2011

**Environmental Scientist**
Stantec Ltd., Guelph, Ontario. 2006 to 2007

**Avian Field Technician** –Breeding ecology and impacts of urban development on Wood Thrush in the Region of Waterloo. Bird banding crew leader, nest searcher, nest monitoring.
Canadian Wildlife Service and University of Waterloo, Waterloo, Ontario 2003 to 2005

**Terrestrial Biologist**
Dance Environmental Inc., Drumbo, Ontario 2001 to 2003

## PUBLICATIONS, PRESENTATIONS, AWARDS

Dance, K.S. 2019. Finding Bats Based on Their Calls (Pittock Reservoir, Woodstock). Outing for the Woodstock Field Naturalist Club. Outing leader.

Dance, K.S. 2017. Bats in Urban Natural Areas: A case Study of Kitchener Natural Areas. Oral Presentation. Nature in the City Speaker Series, Kitchener Public Library. November 15, 2017.

Dance, K.W., K.S. Dance, & M.B. Dance. 2012. Giant Ragweed (*Ambrosia trifida*) as a Food Source for Autumn Migrants and Winter Birds in the Grand River Basin. Ontario Birds 30(3):148-164.

Dance, K.S. 2012. Manipulation of Caterpillars for Consumption by Eastern Bluebirds. Ontario Birds 30(2):102-108.

Dance, K.W., K.S. Dance. 2012. Wetlands: What are they Good For? Oral Presentation. Princeton Historical Society. Princeton, Ontario. September 24, 2012.

Dance, K.S. 2011. "Raptors and Wind Farms". Oral Presentation. Ruthven Park 2nd Annual For The Birds Festival. September 17, 2011.

Dance, K. S. 2010. On the Wind: A Discussion of Raptors and the Wind Industry. Oral Presentation. Owen Sound Field Naturalist Club (OSFN). September 9, 2010.

Dance, K. S., Dance, K. W. 2010. "Raptors on the Wind". Oral Presentation. Kitchener-Waterloo Field Naturalist Club (KWFN). March 22, 2010.

Dance, K. S., Dance, K. W. 2010. Review of Raptor and Turbine Interaction Literature: the Case of the Erie Shores Wind Farm. Oral Presentation. RARE Charitable Research Reserve, Cambridge, ON. January 23,

2010.

Dance, K. S., R. James, L. Friesen, S. Murphy. 2009. “Raptor Behavior and Mortality (Erie Shores Wind Farm)”. Poster Presentation. Canadian Wind Energy Association Annual Conference & Exhibition. September 20-23, 2009.

Dance, K. S., R. James, L. Friesen, S. Murphy. 2009. “Migrant Raptor Behavior and Mortality (at the Erie Shores Wind Farm)”. Poster Presentation, 3rd place winner. A.D. Latornell Conservation Symposium. Nottawasaga, Ontario.

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