NATURAL HERITAGE EVALUATION

NewRoads Automotive Group

1656 Green Lane East

Part of Lot 6
Concession 3
Geographic Township of East Gwillimbury
Town of East Gwillimbury
Regional Municipality of York

November 2024

Cunningham Environmental Associates

In association with

RiverStone Environmental Solutions Inc.

CUNNINGHAM ENVIRONMENTAL ASSOCIATES

Natural Resources Consultants

November 16, 2024 File No. 2424

Mr. Rino Rizzuto, *Director of Fixed and Service Operations*
NewRoads Automotive Group
18100 Yonge Street
Newmarket, Ontario
L3Y 3V1

Re: ***NATURAL HERITAGE EVALUATION- 1656 Green Lane East, Part of Lot 6, Concession 3, Geographic Township of East Gwillimbury, Town of East Gwillimbury, Regional Municipality of York; Our File 2424***

Dear Mr. Rino Rizzuto:

Enclosed is our report (CEA/RESI) entitled ***NATURAL HERITAGE EVALUATION - 1656 Green Lane East, Lot 6, Concession 3, Geographic Township of East Gwillimbury, Town of East Gwillimbury, Regional Municipality of York; Our File 2424*** *(November 16, 2024).*

Should you have any questions or comments, please contact the undersigned.

Sincerely,

CUNNINGHAM ENVIRONMENTAL ASSOCIATES

David G. Cunningham [digital signature]

David G. Cunningham, Spec. Hon. B.Sc. (Environmental Sciences)

Principal/Owner

5 Karen Drive, Lindsay, Ontario K9V 5V3
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1 INTRODUCTION

1.1 Background

Cunningham Environmental Associates (CEA) was retained on September 5, 2024 and RiverStone Environmental Solutions Inc. (RESI) was retained on August 12, 2024 through Weston Consulting Inc., on behalf of NewRoads Automotive Group (the "Client). The purpose of the retainers was to document, inventory and evaluate the botanical features (vegetation communities, floristics), wildlife and wildlife habitat, fish and fish habitat, headwater drainage features (HDFs) and any flora and/or fauna Species at Risk (SAR) or their habitats on a vacant parcel of land – Site 1 (the "Site"), located at the municipal address of 1656 Green Lane East, in the Town of East Gwillimbury ("Town").

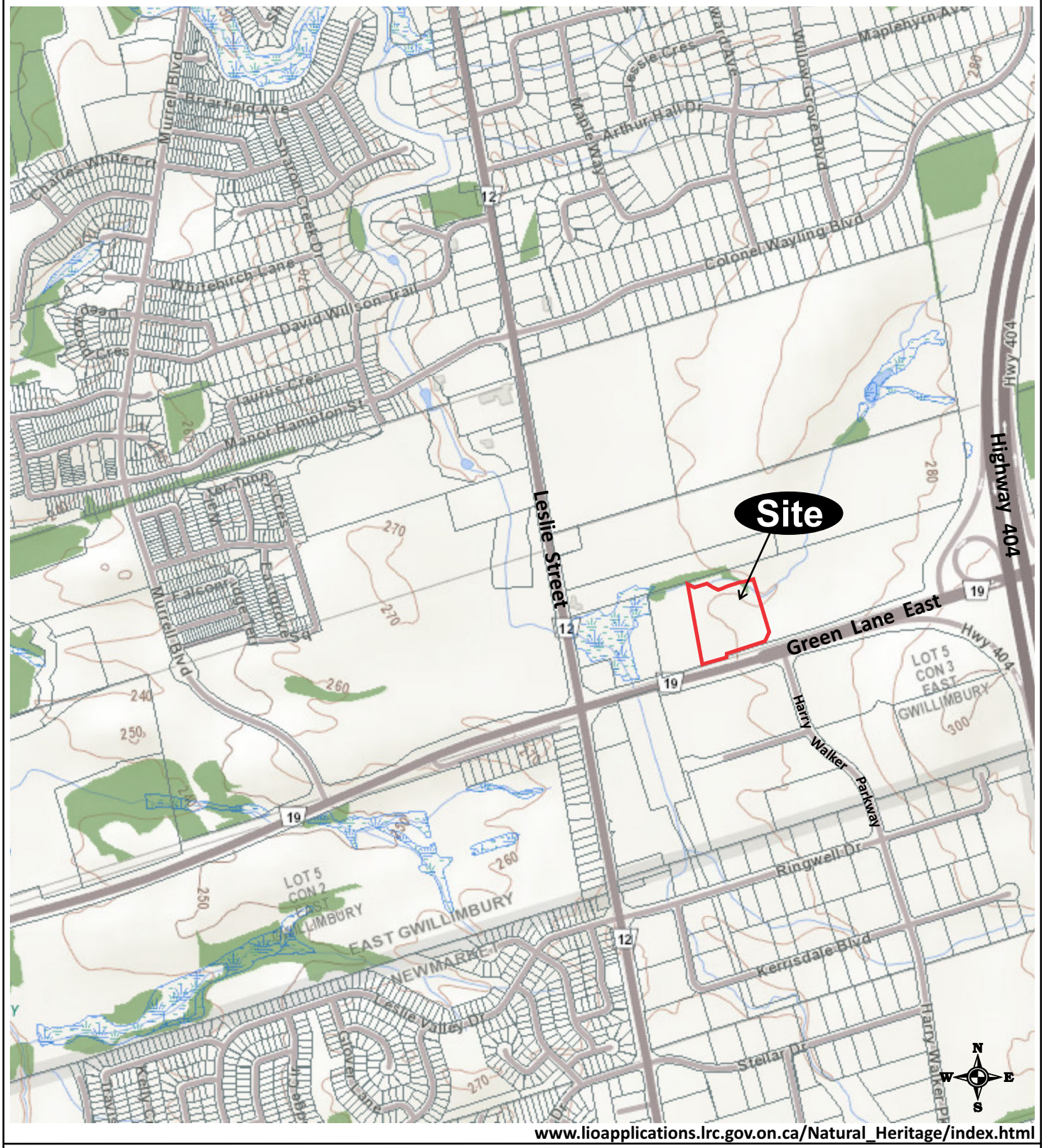
The Town has requested that a Natural Heritage Evaluation (NHE) be prepared in regards to a Site Plan Application (SPA) for a car dealership development on 2.87 hectares (Town of East Gwillimbury It is to be noted that CEA/RESI prepared a detailed Natural Heritage Evaluation for the current owner 1656 GL West Preferred Limited Partnership (Rice Commercial Group – "RCG"), based on field work undertaken from 2019 to 2021 (CEA & RESI 2023). As we understand, RCG is the current owner of the land east of the Harry Walker Parkway corridor, as well as Site 1, with the Client in the process of purchasing Site 1.

In the intervening time frame from 2020-2021 to the present, the removal and stockpiling of top soil, filling, grading and some tree removal has occurred on the property east of the Harry Walker Parkway extension, as well as on the Site. The earthworks were based on an agreement obtained from the Town and an Ontario Regulation permit from the Lake Simcoe Region Conservation Authority (LSRCA).

Access to the Site will be from the west side of the Harry Walker Parkway extension off of Green Lane East, proposed under a separate Site Plan Application (SPA.21.18). The property lies approximately 500 metres (m) east of the intersection of Leslie Street and Green Lane East (on the north side) and approximately 550 m west of Highway 404.

The Site is roughly square in shape, with natural drainage in an east to west/northwest direction. The Site lies within the approved Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a). For the general location of the property within the local road network and other adjacent properties, see **Figure 1**.

The previous Town of East Gwillimbury Official Plan (OP) designation was Employment, with a Zoning of Rural. The OP designation on the property remains Employment, but the zoning has been changed under the Town of East Gwillimbury Comprehensive Zoning By-law 2018-04 to Employment General (M2) Zone, which allows for the establishment of an Auto Campus or Prestige Auto Sale Campus. In this regard, the RCG previously applied for under the Ontario ***Planning Act, 1990*** (Province of Ontario 1990) and received a Minister's Zoning Order – MZO from the Ministry of Municipal Affairs and Housing (2020). The Town of East Gwillimbury received the Minister's Zoning Order (MZO) to permit the Auto Campus at 1656 Green Lane East. The MZO provides for automobile dealerships as part of prestige auto sales campus.



www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html

Figure 1. Site Property Location

Scale 1:NTS

NewRoads Automotive Group

Part of Lot 6, Concession 3
Geographic Township of East Gwillimbury
Town of East Gwillimbury
Regional Municipality of York

Site

Cunningham Environmental Associates

Ontario Regulation 451/20 and a Town of East Gwillimbury Zoning Order was issued on July 30, 2020 and filed with the Registrar of Regulations on August 13, 2020, with a current status as Approved (Town of East Gwillimbury 2020b).

Based on the MZO order and the Earthworks Agreement, the proposed development requires the submission of a Site Plan Application (Town of East Gwillimbury 2016) to the Town of East Gwillimbury for Site Plan Approval (SPA) and the submission of a Lake Simcoe Region Conservation Authority (LSRCA) Ontario Regulation 179/06 approved permit (Province of Ontario 2006). The findings with regards to the natural heritage features and ecological function inventories, evaluations, and assessment of the proposed Overall Site Plan to be documented in a Natural Heritage Evaluation (NHE), and submitted to the Town of East Gwillimbury for the SPA and as part of the LSRCA Ontario Regulation permit application process.

1.2 Subject Property Location

As we understand, the Site is currently owned by Rice Commercial Group (RCG) under the legal entity of 1656 GL West Preferred Limited Partnership. The municipal address is 1656 Green Lane East and fronts onto the north side of Green Lane East, just west of Highway 404. The legal description is Lot 6, Concession 3, Geographic Township of East Gwillimbury, Town of East Gwillimbury, in the Regional Municipality of York. The Site covers approximately 2.87 ha (7.1 ac) on the west side of the approved Harry Walker Parkway extension.

Figure 2 is a Plan of Survey (IBW Surveyors 2023), which shows the approximate boundaries of the Site (which is vacant), and consists mostly of graded fill, with perimeter trees, shrubs and meadow along the western property edge, and trees/shrubs and wetland (NON-PSW) along its northern edge.

1.3 Purpose and Scope of the Study

This NHE has been prepared for the Site as one of numerous technical reports required by the Town, as part of the SPA planning process (Town of East Gwillimbury 2024). This NHE is a scoped update to the previous NHE (**Appendix A** - CEA & RESI 2023), given the change in site conditions, mainly resulting from the stockpiling of top soil, filling, grading and partial tree removal undertaken on the Site since September 2021. To address the objectives outlined above, the NHE is divided into sections, as follows:

Section 1 Introduction, which provides background, subject property location, purpose and scope of the study, and project team acknowledgements;

Section 2 Study Approach & Methods, which includes the collection and review of background information; describes the specific qualitative and quantitative methodologies utilized to collect and evaluate the biophysical (topography, drainage, soils), cultural and natural heritage features (vegetation

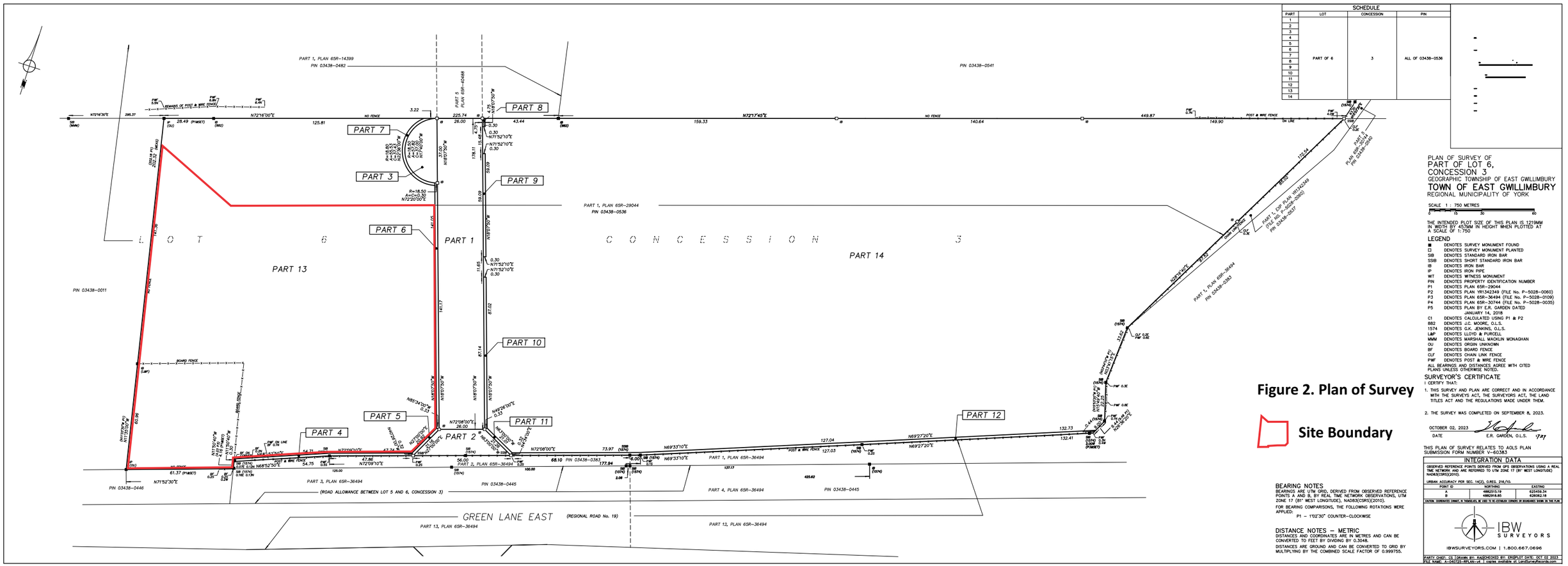


Figure 2. Plan of Survey

🟥 Site Boundary

SCHEDULE			
PART	LOT	CONCESSION	PIN
1	PART OF 6	3	ALL OF 03438–0536
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

PLAN OF SURVEY OF
PART OF LOT 6,
CONCESSION 3
GEOGRAPHIC TOWNSHIP OF EAST GWILLIMBURY
TOWN OF EAST GWILLIMBURY
REGIONAL MUNICIPALITY OF YORK

SCALE 1 : 750 METRES
0 15 30 60

THE INTENDED PLOT SIZE OF THIS PLAN IS 1219MM IN WIDTH BY 457MM IN HEIGHT WHEN PLOTTED AT A SCALE OF 1:750

LEGEND

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT PLANTED
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
IB	DENOTES IRON BAR
IP	DENOTES IRON PIPE
WIT	DENOTES WITNESS MONUMENT
PIN	DENOTES PROPERTY IDENTIFICATION NUMBER
P1	DENOTES PLAN 65R–29044
P2	DENOTES PLAN YR1342349 (FILE No. P–5028–0060)
P3	DENOTES PLAN 65R–36494 (FILE No. P–5028–0109)
P4	DENOTES PLAN 65R–30744 (FILE No. P–5028–0035)
P5	DENOTES PLAN BY E.R. GARDEN DATED JANUARY 14, 2018
C1	DENOTES CALCULATED USING P1 & P2
882	DENOTES J.C. MOORE, O.L.S.
1574	DENOTES G.K. JENKINS, O.L.S.
L&P	DENOTES LLOYD & PURCELL
MMM	DENOTES MARSHALL MACKLIN MONAGHAN
OU	DENOTES ORGIIN UNKNOWN
BF	DENOTES BOARD FENCE
CLF	DENOTES CHAIN LINK FENCE
PWF	DENOTES POST & WIRE FENCE

ALL BEARINGS AND DISTANCES AGREE WITH CITED PLANS UNLESS OTHERWISE NOTED.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON SEPTEMBER 8, 2023.

OCTOBER 02, 2023
DATE
E.R. GARDEN, O.L.S. 1727

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V–60383

INTEGRATION DATA

OBSERVED REFERENCE POINTS DERIVED FROM GPS OBSERVATIONS USING A REAL TIME NETWORK AND ARE REFERRED TO UTM ZONE 17 (81° WEST LONGITUDE) NAD83(CSRS)(2010).

URBAN ACCURACY PER SEC. 14(2), O.REG. 216/10.

POINT ID	NORTHING	EASTING
A	4882515.19	625459.34
B	4882918.85	626062.18

CAUTION: COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE–ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN

IBW SURVEYORS
IBWSURVEYORS.COM | 1.800.667.0696

PARTY CHIEF: CS	DRAWN BY: RAD	CHECKED BY: ERG	PLOT DATE: OCT 02 2023
FILE NAME: A–040725–RPLAN–v4	copies available at LandSurveyRecords.com		

BEARING NOTES

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK OBSERVATIONS, UTM ZONE 17 (81° WEST LONGITUDE), NAD83(CSRS)(2010).

FOR BEARING COMPARISONS, THE FOLLOWING ROTATIONS WERE APPLIED:
P1 – 1°02'30" COUNTER–CLOCKWISE

DISTANCE NOTES – METRIC

DISTANCES AND COORDINATES ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999755.

communities and inherent flora), wildlife and wildlife habitat features (fauna), Species at Risk (SAR flora and fauna) and aquatic features (headwater drainage features (HDFs), fish and fish habitat) data;

Section 3 Existing Conditions, which includes physiography (topography, drainage, soils); vegetation (regional cover characteristics, ecological land classification, floristics, and tree inventory); wildlife and wildlife habitat (birds, amphibians & reptiles, mammals, Lepidoptera – butterflies and moths); and aquatic habitat (headwater drainage features, and fish and fish habitat);

Section 4 Site Constraints and Opportunities, identifies potential constraints and opportunities to the proposed property land uses, based solely on the findings of the flora (vegetation) and fauna (wildlife) inventories, Headwater Drainage Features Assessment (HDFA), fish and fish habitat evaluation, Species at Risk (SAR) assessment, and Significant Wildlife Habitat (SWH) assessment. Any planning implications of the MZO with regards to the proposed Site Plan are not part of this report.

Section 5 Impact Assessment, includes the identification and magnitude of potential impacts (from site preparation, construction, and operational uses) to the on-site and abutting natural heritage features and ecological functions likely to occur as a result of implementing the proposed Site Plan. The impact assessment is based on academic training and professional work experience, on-site existing and future conditions, as well as potential impacts identified in the NewRoads Automotive Group consulting team technical reports, where warranted, as well as other data figures and drawings.

Section 6 Mitigation Measures and Recommendations, identifies reasonable and appropriate mitigation measures and recommendations to eliminate or reduce the potential impacts identified and discussed in **Section 5**, as garnered through academic training and professional work experience. Relevant mitigation measures and recommendations are extracted from the NewRoads Automotive Group consulting team technical reports, and are included in this section, where warranted.

Section 7 Concluding Remarks, are intended to summarize the overall findings of this report, based on the proposed land use changes and as-built form as shown on the proposed Overall Site Plan.

Section 8 References, provides a list of cited and supporting references.

Appendices, contain materials mentioned and referred to in the text.

1.4 Project Team

This report was partially written and was edited by: **David G. Cunningham**, Spec. Hon. B.Sc. (Environmental Sciences) – Senior Ecologist/Principal – Cunningham Environmental Associates (CEA) in regards to: background information review, terrestrial and wetland vegetation communities, floristics, and flora Species at Risk (SAR). Additional reporting input, analysis and editing was provided by RiverStone Environmental Solutions Inc. (RESI) staff **Al Shaw**, M.Sc. – Senior Ecologist/Principal who previously completed site assessments for the HDFs/swales and wildlife; and

Craig Mann, H.B.Sc. F, Dipl. IFRM – Ecologist /Certified Arborist who prepared the Tree Inventory and Preservation Plan, a stand-alone report.

Staff	Role
David G. Cunningham	CEA Senior Ecologist/Principal, Project Manager
Al Shaw	RESI Senior Ecologist/Principal
Craig Mann	RESI Ecologist/Certified Arborist

2 STUDY APPROACH & METHODS

2.1 Aerial Photographic Interpretation

Georeferenced coloured orthophotographs were reviewed to obtain an understanding of the property's on-site and abutting attributes, in terms of overall past and present physical site conditions, drainage patterns (e.g., headwater drainage features - HDFs); terrestrial habitats (e.g., vegetation communities such as wetland, woodland, meadow, hedgerows, thicket, agricultural); wildlife habitats; aquatic environs (e.g., fish and fish habitat); and surrounding land uses.

The boundaries of the cultural and vegetation communities were delineated through aerial photographic interpretation and ground-truthed in 2020 and 2021, along with the September 2024 site visits. Sources of georeferenced coloured orthophotographs included York Region GIS Maps (2019, 2020, 2021 and 2024).

2.2 Site Inspection and Inventories

The results of background information gathering contained in Section 3.1 assisted in directing data collection activities associated with our site investigations. Natural heritage features were assessed on three separate visits in the spring/summer of 2020 and 2021, and on three (3) separate occasions in September, 2024 by ecologists from CEA and RESI.

The surveys included a general walkthrough of the Site, as well as visiting targeted areas of the Site identified through air photography interpretation, as having higher potential for SAR, conducting breeding bird surveys based on Bird Studies Canada protocol, and a tree inventory. These areas included woodland, a watercourse/wetland, and hedgerow communities. As noted in Sections 1.1 and 2.2.1, several changes on the Site have occurred between our assessments in 2020-2021 and September 2024. Much of the central portion of the entire property and the Site has been stripped and graded through permitting.

Overall, the level of effort expended on-site was deemed adequate to complete the studies required by the Town for the SPA, as well as the LSRCA Ontario Regulation permit(s). Natural heritage features and points of interest of interest were photographed, and all information collected was catalogued for presentation in this report and for future reference.

2.2.1 Vegetation Resources

A previous series of natural heritage feature (vegetation communities and floristics) site reconnaissance and inventories were conducted in 2008 and 2009 the entire RCG property, including the Site. Extensive vegetation inventories were conducted in 2020-2021, with data, and assessments/evaluations contained and listed in **Appendix A** (CEA & RESI 2023). Given the removal and stockpiling of top soil, filling and grading and partial tree removal in the intervening years since 2021, follow-up site reconnaissance and vegetation inventories were conducted on September 10 and 17, 2024. Abutting land use conditions have not drastically changed since that time frame, other than the construction of the Highway 404 extension

and construction of a day-care facility off-site to the northwest of the Site. As noted, by the time of our 2024 site visits, much of the central vegetation had been removed and the site graded, including for the Harry Walker Parkway extension along the east edge of the Site.

2.2.2 Wildlife and Wildlife Habitat Resources

Wildlife and wildlife habitat resources were assessed through standard MNRF field protocols in previous years and the follow-up site visit in September, 2024. Evidence for the presence of a species or use of an area was determined from visual and/or auditory observation (e.g., song, call) and observation of nests, tracks, burrows, browse, skins, and scats. Field inventory dates, assessments/evaluation, figures, lists and photographs pertaining to the presence of breeding birds, amphibians and reptiles, bats and SAR fauna, and other wildlife is contained and summarized in **Appendix A** (CEA &RESI 2023).

2.2.3 Aquatic Resources

The aquatic resources studied on the Site and RCG property to the east of the Hary Walker Parkway extension. In this regard, various site visits and inventories were conducted in 2009, 2010 and 2019 2019), as part of the Headwater Drainage Features Assessments (HDFA). Data, details and assessments/evaluations on the aquatic resources on contained in CEA & RESI (2023). Additional aquatic resource inventories and assessments for the Site were not undertaken in 2024, nor were they warranted.

2.2.4 Tree Inventory

As required by the Town and LSRCA, a tree inventory was completed across the RCG property and the Site on September 17, October 1 and October 2, 2021 by Craig Mann (Ecologist/Botanist/ ISA-certified Arborist). The Site was re-visited on September 26, 2024 and a stand-alone report has been produced entitled, “Tree Inventory and Preservation Plan – New Market Toyota, Township of East Gwillimbury, York Region (RESI 2024)”.

In 2021, all trees with stems 10 cm diameter at breast height (DBH) or greater were assessed and inventoried included from the ground. In 2024, the location and identification of trees on the landscape (Site) were recorded through GPS, and their present health and condition characteristics were assessed and recorded. Tree data recorded for each specimen included:

- Tag Number,
- Species (common and scientific name),
- Diameter at breast height – approximately 1.37 metres above ground (DBH),
- General visual assessment from the ground of tree condition (health and structure),
- Canopy radius,
- Comments, and
- GPS location.

In general, an individual tree was assessed if it was located within the Site, and within approximately 6 m of the Site or located on Town property. Trees greater than 10 cm DBH were tagged with aluminum numbered tree tags, affixed to the trunk (e.g., 975) and were mapped by high accuracy GPS. Tree locations are plotted on georeferenced aerial photo base. No Butternut (*Juglans cinerea*) listed as Endangered (END) on a Federal and Provincial level were found nor were any regionally significant tree species noted on the Site or its property perimeters.

Notwithstanding the determinations of tree health and structural integrity made herein (e.g., good, fair, poor), it must be recognized that all trees (in good health or otherwise) have the potential for failure given adverse weather, damage due to mechanical injury, or other factors that cause stress.

3 EXISTING CONDITIONS

3.1 Background Information Collection and Review

Standard website digital sources of background information were accessed, and relevant materials downloaded, with most listed in (CEA & RESI 2023), and which are still applicable to the Site. Digital sources included but were not limited to the following: Environment and Climate Change – ECCC (2024), Ministry of Environment, Conservation and Parks – MECP (2024); Natural Heritage Information Centre - NHIC (2023); Land Information Ontario - LIO (2024); and Ministry of Natural Resources Make-A-Map (MNRF 2024). In addition to the digital sources, discussions were held with the LSRCA (Amy Knapp, pers. comms September, 2024), regarding the need for an NHE update pertaining to the LSRCA Ontario Regulation permit process.

Various published natural environment reports, maps, lists, statutes, regulations, and policies germane to the Site and local geographic area were collected and reviewed, with others listed in **Appendix A** (CEA & RESI 2023). These included but were not limited to the following:

- **Distribution and Status of the Vascular Plants of Central Region** (Riley *et al.* 1989);
- **Distribution and Status of the Herpetofauna of Central Region** (Plourde *et al.* 1989);
- **Atlas of the Mammals of Ontario** (Dobbyn *et al.* 1994);
- **Distribution and Status of the Vascular Plants of the Greater Toronto Area** (Varga *et al.* 2004);
- **York-Region Significant Woodlands Study** (North-South Environmental Inc. *et al.* 2005);
- **Ontario Breeding Bird Atlas Square 17NH87 & 17NH88** (Bird Studies Canada *et al.* 2006);
- ***Endangered Species Act, 2007*** (Province of Ontario 2007);
- **Google Earth Pro Coloured Orthophotography** (2005, 2009, 2011, 2013-2016, 2018 and 2024);
- **York Region Coloured Orthophotography** (1954, 1970, 1978, 1988, 1995, 1998, 2002, 2005-2007, 2009, 2011, 2012-2021, and 2024b);
- **Vascular Plants at Risk in Ontario** (Leslie 2018);
- ***Provincial Policy Statement, 2024*** (Ministry of Municipal Affairs and Housing 2024);
- **Natural Heritage Information Centre Data-query Website** (NHIC 2024);
- **Land Information Ontario (LIO) Database Website** (LIO 2023):
- **Ontario's Reptile and Amphibian Atlas** (Ontario Nature 2019); and,
- **York Simcoe Nature Club** (York Simcoe Nature Club 2022);

In addition to these sources, the following team consulting reports, plans and figures have been prepared in regards to the proposed Site Plan Approval submission and were provided to CEA and RESI to-date, and include the following:

- **Report on Geotechnical Investigation, 1656 Green Lane East, East Gwillimbury, Ontario** (Toronto Inspection Ltd. 2024a);

- **Hydrogeological Investigation, 1656 Green Lane East, East Gwillimbury, Ontario L9N 0L8** (Toronto Inspection Ltd. 2024b);
- **Traffic Impact Study – 1656 Green Lane, East Gwillimbury, Toyota Automotive Dealership** (TYLin 2024);
- **DRAFT Functional Servicing and Stormwater Management Report Green Lane East – NewRoads Automotive (Site 1), East Gwillimbury, Ontario** (GEI Consultants 2024a);
- **DRAFT Site Grading Plan, New Road – Toyota, NewRoads Automotive Group, 1656 Green Lane East, Town of East Gwillimbury, Ontario** (GEI Consultants 2024b);
- **Erosion and Sedimentation Control Plan, New Road – Toyota, NewRoads Automotive Group, 1656 Green Lane East, Town of East Gwillimbury, Ontario** (GEI Consultants 2024c);
- **Plan of Survey of Part of Lot 6, Concession 3 Geographic Township of East Gwillimbury, Town of East Gwillimbury, Regional Municipality of York** (IBW Surveyors 2023);
- **Town of East Gwillimbury Pre-Consultation Checklist** (Town of East Gwillimbury 2024);
- **Planning Act Application – Pre-Consultation** (Lake Simcoe Region Conservation Authority 2024);
- **York Region Site Plan Control Application – Submission Checklist** (York Region 2024a);
- **Construction Management Plan for Toyota Newmarket, 1656 Greenlane East** (Gaydon Contractors Ltd. 2024);
- **1656 Green Lane East, East Gwillimbury, On. Landscape Plan. Dwg. No. L1.** November 11, 2024. File No. 24242 A. (MHBC – Planning Urban Design & Landscape Architecture, 2024a);
- **1656 Green Lane East, East Gwillimbury, On. Landscape Plan. Dwg. No. L2.** November 11, 2024. File No. 24242 A. MHBC – Planning Urban Design & Landscape Architecture, 2024b);
- **Estimate of Landscape Costs. 1656 Green Lane East, East Gwillimbury, Ontario. Cost Estimate for Letter of Credit.** November 04, 2024. Project 24242 A. (MHBC – Planning Urban Design & Landscape Architecture 2024c);
- **Overall Site Plan. Toyota Newmarket, 1656 Green Lane East, East Gwillimbury, Ontario, L9N 0L8 (**Ware Malcomb 2024), **and,**
- **Pedestrian & Bicycle Circulation Plan, 1656 Green Lane East, Town of East Gwillimbury, Region of York.** (Weston Consulting Inc. 2024).

3.2 Site Setting

The property is situated just east of the northeast corner of Leslie Street and Green Lane East. There is a new residential subdivision currently under construction on lands abutting the west side of Leslie Street, with a large stormwater pond and commercial development to the south of Green Lane East. There is an as-built day-care centre to off-site to the north of the Site. An agricultural drainage swale originates to the north via a stormwater management pond (SWM pond) associated with Highway 404, as well as an abutting wetland mosaic (NON-PSW).

As previously stated, the Site fronts onto to the north side of Green Lane East (**Photographs 1 and 2**). The municipal address is 1656 Green Lane East, with previous access to the Site via a remnant paved driveway to single-family dwelling, and accessory structures demolished in 2019) and filled and graded after 2022 (**Photographs 3 and 4**). There is an existing construction access entrance to the east (**Photograph 5**).

3.2.1 Physiography, Surficial and Bedrock Geology

For details regarding on-site physiography and surficial and bedrock geology of the Site, consult the Hydrogeological Investigation (Toronto Inspection Geo-Environmental Consultants 2024b) and the Fish Habitat Assessment report (**Appendix A** – CEA & RESI 2023).

3.2.2 Topography

For details regarding on-site topography of the Site, consult the Hydrogeological Investigation (Toronto Inspection Geo-Environmental Consultants 2024b) and the Fish Habitat Assessment report (**Appendix A** – CEA & RESI 2023).

3.2.3 Drainage

For details regarding on-site drainage of the Site, consult the Hydrogeological Investigation (Toronto Inspection Geo-Environmental Consultants 2024b) and the Fish Habitat Assessment report (**Appendix A** – CEA & RESI 2023).

3.2.4 Soils

For details regarding the on-site soils of the Site, consult the Geotechnical Investigation (Toronto Inspection Geo-Environmental Consultants 2024a) and the Fish Habitat Assessment report (**Appendix A** – CEA & RESI 2023).

3.3 Vegetation

3.3.1 Regional Cover Characteristics

Based on the details and analysis of the regional cover characteristics contained in Appendix A (CEA & RESI 2023), the Site lies within the Huron-Ontario Section of the Great Lakes St. Lawrence Forest Region, specifically within the MNRF Site Region 6E and Site District 6E-8.

Photograph 1. Eastward view of Green Lane East, along Site frontage

Photograph 2. Westward view of Green Lane East, along Site frontage

Photograph 3. View of driveway off of Green Lane East, in area of detached single-family dwelling (2020), house was demolished in 2019 and remaining Site tree, shrub and groundcover cut, removed and filled and graded in 2021

Photograph 4. Westward view from construction road access of previous residential lot in southwest corner of Site (CVC_1), cultural and natural vegetation removed, topsoil stripped, filled and graded in 2021 and 2022

Photograph 5. Northward view of construction road access of Site (CVC_1), off of Green Lane East, devoid of natural vegetation cover, topsoil stripped, filled and graded in 2021 and 2022 by permit

Photograph 6. Northwest view of Site (CVC_1) from construction road access entrance off of Green Lane East, devoid of natural vegetation cover, topsoil stripped, filled and graded in 2021 and 2022 by permit

Photograph 7. Eastward view of Site (CVC_1), devoid of natural vegetation cover, topsoil stripped, filled and graded in 2021 and 2022 by permit

Photograph 8. Southeast view of Site (CVC_1), devoid of natural vegetation cover, topsoil stripped, filled and graded in 2021 and 2022 by permit

3.3.2 Ecological Land Classification (ELCs)

The location and extent of the cultural (FODM11, FOCM5, terrestrial (e.g., woodland) and wetland natural features (ELCs - vegetation communities) as identified, characterized, and delineated within the Site are schematically illustrated on **Figure 3**. It is to be noted, that the outer edges (boundaries of the Site features were delineated based on aerial photographic interpretation and in-situ ground-truthing, and were not surveyed with a hand-held GPS unit or by an OLS.

A total of six (6) vegetation communities (4 cultural, and 3 wetland NON-PSWs) were identified, characterized, mapped, inventoried, and photographed on the Site. Qualitative notes and photographs were compiled for the Site on September 10 and 14, 2024 and abutting off-site features to the west and north. Tree, shrub and groundcover vascular plant species (floristics) were recorded in the cultural, terrestrial, and wetland features on and abutting the Site.

The following sub-sections provide summary descriptions of the remaining natural heritage features on the Site, including their ELC characterization, approximate boundaries, and inherent plant species composition in the overstorey, understorey, shrub, and groundcover stratums, where applicable. **Figure 3** is a schematic illustration of the vegetation community boundaries covering both 2020 and 2021, with corresponding ELC units for each feature. **Figure 3** in conjunction with **Table 1** and the following text and representative photographs provide a qualitative summary and visual context of the cultural, terrestrial and wetland features found and documented on the property in 2020 and 2021.

As previously stated, the detached single-family dwelling in the southeast corner was demolished in 2019 and the individual trees, shrubs and hedgerows were removed in 2021, with the site graded in 2021 as part of the Earthworks Agreement. The property was also surveyed as part of the previous Green Lane Secondary Plan exercise in 2008 and 2009, noting that conditions back then remain the same, more or less to this day.

Cultural ELC Units (Vegetation Communities)

Commercial (CVC_1)

Photograph 6 to **Photograph 10** show various aspects of this cultural feature on the Site, the proposed building envelope for the future Toyota Newmarket Auto Mall showroom building and complementary parking lot/car stalls. Since 2021, the Site has been cleared, filled and graded, with only cultural features (meadows and hedgerows) along the Site west property perimeter. Abutting the Site building envelope to the north is the proposed SWM facility and the open channel on the west side of the Harry Walker Parkway extension. Details regarding the composition and stratigraphy of the barren soils in CVC_1 is described in TIL (2024a) and TIL (2024b).

Figure 3. Ecological Land Classification Units (Vegetation Communities)

NewRoads Automotive Group

1656 Green Lane East
Part of Lot 6, Concession 3
Geographic Township of East Gwillimbury
Town of East Gwillimbury
Regional Municipality of York

FODM11
SWDM3-4
SWDM3-4
MAMM1-3
SWTM3-6
CVC_1
MEMM3
CVC_1
MAMM1-12
FOCM5
CVC_1
CVC_1
CVC_1
Harry Walker Parkway Extension
Green Lane East

property boundary (Site)

CVC_1	Commercial
FODM11	Naturalized Deciduous Hedge-row
FOCM5	Naturalized Coniferous Hedge-row
MEMM3	Dry-Fresh Mixed Meadow
SWDM3-4	Manitoba Maple Deciduous Swamp
SWTM3-6	Mixed Willow Deciduous Thicket Swamp
MAMM1-3	Reed Canary Grass Graminoid Meadow Marsh
MAMM1-12	Common Reed Graminoid Meadow Marsh

N
W E
S

Scale 1:1200 (approx.)
@ 11x17 print

Cunningham Environmental Associates

Table 1. List of ELC Units (Vegetation Communities) on the1656 GL West Preferred Limited Partnership Property *

ELC Code	Vegetation Type	Summary Description
Cultural		
CVR_1	Low Density Residential	- prior to 2019, this ELC consisted of an as-built detached single-family dwelling, along with a garage and other ancillary structures and items - the house was demolished in 2019 - the remaining trees, shrubs and groundcover were cut and removed in 2021 and the topsoil removed and graded as part of the Town's Earthworks Agreement (2020)
OAGM1	Annual Row Crops	- in 2020 the agricultural tableland was planted with soybean (*Glycine max*) and in previous years with corn (*Zea mays*) and soybean - the tableland was left fallow in 2021 and underwent topsoil removal and grading as per the Earthworks Agreement, save and except for the 30m buffer area surrounding the LSRCA regulated area (namely the wetland mosaic, Tributary A and Tributary B
FODM11	Naturalized Deciduous Hedge-row Ecosite	- as illustrated on **Figure 6**, portions of the northern property perimeter hedge-row were cut and chipped in 2021, previously containing black locust, Manitoba maple, sugar maple and white elm - as a result, there is a disjunct deciduous hedgerow (an east copse along Tributary A and a copse in the northwest corner along thee edge of the wetland mosaic) situated along the northern property perimeter - the dominant trees in the east portion is Manitoba maple, along with associates of common apple, black walnut, common buckthorn, and Russian olive, nannyberry, and red-osier dogwood - the woody vegetation in the west portion is dominated by Manitoba maple, with associates of black walnut, white elm, nannyberry, common buckthorn and willow shrubs - the groundcover stratum contains grasses, weeds and forbs
FOCM5	Naturalized Coniferous Hedge-row Ecosite	- bordering the western property perimeter is a mature planted coniferous hedgerow dominated by white spruce - other woody associates include black walnut, Colorado blue spruce, common buckthorn, and scattered willow shrubs - the groundcover stratum contains grasses, weeds and forbs
MEMM3	Dry-Fresh Mixed Meadow Ecosite	- mixed meadow and barren soils situated along south-facing slope on the north edge of Tributary A - groundcover includes common ragweed, wild carrot, common buttercup, ox-eye daisy, common strawberry, awnless brome grass, field sow-thistle, bull thistle, Canada thistle, field bindweed, field horsetail, coltsfoot, common plantain, red clover, white sweet-clover, chicory, common mullein, teasel, evening primrose, common burdock, Canada goldenrod, and dame's-rocket - scattered shrubs and saplings include common buckthorn, pussy willow, Missouri willow, Bebb's willow and Manitoba maple

MEMM4	Fresh-Moist Mixed Meadow Ecosite	- a small patch along south edge of Tributary A, contains aquatic/wetland grasses, sedges and forbs - typical species include reed canary grass, narrow-leaved cattail, spiny-leaved sow thistle, purple loosestrife, blue vervain, spotted jewelweed, coltsfoot, pale smartweed, fowl bluegrass, riverbank grape, spotted Joe pye-weed, boneset, purple-stemmed aster, stinging nettle, small-flowered willow-herb, beggar-ticks, deadly nightshade, yellow nutsedge, and wild cucumber
Wetland		
SWDM3-4	Manitoba Maple Mineral Deciduous Swamp Type	- treed swamp (other wetland), an inclusion within the wetland mosaic, dominated by Manitoba maple, along with crack willow, hybrid crack willow and white willow, part of the wetland mosaic in the northwest quadrant of the property and part of the Natural Heritage System as a Core Area (NRSI 20120 - woody associates include Missouri willow, pussy willow, Bebb's willow, reddish willow, and slender willow, red-osier dogwood, alternate-leaved dogwood and meadowsweet - typical groundcover includes reed canary grass, narrow-leaved cattail, spotted jewelweed, wild cucumber, sensitive fern, coltsfoot, blue vervain, tall goldenrod, purple-stemmed aster, purple loosestrife, field horsetail, poison ivy, foxtail sedge, Canada bluejoint grass, and dark green bulrush
SWTM3-6	Mixed Willow Mineral Deciduous Thicket Swamp Type	- willow shrub thicket swamp (3 units), an inclusion within the wetland mosaic and part of the Natural Heritage System as a Core Area (NRSI 2020) - shrubs and vines include pussy willow, Missouri willow, red-osier dogwood, alternate-leaved dogwood, Virginia creeper, wild cucumber and riverbank grape - common groundcover species include reed canary grass, common cattail, purple-stemmed aster, purple loosestrife, sensitive fern, marsh fern, tall goldenrod, boneset, spotted Joe pye-weed, spotted jewelweed, beggar-ticks and blue vervain
MAMM1-3	Reed Canary Grass Graminoid Mineral Meadow Marsh Type	- characterized as reed canary grass – graminoid meadow marsh, an inclusion with the wetland mosaic and part of the Natural Heritage System as a core area (NRSI 2020) - reed canary grass is the dominant species, with other associated graminoids, sedges and wetland forbs such common reed, tall goldenrod, narrow-leaved cattail, blue vervain, purple-stemmed aster, purple loosestrife, spotted Joe pye-weed, boneset, creeping bentgrass, foxtail sedge, spotted jewelweed, marsh fern, sensitive fern, fowl manna grass, and Canada bluejoint grass
MAMM1-12	Common Reed Graminoid Mineral Meadow Marsh Type	- a small inclusion within the wetland mosaic and part of the Natural Heritage System as a Core Area (NRSI 2020) - dominated by common reed, with scattered blue vervain, tall goldenrod, spotted jewelweed, foxtail sedge, sensitive fern and marsh fern

* data obtained through aerial photographic interpretation and ground-truthed in-situ by CEA in 2020 and 2021, with additional data from field inventories in 2008 and 2009

Photograph 9. Southward view of Site (CVC_1), devoid of natural vegetation cover, topsoil stripped, filled and graded in 2021 and 2022 by permit

Photograph 10. Southeast view of Site (CVC_1) towards existing construction road access on west edge of Harry Walker Parkway alignment, devoid of natural vegetation cover, topsoil stripped, filled and graded in 2021 and 2022 by permit

Photograph 11. Northwest view of part of naturalized deciduous hedge-row (FODM11), which impinges onto part of the Site, but which lies mostly off-site to the north

Photograph 12. View of south end of planted coniferous hedge-row (FOCM5), which borders the west edge of the Site and is dominated by white spruce, with associates of black walnut, common buckthorn, Manitoba maple and bordered by a strip of meadow (MEMM3)

Naturalized Deciduous Hedge-row Ecosite (FODM11)

As illustrated on **Figure 3**, is a narrow band of upland naturalized deciduous hedge-row lying partially within the proposed open channel extension footprint from the SWM pond on the west side of the Harry Walker Parkway extension (**Photograph 11**). Typical woody vegetation includes Manitoba maple (*Acer negundo*), common apple (*Malus domesticus*), Russian olive (*Elaeagnus angustifolia*), red-osier dogwood, black walnut (*Juglans nigra*), common buckthorn (*Rhamnus cathartica*), nannyberry (*Viburnum lentago*), white elm (*Ulmus americana*), basswood (*Tilia americana*), red-osier dogwood (*Cornus stolonifera*), willow shrubs (*Salix spp*.), and choke cherry (*Prunus virginiana*).

Naturalized Coniferous Hedge-row Ecosite (FOCM5)

Bordering the western property perimeter of the Site is a mature planted coniferous hedge-row dominated by white spruce (**Photographs 12** and **13**). Other woody associates include black walnut, Colorado blue spruce (*Picea pungens*), common buckthorn, and scattered willow shrubs. The groundcover consists of weeds, grasses, and herbaceous forbs. The stand-alone Tree Inventory and Preservation Plan (RESI 2024) contains details regarding the tree species scientific and common names, diameter at breast height (DBH), condition (trunk integrity TI – defects of weakness in trunk; canopy structure CS – scaffold branches, unions, multiple stems, insect damage; and canopy vigour CV – health of tree based on crown); canopy radius; summary comments; tree protection zone, location of tree, proposed action; and compensation size.

Dry-Fresh Mixed Meadow Ecosite (MEMM3)

Photographs 14 to 17 show various aspects of naturally regenerating dry-fresh mixed meadow, along the Site's western property perimeter, the edges of a temporary SWM pond, and the northern edge of the Site abutting the NON-PSW wetland feature which lie within the proposed SWM pond and open channel footprint to the west of the Harry Walker Parkway extension. The plant species composition of this cultural feature consists mainly of a groundcover of grasses, weeds, herbaceous forbs and sedges, along with scattered shrubs.

The groundcover includes common ragweed (*Ambrosia artemisiifolia*), awnless brome grass (*Bromus inermis*), wild carrot (*Daucus carota*), common buttercup (*Ranunculus repens*), bull thistle (*Cirsium vulgare*), Canada thistle (*Cirsium arvense*), field horsetail (*Equisetum arvense*), common plantain (*Erigeron annuus*), red clover (*Trifolium pratense*), white sweet-clover (*Melilotus alba*), tall goldenrod (*Solidago altissima*), common mullein (*Verbascum thapsus*), teasel (*Dipsacus fullonum*), evening primrose (*Oenothera biennis*), common burdock (*Arctium minus*), Canada goldenrod (*Solidago canadensis*), New England aster (*Symphyotrichum novae-angliae*), Calico aster (*Symphyotrichum lateriflorum*), broad-leaved sweet pea (*Lathyrus latifolius*),common mugwort (*Artemisia vulgaris*), pointed-leaved tick-trefoil

Photograph 13. View of norht end of planted coniferous hedge-row (FOCM5), which borders the west edge of the Site and is dominated by white spruce, with associates of black walnut, common buckthorn, Manitoba maple and bordered by a strip of meadow (MEMM3)

Photograph 14. View of a narrow strip of dry-fresh mixed meadow (MEMM3), along west edge of Site, dominated by a groundcover of weeds, grasses, herbaceous forbs and scattered sedges, along with scattered shrubs

Photograph 15. View of a narrow strip of dry-fresh mixed meadow (MEMM3), along west edge of Site, along the south end of FOCM5, dominated by weeds, grasses, herbaceous forbs and scattered sedges, along with scattered shrubs

Photograph 16. Eastward view of a narrow strip of dry-fresh mixed meadow (MEMM3),along north edge of temporary SWM pond on Site, dominated by weeds, grasses, herbaceous forbs, scattered sedges, and scattered shrubs

Photograph 17. Westward view of upland meadow (MEMM3) and barren soils, along north edge of temporary SWM pond, along with NON-PSW wetlands (SWDM3-4) and west conifer hedge-row (FOCM5), natural vegetation cover remove, with top soil stripped, filled and graded by permit

Photograph 18. View of part of treed swamp, a NON-PSW wetland (SWDM3-4) - east portion of west pocket, comprised of Manitoba maple, crack willow, hybrid crack willow, white willow, willow shrubs, dogwoods, with a groundcover of wetland species and wetland-affinity species

Photograph 19. Eastward view of part of treed swamp, a NON-PSW wetland (SWDM3-4) - west portion of west pocket, comprised of Manitoba maple, willows, dogwoods, and a groundcover of cattails, reed canary grass, spotted jewelweed, ferns, Canada bluejoint grass, dark green bulrush and purple loosestrife

Photograph 20. North view of part of treed swamp, a NON-PSW wetland (SWDM3-4) - west portion of east pocket, comprised of Manitoba maple, willows, dogwoods, and a groundcover of cattails, reed canary grass, spotted jewelweed, ferns, Canada bluejoint grass, dark green bulrush and purple loosestrife

(*Desmodium glutinosum*), spreading dogbane (*Apocynum androsaemifolium*), Virginia creeper (*Parthenocissus inserta*), riverbank grape (*Vitis riparia*), Kentucky bluegrass (*Poa pratensis*), annual blue grass (*Poa compressa*), green foxtail (*Seteria viridis*), red clover (*Trifolium pratense*), coltsfoot (*Tussilago farfara*), and dame's-rocket (*Hesperis matronalis*).

