



NATURAL HERITAGE EVALUATION  
15123 Woodbine Avenue, Phase 2 Lands  
Town of Whitchurch-Stouffville  
May 2023



RIVERSTONE  
ENVIRONMENTAL SOLUTIONS INC.





# RIVERSTONE

ENVIRONMENTAL SOLUTIONS INC.

May 10, 2023  
RS#2022-088

Limen Group Const. (2019) Ltd.  
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CC: Randy Alcorn randyalcorn@vianet.ca

**SUBJECT: Natural Heritage Evaluation, 15123 Woodbine Avenue, Phase 2 Lands,  
Town of Whitchurch-Stouffville, Region of York**

Dear Amir,

RiverStone Environmental Solutions Inc. (hereafter, "RiverStone") is pleased to provide you with the attached Natural Heritage Evaluation report.

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

Best regards,

RiverStone Environmental Solutions Inc.

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**NON-TECHNICAL SUMMARY**

|                                                     |                                                             |                                                                                                                                                  |
|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Type of Study</b><br>Natural Heritage Evaluation |                                                             | <b>Date</b><br>May 10, 2023                                                                                                                      |
| <b>Project Manager</b><br>Al Shaw                   | <b>Civic Address</b><br>15123 Woodbine Avenue               | <b>Development Proposed</b><br>Two (2) Office Buildings, Industrial Warehouse and Contractors Yard, Phase 2 Development. Official Plan Amendment |
|                                                     | <b>Planning Authority</b><br>Town of Whitchurch-Stouffville | <b>Client / Agent</b><br>SCAL Properties Ltd.<br>/ Randy Alcorn, Alcorn & Associates Limited                                                     |

**Report Summary**

This study has been prepared to assess natural heritage constraints associated with a property described as 15123 Woodbine Avenue in the Town of Whitchurch-Stouffville. It is our understanding that the proponent is completing an application to construct an industrial yard and associated building on Phase 1 of this property.

The subject property for this Natural Heritage Evaluation (NHE) is the Phase 2 portion of 15123 Woodbine Avenue, situated in the planning area of the Greenbelt Plan and Lake Simcoe Protection Plan, in which natural heritage and landform designations may represent constraints to certain development activities. It is our understanding that the Town, Region of York and/or Lake Simcoe Region Conservation Authority requires a Natural Heritage Evaluation be prepared to assess natural heritage features, appropriate feature setbacks, impacts, and general policy conformity.

This Phase 2 NHE report is primarily structured as a retroactive impact assessment, as natural features were removed from the subject property throughout various site alteration activities in 2021. Our assessment, determination of impacts and conclusions were completed through regular discussions with the LSRCA ecologists, planning staff and managers. Based on both a desktop assessment and on-site investigation, RiverStone has determined that one or more key natural heritage features (KNHF) and key hydrologic features (KHF) were present within the subject property prior to site alteration activities. Given that site alteration has already taken place, the proposed works have resulted in the loss of natural heritage features.

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**Appendix 3** Significant Wildlife Habitat Assessment

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## 1 BACKGROUND

RiverStone Environmental Solutions Inc. (hereafter, “RiverStone”) was retained by the Limen Group, through Randy Alcorn, to complete a Natural Heritage Evaluation (NHE) as part of a planning application package to develop the Phase 2 lands with two (2) office buildings and an industrial yard and associated warehouse building on the property described as 15123 Woodbine Avenue, in the Town of Whitchurch-Stouffville (hereafter “subject property”, **Figure 1**).

The Phase 2 property is approximately 4.02 ha in area and was previously agricultural land, although it has been cleared and tilled prior to our field assessment and preparation of this report. The footprint of the proposed Phase 1 and 2 developments would encompass the majority of the property and support intensification in a growing industrial area. This NHE is focussed on Phase 2 of the development with a separate NHE completed for the Phase 1 lands (**Figure 1**).

From a natural heritage perspective, the 4.02 ha Phase 2 property is located within the planning area of the Greenbelt Plan and Lake Simcoe Protection Plan (LSPP), the policies of which have been incorporated into the Town of Whitchurch-Stouffville Official Plan (2000). Within these planning areas, the subject property is contained within a designated settlement area, part of the Vandorf Preston Lake Secondary Plan area. As per Schedule G to the Secondary Plan, the Phase 2 portion of the subject property is designated as Potential Mixed Use Area and Potential Employment Area. Schedule G to the OP contains an environmental protection overlay (i.e., Significant Environmental Area); however, this overlay does not overlap with any portion of the subject property. As per the Region of York’s Official Plan, the subject property is located within the Protected Countryside and Hamlet designations of the Greenbelt (Map 1) and not contained within any applicable Natural Heritage System/Greenland overlay (Map 1C, 4 and 5). The entire Phase 2 site is zoned Development Reserve by the Town Zoning By-law, without any natural feature preservation zoning.