Scattered shrubs and saplings include Manitoba maple, Bebb's willow (*Salix bebbiana*), common buckthorn, pussy willow (*Salix discolor*), Missouri willow (*Salix eriocephala*), Russian olive (*Elaeagnus angustifolia)*, Autumn olive (*Elaeagnus umbellata*), white ash (*Fraxinus americana*) saplings, wild red raspberry (*Rubus idaeus*), and trembling aspen (*Populus tremuloides*).

Wetland ELC Units (Vegetation Communities)

Manitoba Maple Mineral Deciduous Swamp Type (SWDM3-4)

Photographs 18 to **21** show various aspects of the Manitoba maple treed swamp (2 units) of this NON-PSW wetland mosaic, spanning a portion of the north edge of the Site, as shown on **Figure 3**. The dominant tree species is Manitoba maple, along with woody associates in the overstory such as crack willow (*Salix fragilis*), hybrid crack willow (*Salix x rubens*), eastern cottonwood (*Populus deltoides*), scattered sugar maple (*Acer saccharum*), and white willow (*Salix alba*). Understorey and shrub/vine stratum vegetation includes Missouri willow, pussy willow, Bebb's willow, shining willow (*Salix lucida*), reddish willow (*Salix purpurea*), slender willow (*Salix petiolaris*), red-osier dogwood (*Cornus stolonifera*), alternate-leaved dogwood (*Cornus alternifolia*), Virginia creeper (*Parthenocissus inserta*), wild cucumber and riverbank grape.

The groundcover stratum contains reed canary grass, narrow-leaved cattail, spotted jewelweed, wild cucumber, sensitive fern, coltsfoot, blue vervain, tall goldenrod, marsh fern (*Thelypteris palustris*), field horsetail, purple loosestrife, purple-stemmed aster, poison ivy (*Toxicodendron radicans*), foxtail sedge (*Carex vulpinoidea*), Canada bluejoint grass (*Calamagrostis stolonifera*), and dark green bulrush (*Scirpus atrovirens*).

Mixed Willow Mineral Deciduous Thicket Swamp Type (SWTM3-6)

As illustrated on **Figure 3**, there is one (1) unit of this NON_PSW wetland on Site (**Photographs 22** and **23**), both of which are contiguous and inclusions within the wetland mosaic. Each unit border parts of Tributary A and Tributary B.

The shrub/vine stratums include pussy willow, Missouri willow, slender willow, Bebb's willow, red-osier dogwood, alternate-leaved dogwood, Virginia creeper, wild cucumber, and riverbank grape. Typical groundcover species are similar to those found in SWDM3-4. These include reed canary grass, common

Photograph 21. View of part of treed swamp, a NON-PSW wetland (SWDM3-4) - east portion of east pocket, comprised of Manitoba maple, crack willow, hybrid crack willow, white willow, willow shrubs, dogwoods, with a groundcover of wetland species and wetland-affinity species

Photograph 22. View of south portion of willow deciduous thicket swamp (SWTM3-6), comprised of pussy willows, Missouri willow, slender willow, Bebb's willow, red-osier dogwood, alternate-leaved dogwood and white elm

Photograph 23. View of north portion of willow deciduous thicket swamp (SWTM3-6), comprised of willows, dogwoods and white elm, with a groundcover of Virginia creeper, wild grape, wild cucumber, purple loosestrife, sensitive fern, marsh fern, goldenrods, boneset, Joe pye-weed, and spotted jewelweed

Photograph 24. View of part of reed canary grass dominated meadow marsh (MAMM1-3), an inclusion within the NON-PSW wetland mosaic, along with common reed, cattails, purple-stemmed aster, purple loosestrife, boneset, spotted jewelweed, and fowl manna grass

cattail, purple-stemmed aster, sensitive fern, marsh fern, tall goldenrod, lady fern, boneset, Canada goldenrod, grassed-leaved goldenrod, spotted Joe pye-weed, fowl manna grass, creeping bent grass, spotted jewelweed, beggar-ticks, and blue vervain.

Reed Canary Grass Graminoid Mineral Meadow Marsh (MAMM1-3)

This grassed meadow marsh is dominated by reed canary grass (**Photographs 24** to **26**), and is an inclusion within the wetland mosaic and part of the Core Area in the Natural Heritage System (NRSI 2020). Other associated graminoids, sedges and wetland forbs include common reed (*Phragmites australis*), tall goldenrod, narrow-leaved cattail, blue vervain, purple-stemmed aster, purple loosestrife, spotted Joe pye-weed, boneset, creeping bentgrass, foxtail sedge, spotted jewelweed, marsh fern, sensitive fern, fowl manna grass, and Canada bluejoint grass.

Common Reed Graminoid Mineral Meadow Marsh Type (MAMM1-12)

This wetland feature is dominated by common reed, and is part of the NON-PSW wetland mosaic, along the northern sedge of the Site (**Photographs 27** and **28**). Other groundflora included blue vervain, goldenrod, tall goldenrod, spotted jewelweed, foxtail sedge, sensitive fern, marsh fern and other grasses, sedges and forbs found in MAMM1-3).

3.3.3 Floristics

The dominant and typical plant species observed within each ELC (vegetation community) are summarized in **Table 1** and in the ELC descriptions mentioned in **Section 3.3.2,** along with selective photographs. Given the lack of natural features on-site, the removal and stockpiling of topsoil, fill and grading (by permit), and tree removal, a master plant list predicated on individual ELC units was not deemed necessary, nor warranted.

3.3.4 Tree Inventory

One hundred seventy-eight (132) trees greater than 10 cm DBH, across seven (7) species, were inventoried and assessed on the property. These Tree composition and abundance within the subject property is summarized below in **Table 2**. Willow sp. was the most abundant tree assessed, followed by White Spruce and Manitoba Maple. All of the trees occurring on the subject properties are presumed to be natural occurrences and none are significant species locally or provincially. Based on clearing and grading, many trees had been removed since the last inventory in 2021, which also had trees across a larger parcel, east of the approved Harry Walker Parkway extension. Details regarding the tree inventory are contained in a stand-alone report entitled, “Tree Inventory and Preservation Plan (RESI 2024).

Photograph 25. View of middle portion of reed canary grass meadow marsh (MAMM1-3), an inclusion within the NON-PSW wetland mosaic, with associates of narrow-leaved cattail, blue vervain, creeping bentgrass, Canada bluejoint grass, ferns and sedges

Photograph 26. View of eastern portion of MAMM1-3, a narrow band of reed canary grass graminoid mineral meadow marsh, along the edges of SWDM3-4 and SWTM3-6

Photograph 27. View along southern edge of common reed graminoid meadow marsh (MAMM1-12), with associates of blue vervain, Canada goldenrod, marsh fern, sensitive fern, reed canary grass, jewelweed, and awl-fruited sedge

Photograph 28. View of partially cut-over edge of common reed graminoid meadow marsh (MAMM1-12) on the Site, along west edge of proposed Harry Walker Parkway extension, along with barren soils

Table 2. Composition and Abundance of Trees > 10 cm DBH within the Site

Species	Total Assessed	Percentage of Total
Balsam Poplar (*Populus balsamifera*)	1	0.8
Black Walnut (*Juglans nigra*)	1	0.8
Horse Chestnut (*Aesculus hippocastanum*)	1	0.8
Manitoba Maple (*Acer negundo*)	39	29.6
Northern Red Oak (*Quercus rubra*)	2	1.5
White Spruce (*Picea glauca*)	40	30.3
Willow sp. (*Salix sp.*)	48	36.4
TOTAL	**132**	**100**

3.4 Wildlife and Wildlife Habitat

3.4.1 Birds

Dawn breeding bird surveys were conducted in accordance with the OBBA were undertaken by RESI on three (3) occasions between May 29 and July 7, 2021 at six (6) designated point count stations as illustrated on Figure 3 in CEA & RESI (2023). Stations were situated to provide coverage of each primary vegetation community and habitat observed on the entire RCG property, including the Site. Additional incidental observations of individuals were noted during all assessments when new species were heard or observed.

In total, ten (10) species of birds were identified as potential or probable breeders over the six (6) stations and three (3) days of observation. No Species at Risk (SAR) or Special Concern (SC) species were heard or observed. The most common species observed was common grackle (*Quiscalus quiscula*), while the eastern kingbird (*Tyrannus tyrannus*) was only observed once and the yellow warbler (*Dendroica petechia*), song sparrow (*Melospiza melodia*), and house finch (*Haemorhous mexicanus*), at least twice each. Given the limited area of natural habitat on the RCG property, including the Site and adjacent lands, along with the active agriculture cropland uses, the low number and density of birds observed was expected. The species observed are comparable with those as listed on **Table 3**.

Other bird species were noted during the botanical inventories on June 9 and August 26, 2020. Although habitat did exist for some of the species, most were flying overhead with no evidence of breeding noted. The species included: black-capped chickadee (*Poecile atricapillus*); mourning dove (*Zenaida macroura*);

gray catbird (*Dumetella carolinensis*); northern flicker (*Colaptes auratus*), American crow (*Corvus brachyrhynchos*); turkey vulture (*Meleagris gallopavo*) – tracks; and Canada goose (*Branta canadensis*).

Table 3. Results of Dawn Breeding Bird Point Count Stations on the RCG Property and the Site

Date\Start Time	Station	Temperature	Beaufort Wind	Cloud Cover	Species
May 29, 2021/ 7:10am	1	8ºC	0-3	0%	Red-winged Blackbird (*Agelaius phoeniceus*) Savanna Sparrow (*Passerculus sandwichensis*) Yellow Warbler (*Setophaga petechia*) Common Grackle (*Quiscalus quiscula*)
	2	8ºC	0-3	0%	Common Grackle (*Quiscalus quiscula*) House Finch (*Haemorhous mexicanus*)
	3	8ºC	0-3	0%	Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*) Blue Jay (*Cyanocitta cristata*) American Crow (*Corvus brachyrhynchos*)
	4	8ºC	0-3	0%	Song Sparrow (*Melospiza melodia*)
	5	8ºC	0-3	0%	Song Sparrow (*Melospiza melodia*)
	6	8ºC	0-3	0%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*)
June 23, 2021/ 7:35am	1	13ºC	0-2	5%	Red-winged Blackbird (*Agelaius phoeniceus*) Savanna Sparrow (*Passerculus sandwichensis*) American Robin (*Turdus migratorius*)
	2	13ºC	0-2	5%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*)

					Song Sparrow (*Melospiza melodia*)
	3	13ºC	0-2	5%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Eastern Kingbird (*Tyrannus tyrannus*) Blue Jay (*Cyanocitta cristata*)
	4	13ºC	0-2	5%	Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*) Blue Jay (*Cyanocitta cristata*)
	5	13ºC	0-2	5%	Song Sparrow (*Melospiza melodia*) Common Grackle (*Quiscalus quiscula*) American Robin (*Turdus migratorius*) Yellow Warbler (*Setophaga petechia*)
	6	13ºC	0-2	5%	Common Grackle (*Quiscalus quiscula*) American Robin (*Turdus migratorius*) Red-winged Blackbird (*Agelaius phoeniceus*)
July 7, 2021/ 7:15am	1	25ºC	0-1	10%	Song Sparrow (*Melospiza melodia*) Common Grackle (*Quiscalus quiscula*) Red-winged Blackbird (*Agelaius phoeniceus*)
	2	25ºC	0-1	10%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) House Finch (*Haemorhous mexicanus*)
	3	25ºC	0-1	10%	Common Grackle (*Quiscalus quiscula*) American Robin (*Turdus migratorius*) Blue Jay (*Cyanocitta cristata*)

				American Crow (*Corvus brachyrhynchos*)
4	25ºC	0-1	10%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*)
5	25ºC	0-1	10%	Song Sparrow (*Melospiza melodia*)
6	25ºC	0-1	10%	American Robin (*Turdus migratorius*) Red-winged Blackbird (*Agelaius phoeniceus*)

3.4.2 Amphibians & Reptiles

Evening amphibian call surveys were conducted on May 1, May 18, and June 9, 2021 at four (4) designated survey stations as illustrated on Figure 3 in CEA & RESI (2023). Survey locations were chosen to be in the vicinity of potential aquatic habitats that would support breeding activities. Incidental observations of individuals would have been noted during other assessment times if new species were heard or observed. During the botanical surveys in 2020 and 2021, a few individual northern leopard frogs (*Lithobates pipiens*) were observed in the wetland feature (SWDM3-4).

Based on the results below, it is concluded that anuran abundance and diversity of amphibians is deemed to be extremely low throughout the RCG property and the Site (**Table 4**). These observations are consistent with that of the East Gwillimbury Employment Corridor Secondary Plan Natural Heritage Evaluation (NRSI 2020). NRSI did not report any anurans on the RCG property and the Site during their surveys in 2020 (survey station ANR-009 on NRSI Map 3).

3.4.3 Bats

As stated in **Section 2.3.3** (CEA & RESI 2023), no bat snag surveys or bat acoustic surveys were undertaken on the property. Given the lack of tree cover, it was assumed that SAR maternity roosting bats are present, but not in numbers that would warrant formal bat survey protocols. It is assumed that an appropriate mitigation measure to avoid impacts to SAR maternity roosting bats would be a tree-cutting timing window, to be confirmed with the Ministry of Environment, Conservation and Parks (MECP).

3.4.4 Mammals

Mammal species noted (including their NHIC SRank) during the 2020 and 2021 botanical inventories included: northern raccoon (*Procyon lotor* S5); red squirrel (*Tamiasciurus hudsonicus*, S5); eastern chipmunk (*Tamias striatus*, S5); eastern gray squirrel (*Sciurus carolinensis*, S5); groundhog (*Marmota monax*); and white-tailed deer (*Odocoileus virginianus*, S5) -tracks. None of these species is a SAR in Ontario and all are relatively common in the local geographic area.

Table 4. Results of Evening Amphibian Call Survey on the RCG Property and the Site

Date\Start Time	Station	Temperature	Beaufort Wind	Cloud Cover	Species
May 1, 2021 / 8:55pm	1	12ºC	0-3	10%	American Toad (*Anaxyrus americanus*)
	2	12ºC	0-3	10%	American Toad (*Anaxyrus americanus*)
	3	12ºC	0-3	10%	No calls
	4	12ºC	0-3	10%	No calls
May 18, 2021 / 9:05pm	1	17ºC	0-1	10%	No calls
	2	17ºC	0-1	10%	No calls
	3	17ºC	0-1	10%	No calls
	4	17ºC	0-1	10%	No calls
June 9, 2021 / 9:25pm	1	24ºC	0-1	10%	No calls
	2	24ºC	0-1	10%	No calls
	3	24ºC	0-1	10%	No calls
	4	24ºC	0-1	10%	No calls

3.4.5 Lepidoptera

Although no specific Lepidoptera inventories were undertaken on the RCG property and the Site, monarch butterflies were observed during the 2020 and 2021 botanical surveys, along the edges of the wetland features SWDM3-4 and SWTM3-6, and the fringes of the active agricultural cropland, at that time. The monarch is listed as a Special Concern (SC) species on Schedule 4 of the ***Endangered Species Act, 2007*** (Province of Ontario 2007).

3.4.6 Connectivity/Linkage

Based on the lack of natural heritage features and north perimeter hedge-row on the Site, it is our professional opinion and supported by the existing Site and abutting conditions, that there is a lack of connectivity/linkage to the north, east and south. There is some connectivity off-site to the west from the NON-PSW wetland feature (SWDM3-4) and the aquatic inclusions of a braided intermittent drainage feature. The on-site SWDM3-4 (SWD3-4 in NHIC 2020) continues off-site to the west, eventually changing to reed-canary grass graminoid mineral meadow marsh MAMM1-3 (MAM2-2 on Map 2b in NRSI 2020).

3.5 Aquatic Habitat

3.5.1 Headwater Drainage Features

The locations of headwater drainage features on the property as shown on Figure 8, in CEA & RESI (2023). As previously noted, RESI completed a Headwater Drainage Feature Assessment (HDFA) of the watercourse/swale reaches, relying on field data collected in 2009, 2010 and 2019. This 2019 report is included as Appendix C in CEA & RESI (2023).

Based on the observations, the HDFA resulted in a classification of the watercourse/swale reaches as Conservation (main channel – Tributary A in RESI 2019) and No Management Required (secondary reach – Tributary B in RESI 2019).

THE HDFA report (RESI 2019) is referenced in the NRSI Natural Heritage Assessment (NRSI 2020), noting the resulting management objectives stated above.

3.5.2 Fish and Fish Habitat

As previously noted above, RiverStone completed an assessment of fish and fish habitat on the property in 2019, relying on field data collected in 2009 and 2019. This report is included as Appendix C in CEA & RESI (2023). The following paragraphs offer a brief history of the changes to the intermittent drainage swale, both on the RCG property, the Site and lands to the north.

Habitat for fish can occur in several forms. On the RCG property and the Site, the wetland and creek are the only aquatic features (SWDM3-4, Tributary A, Tributary B) which could function as habitat for fish, depending on the availability of a suitable water depth and flow permanency. Photographs representative of the onsite NON-PSW wetland (SWDM3-4) and creek (intermittent tributary/swales) conditions are provided in Appendix C in CEA & RESI (2023).

Based on the RESI (2019) report and 2021 site visits, the watercourse reaches on the RCG property and Site are ultimately a tributary to the East Holland River, which lies to the west of Leslie Street. RESI previously noted that the watercourse appears to have been historically re-aligned on more than one occasion and does not contain a defined channel upstream of the property. North of the property the watercourse/swale traverses an agricultural field (corn in 2021) with the historical channel path plowed through in 2021 and other years for crop production. Based on aerial photography, the main tributary originates to the north, flowing in a southwest direction through a pond, a small wooded area and either overland through a farm field or through a tile drain system prior to entering the property (Figure 8 in CEA & RESI 2023).

Upon entering the property, the tributary immediately changes flow direction to the west along its the north property perimeter. Within a distance of approximately 80 m to 100 m, the watercourse flows overland, and lacks a defined channel. Areas of saturated soils were evident during the 2009 and 2019 site visits. However, it was concluded that access and channel quality restrict this reach such that indirect fish habitat occurs only at this juncture. The immediate riparian buffer in this reach consists of an agricultural field, planted in 2009 with soybean, corn in 2019, soybean in 2020 and left fallow with earthworks (topsoil removal) in 2021. The buffer offers no canopy and shading cover for this reach nor a supply of vegetative material for habitat complexity. There is NON-PSW SWTM3-6 along the tributary edges.

Following the reach that flows overland, the surface water hits a nick-point with evidence of considerable downgradient erosion in 2009. This reach of the watercourse was somewhat stabilized by 2019 and showed considerable regeneration of shrubs and wetland/meadow groundcover vegetation. The substrates throughout this reach consist of 70 % clay, 10% silt, 10% sand and 10% cobble/rubble/boulder. In 2009 isolated pools with small schools of fish were observed in the main channel; however, no fish were observed in 2019.

The most western reach of the watercourse flows through a wooded swamp (SWDM3-4)/shrub thicket swamp (SWTM3-6) and reed canary grass-graminoid meadow marsh (MAMM1-3), part of the overall NON-PSW wetland mosaic. Where the tributary enters the shrub thicket swamp and meadow marsh, there is a relatively large expanse of depositional material that has resulted from the upstream erosion. Through this reach the intermittent drainage swale is braided with no defined banks, channel, or flow; however saturated soils were noted in some sections, identified as a low flow channel (0.5-0.8 m width). The bandful width varies between 8 m and 10 m and is evident through the distinct deposits of sand and silt.

Noticeable flow was observed in this reach in 2009 and the spring of 2019. Also of note is that Tributary A has a more channelized appearance downstream of an old culvert, which appears to have been installed to facilitate a farm-crossing. Substrates consist of sand, silt, and gravel with occasional pockets of rubble.

No direct fish habitat was observed upstream of the confluence with the tile drain channel at the time of the site visit, or any evidence of benthic invertebrates on in stream rocks; however, downstream of the confluence, observations of small fish and benthic invertebrates were noted during the 2009 field assessment.

A secondary watercourse reach directs water north through the central portion of the property and exits onto the tableland via a tile drain outlet, providing some flow to the main reach. The overflow from the tile drainage system emptied into a pool which outlets through a narrow channel adjacent to the agricultural field prior to its confluence with the main reach. Fish were observed in the pooled water at the tile drain outlet (July 10, 2009) and in the reaches of the main channel downstream of the farm crossing culvert. Downstream of the old farm crossing, surface water flows through a fresh-moist willow lowland thicket until it exits the property and continues west through a culvert under Leslie Street.

Based on the results of our historical and recent site assessments, the furthest upstream that fish were directly observed is immediately downstream of the confluence of Tributaries A and B (Figure 8 in CEA & RESI 2023). Upstream of their confluence Tributary A is considered indirect habitat as physical changes in habitat do not provide suitable conditions and as a result, fish were not observed during any of our assessments.

3.6 Species at Risk (SAR) Assessment

The results of a RESI desktop screening, which is habitat-based and targeted assessments for Endangered (END) and Threatened (THR) species and their habitats is provided in Table 6 in CEA & RESI 2023). The preliminary screening identified the potential for fourteen (14) Endangered or Threatened species to be present within the local area based on existing digital records and/or range maps. This initial list of SAR species was further refined to twelve (12) species that had the potential to be present or use vegetation communities on the property or within the local area that required on-site assessments of habitats or targeted surveys to determine presence or absence.

Based on the results of the habitat-based assessment and targeted surveys, RESI identified the potential for two (2) species of SAR Endangered bats, little brown bat (*Myotis lucifugus*) and northern long-eared bat (*Myotis septentrionalis*). Potentially suitable habitat on the property may exist in the forested portions of the NON-PSW wetland feature (SWDM3-4) and tree cover offered in the north property perimeter hedge-row (FODM11), which comprise a small portion with the main northern hedge-row removed in 2021.

Each of these species has the potential to be impacted by the proposed development. Pregnant and lactating females will move from roost to roost each morning in responses to changes in thermal conditions and prey (insect) availability. Areas containing a high density of snags increases the chances of

use by SAR Endangered bats as these areas provide a variety of microhabitat conditions. Changes within the forest community adjacent to maternal roosts have the potential to reduce the suitability of a given snag or cavity tree by changing the extent of shading by adjacent trees, which can result in changes to thermal conditions within the roost. Additionally, as roosting trees inherently exhibit some level of decay, removal of trees surrounding roosts may increase the potential for wind-throw of both the roost itself and surrounding trees, thereby damaging or destroying the habitat feature. Based on our site visits, there is a low number of individual or clustered potential bat snag trees.

These two SAR bat species assessed as a species guild (related species with similar habitat characteristics), are highly mobile; however, individuals and groups of the noted bat species are also recognized as having some degree of fidelity to suitable local sites for daily and seasonal 'roosting' activities. While some species (*i.e.*, *Myotis lucifugus*) exhibit a preference for roosting in anthropogenic structures (which do not exist on the property), natural roosting sites are also important. Natural roosting sites are generally associated with mature forests containing a sufficient density of large trees in various stages of decay, otherwise known as 'snags.' Snags provide features such as cavities and/or loose bark, for which bats rely on for shelter and thermoregulation throughout the active season. However, mature forest and mature trees are lacking on the RCG property and the Site.

The Natural Heritage Evaluation (NRSI 2020) noted four (4) SAR Endangered species in the East Gwillimbury Highway 404 Employment Corridor Secondary Plan area, which included barn swallow (*Hirundo rustica*), bank swallow (*Riparia riparia*), eastern meadowlark (*Sturnella magna*) and butternut (*Juglans cinerea*). Based on habitat preferences, the SAR assessment discounted the potential for three (3) of the four (4) species noted by NRSI due to lack of habitat. There were no buildings or bridges suitable for nesting barn swallows (Species of Concern – SC), no suitable banked ground for bank swallows, and no hay or grassed field habitat for bobolink and/or eastern meadowlark. Although multiple individual and clustered native and hybrid walnut trees were identified on-site, these specimens were confirmed by butternut health assessors (BHA) from CEA and RESI as being walnuts, and no native butternut or butternut hybrids were found on Site.

3.7 Significant Wildlife Habitat (SWH) Assessment

The results of a RESI desktop screening, which is habitat-based on targeted assessments of potential features and communities which could function as SWH per Provincial policies is provided on Table 7 in CEA & RESI (2023). Three (3) communities or features with the potential to be identified as Candidate SWH were identified: Seasonal Concentration Areas of Animals (bat maternal colonies) and Habitat for Species of Conservation Concern (two species), as described below.

Seasonal Concentration Areas of Animals

Bat Maternal Colonies

Tree roosting bats including big brown bat (*Eptesicus fuscus*) and silver-haired bat (*Lasionycteris noctivagans*) have range overlaps with the property and adjacent lands. During the site inventories, suitable dead or dying trees (snags) and trees with loose bark or tree cavities were observed across the treed vegetation communities, particularly in the Site perimeter hedge-rows. These trees may provide suitable maternal colony habitat. These habitats overlap with potential habitat for the Endangered species noted below, namely the little brown bat and northern long-eared bat.

Habitat for Species of Conservation Concern

Special Concern (SC) and rare wildlife species are considered further in the impact assessment section (**Section 5**), where mitigation measures are proposed. See Table 8 in CEA & RESI (223) for a detailed technical description of the Species of Conservation Interest assessment.

Two (2) Special Concern species were found to have potential habitat on the property. Snapping turtles can inhabit a wide range of wetland communities. The wetland community and watercourse are considered to function as a possible movement corridor/linkage for this species and others, but is considered of low quality. The potential is limited given the lack of channel or vegetation upstream of the wetland feature and upstream of the property. However, there is a wetland pocket further to the north of the property. Monarch butterfly are also a Special Concern species that could potentially breed on property. Monarch lay eggs on milkweed plants which were noted on the property along the driveway roadside, and fringes of the agricultural cropland. Monarchs were observed during the botanical inventories.

The Natural Heritage Assessment for the overall Secondary Plan area (NRSI 2020) noted the potential for three categories of SWH, including Seasonal Concentration Areas, Specialized Wildlife Habitat and Habitat for Species of Conservation Concern. The one component of Specialized Wildlife Habitat that was identified in the Secondary Plan area, Turtle Nesting Habitat, is associated with specific NON-PSW wetland communities, which do not exist on the property.

4 SITE CONSTRAINTS AND OPPORTUNITIES

It is to be noted that the MZO applies to the entire RCG property and the Site, with future development (Area for Future Development – the Site) proposed in the remaining portion of the NON-PSW wetland mosaic and its braided tributary channels of Tributary A and Tributary B to the west of the approved Harry Walker Parkway extension. The block of tableland to the east of the Harry Walker Parkway extension includes a larger Industrial Building (30,903.38 m^2), additional parking and a Pipe Yard (4115 m^2).

Based on the background data review and the CEA-RESI field inventories and evaluations undertaken in 2019-2021 (CEA & RESI 2023), with follow-up site visits in September 2023, potential site constraints and opportunities were identified based on their inherent terrestrial, wetland, cultural and wildlife features and ecological functions, including any provincial and/or Town and/or LSRCA natural resource designations (e.g., Area of Natural and Scientific Earth Science and/or Life Science – ANIS, Provincially Significant Wetland – PSW, Environmentally Significant Area – ESA, Significant Woodland – SW, Significant Wildlife Habitat – SWH, Significant Valleyland (SV), fish and fish habitat, flora and/or fauna Species at Risk – SAR and their habitats, etc.)

4.1 Natural Resource Designations & Regulated Areas

The following Natural Resource Designations and/or Regulated Areas have been identified on the property through the background information collection and review (Section 3.1):

- Natural Heritage System B (Beacon Environmental 2010);
- Natural Heritage System Core Area (NRSI 2020); and
- LSRCA Ontario Regulation 179/06 Regulated Area

The background review and digital sources did not identify the presence of any ANSIs, PSWs (significant wetlands or significant coastal wetlands), coastal wetlands, ESAs, SW, SWH, SV, permanent or intermittent fish habitat on the Site.

4.2 Significant Flora

No significant vegetation communities were identified on the Site. There are NON-PSW wetland communities along the northern property edge, considered as a NON-PSW wetland mosaic, comprised of SWDM3-4, SWTM3-6, MAMM1-3, and MAMM1-12. The wetland mosaic has been inventoried and designated as part of the Town's NHS Core Area it would appear has been mapped without benefit and implications of the Town's approved Harry Walker Parkway extension, and the approved and undertaken earthworks such as the removal and stockpiling of topsoil, filling and grading, and some tree removal, through permits from the Town and LSRCA.

Although there are known locations of butternut in the local geographical area and the Secondary Plan (NRSI 2020), no butternut trees, saplings or seedlings were found on the Site 2020 and 2021, or in September 2024, by qualified butternut health assessors (BHAs), and based on an extensive level of effort.

The botanical inventories also did not find any other plant species that are listed as significant, rare, or uncommon in the source status references outlined in **Section 3.1**.

4.3 Significant Fauna

The wildlife surveys conducted in 2019 and 2021 identified the potential for two (2) species of Species at Risk (SAR) fauna, Endangered little brown bat and Endangered northern long-eared bat within the remaining deciduous hedge-row (FODM11). Monarch (Special Concern – SC) were noted on-site in MEMM3 and the weedy/grassed strip fringes of the previous tableland agricultural cropland.

Overall, there are no potential development constraints from a natural environment perspective identified on the Site. The NHS Core Area features (NON-PSW wetland mosaic, Tributary A, Tributary B and a LSRCA Ontario Regulation, regardless of the MZO which permits implementation of the revised Overall Site Plan.

5 IMPACT ASSESSMENT

5.1 Proposed Site Plan

The property is zoned M2 (Regulation 451/20) as per the Minister's Zoning Order, which came into effect on August 13, 2020. Details pertaining to Definition, Application, Permitted Uses, Zoning Requirements, Terms of Use, Deemed by-law, and Commencement are contained in the Order (Ministry of Municipal Affairs and Housing 2020). The permitted uses as per the Order are as follows:

3. Every use of land and every erection, location or use of any building or structure is prohibited on the lands described in section 2, except for,

(a) the uses permitted in the "Employment General (M2) Zone" in the zoning by-law;

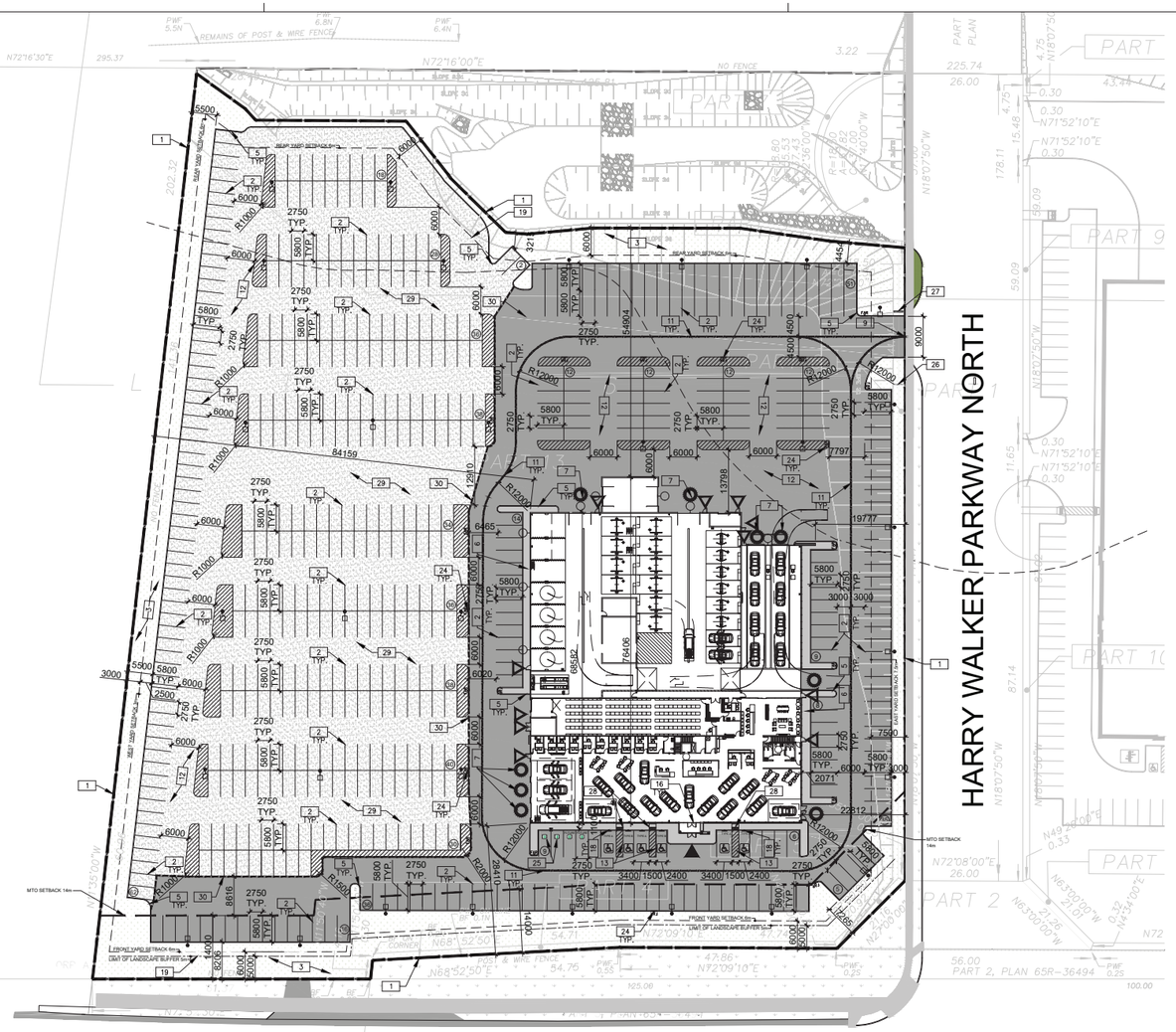
(b) motor vehicle sales or rental establishments; and

(c) uses, buildings and structures that are accessory to the uses set out in clauses (a) and (b).

The Overall Site Plan for the Site (Ware Malcomb 2023 – Sheet A100) is shown on **Figure 4**, and contains details such as: building classification; proposed use; gross site area; Overall Site Requirement (minimum lot area, minimum lot frontage, maximum building height, minimum front-side-rear building setback,); Landscape Requirements (front-side yard-interior side yard-red landscape buffer, landscape area, parking area); Parking Area Coverage (asphalt area, gravel area); standard parking spaces, accessible parking and parking species in MTO setback.

Currently on the Site there are no existing buildings or structures. Historically, prior to 2020, a small farm house and outbuildings were located in the southwest corner of the Site, which have since been demolished, with trees removed, topsoil removed and stockpiled, and interim fill and grading completed. As of September 2024, the entire Site is almost partially filled and graded. A temporary stormwater pond was constructed in 2023 to support the filling and grading activities. Immediately adjacent to the east of the Site, filling and grading has also been initiated for the extension of the approved Harry Walker Parkway, and the proposed RCG development to the east of the Harry Walker Parkway. As stated previously, the proposed development on the Site is a commercial land use, and currently contemplates the construction of a Toyota automotive dealership. The Site development will include the car dealership building, require parking and associated stormwater management facilities, as well as landscaped areas.

From a planning perspective, the Site is within the jurisdiction of the Town of East Gwillimbury, Regional Municipality of York. The Site lies within the Secondary Plan Area known as the Employment Corridor extending from Mount Albert Road to the north (east side of Hwy 404), East to Woodbine Ave, south to the Green Lanes, and west to Leslie Street. According to the Official Plan for the Town of East Gwillimbury, the property is designated Employment Area (Schedule A) and Supporting Area under the Natural Heritage System (Schedule D-1). The current Owner of the Site and remainder of the property is RCG, with the Ministerial Zoning Order (MZO, Ontario Regulation 451/20) approved by the Ministry of Municipal Affairs and Housing, which rezoned the property to Employment Uses, with the requirements



OVERALL SITE PLAN

SCALE: 1:600 — CONSTRUCTION NORTH / TRUE NORTH

SITE PLAN NOTES

1. PROPERTY LINE
2. 2700x5800 PARKING STALL, PAINTED PARKING STRIPPING PER THE TOWN OF EAST GWILLIMBURY STANDARDS.
3. LANDSCAPING (SEE LANDSCAPING DWG.)
4. YELLOW PAINTED LINES FOR PEDESTRIAN ACCESS
5. 150mm WIDE CURB
6. MIN. 1500mm WIDE CONCRETE SIDEWALK TYPICAL U.N.O
7. HEATED CONCRETE PAD WITH PAINTED LINE TO INDICATE DOOR ACTIVATION
8. FIRE DEPARTMENT/SIAMESE CONNECTION
9. MUNICIPAL SIDEWALK & CURB ACROSS PROPOSED ACCESS TO BE HEAVY DUTY
10. DETECTIBLE TACTILE WARNING SURFACE, CONFORMING TO 2012 O.B.C.
11. FIRE ACCESS ROUTE. MIN 12.0M TURNING RADIUS
12. HATCHED AREA DENOTES HEAVY DUTY ASPHALT. TYPICAL FOR ALL AREAS REQUIRING TRACTOR TRUCK ACCESS.
13. TYPICAL SHARED ACCESSIBLE PARKING STALLS, PAINTED PARKING STRIPING PER MUNICIPAL STANDARDS. EACH PAIR OF SHARED STALLS TO PROVIDE A MINIMUM OF (1) TYPE A (3400 MIN WIDTH) & (1) TYPE B (2400 MIN WIDTH) STALL C/W A 1.5M PAINTED AISLE – REFER TO THE TOWN OF EAST GWILLIMBURY ACCESSIBLE PARKING STANDARDS
14. PROPOSED LOCATION OF TRANSFORMER C/W CONCRETE PAD
15. ALL DRIVEWAYS TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH TOWN OF EAST GWILLIMBURY STANDARD
16. PRINCIPLE ENTRY WITH POWER OPERATED AUTOMATIC DOOR OPENER AND FLUSH THRESHOLD. PROVIDE FROST SLAB BY STRUCTURAL.
17. PROPOSED BICYCLE PARKING SPACE
18. ACCESSIBLE PARKING SIGN INSTALLED PER MUNICIPAL STANDARDS
19. LIMIT OF LANDSCAPE BUFFER
20. SNOW STORAGE
21. EV CAR CHARGING STATION
22. PHASE 2 BUILDING OUTLINE SHOWN ON SITE FOR REFERENCE
23. FIRE HYDRANT. SEE CIVIL DRAWINGS.
24. FIRE ROUTE ACCESS SIGN SPACED MAX 22.86m
25. PROPOSED 220 V EV CHARGER ON 24" DIAMETER CONCRETE PIER WITH 100mm DIAMETER BOLLARDS
26. TOYOTA PYLON SIGNAGE
27. TOYOTA DIRECTIONAL SIGN
28. TACTICLE INDICATOR
29. HATCHED AREA DENOTES GRAVEL
30. LINE SEPARATING GRAVEL AND ASPHALT DRIVEWAY

SITE LEGEND

- ASPHALT PAVEMENT (HATCHED)
- PAINTED DIAGONAL LINES WHERE INDICATED
- NEW LANDSCAPING AREA (HATCHED)
- GRAVEL AREA (HATCHED)
- FIRE ACCESS ROUTE MIN. 12.0M TURNING RADIUS
- PROPERTY LINE
- PARKING STALL COUNT TOTAL.
- MAIN ENTRANCE DOOR
- EXIT DOOR
- DRIVE IN DOOR
- BARRIER-FREE PARKING SPACE WITH SIGNAGE AT SIDEWALK
- D.C. DEPRESSED CURB FOR BARRIER-FREE ACCESS
- F.C. FLUSH CURB
- PROPOSED FIRE HYDRANT
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM WATER MANHOLE
- FIRE DEPARTMENT CONNECTION
- FAR FIRE ACCESS ROUTE SIGN
- LIGHT FIXTURES (SEE PHOTOMETRIC DRAWINGS FOR DETAILS)

SITE STATISTICS / ZONING MATRIX 1656 GREEN LANE EAST		
Zoning Category	***M2 - MZO O. Reg 451/20***	
Building Classification	*Group F2 (O.B.C. A- 3.1.2.1.(1))*	
EAST GWILLIMBURY ZONING BY-LAW 2018-043		
Proposed Use	*Motor Vehicle Sale / Rental Establishment*	
GROSS SITE AREA	***2.87 ha***	**28,661.26m²**
PROPOSED BUILDING AREA:		
TOTAL GFA	***49,754 SF***	**4,622.30m²**
OVERALL SITE REQUIREMENTS		
Site Requirements	**Proposed**	**Required**
Min. Lot Area (Existing)	28,661.26m²	-
Min. Lot Frontage (m)	179.63 m	-
Maximum Building Height (m)	11.43 m	-
Min. Front Yard Building Setback (m)	28.41 m	6.00 m
Min. Ext. Side Yard Building Set back (m)	19.78 m	7.5 m
Min. Int. Side Yard Building Set back (m)	84.16 m	3.00 m
Min. Rear Yard Building Setback (m)	54.90 m	6.00 m
Landscape Requirements	**Proposed**	**Required**
Min. Front Landscape Buffer (m)	1.40 m	5.00 m
Min. Ext. Side Yard Landscape Buffer (m)	3.00 m	-
Min. Int. Side Yard Landscape Buffer (m)	3.00 m	-
Min. Rear Landscape Buffer (m)	1.40 m	-
Min. Landscape Area (% of Lot Area) - Approx.	13.84%	10.00%
Min. Landscape Area (SM) - Approx.	*3,967.19m²*	*2,866.13m²*
Min. Landscap Required by Parking Parking Area (% of Asphalted Area) - Approx	6.05%	5.00%
Min. Landscap Required by Parking Parking Area (SM) - Approx.	*554.35m²*	*457.78m²*
Parking Area Coverage	**Proposed**	
Asphalt Area (sm) (Asphalt Area to Cover Only the number of Total Permanent Parking Spaces	9,155.53m²	
Gravel Area (sm)	10,903.94m²	
	Proposed	**Required**
Standard Required Parking Spaces	**155**	**155**
Accessible Parking (Additional to standard parking spaces)	*6*	*6*
Parking Spaces in MTO Setback	*58*	-
TOTAL PERMANENT PARKING	**219**	**161**
Accessible Parking Requirements		
For 101-200 Required Spaces	***1 + 3% of spaces of the total number of parking spaces provided***	
	1+3%(155 Required Spaces) = 5.65 = 6 Total	
Parking Stall Dimensions	*STANDARD: 2.75m X 5.8m w/ 6m Aisle; ACCESSIBLE: Type-A 3.4m X 5.8m Type-B 2.4 X 5.8m; w/ 1.5m access aisle*	
Outdoor Display & Sales Area Spaces	**380**	

EV CHARGER:

IN ORDER TO FUTURE-PROOF YOUR FACILITY FOR LETRIC VEHICLE HCARGING READINESS, CONDUITS (AND CONCRETE PIER FOUNDATION WITH "J" BOLTS TO MOUNT DUAL HEADED CHARGERS) SHOULD BE PREPARED TO ACCOMODATE FOUR (4X) 220V EV CHARGERS UP TO A DC LEVEL 3 EV CHARGER.

NOTE:
THIS SITE SHALL PROTECT FOR POTENTIAL FUTURE VEHICULAR INTERCONNECTION THE ADJACENT PROPERTY SHOULD THE ADJACENT LANDS REDEVELOP WITH A FUTURE COMPATIBLE LAND-USE. LOCATION TO BE DETERMINED.

VICINITY MAP

VICINITY MAP — SCALE: N.T.S.

Figure 4. Overall Site Plan

WARE MALCOMB
ARCHITECTURE CIVIL ENGINEERING
PLANNING BRANDING
INTERIORS BUILDING MEASUREMENT
6220 Highway 7, Suite 300
Vaughan, ON L4H 0R1, Canada
P 905.760.1221

NewRoads Automotive Group™
TOYOTA

TOYOTA - NEWMARKET
1656 GREEN LANE EAST,
EAST GWILLIMBURY,
ONTARIO
L9N 0L8, CANADA

	DATE	REMARKS
1	06/27/2024	ISSUED FOR REVIEW
2	06/29/2024	ISSUED FOR REVIEW
3	09/12/2024	ISSUED FOR REVIEW
4	09/19/2024	ISSUED FOR CONSULTANTS
5	09/27/2024	ISSUED FOR SPA
6	10/08/2024	ISSUED FOR CONSULTANTS

PA/PM:	J. COX
DRAWN BY.:	A.S.
JOB NO.:	TOR24-0080-00

SHEET
A100

09/27/2024 - ISSUED FOR SPA

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of Subsection 9.2 of the zoning bylaw, specifically Employment General M2 zone, applying to the entire property, which includes the Site. The entire property is also located outside of the Oak Ridges Moraine Conservation Plan Area and outside of the Greenbelt Plan Area.

It is to be noted that the approved Harry Walker Parkway extension from south of Green Lane East, through the RCG property to the north has undergone extensive filling and grading, as approved by Town and LSRCA permits. The extension was approved through the Secondary Plan process and met the test of Policy 5.1.11 of the Town Official Plan, supporting transportation infrastructure within Natural Heritage Areas. The Harry Walker Parkway extension is being built over a small NON-PSW wetland feature with an associated intermittent drainage swale being piped from the northern property boundary to the east.

The approved Harry Walker Parkway extends to the north, terminating in a cul-de-sac at the northern property boundary and the development of a commercial structure in the east toward Highway 404. The proposed Toyota automotive dealership building will also have accessory parking stalls on all sides of the building essentially extending to the property boundaries in all directions. As required under the Employment Use zoning, there is a 6 m setback from the northern and southern property boundaries.

Given the approvals already in effect for the Site and the degree of filling and grading that has been completed to-date, it is our opinion that the development of the property as a Toyota automotive dealership will not impact any the remaining cultural and natural heritage features, save and except for the proposed SWM pond and open channel required to the west of the approved Harry Walker Parkway extension. Details regarding the SWM pond and open channel alignment and design, are contained in GEI (2024a, 2024b, and 2024c).

Specifically, the extension of Harry Walker Parkway that has encroached into a small NON-PSW wetland and intermittent drainage swale, and the filling and grading that has almost extended to property perimeters, there are little to no natural features remaining on the Site. The row of trees on Site along the west property boundary (FOCM5) and remnants of an isolated treed and shrub thicket swamps (SWDM3-4, SWTM3-6) to the north are all that remains on the Site. We understand that the components of the Town's Natural Heritage System on the subject lands were previously evaluated and designated without the benefit of considering the approved loss of these portions of the Natural Heritage System, including the small wetland and intermittent drainage swale. Specific discussions of the features, functions and expected impacts are provided below.

5.2 Vegetation and Floristics

As illustrated on **Figure 3**, as contained in the Tree Inventory and Preservation Plan (RESI 2024), the proposed development footprint of the Toyota Automotive Dealership will result in the removal of some the tree in FOCM5, and well as all vegetation cover in the NON-PSW wetland mosaic (SWDM3-4, MAMM1-3, SWTM3-6 and MAMM1-12). These features will be replaced by a SWM pond and an open channel to

convey surface runoff from northeast and south of the Site, to the west, and eventually drain into a tributary of the East Holland River, off-site to the west.

5.3 Wildlife and Wildlife Habitat (including SWH)

As noted in **Section 3.4.1** and **Table 3**, breeding bird studies were completed over three (3) days and at six (6) sites on the entire property including the Site, resulting in ten (10) species being observed. The diversity of species was considered minimal and expected, given the lack of quality life cycle habitats, and none of the species observed are classified as species of Special Concern (SC) or SAR. In addition, the recent vegetation cover clearing, filling and grading has removed possible nesting locations for breeding birds.

The results of our amphibian breeding assessments are provided in **Section 3.4.2** and **Table 4**. At that time, the diversity of species observations was considered minimal, only noting one (1) species - American toad, on one (1) occasion at two (2) sites. The remaining dates were absent of any calling amphibians across all of the sites, which included the NON-PSW wetland features and intermittent drainage swales. Since that time period, most of the small |NON-PSW wetland feature have been removed, resulting in reduced and disturbed habitats. Given this, the limited amphibian observations has not increased, but has likely decreased.

Our assessment of significant wildlife habitat was previously assessed and noted in **Section 3.7** for the potential for Seasonal Concentration Areas of Animals (bat maternal roosting habitat) and Habitat for Species of Conservation Concern (Snapping Turtle and Monarch Butterfly). Bat maternal colonies are associated with trees along the northern property edge (SWDM3-4, SWTM3-6) and western hedge-row (FOCM5) of the Site, while Snapping Turtle was associated with the NON-PSW wetland and intermittent and braided drainage swale, and the Monarch is associated with milkweed plants in upland meadow MEMM3.

In regard to the identification of Core Areas from the Town Official Plan, the following policy applies to NON_PSW wetlands and wildlife in Section 5.2.1.

- Within existing Secondary Plan Areas, wetlands are considered to be Core Area features, based on the criteria of the Town's Natural Heritage System as follows:
    - Provincially Significant Wetlands (PSW) as determined by the Ministry of Natural Resources (MNR)
    - Non-provincially significant (NON-PSW) wetlands that are greater than 0.5 ha

Although it is not quite complete, following development of Harry Walker Parkway on the RCG property and east side of the Site, the area of NON-PSW wetland features have been greatly reduced, to less than 0.5 ha in area. The proposed stormwater management (SWM) facility and open channel to facilitate off-site and Site surface drainage will essentially result in the complete removal of the NON-PSW wetland mosaic (SWDM3-4, SWTM3-6, MAMM1-3, MAMM1-12).

- Within existing Secondary Plan Areas, and where the Town's Natural Heritage System goes beyond the requirements of other Plans, the criteria of the Town's Natural Heritage System apply and are as follows:
    - Core winter deer yards
    - Colonial waterbird nesting sites
    - Rare vegetation communities (e.g., alvars, prairies, fens and bogs).

The wildlife features previously identified on the RCG property and the Site, including any significant wildlife habitat (SWH), do not satisfy these criteria as such, to be identified as a Core feature. This remains valid given the considerable vegetation overburden clearing, filling and grading that has occurred to-date.

5.4 Aquatic Environs

Fish and Fish Habitat

As noted in our previous assessments of fish and fish habitat, the drainage features on the property were characterized as intermittent features draining the lands from the north and a secondary intermittent drainage swale which conveyed drainage on the agricultural cropland fields on the entire property from the south to north through a tile drain system. The construction of the approved Harry Walker Parkway extension has resulted in the piping of the watercourse through to the eastern property boundary and beyond. The footprint of the road covers a minimum of 20 m of the main watercourse west of the NON-PSW wetland feature considering the amount of fill required to form the platform of the parkway extension, particularly given it is elevated above the east and west tableland. In addition, the proposed development of the parking and infrastructure for the Toyota Automotive Dealership will cover the additional reach of the watercourse westward to the northern property boundary of the Site.

It is our professional opinion that the loss of the eastern portion of the NON-PSW wetland feature and reach of the intermittent drainage swale on the adjacent lands has critically changed the remaining feature and its function on the Site. The area of the approved Harry Walker Parkway extension has covered where the former intermittent drainage swales (Tributary A and Tributary B) combine with the NON-PSW wetland features. Many of the trees are already dead or dying near the outlet of the culvert under the parkway extension and more will be removed through the development of the SWM facility and open channel on the Site. Based on this alteration to the natural NON-PSW wetland features, our assessment of the intermittent drainage swales as identified through the Headwater Drainage Feature Assessment (HDFA) has and will surely be altered, resulting particularly in a significant reduction to function.

5.5 Species at Risk

Our assessment of SAR resulted in the potential for two (2) species of Endangered Bats (Little Brown Bat and Northern Long-eared Bat), to have suitable habitat on the Site. This was similar to our historic assessment and detailed in CEA & RESI (2023). The habitat that is potentially suitable for roosting bats is

related to the trees, shrubs/vines and groundcover contained within the hedge-row, covering a small portion of the Site along the eastern and northern property boundaries (FOCM5, FODM11, SWDM3-4 and SWTM3-6). Based on the vegetation overburden removal, filling and grading which has already occurred on the Site, the number of trees has been reduced.

It is our professional opinion, and supported by the extensive field work over the years, hat the potential for the Site to be used by the two SAR bat species for maternal roosting is extremely low. Forested woodland features are lacking on the Site and/or on abutting lands, with the only trees being contained in a non-contiguous hedge-row adjacent to large open agricultural fields that are approved for commercial/industrial development. Large mature trees were noted within the hedgerow that may provide roosting habitat for bats; however, with the Site lacking any extensive woodland features it is unlikely that endangered SAR woodland bats are utilizing the Site. Overall, the potential for communities on the Site to function as habitat for endangered or threatened wildlife species is low and of poor quality.

6 MITIGATION MEASURES AND RECOMMENDATIONS

As described in **Section 4.1** (Designated Resource Designations and Regulation Areas), there is a Town designation of the "Other" wetland mosaic and associated Tributary A and Tributary B, along with a 30m buffer. The implications of this designation along with the approved MZO and Town approved Harry Walker Parkway extension, has been reconciled with the Town and/or LSRCA. This same portion of the Site is also regulated through permit by the LSRCA. Although the MZO zoning permits implementation of the revised Overall Site Plan (**Figure 4**) through a zoning change, an LSRCA Ontario Regulation permit will be required. The area of development and/or site alteration to be covered by the permit remains to be determined, as do any conditions arising therefrom.

In this regard, Cunningham Environmental Associates (CEA) recommends:

- **That discussions be held with the Town of East Gwillimbury and/or the LSRCA regarding the planning implications of the MZO and implementation of the revised Overall Site Plan (Figure 4) in relation to the Town's NHS Core Area designation and the approved Harry Walker Parkway extension as contained in the Town's Highway 404 Employment Corridor Secondary Plan and which is currently under construction.**

Vegetation Communities and Floristics

As outlined in **Section 4.2**, there are no vegetation communities, floristics or Species at Risk (SAR) flora which were deemed to be a constraint to development. As noted, there is a "Other" or a NON-PSW wetland mosaic (SWDM3-4, SWTM3-6, MAMM1-3 and MAMM1-12) which has been identified, characterized and described (**Section 3.3.2**) and mapped (**Figure 3**) in and **Section 3.3.2** and **Table 1**. It has been identified and surveyed as part of the Town's NHS and designated as an NHS Core Area (prior to the approval of the Harry Walker Parkway extension).

In this regard, Cunningham Environmental Associates (CEA) recommends:

- **That discussions be held with the Town of East Gwillimbury regarding the planning implications of the Town's NHS Core Area designation and implementation of the revised Overall Site Plan (Figure 4), which includes the approved Harry Walker Parkway extension, along with any peer review of same.**

Species at Risk/Significant Wildlife Habitat

RESI with input from CEA has provided and recommends the following mitigation measures pertaining to fauna Species at Risk (SAR) and their habitats. It is their professional opinion and supported by field inventories and assessments that there is minimal potential for the presence two (2) Endangered bat species to use the Site for maternal roosting, as well as a few Special Concern (SC) species. However, the potential is extremely low to non-existent based on the remaining natural features and habitat on the Site. As part of the required landowner's due diligence under the ***Endangered Species Act, 2007*** (Province

of Ontario 2007), and to ensure compliance to the Act that bats will not be harmed, harassed or killed, RESI recommends the following:

- **Additional Tree clearing for the purposes of implementing the proposed Overall Site Plan (Figure 4) and the SWM pond and open channel on the Site only occur in the fall, winter and/or early spring (September 30th to April 1st). This timeframe or tree-cutting window is outside of the maternal roosting period for SAR Endangered and Threatened bats;**

- **In the unlikely event that tree clearing needs to occur between September 30th and April 1st (given present conditions on Site), but if required, additional surveys may be needed to confirm the presence or absence of SAR bats. These surveys will include the identification and GPS locations of any remaining bat snag trees and/or follow-up acoustic monitoring of the area where trees will be removed. The surveys must be undertaken by a qualified professional wildlife biologist. If SAR bats be detected, the MECP should be contacted to determine next steps and if a permit would be required to proceed with the tree-cutting;**

- **The timing restriction proposed for tree removal is also suitable for breeding birds, which typically nest in Zone C2 between April 1st and August 31st, as per the Federal *Migratory Birds Convention Act, 1994* (Environment and Climate Change Canada 2023b). Similar to SAR bats, should tree clearing be proposed between April 1st and July 31st, a qualified professional wildlife biologist is required to complete a nesting survey in the proposed tree-cutting area. If nesting birds are found or birds exhibit nesting behaviour, tree clearing should wait until the birds have fledged (flown the nest); and,**

- **In addition to the tree-cutting timing window, and as we understand, the rear setback (6m) of the property will be planted as a natural buffer, as per the landscape planting plans (MHBC 2024a, 2024b, and 2024c). The buffer will include trees and shrubs and be allowed to grow naturally without maintenance.**

In addition to the above-mentioned mitigation measures and recommendations, the following mitigation measures should be implemented prior to and/or during site preparation and construction. Some of which, such as sediment fencing and temporary stormwater management ponds have already been installed as part of the approved Town Earthwork Agreement and LSRCA permit(s). Additions to or new mitigation measures are likely to be required to implement additional top soil removal, site clearing of vegetation cover, site preparation (e.g., filling and grading), removal and/or addition and/or re-configuration of existing temporary SWM pond, construction of the Toyota Automotive Dealership building, parking stalls, parking abutments, permanent SWM pond and open channel, as shown on the Overall Site Plan (**Figure 4**).

In this regard, RESI and CEA recommend the following, with the proviso that additional site clearing, site preparation and construction mitigation measures and standard Best Management Practices (BMPs) may

be requested by the Town and/or LSRCA, as part of any additional permit and/or SPA requirements. In this regard, CEA and RESI recommends that the following mitigation measures should be implemented:

- **Mitigation measures, recommendations and/or conclusions contained in technical reports: GEI 2024; Gaydon Contractors Ltd (2024); and Toronto Inspection Ltd Geo-Environmental Consultants (2024a, 2024b) be reviewed in detail and implemented, as warranted;**

- **When the native soil is exposed, sediment and erosion control works in the form of heavy-duty sediment fencing, should be positioned along the perimeter of all construction footprints abutting to the wetland;**

- **Aggregate materials will be stored no less than 30 m from wetland community and be contained by heavy-duty sediment fencing and any fuel be stored in an appropriate facility which would contain any spills. Also, should a fuel/chemical spill occur, the Owner/Contractor is required to immediately contact the Ontario Spills Action Centre and other parties as required by the MECP;**

- **To maintain its integrity during inclement weather events, the sediment fencing must be constructed of heavy-duty filter cloth materials, solid posts, and be properly installed (trenched-in), as per LSRCA sediment fence barrier instructions;**

- **Additional sediment fencing and appropriate control measures should be stockpiled on-site so that any breach can be immediately repaired;**

- **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained (*e.g.,* proper installation is not the only action necessary to satisfy the mitigation requirements);**

- **Inspections of sediment and erosion control measures should be completed within 24 hours of the on-set of a storm event; and,**

- **Sediment control measures should be maintained in good working order until vegetation (as required) has been established ("greened-up") on all exposed soils.**

7 CONCLUDING REMARKS

As previously noted, the property lies within the approved Town of East Gwillimbury Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a). It is to be understood that the approved Secondary Plan includes the general alignment and construction of the approved Harry Walker Parkway extension, which is to be built as shown on **Figure 4**. The entire RCG property including the Site has been designated Employment Area (Schedule A) and Supporting Area in the Natural Heritage System in the Town's Official Plan (Town of East Gwillimbury 2018). The lands remain Employment Area and were re-zoned through a Province of Ontario Ministerial Zoning Order (MZO), effective July 30, 2020 and filed with the Registrar of Regulations on August 13, 2020. The zoning and uses permitted in the "Employment General (M2) Zone in the zoning by-law include motor vehicle sales or rental establishments and uses buildings and structures that are necessary to the uses set out in clauses (a) and (b) of the MZO Ontario Regulation. The proposed Toyota Automobile Dealership as proposed on the Site, conforms with the MZO land uses.

The development is supported by the series of technical reports required by the Town and LSRCA to address hydrogeological, geotechnical, stormwater management, servicing, grading, erosion and sedimentation control and traffic concerns and issues.

In conclusion, it is our professional opinion and supported by the detailed natural environment inventories, assessments and evaluations previously and currently undertaken by CEA and RESI, that development of the Site as the Toyota Automotive Dealership (**Figure 4**) from a natural environment perspective is viable and warranted. The proposed development conforms to the MZO and fulfills the Site Plan Approval (SPA) as required by the Town.

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APPENDIX A – NATURAL HERITAGE EVALUATION 1656 GL WEST PREFERRED LIMITED PARTNERSHIP

NATURAL HERITAGE EVALUATION

1656 GL West Preferred Limited Partnership

1656 Green Lane East

Lot 6
Concession 3
Geographic Township of East Gwillimbury
Regional Municipality of York

August 2023

Cunningham Environmental Associates

In association with

RiverStone Environmental Solutions Inc.

CUNNINGHAM ENVIRONMENTAL ASSOCIATES

Natural Resources Consultants

August 3, 2023 File No. 2011

Mr. Michael Mendes, *Vice President of Development*
c/o 1656 GL West Preferred Limited Partnership
Rice Commercial Group
75 Tiverton Court, 2nd Floor
Markham, Ontario L3R 4M8

Re: ***FINAL NATURAL HERITAGE EVALUATION- 1656 GL West Preferred Limited Partnership - 1656 Green Lane East, Lot 6, Concession 3, Geographic Township of East Gwillimbury, Town of East Gwillimbury, Regional Municipality of York; Our File 2011***

Dear Mr. Mendes:

Enclosed is our report entitled ***FINAL NATURAL HERITAGE EVALUATION- 1656 GL West Preferred Limited Partnership - 1656 Green Lane East, Lot 6, Concession 3, Geographic Township of East Gwillimbury, Town of East Gwillimbury, Regional Municipality of York; Our File 2011*** *(May 1, 2023).*

Should you have any questions or comments, please contact the undersigned.

Sincerely,

CUNNINGHAM ENVIRONMENTAL ASSOCIATES

David G. Cunningham [digital signature]

David G. Cunningham, Spec. Hon. B.Sc. (Environmental Sciences)
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1 INTRODUCTION

1.1 Background

Cunningham Environmental Associates (CEA) and RiverStone Environmental Solutions Inc. (RESI) were retained on April 9, 2021 to document, inventory and evaluate the botanical features (vegetation communities, floristics), wildlife and wildlife habitat, fish and fish habitat, headwater drainage features (HDFs) and any flora and/or fauna Species at Risk (SAR) or their habitats on a vacant parcel of land ("subject property" or "property"), located at the municipal address of 1656 Green Lane East, in the Town of East Gwillimbury. The property lies approximately 355 metres (m) east of the intersection of Leslie Street and Green Lane East (on the north side) and west of Highway 404. The property is roughly rectangular in shape with natural drainage in an east to west/northwest direction. It covers approximately 11.5 hectares (ha) or 28.4 acres (ac). The property lies within the approved Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a). For the general location of the property within the local road network and other adjacent properties, see **Figure 1**.

During the spring and early fall months of 2020 and the spring, summer and early fall months of 2021, botanical surveys, and inventories (vegetation communities, floristics), wildlife and wildlife habitats, fish and fish habitats, headwater drainage feature/swale evaluations (HDF - conducted in 2019 and reviewed in-situ in 2021) and a tree inventory were undertaken and completed. The natural heritage features and ecological function findings, and the identification of potential site constraints and opportunities are identified in regards to the proposed Overall Site Plan – (Ware Malcomb 2023) which covers the property east of the approved Harry Walker Parkway extension.

It is to be noted that the existing detached single-family dwelling (residential footprint in the southwest corner of the property) was demolished in 2019 and all ancillary sheds, storage containers and other items were removed. The vegetation cover within the residential footprint was left intact during 2020. Then in or about April 2021 and thereafter, all woody and groundcover vegetation within the former residential footprint was cut-over, stumped, chipped, 0.3 m of topsoil removed and temporarily stock-piled on-site, and the area graded.

The previous Town of East Gwillimbury Official Plan (OP) designation was Employment, with a Zoning of Rural. The OP designation on the property remains Employment, but the zoning has been changed under the Town of East Gwillimbury Comprehensive Zoning By-law 2018-04 to Employment General (M2) Zone, which allows for the establishment of an Auto Campus or Prestige Auto Sale Campus. In this regard, the property Owner previously applied for under the Ontario ***Planning Act, 1990*** (Province of Ontario 1990) and received a Minister's Zoning Order – MZO (**Appendix A**) from the Ministry of Municipal Affairs and Housing (2020a). The Town of East Gwillimbury received the Minister's Zoning Order (MZO) to permit the Auto Campus at 1656 Green Lane East. The MZO provides for six (6) automobile dealerships as part of the prestige auto sales campus. Ontario Regulation 451/20 came into force on July 30, 2020 and a Town of East Gwillimbury Zoning Order was issued on July 30, 2020 and filed with the Registrar of Regulations on August 13, 2020, with a current status as Approved (Town of East Gwillimbury 2020b). To implement the MZO, the Development Services, Planning Branch – Community Infrastructure & Environmental Services

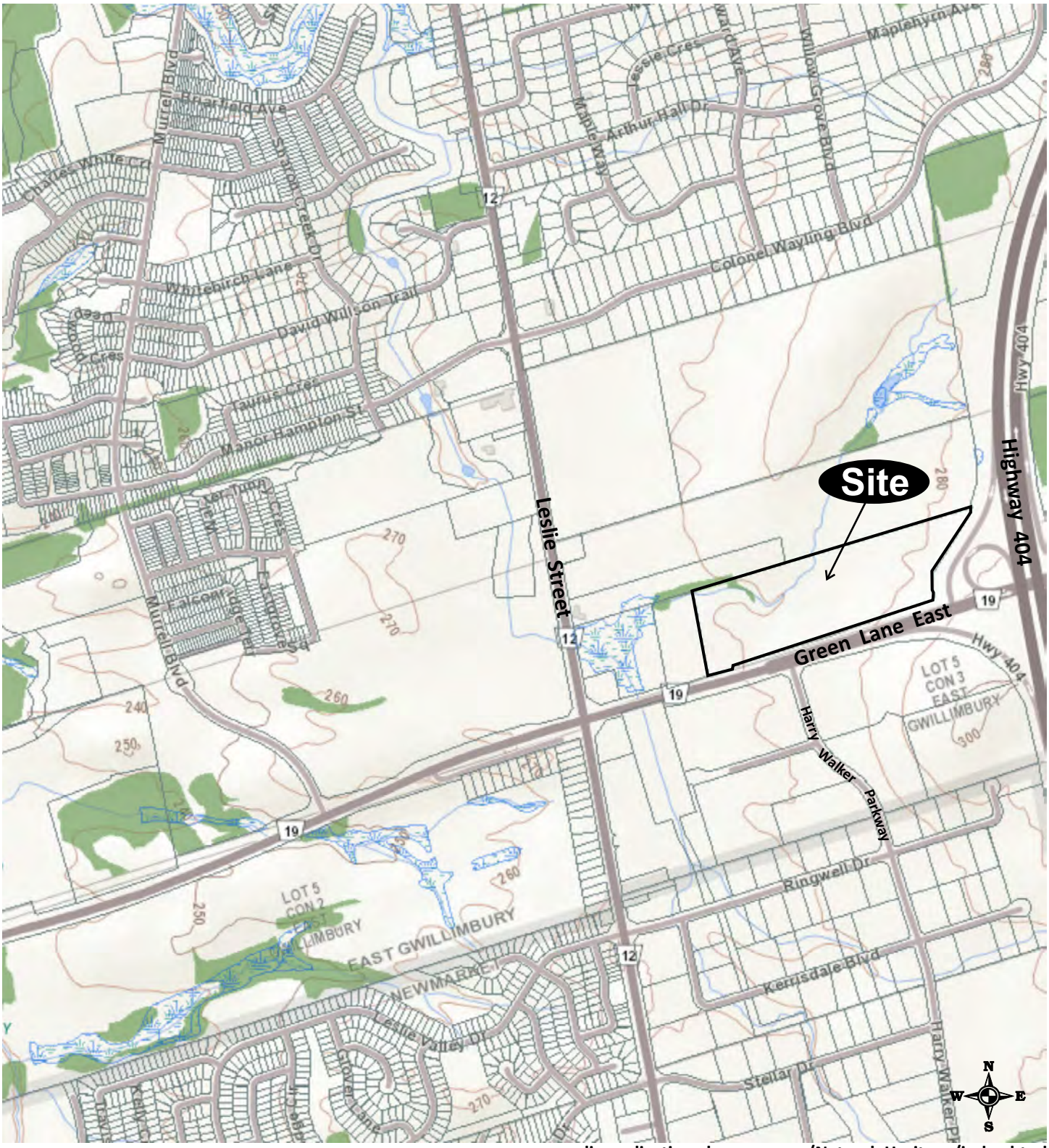

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Figure 1. Subject Property Location

Scale 1:NTS

1656 GL West Preferred Limited Partnership

1656 Green Lane East
Lot 6, Concession 3
Geographic Township of East Gwillimbury
Town of East Gwillimbury
Regional Municipality of York

subject property

Cunningham Environmental Associates

of the Town of East Gwillimbury entered into an Earthworks Agreement with the Owner, which was approved on September 22, 2020 by Council (**Appendix B**).

Based on the MZO order and the Earthworks Agreement, the proposed development requires the submission of a Site Plan Application (Town of East Gwillimbury 2016) to the Town of East Gwillimbury for Site Plan Approval (SPA) and the submission of a Lake Simcoe Region Conservation Authority (LSRCA) Ontario Regulation 179/06 approved permit (Province of Ontario 2006). The findings with regards to the natural heritage features and ecological function inventories, evaluations, and assessment of the proposed Overall Site Plan to be documented in a Natural Heritage Evaluation (NHE), and submitted to the Town of East Gwillimbury for the SPA and as part of the LSRCA permit application process.

1.2 Subject Property Location

The subject property is owned by Rice Commercial Group (RCG) under the legal entity of 1656 GL West Preferred Limited Partnership. The municipal address is 1656 Green Lane East and fronts onto the north side of Green Lane East just west of Highway 404. The legal description is Lot 6, Concession 3, Geographic Township of East Gwillimbury, Regional Municipality of York. The now vacant property covers approximately 11.5 ha (28.4 ac) (E. R. Garden Limited 2005a). **Figure 2** provides an aerial perspective of property, including the Secondary Plan area and property perimeter land uses (NRSI 2020).

In general, and prior to the demolition of the residential footprint in 2019, the MZO and earthworks in 2020/2021 and the tree/shrub cutting in 2021, the predominant land use on the property was agricultural cropland (planted with annual row crops of either soybean or corn). Other cultural and natural heritage features include property perimeter deciduous and coniferous mixed hedgerows, "Other" wetlands (treed swamp, willow thicket swamp, meadow marsh), and two intermittent tributaries (headwater drainage features – HDFs).

1.3 Purpose and Scope of the Study

This NHE has been prepared to address the objectives outlined above, and is divided into sections, as follows:

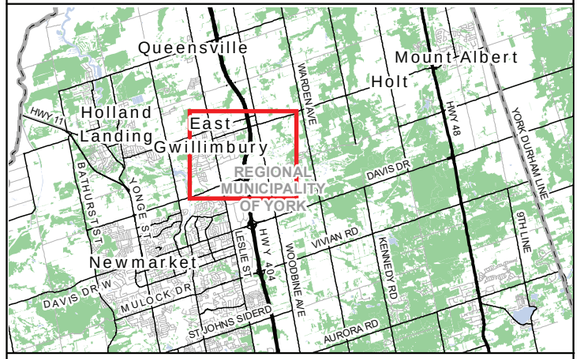
Section 1 Introduction, which provides background, subject property location, purpose and scope of the study, and project team acknowledgements;

Section 2 Study Approach & Methods, which includes the collection and review of background information; describes the specific qualitative and quantitative methodologies utilized to collect and evaluate the biophysical (topography, drainage, soils), cultural and natural heritage features (vegetation communities and inherent flora), wildlife and wildlife habitat features (fauna), Species at Risk (SAR flora and fauna) and aquatic features (headwater drainage features (HDFs), fish and fish habitat) data;

Map 1

East Gwillimbury Employment Corridor Secondary Plan

Subject Lands Background Information



Legend

- Subject Lands
- Railway
- Highway
- Primary Road
- Secondary Road
- Resource / Recreation / Other Road
- Permanent Watercourse
- Intermittent Watercourse
- Water Body
- Other Wetland (Non-PSW)
- Unevaluated Wetland
- Wooded Area
- Oak Ridges Moraine (Countryside Area)
- Oak Ridges Moraine (Natural Linkage Area)

Figure 2. Local Context Within East Gwillimbury Employment Corridor Secondary Plan

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 2292
Date: February 19, 2020

NAD83 - UTM Zone 17
Size: 11x17"
1:15,000

0 200 400 600 800 Metres

N

Path: X:\2292_EastGwillimburyEmploymentSP\NRSI_2292_Map1_SubjectLands_BackgroundInfo_15K_2020_02_20_KEF.mxd

Section 3 Existing Conditions, which includes physiography (topography, drainage, soils); vegetation (regional cover characteristics, ecological land classification, floristics, and tree inventory); wildlife and wildlife habitat (birds, amphibians & reptiles, mammals, Lepidoptera – butterflies and moths); and aquatic habitat (headwater drainage features, and fish and fish habitat);

Section 4 Site Constraints and Opportunities, identifies potential constraints and opportunities to the proposed property land uses, based solely on the findings of the flora (vegetation) and fauna (wildlife) inventories, Headwater Drainage Features Assessment (HDFA), fish and fish habitat evaluation, Species at Risk (SAR) assessment, and Significant Wildlife Habitat (SWH) assessment. Any planning implications of the MZO with regards to the proposed Site Plan are not part of this report.

Section 5 Impact Assessment, includes the identification and magnitude of potential impacts (from site preparation, construction, and operational uses) to the on-site and abutting natural heritage features and ecological functions likely to occur as a result of implementing the proposed Site Plan. The impact assessment is based on academic training and professional work experience, on-site existing and future conditions, as well as potential impacts identified in the RCG team consulting reports , where warranted, as well as figures and drawings.

Section 6 Mitigation Measures and Recommendations, identifies reasonable and appropriate mitigation measures and recommendations to eliminate or reduce the potential impacts identified and discussed in **Section 5**, as garnered through academic training and professional work experience. Relevant mitigation measures and recommendations are extracted from the RCG team consulting reports, where warranted and are included in this section.

Section 7 Concluding Remarks, are intended to summarize the overall findings of this report, based on the proposed land use changes and as-built form as shown on the proposed Site Plan.

Section 8 References, provides a list of cited and supporting references.

Appendices, contain materials mentioned and referred to in the text.

1.4 Project Team

This report was written and edited by: **David G. Cunningham**, Spec. Hon. B.Sc. (Environmental Sciences) – Senior Ecologist/Principal & Project Manager– Cunningham Environmental Associates (CEA) in regards to: background information review, terrestrial and wetland vegetation communities, floristics, and flora Species at Risk (SAR). Additional reporting input, analysis and editing was provided by RiverStone Environmental Solutions Inc. (RESI) staff. **Al Shaw**, M.Sc. – Senior Ecologist/Principal completed site assessments for the HDFs/swales and wildlife; **Dr. Bev Wicks**, Ph.d. – Senior Aquatic Ecologist/Principal completed site assessments for the HDFs/swales and wildlife; **Lisa Uskow**, Dipl. Env. Ecologist - Ecologist was responsible for amphibian and breeding bird surveys; and **Craig Mann**, H.BSc. F, Dipl. IFRM – Ecologist /Certified Arborist completed the tree inventory.

Staff	Role
David G. Cunningham	CEA Senior Ecologist/Principal, Project Manager
Al Shaw	RESI Senior Ecologist/Principal
Dr. Bev Wicks	RESI Senior Aquatic Ecologist/Principal
Lisa Uskov	RESI Ecologist
Craig Mann	RESI Ecologist/Certified Arborist

2 STUDY APPROACH & METHODS

2.1 Aerial Photographic Interpretation

Georeferenced coloured orthophotographs were reviewed to obtain an understanding of the property's on-site and abutting attributes, in terms of overall past and present physical site conditions, drainage patterns (e.g., headwater drainage features - HDFs); terrestrial habitats (e.g., vegetation communities such as wetland, woodland, meadow, hedgerows, thicket, agricultural); wildlife habitats; aquatic environs (e.g., fish and fish habitat); and surrounding land uses.

The boundaries of the cultural and vegetation communities were only delineated through aerial photographic interpretation and ground-truthed in 2020 and 2021. Sources of georeferenced coloured orthophotographs included York Region GIS Maps (2019, 2020 and 2021). Historical York Region aerial photographs (1954, 1970, 1978, 1988, 1995, 1999, 2002, 2005, 2006, 2207. 2009, and 2011 to 2018) were also reviewed.

2.2 Site Inspection and Inventories

2.2.1 Vegetation Resources

A previous series of natural heritage features site surveys and inventories were conducted in 2008 and 2009 on this property (owned by RCG DDG Green Lane West Partnership), as part of the Green Lane Employment Lands Secondary Plan (CEA 2010). On-site and abutting land use conditions have not drastically changed since that time frame, other than the construction of the Highway 404 extension, which abuts the eastern property boundary.

The property now lies within the rejuvenated Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a). Site reconnaissance and site inventories were initially undertaken by CEA on June 9th and August 26th, 2020. At that time, the agricultural (OAGM1) tableland portion was planted with an annual row crop of soybean (*Glycine max*). The property has been planted in the past with corn (*Zea mays*). During those initial site visits, the property and property perimeter anthropogenic, cultural, and natural heritage features and their approximate boundaries were characterized and ground-truthed. Additional botanical site inventories were conducted by CEA in the spring, summer and end early fall of 2021 to ensure complete coverage the property and property perimeters, to further characterize and refine the cultural and natural heritage features boundaries, and their relative ages, form, stratums, and inherent plant species composition where warranted. Specific dates were March 24th, May 14th, and August 4th, 2021.

In addition to the botanical inventories, a tree inventory was conducted by RESI on September 17th, October 1st, and October 2nd, 2021.

2.2.2 Wildlife and Wildlife Habitat Resources

Wildlife and wildlife habitat resources were assessed through various visits in the spring/summer of 2021 by ecologists from RiverStone Environmental Solutions Inc. (RiverStone). Dawn breeding bird survey dates were May 29th, June 23rd and July 7th, 2021. Evening amphibian survey dates were May 1st, May 18th and June 9th ,2021. In addition to these formal wildlife surveys, all other incidental observations of wildlife noted during the flora and fauna were recorded.

2.2.3 Aquatic Resources

The aquatic resources studied on the property included intermittent watercourses/swales and "Unevaluated" or "Other" wetlands connected to or contiguous with the HDFs/swales. In this regard, various site visits and inventories were conducted in 2009 and 2010 (RESI 2009, RESI 2010) and 2019 (RESI 2019), as part of the Headwater Drainage Features Assessments (HDFA). RESI (2010) was undertaken as part of the previously proposed Green Lane Employment Lands Secondary Plan. RESI (2019) was undertaken as part of the Highway 404 Employment Corridor Secondary Plan.

2.3 Assessment Methods

The following sections identify survey protocols utilized to collect and assess the various flora (vegetation) and fauna (wildlife and fish) related data collected to define existing conditions on the property and along the property perimeter.

2.3.1 Vegetation Communities & Floristics

The natural (e.g., shrub swamp thickets, wetlands) and cultural (e.g., agricultural cropland, hedgerows, meadows, driveway) and the aquatic features on the property were characterized and mapped using standard MNRF Ecological Land Classification codes for Site Region 6E, specifically District 6E-8. The inherent plant species within each ELC (vegetation community) in the super canopy, canopy, understory, shrub, and groundcover stratums were inventoried and recorded, where warranted. While on-site, a combination of qualitative sampling and quantitative sampling were used to identify, characterize, and map vegetation communities, floristics, and the general topography, drainage, and soils conditions. A photographic record of the on-site and property perimeter vegetation communities and other points of interest (physical, botanical) was compiled during August 26, 2020, March 3, 2021, and August 4, 2021, given the changes in land use on the agricultural tableland (soybean 2020, fallow with earthworks 2021), and tree-cutting (2021) along the perimeter hedgerows and the as-built footprint.

The delineation and characterization of the vegetation communities followed the MNRF Ecological Land Classification (ELC) system for Site District 6E-8. Where applicable, the classification of vegetation communities is described following the terminology of the ELC system, an **Ecological Land Classification**

for Southern Ontario – First Approximation and Its Application (Lee *et al.* 1998) with updated codes contained in Lee (2008). In addition to the ELC system, additional characterization of the on-site vegetation communities was aided through a review of the Natural Heritage Resources of Ontario: Vegetation Communities of Southern Ontario (Bakowsky 1997).

As defined in Lee *et al.* (1998), an Ecosite, "*is a mappable landscape unit defined by a relatively uniform parent material, soil and hydrology, and consequently supports a consistently recurring formation of plant species which develop over time (vegetation chronosequence).*" Within each ecosite landscape unit, there are a variety of vegetation types. A vegetation type, "*is a part of an ecosite, and represents a specific assemblage of species which generally occur in a site with a more uniform parent material, soils and hydrology, and a more specific stage within a chronosequence.*"

The classification of the general vegetation communities is characterized according to species composition and physiognomic characteristics. The nomenclature for the flora observed is consistent with and relied on the following authorities:

- Lycopodiaceae to Aspleniaceae Cody, W. J., and D. F. Britton. 1989. **Fern and Fern Allies of Canada.**
  Publication 1829/E, Agriculture Canada, Research Branch, Ottawa.
- Taxaceae to Orchidaceae – Voss, E. G. 1972. **Michigan Flora. Part 1: Gymnosperms and Monocots**.
  Cranbrook Institute of Science and University of Michigan Herbarium. Bulletin 55.
- Saururaceae to Cornaceae – Voss, E. G. 1985. **Michigan Flora. Part 2: Dicots.** Cranbrook Institute of Science and University of Michigan Herbarium. Bulletin 59.
- Pyrolaceae to Compositae – Voss, E. G. 1996. **Michigan Flora. Part 3: Dicots**. Cranbrook Institute of Science and University of Michigan Herbarium. Bulletin 61.
- Newmaster, S. G., A. Lehela, P. W. C. Uhlig, S. McMurray, M. J. Oldham, and Ontario Forest Research Institute. 1998. **Ontario Plant List.** FRI Paper No. 123.
- Bradley, D. J. 2013. **Southern Ontario Vascular Plant Species List.** 3rd Edition. Science & Information Branch Southern Science and Information Section. Ontario Ministry of Natural Resources, Peterborough, Ontario. SIB SSI SR-03, 78 p.

General vegetation mapping was completed to provide information regarding the likelihood that plant Species of Conservation Interest may be present (for example, most rare plants have strong affinities for specific ecological communities). Additionally, if a potentially rare plant not in flower was to been encountered, then a second site visit would have been conducted during the appropriate season for flowering or fruiting to confirm identification. This approach acceptably minimizes the risk that rare plant species would have gone undetected.

The rarity or significance for vegetation communities and vascular plants (floristics) on the property was determined from standard status lists, published literature and the NHIC data-query web-site (NHIC 2023). Sources for flora included Environment and Climate Change Canada (2023a), COSEWIC (2023), Province of Ontario (2007), MNRF (2023a), Leslie (2018), Oldham and Brinker (2009), Riley (1989) and Varga *et al.* (2004). Rare plant species (Species at Risk in Ontario – SARO) included those listed and regulated under the Province of Ontario (2007) ***Endangered Species Act, 2007***, as amended from time to time. The determination for plant species rarity consisted of a straightforward comparison of the property plant species with those listed in these source references.

2.3.2 Tree Inventory

As required by the Town of East Gwillimbury and the LSRCA, a tree inventory was completed within the property and property perimeter on September 17th, October 1st, and October 2nd, 2021 by RESI (Craig Mann Ecologist/Botanist/ ISA-certified Arborist). Trees inventoried include all trees 10 cm diameter at breast height (DBH) or greater; all trees were inventoried and assessed from the ground. Trees were identified to species and assessed based on health and condition. Tree information recorded for each specimen included:

- Tag Number;
- Species (common and scientific name);
- Diameter at breast height – approximately 1.37 metres above ground (DBH);
- General visual assessment from the ground of tree condition (health and structure);
- Canopy radius;
- Comments; and,
- GPS location

In general, an individual tree was assessed if it was located within the subject property, within approximately 6 m of the subject property or located on city property along and within 6 m of the subject property. Trees greater than 10 cm DBH were tagged with aluminum numbered tree tags, affixed to the trunk (e.g., 524) and were mapped by high accuracy GPS.

Notwithstanding the determinations of tree health and structural integrity made herein (e.g., good, fair, poor), it must be recognized that all trees (in good health or otherwise) have the potential for failure given adverse weather, damage due to mechanical injury, or other factors that cause stress

2.3.3 Wildlife and Wildlife Habitat

Several surveys and assessments were directed at specific wildlife groups. The surveys and assessments were undertaken in order to provide an understanding of each wildlife group which have potential to be present on and/or use the property and which may be possibly impacted by the proposed development. The specific inventories included dawn breeding bird surveys and evening amphibian call surveys. These

studies along with the vegetation surveys described above were used to complete an analysis of Species at Risk (SAR) habitat and for possible or candidate Significant Wildlife Habitat (SWH), which are described below.

The surveys included a general walkthrough of the subject property as well as visiting targeted areas of the property identified through aerial photographic interpretation as having potential for Species at Risk (SAR), conducting dawn breeding bird surveys following the methods of the Ontario Breeding Bird Atlas - OBBA (Bird Studies Canada 2001, 2006 & 2021). These areas included a narrow band of forest/woodland, a watercourse/wetland mosaic, shrub thicket swamp and perimeter hedge-row communities. Overall, the level of effort expended data collection was deemed more than adequate to meet the information requirements of the Lake Simcoe Region Conservation Authority (LSRCA) and for Town's Site Plan Approval (SPA). Features of interest were photographed, and all information collected was catalogued for presentation in this report and for future reference.

Evidence for the presence of wildlife species or use of habitats on-site was determined from visual and/or auditory observation (e.g., song, call) and observation of nests, tracks, burrows, browse, skins, and scats.

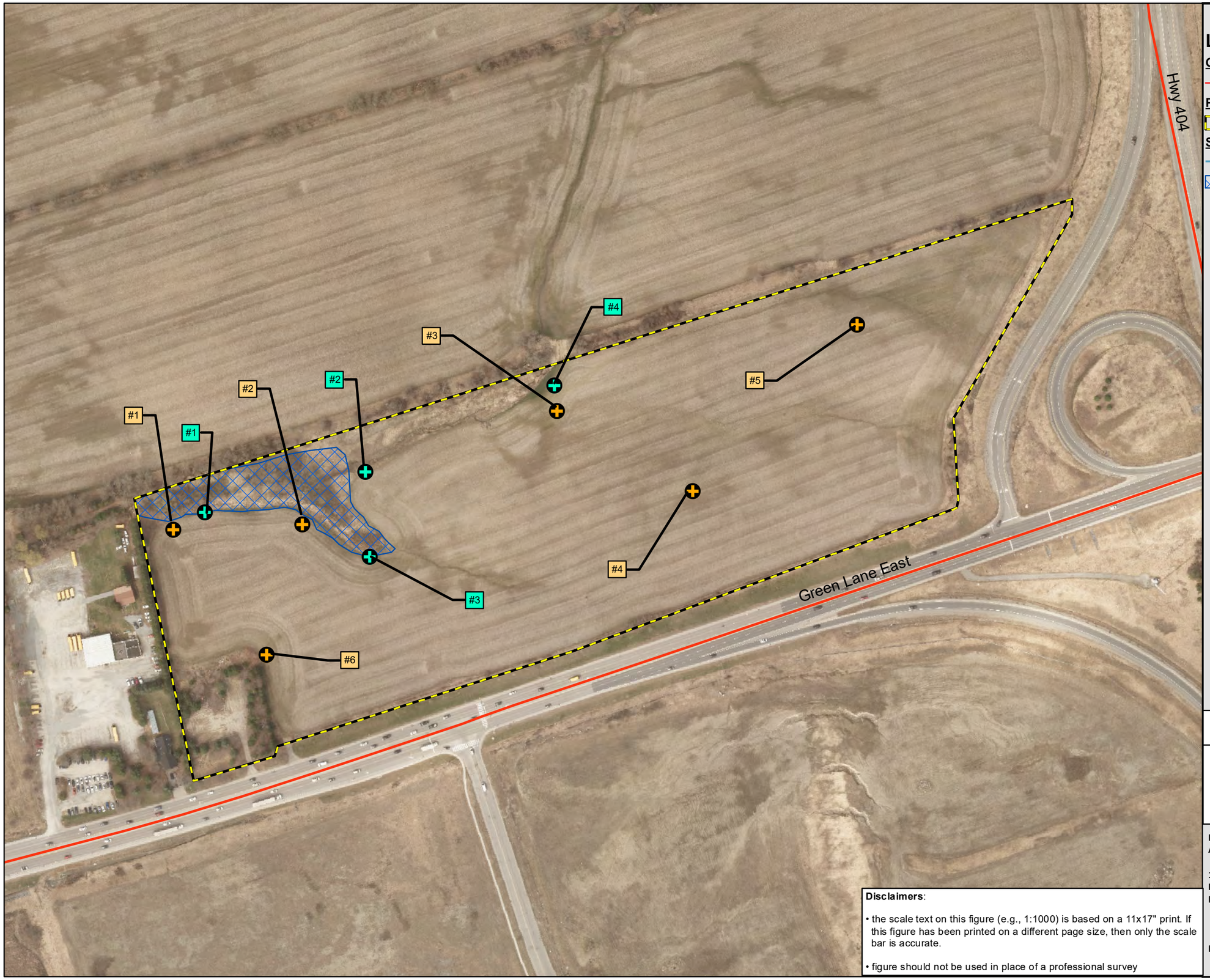
Natural features of interest (e.g., SAR habitat, vegetation community boundaries) were delineated in the field with a tablet having a high accuracy with built-in GPS. Features of interest were photographed, and all information collected was catalogued for future reference and proposed future development.

Dawn Breeding Bird Surveys

Breeding bird surveys were conducted in 2021 in accordance with OBBA protocols (Bird Studies Canada *et al.* 2001). Nesting season for birds in Zone C2 occurs between April 1 to August 31. Surveys were conducted on-site within the appropriate season (May 24th – July 10th), time of day (between dawn and 5 hours after dawn), and weather conditions (no rain; wind speed ≤3 on the Beaufort Wind Scale). Point count stations were surveyed across the property (**Figure 3**). Surveys occurred for a minimum duration of 10 minutes at each station.

The OBBA provides four breeding categories to accompany each observation:

> ***Observed:*** Species observed during its breeding season (no evidence of breeding).
>
> ***Possible Breeding:*** Includes any of the following observation types: 1) species observed in its breeding season in suitable nesting habitat, and 2) singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat.
>
> ***Probable Breeding:*** Includes any of the following observation types: 1) pair observed in their breeding season in suitable nesting habitat, 2) permanent territory presumed through registration of territorial song on at least 2 days, a week or more apart, at the same place, 3) courtship or display between a male and a female or 2 males, including courtship feeding or copulation, 4) visiting probable nest site, 5) agitated behaviour or anxiety calls of an adult, 6) brood patch on adult female or cloacal protuberance on adult male, and 7) nest-building or excavation of nest hole.



Legend

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property

Study Locations

- Watercourse
- Wetland
- Breeding Birds
- Amphibian Calling

N

Orthorectified aerial photo - spring 2020

Scale	RS Project No.	Date Last Updated	By
1:2,500	2019-079	Jan 21, 2022	JG

0 30 60 Metres

RiverStone

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

Figure 3. Dawn Breeding Bird & Evening Amphibian Call Stations

1656 Green Lane East
Lot 6, Concession 3, Town of East Gwillimbury, Regional Municipality of York

Prepared for Rice Commercial Group

Confirmed Breeding: Includes any of the following observation types: 1) distraction display or injury feigning, 2) used nest or egg shell found (occupied or laid within the period of the study), 3) recently fledged young or downy young, including young incapable of sustained flight, 4) adults leaving or entering nest site in circumstances indicating occupied nest, 5) adult carrying faecal sac, 6) adult carrying food for young, 7) nest containing eggs, and 8) nest with young seen or heard.