Finally, the subject property is located within the watershed-based regulatory jurisdiction of the Lake Simcoe Region Conservation Authority (LSRCA) as per O. Reg 179/06 under the *Conservation Authorities Act*. The western portion of the Phase 2 lands is contained in an area mapped as being regulated by the LSRCA.

This NHE has been prepared to inform the Town and Region in their review of the planning applications (OPA, ZBA, SPA and Severances) submitted for development approvals on the subject property and to satisfy applicable policies of the Town Official Plan. This NHE has placed a primary focus on a series of unauthorized removals of natural heritage features from the subject property through site alteration activities that took place prior to RiverStone’s assessment and review. Throughout 2022, RiverStone undertook an evaluation of site conditions to estimate the pre-alteration extent of unevaluated wetlands using various resources, including existing aerial photography, Google Street View, and site photographs supplied by LSRCA and members of the project team. Our evaluation also included direct communication with the Ontario Ministry of Natural Resources and Forestry (MNR) regarding potential evaluation of identified wetland features as Provincially Significant Wetland (PSW). Consultations also included staff from the LSRCA, who represented the then technical peer reviewers for the Town and Region. The purpose of this retroactive impact assessment was two-fold: to determine if removed wetland would have constituted PSW, and to inform an evaluation of the removed features under the framework of LSRCA’s Ecological Offsetting Policy (July 2021). Essentially, the outcome of consultation with the LSRCA and MNR was that they believed that the wetland feature should be considered a component of the PSW, and that offsetting was not an acceptable means to mitigate for the unauthorized removal of wetland feature. This

discussion took place prior to the changes of Bill 23 and the related changes to the Ontario Wetland Evaluation System (OWES) manual.

It is our understanding that the planning applications being forwarded to the Town is for an Official Plan Amendment (OPA) to the Town Official Plan. The amendment request is to allow the industrial warehouse and contractors yard use in the eastern portion (0.48 ha) of the Mixed Use designation. Through our review of the Region of York Official Plan, policy 3.4.8 conformity requires consultation with the Region and LSRCA to determine the possibility to remove a wetland feature following the LSRCA Regulation Area Guidelines (removal of wetland and monetary off-setting guideline 8.5). We understand through discussions between Randy Alcorn (Alcorn and Associates Planning), the Regional planners, regarding the proposed Phase 2 development, policy 3.4.8 may be addressed to allow the full employment use and development of these Mixed Use and Employment designated lands, which have been designated as such since 2010 in the Secondary Plan Area. The development plan for the Phase 2 subject lands (**Figure 3**) is proposing to cover a majority of the property with office buildings and associated parking and stormwater management facilities, which would not be possible if the wetland feature were to be replaced in its previous location as may be contemplated by Regional policy 3.4.8. Relief of this policy by the Region would permit the replacement of the wetland feature in another location or as monetary offsetting following LSRCA guidelines.

## **2 APPROACH AND METHODS**

The approach and methods used to carry out this study are detailed in this section and include the following:

1. Gathering background biophysical information for the Study Area to become familiar with existing natural heritage feature mapping and records of features and species of conservation interest prior to the site investigation.
2. Conducting an on-site investigation to field-verify the presence or absence of natural heritage features identified during background information gathering, and to identify any additional significant features (if present).
3. Determining whether implementation of the proposed development plan will result in adverse impacts to natural heritage features, and to identify ways in which such impacts can be mitigated via avoidance, minimization, and/or compensation measures.
4. Providing an assessment of consistency and conformity of the proposed development plan with applicable municipal, provincial, and federal environmental policies.

### **2.1 Background Information Review**

Background biophysical information pertaining to the Subject Property and adjacent lands was collected from a variety of sources. These include:

- **York Region Official Plan (November 4, 2022)**
- **The Town of Whitchurch-Stouffville Official Plan (Consolidated to December 2020)**
- **Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Natural Heritage Areas and Natural Heritage Information Centre (NHIC) database** regarding information on occurrences of SAR and provincially tracked species (squares:

17PJ2874, 17PJ2974); accessed May 16, 2022, at:

[http://www.gisoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](http://www.gisoeapp.lrc.gov.on.ca/Mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US)).