Amphibians & Reptiles

Anuran (frogs and toads) calling surveys were conducted based on the Marsh Monitoring Program for Surveying Amphibians (Bird Studies Canada 2009). This protocol involves the completion of three (3) surveys, once per month between April and June, from approximately 30 minutes after sunset until midnight. Appropriate weather conditions for the survey includes no or very light precipitation and a wind speed p of ≤3 on the Beaufort wind scale. As the property is located within the central/southern region area, each of the three (3) surveys should occur during the second half of the month (i.e., April 15th – 30th, May 15th – 31 th and June 15th – 30th). Prior to the initial survey, a total of four (4) anuran calling stations were identified through air photo interpretation and appropriately situated to cover potential anuran breeding habitats, particularly adjacent to the watercourse and wetland mosaic (**Figure 3**). Each station was surveyed for a minimum duration of three (3) minutes. Anurans were also recorded incidentally during other on-site field activities, along with any reptile (snakes and turtles) sightings.

Mammals

The determination of the presence and use of the property by mammals was garnered during the botanical and wildlife surveys. Mammal presence was assessed based on direct observations, digital records, and/or interpretation of evidence of presence signs (tracks, scats, browse, burrows, skins, carcasses, etc.)

Bats

Given the paucity of woodland and overall tree cover on the property, an MNRF/MECP bat cavity snag survey was not undertaken, nor warranted. It was assumed that maternity roosting bats (including possible SAR bats) would utilize the on-site and possibly the perimeter hedgerows during the period of April 1st through to September 30th.

Lepidoptera

Lepidoptera (butterflies and moths) use of the property and property perimeter lands was determined based on direct sightings and potential breeding habitat, particularly for Monarch (*Danaus plexippus*), designated as a Special Concern (SC) species in Ontario.

Significant Wildlife Habitat (SWH)

The ***Provincial Policy Statement, 2020*** (Ministry of Municipal Affairs and Housing 2020b) has policies for the protection of SWH from development and/or site alteration, unless it can be demonstrated that no negative impacts on the feature or its function will occur. As outlined in the *SWH Technical Guide* (OMNR 2000) and supporting *Ecoregion Criteria Schedule* (MNRF 2015), SWH is composed of four principal components:

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

The process for identifying SWH is outlined in Section 9.2.3 of the *Natural Heritage Reference Manual* (OMNR 2010). **Step 1** considers the nature of the development application proposed and involves the assemblage of background ecological information for the property and adjacent lands. If the application triggers a need to protect SWH **(e.g., a change in land use that requires approval under the *Planning Act*)**, a more thorough investigation of potential SWH features on the property or adjacent lands must occur. Any confirmed SWH for the property and adjacent lands as identified in relevant planning documents or by the MNRF should be noted at this stage ("Adjacent" can include proximate parts of the mainland where there could be a connection between features important to a Species of Concern - SC).

Where a need to protect SWH is triggered, **Step 2** involves undertaking a more thorough analyses of features, functions, and habitats on the property *via* Ecological Land Classification – ELC (**see Section 3.3.2**). The list of ELC Ecosite codes generated for the property is compared to those codes considered candidate SWH in the relevant Ecoregion Criterion Schedule (e.g., 5E, 6E, or 7E) in **Step 3**. Where a positive match between an ELC Ecosite and candidate SWH exists, the area is considered candidate SWH.

In **Step 4**, two options are available for candidate SWH:

1. the area may be protected without further study, or
2. the area may be evaluated to ascertain whether confirmed SWH is present. Evaluation may involve generating more detailed maps of vegetation cover, or conducting surveys of the wildlife population within the candidate SWH including reproductive, feeding, and movement patterns.

If the area is confirmed SWH, the final step in the process (**Step 5**) is the completion of an impact assessment to demonstrate that no negative impacts to the confirmed SWH or its function will occur. The impact assessment process is assisted by the SWH Mitigation Support Tool (MNRF 2014).

RiverStone employed the approach as outlined above (e.g., **Steps 1-5**) in assessing the potential for SWH to exist or adjacent to the property, with detailed analyses and discussion in **Section 3.7.**

Species at Risk (SAR) –Endangered and Threatened Species

The primary approach taken by RiverStone to assess the presence or potential for Species at Risk (SAR) is primarily habitat-based. This means that field investigations first focused on evaluating the potential for natural heritage features within an area of interest to function as habitat for species considered potentially present, rather than searching for live specimens. An area is considered potential habitat if it satisfies several criteria, usually specific to a species, but occasionally characteristic of a broader group (e.g., several turtles of conservation interest use sandy shorelines for nesting, numerous fish species use areas of aquatic vegetation for nursery habitat). Physical attributes of a site that can be used as indicators of its potential to function as habitat for a species include structural characteristics (e.g., physical dimensions of rock fragments or trees, water depth), ecological community (e.g., meadow marsh, rock barren, coldwater stream), and structural connectivity to other habitat features required by the species. Species-specific habitat preferences and/or affinities are determined from status reports produced by the Committee on the Status of Endangered Wildlife in Canada - COSEWIC (COSEWIC 2023), Cadman *et al.* (2007), published and unpublished documents, and professional consulting experience.

In instances where habitat features are such that either (i) a species presence cannot be easily determined through an assessment of habitat feature alone, or (ii) habitat features are such that it suggests a species may be present in an area where development is proposed and impacts are likely, RiverStone adds an additional level of assessment by completing further species-specific observations (e.g., Whip-poor-will call surveys, Massasauga hibernation/gestation surveys, etc.) in accordance with industry standard methods and protocols.

For Species of Conservation Interest and Ecological Communities of Conservation Interest, this approach involves both desktop and on-site assessments.

This report considers those species listed as Endangered (END) or Threatened (THR) on the Ontario Species at Risk in Ontario – SARO list (*O. Reg*. 230/08 - MNRF 2023a) that receive protection under Section 9 and Section 10 of the ***ESA, 2007*** (Province of Ontario 2007). These species are considered within the Town of East Gwillimbury Official Plan (Town of East Gwillimbury 2018) policies and the ***Provincial Policy Statement, 2020*** (Ministry of Municipal Affairs 2020b) as SAR.

2.3.4 Aquatic Environs

The aquatic resources surveyed and assessed on the property include watercourses and wetlands that may possibly function as direct or indirect habitat for fish. Based on site visits carried out in 2009, 2010, and 2019, a Headwater Drainage Feature Assessment (HDFA) was completed. The objective of the HDFA was to collect pertinent information related to the physical and biological attributes of any headwater drainage features, assess their relative importance on the landscape and ultimately determine management options for each. The details of the assessment were based on the Evaluation, Classification

and Management of Headwater Drainage Feature Guidelines (TRCA/CVC 2014). Each HDF is classified based on characteristics of hydrology, riparian vegetation, fish and fish habitat, and terrestrial habitat.

The first site assessment immediately after snowmelt is intended to establish the initial flow condition and feature type. This site visit also provides the documentation to determine if separate HDF segments occur on the landscape and should be classified as HDFs, or whether they can be eliminated from the HDF mapping entirely. If HDFs are determined to have limited function, with no flow or habitat functions, additional site visits would not be required. During the first site visit HDF segments were also established. A single HDF feature could be broken into two or more HDF segments, which were assessed separately, if a feature or change in function occurred (e.g., groundwater upwelling, riparian vegetation removed).

For those remaining HDFs, a second site visit is intended to assess flow condition (stream permanency) as well as fish presence. Those HDFs that have flow during the second assessment were assessed a third time in the late summer (July through mid-September). The final site assessment would establish the permanency of flow. The presence of flow during the third visit automatically results in a classification of an "important" hydrology function, resulting in management options that require a higher level of protection. For the property, flow was only seen in the spring site visit. The outcome of the assessment is a management objective for each HDF. Management objectives can range from 'No Management Required", meaning that the feature does not exist or is ephemeral, or the features are not significant to require any level of protection, through to "Protection", where the feature has important characteristics that requires full protection from potential impacts.

3 EXISTING CONDITIONS

3.1 Background Information Collection and Review

Standard website digital sources of background information were accessed, and relevant materials downloaded. Typical digital sources included but were not limited to the following: Environment and Climate Change – ECCC (2023a); Ministry of Environment, Conservation and Parks – MECP (2023); Natural Heritage Information Centre - NHIC (2023); Land Information Ontario - LIO (2023); and Ministry of Natural Resources Make-A-Map (MNRF 2023b).

In addition to the digital sources, email requests were sent to the following agencies to obtain digital data and file data and telephone call were held with the same, these included: Town of East Gwillimbury MNRF, and the LSRCA. Various published natural environment reports, maps, lists, statutes, regulations, and policies germane to the property and local geographic area were collected and reviewed. These included but were not limited to the following:

- **Forest Regions of Canada** (Rowe 1972);
- **Life Science Areas of Natural and Scientific Interest in Site District 6-8 - A Review and Assessment of Significant Natural Areas in Site District 6-8** (Hanna 1984);
- **Distribution and Status of the Vascular Plants of Central Region** (Riley *et al.* 1989);
- **Distribution and Status of the Herpetofauna of Central Region** (Plourde *et al.* 1989);
- **Atlas of the Mammals of Ontario** (Dobbyn *et al.* 1994);
- **Ontario Birds At Risk. Status and Conservation Needs** (Austen *et al.* 1994);
- **Natural Heritage Resources of Ontario: Bibliography of Life Science Areas of Natural and Scientific Interest (ANSIs) in Ecological Site Regions 6E and 7E, Southern Ontario** (Riley *et al.* 1997);
- **Distribution and Status of the Vascular Plants of the Greater Toronto Area** (Varga *et al.* 2004);
- **York-Region Significant Woodlands Study** (North-South Environmental Inc. *et al.* 2005);
- **Ontario Breeding Bird Atlas Square 17NH87 & 17NH88** (Bird Studies Canada *et al.* 2006);
- ***Endangered Species Act, 2007*** (Province of Ontario 2007);
- ***Natural Heritage System for the Lake Simcoe Watershed – Phase 1: Components and Policy Templates*** (LSRCA *et al.* 2007);
- **Google Earth Pro Coloured Orthophotography** (2005, 2009, 2011, 2013-2016, and 2018);
- **York Region Coloured Orthophotography** (1954, 1970, 1978, 1988, 1995, 1998, 2002, 2005-2007, 2009, 2011, 2012-2021);
- **Town of East Gwillimbury Official Plan Review: Natural Heritage System** (Beacon Environmental 2010);
- **Vascular Plants at Risk in Ontario** (Leslie 2018);
- ***Fisheries Act, 2019*** (Department of Fisheries and Oceans Canada 2019);
- ***Provincial Policy Statement, 2020b*** (Ministry of Municipal Affairs and Housing 2020);
- **Natural Heritage Information Centre Data-query Website** (NHIC 2023);

- **Land Information Ontario (LIO) Database Website** (LIO 2023):
- **Ontario's Reptile and Amphibian Atlas** (Ontario Nature 2022); and,
- **York Simcoe Nature Club** (York Simcoe Nature Club 2022);

In addition to these sources, team consulting reports, plans and figure have been prepared in regards to the proposed Site Plan submission were provided to CEA and RESI to-date and include the following:

- **Stormwater Management Brief** (Lithos *et al.* 2020a);
- **Hydrogeological Study – Proposed Commercial Industrial Development 1656 Green Lane East, East Gwillimbury, Ontario** (GEI Consultants, Inc. 2021a);
- **Functional Servicing Report and Stormwater Management Report Green Lane West (Site 2), East Gwillimbury, Ontario** (GEI Consultants, Inc. 2021b);
- **1656 Green Lane East Civil Engineering Drawing Set** (GEI Consultants, Inc. 2021c);
- **Overall Site Plan 1656 Green Lane East Site Plan** (Ware Malcomb 2023);
- **1656 Green Lane East Architectural Design Set** (Ware Malcomb 2021a);
- **1656 Green Lane East Lighting Plan** (Ware Malcomb 2021b);
- **Geotechnical Investigation – 1656 Green Lane East, East Gwillimbury, Ontario** (Toronto Inspection Ltd. 2021);
- **1656 Green Lane East Transportation Impact Study Version 2** (TMIG 2021);
- **Arborist Report -1656 Green Lane East, East Gwillimbury, Ontario** (MHBC 2021a);
- **1656 Green Lane East Landscaping Plan & Details** (MHBC 2021b);
- **1656 Green Lane East Landscaping Cost Estimate** (MHBC 2021c);
- **1656 Green Lane East Tree Inventory, Protection and Removals** (MHBC 2021d);
- **Traffic Control Plan CP-01** (Lithos *et al.* 2020b);
- **Drawing Details DD-01** (Lithos *et al.* 2020c);
- **Erosion Sediment Control Plan with Pregrades ESC-01** (Lithos *et al.* 2020d);
- **Thinking Green Development Standards** (2018);

3.2 Site Setting

The property is situated just east of the northeast corner of Leslie Street and Green Lane East. There is a new residential subdivision currently under construction on lands abutting the west side of Leslie Street, with a large stormwater pond and commercial development to the south of Green Lane East. A watercourse emerges from the north via a SWM pond associated with Highway 404, as well as an abutting wetland mosaic. The boundaries of the property are shown on the property survey (**Figure 4**), for Lot 6, Concession3, Geographic Township of East Gwillimbury, Town of East Gwillimbury, Regional Municipality of York (E. R. Garden Limited 2005a).

PLAN 65R–

LOT 6, CONCESSION 3
GEOGRAPHIC TOWNSHIP OF EAST GWILLIMBURY
TOWN OF EAST GWILLIMBURY
REGIONAL MUNICIPALITY OF YORK
SCALE 1 : 1500 20 0 100 metres
E.R.GARDEN LTD.

METRIC : DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

SCHEDULE

PART	AREA (ha)	PART LOT	CON
1	11.4789	6	3

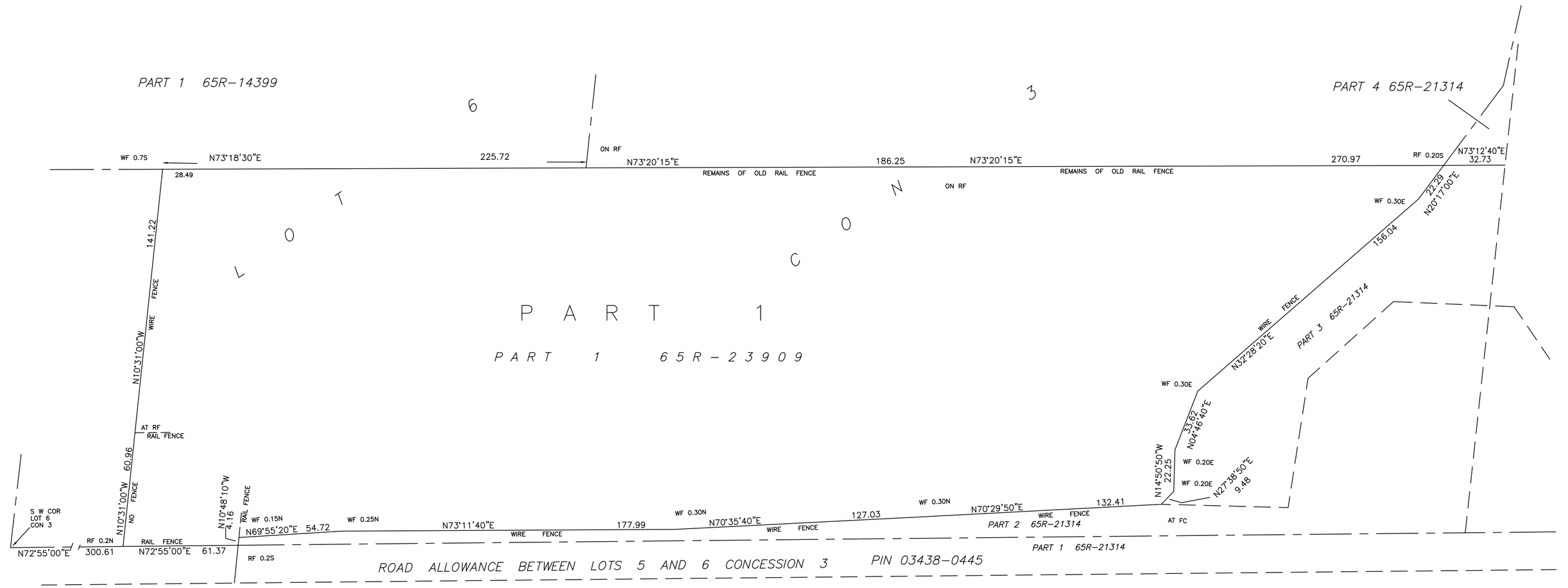


Figure 4. Plan of Survey

E.R.GARDEN LIMITED
ONTARIO LAND SURVEYOR
1260 JOURNEY'S END CIRCLE, UNIT 1
NEWMARKET ONTARIO L3Y 8Z7
PHONE 905–895–5600 FAX 905–895–7127

JOB CAPTAIN	W.SILVEY
DRAWN	D.G.GILES
CHECKED	

FILE NUMBER
05–4175

As previously stated, the property fronts onto to the north side of Green Lane East (**Photographs 1 and 2**). The municipal address is 1656 Green Lane East and previous access was a remnant residential driveway (demolished in 2019 and closed in 2021) and an existing construction access road to the east in 2021 (**Photographs 3 and 4**).

3.2.1 Physiography, Surficial and Bedrock Geology

For details regarding on-site physiography and surficial and bedrock geology consult the Hydrogeological Study (GEI Consultants, Inc. 2021a) and the Fish Habitat Assessment report (RiverStone Environmental Solutions Inc. 2019 – **Appendix C**).

As per GEI Consultants, Inc. (2021a), the property is located in the physiographic region known as the Schomberg Clay Plans (Chapman and Putnam 1984). In this area, the clay plain is situated along the northern slope of the Oak Ridges Moraine, consisting mainly of stratified clay and silt. Based on the Ontario Geological Survey, the property contains fine-textured glaciolacustrine deposits of silt and clay, with shale and limestone bedrock of the Lindsay Formation found at depth.

3.2.2 Topography

Figure 5 is a topographical survey – sketch showing elevations (E.R. Garden Limited 2005b). The sketch shows spot elevations and contours that indicates the property generally slopes from near elevation 283m in the east, down to an elevation of 267m in the west, with about 16m of topographic relief across the property.

3.2.3 Drainage

For details regarding on-site drainage consult the Hydrogeological Study (GEI Consultants, Inc. 2021a) and the Fish Habitat Assessment report (RiverStone Environmental Solutions Inc. 2019 – **Appendix C**).

Overall drainage is westward into the watercourse (Tributary A) and the wetland mosaic (including Tributary B) located in the northwestern quadrant of the property. Based on the geodetic survey for the boreholes, the property grades from an elevation 283m in the east, to an elevation 267m in the west, for about 16m of topographic relief across the property, similar to the topographic sketch.

The watercourse Tributary A flows intermittently westward through the wetland mosaic in the northwestern quadrant. The origin of Tributary A is to the northeast of the property and is a tributary of the Holland River East Branch, and eventually flows north and converges with the main Holland River east of Leslie Street, prior to outletting into Lake Simcoe. Tributary B partially consists of a tile drain system and flows into the wetland mosaic, before outletting off-site to the west to additional “Other” wetland.

Photograph 1. Eastward view of Green Lane East, along property frontage

Photograph 2. Westward view of Green Lane East, along property frontage

Photograph 3. Northward view of driveway off of Green Lane East, in area of detached single-family dwelling (2020), house was demolished in 2019 and remaining tree, shrub and groundcover cut, removed and graded in 2021

Photograph 4. Northward view of construction entrance on north side of Green Lane East, just to the east previous house driveway

SKETCH SHOWING ELEVATIONS
TOWN OF EAST GWILLIMBURY
REGIONAL MUNICIPALITY OF YORK
SCALE 1 : 1000

10 0 50 100 metres

PART 1 65R-14399
PIN 03438-0482

PIN 03438-0380

PIN 03438-0384

PIN 03438-0011

PIN Ø3438-0383

RAMP TO HIGHWAY 404

GREEN LANE Y.R. 19

N73°18'30"E 225.72

N73°20'15"E 186.25

N73°20'15"E 270.97

N10°31'00"W 60.96

N10°48'10"W 4.16

N69°55'20"E 54.72

N73°13'40"E 77.99

N70°35'40"E 127.03

N70°29'50"E 132.41

N10°46'40"E 33.62

N14°50'50"W 22.25

N27°38'50"E 9.48

N26°17'00"E 136.04

N26°22'29"E

N32°28'20"E

141.22

REMAINS OF OLD RAIL FENCE

EDGE OF WETLAND

RAIL FENCE

CEDARS

WIRE FENCE

CROWN OF ASPHALT

TOP OF CURB

TOP OF DITCH

HYDRANT

SIGN

CONTROL BOX

Figure 5. Topographic Survey
(elevations)

✳ LIGHT STANDARD
CB CATCH BASIN
CC CURB CUT
C CUTTER
MH MANHOLE
RW RETAINING WALL
TS TRAFFIC SIGNAL
WV WATER VALVE
— O/H — OVERHEAD LINE

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSED EXPRESSED IN THE TITLE BLOCK
ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM TOWN OF NEWMARKET BENCHMARK 1095 HAVING AN ELEVATION OF 273.91 METRES A.S.L.
ELEVATIONS WERE MEASURED November 28, 2005
BOUNDARY INFORMATION TAKEN FROM OFFICE RECORDS

E.R.GARDEN LIMITED
ONTARIO LAND SURVEYOR
1260 JOURNEY'S END CIRCLE, UNIT 1
NEWMARKET ONTARIO L3Y 8Z7
PHONE 905-895-5600 FAX 905-895-7127

JOB CAPTAIN W.SILVEY
DRAWN D.G.GILES
CHECKED

FILE NUMBER
05-4218

3.2.4 Soils

For details regarding on-site soils refer to the Hydrogeological Study (GEI Consultants, Inc. 2021a), the Geological Investigation (Toronto Inspection Ltd. 2021) and the Fish and Fish Habitat report RESI (2019).

As stated in these reports, the property is predominantly underlain by calcareous glacial till with some surficial sand and silt deposits. Based on Toronto Inspection bore holes, the ground surface as approximately 200 mm thick topsoil; fill (disturbed material) was contacted below and at ground surface and is comprised of a mixture and sandy silt, silty sand, some clayey silt, and trace to some gravel; and under the fill is native sandy silt/silt deposits, along with trace to some gravel, trace silty sand, trace clayey silt, and occasional thin layers of find sand. Under the fill is a native silty sand deposit; with sandy silt till/silty sand till are underlying the sandy silt, silt, and sand deposits.

Based on the York County Soil Survey (Hoffman and Richards 1955), the property is predominantly mapped as Percy series fin sandy loam derived from calcareous, sandy outwash. Overall, the Percy Series is smooth gently sloping with good drainage.

3.3 Vegetation

3.3.1 Regional Cover Characteristics

The vegetation cover of Canada has been classified into eight major forest regions or formations, based on the presence and distribution of dominant tree species as outlined in a forest classification system by Rowe (1972). These formations are considered to reflect direct responses to broad climatic regimes. Within each region, a series distinct sections were delineated according to local patterns in tree composition associated with physiographic and geological features. On this basis, the Green Lane East property lies within the Huron-Ontario Section of the Great Lakes St. Lawrence Forest Region.

Rowe (1972) noted that the forest cover constituting this region consists of a relatively rich mixture of hardwood and conifer tree species. Natural forest stands on well-drained sites are typically dominated by sugar maple (*Acer saccharum*) and beech (*Fagus grandifolia*), together with basswood (*Tilia americana*), red maple (*Acer rubrum*), red oak (*Quercus rubra*), white oak (*Quercus alba*) and bur oak (*Quercus macrocarpa*). Other deciduous associates include red ash (var. *Fraxinus pennsylvanica*) and white ash (*Fraxinus americana*). Eastern hemlock (*Tsuga canadensis*), yellow birch (*Betula alleghaniensis*), white pine, balsam fir (*Abies balsamea*), blue-beech (*Carpinus caroliniana*), silver maple (*Acer saccharinum*), slippery elm (*Ulmus rubra*), and black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white elm (*Ulmus americana*), and eastern white cedar (*Thuja occidentalis*) are also relatively common, but generally occur on slightly moister, cooler sites, notably in deep river valley systems or wetland margins. Black cherry (*Prunus serotina*) and ironwood (*Ostrya virginiana*) also occur

frequently on upland sites, but are rarely abundant. Trembling aspen (*Populus tremuloides*), large-toothed aspen (*Populus grandidentata*), and balsam poplar (*Populus balsamifera*) are widespread in young, successional forests, and commonly occur at the ecotones between fields and more mature phases of forest growth.

A vegetation classification system by Maycock (1979) presents a more detailed, but similar forest cover pattern based on compositional trends with respect to environmental gradients (e.g., site moisture, soils, and microclimate). This system also describes a wide range of minor plant communities that occupy marginal sites (e.g., too open and dry, or too wet to support forest growth) or secondary successional sites.

Typical examples of such communities are:

- old fields dominated by a wide variety of native, naturalized, and weed species, such as Canada goldenrod (*Solidago canadensis*), New England aster (*Aster novae-angliae*), blue grass (*Poa compressa*) and St. John's-wort (*Hypericum perforatum*);
- dry upland thickets dominated by species such as staghorn sumac (*Rhus typhina*), gray dogwood (*Cornus racemosa*) and common juniper (*Juniperus communis*);
- wet lowland thickets dominated by various willows (*Salix discolor, Salix eriocephala, Salix petiolaris*), speckled alder (*Alnus rugosa*) and red-osier dogwood (*Cornus stolonifera*);
- wet meadow communities dominated by grasses such as reed canary grass (*Phalaris arundinacea*), and Canada blue joint (*Calamagrostis canadensis*) and sedges (*Carex retrorsa, Carex lacustris, Carex stricta*);
- emergent aquatic communities dominated by wide-leaved cattail (*Typha latifolia*), narrow-leaved cattail (*Typha angustifolia*) and giant reed (*Phragmites australis*);and,
- floating and submergent aquatic plant communities dominated by water lily (*Nymphaea odorata*), yellow pond lily (*Nuphar variegatum*), duckweed (*Lemna minor*), pondweeds (*Potamogeton gramineus, Potamogeton pectinatus, Potamogeton natans*) and Canada waterweed (*Elodea canadensis*).

Based on Hanna (1984) the property lies within Site Region 6E and Site District 6E-8. This Site District spans a wide ban south of Lake Simcoe and eastward to the Bay of Quinte and include Lake Scugog, Rice Lake, and the southern section of the Kawartha Lakes. As per Hills (1959), this comparable site region/site district is characterized by sugar maple/beech/hemlock, sugar maple/oak/ash and oak/ash respectively. Hemlock, yellow birch, spruce, and white cedar occur on wet sites.

3.3.2 Ecological Land Classification (ELCs)

The location and extent of the cultural (FODM11, FOCM5, terrestrial (e.g., woodland) and wetland natural features (ELCs - vegetation communities) as identified, characterized, and delineated within the property are schematically illustrated on **Figure 6**. The outer edges (boundaries of the features were delineated based on aerial photographic interpretation and in-situ ground-truthing, and were not surveyed with a hand-held GPS unit or by an OLS.

A total of ten (10) vegetation communities (6 cultural, and 4 unevaluated wetlands) were identified, characterized, mapped, inventoried, and photographed on the property, the designated "study area". Qualitative notes and photographs were compiled for the on-site and abutting off-site features to the south, west, north, and east of the property. Observations, notes, and lists were compiled during all site visits. The vascular plant species (floristics) were recorded in the cultural, terrestrial, and wetland features, particularly the most dominant and typical species during the spring, summer, and early fall seasons.

The following sub-sections provide summary descriptions of the property features, including their ELC characterization, approximate boundaries, and inherent plant species composition in the overstorey, understorey, shrub, and groundcover stratums, where applicable. **Figure 6** is a schematic illustration of the vegetation community boundaries covering both 2020 and 2021, with corresponding ELC units for each feature. **Figure 6** in conjunction with **Table 1** and the following text and representative photographs provide a qualitative summary and visual context of the cultural, terrestrial and wetland features found and documented on the property in 2020 and 2021.

As previously stated, the detached single-family dwelling in the southeast corner was demolished in 2019 and the individual trees, shrubs and hedgerows were removed in 2021, with the site graded in 2021 as part of the Earthworks Agreement. The property was also surveyed as part of the previous Green Lane Secondary Plan exercise in 2008 and 2009, noting that conditions back then remain the same, more, or less to this day.

Cultural ELC Units (Vegetation Communities)

Low Density Residential (CVR_1)

Photographs 5 and **Photograph 6** show aspects of this feature in 2020 (house demolished in 2019) and **Photographs 7** and **8** show the area in 2021 (as-built tree, shrubs and groundcover removed and area graded).

Figure 6. Ecological Land Classification Units (Vegetation Communities)

1656 GL West Preferred Limited Partnership

1656 Green Lane East
Lot 6, Concession 3
Geographic Township of East Gwillimbury
Town of East Gwillimbury
Regional Municipality of York

Scale 1:2200 (approx.)
@ 11x17 print

	property boundary
	Tributary A
	Tributary B
CVR_1	Low Density Residential
OAGM1	Annual Row Crops
FODM11	Naturalized Deciduous Hedge-row
FOCM5	Naturalized Coniferous Hedge-row
MEMM3	Dry-Fresh Mixed Meadow
MEMM4	Fresh-Moist Mixed Meadow
SWDM3-4	Manitoba Maple Deciduous Swamp
SWTM3-6	Mixed Willow Deciduous Thicket Swamp
MAMM1-3	Reed Canary Grass Graminoid Meadow Marsh
MAMM1-12	Common Reed Graminoid Meadow Marsh

Cunningham Environmental Associates

Table 1. List of ELC Units (Vegetation Communities) on the1656 GL West Preferred Limited Partnership Property *

ELC Code	Vegetation Type	Summary Description
Cultural		
CVR_1	Low Density Residential	- prior to 2019, this ELC consisted of an as-built detached single-family dwelling, along with a garage and other ancillary structures and items - the house was demolished in 2019 - the remaining trees, shrubs and groundcover were cut and removed in 2021 and the topsoil removed and graded as part of the Town's Earthworks Agreement (2020)
OAGM1	Annual Row Crops	- in 2020 the agricultural tableland was planted with soybean (*Glycine max*) and in previous years with corn (*Zea mays*) and soybean - the tableland was left fallow in 2021 and underwent topsoil removal and grading as per the Earthworks Agreement, save and except for the 30m buffer area surrounding the LSRCA regulated area (namely the wetland mosaic, Tributary A and Tributary B
FODM11	Naturalized Deciduous Hedge-row Ecosite	- as illustrated on **Figure 6**, portions of the northern property perimeter hedge-row were cut and chipped in 2021, previously containing black locust, Manitoba maple, sugar maple and white elm - as a result, there is a disjunct deciduous hedgerow (an east copse along Tributary A and a copse in the northwest corner along thee edge of the wetland mosaic) situated along the northern property perimeter - the dominant trees in the east portion is Manitoba maple, along with associates of common apple, black walnut, common buckthorn, and Russian olive, nannyberry, and red-osier dogwood - the woody vegetation in the west portion is dominated by Manitoba maple, with associates of black walnut, white elm, nannyberry, common buckthorn and willow shrubs - the groundcover stratum contains grasses, weeds and forbs
FOCM5	Naturalized Coniferous Hedge-row Ecosite	- bordering the western property perimeter is a mature planted coniferous hedgerow dominated by white spruce - other woody associates include black walnut, Colorado blue spruce, common buckthorn, and scattered willow shrubs - the groundcover stratum contains grasses, weeds and forbs
MEMM3	Dry-Fresh Mixed Meadow Ecosite	- mixed meadow and barren soils situated along south-facing slope on the north edge of Tributary A - groundcover includes common ragweed, wild carrot, common buttercup, ox-eye daisy, common strawberry, awnless brome grass, field sow-thistle, bull thistle, Canada thistle, field bindweed, field horsetail, coltsfoot, common plantain, red clover, white sweet-clover, chicory, common mullein, teasel, evening primrose, common burdock, Canada goldenrod, and dame's-rocket - scattered shrubs and saplings include common buckthorn, pussy willow, Missouri willow, Bebb's willow and Manitoba maple

MEMM4	Fresh-Moist Mixed Meadow Ecosite	- a small patch along south edge of Tributary A, contains aquatic/wetland grasses, sedges and forbs - typical species include reed canary grass, narrow-leaved cattail, spiny-leaved sow thistle, purple loosestrife, blue vervain, spotted jewelweed, coltsfoot, pale smartweed, fowl bluegrass, riverbank grape, spotted Joe pye-weed, boneset, purple-stemmed aster, stinging nettle, small-flowered willow-herb, beggar-ticks, deadly nightshade, yellow nutsedge, and wild cucumber
Wetland		
SWDM3-4	Manitoba Maple Mineral Deciduous Swamp Type	- treed swamp (other wetland), an inclusion within the wetland mosaic, dominated by Manitoba maple, along with crack willow, hybrid crack willow and white willow, part of the wetland mosaic in the northwest quadrant of the property and part of the Natural Heritage System as a Core Area (NRSI 20120 - woody associates include Missouri willow, pussy willow, Bebb's willow, reddish willow, and slender willow, red-osier dogwood, alternate-leaved dogwood and meadowsweet - typical groundcover includes reed canary grass, narrow-leaved cattail, spotted jewelweed, wild cucumber, sensitive fern, coltsfoot, blue vervain, tall goldenrod, purple-stemmed aster, purple loosestrife, field horsetail, poison ivy, foxtail sedge, Canada bluejoint grass, and dark green bulrush
SWTM3-6	Mixed Willow Mineral Deciduous Thicket Swamp Type	- willow shrub thicket swamp (3 units), an inclusion within the wetland mosaic and part of the Natural Heritage System as a Core Area (NRSI 2020) - shrubs and vines include pussy willow, Missouri willow, red-osier dogwood, alternate-leaved dogwood, Virginia creeper, wild cucumber and riverbank grape - common groundcover species include reed canary grass, common cattail, purple-stemmed aster, purple loosestrife, sensitive fern, marsh fern, tall goldenrod, boneset, spotted Joe pye-weed, spotted jewelweed, beggar-ticks and blue vervain
MAMM1-3	Reed Canary Grass Graminoid Mineral Meadow Marsh Type	- characterized as reed canary grass – graminoid meadow marsh, an inclusion with the wetland mosaic and part of the Natural Heritage System as a core area (NRSI 2020) - reed canary grass is the dominant species, with other associated graminoids, sedges and wetland forbs such common reed, tall goldenrod, narrow-leaved cattail, blue vervain, purple-stemmed aster, purple loosestrife, spotted Joe pye-weed, boneset, creeping bentgrass, foxtail sedge, spotted jewelweed, marsh fern, sensitive fern, fowl manna grass, and Canada bluejoint grass
MAMM1-12	Common Reed Graminoid Mineral Meadow Marsh Type	- a small inclusion within the wetland mosaic and part of the Natural Heritage System as a Core Area (NRSI 2020) - dominated by common reed, with scattered blue vervain, tall goldenrod, spotted jewelweed, foxtail sedge, sensitive fern and marsh fern

* data obtained through aerial photographic interpretation and ground-truthed in-situ by CEA in 2020 and 2021, with additional data from field inventories in 2008 and 2009

Photograph 5. Westward view of remaining footprint of demolished detached single-family dwelling, removed in 2019, vegetation cover cut, removed and area graded in 2021

Photograph 6. Eastward view of single lot frontage onto Green Lane East (2020), showing remaining vegetation cover, since removed in 2021

Photograph 7. Southward view of single family dwelling lot, house demolished in 2019, vegetation cut, removed and graded in 2021, as per Earthworks Agreement

Photograph 8. Southeast view of former single-family dwelling lot, with house demolished in 2019 and vegetation cut, removed and area graded in 2021 under Earthworks Agreement

Annual Row Crop (OAGM1)

As listed in **Table 1**, the majority of the tableland primarily consists of agricultural cropland, planted with soybean (*Glycine max*) in 2020 and corn (*Zea mays*) in previous years, but was left fallow along with topsoil removal and grading in 2021. **Photographs 9** to **12** show aspects of the agricultural cropland/tableland in both 2020 and 2021. **Photographs 13** to **15** show the three (3) temporary stormwater management ponds built in 2021 to facilitate removal of 0.3m of top soil was per the Earthworks Agreement with the Town (**Appendix B**), with the large SWM pond on the west side of the property illustrated on the Erosion and Sediment Control Plan with Pregrades (Lithos *et al.* 2021c).

Naturalized Deciduous Hedge-row Ecosite (FODM11)

As per Figure 6, parts of this north perimeter property hedge-row were cut and chipped in 2021. Prior to 2021, the eastern and parts adjacent to Tributary A contained Manitoba maple, black locust (*Robinia pseudo-acacia*) and scattered sugar maple (**Photograph 16**). The two-remaining narrow, linear copses (one along the edges of Tributary A and one in the northwest corner along the edge of the wetland mosaic remain treed. Manitoba maple dominates the copse along the Tributary A edge (**Photograph 17**). Other woody associates include common apple (*Malus domesticus*), Russian olive (*Elaeagnus angustifolia*), red-osier dogwood, black walnut (*Juglans nigra*), common buckthorn (*Rhamnus cathartica*), nannyberry (*Viburnum lentago*), white elm, basswood, and choke cherry (*Prunus virginiana*). The groundcover consists of weeds, grasses, and common herbaceous forb. The hedge-row copse in the northwest corner is dominated by Manitoba maple, with associates of black walnut, white elm, nannyberry, common buckthorn, and willow shrubs (**Photograph 18**).

Naturalized Coniferous Hedge-row Ecosite (FOCM5)

Bordering the western property perimeter is a mature planted coniferous hedge-row dominated by white spruce (**Photographs 19** and **20**). Other woody associates include black walnut, Colorado blue spruce (*Picea pungens*), common buckthorn, and scattered willow shrubs. The groundcover consists of weeds, grasses, and herbaceous forbs.

Dry-Fresh Mixed Meadow Ecosite (MEMM3)

Photograph 21 and **22** show east and west aspects of mixed meadow and barren soils along a south-facing slope on the north side of Tributary A. The groundcover includes common ragweed (*Ambrosia artemisiifolia*), awnless brome grass (*Bromus inermis*), wild carrot (*Daucus carota*), common buttercup (*Ranunculus repens*), bull thistle (*Cirsium vulgare*), Canada thistle (*Cirsium arvense*), field horsetail (*Equisetum arvense*), common plantain (*Erigeron annuus*), red clover (*Trifolium pratense*), white sweet-clover (*Melilotus alba*), common mullein (*Verbascum thapsus*), teasel (*Dipsacus fullonum*), evening

Photograph 9. Northwest view of tableland, comprised of agricultural cropland (OAGM1) planted in 2020 with soybean

Photograph 10. Southward view of tableland agricultural cropland (OAGM1), planted with soybean in 2020

Photograph 11. Northwest view from east end of property, showing tableland agricultural cropland (OAGM1) removal and stocking piling of 0.3m of topsoil, as permitted by Earthworks Agreement

Photograph 12. Westward view of tableland agricultural cropland (OAGM1), showing topsoil removal (0.3m) and topsoil stockpiles as permitted under the Earthworks Agreement

Photograph 13. Northwest view of temporary stormwater management pond on agricultural cropland (OAGM1) feature, at west end of property, part of Erosion and Sediment Control Plan with Pregrades (Lithos *et al.* 2021a)

Photograph 14. Eastward view of temporary stormwater management pond, at confluence of Tributary A onto the property

Photograph 15. Westward view of temporary stormwater management pond along north property perimeter, at east end of property

Photograph 16. Eastward view of disjunct naturalized deciduous hedge-row containing Manitoba maple, black locust, and scattered sugar maple (2020), cut and chipped in 2021

Photograph 17. Eastward view of natural deciduous hedge-row (FODM11), along north edge of Tributary A

Photograph 18. Northward view of disjunct deciduous hedge-row (FODM11), in northwest corner, along edge of wetland mosaic

Photograph 19. Northwest view of naturalized coniferous hedge-row (FOCM5), along west property perimeter, dominated by mature white spruce

Photograph 20. Westward view of naturalized coniferous hedge-row (FOCM5) along west property perimeter, comprised mostly of white spruce

Photograph 21. Eastward view of mixed meadow (MEMM3) along south-facing slope on north side of Tributary A, with scattered shrubs such as Russian olive

Photograph 22. Northward view of dry-fresh mixed meadow (MEMM3), on south-facing slope along Tributary A, contains scattered shrubs such as Russian olive and common buckthorn, with open barren soils

Photograph 23. View inside a portion of fresh-moist mixed meadow (MEMM4), along south edge of Tributary A and east edge of wetland mosaic

Photograph 24. View of treed swamp (SWDM3-4) in northwest corner of the property, dominated by Manitoba maple and willows, part of the wetland mosaic and NHS Core Area (NRSI 2020)

primrose (*Oenothera biennis*), common burdock (*Arctium minus*), Canada goldenrod (*Solidago canadensis*), and dame's-rocket (*Hesperis matronalis*). Scattered shrubs and saplings include Manitoba maple, Bebb's willow (*Salix bebbiana*), common buckthorn, pussy willow (*Salix discolor*), and Missouri willow (*Salix eriocephala*).

Fresh-Moist Mixed Meadow Ecosite (MEMM4)

A small patch of MEMM4 exists along the south edge of Tributary A, and contains aquatic/wetland grasses, sedges, and forbs (**Photograph 23**). Typical groundcover includes reed canary grass (*Phalaris arundinacea*), narrow-leaved cattail (*Typha angustifolia*), blue vervain (*Verbena hastata*), coltsfoot (*Tussilago farfara*), spotted jewelweed (*Impatiens capensis*), stinging nettle (*Urtica dioica*), tall goldenrod (*Solidago altissima*), sensitive fern (*Onoclea sensibilis*), small flowered willow-herb (*Epilobium parviflorum*), beggar-ticks (*Bidens frondosa*), deadly nightshade (*Solanum dulcamara*), yellow nutsedge (*Cyperus esculentus*), wild cucumber (*Echinocystis lobata*), purple-stemmed aster (*Symphyotrichum puniceum*), fowl bluegrass (*Poa palustris*), riverbank grape (*Vitis riparia*), spotted Joe pye-weed (*Eutrochium maculatum*), boneset (*Eupatorium perfoliatum*), purple loosestrife (*Lythrum salicaria*) and pale smartweed (*Polygonum lapathifolium*).

Wetland ELC Units (Vegetation Communities)

Manitoba Maple Mineral Deciduous Swamp Type (SWDM3-4)

Photographs 24 to **26** show various aspects of the treed swamp portion of the wetland mosaic in the northwest quadrant of the property. This portion of the wetland mosaic is contiguous with all other wetland units and is part of a Core Area in the Natural Heritage System (NRSI 2020). The dominant tree species is Manitoba maple, along with woody associates in the overstory such as crack willow (*Salix fragilis*), hybrid crack willow (*Salix x rubens*), and white willow (*Salix alba*). Understorey and shrub stratum woody vegetation includes Missouri willow, pussy willow, Bebb's willow, reddish willow (*Salix purpurea*), slender willow (*Salix petiolaris*), red-osier dogwood (*Cornus stolonifera*), alternate-leaved dogwood (*Cornus alternifolia*), Virginia creeper (*Parthenocissus inserta*), wild cucumber and riverbank grape. The groundcover stratum contains reed canary grass, narrow-leaved cattail, spotted jewelweed, wild cucumber, sensitive fern, coltsfoot, blue vervain, tall goldenrod, marsh fern (*Thelypteris palustris*), field horsetail, purple loosestrife, purple-stemmed aster, poison ivy (*Toxicodendron radicans*), foxtail sedge (*Carex vulpinoidea*), Canada bluejoint grass (*Calamagrostis stolonifera*), and dark green bulrush (*Scirpus atrovirens*).

Photograph 25. Eastward view of treed swamp (SWDM3-4) dominated by Manitoba maple and willows, part of the wetland mosaic in the northwest corner, part of the NHS Core Area (NRSI 2020)

Photograph 26. Northward view of eastern section of the treed swamp (SWDM3-4), dominated by Manitoba maple and willows, part of the wetland mosaic

Photograph 27. Westward view of mixed willow deciduous thicket swamp (SWTM3-6, west unit), part of the wetland mosaic and lying within the NHS Core Area (NRSI 2020)

Photograph 28. North view of east unit of deciduous willow thicket swamp (SWTM3-6), part of the NHS Core Area and along south edge of SWDM3-4

Mixed Willow Mineral Deciduous Thicket Swamp Type (SWTM3-6)

As illustrated on **Figure 6**, there are three (3) units of this wetland type (**Photographs 27** and **28**), both of which are contiguous and inclusions within the wetland mosaic and are part of the Core Area in the Natural Heritage System (NRSI 2020). Each unit border parts of Tributary A and Tributary B. The shrub and vine stratum includes pussy willow, Missouri willow, slender willow, Bebb's willow, red-osier dogwood, alternate-leaved dogwood, Virginia creeper, wild cucumber, and riverbank grape. The groundcover stratum contains species similar to those found in SWDM3-4.

Reed Canary Grass Graminoid Mineral Meadow Marsh (MAMM1-3)

This grassed meadow marsh is dominated by reed canary grass (**Photographs 29** and **30**), and is an inclusion within the wetland mosaic and part of the Core Area in the Natural Heritage System (NRSI 2020). Other associated graminoids, sedges and wetland forbs include common reed (*Phragmites australis*), tall goldenrod, narrow-leaved cattail, blue vervain, purple-stemmed aster, purple loosestrife, spotted Joe pye-weed, boneset, creeping bentgrass, foxtail sedge, spotted jewelweed, marsh fern, sensitive fern, fowl manna grass, and Canada bluejoint grass.

Common Reed Graminoid Mineral Meadow Marsh Type (MAMM1-12)

This wetland feature consists of two small units, both are inclusions within the wetland mosaic and part of the Natural Heritage System Core Area (NRSI 2020). Common reed is dominant, with scattered specimens of blue vervain, tall goldenrod, spotted jewelweed, foxtail sedge, sensitive fern, marsh fern and other grasses.

3.3.3 Floristics

The dominant and typical plant species observed within each ELC (vegetation community) are noted on **Table 1** and in the ELC description mentioned in **Section 3.3.2** with selective photographs. Given the lack of natural features on-site other than the wetland mosaic and Tributary A and Tributary B, a master plant list predicated on individual ELC units was not deemed necessary, nor warranted.