- **Species at Risk (SAR) range maps** (accessed Jan 2022 at: <http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>).
- **Ontario Breeding Bird Atlas (OBBA) database and the Atlas of the Breeding Birds of Ontario, 2001–2005** (Cadman et al. 2007) (squares: 17TPJ27, 17TPJ37; accessed at: <http://www.birdsontario.org/atlas/squareinfo.jsp>).
- **Ontario Reptile and Amphibian Atlas** (accessed at: [http://www.ontarioinsects.org/herpatlas/herp\\_online.html](http://www.ontarioinsects.org/herpatlas/herp_online.html)).
- **Distribution of Aquatic Species at Risk** mapping generated by Fisheries and Oceans Canada in 2015 (accessed at: <http://www.conservation-ontario.on.ca/what-we-do/watershed-stewardship/aquatic-species-at-risk>).
- **Current and historical aerial photographs, York Region.**

## 2.2 Site Investigations

The results of the background review outlined in **Section 2.1** informed the scoping of on-site investigations carried out by RiverStone (April 6, June 23, September 29, 2022). The site investigations occurred in response to notification that the property had been cleared prior to the completion of any site assessment for the NHE and were focused on characterizing and delineating remaining natural heritage features. Overall, the on-site data collection effort was considered appropriate given the general condition of the Subject Property. In general, discrete feature boundaries (if/where present) were delineated with a high-accuracy GPS receiver capable of 2 m accuracy, and all relevant features were photographed and catalogued for inclusion in this report (**Appendix 1**). Existing conditions, as characterized through our on-site assessment, are described in **Section 3**.

### 2.2.1 *Habitat-based Wildlife Assessment*

RiverStone's primary approach to site assessment is habitat- and/or community-based. We first focus on evaluating the potential for significant features and species within an area of interest, prior to undertaking any targeted assessments or surveys. 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 species of turtles use sandy shorelines for nesting, several species of bats use cavity trees as day roosts and maternity sites, certain flora require specific vegetation communities, etc.).

Physical attributes of a site that can be used to assess habitat function include structural characteristics (*e.g.*, age and composition of forest canopy, water depth), ecological community (*e.g.*, meadow marsh, rock barren, coldwater stream), and structural connectivity to other habitat features required by a species of interest or indicator 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), unpublished documents, and direct experience.

### 2.2.2 *Topography, Surficial Geology, & Drainage*

The geophysical setting of the Subject Property was determined using topographic mapping, soils mapping, and aerial photography. Drainage features (where present) were identified through the review of background mapping resources and/or delineated in the field.

### 2.2.3 *Vegetation Communities*

Vegetation communities within the Subject Property were delineated according to Ecological Land Classification (ELC) community tables (Lee et al. 1998). Vegetation communities were delineated via aerial photo, Google Street-view, and photo interpretation. Wetland boundaries were delineated in accordance with documentation provided by the MNRF that was collected during assessment of the Bogart Creek Wetland Complex. Further on-site assessment of topographic conditions and vegetation regeneration assisted in further estimation of wetland limits.

## 2.3 **Key Natural Heritage Feature Assessment**

Provincial and local planning policies employ varying terms for natural heritage features and designations that have recognized ‘statuses’ within the relevant planning jurisdiction. This report refers to relevant features as ‘key natural heritage features’ (KNHF) and ‘key hydrologic features’ (KHF), consistent with the terminology of the Greenbelt Plan and LSPP. RiverStone conducted a review of the background information sources identified in **Section 2.1** to determine if KNHF/KHF have been identified in association with the Subject Property by the province and/or local planning authority. KNHF/KHF recognized under these plans include the following:

- Habitat of endangered and threatened species;
- Fish habitat;
- Wetlands;
- Life science areas of natural and scientific interest (ANSIs);
- Significant valleylands;
- Significant woodlands;
- Significant wildlife habitat (including habitat of special concern species);
- Sand barrens, savannahs and tallgrass prairies;
- Alvars;
- Permanent and intermittent streams;
- Lakes (and their littoral zones); and
- Seepage areas and springs.

RiverStone assesses the potential presence of each of the above KNHF/KHF in accordance with relevant technical guidance documents, including the following:

- *Natural Heritage Reference Manual (NHRM) for the Natural Heritage Policies of the Provincial Policy Statement* (MNRF 2010)
- *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF 2015).

- *Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area (Greenbelt Plan 2005)*

The potential presence/absence of species of conservation interest, such as endangered and threatened species, are assessed using a combination of the background information review outlined in **Section 2.1** and the habitat-based approach outlined in **Section 2.2.1**. Our itemized assessment of KNHF/KHF is provided in **Section 4** of this report.

## **2.4 Impact and Mitigation Assessment**

To carry out a defensible assessment of development suitability and potential development impacts, RiverStone traditionally employs the following approach:

1. *Predict* impacts to identified natural heritage features within the Subject Property based on the proposed development plan (from construction to post-completion), including both direct (*e.g.*, vegetation clearance) and indirect (*e.g.*, light pollution, encroachment post-development) impacts.
2. *Evaluate the significance* of predicted impacts to identified natural heritage features based on their spatial extent, magnitude, timing, frequency, and duration.
3. *Assess the probability or likelihood* that the predicted impacts will occur at the level of significance expected (*e.g.*, high, medium, low probability).

In instances where the potential for negative impacts to natural heritage features exists, mitigation measures are offered to avoid, minimize, and/or compensate for such impacts; however, due to clearing negative impacts have occurred, and compensation measures are required. RiverStone's assessment of both potential and confirmed negative impacts is provided in **Section 5**.

## **2.5 Assessment of Conformance with 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 and conformity with these environmental policies is offered in **Section 6**.

- Town of Whitchurch-Stouffville Official Plan (2020)
- York Region Official Plan (November 4, 2022)
- Lake Simcoe Protection Plan (2009)
- Lake Simcoe Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, O. Reg. 179/06
- Greenbelt Plan (2017)
- Provincial Policy Statement, 2020, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13
- Provincial *Endangered Species Act*, S.O. 2007, c. 6
- Federal *Fisheries Act*, R.S.C. 1985, c. F-14
- Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22

### **3 EXISTING CONDITIONS**

#### **3.1 General Site Conditions and Land-uses**

##### **3.1.1 *Historical Photos***

Review of aerial photographs available through the Region of York, Google streetview, and photographs provided by the LSRCA indicate that the property has a history of use as agricultural land. It previously contained a home, associated structures, and a barn. Identifiable natural features within the Phase 2 lands in the most recent documentation include a wetland feature draining into the adjacent property to the north, fallow fields, and scattered regenerating woody vegetation.

##### **3.1.2 *Site Visits***

At the time of our site visits the entire property was cleared and tilled. The Subject Property was essentially bare soil, with shallow standing water where the wetland had previously been located. The remains of robust emergent vegetation were tilled into the soil surrounding the standing water. The Phase 1 lands (eastern portion of the property), which have been covered in a separate NHE, also contained wetland features that had also been removed. Adjacent lands to the north and east are heavy industrial, and adjacent lands to the west and south are agricultural. The broader landscape is a mix of agricultural fields, subdivisions, and regional forest. Representative photos of site conditions are contained in **Appendix 1**.

#### **3.2 Topography, Physiography, & Drainage**

Topography across the Subject Property is composed of low, rolling hills. These landscape conditions are typical of the Oak Ridges Moraine landform to the immediate south, with rolling hills composed of well-draining, sand-dominant loams. The slopes within the Subject Property are not associated with defined valley features or watercourse corridors. The Subject Property does not contain any defined drainage features.

#### **3.3 Vegetation Characteristics**

A desktop exercise was undertaken to map historical vegetation community boundaries in the Subject Property using background information sources and current aerial photographs. Given the lack of natural vegetation, the following sections provide general vegetation community descriptions based on this background information. Interpretive vegetation community mapping in accordance with Lee et al. (1998) is provided on **Figure 2**.

##### **3.3.1 *Subject Property***

As previously discussed, prior to clearing the property was agricultural lands containing a home, barn, and outbuildings. Natural vegetation communities and plant assemblages were likely absent, and the Subject Property would likely be classified as CUM1-1 Dry-Moist Old Field Meadow Type (**Figure 2**). Prior to clearing the Subject Property had not been farmed for some time and had begun to regenerate. Semi-mature and mature trees were scattered across the Subject Property and were clustered around the home and barn. From Google Street View and photos provided by the LSRCA it appears that tree species within the Subject Property included Sugar Maple (*Acer saccharum*), Scots Pine (*Pinus sylvestris*), White Birch (*Betula papyrifera*), and Spruce sp. Understory species that can be identified include Common Buckthorn (*Rhamnus cathartica*), *fruiting shrub* sp, Red-osier Dogwood

(*Cornus sericea* ssp. *sericea*), Reed Canary Grass (*Phalaris arundinacea*), Willow (*Salix* sp.), Wild Red Raspberry (*Rubus sachalinensis* var. *sachalinensis*), River Grape (*Vitis riparia*), European Common Reed (*Phragmites australis*), Symphyotrichum sp, Goldenrod sp, and Burdock sp.