3.3.4 Tree Inventory

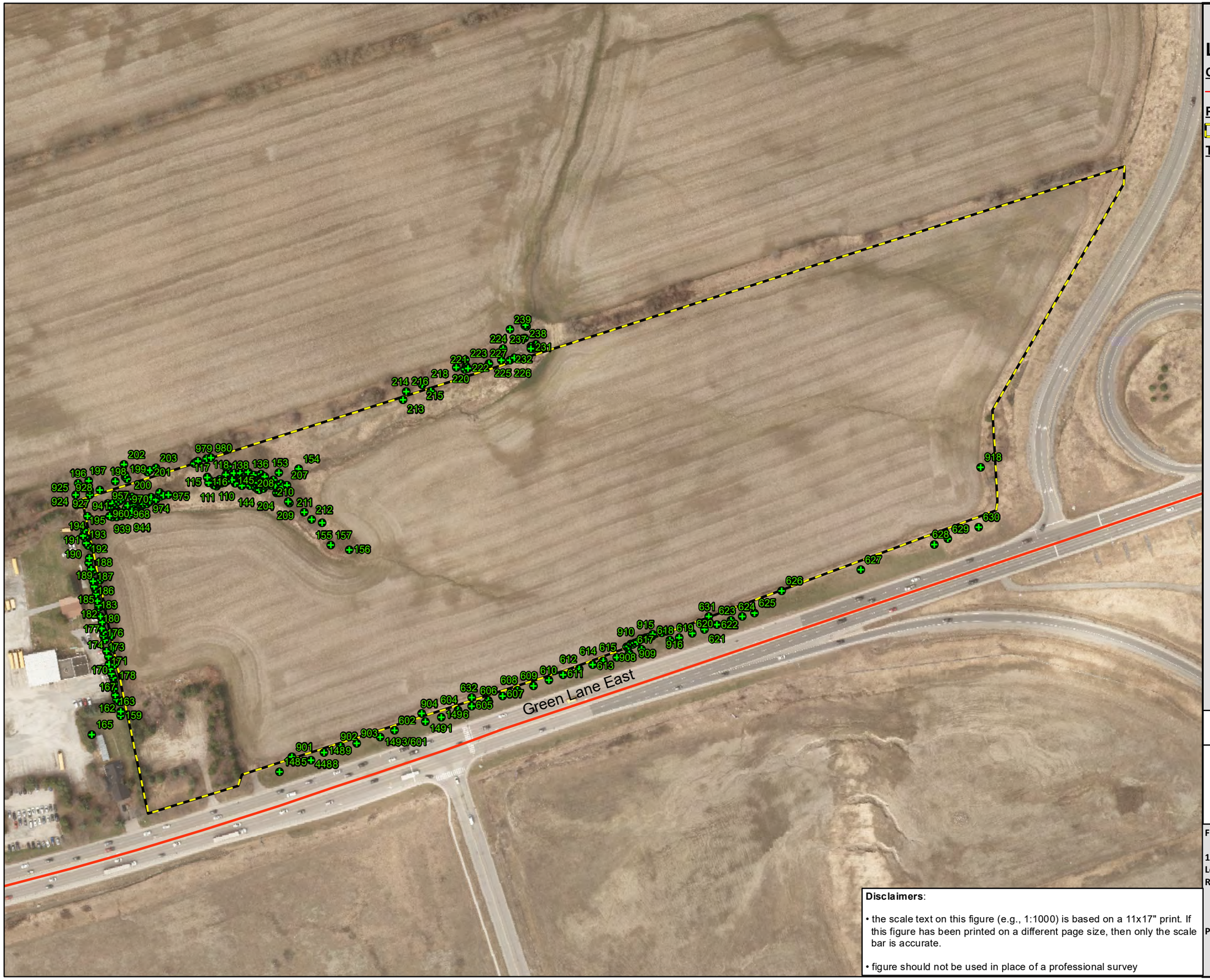
Tree locations are plotted on **Figure 7**. No Butternut or regionally significant tree species were noted on the property. The results of the tree inventory and assessments are listed in **Table 2.** The locations of all assessed trees are shown on **Figure 7**.

Photograph 29. Westward view of a narrow band of reed canary grass-graminoid meadow marsh (MAMM1-3), part of the wetland mosaic and within the designated NHS Core Area

Photograph 30. Eastward view of a narrow band of reed canary grass-graminoid meadow marsh (MAMM1-3), part of the wetland mosaic and within the NHS Core Area

Photograph 31. Band of common reed-graminoid meadow marsh (MAMM1-12), within wetland mosaic and along edge of Tributary B, part of the NHS Core Area

Photograph 32. East view of a unit of common reed-graminoid meadow marsh (MAMM1-12) along north edge of Tributary A



Legend

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property

Tree Inventory

- Tree (ID Number)

N

Orthorectified aerial photo - spring 2019

Scale	RS Project No.	Date Last Updated	By
1:2,250	2019-079	Jan 21, 2022	JG

0 30 60 Metres

RiverStone

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

Figure 7. Tree Inventory

1656 Green Lane East
Lot 6, Concession 3, Town of East Gwillimbury,
Regional Municipality of York

Prepared for Rice Commercial Group

Table 2. Tree Inventory - RCG 1656 GL West Preferred Limited Partnership

RS Job #: 2019-079

Client: Rice Group

Date of On-site Inventory:
September 17, 2021, October 1 and 5, 2021

Weather: Sunny, humid

Staff

Certified Arborist: Craig Mann — CERT ID: ON-2369A

Assessment Criteria and Condition

Trunk Integrity (TI): defects of weakness in trunk, etc.

Canopy Structure (CS): scaffold branches, unions, multiple stems, insect damage, etc.

Canopy Vigour (CV): health of tree based on crown

Good (G): tree displays less than 15% deficiency or defect

Fair (F): tree displays 15-40% deficiency or defect

Poor (P): tree displays greater than 40% deficiency or defect

Tag No.	Scientific Name	Common Name	DBH (cm)	Condition			Canopy Radius (m)	Summary Comments
				TI	CS	CV		
1485	Gleditsia triacanthos var. inermis	Thornless Honeylocust	7	Good	Good	Good	1.0	
901	Juglans nigra	Black Walnut	40	Good	Fair	Good	1.0	multiple leader
4488	Gleditsia triacanthos var. inermis	Thornless Honeylocust	7	Good	Good	Good	1.0	
1489	Quercus rubra	Northern Red Oak	16	Fair	Fair	Good	2.5	wound at base, large branching
902	Aesculus hippocastanum	Horse Chestnut	10	Good	Good	Good	1.0	
903	Gleditsia triacanthos var. inermis	Thornless Honeylocust	20	Good	Good	Good	3.0	large branchimg
1493/601	Gleditsia triacanthos var. inermis	Thornless Honeylocust	11	Fair	Good	Good	2.0	small base wound
602	Quercus rubra	Northern Red Oak	17	Fair	Good	Good	2.5	insect holes stem, base suckers
904	Acer negundo	Manitoba Maple	16,11	Poor	Poor	poor	1.0	both stems cut off above dbh, insect on leaves, epicormic branching
1491	Gleditsia triacanthos var. inermis	Thornless Honeylocust	23	Fair	Fair	Good	3.0	small wound at base, large branching, pruned
1496	Gleditsia triacanthos var. inermis	Thornless Honeylocust	9	Fair	Good	Good	1.5	wound at base
604	Gleditsia triacanthos var. inermis	Thornless Honeylocust	5	Good	Fair	Good	1.0	waterbag
605	Gleditsia triacanthos var. inermis	Thornless Honeylocust	13	Good	Good	Good	2.5	pruned
632	Acer nedundo	Manitoba Maple	18,9,12	Poor	Poor	Poor	2.0	multiple stems, dieback,
606	Gleditsia triacanthos var. inermis	Thornless Honeylocust	6	Fair	Good	Good	1.0	base wound
607	Gleditsia triacanthos var. inermis	Thornless Honeylocust	5	Good	Good	Good	1.0	
608	Aesculus hippocastanum	Horse Chestnut	9	Good	Good	Good	0.0	no leaved but still alive
609	Gleditsia triacanthos var. inermis	Thornless Honeylocust	5	Good	Fair	Fair	1.0	dead top
610	Gleditsia triacanthos var. inermis	Thornless Honeylocust	6	Fari	Good	Fair	1.0	branch would on stem, wound at base
611	Gleditsia triacanthos var. inermis	Thornless Honeylocust	4	Good	Good	Good	1.0	water bag, teathered
612	Aesculus hippocastanum	Horse Chestnut	9	Poor	Good	Fair	1.0	large wound at base up to 1.0m, pruned
613	Acer saccharinum	Silver Maple	6	Good	Good	Good	1.0	waterbag
614	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
615	Acer saccharinum	Silver Maple	6	Good	Good	Good	1.0	waterbag
616	Acer saccharinum	Silver Maple	5	Good	Good	Good	1.0	waterbag
905	Acer negundo	Manitoba Maple	13,10,11,16	Poor	Poor	Poor	3.0	fence in tree, inclusion bark, multiple stems, broken branches, wounds
906	Acer negundo	Manitoba Maple	19, 15	Poor	Poor	Poor	3.0	multiple stem, cavilty, dieback, broken branches
907	Acer negundo	Manitoba Maple	19	Good	Fair	Fair	2.5	dieback, lean
908	Acer negundo	Manitoba Maple	21,22,17,20	Poor	Poor	Poor	4.0	sever lean, fence in tree, multiple stems, inclusion bark, dieback, broken branches
909	Acer negundo	Manitoba Maple	21	Fair	Poor	Poor	2.0	sever lean, dieback
910	Acer negundo	Manitoba Maple	10	Poor	Poor	Poor	1.0	cut off above dbh, epicormic branching
911	Acer negundo	Manitoba Maple	22,23	Poor	Poor	Poor	4.0	shared stump, lean, dieback, broken branches, branch wounds
912	Acer negundo	Manitoba Maple	23	Poor	Poor	Poor	3.5	inclusion bark, dieback, broken branches, large branching
913	Acer negundo	Manitoba Maple	18	Poor	Poor	Poor	2.5	large wound base to 1.5m, one leader dead, lean
914	Acer negundo	Manitoba Maple	17	Poor	Fair	Fair	2.5	fence in tree, broken branches, large branching
915	Acer negundo	Manitoba Maple	28,11	Poor	Poor	Poor	4.0	multiple stems, inclusion bark, dieback, broken branches, large branching
916	Acer negundo	Manitoba Maple	18	Good	Fair	Good	2.5	large branching, vine
917	Acer negundo	Manitoba Maple	11	Good	Fair	Good	3.0	multiple stems, dieback
617	Acer saccharinum	Silver Maple	5	Good	Good	Good	0.5	waterbag
618	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
619	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
620	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
621	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbage
631	Acer saccharinum	Black Walnut	13	Good	Fair	Good	2.5	lateral branching
622	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
623	Acer saccharinum	Silver Maple	7	Good	Good	Good	0.5	waterbag
624	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
625	Acer saccharinum	Silver Maple	6	Good	Good	Good	0.5	waterbag
626	Elaeagnus angustifolia	Russian Olive	19	Fair	Fair	Fair	3.5	cut stems at base, large branching, pruned
627	Aesculus hippocastanum	Horse Chestnut	4	Poor	Fair	Fair	0.5	wound at base, branch wound mid stem
628	Aesculus hippocastanum	Horse Chestnut	10	Poor	Good	Fair	0.5	base wound
629	Gleditsia triacanthos var. inermis	Thornless Honeylocust	8	Poor	Fair	Fair	1.0	stem wound, large branching to on side
630	Aesculus hippocastanum	Horse Chestnut	7	Good	Good	Good	0.5	
918	Salix sp.	Willow Species	75,29	Poor	Poor	Poor	6.0	fence in tree, multiple stem as base, large branching, multiple leaders
919	Populus balsamifera	Balsam Polar	11.0	Good	Good	Good	2.0	
920	Picea glauca	White Spruce	22	Good	Good	Good	2.5	one sided branching
921	Picea glauca	White Spruce	26	Fair	Good	Fair	2.5	pich noduels
922	Picea glauca	White Spruce	35	Good	Good	Good	3.0	
923	Picea glauca	White Spruce	12				dead	
924	Acer nedundo	Manitoba Maple	39	Poor	Poor	Poor	3.0	base wound, attached Broke dead stem, top mostly dead, large laterals
925	Juglans nigra	Black Walnut	16	Good	Good	Good	3.0	
926	Acer negundo	Manitoba Maple	16,10	Poor	Poor	Poor	2.0	sever lean, dieback, base wound
927	Acer negundo	Manitoba Maple	15,12	Poor	Poor	Poor	4.0	sever lean, lateral branching, shared stump, dieback
928	Acer negundo	Manitoba Maple	32,42	Fair	Fair	Poor	5.0	dieback, shared stump, multiple leaders, base wound with fungus
929	Salix sp.	Willow Species	16	Good	Good	Good	2.0	
930	Salix sp.	Willow Species	12	Good	Good	Good	2.5	
931	Salix sp.	Willow Species	17	Good	Good	Good	2.0	
932	Salix sp.	Willow Species	12	Good	Good	Good	2.0	
933	Salix sp.	Willow Species	20	Fair	Good	Fair	3.0	sever lean
934	Salix sp.	Willow Species	14	Good	Fair	Good	2.5	rubbing branches
935	Salix sp.	Willow Species	13	Good	Good	Good	2.5	slight lean
936	Salix sp.	Willow Species	10	Good	Good	Good	1.5	
937	Salix sp.	Willow Species	11	Good	Good	Good	1.5	
938	Salix sp.	Willow Species	18	Good	Good	Good	3.0	
940	Salix sp.	Willow Species	13	Good	Good	Good	2.5	slight lean
941	Salix sp.	Willow Species	14	Good	Good	Good	2.5	
939	Salix sp.	Willow Species	11	Good	Good	Good	1.5	
942	Salix sp.	Willow Species	14	Good	Good	Good	3.0	
943	Salix sp.	Willow Species	54	Poor	Poor	Fair	4.0	multiple stems above dbh, sever lean, inclusion bark, large branching
944	Salix sp.	Willow Species	12	Good	Good	Good	2.0	slight lean
945	Salix sp.	Willow Species	13	Fair	Good	Fair	2.5	wound at base

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Fair (F): tree displays 15-40% deficiency or defect

Poor (P): tree displays greater than 40% deficiency or defect

Tag No.	Scientific Name	Common Name	DBH (cm)	Condition			Canopy Radius (m)	Summary Comments
				TI	CS	CV		
946	Salix sp.	Willow Species	14	Poor	Good	Fair	2.0	stem wound base to 1.0m and 2-3 m
947	Salix sp.	Willow Species	25,26	Good	Good	Good	4.0	shared stump
948	Salix sp.	Willow Species	42	Good	Fair	Good	6.0	large branching
949	Salix sp.	Willow Species	10				dead	
950	Salix sp.	Willow Species	10				dead	
952	Acer negundo	Manitoba Maple	36	Poor	Poor	Poor	3.0	sever lean, stem wound, dieback, mushrooms
951	Acer negundo	Manitoba Maple	36,14,10	Poor	Poor	Poor	3.0	sever lean on all stems, stem wound, large lateral branches, shared stump
953	Salix sp.	Willow Species	19	Good	Good	Good	2.5	
954	Salix sp.	Willow Species	16	Good	Good	Good	3.0	slight lean
955	Salix sp.	Willow Species	10	Good	Good	Good	2.0	
956	Salix sp.	Willow Species	18	Good	Good	Good	3.0	
957	Salix sp.	Willow Species	13	Good	Good	Good	2.0	
958	Salix sp.	Willow Species	17	Good	Good	Good	5.5	
959	Salix sp.	Willow Species	11	Good	Poor	Poor	2.0	dead top, slight lean
960	Salix sp.	Willow Species	10	Good	Poor	Poor	1.5	dead top, slight lean
961	Salix sp.	Willow Species	14	Good	Poor	Poor	1.0	dieback, mostly dead
962	Salix sp.	Willow Species	10	Good	Good	Good	1.5	
963	Salix sp.	Willow Species	19	Good	Good	Good	2.5	
964	Salix sp.	Willow Species	18	Good	Good	Good	5.5	dieback
965	Salix sp.	Willow Species	12	Good	Good	Good	2.0	
966	Salix sp.	Willow Species	11	Fair	Good	Good	2.0	lean
967	Salix sp.	Willow Species	14	Good	Poor	Poor	1.5	mostly dead
968	Salix sp.	Willow Species	10				dead	
969	Salix sp.	Willow Species	22	Good	Fair	Good	3.0	large lateral branches
970	Salix sp.	Willow Species	20	Good	Fair	Good	3.5	branch stubs, lateral branching
971	Salix sp.	Willow Species	10	Good	Good	Good	2.0	
975	Salix sp.	Willow Species	10	Good	Good	Good	2.0	slight lean
973	Salix sp.	Willow Species	12	Good	Good	Fair	2.5	
974	Salix sp.	Willow Species	15	Good	Good	Good	3.0	
975	Salix sp.	Willow Species	14	Good	Good	Good	2.0	
976	Acer negundo	Manitoba Maple	16,18,16	Poor	Fair	Poor	4.0	sever lean, shared stump, dieback
977	Acer negundo	Manitoba Maple	28	Good	Fair	Good	3.5	dieback
978	Acer negundo	Manitoba Maple	30,42	Poor	Poor	Poor	6.0	sever lean, dieback, inclusiong bark, large stem wound
979	Acer negundo	Manitoba Maple	24	Poor	Poor	Poor	3.0	broken off at 4.0m
980	Acer negundo	Manitoba Maple	20	Poor	Poor	Poor	3.0	sever lean, brocken top
981	Acer negundo	Manitoba Maple	48	Poor	Poor	Poor	7.0	sever lean, half dead, stem split above dbh, multiple stems on live portion, inclusion bark
982	Acer negundo	Manitoba Maple	30	Good	Poor	Poor	4.0	portions dead, dieback, inclusiong bark, large branching
983	Acer negundo	Manitoba Maple	22,30,20	Poor	Poor	Poor	4.0	shared stump, two smaller stems dead, large stem mostly dead,
984	Salix sp.	Willow Species	44	Good	Fair	Good	6.0	large branching
985	Acer negundo	Manitoba Maple	12	Poor	Poor	Poor	0.5	missing stem from 3.0, only epicormic branching alive
986	Acer negundo	Manitoba Maple	10	Good	Fair	Fair	1.0	dieback, lean
987	Acer negundo	Manitoba Maple	13	Good	Poor	Poor	1.0	top dead, dieback
988	Acer negundo	Manitoba Maple	20	Fair	Poor	Poor	2.5	top dead, lean, lower dead branches
989	Salix sp.	Willow Species	27	Good	Fair	Good	4.0	split leader
990	Acer negundo	Manitoba Maple	19	Poor	Poor	Poor	0.5	stem woodpecker damage, mostly dead, epicormic alive
991	Acer negundo	Manitoba Maple	10	Poor	Poor	Poor	0.5	sever lean, dead top, dieback
992	Acer negundo	Manitoba Maple	12	Poor	Poor	Poor	0.5	sever lean, mostly dead only epicormic alive
993	Acer negundo	Manitoba Maple	12	Fair	Good	Good	2.0	stem wound base
994	Salix sp.	Willow Species	41	Good	Fair	Good	5.0	large branching
995	Salix sp.	Willow Species	29	Good	Good	Good	4.0	
996	Acer negundo	Manitoba Maple	14	Good	Fair	Good	2	dieback
997	Acer negundo	Manitoba Maple	12	Good	Poor	Poor	1.0	lean, dead top
998	Acer negundo	Manitoba Maple	10	Fair	Poor	Poor	1.0	sever lean, dieback
999	Acer negundo	Manitoba Maple	14	Poor	Fair	Fair	2.0	sever lean, dieback
1000	Acer negundo	Manitoba Maple	22	Poor	Poor	Poor	1.5	stem wound at base, dead top
101	Acer negundo	Manitoba Maple	13	Good	Poor	Poor	1.0	dead top 4.0m
102	Acer negundo	Manitoba Maple	18	Poor	Fair	Fair	2.0	stem wound at 3.0m, lean, dieback
103	Acer negundo	Manitoba Maple	14				dead	
104	Acer negundo	Manitoba Maple	20				dead	
105	Acer negundo	Manitoba Maple	18				dead	
106	Unknown	Unknown	24				dead	
113	Acer negundo	Manitoba Maple	11	Poor	Fair	Poor	1.0	sever lean, dieback
112	Acer negundo	Manitoba Maple	18	Poor	Fair	Poor	2.0	sever lean, dieback, branch rubbing
111	Acer negundo	Manitoba Maple	11	Fair	Good	Fair	1.5	lean, stem rub wound
110	Acer negundo	Manitoba Maple	16	Poor	Good	Fair	2.0	sever lean
109	Acer negundo	Manitoba Maple	13	Poor	Poor	Poor	1.0	top broken off at 5.0m, stem rub wound
108	Acer negundo	Manitoba Maple	13	Poor	Poor	Poor	0.5	mushrooms present, top dead
107	Acer negundo	Manitoba Maple	10	Poor	Fair	Fair	1.0	sever lean, dieback
114	Acer negundo	Manitoba Maple	16	Good	Fair	Good	2.5	dieback
115	Acer negundo	Manitoba Maple	12	Fair	Good	Good	2.0	lean
116	Acer negundo	Manitoba Maple	16	Good	Good	Good	3.0	
117	Acer negundo	Manitoba Maple	10	Good	Good	Good	1.0	
118	Acer negundo	Manitoba Maple	18	Fair	Good	Good	2.5	lean
119	Acer negundo	Manitoba Maple	15				dead	
120	Unknown	Unknown	12				dead	
121	Unknown	Unknown	20				dead	
122	Acer negundo	Manitoba Maple	23	Poor	Poor	Poor	1.0	mostly dead, missing stem from 3.0m, missing most bark, only epicormic branching alive
123	Acer negundo	Manitoba Maple	12	Good	Poor	Poor	2.0	top dead
124	Acer negundo	Manitoba Maple	11	Good	Poor	Poor	1.0	dieback, top dead
125	Unknown	Unknown	19				dead	
126	Acer negundo	Manitoba Maple	19	Poor	Poor	Poor	0.5	small amount alive
127	Salix sp.	Willow Species	26	Good	Good	Good	4.0	
128	Acer negundo	Manitoba Maple	12				dead	
129	Acer negundo	Manitoba Maple	21				dead	
130	Acer negundo	Manitoba Maple	11				dead	
131	Salix sp.	Willow Species	22	Good	Good	Good	4.0	
132	Acer negundo	Manitoba Maple	10	Poor	Poor	Poor	1.0	barely alive, top dead only lower portion alive
133	Salix sp.	Willow Species	32				dead	
134	Acer negundo	Manitoba Maple	12	Poor	Poor	Poor	0.5	stem wound, top dead
135	Acer negundo	Manitoba Maple	11	Poor	Poor	Poor	0.5	sever lean, only epicormic branching alive
137	Acer negundo	Manitoba Maple	14	Poor	Poor	Poor	1.0	sever lean, dead top,
138	Acer negundo	Manitoba Maple	11	Poor	Fair	Fair	1.5	sever lean, dieback
136	Acer negundo	Manitoba Maple	14	Poor	Fair	Fair	2.0	sever lean, dieback
139	Acer negundo	Manitoba Maple	12	Poor	Poor	Poor	1.5	top dead, dieback, sever lean
140	Unknown	Unknown	12				dead	
141	Acer negundo	Manitoba Maple	10	Good	Poor	Poor	1.0	top dead, dieback
142	Acer negundo	Manitoba Maple	16	Good	Poor	Poor	2.0	top dead

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Tag No.	Scientific Name	Common Name	DBH (cm)	Condition			Canopy Radius (m)	Summary Comments
				TI	CS	CV		
143	Acer negundo	Manitoba Maple	14				dead	
144	Acer negundo	Manitoba Maple	16				dead	
145	Unknown	Unknown	11				dead	
146	Acer negundo	Manitoba Maple	12				dead	
147	Unknown	Unknown	10				dead	
148	Acer negundo	Manitoba Maple	11	Poor	Poor	Poor	0.5	only epicormic branching alive
149	Acer negundo	Manitoba Maple	12	Poor	Poor	Poor	0.5	top missing at 4.0m, only epicormic branching alive
150	Acer negundo	Manitoba Maple	10	Good	Good	Good	2.0	
151	Unknown	Unknown	12				dead	
152	Acer negundo	Manitoba Maple	18	Poor	Fair	Poor	2.5	mushrooms present, stem wound at base, portion of crown dead, dieback
153		willow defferent	16,16	Poor	Fair	Fair	3.0	inclusion bark, split below dbh, abundand large branches
154	Elaeagnus angustifolia	Russian Olive	16,10,10,10	Poor	Good	Fair	3.0	stem wound on largest stem at 2.0m, multiple stem, inclusion bark, lateral branching
155		Bal poplar	11	Poor	Good	Fair	3.0	inclusion bark, smaller stem below dbh, vine
156	Salix sp.	Willow Species	14	Good	Good	Good	3.0	
157	Salix sp.	Willow Species	10	Good	Good	Good	3.0	located in dense Common Reed
458	Picea glauca	White Spruce	35	Good	Good	Fair	3.0	pitch nodules
159	Picea glauca	White Spruce	28	Good	Good	Good	3.0	
160	Picea glauca	White Spruce	30 24	Poor	Fair	Fair	3.0	pitch nodels, inclusion wound at base, vine
161	Picea glauca	White Spruce	26	Good	Fair	Good	3	pruned, pitch nodules
162	Picea glauca	White Spruce	25	Good	Good	Good	3.0	pruned
163	Picea glauca	White Spruce	23	Good	Good	Good	3.0	
164	Picea glauca	White Spruce	26	Good	Fair	Fair	3.0	old mult stem wound at 6.0m
165	Picea glauca	White Spruce	28	Good	Good	Good	6.5	pitch nodules
166	Picea glauca	White Spruce	10	Good	Good	Good	2.0	pruned
167	Picea glauca	White Spruce	23	Fair	Poor	Poor	2.0	dead top, broken branches, pruned
168	Picea glauca	White Spruce	29	Good	Good	Good	3.0	pruned
169	Picea glauca	White Spruce	24	Good	Fair	Good	3	pruned, pitch nodules
178	Picea glauca	White Spruce	39	Good	Good	Good	3.5	
170	Picea glauca	White Spruce	26	Good	Good	Good	3.0	pruned
171	Picea glauca	White Spruce	27	Good	Good	Good	3.0	
179	Picea glauca	White Spruce	19	Good	Good	Good	2.0	pitch nodules
172	Picea glauca	White Spruce	26,22	Poor	Fair	Fair	3.0	inclusion bark, smaller stem poor top
173	Picea glauca	White Spruce	31	Good	Good	Good	3.0	pruned, pitch nodules, broken branches
174	Picea glauca	White Spruce	30	Good	Good	Good	3.0	pruned
175	Picea glauca	White Spruce	30	Good	Good	Good	3.0	pitch nodules, pruned
176	Picea glauca	White Spruce	32	Good	Good	Good	3.0	pruned
177	Picea glauca	White Spruce	34	Good	Good	Good	3.0	
180	Picea glauca	White Spruce	34	Good	Good	Good	3.5	pich nodules
181	Picea glauca	White Spruce	33	Good	Good	Good	3.5	
182	Picea glauca	White Spruce	36	Good	Good	Good	3.5	
183	Picea glauca	White Spruce	30	Good	Good	Good	3.0	
184	Picea glauca	White Spruce	33	Good	Good	Good	3.5	
185	Picea glauca	White Spruce	31	Good	Good	Good	3.0	
186	Picea glauca	White Spruce	24, 26	Poor	Good	Fair	3.0	incuision 1.0-base, old pitch nodules
187	Picea glauca	White Spruce	20	Good	Fair	Good	2.5	top twisty
189	Picea glauca	White Spruce	30	Good	Good	Good	3.0	pitch nodules
190	Picea glauca	White Spruce	31	Good	Good	Good	3.5	
188	Picea glauca	White Spruce	35	Good	Good	Good	3.5	pich nodules
191	Picea glauca	White Spruce	37	Good	Good	Good	4.0	old pitch nodul
192	Picea glauca	White Spruce	29	Good	Good	Good	3.0	vine
193	Picea glauca	White Spruce	34	Good	Good	Good	3.0	pitch nodels
194	Picea glauca	White Spruce	28	Good	Good	Good	6.0	vine
195	Picea glauca	White Spruce	27	Good	Good	Good	3.0	
196	Acer negundo	Manitoba Maple	81, 50	Poor	Poor	Poor	5.0	dieback, top dead, small stem sever lean, bark inclusion, cavities, seam
197	Acer negundo	Manitoba Maple	90	Poor	Poor	Fair	7.0	inclusiong bark, mushrooms present, dieback, stem wounds
198	Acer negundo	Manitoba Maple	48				dead	
199	Acer negundo	Manitoba Maple	64	Poor	p	Fair	6.0	seams, wounds on stem, large lateral, brocken branches, dieback
200	Acer negundo	Manitoba Maple	36	Poor	Fair	Fair	4.5	sever lean, large branching, dieback, vine
201	Ulmus americana	American Elm	26	Poor	Fair	Fair	3.0	sever lean, insect on leaves, large branching, vine
202	Juglans nigra	Black Walnut	10	Good	Good	Good	2.0	
203	Juglans nigra	Black Walnut	38	Fair	Fair	Good	6.0	base wound, large branching, vine
204	Acer negundo	Manitoba Maple	14	Poor	Fair	Fair	2.0	sever lean, dieback
205	Unknown	Unknown	11				dead	
206	Acer negundo	Manitoba Maple	11	Good	Fair	Good	3.0	large branching
207	Acer negundo	Manitoba Maple	11	Fair	Good	Good	2.0	stem wound, mostly healed
208	Unknown	Unknown	14				dead	
209	Salix sp.	Willow Species	12	Good	Good	Good	3.0	slight lean, vine
210	Salix sp.	Willow Species	38	Poor	Fair	Good	4.0	multiple stems, inclusion bark, seam base to 2 m, large branching
211	Salix sp.	Willow Species	18,12,12				dead	
212	Salix sp.	Willow Species	11	Good	Good	Good	2.0	
213	Elaeagnus angustifolia	Russian Olive	14	Good	Fair	Good	3.0	large branching, inclusion bark
214	Acer negundo	Manitoba Maple	27	Poor	Poor	Fair	3.0	sever lean, missing top, stem wounds, heavey vine
215	Acer negundo	Manitoba Maple	30	Poor	Poor	Fair	2.0	only 2m tall stump with suckers, suckers all healthy
216	Elaeagnus angustifolia	Russian Olive	11	Poor	Poor	Good	3.0	multiple smaller stems, large branching, inclusion bark, ooze on stem
218	Acer negundo	Manitoba Maple	38,48	Poor	Poor	Poor	6.0	dieback, large broken branches, inclusion bark, heavey vine
219	Acer negundo	Manitoba Maple	20	Poor	Poor	Fair	2.5	partually uprooted, large dead branching some dead, vine
220	Acer negundo	Manitoba Maple	18	Poor	Fair	Good	3.0	sever lean, large branching
221	Malus sp.	Apple Species	10,16,18,20	Poor	Poor	Fair	3.0	sever lean, inclusion bark, large branching, dieback
222	Acer negundo	Manitoba Maple	30	Poor	Poor	Fair	3.0	large branching, dieback, vine, stem wounds, large broken and dead branching
223	Acer negundo	Manitoba Maple	20,46	Fair	Fair	Fair	8.0	old dead stump at base, large lateral branching, dieback, sever lean on smaller stem
224	Juglans nigra	Black Walnut	18	Good	Fair	Good	3.5	large lateral branching
225	Acer negundo	Manitoba Maple	50,10,12,12,	Poor	Poor	Fair	7.00	inclusion bark, large broken off stem, cavity, large branching, lateral branching
226	Acer negundo	Manitoba Maple	16	Good	Fair	Good	4.0	large branching
227	Acer negundo	Manitoba Maple	32,30	Poor	Poor	Poor	4.0	dead top, large broken branches, base wound, smaller stem dead, dieback
228	Acer negundo	Manitoba Maple	12	Poor	Fair	Fair	3.0	sever lean, vine, lateral branching
229	Acer negundo	Manitoba Maple	18,26	Poor	Poor	Fair	6.0	stem cavities, inclusion bark at stump, larger stem dead, large branching
230	Acer negundo	Manitoba Maple	16,18	Poor	Fair	Good	4.0	sever lean, stem wound rub, large branching
232	Acer negundo	Manitoba Maple	22				dead	
231	Acer negundo	Manitoba Maple	44,24	poor	poor	poor	6.0	dieback, dead top, inclusion bark, branch wounds, large branching, vine
233	Acer negundo	Manitoba Maple	22	Poor	Poor	Poor	3.0	sever lean, dead top, missing leader
234	Acer negundo	Manitoba Maple	22				dead	
235	Acer negundo	Manitoba Maple	45,28	Poor	Fair	Poor	3.0	dead top, large stem dead
236	Acer negundo	Manitoba Maple	15	Fair	Good	Good	3.0	slight lean
237	Acer negundo	Manitoba Maple	38,20,20				dead	
238	Acer negundo	Manitoba Maple	28	Poor	Poor	Poor	laying on ground	broken off at stump but still alive, laying on ground
239	Acer negundo	Manitoba Maple	49	Poor	Poor	Good	5.0	multiple stems above dbh, inclusion bark, large branching

Two hundred seventy-eight (274) trees greater than 10 cm DBH, across twelve (12) species, were inventoried and assessed on and within 6m of the property. Tree composition and abundance within the property is summarized below in **Table 3**. Manitoba maple was the most abundant tree assessed, followed by willows and white spruce. All of the trees occurring on the property are presumed to be natural occurrences (with the exception of the west coniferous hedgerow, and none are significant of a provincial or local level.

Table 3. Composition and Abundance of Trees > 10 cm DBH Abutting (within 6m) and on the Property

Species	Total Assessed	Percentage of Total
American Elm (*Ulmus americana*)	1	0.36
Apple (*Malus sp*.)	1	0.36
Balsam Poplar (*Populus balsamifera*)	2	0.73
Black Walnut (*Juglans nigra*)	6	2.19
Horse Chestnut (*Aesculus hippocastanum*)	6	2.19
Manitoba Maple (*Acer negundo*)	113	41.24
Northern Red Oak (*Quercus rubra*)	2	0.73
Russian Olive (*Elaeagnus angustifolia*)	4	1.46
Silver Maple (*Acer saccharinum*)	13	4.71
Thornless Honeylocust (*Gleditsia triacanthos*)	14	5.10
White Spruce (*Picea glauca*)	52	18.98
Willow sp. (*Salix sp.*)	60	21.90
TOTAL	**158**	**100**

3.4 Wildlife and Wildlife Habitat

3.4.1 Birds

Dawn breeding bird surveys were conducted in accordance with the OBBA were undertaken by RiverStone on three (3) occasions between May 29 and July 7, 2021 at six (6) designated point count stations as illustrated on **Figure 3**. Stations were situated to provide coverage of each primary vegetation community and habitat observed on the property. Additional incidental observations of individuals were noted during all assessments when new species were heard or observed.

In total, ten (10) species of birds were identified as potential or probable breeders over the six (6) stations and three (3) days of observation. No Species at Risk (SAR) or Special Concern (SC) species were observed. The most common species observed was common grackle (*Quiscalus quiscula*), while the eastern kingbird (*Tyrannus tyrannus*) was only observed once and the yellow warbler (*Dendroica petechia*), song sparrow (*Melospiza melodia*), and house finch (*Haemorhous mexicanus*), at least twice each. Given the limited area

of natural habitat on the property and adjacent lands, along with the active agriculture, the low number and density of birds observed is expected. The species observed are similar to those as listed on **Table 4**.

Other bird species were noted during the botanical inventories on June 9 and August 26, 2020. Although habitat did exist for some of the species, most were flying overhead with no evidence of breeding noted. The species included: black-capped chickadee (*Poecile atricapillus*); mourning dove (*Zenaida macroura*); gray catbird (*Dumetella carolinensis*); northern flicker (*Colaptes auratus*), American crow (*Corvus brachyrhynchos*); turkey vulture (*Meleagris gallopavo*) – tracks; and Canada goose (*Branta canadensis*).

Table 4. Results of Dawn Breeding Bird Point Count Stations on the Property

Date\Start Time	Station	Temperature	Beaufort Wind	Cloud Cover	Species
May 29, 2021/ 7:10am	1	8ºC	0-3	0%	Red-winged Blackbird (*Agelaius phoeniceus*) Savanna Sparrow (*Passerculus sandwichensis*) Yellow Warbler (*Setophaga petechia*) Common Grackle (*Quiscalus quiscula*)
	2	8ºC	0-3	0%	Common Grackle (*Quiscalus quiscula*) House Finch (*Haemorhous mexicanus*)
	3	8ºC	0-3	0%	Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*) Blue Jay (*Cyanocitta cristata*) American Crow (*Corvus brachyrhynchos*)
	4	8ºC	0-3	0%	Song Sparrow (*Melospiza melodia*)
	5	8ºC	0-3	0%	Song Sparrow (*Melospiza melodia*)
	6	8ºC	0-3	0%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*)
	1	13ºC	0-2	5%	Red-winged Blackbird (*Agelaius phoeniceus*)

June 23, 2021/ 7:35am					Savanna Sparrow (*Passerculus sandwichensis*) American Robin (*Turdus migratorius*)
	2	13ºC	0-2	5%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*)
	3	13ºC	0-2	5%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Eastern Kingbird (*Tyrannus tyrannus*) Blue Jay (*Cyanocitta cristata*)
	4	13ºC	0-2	5%	Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*) Blue Jay (*Cyanocitta cristata*)
	5	13ºC	0-2	5%	Song Sparrow (*Melospiza melodia*) Common Grackle (*Quiscalus quiscula*) American Robin (*Turdus migratorius*) Yellow Warbler (*Setophaga petechia*)
	6	13ºC	0-2	5%	Common Grackle (*Quiscalus quiscula*) American Robin (*Turdus migratorius*) Red-winged Blackbird (*Agelaius phoeniceus*)
July 7, 2021/ 7:15am	1	25ºC	0-1	10%	Song Sparrow (*Melospiza melodia*) Common Grackle (*Quiscalus quiscula*) Red-winged Blackbird (*Agelaius phoeniceus*)
	2	25ºC	0-1	10%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*)

				House Finch (*Haemorhous mexicanus*)
3	25ºC	0-1	10%	Common Grackle (*Quiscalus quiscula*) American Robin (*Turdus migratorius*) Blue Jay (*Cyanocitta cristata*) American Crow (*Corvus brachyrhynchos*)
4	25ºC	0-1	10%	American Robin (*Turdus migratorius*) Common Grackle (*Quiscalus quiscula*) Song Sparrow (*Melospiza melodia*)
5	25ºC	0-1	10%	Song Sparrow (*Melospiza melodia*)
6	25ºC	0-1	10%	American Robin (*Turdus migratorius*) Red-winged Blackbird (*Agelaius phoeniceus*)

3.4.2 Amphibians & Reptiles

Amphibian call surveys were conducted on May 1, May 18, and June 9, 2021 at four (4) designated survey stations as shown on illustrated on **Figure 3**. Survey locations were chosen to be in the vicinity of potential aquatic habitats that would support breeding activities. Incidental observations of individuals would have been noted during other assessment times if new species were heard or observed. During the botanical surveys in 2020 and 2021, a few individual northern leopard frogs (*Lithobates pipiens*) were observed in the wetland feature (SWDM3-4).

Based on the results below, it is concluded that anuran abundance and diversity of amphibians is deemed to be quite low on the property (**Table 5**). These observations are consistent with that of the East Gwillimbury Employment Corridor Secondary Plan Natural Heritage Evaluation (NRSI 2020). NRSI did not report any anurans on the property during their surveys in 2020 (survey station ANR-009 on NRSI Map 3 is located on the property).

3.4.3 Bats

As stated in **Section 2.3.3**, no bat snag surveys or bat acoustic surveys were undertaken on the property. Given the lack of tree cover, it was assumed that SAR maternity roosting bats are present, but not in numbers that would warrant formal bat survey protocols. It is assumed that an appropriate mitigation

measure to avoid impacts to SAR maternity roosting bats would be a tree-cutting timing window, to be confirmed with the Ministry of Environment, Conservation and Parks (MECP).

3.4.4 Mammals

Mammal species noted (including their NHIC SRank) during the 2020 and 2021 botanical inventories included: northern raccoon (*Procyon lotor* S5); red squirrel (*Tamiasciurus hudsonicus*, S5); eastern chipmunk (*Tamias striatus*, S5); eastern gray squirrel (*Sciurus carolinensis*, S5); groundhog (*Marmota monax*); and white-tailed deer (*Odocoileus virginianus*, S5) -tracks. None of these species is a SAR in Ontario and all are relatively common in the local geographic area.

Table 5. Results of Evening Amphibian Call Survey on the Property

Date\Start Time	Station	Temperature	Beaufort Wind	Cloud Cover	Species
May 1, 2021 / 8:55pm	1	12ºC	0-3	10%	American Toad (*Anaxyrus americanus*)
	2	12ºC	0-3	10%	American Toad (*Anaxyrus americanus*)
	3	12ºC	0-3	10%	No calls
	4	12ºC	0-3	10%	No calls
May 18, 2021 / 9:05pm	1	17ºC	0-1	10%	No calls
	2	17ºC	0-1	10%	No calls
	3	17ºC	0-1	10%	No calls
	4	17ºC	0-1	10%	No calls
June 9, 2021 / 9:25pm	1	24ºC	0-1	10%	No calls
	2	24ºC	0-1	10%	No calls
	3	24ºC	0-1	10%	No calls
	4	24ºC	0-1	10%	No calls

3.4.5 Lepidoptera

Although no specific Lepidoptera inventories were undertaken on the property, monarch butterflies were observed during the 2020 and 2021 botanical surveys, along the edges of the wetland feature SWDM3-4 in SWTM3-6 and the fringes of the agricultural cropland. The monarch is listed as a Special Concern (SC) species on Schedule 4 of the ***Endangered Species Act, 2007*** (Province of Ontario 2007).

3.4.6 Connectivity/Linkage

Based on the lack of natural heritage features and north perimeter hedge-row, it is our opinion and supported by the existing on-site and abutting conditions, that there is a lack of connectivity/linkage to the north, east and south. There is some connectivity off-site to the west from the wetland feature (SWDM3-4) and the aquatic inclusions of a braided intermittent watercourses/swales. The on-site SWDM3-4 (SWD3-4 in NHIC 2020) continues off-site to the west, eventually changing to reed-canary grass graminoid mineral meadow marsh MAMM1-3 (MAM2-2 on Map 2b in NHIC 2020).

3.5 Aquatic Habitat

3.5.1 Headwater Drainage Features

The locations of headwater drainage features on the property as shown on **Figure 8**. As previously noted, RESI completed a Headwater Drainage Feature Assessment (HDFA) of the watercourse/swale reaches, relying on field data collected in 2009, 2010 and 2019. This 2019 report is included as **Appendix C**.

Based on the observations, the HDFA resulted in a classification of the watercourse/swale reaches as Conservation (main channel – Tributary A in RESI 2019) and No Management Required (secondary reach – Tributary B in RESI 2019).

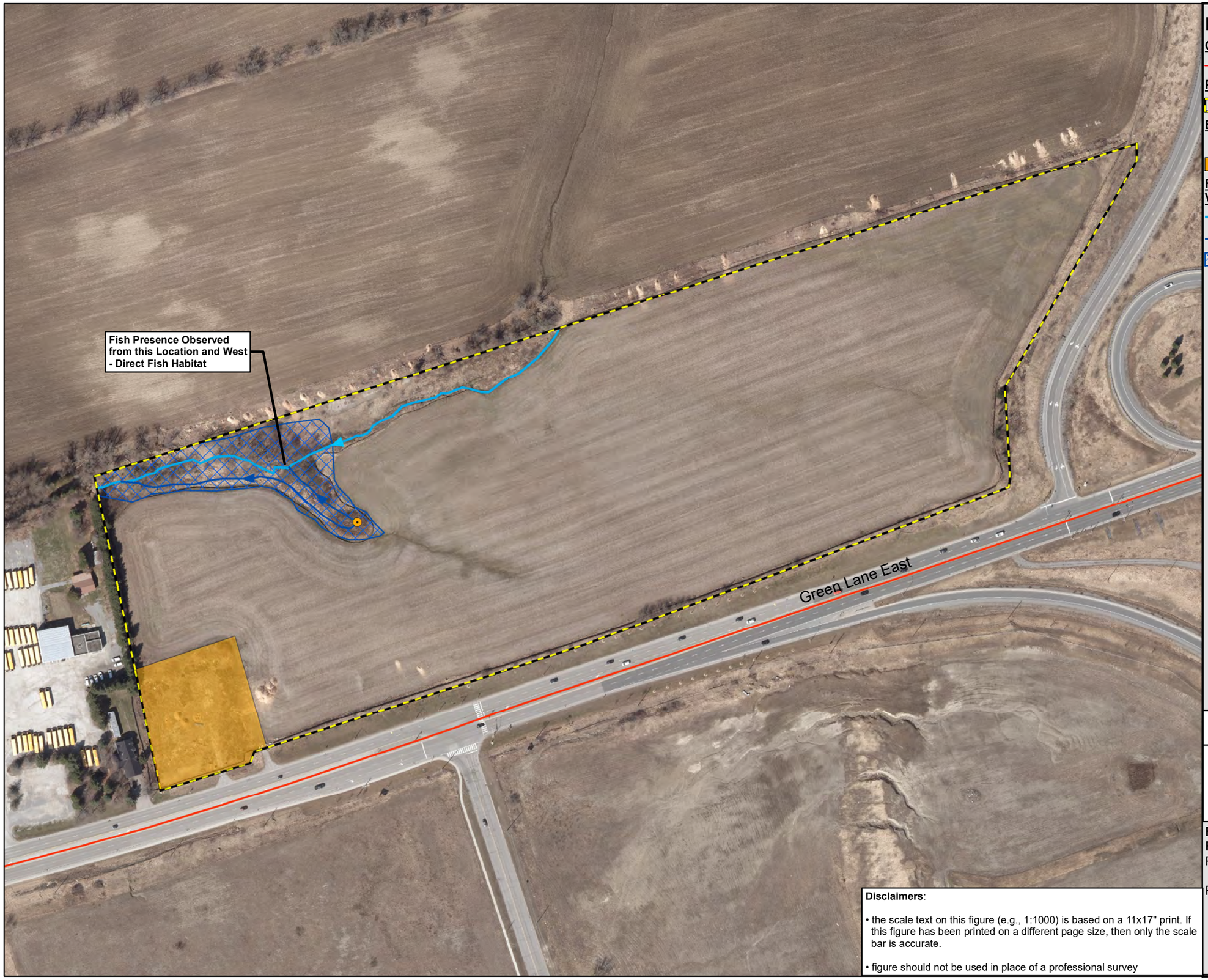
THE HDFA report (RESI 2019) is referenced in the NRSI Natural Heritage Assessment (NRSI 2020), noting the resulting management objectives stated above.

3.5.2 Fish and Fish Habitat

As previously noted above, RiverStone completed an assessment of fish and fish habitat on the property in 2019, relying on field data collected in 2009 and 2019. This report is included in **Appendix C**.