### 3.3.2 *Directly Adjacent Lands (30 m)*

As noted above, the property is surrounded by industrial and agricultural lands. Some hedgerow trees remain between the Subject Property and adjacent properties and are mainly Sugar Maple and Common Buckthorn. Agricultural areas adjacent to the Subject Property are used for row crops.

### 3.3.3 *Local Landscape*

Based on aerial photo interpretation, the local landscape contains several industrial and agricultural properties, with scattered commercial and residential properties. Vegetation characteristics appear to be a continued mix of native and non-native species associated with developed areas. The broader landscape includes existing urban features and subdivisions of varying density, as well as components of the Bogart Creek Wetland Complex.

## 4 KEY NATURAL HERITAGE/HYDROLOGIC FEATURE ASSESSMENT

Based on the biophysical information collected during background information gathering and the results of RiverStone's on-site investigation, the following sections provide a review of the various KNHF/KHF that are defined under the Greenbelt Plan and LSPP and their applicability as a potential constraint to the proposed development. RiverStone's rationale for identifying features as applicable or non-applicable, as well their extent, is provided accordingly. Mapping of identified feature limits is depicted on **Figure 2**.

### 4.1 Habitat of Endangered and Threatened Species

To assess the potential presence of individuals and/or habitat for endangered and threatened species within the study area, RiverStone staff conducted the following:

- Review of the list of species designated as endangered and threatened in Ontario, as per Schedules 2 and 3 of Ontario Regulation 230/08 [(Species at Risk in Ontario List (SARO List)], located here: <https://www.ontario.ca/laws/regulation/080230>. In our experience, the potential presence of most provincially endangered and/or threatened species can be ruled out based on their limited geographical ranges in the province and/or a lack of specific habitat conditions which they require to carry out key life processes.
- Reviewed the NHIC database for existing records of element occurrences for endangered or threatened species (data square 17PJ2368). Databases of iNaturalist, OBBA, and ORAA were also reviewed as of Feb 2023.
- On-site investigation undertaken in 2022, during which vegetation conditions were characterized for detailed habitat-based assessment.

Information from the above assessment process was used to inform a site-specific screening, as contained in **Appendix 2**. Through this screening, the species discussed below were identified as having the potential to be present within the subject property or directly adjacent lands. Where relevant, potential development-related impacts to these species are discussed further in **Section 5.1**.

#### 4.1.1 Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*)

NHIC records indicate that both Bobolink and Eastern Meadowlark have been recorded within the data square encompassing the Subject Property. Bobolink and Eastern Meadowlark are grassland obligate bird species that both forage and nest within grasslands, pasturelands, and hay fields. Review of historic imagery and photographs for the subject property indicates that functional habitat for these species may have been present prior to disturbance. Typically, a breeding bird survey would be conducted to confirm the presence or absence of these species where development may impact potentially suitable habitat; however, the current lack of vegetation means that there is presently no habitat for them to occupy. In discussion with the LSRCA, it was decided that breeding bird surveys were not appropriate for this NHE.

#### 4.2 Fish Habitat

No features with the potential to support fish habitat were identified within the Subject Property or adjacent lands during RiverStone's on-site assessment and background information review. No further assessment was undertaken.

#### 4.3 Wetlands

Through RiverStone's background information review, as well as consultation with LSRCA and MNRF, it was determined that the subject property likely supported one (1) individual wetland community (see **Figure 2**). This feature appeared to have extended as a narrow community from the southern property boundary toward the north where it widened to the east of the adjacent automotive property. At the time of our site investigation, the wetland vegetation had been removed by clearing and tilling of the property. Importantly, it is likely that all of this features experienced periodic alteration through past agricultural activities, meaning that stable wetland vegetation may have only formed very recently following retirement of the field. This is noted during a review of historical aerial photographs. These conditions are very similar to wetland features noted on the adjacent Phase 1 lands to the east. The difference is that the wetland feature on the Phase 2 lands drains to the north onto the adjacent property before draining further under Woodbine Ave toward the west and then north.