Habitat for fish can occur in several forms. On the property, the wetland and creek are the only aquatic features (SWDM3-4, Tributary A, Tributary B) which could function as habitat for fish, depending on the availability of a suitable water depth and flow permanency. Photographs representative of the onsite wetland (SWDM3-4) and creek (intermittent tributary/swales) conditions are provided in **Appendix D**.

Based on the RESI (2019) report and 2021 site visits, the watercourse reaches on the property are ultimately a tributary to the East Holland River, which lies to the west of Leslie Street. RESI previously noted that the watercourse appears to have been historically re-aligned on more than one occasion and does not contain a defined channel upstream of the property. North of the property the watercourse/swale traverses an agricultural field (corn in 2021) with the historical channel path plowed



Legend

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property

Existing Man-made Features

- Tile Drain Outlet
- Previous Developed Area

Features with Recognized Natural Heritage Value - Identified by RiverStone

- Tributary A
- Tributary B
- Wetland

N

Orthorectified aerial photo - 2020

Scale	RS Project No.	Date Last Updated	By
1:2,250	2019-079	Apr 23, 2023	AS

0 30 60 Metres

RiverStone

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

Figure 8. Fish Habitat and Headwater Drainage Features.
Part of Lot 6, Con.3. Township of East Gwillimbury

Prepared for Rice Commercial Group

through in 2021 and other years for crop production. Based on aerial photography, the main tributary originates to the north, flowing in a southwest direction through a pond, a small wooded area and either overland through a farm field or through a tile drain system prior to entering the property (**Figure 8**).

Upon entering the property, the tributary immediately changes flow direction to the west along its the north property perimeter. Within a distance of approximately 80 m to 100 m, the watercourse flows overland, and lacks a defined channel. Areas of saturated soils were evident during the 2009 and 2019 site visits. However, it was concluded that access and channel quality restrict this reach such that indirect fish habitat occurs only at this juncture. The immediate riparian buffer in this reach consists of an agricultural field, planted in 2009 with soybean, corn in 2019, soybean in 2020 and left fallow with earthworks (topsoil removal) in 2021. The buffer offers no canopy and shading cover for this reach nor a supply of vegetative material for habitat complexity. There is SWTM3-6 along the tributary edges.

Following the reach that flows overland, the surface water hits a nick-point with evidence of considerable downgradient erosion in 2009. This reach of the watercourse was somewhat stabilized by 2019 and showed considerable regeneration of shrubs and wetland/meadow groundcover vegetation. The substrates throughout this reach consist of 70 % clay, 10% silt, 10% sand and 10% cobble/rubble/boulder. In 2009 isolated pools with small schools of fish were observed in the main channel; however, no fish were observed in 2019.

The most western reach of the watercourse flows through a wooded swamp/shrub thicket swamp and reed canary grass-graminoid meadow marsh wetland community, part of the overall wetland mosaic. Where the tributary enters the shrub thicket swap and meadow marsh there is a large area of depositional material that has resulted from the upstream erosion. Through this reach the watercourse is braided with no defined banks, channel, or flow; however saturated soils were noted in some sections, identified as a low flow channel (0.5-0.8 m width). The baneful width varies between 8 m and 10 m and is evident through the distinct deposits of sand and silt.

Noticeable flow was observed in this reach in 2009 and the spring of 2019. Also of note is that the tributary has a more channelized appearance downstream of an old culvert, which was likely installed to facilitate a farm crossing. Substrates consist of sand, silt, and gravel with occasional pockets of rubble. No direct fish habitat was observed upstream of the confluence with the tile drain channel at the time of the site visit, or any evidence of benthic invertebrates on in stream rocks; however, downstream of the confluence, observations of small fish and benthic invertebrates were noted during the 2009 field assessment.

A secondary watercourse reach directs water north through the central portion of the property and exits onto the tableland via a tile drain outlet, providing some flow to the main reach. The overflow from the tile drain system empties into a pool which outlets through a narrow channel adjacent to the agricultural

field prior to its confluence with the main reach. Fish were observed in the pooled water at the tile drain outlet (July 10, 2009) and in the reaches of the main channel downstream of the farm crossing culvert. Downstream of the old farm crossing, surface water flows through a fresh-moist willow lowland thicket until it exits the property and continues west through a culvert under Leslie Street.

Based on the results of our historical and recent site assessments, the furthest upstream that fish were directly observed is immediately downstream of the confluence of Tributaries A and B (**Figure 8**). Upstream of their confluence Tributary A is considered indirect habitat as physical changes in habitat do not provide suitable conditions and as a result, fish were not observed during any of our assessments.

3.6 Species at Risk (SAR) Assessment

The results of a RESI desktop screening, which is habitat-based and targeted assessments for Endangered (END) and Threatened (THR) species and their habitats is provided in **Table 6**. The preliminary screening identified the potential for fourteen (14) Endangered or Threatened species to be present within the local area based on existing digital records and/or range maps. This initial list of SAR species was further refined to twelve (12) species that had the potential to be present or use vegetation communities on the property or within the local area that required on-site assessments of habitats or targeted surveys to determine presence or absence.

Based on the results of the habitat-based assessment and targeted surveys, RESI identified the potential for two (2) species of SAR Endangered bats, little brown bat (*Myotis lucifugus*) and northern long-eared bat (*Myotis septentrionalis*). Potentially suitable habitat on the property may exist in the forested portions of the wetland feature (SWDM3-4) and tree cover offered in the north property perimeter hedge-rows (FODM11), which comprise a small portion with the main northern hedge-row removed in 2021.

Each of these species has the potential to be impacted by the proposed development. Pregnant and lactating females will move from roost to roost each morning in responses to changes in thermal conditions and prey (insect) availability. Areas containing a high density of snags increases the chances of use by SAR Endangered bats as these areas provide a variety of microhabitat conditions. Changes within the forest community adjacent to maternal roosts have the potential to reduce the suitability of a given snag or cavity tree by changing the extent of shading by adjacent trees, which can result in changes to thermal conditions within the roost. Additionally, as roosting trees inherently exhibit some level of decay, removal of trees surrounding roosts may increase the potential for wind-throw of both the roost itself and surrounding trees, thereby damaging or destroying the habitat feature. Based on our site visits, there is a low number of individual or clustered potential bat snag trees.

These two SAR bat species assessed as a species guild (related species with similar habitat characteristics), are highly mobile; however, individuals and groups of the noted bat species are also recognized as having

Common Name[1]	Scientific Name	Step 1 (Desktop): Rationale for considering	Step 2 (Desktop): Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from aerial photography and other information sources indicate that potential habitat or communities might be present? Area of Interest (AOI)	Adjoining Lands (AL)	Step 3 (On Site): Potential and/or confirmed habitat documented during on-site assessment Area of Interest (AOI)	Adjoining Lands (AL)	Step 4: Is there potential for the species, its habitat, or ecological community to be negatively impacted by the activities that would be permissible within the AOI?
Endangered & Threatened (Provincially): status from Species at Risk in Ontario List (O Reg 230/08); updated August 2018							
Blanding's Turtle	*Emydoidea blandingii*	range map	YES, potential habitat is prepsent as a wetland feature. Requires site assessment to determine wetland characteristics.	Potential habitat is absent from the AOI and it is very unlikely that species would move to AOI to reach areas of suitable habitat (i.e., the AOI is not situated between areas of potential habitat).	NO, potential habitat is absent as the wetland is not surtable based on permanency, size, vegetation community	NO, see step 2	NO, see steps 2 and 3.
Eastern Hog-nosed Snake	*Heterodon platirhinos*	range map	YES, suitable habitat is present on the subject property and the wetland could potentially provide adequate forage.	YES, suitable habitat is present on the adjoining lands	NO, suitable habitat may be present; however, the lack of amphibians makes the wetland unsuitable foraging habitat. Adjacent roadways are not suitable for snakes	YES, suitable habitat is present on the adjoining lands	NO, see step 3.
Eastern Whip-poor-will	*Caprimulgus vociferus*	OBBA	NO, suitably forests with canopy openings are absent.	NO, suitably forests with canopy openings are absent.	NO, suitably forests with canopy openings are absent.	NO, suitably forests with canopy openings are absent.	NO, see steps 2 and 3.
Bobolink	*Dolichonyx oryzivorus*	OBBA	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, see step 3.
Chimney Swift	*Chaetura pelagica*	OBBA	NO, dark sheltered hollow vertical structures (chimneys, smoke stacks, silos, large trees with cavities and rock crevices) suitable for nesting or roosting are absent.	NO, dark sheltered hollow vertical structures (chimneys, smoke stacks, silos, large trees with cavities and rock crevices) suitable for nesting or roosting are absent.	NO, dark sheltered hollow vertical structures (chimneys, smoke stacks, silos, large trees with cavities and rock crevices) suitable for nesting or roosting are absent.	NO, dark sheltered hollow vertical structures (chimneys, smoke stacks, silos, large trees with cavities and rock crevices) suitable for nesting or roosting are absent.	NO, see steps 2 and 3.
Barn Swallow	*Hirundo rustica*	OBBA	NO, man-made or natural structures suitable for nesting are absent.	NO, man-made or natural structures suitable for nesting are absent.	NO, man-made or natural structures suitable for nesting are absent.	NO, man-made or natural structures suitable for nesting are absent.	NO, see steps 2 and 3.
Eastern Meadowlark	*Sturnella magna*	OBBA	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, suitable grassland or agricultural communities are absent. The agribulture crops present now and historically are not suitable fro Bobolink.	NO, see step 3.
Bank Swallow	*Riparia riparia*	OBBA	NO, man-made or natural structures suitable for nesting are absent.	NO, man-made or natural structures suitable for nesting are absent.	NO, man-made or natural structures suitable for nesting are absent.	NO, man-made or natural structures suitable for nesting are absent.	NO, see steps 2 and 3.
Little Brown Bat	*Myotis lucifugus*	range map	YES, dark sheltered hollow vertical structures (e.g., large trees with cavities or rock crevices) suitable for gestating or roosting may be present.	YES, dark sheltered hollow vertical structures (e.g., large trees with cavities or rock crevices) suitable for gestating or roosting may be present.	YES, dark sheltered hollow vertical structures (e.g., large trees with cavities or rock crevices) suitable for gestating or roosting may be present.	YES, dark sheltered hollow vertical structures (e.g., large trees with cavities or rock crevices) suitable for gestating or roosting may be present.	YES, development and site alteration has the potential to damage habitat.
Northern Long-eared Bat	*Myotis septentrionalis*	range map	YES, dead or partially-decayed trees with crevices beneath exfoliating/peeling bark may be present.	YES, dead or partially-decayed trees with crevices beneath exfoliating/peeling bark may be present.	YES, dead or partially-decayed trees with crevices beneath exfoliating/peeling bark are present.	YES, dead or partially-decayed trees with crevices beneath exfoliating/peeling bark are present.	YES, development and site alteration has the potential to damage habitat.
Tri-colored Bat	*Perimyotis subflavus*	range map	YES, trees suitable for roosting may be present and there are open-canopy areas suitable for foraging (e.g., riparian and/or early successional communities).	YES, trees suitable for roosting may be present and there are open-canopy areas suitable for foraging (e.g., riparian and/or early successional communities).	NO, potential habitat not observed; however, trees suitable for roosting may be present.	NO, potential habitat not observed; however, trees suitable for roosting may be present.	NO, see step 3.
Butternut	*Juglans cinerea*	range map	NO, this species was not detected during tree inventory	NO, this species was not detected.	NO, this species was not detected during tree inventory	NO, this species was not detected.	NO, see steps 2 and 3.

[1]Shaded rows denote species or communities for which negative impacts have been deemed possible.

some degree of fidelity to suitable local sites for daily and seasonal 'roosting' activities. While some species (*i.e.*, *Myotis lucifugus*) exhibit a preference for roosting in anthropogenic structures (which do not exist on the property), natural roosting sites are also important. Natural roosting sites are generally associated with mature forests containing a sufficient density of large trees in various stages of decay, otherwise known as 'snags'. Snags provide features such as cavities and/or loose bark, for which bats rely on for shelter and thermoregulation throughout the active season. However, mature forest and mature trees are lacking on the property.

The Natural Heritage Evaluation (NRSI 2020) noted four (4) SAR Endangered species in the East Gwillimbury Highway 404 Employment Corridor Secondary Plan area, which included barn swallow (*Hirundo rustica*), bank swallow (*Riparia riparia*), eastern meadowlark (*Sturnella magna*) and butternut (*Juglans cinerea*). Based on habitat preferences, the SAR assessment discounted the potential for three (3) of the four (4) species noted by NRSI due to lack of habitat. There were no buildings or bridges suitable for nesting barn swallows, no suitable banked ground for bank swallows, and no hay or grassed field habitat for eastern meadowlark. Although multiple individual and clustered native and hybrid walnut trees were identified on-site, they were confirmed by butternut health assessors (BHA) from CEA and RESI as being walnuts, not native butternut or butternut hybrids.

3.7 Significant Wildlife Habitat (SWH) Assessment

The results of a RESI desktop screening, which is habitat-based on targeted assessments of potential features and communities which could function as SWH per Provincial policies is provided in **Table 7**. Three (3) communities or features with the potential to be identified as Candidate SWH were identified: Seasonal Concentration Areas of Animals (bat maternal colonies) and Habitat for Species of Conservation Concern (two species), as described below.

Seasonal Concentration Areas of Animals

Bat Maternal Colonies

Tree roosting bats including big brown bat (*Eptesicus fuscus*) and silver-haired bat (*Lasionycteris noctivagans*) have range overlaps with the property and adjacent lands. During the site inventories, suitable dead or dying trees (snags) and trees with loose bark or tree cavities were observed across the treed vegetation communities, particularly in the hedge-rows. These trees may provide suitable maternal colony habitat. These habitats overlap with potential habitat for the Endangered species noted below, namely the little brown bat and northern long-eared bat.

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Seasonal Concentration Areas of Animals			
Waterfowl Stopover and Staging Areas (Terrestrial)	Fields with sheet water during Spring (mid March to May) Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterflow, these are not considered SWH unless they have spring sheet water available.	CUM1, CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	**NO,** while the ELC community type does occur on the subject property, sheet water was not observed in the spring during field assessments.
Waterfowl Stopover and Staging Areas (Aquatic)	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment Ponds and storm water Ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. These habitats have an abundance food supply (mostly aquatic invertebrates and vegetation in shallow water)	MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7	**NO,** while the ELC community type does occur on the subject property, the communities did not contain enough water to support significant aquatic waterfowl stopover and staging areas.
Shorebird Migratory Stopover Areas	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH.	BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5	**NO,** while the ELC community type does occur on the subject property, the communities did not contain enough water to support shorebird migratory stopover areas and the species were not documented during breeding bird surveys conducted in 2020.
Raptor Wintering Areas	The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be >20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting.	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. Bald Eagle: Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	**NO**, while the ELC ecosites are present on the subject property, they do not meet the size requirements for this SWH category.
Bat Hibernacula	Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites are not SWH. The locations of bat hibernacula are relatively poorly known.	Bat Hibernacula may be found in these ecosites: CCR1, CCR2, CCA1, CCA2. (Note: buildings are not considered to be SWH).	**NO**, the ELC community type associated with this SWH does not occur on the subject property.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Bat Maternity Colonies	Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario Maternity colonies located in Mature (dominant trees > 80yrs old) deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees Female Bats prefer wildlife trees (snags) in early stages of decay, class 1-3 . Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD, FOM, SWD, SWM.	**YES**, the forest communities on the subject property have the potential to function as this SWH type.
Turtle Wintering Areas	For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO. Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as overwintering habitat.	**NO**, there are no open water ponds on the subject property and the watercourses are too shallow to function as this SWH type.
Reptile Hibernaculum	For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice and Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1, FOC3.	**No, features on the pro**perty that could provide suitable habitat for snake hibernation were not found.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	Any site or areas with exposed soil banks, sandy hills, borrow pits, steep slopes, and sand piles that are undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation.	Eroding banks, sandy hills, borrow pits, steep slopes, sand piles or cliff faces. Habitat found in the following ecosites: CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1.	**NO,** there were no eroding banks, sandy hills, steep slopes or sand piles that would function as habitat for this SWH.
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	Any site or areas with exposed soil banks, sandy hills, borrow pits, steep slopes, and sand piles that are undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation.	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1.	**NO**, eroding cliff or banks suitable for this function are not present on the subject property.
Colonially - Nesting Bird Breeding Habitat Breeding Habitat (Tree/Shrubs)	Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11 to 15 m from ground, near the top of the tree.	SWM2, SWM3, SWM5, SWM6, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7, FET1.	**NO**, while the ELC ecosites are present on the subject property, they do not meet the size requirements for this SWH category.
Colonially - Nesting Bird Breeding Habitat (Ground)	Nesting colonies of gulls and terns are on islands or peninsulas (natural or artificial) associated with open water, marshy areas, lake or large river (two-lined on a 1:50,000 NTS map). Brewers Blackbird colonies are found loosely on the ground or in low bushes in close proximity to streams and irrigation ditches within farmlands.	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6, MAS1 – 3, CUM, CUT, CUS	**NO**, the subject property does not contain a rocky island or peninsula that would function as habitat for this SWH.
Migratory Butterfly Stopover Areas	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes.	Combination of ELC Community Series; need to have present one Community Series from each landclass: <u>Field:</u> CUM, CUT, CUS <u>Forest:</u> FOC, FOD, FOM, CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	**NO**. while the combination of woodland and field that connects to communities on the subject property are present, the subject property is >5 km from Lake Ontario.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Landbird Migratory Stopover Areas	Woodlots need to be > 10 ha in size and within 5 km of Lake Ontario. If multiple woodlands are located along the shoreline of those woodlands <2 km from Lake Ontario are more significant. Sites have a variety of habitats; forest, grassland and wetland complexes. The largest sites are more significant. Woodlots and forest fragments are important habitats to migrating birds, these features location along the shore and located within 5 km of Lake Ontario are Candidate SWH.	All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD.	**NO**. while the combination of woodland and field that connects to communities on the subject property is present, the subject property is >5 km from Lake Ontario.
Deer Yarding Areas	Deer wintering areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. The Core of a deer yard (Stratum I) is located within Stratum II and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual". -Woodlots with high densities of deer due to artificial feeding are not significant.	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2, CUP3, FOD3, CUT	**NO**. the MNRF did not identify deer wintering areas on the subject property; further, the forest community on the subject property and connection properties does not provide the habitat attributes associated with this SWH type.
Deer Winter Congregation Areas	Woodlots will typically be >100 ha in size. Woodlots <100 ha may be considered as significant based on MNRF studies or assessment. Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. Large woodlots > 100 ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. Woodlots with high densities of deer due to artificial feeding are not significant.	All Forested Ecosites with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD. Conifer plantations much smaller than 50 ha may also be used.	**NO**. the MNRF did not identify deer wintering areas on the subject property; further, the forest community on the subject property and connection properties does not provide the habitat attributes associated with this SWH type.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Rare Vegetation Communities			
Cliffs and Talus Slopes	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris	Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT	**NO**. the ELC community type associated with this SWH does not occur within the subject property.
Sand Barren	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.	ELC Ecosites: SBO1, SBS1, SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always < 60%.	**NO**. the ELC community type associated with this SWH does not occur within the subject property.
Alvar	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars may be complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2 Five Alvar Indicator Species: 1) Carex crawei, 2) Panicum philadelphicum, 3) Eleocharis compressa, 4) Scutellaria parvula, 5) Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 6E	**NO**. the ELC community type associated with this SWH does not occur within the subject property.
Old Growth Forest	Old Growth forests are characterized by exhibiting the greatest number of old-growth characteristics, such as mature forest with large trees that has been undisturbed. Heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Forest Community Series: FOD, FOC, FOM, SWD, SWC, SWM	**NO**. the DBH size class, age structure and canopy structure are too young within the wetland woodland to be considered this type of SWH.
Savannah	A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%.	TPS1, TPS2, TPW1, TPW2, CUS2	**NO**. the ELC community type associated with this SWH does not occur within the subject property.
Tallgrass Prairie	Tallgrass Prairie is an open vegetation with less than < 25% tree cover, and dominated by prairie species, including grasses.	TPO1, TPO2	**NO**. the ELC community type associated with this SWH does not occur within the subject property.
Other Rare Vegetation Community	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. The OMNRF/NHIC will have up to date listing for rare vegetation communities.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	**NO**. the ELC community type associated with this SWH does not occur within the subject property.
Specialized Habitats for Wildlife			
Waterfowl Nesting Area	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests. Wood Ducks, Bufflehead, Common Goldeneye and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites.	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4 Note: includes adjacency to provincially Significant Wetlands	**NO**, while the ELC communty type does occur on the subject property, the communities did not contain enough water to support a waterfowl nesting area.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	**NO**. while an ELC community types associated with this SWH is present on the subject property, the FOD forest is not associated with any lake, pond, river or wetlands.
Woodland Raptor Nesting Habitat	All natural or conifer plantation woodland/forest stands >30ha with >4ha of interior habitat. Interior habitat determined with a 200m buffer. In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	**NO.** while a ELC community type associated with this SWH is present on the subject property, the FOD forest does not provide adequate interior forest habitat .
Turtle Nesting Areas	Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.	Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1	**NO**. while the ELC type associated with this community is present on the subject property, the wetland communities do not provide suitable nesting habitat due to the lack of water and vegetation present in these communities.
Seeps and Springs	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.	Seeps/Springs are areas where groundwater comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	**NO,** seeps and springs were considered on each fo the site assessments and were not found. Also, the watercoruse was found to be completely dry at times, suggesting that seeps and springs were not present on the subject property.
Amphibian Breeding Habitat (Woodland)	Presence of a wetland or pond >500 m^2 (about 25 m diameter) within or adjacent (within 120m) to a woodland (no minimum size). The wetland, lake or pond and surrounding forest, would be the Candidate SWH. Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	**NO**. targeted anuran call surveys did not detect sufficient anuran calling on the subject property to be considered this SWH type.
Amphibian Breeding Habitat (Wetlands)	Wetlands and pools (including vernal pools) >500 m^2 (about 25 m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation.	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g., Bull Frog) may be adjacent to woodlands.	**NO**. targeted anuran call surveys did not detect sufficient anuran calling on the subject property to be considered this SWH type.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Area-Sensitive Bird Breeding Habitat	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. Interior forest habitat is at least 200 m from forest edge habitat.	All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD.	**NO**. while the ELC type accosted with this community is present on the subject property, large mature trees, woodlands >30 ha and interior habitat is not present.
Habitat for Species of Conservation Concern (not including Endangered or Threatened Species)			
Marsh Bird Breeding Habitat	Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water.	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, FEO1, BOO1. For Green Heron: All SW, MA and CUM1 sites.	**NO**. while the ELC type associated with this community is present on the subject property, the wetland community did not provide suitable nesting habitat due to the lack of water and vegetation present in these communities.
Open Country Bird Breeding Habitat	Large grassland areas (includes natural and cultural fields and meadows) >30 ha Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years). Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.	CUM1, CUM2	**NO,** fields on the subject property have been actively used for farming in the last 5 years.
Shrub/Early Successional Bird Breeding Habitat	Large field areas succeeding to shrub and thicket habitats >30 ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, haying or livestock pasturing in the last 5 years). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or lightly grazed pasturelands.	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2. Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	**NO**, fields on the subject property have been actively used for farming in the last 5 years.
Terrestrial Crayfish	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed.	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SWD, SWT, SWM, CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	**NO,** field surveys on the subject property did not confirm presence of habitat for terrestrial crayfish.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Ecoregion 6E	Candidate Significant Wildlife Habitat	ELC Ecosites	Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from available information sources and on-site assessment indicate that candidate SHW might be present?
Special Concern and Rare Wildlife Species	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or Provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	**See Table 2**
Animal Movement Corridors			
Amphibian Movement Corridors	Movement corridors between breeding habitat and summer habitat. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) of this Schedule.	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species (see above).	**NO**. based on anuran calling surveys there is not a significant number of calling amphibians, wetland breeding habitats are not present on the subject property.
Deer Movement Corridors	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH (see above). A deer wintering habitat identified by the Ministry of Natural Resources and Forestry as SWH will have corridors that the deer use during fall migration and spring dispersion. Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).	**NO**. seasonal deer congregation areas do not occur on the subject property.

*as per MNRF Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (January 2015)

Habitat for Species of Conservation Concern

Special Concern (SC) and rare wildlife species are considered further in the impact assessment section (**Section 5**), where mitigation measures are proposed. See **Table 8** for a detailed technical description of the Species of Conservation Interest assessment.

Two (2) Special Concern species were found to have potential habitat on the property. Snapping turtles can inhabit a wide range of wetland communities. The wetland community and watercourse are considered to function as a possible movement corridor/linkage for this species and others, but is considered of low quality. The potential is limited given the lack of channel or vegetation upstream of the wetland feature and upstream of the property. However, there is a wetland pocket further to the north of the property. Monarch butterfly are also a Special Concern species that could potentially breed on property. Monarch lay eggs on milkweed plants which were noted on the property along the driveway roadside, and fringes of the agricultural cropland. Monarchs were observed during the botanical inventories.

The Natural Heritage Assessment for the overall Secondary Plan area (NRSI 2020) noted the potential for three categories of SWH, including Seasonal Concentration Areas, Specialized Wildlife Habitat and Habitat for Species of Conservation Concern. The one component of Specialized Wildlife Habitat that was identified in the Secondary Plan area, Turtle Nesting Habitat, is associated with specific wetland communities, which do not exist on the property.

Table 8. Results of Desktop Screening and On-site Assessment for Species of Conservation Interest

Common Name[1]	Scientific Name	Step 1 (Desktop): Rationale for considering	Step 2 (Desktop): Do site-specific attributes (e.g., ecological system and landscape configuration) assessed from aerial photography and other information sources indicate that potential habitat or communities might be present? Subject Property	Adjacent Lands	Step 3 (On Site): Potential and/or confirmed habitat documented during on-site assessment Subject Property	Adjacent Lands	Step 4: Is there potential for the species, its habitat, or ecological community to be negatively impacted by the activities that would be permissible within the AOI?
Special Concern (Provincially): status from Species at Risk in Ontario List (O Reg 230/08); updated September 2018							
Snapping Turtle	*Chelydra serpentina*	range map	YES, suitable wetland and/or aquatic communities may be present.	YES, suitable wetland and/or aquatic communities may be present.	YES, suitable wetland and/or aquatic communities are present. The watercourse and wetland communities on the subject property could provide a movement corridor for species.	YES, suitable wetland and/or aquatic communities are present.	YES, impacts in the form of road mortality possible.
Eastern Ribbonsnake	*Thamnophis sauritus*	range map	YES, open-canopy areas adjacent to wetlands are present.	YES, open-canopy areas adjacent to wetlands are present.	NO, the marsh communities on the subject property do not provide suitable habitat.	NO, the marsh communities on the subject property do not provide suitable habitat.	NO, see step 3.
Canada Warbler	*Cardellina canadensis*	OBBA	YES, areas of wet forest or thicket swamp suitable for nesting (i.e., with well-developed shrub layers) may be present.	YES, areas of wet forest or thicket swamp suitable for nesting (i.e., with well-developed shrub layers) may be present.	NO, potential habitat not observed; however, areas with the physical characteristics necessary to function as breeding habitat may be present.	NO, potential habitat not observed; however, areas with the physical characteristics necessary to function as breeding habitat may be present.	NO, see step 3.
Common Nighthawk	*Chordeiles minor*	OBBA	YES, both natural and anthropogenic openings in canopy could provide suitable breeding and foraging habitat.	YES, both natural and anthropogenic openings in canopy could provide suitable breeding and foraging habitat.	NO, preferred habitat components are not present.	NO, preferred habitat components are not present.	NO, see step 3.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	OBBA	YES, open to semi-open communities with mature trees for nesting may be present.	YES, open to semi-open communities with mature trees for nesting may be present.	NO, open to semi-open woodland communities with mature trees are absent.	NO, open to semi-open woodland communities with mature trees are absent.	NO, see step 3.
Golden-winged Warbler	*Vermivora chrysoptera*	OBBA	YES, early successional vegetation communities with the physical structure necessary to provide breeding habitat may be present.	YES, early successional vegetation communities with the physical structure necessary to provide breeding habitat may be present.	NO, early successional vegetation communities with the physical structure necessary to provide breeding habitat are absent.	NO, early successional vegetation communities with the physical structure necessary to provide breeding habitat are absent.	NO, see step 3.
Wood Thrush	*Hylocichla mustelina*	OBBA	YES, areas with well-developed understorey within deciduous and/or mixed forest may be present.	YES, areas with well-developed understorey within deciduous and/or mixed forest may be present.	NO, species was not detected during morning breeding bird surveys.	NO, species was not detected during morning breeding bird surveys.	NO, see step 3.
Eastern Wood Pewee	Contopus virens	OBBA	YES, suitably sized area of intact forest is present.	YES, suitably sized area of intact forest is present.	NO, species were not detected during breeding bird surveys.	YES, suitably sized area of intact forest is present.	YES, development or site alteration in or adjacent to breeding territories may have negative impacts on individuals or habitat.
Black Tern	*Chlidonias niger*	OBBA	YES, suitable wetland communities (e.g., marsh) may be present.	YES, suitable wetland communities (e.g., marsh) may be present.	NO, suitable wetland communities (e.g., marsh) are absent.	NO, suitable wetland communities (e.g., marsh) are absent.	NO, see step 3.
Bald Eagle	*Haliaeetus leucocephalus*	OBBA	YES, large, potential nesting trees adjacent to open water may be present.	YES, large, potential nesting trees adjacent to open water may be present.	NO, nests of species not observed.	NO, nests of species not observed.	NO, see step 3.
Monarch	*Danaus plexippus*	range map	YES, both natural and anthropogenic openings could provide suitable breeding and foraging habitat.	YES, both natural and anthropogenic openings could provide suitable breeding and foraging habitat.	YES, Milkweed (Asclepias syriaca) is present; therefore, these areas could function as suitable breeding and foraging	YES, Milkweed (Asclepias syriaca) is present; therefore, these areas could function as suitable breeding and foraging	YES, development and site alteration has the potential to damage habitat.

[1]Shaded rows denote species or communities for which negative impacts have been deemed possible.

4 SITE CONSTRAINTS AND OPPORTUNITIES

Based on the approved MZO, an overlay of the Overall Site Plan shows part of the wetland mosaic and all of the open section of Tributary A and portions of Tributary A and Tributary B in the wetland mosaic will be affected by the proposed development (**Section 5.1**). As stated previously, the extension of Harry Walker Parkway is a Town initiative and approved by the Town as part of the Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a). It is our opinion that implementation and construction of this structure will affect part of the NHS Core Area attributes and ecological functions, such that its designation as an NHS Core Area will no longer be warranted, or at a minimum be reviewed.

It is to be noted that the MZO applies to the entire property, with future development (Area for Future Development) proposed in the remaining portion of the wetland mosaic and its braided tributary channels of Tributary A and Tributary B to the west of the Harry Walker Parkway extension. The block of tableland agricultural cropland east of the Harry Walker Parkway extension is includes a larger Industrial Building (30,903.38 m^2), additional parking and a Pipe Yard (4115 m^2), than the previous Industrial Building (18,321 m^2). Details of the proposed Site Plan are contained in **Section 5.1**. The development implications of the MZO considering the presence of the wetland mosaic, Tributary A and Tributary B, the Town of East Gwillimbury NHS Core Area designation (NRSI 2020), and the LSRCA Ontario Regulation 179/06 (Province of Ontario 2006) which applies to the wetland mosaic and Tributary A and Tributary B, plus any LSRCA guidelines or policies requiring a 30m wetland buffer remains to be determined.

Based on the background data review and the CEA-RESI field inventories and evaluations undertaken in 2019-2021, potential site constraints and opportunities were identified based on their inherent terrestrial, wetland, cultural and wildlife features and ecological functions, including any provincial and/or Town and/or LSRCA natural resource designations (e.g., Area of Natural and Scientific Earth Science and/or Life Science – ANIS, Provincially Significant Wetland – PSW, Environmentally Significant Area – ESA, Significant Woodland – SW, Significant Wildlife Habitat – SWH, Significant Valleyland (SV), fish and fish habitat, flora and/or fauna Species at Risk – SAR and their habitats, etc.)

4.1 Natural Resource Designations & Regulated Areas

The following Natural Resource Designations and/or Regulated Areas have been identified on the property through the background information collection and review (Section 3.1):

- Natural Heritage System B (Beacon Environmental 2010);
- Natural Heritage System Core Area (NRSI 2020); and
- LSRCA Ontario Regulation 179/06 Regulated Area

The background review and digital sources did not identify the presence of any ANSIs, PSWs (significant wetlands or significant coastal wetlands), coastal wetlands, ESAs, SW, SWH, SV, permanent or intermittent fish habitat.

4.2 Significant Flora

No significant vegetation communities were identified on the property. There is "Other" wetland in the northwest corner, considered as a wetland mosaic and comprised of units of SWDM3-4, SWTM3-6, MAMM1-3, and MAMM1-12. The wetland mosaic has been inventoried and designated as part of the Town's NHS Core Area it would appear has not been mapped without benefit and implications of the Town's approved Harry Walker Parkway extension, as shown in the Highway 404 Employment Corridor Secondary Plan.

Although there are known locations of butternut in the local geographical area and the Secondary Plan (NRSI 2020), no butternut trees, saplings or seedlings were found on-site 2020 and 2021 by qualified butternut health assessors, and based on an extensive level of effort. The botanical inventories also did not find any plant species that are listed in the source status references outlined in **Section 2.3.1**.

4.3 Significant Fauna

The wildlife surveys conducted in 2019 and 2021 identified the potential for two (2) species of Species at Risk fauna, Endangered little brown bat and Endangered northern long-eared bat within the remaining deciduous hedge-row (FODM11). Monarch (Special Concern – SC) were noted on-site in MEMM3 and the weedy/grassed strip fringes of the tableland agricultural cropland (OAGM1).

Overall, there are no potential development constraints from a natural environment perspective identified on the property. The wetland mosaic lies within an identified Town NHS Core Area, but the implications of the MZO to this designation remains to be determined. The NHS Core Area features (wetland mosaic, Tributary A, Tributary B and a LSRCA guideline/policy 30m buffer) remains regulated by the LSRCA, regardless of the MZO which permits implementation of the revised Overall Site Plan. The remainder of the tableland agricultural cropland portion of the property does not qualify as a site constraint, and has been altered in 2021 through site preparation, as permitted by the Earthworks Agreement with the Town.

5 IMPACT ASSESSMENT

5.1 Proposed Site Plan

The property is zoned M2 (Regulation 451/20) as per the Minister's Zoning Order, which came into effect on August 13, 2020. Details pertaining to Definition, Application, Permitted Uses, Zoning Requirements, Terms of Use, Deemed by-law, and Commencement are contained in the Order (**Appendix A**). The permitted uses as per the Order are as follows:

> **3.** Every use of land and every erection, location or use of any building or structure is prohibited on the lands described in section 2, except for,
>
> (a) the uses permitted in the "Employment General (M2) Zone" in the zoning by-law;
>
> (b) motor vehicle sales or rental establishments; and
>
> (c) uses, buildings and structures that are accessory to the uses set out in clauses (a) and (b).

The revised Overall Site Plan (Ware Malcomb 2023 – Sheet A1.0) is shown on **Figure 9.** At present, the revised Overall Site Plan entails a partial development of the property, namely an industrial building, offices, parking, loading docks, landscaped area, a northerly extension of Harry Walker Parkway, and a Pipe Area abutting Highway 404. The property portion west of the Harry Walker Parkway extension is an "Area for Future Development", with the as-built form yet to be determined.

Details for the revised Overall Site Plan are contained in the Project Data (Site Statistics). A brief summary of the Site Statistics is as follows:

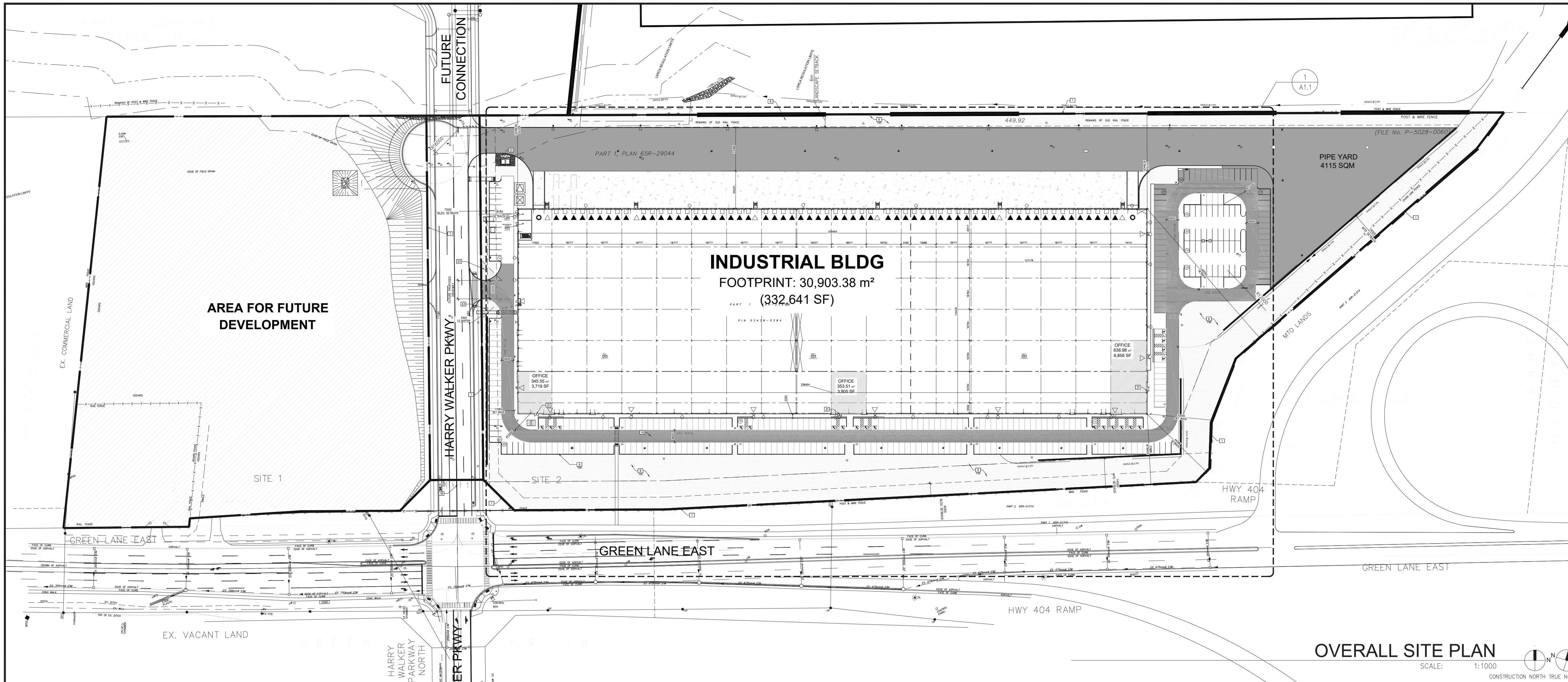
- **Zoning** – M2 (Regulation 451/20)
- **Lot Area** – 76,749.33m^2
- **Lot Coverage** – 40.27%
- **Building Height** – 13.72m
- **Gross Floor Area** – 30,903.38m^2
- **% Landscaped Area** – 28.44%
- **Zoning Permitted Use** – Proposed Use Industrial

The Site Statistics also contains details on Building Floor Area, Parking Requirement, and Dock Statistics, along with a Site Legend and Site Plan Notes. The entire revised Overall Site Plan should be reviewed in its entirety to provide a detailed perspective.

As the revised Overall Site Plan shows, there is an extension of the Harry Walker Parkway from Green Lane East onto the property. This is extension is a Town of East Gwillimbury initiative and its alignment is approved as part of Phase 1 in the Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a).

CAUTION: IF THIS SHEET IS NOT 24"x36" IT IS A REDUCED PRINT

Figure 9. Overall Site Plan



OVERALL SITE PLAN

SCALE: 1:1000

CONSTRUCTION NORTH TRUE NORTH

PROJECT DATA

RICE GROUP

SITE STATISTICS

1656 Green Lane East, East Gwillimbury, ON

Zoning	M2 (Regulation 481 20)
Lot Area	76,749.23m²
Lot Coverage	40.27
Building Height	13.72 m
Building Area	30,903.38m²
Gross Floor Area	30,903.38m²
% Landscaped Area	28.44

Zone Permitted Use

	Proposed	Required
Proposed Use	Industrial	
Min. Front Yard Building Setback (m)	34.44 m	6.0 m
Min. Interior Side Yard Building Setback (m)	15.59 m	3.0 m
Min. Exterior Side Yard Building Setback (m)	30.03 m	14.0 m
Min. Rear Yard Building Setback (m)	45.61 m	6.0 m

BUILDING FLOOR AREA

Warehouse	29,567.34m²	318,261.00 ft²
Office	1,336.04m²	14,380.00 ft²
Total Area	30,903.38m²	332,641.00 ft²

PARKING REQUIREMENT

			Required	Proposed
Industrial Parking	[illegible]	[illegible]	100	
	[illegible]	[illegible]	95	
Parking Office		[illegible]	45	
Total No. of Parking Spaces			242	258
Accessible Parking Spaces [illegible]			8	18

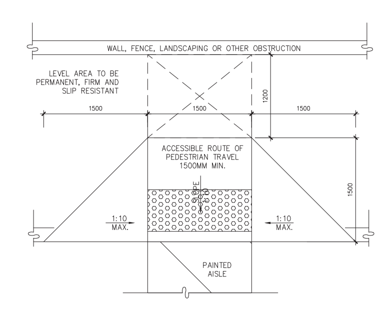
Parking Stall Dimensions	2.75 m X 5.8 m
Barrier Free Parking Stall (Type A)	3.4 m X 5.8 m
Barrier Free Parking Stall (Type B)	2.4 m X 5.8 m
Barrier Free Parking Access Aisle	1.5 m X 5.8 m
DOCK STATISTICS	Proposed
TRAILER PARKING	80
DOCK-HIGH DOORS	
GRADE-LEVEL DOORS	

SITE PLAN NOTES

1. EXISTING PROPERTY LINE
2. 2750x5800 PARKING STALL, PAINTED STRIPING PER CITY STANDARDS
3. 1500mm MIN. WIDE SIDEWALK TYPICAL U.N.O
4. DRIVE-IN RAMP, WITH GALVANIZED GUARDRAIL. SEE CIVIL DRAWING FOR SLOPE %
5. CONCRETE APRON
6. LANDSCAPE AREA – SEE LANDSCAPE DWGS.
7. EXTERIOR STEEL STAIRS W/ TUBE STEEL GUARDRAIL, TYP.
8. TYPICAL SHARED ACCESSIBLE PARKING STALLS, PAINTED PARKING STRIPING PER CITY STANDARDS. EACH PAIR OF SHARED STALL TO HAVE 2400X5800 AND 3400X5800 WITH A 1500mm WIDE PAINTED BARRIER FREE AISLE AND SIGNAGE REFER TO ONTARIO INTEGRATED ACCESSIBILITY STANDARDS.
9. 150mm WIDE CURB TYPICAL – SEE CIVIL DWGS
10. FIRE DEPARTMENT CONNECTION / SIAMESE. SEE CIVIL DWG.
11. RETAINING WALL WITH 1070mm HIGH GALVANIZED GUARDRAIL. SEE CIVIL DWG.
12. ACCESSIBLE PARKING SIGNAGE
13. PRINCIPAL ENTRANCE
14. EXTERIOR BOLLARD
15. PROPOSED LOCATION OF TRANSFORMER–SEE ELECTRICAL DWGS
16. PROPOSED LOCATION OF ELECTRICAL ROOM
17. PROPOSED LOCATION OF MECHANICAL ROOM
18. FIRE TRUCK ROUTE
19. BIKE RACK. SEE LANDSCAPE DWG
20. TACTILE WALKING SURFACE INDICATOR
21. BUILDING ENTRY
22. PROPOSED GARBAGE COLLECTION POINT– REFER DETAIL ON A1.2
23. DAYLIGHT TRIANGLES–10M X 10M
24. CONCRETE PAD FOR MAILBOX INSTALLATION AS PER THE CANADA POST STANDARDS
25. PROPOSED LOCATION FOR TRANSFORMER PAD
26. PROPOSED FENCE – SEE LANDSCAPE DWGS
27. HATCHED AREA DENOTES HEAVY DUTY ASPHALT
28. LIGHT DUTY ASPHALT. SEE CIVIL DWGS
29. PEDESTRIAN WALKWAY WITH PAINTED LINES AS PER MUNICIPAL STANDARDS
30. TACTILE INDICATOR
31. SNOW STORAGE AREA
32.
33. PROPOSED LOCATION OF MECHANICAL ROOM
34. FIRE TRUCK ROUTE
35. BIKE RACK. SEE LANDSCAPE DWG
36. TACTILE WALKING SURFACE INDICATOR
37. BUILDING ENTRY
38. PROPOSED GARBAGE COLLECTION POINT– REFER DETAIL ON A1.2

SITE LEGEND

- NEW HEAVY DUTY PAVEMENT (HATCHED)
- NEW LANDSCAPED AREA (HATCHED)
- NEW CONCRETE PAVING AREA (HATCHED)
- PROPOSED SNOW STORAGE (HATCHED)
- PAINTED DIAGONAL LINES WHERE INDICATED
- FIRE ACCESS ROUTE MIN. 12.0M TURNING RADIUS
- PROPERTY LINE
- MAN DOOR ENTRY
- FIRE DEPT CONNECTION (VERIFY LOCATION WITH CIVIL DRAWINGS)
- EXISITNG FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)
- PROPOSED FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)
- NEW STOP SIGN
- FC FLUSH CURB AT ACCESSIBLE PARKING SPACES
- D.C. 1500mm WIDE DEPRESSED CURB FOR ACCESSIBLE PARKING AND PEDESTRIAN ACCESS – REFER TO DETAIL 4/A1.2
- FENCE
- DOCK HIGH TRUCK DOOR
- KNOCK–OUT PANEL
- GRADE LEVEL DRIVE–IN TRUCK DOOR
- CANADA POST– MAILBOX
- FAR FIRE ACCESS ROUTE SIGNAGE
- T PROPOSED LOCATION FOR TRANSFORMER PAD
- LS LOADING SPACE
- DENOTES CATCHBASIN (SEE CIVIL DWGS)
- MH DENOTES MANHOLE (SEE CIVIL DWGS)
- \# NO. OF PARKING SPACES



ACCESSIBLE RAMP (2)

SCALE: 1:50

Figure 9. Overall Site Plan

WARE MALCOMB
Leading Design for Commercial Real Estate

architecture, planning, interiors, graphics, civil engineering

180 bass pro mills drive. unit 103, vaughan. ontario. L4K 5W9
p 905.760.1221
f 905.248.3344
a business name of WMA Inc.