As previously noted, wetland vegetation assemblages have been removed on the Phase 2 lands as well, by clearing and tilling of the property. The location of the wetland continues to contain standing water during rain events and in spring and late fall conditions. This is possibly due to the blocked culvert under Woodbine Avenue. This wetland feature is hydrologically connected to the PSW via culverts under Woodbine Avenue and Aurora Road. This wetland also appears to have been plowed as part of historical farming and had begun to recover after plowing ceased. Despite alteration activities that occurred on site within the past, vegetation regeneration appears to show consistent re-growth of wetland indicative plants (e.g., Broad-leaved Cattail) within and up to the limits of the delineated wetland polygon.

A assessment of soils was also undertaken by digging shallow test pits in both the larger lobe of the wetland to the north and the narrow portion toward the access road and southern boundary. Soils on site are described as a deep mineral composition, with no accumulation of organic materials. Indications of 'hydric' (wetland) conditions within deep mineral soils include discolorations known of mottling or gleying, which occur at various depths depending on the composition of the soil (e.g., sand, silt, clay, loam). A standardized key is used to determine the depth threshold at which mottling or gleying indicates hydric soils for each type of mineral soil. It was noted that the soils within the

wetland polygon exhibited evidence of very shallow mottling, indicating a seasonally-high water table and the presence of hydric soils (soil moisture regime of 6).

Review of the NHIC database indicates that the nearest wetland feature not within the Subject Property, excluding the wetlands in the Phase 1 lands, is the Bogart Creek Wetland Complex. While wetlands in the Subject Property have not been assessed as provincially significant, the Bogart Creek Wetland Complex is a PSW. The wetland on the Subject Property is approximately 450m away from this PSW (**Figure 2**), which is within the distance threshold for potential inclusion/complexing of on-site wetlands with the existing PSW. The Phase 2 wetland is approximately 0.77 ha in area, which is above the minimum size threshold for complexing as recommended by OWES.

Through discussions with LSRCA and MNRF, it was their opinion that the wetland unit on the Phase 2 lands should be “complexed” as part of the PSW due to its hydrologic connection. No particular component of the feature or specific function was noted beyond its hydrologic connection to the downstream PSW. Following our consultation with LSRCA and the MNRF, changes to the OWES manual were instituted by the Provincial Government with immediate effect. As of January 2023, the process of “complexing” has been removed from the OWES guidelines, meaning that all wetland polygons must be evaluated for significance on an individual basis. The application to these changes to the subject property and wetland, is that it would not be possible for the wetland unit in question to become part of the adjacent PSW. Based on our assessment and reasonable expectation of previous condition, the wetland on the subject property is a local wetland and not a PSW.

To summarize, the wetland feature on the subject lands is undoubtedly classified as a wetland, despite the vegetation removal and tilling of the soil. The boundaries of this feature are reasonably represented by existing provincial wetland mapping. In our opinion, the feature is not representative of a PSW, and there is no clear rationale as to why the feature must be or should be evaluated under OWES. On the contrary, based on OWES guidance and criteria, the wetland does not warrant evaluation due to its small size. Notwithstanding, we acknowledge and highlight that even as a non-significant feature, the wetland is a feature considered under regional policy as well as LSRCA’s regulation under the *Conservation Authorities Act*.

#### **4.4 Areas of Natural and Scientific Interest (Life Science)**

It is the responsibility of the NDMNRF to designate and administer mapping for areas of natural and scientific interest (ANSIs). Based on available background mapping, no ANSIs have been identified in the Subject Property or adjacent lands. No further assessment was undertaken.

#### **4.5 Significant Valleylands**

Significant valleylands represent valleys or other landform depressions that are generally associated with the valley of a watercourse or drainage feature. These features have recognized significant attributes, such as supporting natural vegetation cover with associated ecological linkages and corridors. Designation of significant valleylands is ultimately the responsibility of the relevant planning authority; however, site-specific designation of these feature can be undertaken using standardized criteria endorsed by the province and/or the planning authority. In this case, the Town OP does not designate significant valleylands and these features are to be identified using criteria established by the Province on a case-by-case basis.

No significant valleylands were identified on the subject property during background information review and the topographic features and drainage required for significant valleylands are not present. Based on the above, it is our opinion and understanding that the Subject Property is not contained within or associated with a significant valleyland. No further assessment was undertaken.

#### **4.6 Significant Woodlands**

Significant woodland features represent areas of forested cover with recognized significant attributes, such as large contiguous blocks of woodland, woodlands with unique characteristics, and/or woodlands that support economic values, cultural values, or other ecosystem services. Current standard methods for identifying significant woodland features are largely dependent on measuring the size of ‘patches’ of contiguous woodland cover. Individual patches are then compared against minimum patch size thresholds that vary depending on the jurisdiction or the location context (e.g., inside or outside of a settlement area). It is generally the responsibility of the applicable planning authority to designate significant woodland on a comprehensive basis; however, where appropriate, site-specific designation of these features can also be undertaken using standardized criteria endorsed by the province and/or the planning authority.

Determination of woodland significance is often completed on a comprehensive basis by planning authorities, or it may be a component of a site-specific assessment. In either case, this is generally a simpler process in comparison to the OWES manual assessment for wetland significance. Multiple technical criteria are available to assess woodland significance within the overlapping planning jurisdictions in which the property is located. For example, the Lake Simcoe Protection Plan (LSPP) and Greenbelt Plan both provide criteria for assessing woodland significance within their respective plan coverage areas. The Region of York Official Plan (2022) also provides a set of specific criteria in this regard. In our opinion, the Region’s criteria are most applicable in this scenario as this is the most current document and the most specific from a jurisdictional perspective. The Region’s criteria for assessing woodland significance are stated as follows:

*Section 3.4.30: That significant woodlands be verified on a site-by-site basis and shall include those woodlands meeting one of the following criteria:*

*a. Is 0.5 hectares or larger and:*

- i. directly supports globally or provincially rare plants, animals or communities as assigned by the Natural Heritage Information Centre; or,*
- ii. directly supports threatened or endangered species, with the exception of specimens deemed not requiring protection by the Province (e.g. as is sometimes the case with Butternut); or,*
- iii. is within 30 metres of a provincially significant wetland or wetland including those identified on Map 4, waterbody, permanent stream or intermittent stream;*

*b. Is 2 hectares or larger and:*

- i. is located outside of the Urban Area, Towns and Villages, or Hamlets and is within 100 metres of a Life Science Area of Natural and Scientific Interest, a provincially significant wetland or wetland including those identified on Map 4, significant valleyland, or fish habitat; or,*
- ii. occurs within the Regional Greenlands System;*

*c. Is south of the Oak Ridges Moraine and is 4 hectares or larger in size;*

- d. Is north of the Oak Ridges Moraine and is 10 hectares or larger in size;*
- e. On the Oak Ridges Moraine the woodland will be evaluated for significance based on the requirements of the Oak Ridges Moraine Conservation Plan and associated technical papers; or,*
- f. On lands in the Greenbelt Natural Heritage System, the woodland will be evaluated for significance based on the requirements of the Greenbelt Plan and associated technical papers; or,*
- g. On lands in the Lake Simcoe watershed, outside of the Greenbelt, the Oak Ridges Moraine Conservation Plan, and existing settlement areas, the woodland will be evaluated for significance based on the requirements of the Lake Simcoe Protection Plan and associated technical papers.*

Based on a review of 2021 aerial imagery, we estimate that the total area of the woodland patch on the subject property (prior to removal) was approximately 0.8 ha. This area exceeds the 0.5 ha size threshold in Subsection (a) cited above; however, in addition to being >0.5 ha, a woodland patch must satisfy one of three additional criteria, including supporting a rare species or plant community, threatened or endangered species, or be within 30 m of a key hydrologic feature (e.g., wetland). We can reasonably confirm that the nearest identified wetland community (the same discussed in the sections above) was approximately 60 m from the woodland patch. Additionally, it is our opinion that this small woodland patch would be highly unlikely to support any rare or at-risk species. This position is based on the assumed composition of the feature, which appeared to represent a successional community surrounding a former agricultural homestead (as per York Region historical imagery set). Given the small size of the woodland patch and clear history of disturbance, there is no expectation that this feature supported any rare or at-risk species or vegetation communities.

Furthermore, Subsections (b)-(g), inclusive, are not considered applicable to woodlands on the subject property, as the property is not within the Oak Ridges Moraine Conservation Plan area, not within the Greenbelt Natural Heritage System, is within an existing settlement area (hamlet), and is of insufficient size to trigger review of these criteria. Based on the information available and our interpretation of the removed woodland patch, we are confident that this feature would not have qualified as a significant woodland prior to its removal.