1656 GREEN LANE EAST

1656 GREEN LANE EAST, EAST GWILLIMBURY
ONTARIO, CANADA, L9N 0L8

OVERALL SITE PLAN

	DATE	REMARKS
1	2021-09-03	SPA DRAFT SET
2	2022-06-10	ISSUED FOR SPA
3	2022-09-30	PIPE YARD ADDED
4	2022-11-10	RE-ISSUED FOR SPA
5	2022-12-20	ISSUED FOR COORDINATION
6	2023-01-26	ISSUED FOR COORDINATION
7	2023-03-16	RE-ISSUED FOR SPA

PA / PM:	O. EMUWA
DRAWN BY:	JG
JOB NO.:	TOR21-0044-00

SHEET

A1.0

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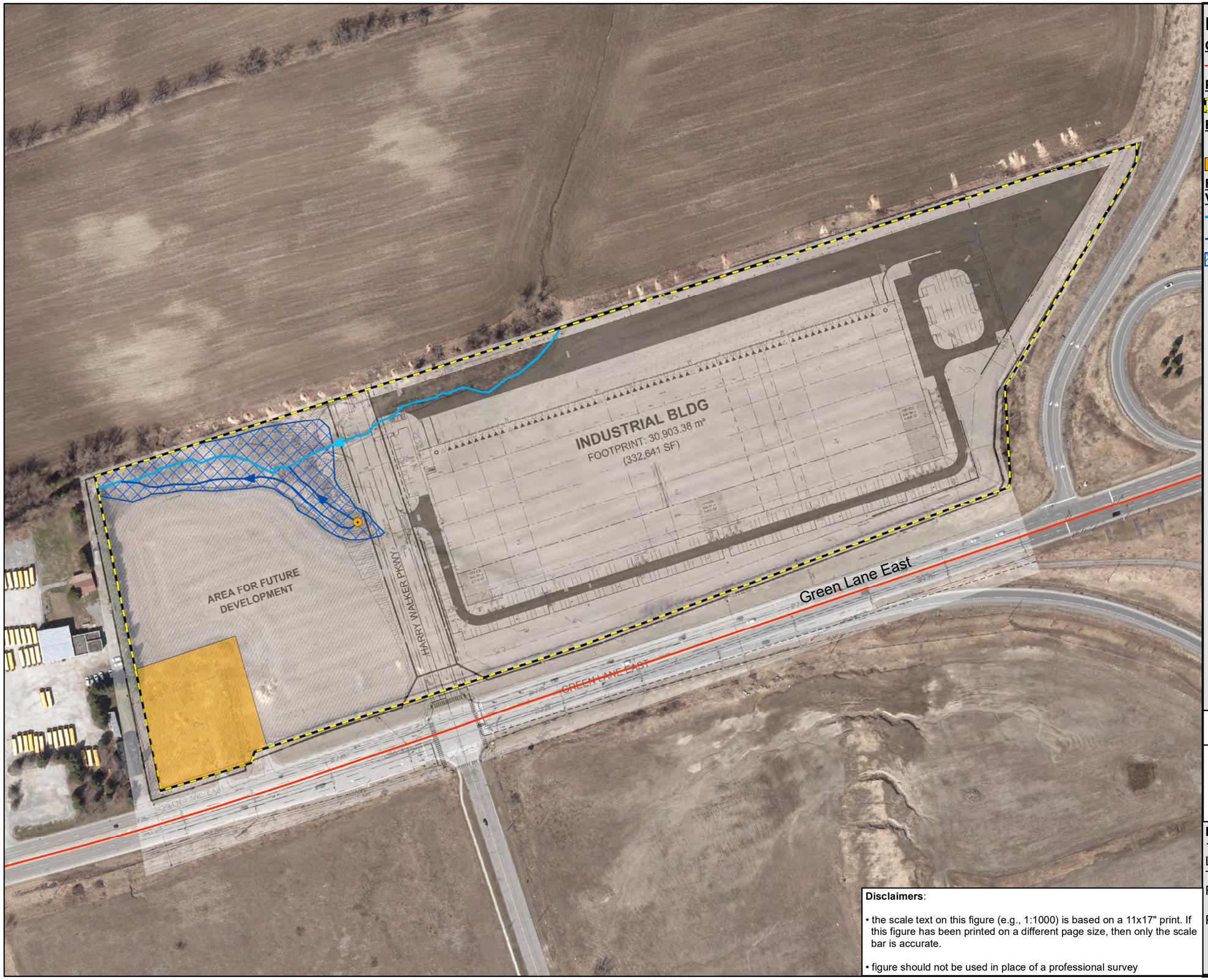
As shown on **Figure 10**, the revised Overall Site Plan has been overlain onto a coloured orthophoto containing the wetland, woodland, shrub thicket swamp, headwater drainage features, intermittent tributaries (Tributary A and Tributary B) and agricultural cropland features that will be affected (impacted). The types and magnitudes of the potential impacts to these features (attributes), their ecological functions, and present-day connectivity/linkage functions are discussed in further detail in the following sections.

In summary, the property does not have any existing buildings or structures and contains a disturbed area where a residence previously occupied, a wetland mosaic and watercourse features, and lands primarily used for agriculture cash crop production. As shown on the Overall Site Plan, the development proposal is industrial in scope and includes the construction of a municipal road (an extension of Harry Walker Parkway from the south side of Green Lane East), an industrial building including two (2) offices, parking, loading docks, landscaped areas, and a Pipe Area (**Figure 9**).

From a planning perspective, the property is within the Regional Municipality of York and the Town of East Gwillimbury. The property lies within the Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2022a), which extends from Mount Albert Road to the north (east side of Highway 404, east to Woodbine Avenue, south to the Green Lane East, and west to Leslie Street (**Figure 1**). A review of the Town's Official Plan, the property is designated Employment Area (Schedule A) and Supporting Area in the Natural Heritage System (Schedule D-1). Recently, the entire property was granted a Ministerial Zoning Order (MZO – Ontario Regulation 451/20) that rezoned the property to Employment Uses, with the requirements of Subsection 9.2 of the zoning bylaw, specifically Employment General M2 zone applying to the property. The property lies outside of the Oak Ridges Moraine Conservation Plan Area, as well as the Greenbelt Plan Area.

A separate but critical consideration to this assessment is the extension of Harry Walker Parkway from its intersection on the south side of Green Lane East, continuing north through the property onto other vacant lands owned by RCG. This extension has been approved through the Secondary Plan process and met the test of Policy 5.1.11 of the Town Official Plan, supporting transportation infrastructure within Natural Heritage Areas. As a result, the impact assessment must consider the proposed industrial development with the understanding that the Harry Walker Parkway extension is approved and will be built, as part of the revised Overall Site Plan.

The approved Secondary Plan shows that Harry Walker Parkway will be extended to the north through the property, and terminating in a cul-de-sac at the northern property boundary. The revised Overall Site Plan involves construction of an industrial building with parking along its east edge of the road alignment, with additional parking and a Pipe Area to the east, abutting Highway 404. The industrial structure as designed is 30,903.38 m^2 in area with parking on all sides of the building. As required under the Employment Use zoning, there is a 6 m setback from the northern and southern property boundaries, and both of these setbacks will require landscaping. There is also a 14 m setback from the eastern property boundary as imposed by the Ministry of Transportation Ontario (MTO).



Legend

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property

Existing Man-made Features

- Tile Drain Outlet
- Previous Developed Area

Features with Recognized Natural Heritage Value - Identified by RiverStone

- Tributary A
- Tributary B
- Wetland

N

Orthorectified aerial photo - 2020

Scale	RS Project No.	Date Last Updated	By
1:2,250	2019-079	Apr 23, 2023	AS

0 30 60 Metres

RiverStone

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

Figure 10. Overlay of Proposed Development.
1656 Green Lane East
Lot 6, Con.3.
Township of East Gwillimbury
Regional Municipality of York

Prepared for Rice Commercial Group

The revised development will impact the natural heritage features identified on-site. Specifically, the extension of Harry Walker Parkway will encroach onto the eastern portion of the wetland feature and a reach of the watercourse (Tributary A) extending east, while the proposed parking and other infrastructure for the industrial building will impact the watercourse (Tributary A) further east as well as the remainder of the hedge-row feature along the northern property boundary. It would appear that components of the Natural Heritage System (NHS) on the property were evaluated and designated prior to the MZO and were therefore without the benefit of considering the potential loss of a portion of this Core Area, including the wetland and watercourses, as a result of the MZO. The loss of wetland and piping of Tributary A and Tributary B will negatively or adversely impact the identified wildlife habitat and the minor ecological functions and fish and fish habitat and other concomitant ecological functions. The potential impacts to the identified and assessed vegetation features, wildlife and wildlife habitats, fish and fish habitats and their ecological functions are discussed below.

5.2 Vegetation and Floristics

As illustrated on **Figure 10**, the proposed development of the industrial warehouse and associated parking, along with the approved Secondary Plan of Harry Walker Parkway will result in the partial removal of the wetland mosaic (SWDM3-4, SWTM3-6, MAMM1-3), along with part of Tributary A and Tributary B (both intended to be piped). The majority of the north property perimeter naturalized deciduous hedge-row (FODM11) was removed in 2021 (as evidenced on the aerial photograph in **Figure 10**). Part of FODM11 that remains include the band of trees (mostly Manitoba maples), where Tributary A enters the property from the north. FODM11 lies just off-site in northwest corner of the property. The naturalized coniferous hedgerow (FOCM5), situated along the western property perimeter presently remains intact. Again, it is to be recognized that the entire property has been granted an MZO, which permits the industrial development as shown on the revised overall Site Plan, with similar future development proposed in the west quadrant (Area for Future Development). As previously stated, parts of the property (namely Tributary A including wetland, Tributary B including wetland, the main wetland mosaic and some fallow agricultural cropland) are regulated by the LSRCA and will require an LSRCA Ontario Regulation 179/06 permit application for the proposed features removal, topsoil removal, fill and grading. The remainder of the property is regulated under various policies and permits by the Town of East Gwillimbury.

Based on the background literature review and the findings and evaluation of the vegetation community and floristic field inventories conducted in 2008, 2009, 2020 and 2021, potential impacts are identified and assessed. Potential impacts and issues from the proposed partial development (**Figure 9**) of the property are described below, based on the type of development (e.g., building, parking, road, etc.).

East Block (previously Future Expansion)

The revised Overall Site Plan (**Figure 9**) and the revised Overall Site Plan overlay (**Figure 10**), show that the far east portion will include an expanded Industrial Building (from 18,321 m^2 to 30,903.38m^2), more parking, and a Pipe Area.

The development in this area will result in the removal of existing agricultural cropland, which was left fallow and had partial topsoil removed (approximately 0.3m) in 2021, as permitted under the Town of East Gwillimbury Earthworks Agreement (**Appendix B**). The additional increase in Industrial Building area, additional parking and Pipe Area portions of the property are not regulated by the LSRCA, and potential impacts are not negative or adverse.

Industrial Building

The revised "Industrial Building" footprint (18,321 m^2 to 30,903.38 m^2) will result in the removal of existing agricultural cropland, which was left fallow and had partial topsoil (approximately 0.3m) removed in 2021, as permitted under the Town of East Gwillimbury Earthworks Agreement (**Appendix B**). Parts of the larger building footprint lie within 30m of the LSRCA regulated area and were not part of earthworks undertaken in 2021. This part of the proposed larger building footprint with the 30m buffer zone were protected from the earthworks with a silt fence barrier, as per agreement with the LSRCA. A LSRCA permit will be required to proceed with top soil removal, filling and grading in this 30m buffer zone.

Parking

The proposed numbers of individual parking stalls and semi-trailer parking are around all sides of the Industrial Building as shown on **Figure 9**. Parking will result in the removal of fallow agricultural tableland and topsoil stripped agricultural cropland, along with a reach of Tributary A (including inherent wetland vegetation), and the tile drain portion of Tributary B.

Harry Walker Parkway

The approved Harry Walker Parkway extension (including a 3:1 sloped embankment) onto the property will result in the loss of fallow and topsoil stripped agricultural cropland, along with a reach of Tributary A (and inherent wetland vegetation), a reach of Tributary B (and inherent wetland vegetation), and part of the wetland mosaic. It intended that Tributary A will be piped, along with the removal of the present tile drain portion of Tributary B. Parts of the property in this area lie within 30m of the LSRCA regulated area and were not part of earthworks undertaken in 2021, with the 30m buffer zone protected from the earthworks with a silt fence barrier and temporary stormwater management ponds.

The remaining property features (wetland mosaic, and reaches of Tributary A and Tributary B) east of the Harry Walker Parkway extension are proposed for development, as permitted by the MZO.

No Endangered (END) or Threatened (THR) flora as listed in the ***ESA, 2007*** were found on property. Also, no Special Concern (SC) flora, NHIC SRank (S1, S2, S3) plant species, or regional/local plant species (York Region, LSRCA, East Gwillimbury) were found on the property.

5.3 Wildlife and Wildlife Habitat

The following section includes impact comments and opinions on wildlife and wildlife habitats, as well potential candidate Significant Wildlife Habitat (SWH). It is to be noted there is no SWH habitat identified on or abutting the property identified by the MNRF or any other provincial agency or provincial plan (e.g., MMAH 2020b). There is no identified SWH on the Town's Official Plan schedules, maps or policies or in the Town's NHS for the Highway 404 Employment Corridor Secondary Plan.

As noted in **Sections 3.4.1**, dawn breeding bird surveys were completed over three (3) days and at six (6) sites on the property, resulting in ten (10) breeding bird species being observed. The diversity of species is considered low, a result of a lack of breeding habitat, and none of the species observed are designated as Endangered (END), Threatened (THR) or a Species of Special Concern (SC).

The results of the evening amphibian call surveys are provided in Section 3.4.2. The diversity of species observations is low (lack of permanent water during breeding season), only noting one (1) species, American toad (*Bufo americanus*), on one (1) occasion at two (2) call stations. The remaining dates were absent of any calling amphibians across all of the call stations, which included the wetland mosaic and watercourse features (Tributaries A and B).

Our assessment of Significant Wildlife Habitat in Section 3.7 noted the potential for Seasonal Concentration Areas of Animals (bat maternal roosting habitat) and Habitat for Species of Conservation Concern (snapping turtle and monarch butterfly). Bat maternal colonies are associated with trees along the remaining portions of the north hedge-row and treed portions of the wetland mosaic, while snapping turtles are associated with the wetland and watercourses, and the monarch is associated with milkweed plants located along the driveway, adjacent to the Green Lane East, and agricultural cropland edges.

In regard to the identification of Core Areas from the Towns Official Plan (Section 5.2.1), the following policy applies to wetlands and wildlife.

- Within existing Secondary Plan Areas, wetlands are considered to be Core Area features, based on the criteria of the Town's Natural Heritage System as follows:
    - Provincially Significant Wetlands (PSW) as determined by the Ministry of Natural Resources (MNR)
    - Non-provincially significant wetlands that are greater than 0.5 ha

Following construction of Harry Walker Parkway extension onto the property, the area of existing wildlife features will be reduced by approximately 20%. No additional wetland is proposed to be removed as part

of the revised Overall Site Plan (**Figure 9**). However, the road will directly abut the remaining wetland mosaic to the west. Also, the MZO permits industrial development in the remaining portion of the wetland mosaic and tributaries to the west of the Harry Walker Parkway extension. Therefore, future proposed development will result in the removal of the remaining portions of the wetland mosaic and its intermittent tributaries (intended to be piped).

- Within existing Secondary Plan Areas, and where the Town's Natural Heritage System goes beyond the requirements of other Plans, the criteria of the Town's Natural Heritage System apply and are as follows:
    - Core winter deer yards
    - Colonial waterbird nesting sites
    - Rare vegetation communities (e.g., alvars, prairies, fens, and bogs).

The wildlife features identified on the property, including any Significant Wildlife Habitats (of which there are none), do not contain these criteria, and therefore do not qualify as a Core feature.

5.4 Aquatic Environs

As noted in the assessment of fish and fish habitat in **Section 3.5.2**, the watercourse feature (Tributary A) is characterized as an intermittent feature draining the lands from the north. A secondary watercourse (Tributary B) drains the agricultural fields on the property from the south to north through a tile drain system. The previous assessment of these headwater drainage features (**Appendix C**) resulted in a classification of Conservation for the main feature (Tributary A) which drains the lands from the north, and No Management required for the secondary feature (Tributary B) which drains the agricultural cropland. It was also noted in the previous assessment that small fish (cyprinids) were observed in a pool at the confluence of the two features at the eastern edge of the wetland mosaic.

The development of the Harry Walker Parkway extension will impact both watercourse features and their confluence at the wetland mosaic. The footprint of the road will also cover approximately 30 m of the main watercourse east of the wetland mosaic. The linear distance is approximate as the construction/fill requirements outside of the roadway footprint (3:1 sloped embankment) are not known at this time. In addition, the proposed development of the parking and infrastructure for the industrial building will cover the additional reach of the watercourse east of the wetland mosaic up to the northern property boundary.

It is our professional opinion that the loss of the eastern portion of the wetland mosaic and reach of the watercourse will change the features and inherent ecological functions. The area that will be covered by the Harry Walker Parkway extension will remove the location where the watercourses combine with the wetland feature and 30 m to the east. Based on this alteration to the features, our assessment of the watercourses through the headwater drainage feature assessment (HDFA) would be altered (downgraded or lessening of their significance in terms of management). Similarly, the watercourse function as part of a Core Area will also be downgraded or diminished in terms of its significance.

Through discussions with the LSRCA, it was recommended that communication with Fisheries and Oceans Canada (DFO) should occur given the proposal to pipe an intermittent watercourse that has direct fish habitat. A submission will be made to DFO for a **Request for Review**. The submission will include the current NHE, engineering details and drawings, and the Request for Review forms to ensure compliance with the Fisheries Act.

5.5 Species at Risk (SAR)

Our assessment of Species at Risk (SAR) resulted in the potential suitable habitat on the property for two (2) species of Endangered bats (little brown bat and northern long-eared bat). The habitat that is potentially suitable for maternity roosting bats is related to the forested vegetation communities identified within the remaining deciduous hedge-rows along the northern property boundary and in part of the wetland mosaic.

However, it is our professional opinion and supported by the field work, that the potential for the property to be used by the two bat species for maternal roosting is extremely low. Woodland features are lacking on the property or on abutting lands, with trees being contained in a non-contiguous hedge-rows (mostly cut in 2021) adjacent to large open agricultural cropland block. A few large mature trees were noted within the hedgerow that may provide roosting habitat for bats; however, with the lack of any substantive woodland features it is unlikely that Endangered woodland bats are present or utilizing the sparse tree cover. Overall, the potential for vegetation communities on the property to function as habitat for Endangered or Threatened species is extremely low. Removal of any remaining tree cover to implement the proposed Site Plan (through the MZO) can be facilitated through a tree-cutting timing window. The MECP has established and has approved on other land developments a tree-cutting timing window between September 30 to April 1.

6 MITIGATION MEASURES AND RECOMMENDATIONS

As described in **Section 4.1** (Designated Resource Designations and Regulation Areas), there is a Town designation of the "Other" wetland mosaic and associated Tributary A and Tributary B, along with a 30m buffer. The implications of this designation along with the approved MZO and Town approved Harry Walker Parkway extension, needs to be reconciled with the Town and/or LSRCA. This same portion of the property is also regulated through permit by the LSRCA under Ontario Regulation 179/06. Although the MZO zoning permits implementation of the revised Overall Site Plan (**Figure 9**) through a zoning change, an LSRCA Ontario Regulation permit will be required. The area of development and/or site alteration to be covered by the permit remains to be determined, as do any conditions arising therefrom.

In this regard, Cunningham Environmental Associates (CEA) recommends:

- **That discussions be held with the Town of East Gwillimbury and/or the LSRCA regarding the planning implications of the MZO and implementation of the revised Overall Site Plan (Figure 9) in relation to the Town's NHS Core Area designation and the Harry Walker Parkway extension as approved in the Town's Highway 404 Employment Corridor Secondary Plan**.

Vegetation Communities and Floristics

As outlined in **Section 4.2**, there are no vegetation communities, floristics or Species at Risk flora that were deemed to be a constraint to development. As noted, there is a "Other" wetland mosaic (SWDM3-4, SWTM3-6, MAMM1-3 and MAMM1-12) which has been identified, characterized, described and mapped (**Figure 6**) in **Section 3.3.2** and **Section 3.3.3** and **Table 1**. It has been identified and surveyed as part of the Town's NHS and designated as an NHS Core Area (prior to the approval of the Harry Walker Parkway extension).

In this regard, Cunningham Environmental Associates (CEA) recommends:

- **That discussions be held with the Town of East Gwillimbury regarding the planning implications of the Town's NHS Core Area designation and implementation of the revised Overall Site Plan (Figure 9) which includes the approved Harry Walker Parkway extension.**

Species at Risk/Significant Wildlife Habitat

RESI with input from CEA has provided and recommends the following mitigation measures pertaining to fauna Species at Risk (SAR) and their habitats. It is their professional opinion and supported by field inventories and assessments that there is potential for the presence two (2) Endangered bat species to use the property for maternal roosting, as well as a few Special Concern species. However, the potential is low to non-existent based on the habitat characteristics existing on-site. As part of the required landowner's due diligence under the ***Endangered Species Act, 2007*** (Province of Ontario 2007), and to ensure compliance to the Act that bats will not be harmed, harassed or killed, RESI recommends the following:

- **Tree clearing for the purposes of implementing the proposed Site Plan (Figure 9) and future development in the east block ("Future Expansion") and northwest corner ("Other" wetland mosaic) only occur in the fall, winter and early spring (September 30th to April 1st). This timeframe or tree-cutting window is outside of the maternal roosting period for SAR Endangered and Threatened bats;**

- **In the event that tree clearing must occur between April 1st and September 30th, additional surveys will need to be completed to confirm the presence or absence of SAR bats. These surveys will include the identification and GPS locations of bat snag trees and follow-up acoustic monitoring of the area where trees will be removed. The surveys must be undertaken by a qualified professional wildlife biologist. If SAR bats be detected, the MECP should be contacted to determine next steps and if a permit would be required to proceed with the tree-cutting;**

- **The timing restriction proposed for tree removal is also suitable for breeding birds, which typically nest in Zone C2 between April 1st and August 31st, as per the Federal *Migratory Birds Convention Act, 1994* (Environment and Climate Change Canada 2023b). Similar to SAR bats, should tree clearing be proposed between April 1st and July 31st, a qualified professional wildlife biologist is required to complete a nesting survey in the proposed tree-cutting area. If nesting birds are found or birds exhibit nesting behaviour, tree clearing should wait until the birds have fledged (flown the nest); and,**

- **In addition to the tree-cutting timing window, the rear setback (6m) of the property will be planted as a natural buffer, as per the landscape planting plans (MHBC 2021b). The buffer will include trees and shrubs and be allowed to grow naturally without maintenance.**

The Monarch Butterfly is a Species of Special Concern (SC) in Ontario and across Canada. Monarchs are not protected under the *Endangered Species Act*; however, the habitat of a species of Special Concern can be considered Significant Wildlife Habitat (SWH) under the Provincial Policy Statement (2020b). In order to develop within SWH: *"It must be demonstrated that there will be no negative impacts on the natural features or their ecological functions."* The most critical habitat for Monarchs in Ontario are related to migratory stopover habitats that are located within 5 km of Lakes Ontario, Erie and Huron, which are used to layover before migrating south across the lakes to overwinter. The subject lands do not constitute migratory stopover habitat by location alone.

Monarch caterpillars are known to feed exclusively on milkweed (*Asclepias sp*.), which are often a common plant on the edges of farm fields, including the property and other abutting properties. These plants would be removed in order to accommodate the proposed development. In order for the habitat on the property to be considered significant wildlife habitat, it would need to be ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. Based on the amount of available habitat, it it unlikely that this active farm field would significantly contribute to the local population of Monarch

butterflies in the natural heritage system; however, it is recognized that there is opportunity to replace the lost caterpillar forage habitat by designing landscaped areas to have native milkweed and pollination plants. The landscape plan completed by MHBC has included these species included in the landscaped areas across the property.

In addition to the above-mentioned mitigation measures and recommendations, the following mitigation measures should be implemented prior to and/or during site preparation and construction. Some of which, such as sediment fencing and temporary stormwater management ponds have already been installed as part of the approved and on-going Earthwork Agreement. Additions to or new mitigation measures are likely to be required to implement additional top soil removal, site clearing of vegetation cover, site preparation (e.g., filling and grading), removal and/or addition and/or re-configuration of existing SWM ponds, construction of the Industrial Building, parking stalls, Pipe Area, and extension of the Harry Walker Parkway, as shown on the revised Overall Site Plan (**Figure 9**).

In this regard, RESI and CEA recommend the following, with the proviso that additional site clearing, site preparation and construction mitigation measures and standard Best Management Practices (BMPs) may be requested by the Town and/or LSRCA, as part of any additional permitting requirements.

Sediment and Erosion Control

- **When the native soil is exposed, sediment and erosion control works in the form of heavy-duty sediment fencing, should be positioned along the perimeter of all construction footprints abutting to the wetland;**

- **Aggregate materials will be stored no less than 30 m from wetland community and be contained by heavy-duty sediment fencing and any fuel be stored in an appropriate facility which would contain any spills. Also, should a fuel/chemical spill occur, the Owner/Contractor is required to immediately contact the Ontario Spills Action Centre and other parties as required by the MECP;**

- **To maintain its integrity during inclement weather events, the sediment fencing must be constructed of heavy-duty filter cloth materials, solid posts, and be properly installed (trenched-in), as per LSRCA sediment fence barrier instructions;**

- **Additional sediment fencing and appropriate control measures should be stockpiled on-site so that any breach can be immediately repaired;**

- **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained (*e.g.,* proper installation is not the only action necessary to satisfy the mitigation requirements);**

- **Inspections of sediment and erosion control measures should be completed within 24 hours of the on-set of a storm event; and,**

- **Sediment control measures should be maintained in good working order until vegetation has been established ("greened-up") on all exposed soils.**

The above recommendations are intended to prevent the movement of sediment into the watercourses, which could move material and sediment downstream into areas of direct fish habitat during construction. These measures were also intended to limit the migration of nutrients into the watercourse and downstream (off-site) watercourses. Nutrient impacts could result where overland runoff is directed into the downstream watercourses without treatment both during and following construction. A stormwater management plan has been completed for the site to capture and treat runoff from the hardened surfaces and roof tops. Following construction, there are no expected sources of nutrients other than stormwater runoff. Under present conditions, overland flows through agricultural lands drain into the watercourse, through the wetland feature, before continuing downstream. Given that stormwater ponds are not necessarily designed to treat for nutrients, low impact development (LID)techniques can be used as part of a treatment train, to provide opportunities for nutrient uptake, prior to discharge. These include raingardens to collect roof top or parking lot generated stormwater flow. It is our opinion that the availability of nutrients from the agricultural lands is in excess of what we would expect from the developed site. The following recommendations are provided to address potential impacts of nutrients on the downstream watercourses and fish habitat:

- **Where possible, low-impact development techniques be used upstream of the stormwater pond, as a treatment train for nutrients;**

- **Allowing the establishment of low maintenance wetland vegetation within the stormwater pond will provide additional opportunities for nutrient uptake before release into the watercourse; and,**

- **Active planting of the stormwater pond would establish desired species and reduce the susceptibility of invasive species such as common reed (*Phragmites spp*.) from becoming established.**

Maintaining a water balance that provides flow downstream in the watercourse after construction is important to maintain fish habitat. A water balance budget has been submitted under a separate cover, providing details regarding the pre-development and post-development flows.

7 CONCLUDING REMARKS

As previously noted, the property lies within the approved Town of East Gwillimbury Highway 404 Employment Corridor Secondary Plan (Town of East Gwillimbury 2020a). It is to be understood that the approved Secondary Plan includes the general alignment and construction of the Harry Walker Parkway extension, which is to be built as shown on **Figure 9** and **Figure 10**. The property is designated Employment Area (Schedule A) and Supporting Area in the Natural Heritage System in the Town's Official Plan (Town of East Gwillimbury 2018). The lands remain Employment Area and were re-zoned through a Province of Ontario Ministerial Zoning Order (MZO), effective July 30, 2020 and filed with the Registrar of Regulations on August 13, 2020 (**Appendix A**). The zoning and uses permitted in the "Employment General (M2) Zone in the zoning by-law include motor vehicle sales or rental establishments and uses buildings and structures that are necessary to the uses set out in clauses (a) and (b) of the MZO Ontario Regulation.

Within the Secondary Plan, the natural heritage features in the northwest corner ("Other" wetland mosaic, Tributary A and Tributary B) have been designated as Core Area in the Town's NHS. This designation is derived from Natural Heritage Assessment for the overall Secondary Plan area (NRSI 2020). It would appear that the NHS Core Area boundary does not include or take into consideration the approved Secondary Plan Harry Walker Parkway extension. Therefore, the NHS Core Area will actually be bisected into two units of the wetland mosaic, separated by a municipal road, while on-site drainage is still facilitated from east to west, not via an open channel, but piped. Also, the eastern portion of the wetland mosaic east of the Harry Walker Parkway will be filled to accommodate construction of the enlarged Industrial Building and associated parking, along with Tributary A to be piped from its confluence with the northern property boundary. Tributary B and its existing tile drain system as we understand will be re-configured and piped as well.

The loss of this section of the wetland mosaic and Tributary A and Tributary B will not negatively impact the ecological functions of the features. As previously stated, and determined through extensive field inventories and assessments in 2020 and 2021 and in prior years, the ecological functions of the wetland mosaic do not include amphibian breeding or permanent water but does contain only low quality fish habitat, but minimal fish species during the times of year when water is present. Fish species were only noted in the wetland mosaic during field inventories, and not within the channel upgradient that is proposed to be piped. The loss of a portion of the upgradient area, as permitted, will decrease the functionality of the wetland mosaic. The wetland mosaic as previously noted does not contain any SAR flora or fauna.

Given the proposed removal of a portion of the wetland mosaic for the enlarged Industrial Building (from 18,321 m^2 to 30,903.38 m^2 including additional parking and a Pipe Area), as shown on the revised Overall Site Plan(**Figure 9**), NRSI (2020) contemplated the direct loss of small wetland units through the proposed implementation of the Secondary Plan at this location. NRSI notes that where wetland loss is proposed, the loss can be compensated at a rate of 3:1, if warranted or required, which is similar to wetland compensation outlined in the LSRCA Ecological Offsetting Policy (LRSCA 2021). NRSI also notes that wetlands less than 0.5 ha in area may not require compensation if the wetland does not provide a

significant groundwater linkage to adjacent features, or significant surface water linkage to adjacent features. Based on the RESI assessment of the wetland mosaic at various times of the year, it is our professional opinion that there is no visible groundwater contribution to adjacent features and the wetland contribution of surface water downstream is limited during the spring and late fall, as noted during the site assessments.

The area of the wetland mosaic on the property is approximately +/- 0.56 ha in size as defined in this report. The NHS Core Area identified by NRSI is approximately 0.64 ha in size. There is an additional 1.34 ha of vegetation protection zone (VPZ) in the form of a 30 m buffer that NRSI applied around the wetland mosaic (Map 4 in NRSI 2020). Based on our calculations, the proposed Site Plan (Site 2 industrial building, parking and the approved Harry Walker Parkway extension will require the removal of approximately +/- 0.05 ha of the wetland mosaic and 165 m of Tributaries A and B (both containing wetland SWTM3-6). Approximately 0.21 ha of wetland will be removed based on NRSI calculations, along with 0.92 ha of VPZ (buffer).

As noted, only a portion of the wetland mosaic is to be removed as part of the current proposed development, +/- 0.20 ha (0.21 ha of the NRSI Core Area). This area of wetland mosaic (+/-0.21) and buffer (+/-0.92) proposed for removal for the revised Overall Site Plan development is above the 0.5ha limit. Additional wetland mosaic and buffer is proposed for removal at a future date (Area for Future Development), west of the Harry Walker Parkway extension. At present, a LSRCA Ontario Regulation 179/06 permit will be required for the revised Overall Site Plan which includes the Area of Future Development, topsoil removal, filling and grading within the 30 m buffer setback from the wetland treed swamp, thicket swamp and Tributaries A and B, along with potential stormwater pond reconfigurations (**Figures 9** and **10**).

Further discussions are likely required with the Town/and LSRCA pertaining to any requested ecological off-setting to implement the industrial land uses permitted by the MZO zoning order for the entire property. An additional LSRCA Ontario Regulation 179/06 permit will likely be required for the regulated area west of the Harry Walker Parkway extension, when a proposed Site Plan (as-built form) is provided to the Town.

In conclusion, it is our professional opinion and supported by the detailed field inventories and assessments, that the loss of the wetland mosaic for the revised Overall Site Plan footprint (larger Industrial Building, additional parking, and Pipe Area) exclusive of the approved Harry Walker Parkway extension) as shown on **Figure 9**, will not result in a negative or significant impact to wetland attributes and ecological functions, as both of these parameters are limited and will be further limited (reduced) and in our professional opinion no longer viable in the short and long-term due to the overall Harry Walker Parkway extension footprint and its operation to facilitate the approved industrial uses.

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APPENDIX A – MINISTER'S ZONING ORDER (MZ0) AUGUST 13, 2020

Filed with the Registrar of Regulations
Déposé auprès du registrateur des règlements

AUG 13 2020

Number (O. Reg.)
Numéro (Règl. de l'Ont.) 451/20

ONTARIO REGULATION

made under the

PLANNING ACT

ZONING ORDER - TOWN OF EAST GWILLIMBURY, REGIONAL MUNICIPALITY OF YORK

Definition

1. In this Order,

"zoning by-law" means the Town of East Gwillimbury Comprehensive Zoning By-law, 2018-043.

Application

2. This Order applies to lands in the Town of East Gwillimbury, in the Regional Municipality of York, in the Province of Ontario, described as Part of Lot 6, Concession 3, as identified by Property Identification Number 03438-0536 (LT) registered in the Land Registry Office for the Land Titles Division of York Region (No. 65).

Permitted uses

3. Every use of land and every erection, location or use of any building or structure is prohibited on the lands described in section 2, except for,

(a) the uses permitted in the "Employment General (M2) Zone" in the zoning by-law;

(b) motor vehicle sales or rental establishments; and

(c) uses, buildings and structures that are accessory to the uses set out in clauses (a) and (b).

Zoning Requirements

4. The zoning requirements for the lands described in section 2 are as follows:

1. The zoning requirements set out in subsection 9.2 Zone Standards (Employment Uses) of the zoning by-law, with the following exceptions:

    i. There is no minimum lot frontage.

    ii. The minimum rear yard setback is six metres.

2. A minimum five-metre-wide planting strip shall be provided abutting the south lot line.

3. If a loading space is provided, subsection 5.13 (b) of the zoning by-law does not apply to the loading space.

4. The zoning requirements set out in subsections 4.28.2 and 4.28.3 of the zoning by-law.

5. The zoning requirements set out in section 5.6 of the zoning by-law, except that the requirements do not apply to parking areas used for storage or display of motor vehicles that are for sale or rent.

Terms of use

5. (1) Every use of land and every erection, location or use of any building or structure shall be in accordance with this Order.

(2) Nothing in this Order prevents the use of any land, building or structure for any use prohibited by this Order if the land, building or structure was lawfully so used on the day this Order comes into force.

(3) Nothing in this Order prevents the reconstruction of any building or structure that is damaged or destroyed by causes beyond the control of the owner if the dimensions of the original building or structure are not increased and its original use is not altered.

(4) Nothing in this Order prevents the strengthening or restoration to a safe condition of any building or structure.

Deemed by-law

6. This Order is deemed for all purposes, except the purposes of section 24 of the Act, to be and to always have been a by-law passed by the council of the Town of East Gwillimbury.

Commencement

7. This Regulation comes into force on the day it is filed.

Made by:

.....
Signature (in blue ink)

Minister of Municipal Affairs and Housing

Date made: July 30/2020

APPENDIX B – EARTHWORKS AGREEMENT SEPTEMBER 22, 2020

Town of East Gwillimbury

JOINT DEVELOPMENT SERVICES & COMMUNITY INFRASTRUCTURE AND ENVIRONMENTAL SERVICES REPORT P2020-23

To: Council

Date: September 22, 2020

Subject: Earthworks Agreement for the Auto Campus Use at 1656 Green Lane East

Origin: Development Services, Planning Branch
Community Infrastructure & Environmental Services

RECOMMENDATIONS

1. **THAT** Joint Development Services, Planning Branch and Community Infrastructure & Environmental Services Report P2020-23, dated September 22, 2020 entitled “Earthworks Agreement for the Auto Campus use at 1656 Green Lane East” be received; and

2. **THAT** Council authorize staff to execute an earthworks agreement to permit the owner to commence earthworks related to the Minister’s Zoning Order to permit an Auto Campus at 1656 Green Lane East.

PURPOSE

The purpose of this report to obtain Council’s authorization to allow the Owner of 1656 Green Lane East to commence earthworks to implement Council’s endorsement of the Minister’s Zoning Order (MZO) for the proposed auto campus.

BACKGROUND

In 2019, CIES reported to Council that the Leslie Valley Servicing Agreement secures sanitary servicing for the employment lands north of Green Lane East, west of Highway 404, including the proposed Auto Campus lands.

On January 21, 2020 a report from Development Services obtained Council’s endorsement to use a Minister’s Zoning Order to zone the subject lands to permit an auto campus.

On July 30, 2020 the Minister’s Zoning Order came into force and effect to permit the auto campus uses on the subject lands.

Currently, the Owner is requesting Council's authorization to enter into an earthworks agreement with the Town to permit the commencement of topsoil stripping and future earthworks for the subject lands. Planning staff have received the request for pre-consultation from the Owner. The Owner will submit the related site plan application for the subject land shortly.

As the lands are subject to a larger planning approval process which involved consultation with the Public, the proposed topsoil stripping and earthworks operations is exempt from the site alteration process (public meeting) within the Town's Fill By-law however the earthworks agreement includes provisions for chemical analysis and testing to be carried out similar to the Town's Fill by-law to ensure environmental compliance.

ANALYSIS

Property and Area Context

The subject property is 28.4 acres and located on the north side of Green Lane East, east of Leslie Street and west of Highway 404 (see Appendix 1).

Proposed Auto Campus Development

The development proposal for the site consists of establishing a prestige auto sales campus complete with six automobile dealerships.

A presentation regarding the site design and economic benefit of the project was received by Council as information on December 17, 2019.

Phasing of Development and Approach to Earthworks

As part of the earthworks operation, the developer is proposing a phased approach as outlined below:

Phase 1	• Installation of silt fence around the limits of the site, stripping and export of topsoil from the site • Construction of temporary sedimentation control ponds • Construction of overland swales complete with rock check dams for erosion control (see Appendix 2) • Estimated average depth of topsoil to be removed is approximately 0.3m (1 ft) • No topsoil stripping within any natural feature areas • No tree removal proposed
Phase 2	• Earthworks component of project • Completion of cut-fill balance exercise on the site • Importation of fill material as required to achieve the pre-grade elevations of the site

Due to the nature of the site, retaining topsoil on site for future use is not feasible as such a stockpile would impede the ability to efficiently carry out underground servicing. During the topsoil stripping operation, there may be periodic stockpiling of topsoil at the west end of the site near the construction entrance prior to being loaded on trucks for export.

As indicated on Appendix 2, a small portion of the proposed topsoil stripping limits are within the current LSRCA Regulation Limit however the developer has consulted with the LSRCA and the current identified limit is considered to be outdated and is not representative of the location of the natural features within the site which have evolved over time due to historic farming practices. LSRCA approval is required prior to commencement of topsoil stripping within any portion of the Regulation Limits and the developer and Town staff will continue to liaise with the LSRCA to ensure compliance. Under the terms of the earthworks agreement the following general conditions will need to be met to allow works to proceed:

- Approval of all plans and specifications associated with the works (includes erosion and sedimentation control and grading plans).
- Approval of all regulatory agencies (LSRCA, MNR, MTO) required for the completion of the works
- Town to be provided copies of all contracts, reports, notices for the proposed works
- Owners to notify all emergency services of their intended commencement date for the works
- Payment of required fee deposits and submission of securities as identified in the agreement and liability insurance
- Access approval from Region of York for use of the Green Lane entrance

Pending Council's approval, below is the developer's proposed timeline for the earthworks operation:

Site Activity	**Estimated Timeline**
Installation of Erosion & Sediment Control Fence	October 2020
Construction of Sediment Control Ponds	October-November 2020
Topsoil Stripping/Swale Construction	November 2020 – Spring 2021
Phase 2 Earthworks	Following Site Plan Approval

Concurrent with the topsoil stripping works being carried out as part of phase 1, the developer will continue working with Planning staff on their formal site plan application submission for Council consideration at a future date.

Site Access

The lands being developed under this agreement are proposed to be accessed from the existing driveway entrance to 1656 Green Lane East. Use of the existing driveway as the construction entrance is being reviewed by the Region of York as the road authority with approval pending.

Hours of Operations

Approval of the earthworks agreement includes the restriction of operations on Saturdays with the exception of machine maintenance and emergency works. No Sunday or holiday works are permitted with the exception of emergency works. Permitted hours of operation are 7:00 am to 7:00 pm Monday through Friday.

Business Advantage Program

The existing request aligns with the Town's Business Advantage program. The Business Advantage program understands that business and industry value the importance of timely approvals around the necessary permits and regulations. The requested authorization for the earthworks agreement will create a welcoming and friendly environment for business investment in order to alleviate barriers to economic growth.

FINANCIAL IMPLICATIONS

There is no direct financial impact related to the Owner's request to commence earthworks on the subject property. The Owner will continue to comply with all applicable cost as outlined in the Town's fee by-law.

The earthworks agreement will be the catalyst to providing clear economic benefits for the Town by providing employment opportunities, diversifying the local economy, and contributing to the Town's tax base. It is anticipated that the future auto sales campus will provide more than 400 jobs to the Town, approximately $1.5 million in development charges, and more than $50,000 in annual tax revenue.

NEED FOR PUBLIC CONSULTATION

There is no legal requirement under the Planning Act for public consultation for the proposed request however pending Council approval and prior to construction, the developer will provide hand delivered notices as a courtesy to adjacent impacted landowners and a notice will be placed on the Town Page of the East Gwillimbury Express newspaper.

ALIGNMENT TO STRATEGIC PLAN

The recommendations of this report align with the following Strategic Priority(ies):

Responsible Growth & Environmental Protection	Attract and support business development and job creation in East Gwillimbury
Build Complete Communities	Effectively manage new and existing assets to deliver exceptional services to residents while ensuring a sustainable community

Culture of Municipal Excellence	Ensure strong fiscal responsibility and program delivery

CONCLUSION

The authorization of the topsoil stripping and earthworks agreement will continue to allow Council's review of the future site plan application. Furthermore, it is a requirement of the Town's Official Plan to promote job creation and establish a resilient, diversified economic base. The authorization of the topsoil stripping and earthworks agreement will ensure the expedited development of a prestige employment use on full municipal servicing that will provide approximately 400-500 jobs and strengthen the local economy.

APPENDICES

Appendix 1 – Subject Property Location Map
Appendix 2 – Conceptual Earthworks Plan

Prepared by:
Original signed by
Lawrence Kuk, MCIP, RPP Manager of Planning

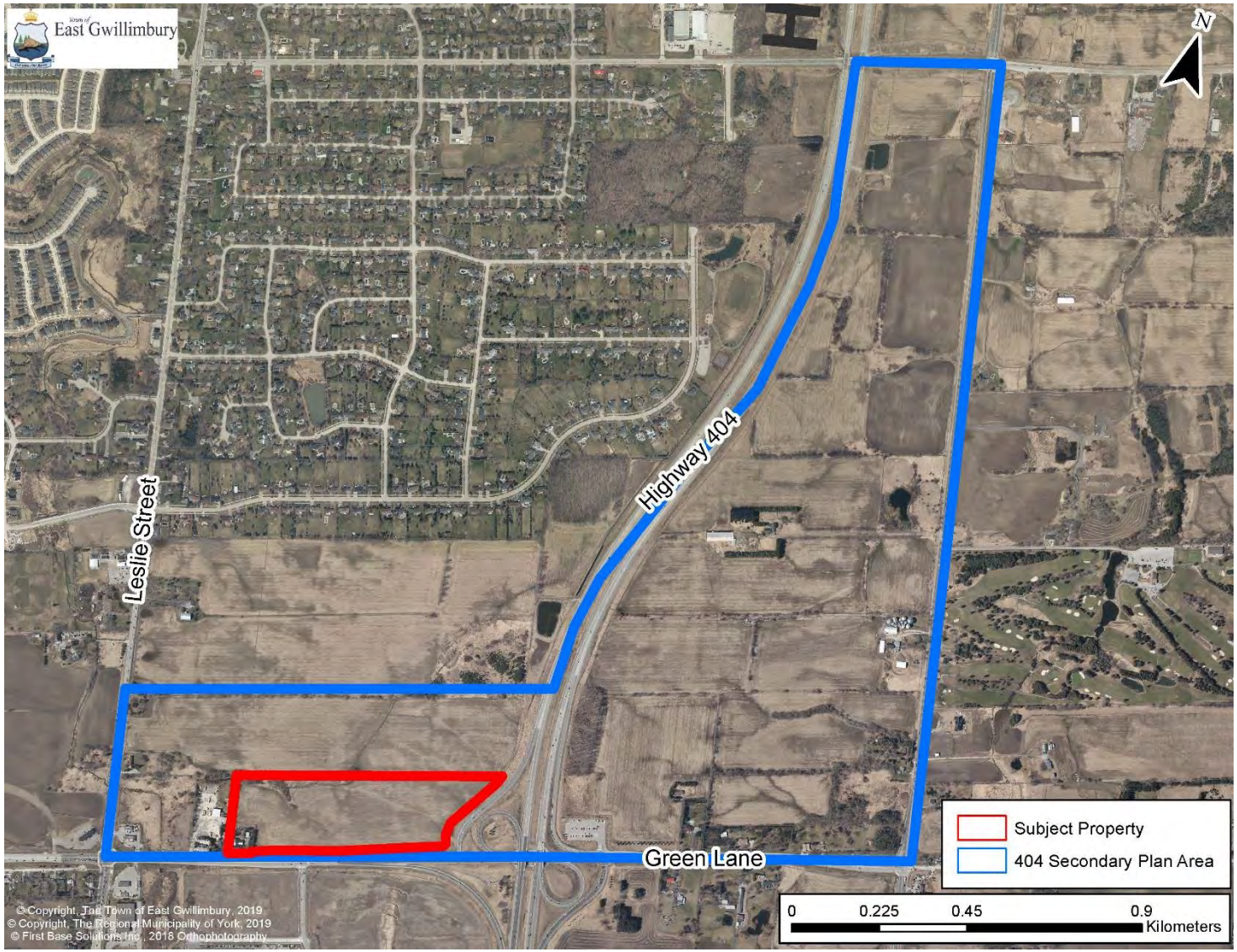
Prepared by:
Original signed by
Kevin Brake, C.Tech. Development Manager

Reviewed and Recommended by:
Original signed by
Marco Ramunno, MCIP, RPP General Manager, Development Services

Reviewed and Recommended by:
Original signed by
Mike Molinari General Manager, Community Infrastructure & Environmental Services

Approved for Submission by:
Original signed by
Thomas R. Webster Chief Administrative Officer

APPENDIX 1– Subject Property Location Map



APPENDIX 2 – Conceptual Earthworks Plan

TOPSOIL STRIPPING LIMITS

SEDIMENT CONTROL PONDS

EXISTING NATURAL FEATURE TO REMAIN UNDISTURBED (SUBJECT TO FUTURE EVALUATION)

POTENTIAL INTERIM STOCK PILE AREA (HEIGHT NOT TO EXCEED 3 METERS)

EXISTING LSRCA REGULATION LIMIT

NOTE: Sediment control ponds and stockpile locations are subject to further agency review. As such, the exact location may deviate slightly from the proposed plan.

APPENDIX C – FISH HABITAT ASSESSMENT GREEN LANE WEST BLOCK PLAN (NOVEMBER 2019)

FISH HABITAT ASSESSMENT
Green Lane West Block Plan
Rice Commercial Group
Town of East Gwillimbury
Updated November 2019

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

November 28, 2019
RS #2011-154

John T. McGovern
Senior Vice President, Policy & Planning
Rice Commercial Group
75 Tiverton Court - 2nd Floor
Markham, Ontario,
L3R 4M8
Via email: john.mcgovern@ricegroup.ca

***SUBJECT*: Fish Habitat Assessment, Greenlane West Block Plan, Town of East Gwillimbury, York Region**

Dear Mr. McGovern,

RiverStone Environmental Solutions Inc. is pleased to provide you with the enclosed Fish Habitat Assessment.

Please contact us if there are any questions regarding the report, or if further information is required.

Best regards,

RiverStone Environmental Solutions Inc.

Report prepared by:

Bev Wicks, Ph.D.
Senior Ecologist / Principal

Al Shaw, M.Sc.
Senior/Ecologist

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1 BACKGROUND

RiverStone Environmental Solutions Inc. (hereafter, "RiverStone") was retained by The Rice Group to prepare a Fish Habitat Assessment (FHA) in support of a Minister's Zoning Order for a property located Part of Lots 6, Concession 3 (hereafter, "subject property") in the Town of East Gwillimbury. The location of the subject property is indicated on **Figure 1**.

The subject property is designated "Employment Area" on Schedule A (Town Structure) of the Town's Official Plan (OP) and is situated within the B-4 Secondary Plan study area as per Schedule B (Urban Planning Area Land Use Plan). As discussed herein, a watercourse, floodplain, and wetland occur on the subject property, along with tile drained agricultural fields.

The scope and content requirements of this FHA report was limited to a Headwater Drainage Feature Assessment/watercourse Assessment and an updated Existing Conditions Report.

2 APPROACH AND METHODS

The approach and methods used to carry out this FHA are detailed in this section. Broadly speaking, this includes:

1. Gathering background biophysical information for the subject property and adjacent lands to become familiar with existing features mapping and records of features and species of conservation interest prior to the site investigation.
2. Conducting a site investigation to field-verify the presence or absence of features identified during background information gathering, and to identify any additional significant features (if present).

2.1 Information Sources used to assess Subject Property Conditions

Background biophysical information pertaining to the Subject Property and adjacent lands (i.e., lands within approximately 120 m of the Subject Property) was collected from a variety of sources. These include:

- **Town of East Gwillimbury Official Plan** (October 2018 Consolidation) for amendments and natural feature mapping, including:
    - OPA 4-2018 – Green Lane Secondary Plan Green Lane Corridor
    - Town Structure (Schedule A, A-1)
    - Rural Planning Area Land Use Plan (Schedule C)
    - Natural Heritage System in the Urban Planning Area (Schedule D-1)
    - Oak Ridges Moraine Natural Heritage System (Schedule D-2)
    - Parks, Trails and Community Facilities in the Urban Planning Area (Schedule F-1)
    - Landform Conservation Areas (Schedule H)
    - Areas of High Aquifer Vulnerability (Schedule I)
- **Regional Municipality of York Official Plan** (2019 Office Consolidation) for natural feature mapping, including:
    - Figure 1 – Oak Ridges Moraine Landform Conservation Areas

  - Figure 3 – Greenlands Systems within York Region
  - Map 1 – Regional Structure
  - Map 2 – Regional Greenlands System
  - Map 3 – Environmentally Significant Areas and Areas of Natural and Scientific Interest
  - Map 4 – Key Hydrological Features
  - Map 5 – Woodlands
  - Map 6 – Wellhead Protection Areas
  - Map 7 – Oak Ridges Moraine Aquifer Vulnerability Areas and Watershed Boundaries

- **Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Areas and Natural Heritage Information Centre (NHIC)** database regarding information on occurrences of SAR and provincially tracked species (squares: 17PJ2583, 17PJ2482, 17PJ2583 last accessed November 10, 2019 at: http://www.giscoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).
- **Ministry of Natural Resources and Forestry (MNRF) Aurora District Information Request** for occurrences of species at risk within and adjacent to the subject property.
- **Species at Risk (SAR) range maps** (accessed November 2018 at: http://www.ontario.ca/environment-and-energy/species-risk-ontario-list).
- **Lake Simcoe Region Conservation Authority (LSRCA) Interactive Mapping** to identify potential features of conservation interest on the Subject Property and determine whether LSRCA's regulated area extends onto the Subject Property (accessed November 10, 2019, at http://www.lsmaps.ca/Geocortex/Essentials/External/Web/RegsViewer.aspx?Site=RegulationLimit).
- **Aquatic Species at Risk Maps** mapping generated by Fisheries and Oceans Canada (Map 5, accessed November 9, 2018 at: http://www.dfo-mpo.gc.ca/species-especes/fpp-ppp/index-eng.htm)
- **Great Lakes Conservation Blueprint for Aquatic Biodiversity, Volume 2** (Phair et al. (2005) regarding aquatic biodiversity within tertiary watershed 2EC (Black River-Lake Simcoe).
- **Physiography of Southern Ontario** (Chapman and Putnam 2007) for information pertaining to the physiography and soils of the Subject Property and adjacent lands.
- **Current and Historical Aerial Photographs** of the Subject Property and Adjacent Lands.

2.2 Site Investigation

The results of the screening exercise outlined above in **Section 2.1** helped direct field data collection activities associated with a site investigations carried out by RiverStone in 2009 and 2019 (**Table 1**). The site investigation was focused on characterizing: (1) topography and drainage, (2) fish habitat, and (3) completing a Headwater Feature assessment (HFA). Representative photographs taken during the site investigation are assembled in **Appendix 1.**

Table 1. Site Investigations undertaken by RiverStone on the Subject Property.

Date	Primary Task
August 6 &13, 2009	Assessment of aquatic habitat, Bev Wicks, Laura Alward
April 16 & August 14, 2019	Headwater assessment, Bev Wicks/Al Shaw

2.2.1 *Geology, Soils, and Drainage*

Geology is a significant factor in the formation of soil, the physical characteristics of a watershed, and ultimately surface water quality. The bedrock and overlying deposits influence surface runoff and infiltration, directly influencing the nutrient balance of receiving water bodies. Knowledge of the existing terrain in a study area is important in understanding how a property and its associated natural environment will respond to development pressures. The geophysical setting of this property was determined using topographic mapping, soils mapping, geological mapping, aerial photography, and the on-site investigation.

2.2.2 *Features of Conservation Interest*

"Features of conservation interest" represent natural heritage features and habitats that have recognized status within the relevant planning jurisdiction in which a development or site alteration activity is proposed. Relevant to this scope of work the features considered herein includes:

- Wetlands;
- Habitat of Endangered and Threatened Species; and
- Fish Habitat;

Where appropriate, natural environmental features were delineated with a survey-grade GPS receiver capable of 2 m accuracy and photographed with all information collected and catalogued for future reference.

2.2.3 *Species of Conservation Interest*

Properly assessing whether an area is likely to contain species of conservation interest for the purposes of determining whether a proposed development is likely to have a negative impact is becoming more difficult as the number of listed species increases. Approaches that depend solely on documenting the presence of individuals of a species in an area can be misleading because of the difficulty of observing species that are usually rare and well camouflaged.

Given these difficulties, and the importance of protecting habitats of SAR, fish, and other species of conservation interest, RiverStone's primary approach to site assessment is habitat-based. This means that our field investigations focus on evaluating the potential for features within an area of interest to function as habitat for species considered potentially present, rather than searching for live specimens. An area is considered potential habitat if it satisfies a number of criteria, usually specific to a species, but occasionally characteristic of a broader group (e.g., several turtles of conservation interest use

sandy shorelines for nesting, numerous fish species use areas of aquatic vegetation for nursery habitat). Physical attributes of a site that can be used as indicators of its potential to function as habitat for a species include structural characteristics (e.g., physical dimensions of rock fragments or trees, water depth), ecological community (e.g., meadow marsh, rock barren, coldwater stream), and structural connectivity to other habitat features required by the species. Species-specific habitat preferences and/or affinities are determined from status reports produced by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Cadman et al. (2007), published and unpublished documents, and direct experience.

For the purposes of identifying aquatic species that warrant consideration in this report we have defined "species of conservation interest" to include the following:

- Species designated as "Endangered", "Threatened", or "Special Concern" under O. Reg. 230/08 pursuant to the provincial *Endangered Species Act, 2007*; and

The identification of species of conservation interest on the subject property and adjacent lands assists with determining whether Significant Portions of the Habitat of Endangered, Rare, and Threatened Species is potentially present.

2.3 Applicable Environmental Policies

There are several relevant environmental policies (e.g., statutes, regulations, plans, guidance documents, etc.) that may apply to the Subject Property and proposed development, which are listed below. An assessment of the proposed development's consistency with these environmental policies is offered in **Section 4**.

- Town of East Gwillimbury Official Plan (October 2018 Consolidation)
- Regional Municipality of York Official Plan (2019 Office Consolidation)
- Provincial *Conservation Authorities Act*, R.S.O. 1990, c. C.27, including:
    - O. Reg. 179/06 – Lake Simcoe Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses
    - Lake Simcoe Region Conservation Authority Watershed Development Policies
- Provincial *Lake Simcoe Protection Act*, S.O. 2008, c. 23, including:
    - Lake Simcoe Protection Plan, O.C. 977/2009
    - Technical Definitions and Criteria for Identifying Key Natural Heritage Features and Key Hydrologic Features for the Lake Simcoe Protection Plan (MNRF 2015)
- Provincial *Endangered Species Act*, S.O. 2007, c. 6, including:
    - O. Reg. 230/08 – Species at Risk in Ontario List
    - O. Reg. 242/08 – General (i.e. "Exemption Regulation")
- Federal *Fisheries Act*, R.S.C. 1985, c. F-14, including:
    - Applications for Authorization under Paragraph 35(2)(b) of the Fisheries Act Regulations, S.O.R/2013-191
    - Fisheries Protection Policy Statement (Fisheries and Oceans Canada 2013)

3 BIOPHYSICAL FEATURES AND FUNCTIONS

3.1 General Landscape Conditions and Land-uses

The subject property is situated just east of northeast corner of Leslie Street and Green Lane East. A new residential subdivision is currently under construction on lands immediately west of Leslie Street, and a large stormwater pond and commercial development occurs just south of Green Lane. The watercourse on the subject property emerges from stormwater pond to the north that has been developed as part of the extension works related to Highway 404. The watercourse flow results from collection of surface waters through an agricultural drainage system upstream of the subject property and does not have a defined channel until the midportion of the subject property

A review of historical aerial photographs dating back to 1954 suggests that the subject property has a long history of agricultural use. The permanent watercourse appears to have been realigned numerous times over the property history and has been its current location since 2007.

3.2 Physiographic Setting

3.2.1 *Bedrock Geology*

Bedrock underlying the subject property and adjacent lands consists of Late Ordovician aged (i.e., approximately 460-445 million year old) shales of the Whitby Formation (Armstrong and Dodge 2007). This dark blue-grey to brown to black shale is interbedded with limestone or calcareous siltstone. These shales formed in calm, muddy seas fed by sediments eroded from what would become the Appalachian Mountains to the east, with interbeds of limestone indicative of clearing and deepening water conditions (Liberty 1969, Ontario Geological Survey 2011).

The Whitby Formation stretches across southern Ontario from Craigleith on the shores of Georgian Bay to around Bowmanville in the Municipality of Clarington. Along much of its western extent, the Whitby Formation subcrops over an extremely narrow area (i.e., 2-4 km wide). The Formation widens significantly over its eastern half, occupying the bedrock surface over much of the area between the Oak Ridges Moraine and Lake Ontario in the Regional Municipality of Durham (Armstrong and Dodge 2007). The thickness of surficial deposits (i.e., overburden) above the shale bedrock in the vicinity of the Subject Property is deep at approximately 150-175 m (Gao et al. 2006).

3.2.2 *Surficial Geology and Soils*

The majority of the subject property is found within the Oak Ridges Moraine physiographic region (Chapman and Putnam 1984). The Oak Ridges Moraine is an interlobate moraine (i.e., formed between two glacial lobes) standing over 300 m above sea level. It is traced for 160 km from the Niagara Escarpment in the west to the Trent River in the east. The Moraine has a predominantly undulating surface expression composed of sandy/gravelly hills (i.e., kames) interspersed with kettle ponds/wetlands occupying low-lying areas. The Moraine is also the source of numerous watercourses flowing south into Lake Ontario and north into Lake Simcoe or Georgian Bay (Chapman and Putnam 2007). The extreme western portion of the subject property is mapped as part of the Schomberg Clay Plains.

According to the York County soil survey (Hoffman and Richards 1955), the Subject Property is predominantly mapped as Percy series fine sandy loam derived from calcareous, sandy outwash (i.e.,

deposited by rivers flowing away from the glacier during melting). Overall, this series is smooth gently sloping with good drainage.

3.2.3 *Topography, Drainage, and Watercourses*

The prevailing topography of the subject property is slightly depressed, with one portion on the southeast end that is raised; this may have been built up to head drainage historically as was evident in the air photo review. Surface water from the property collects in the northwest corner of the property and ultimately flows through two corrugated steel culverts crossing Leslie Street. The watercourse collects surface water drainage for a relatively short time, ultimately draining any residual runoff through the defined channel of the present watercourse further downstream.

3.3 Vegetation Communities

3.3.1 *Mineral Deciduous Swamp (SWD4)*

The northwest end of subject property has a small wooded area that floods annually for a short duration. The area contains Hybrid Crack Willow (*Salix x fragilis*), Balsam Poplar (*Populus balsamifera*), Trembling Aspen (*Populus tremuloides*), American Elm (*Ulmus americana*) and Green Ash (*Fraxinus pennsylvanica*), Sandbar Willow (*Salix exigua*), Heart-leaved Willow (*Salix eriocephala)* and Bebb's Willow (*Salix bebbiana*). This community is somewhat fragmented and isolated, and the canopy is not well-established giving way to a dense undergrowth of species such as Reed Canary Grass (*Phalarus arundinacea*), Spotted Jewel-weed (*Impatiens capensis*), Purple-stemmed Aster (*Symphyotrichu puniceum*), Riverbank Grape (*Vitis riparia*), Virginia Creeper (*Parthinocissus quinquefolia*), and Climbing Nightshade (*Solanum dulcamara*). A braided channel flows through the shrub thicket swamp

3.4 Aquatic Habitat Characteristics and Headwater Drainage Feature Assessment

3.4.1 *Aquatic Habitat Characteristics 2009 and 2019*

A description of the channel morphology and aquatic habitat characteristics of the watercourses on the subject property is provided below in **Table 2**. The alignment of the two tributaries are shown in **Figure 2**. The watercourses are tributaries of the East Holland River. As noted previously in this report, the watercourse appears to have been realigned on more than one occasion historically and does not contain a defined channel upstream of the subject property. The regulated location of the watercourse (**Appendix 2**) shown is different from our GPS mapping completed in the field. The following provides a detailed description of our assessment of Tributary A.

Based on the aerial photography, Tributary A originates to the north of the subject property, flowing in a south westerly direction through a pond, a small wooded area and either overland through a farm field or through a tile drain prior to entering the subject property. Findings from the downstream assessment suggest that any ponds upstream of the subject property will be fish bearing. Once on the subject property, Tributary A changes direction, flowing to the west along the northern edge of the property. For the first 80 to 100 m the watercourse flows overland, with little evidence of a defined channel. Areas of saturated soils were evident at the time of our site 2009 and 2019 visits, however we concluded that access and channel quality restrict this reach of Tributary A to providing indirect fish habitat. The immediate riparian buffer consisted of an agricultural field, planted in 2009 with Soybean and with Corn in 2019, along with various common weed species; such as Field Horsetail (*Equisetum*

arvense), Wild Carrot (*Daucus carota*), Awl-fruited Sedge (*Carex stipata*), Path Rush (*Juncus tenuis*) and Marsh Willow Herb (*Epilobium palustre*) present. The buffer offered nothing in the way of canopy and shading for the watercourse or a supply of material for habitat complexity.

Following the reach that flows overland, the surface water hits a knickpoint below which there was evidence of considerable erosion in 2009. This reach of Tributary A had stabilized on 2019 and showed considerable regeneration of vegetation. The substrates throughout this reach consist of 70 % clay, 10% silt, 10% sand and 10% cobble/rubble/boulder. In 2009 isolated pools with small schools of fish were observed in Tributary A; there were no fish observed in 2019.

The most western reach of Tributary A, located on the subject property, flows through a shrub-thicket. Where the tributary enters the thicket there is a large area of depositional material that has resulted from the upstream erosion. Through this reach the watercourse is braided with no defined banks, channel or flow; however saturated soils were noted in some areas identified as the low flow channel (0.5-0.8 m width). The bankful width varies between 8 and 10 m and is evident through the large deposits of sand and silt.

Noticeable flow was observed in this reach in 2009 and spring of 2019. Also, of note is that the tributary has a more channelized appearance downstream of an old culvert, which was likely installed to allow a farm crossing. Substrates consist of sand, silt and gravel with occasional pockets of rubble. No direct fish habitat was observed upstream of the confluence with the tile drain channel at the time of the site visit nor was there evidence of benthic invertebrates on in stream rocks; however downstream of the confluence, observations of small fish and benthic invertebrates were noted during the 2009 field assessment.

Tributary B, directs water south through the central portion of the subject property and outlets via a tile drain outlet, providing base flow to Tributary A. The overflow from the tile drain empties into a large pool which outlets through a narrow channel adjacent to the agricultural field prior to its confluence with Tributary A. Fish were observed in the pooling water at the tile drain outlet (July 10, 2009) and in the reaches of Tributary A downstream of the farm crossing culvert. Downstream of the old farm road, Tributary A flows through a fresh-moist willow lowland thicket until it leaves the property and continues through a culvert under Leslie Street.

3.4.2 *Headwater Drainage Feature Assessment*

The objective of the Headwater Drainage Feature (HDF) Assessment was to utilize a tool to collect pertinent information related to the physical and biological attributes of the headwater features, assess their relative importance on the landscape, and ultimately determine management options for each. The details of the assessment protocol are based on the Evaluation, Classification and Management of Headwater Drainage Feature Guidelines (TRCA/CVC 2014) produced and approved by that Conservation Authority.

Data used to classify the HDF's were collected during a series of site assessments that were completed over several years, including four site visits as per **Table 1**. The initial Existing Conditions Report prepared by RiverStone was completed in 2010. The background review for the assessment noted a single tributary flowing east to west through the subject property, beginning in the north central portion of the parcel. During our assessments, a second reach of the tributary was noted as a depression in the agricultural lands originating central to the parcel, draining to the west. The confluence of the two

reaches occurs in the west central portion of the property, toward the northern boundary in a shrub-thicket.

The HDF assessment **Table 2** includes the collection of details pertaining to the following key components: hydrological, riparian, fish and fish habitat, and terrestrial features. It is noted that both of the watercourse reaches were assessed in accordance with the Evaluation, Classification and Management of Headwater Drainage Features Guidelines (CVC and TRCA, 2014).

Hydrology – Site visits completed on April 16 and August 14, 2019 provided a clear indication of the permanency of flow in both tributaries. The main HDF, A, had observable flow during the initial site visit but was dry, with exception of few damp ponded areas within the downstream wetland feature. The adjoining tributary, B, did not have flow during any of the site visits. The path of HDF- B is adjacent to the confluence with HDF-A, with the remainder flanked entirely by agricultural lands.

Riparian – The adjacent lands to HDF- A have dense riparian vegetation along portions of the channel length, approximately to the point of confluence with HDF- B. The riparian vegetation is a mix of trees and shrubs, extending greater than 20 m to the south into the property and north to the property boundary. HDF- B has some natural riparian vegetation close to its confluence with HDF-A, while the remainder of the feature has no riparian vegetation, only agricultural crops (corn).

Fish and Fish Habitat – Although we did not do a formal assessment for fish presence in 2019, it is our expectation that there is little opportunity for fish in either HDF. The habitat characteristics of HDF- A are a poorly defined channel for much of its length, with only sporadic structure. HDF- B is best described as a depression in the agricultural field, with active ploughing and planting.

Terrestrial Habitat - HDF- A had noticeable flow and ponding of water during the 2009 site visit and the initial site visit in the spring of 2019, which may have provided opportunities for breeding amphibians. HDF-A also extends further to the west, where there is a larger natural area adjacent to Leslie Street.

Table 2. Headwater Drainage Feature Assessment Results

HDF Segment Code	Step 1		Step 2	Step 3	Step 4	Management
	Hydrology	Modifier	Riparian	Fish and Fish Habitat	Terrestrial Habitat	Recommendation
Tributary A	Contributing		Important	Contributing	Contributing	Conservation
Tributary B	Limited	Ag	Limited	Limited	Limited	No Management Required

*Classification assumed as formal assessment not completed

The resulting management objective for each of the HDF segments are presented at the conclusion of **Table 2**. These management options are derived from the TRCA HDF assessment guideline. Each management option has a set of criteria describing scenarios for development within or adjacent to the feature. These criteria are as follows, for the Conservation and No Management Required classifications as noted above:

B. Conservation – Valued Functions: e.g. seasonal fish habitat with woody riparian cover; marshes with amphibian breeding habitat; or general amphibian habitat with woody riparian cover.

· Maintain, relocate, and/or enhance drainage feature and its riparian zone corridor;

- If catchment drainage has been previously removed or will be removed due to diversion of stormwater flows, restore lost functions through enhanced lot level controls (i.e. restore original catchment using clean roof drainage), as feasible;
- Maintain or replace on-site flows using mitigation measures and/or wetland creation, if necessary;
- Maintain or replace external flows,
- Use natural channel design techniques to maintain or enhance overall productivity of the reach;
- Drainage feature must connect to downstream.

F. No Management Required – Limited Functions: e.g. features with no or minimal flow; cropped land or no riparian vegetation; no fish or fish habitat; and no amphibian habitat.

The feature that was identified during desktop pre-screening has been field verified to confirm that no feature and/or functions associated with headwater drainage features are present on the ground and/or there is no connection downstream. These features are generally characterized by lack of flow, evidence of cultivation, furrowing, presence of a seasonal crop, and lack of natural vegetation. No management recommendations required.

In preparing natural feature mapping for the subject property, RiverStone reviewed LSRCA's regulation map web interface to gather background information. LSRCA mapping of the features appears to be out of date. Based on a review of historical aerial photographs of the subject property dating back to the 1950"s (York Maps), coupled with the conditions observed on-site, the watercourse appears to have been realigned sometime prior to 2009. The current alignment of the intermittent watercourse is indicated on **Figure 2**. The channel of the Tributary A and B watercourse were dry during the August 2019 site investigation and appears to become undefined as it exits the subject property at its western boundary.

As part of initial ecological studies on a parcel adjacent to the subject property, RiverStone submitted a Redside Dace (*Clinostomus elongatus*; Endangered) request through an Information Gathering Form (IGF) to the MNRF on October 13, 2015. RiverStone was subsequently notified by the Ministry of Natural Resources and Forestry (MNRF) that the watercourse was considered contributing habitat for Redside Dace. Notwithstanding the above, RiverStone was notified via letter from MNRF (Megan Eplett, Management Biologist) on August 8, 2016, that the permanent watercourse is no longer considered contributing habitat for Redside Dace "[*d]ue to additional sampling in this area and updates to mapping of Redside Dace habitat with Aurora District*".

3.4.3 *Habitat of Aquatic Endangered and Threatened Species*

Per the information provided in **Appendix 2**, no aquatic Endangered or Threatened Species have the potential to be present.

3.4.4 *Fish Habitat*

Water features that may contain fish habitat include lakes, ponds (other than human-made offline ponds), permanent and intermittent watercourses, headwater drainage features, and wetlands. Tributary A, during periods of high flows can provide suitable cover and refuge habitat fish and presence of small-bodied fish were observed within the downstream reaches of Tributary A.

4 APPLICABLE ENVIRONMENTAL POLICIES

The following sections summarize the municipal, provincial, and federal environmental policies that apply to the proposed development plan and describe how the recommendations provided in this report will ensure the works as proposed conform with these policies (where applicable).

4.1 Town of East Gwillimbury Official Plan

The Town's OP prescribes policies related to land-use and future development throughout the municipality. Key provisions of the Town's OP that may have relevance to the proposed development include:

- Prescription of permitted uses based on the relevant land-use designation (i.e., Natural Core Area, Natural Linkage Area, Countryside Area);
- Protection of Key Natural Heritage Features and their minimum Vegetation Protection Zones;
- Protection of Hydrologically Sensitive Features and their minimum Vegetation Protection Zones;
- Requirement for stormwater management associated with applications that constitute "Major Development".

4.2 Regional Municipality of York Official Plan

The Region's OP provides recommendations for promoting a sustainable natural environment across the Region. Section 2.1 puts forth policies to *identify, protect, and enhance a linked Greenlands System as a permanent legacy for York Region*. Although the eastern portion of the Subject Property (i.e., confluent with the wetlands and watercourse) appears to occur within the Regional Greenlands System per Figure 3 of the Region's OP, the manicured area surrounding the northeast end of the Subject property does not.

Per section 2.2.4 of the Region's OP, development and site alteration within KNHF's, KHF's, and adjacent lands to these features is prohibited unless no negative impacts on the natural features or its ecological functions occurs.

4.3 Lake Simcoe Region Conservation Authority Regulation 179/06, pursuant to the *Conservation Authorities Act*, R.S.O. 1990, c. C.27

LSRCA's regulatory jurisdiction extends to areas within and adjacent to valley and stream corridors, the Lake Simcoe shoreline, hazard lands (e.g., floodplains, valley slopes, etc.), watercourses, and wetlands as provided under O. Reg. 179/06 pursuant to the *Conservation Authorities Act, 1990*. Following a review of LSRCA's regulated area mapping (**Appendix 2**) it appears that Tributary A and an associated buffer (~30 m), is regulated.

Based on the presence of several features regulated by LSRCA that occur on or immediately adjacent to the subject property, an approval from LSRCA under O. Reg. 179/06 may be required to permit the proposed development to proceed.

4.4 Lake Simcoe Protection Plan, pursuant to the *Lake Simcoe Protection Act*, S.O. 2008, c. 23

The Lake Simcoe Protection Plan (LSPP) seeks to address long-term environmental degradation of the Lake Simcoe watershed. Chapter 6 provides targets, indicators, and policies for the protection of shorelines and natural heritage features.

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

The *Endangered Species Act, 2007* (ESA) protects designated endangered and threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). No aquatic endangered or threatened species were identified on the subject property.

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

Across Canada the Federal *Fisheries Act* requires that projects avoid causing harmful alteration, disturbance or destruction of fish habitat unless authorized by the Minister of Fisheries and Oceans Canada (DFO). This applies to work being conducted in or near waterbodies that support fish that are part of, or that support, a commercial, recreational or Aboriginal fishery. To determine if a project needs DFO review or authorization, specific criteria have been established for a self-assessment process. All landowners are required to avoid causing harm to fish and fish habitat through appropriate project planning, timing of works, site selection, contaminant and spill management, erosion and sediment control, shoreline/ban revegetation and stabilization, fish protection, and operation of machinery. The details of each of these measures are available on DFO's website at https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html.

The Fish and Fish Habitat Protection Program ensures compliance with relevant provisions under the *Fisheries Act* and the *Species at Risk Act.* The program reviews proposed works, undertakings and activities that may impact fish and fish habitat.

If the project is taking place in or near water, the landowner is responsible for:

- understanding the impacts, the project will likely have on fish and fish habitat
- taking measures to avoid and mitigate impacts to fish and fish habitat
- requesting an authorization from the Minister and abiding by the conditions of an authorization when it is not possible to avoid and mitigate project impacts on fish and fish habitat
- ensuring compliance with all statutory instruments, including federal and provincial legislations

5 CONCLUSIONS

The preceding report provides the results of RiverStone's Fish Habitat Assessment including details regarding the historic and current existing ecological conditions of the subject property and adjacent lands.

In summary, through the completion of the Fish Habitat Assessment and an HDF, Tributary B was classified as No Management Required and it is RiverStone's opinion that through consultation with and approval by the LSRCA the tributary may be removed. Tributary A was classified as Conservation through HDF primarily based on having continuous flow and important riparian and terrestrial habitat. The management criteria should be considered further during future planning stages for the subject property, and in conjunction with other policy and legislation applicable to natural features. The

options for Tributary A include maintain, relocate, and/or enhance the drainage feature and its riparian zone corridor.

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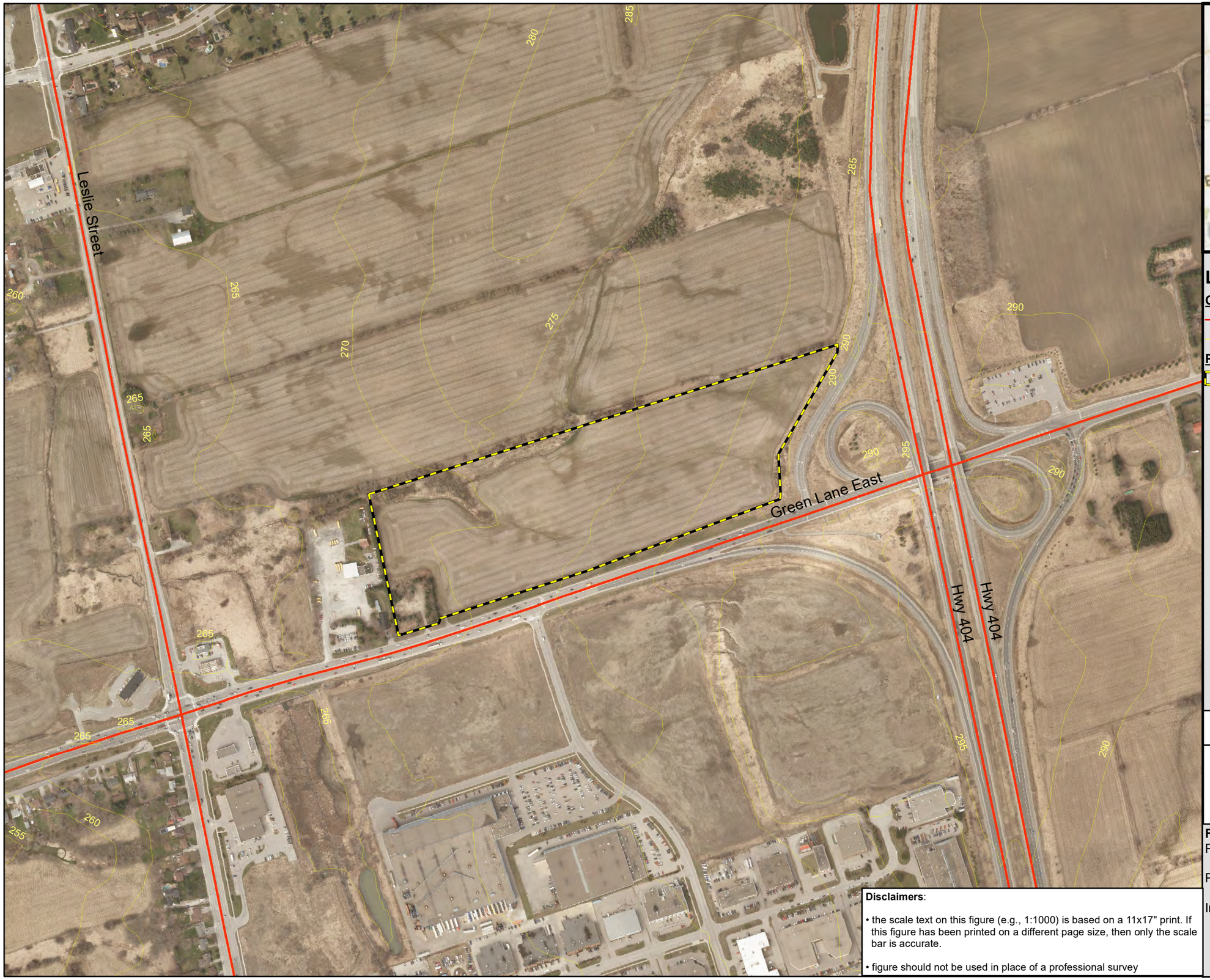
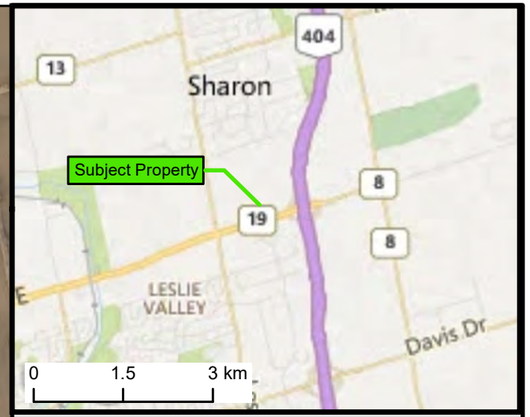




Legend

Ontario Base Mapping (OBM)

- Roads
- 5 m Contours

Planning Boundaries

- Subject Property

N

Orthorectified aerial photo - spring 2019

Scale	RS Project No.	Date Last Updated	By
1:5,000	2019-079	Nov 15, 2019	JG

0 75 150 Metres

RiverStone Environmental Solutions Inc.

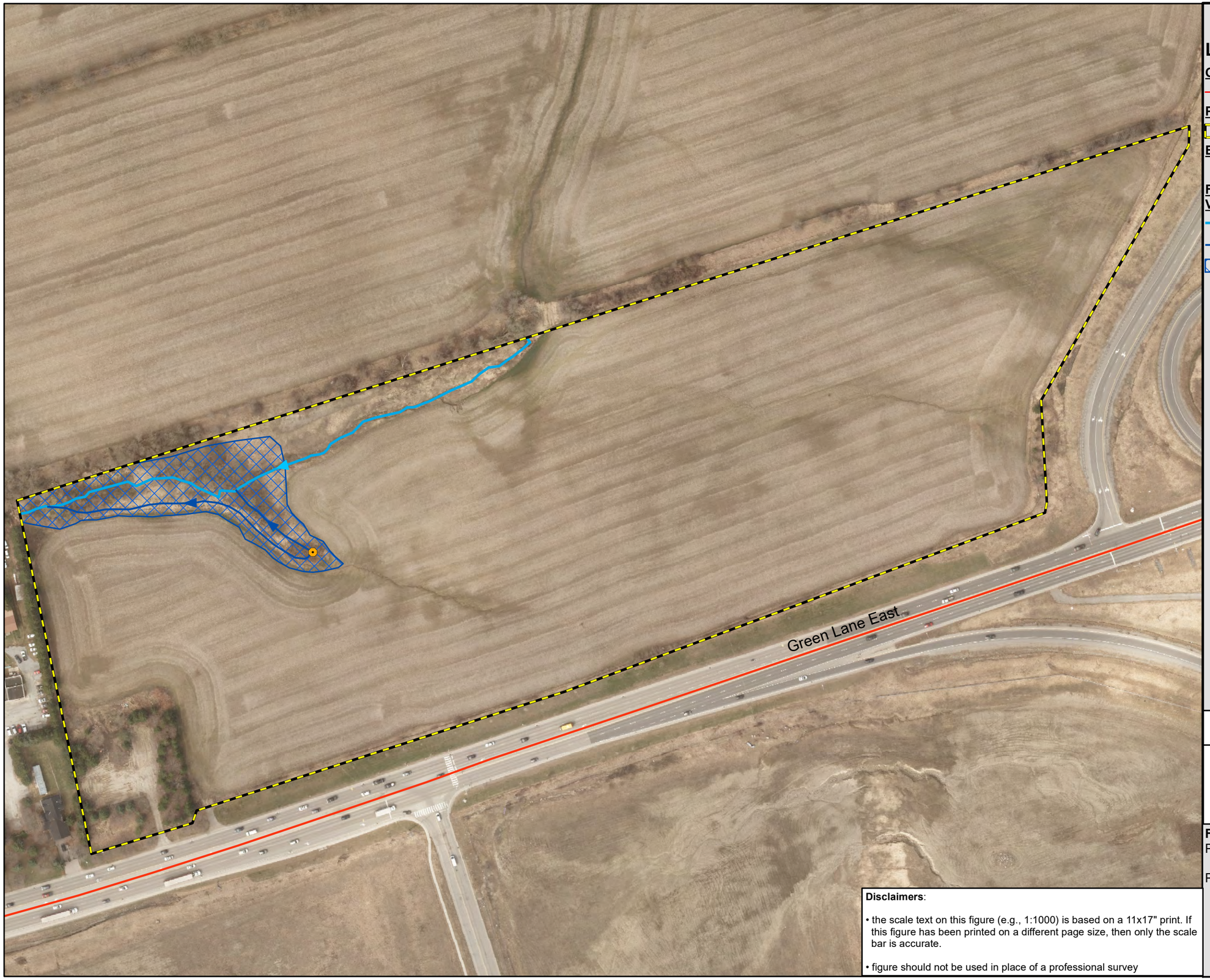
Figure 1. Location Of Subject Property.
Part of Lot 6, Con. 3. Township Of East Gwillimbury

Prepared for Rice Commercial Group

Inset: General Location Of Subject Property

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey



N

Legend

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property

Existing Man-made Features

- Tile Drain Outlet

Features with Recognized Natural Heritage Value - Identified by RiverStone

- Tributary A
- Tributary B
- Wetland

Orthorectified aerial photo - spring 2019

Scale	RS Project No.	Date Last Updated	By
1:2,000	2019-079	Nov 27, 2019	JG

0 30 60 Metres

RiverStone Environmental Solutions Inc.

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

Figure 2. Existing Conditions.
Part of Lot 6, Con.3. Township of East Gwillimbury

Prepared for Rice Commercial Group

Appendix 1. Select Photos from the Site Investigation

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

Photo 1. Watercourse along edge of agricultural field (May 16, 2019).

Photo 2. Watercourse prior to entering wetland (May 16, 2019).

Photo 3. Watercourse with wetland (May 16, 2019).

Photo 4. Edge of agricultural field adjacent to watercourse (May 16, 2019).

Photo 5. Area of erosion within watercourse (May 16, 2019).

Photo 6. Wetland with braided channels (May 16, 2019).

Photo 7. Upstream end of Tributary A, north of subject property (August 14, 2019).

Photo 8. Dry conditions in braided channels through shrub thicket (August 14, 2019).

Photo 9. Agricultural field adjacent to Tributary A (August 14, 2019).

Photo 10. Shrub thicket wetland community with no evidence of flowing water (August 14, 2019).

Photo 11. Shrub thicket wetland community with no evidence of flowing water (August 14, 2019).

Photograph 12. View of depositional material as Tributary A enters the shrub thicket. Note the lack of base flow but the evidence of saturated soils (August 6, 2009).

Photo 13. View from the west of Tributary A on the upstream limits of the subject property (August 6, 2009).

Photo 14. View of Tributary A, west of tile drain discharge (August 6, 2009).

Photo 15. View from the south of Tributary B adjacent to the agricultural field from the overflow from the tile drain outlet (August 6, 2009).

Appendix 2. Agency Communications and Regulation Mapping

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

Southern Region
Aurora District Office
50 Bloomington Road West
Aurora, ON L4G 0L8

Ontario

Ministry of Natural Resources | **Ministere des Richesses Naturelles**

August 8, 2016

Glenn Cunnington, Ph.D.
Ecologist | Species at Risk Specialist
RiverStone Environmental Solutions Inc.
1-310 Taylor Road
Bracebridge Ontario, P1L 1K1
Phone: 705.645.9887

Re: Oxford Homes
Leslie Street and Green Lane, East Gwillimbury, Ontario

Dear Mr. Cunnington,

The Ministry of Natural Resources and Forestry (MNRF) has reviewed the information submitted related to the proposed development on the subject property to assess the potential impacts of the proposal on Redside Dace which receives protection under the *Endangered Species Act, 2007*.

Due to additional sampling in this area and updates to mapping of Redside Dace habitat with Aurora District, the watercourse on the subject property is no longer considered contributing habitat for Redside Dace.

As such it is MNRF's determination that the proposed activities will not adversely affect Redside Dace or its habitat and MNRF has no further concerns relating to species at risk and your proposed project at this time.

Please be advised that it is your responsibility to comply with all other relevant provincial or federal legislation, municipal by-laws, other MNR approvals or required approvals from other agencies. Should any of the project parameters change and/or additional species at risk be found on the subject property, please notify the MNR Aurora District office immediately to obtain advice on whether the changes may require authorization under the *Endangered Species Act, 2007*. Failure to carry out these actions as described above could result in contravention of the *Endangered Species Act, 2007*.

If you have any questions or comments, please do not hesitate to contact me at (905)-713-7369.

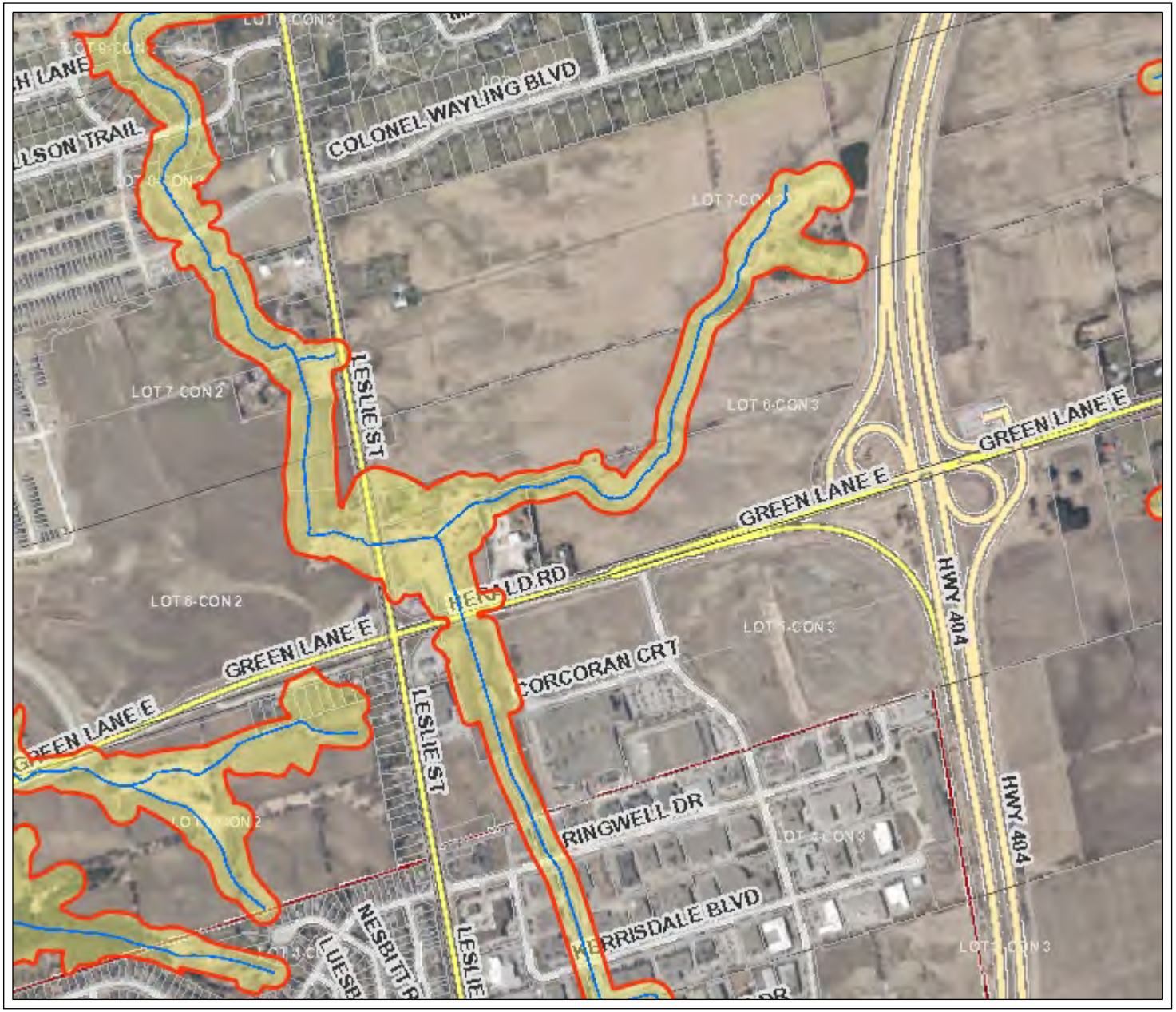
Sincerely,

Megan Eplett

Megan Eplett
Management Biologist
Ontario Ministry of Natural Resources and Forestry, Aurora District

Lake Simcoe Region conservation authority

Parcel 1 Greenlanes Rice Group



Features

- Regulation Map Index
- LSRCA Watershed Boundary
- Lake Simcoe
- Watercourse
- Regulated Area Boundary
- Regulated Area
- Assessment Parcel
- Lot and Concession

Roads

- Hwy 400 Series
- Highway, Arterials
- Local Road

Railway

Printed On:
8/9/2019

WGS_1984_Web_Mercator_Auxiliary_Sphere

Mapped By: BW

Scale 1: 11,846

602 0 301 602 Meters

APPENDIX D – RIVERSTONE SITE PHOTOS 2021

Photo 1. Tributary B along edge of agricultural field (May 16, 2019).

Photo 2. Tributary B prior to entering wetland (May 16, 2019).

Photo 3. Tributary A within wetland (May 16, 2019).

Photo 4. Tributary A including area of erosion within watercourse (May 16, 2019).

Photo 5. Tributary A upstream of wetland, near northern property boundary (May 16, 2019).

Photo 6. Willow species along northern property boundary (October 1, 2021).

Photo 7. Upstream end of Tributary A, north of subject property (August 14, 2019).

Photo 8. Dry conditions in braided channels through shrub thicket (August 14, 2019).

Photo 9. Agricultural field and hedgerow, eastern portion of property (May 29, 2021).

Photo 10. Shrub thicket wetland community with no evidence of flowing water (August 14, 2019).

Photo 11. Agriculture field at Tributary B tile drain (August 10, 2019).

Photograph 12. View of depositional material as Tributary A enters the shrub thicket (August 6, 2009).

Photo 13. Sediment fencing near wetland (May 1, 2021).

Photo 14. Sediment Fecning along Tributary A at norhtern property boundary (May 1, 2021).