#### **4.7 Significant Wildlife Habitat**

SWH represents a range of habitat features that are recognized as providing specialized or otherwise important functions for various forms of wildlife. Designation of confirmed SWH is ultimately the responsibility of the relevant planning authority, and it is our understanding that no specific SWH designations have been applied to the Subject Property. Notwithstanding, it is recognized that SWH features and functions are generally impractical to identify and designate on a broad scale, and candidate SWH can be identified on a site-specific basis. To ensure due diligence in this regard, RiverStone has reviewed applicable technical guidance for the identification of specific SWH features and functions as contained in the SWH Criteria Schedules for Ecoregion 6E (MNRF 2015). A preliminary assessment of the criteria schedules was undertaken to support this assessment (**Appendix 3**), with results indicating that SWH is not present in the Subject Property. The Subject Property is not large enough to provide sufficient hectares of habitat for those habitats to be considered significant.

However, the Subject Property likely previously contained habitat for ‘Special Concern and Rare Wildlife Species’, discussed below.

#### **4.7.1 *Special Concern and Rare Wildlife Species***

RiverStone staff have conducted a review of the list of species designated as special concern in Ontario, as per Schedule 4 of Ontario Regulation 230/08, located here:

<https://www.ontario.ca/laws/regulation/080230>. Through a review of background information, as well as application of staff knowledge and experience, RiverStone noted the following special concern and/or rare wildlife species as being potentially previously present within the Subject Property:

##### **4.7.1.1 Canada Warbler**

NHIC’s database contains a record of element occurrence for Canada Warbler associated with the data square adjacent to the Subject Property. Canada Warblers utilize shrub thicket swamps for breeding and foraging and may have been present in the wetland in the Subject Property. This cover also occurred on the eastern side of the Phase 1 lands, and is present adjacent to the Subject Property. Based on our assessment of historical on-site conditions, it is possible that functional habitat was previously present in the Subject Property, but is not present at this time.

##### **4.7.1.2 Grasshopper Sparrow**

NHIC’s database contains a record of element occurrence for Grasshopper Sparrow associated with the data square encompassing the Subject Property. Grasshopper Sparrows are an open habitat species that nest in grasslands (prairies, hayfields, pastureland, etc.) that are at least 6 ha in area, surrounded by other grasslands. They will also use shallow, well vegetated wetlands as foraging and nesting sites. Both habitats were historically present in the Subject Property, and it is possible that functional habitat for Grasshopper Sparrow was present in the Subject Property and/or adjacent lands.

##### **4.7.1.3 Monarch (*Danaus plexippus*)**

Monarch are ubiquitous within any open and successional habitats (e.g., meadows, roadsides, woodland edges) where their host plant, Milkweed (*Asclepias* spp.), occurs. Additionally, the Toronto Entomologists’ Association Ontario Butterfly Atlas includes records of Monarch for the data square encompassing the Subject Property. It is likely that suitable habitat was present on the Subject Property and/or adjacent lands given the presence of milkweed on the property.

##### **4.7.1.4 Barn Swallow (*Hirundo rustica*)**

OBBA records indicate that Barn Swallow are present within the area, both within the data square encompassing the Subject Property and in adjacent squares. Barn Swallow are commonly encountered foraging in open habitats, including open fields and wetlands. Nesting colonies of Barn Swallow often utilize old barns such as the one located immediately north of the Phase 2 lands. Based on our assessment of historical on-site habitat conditions, there was functional habitat for Barn Swallow foraging associated with the Subject Property and directly adjacent lands; however, as discussed above, breeding bird surveys to confirm their presence were not completed as part of this NHE and it is not possible to determine if the removed structures were active with Barn Swallows.

#### **4.8 Sand Barrens, Savannas, and Tallgrass Prairies**

No vegetation communities representing sand barrens, savannas, or tallgrass prairies were identified in the Subject Property or adjacent lands during RiverStone's on-site assessment or background information review. No further assessment was undertaken.

#### **4.9 Alvars**

No vegetation communities representing alvars were identified in the Subject Property or adjacent lands during RiverStone's on-site assessment or background information review. No further assessment was undertaken.

#### **4.10 Permanent & Intermittent Streams**

No drainage features were identified in the Subject Property during RiverStone's on-site assessment and background information review. No further assessment was undertaken.

#### **4.11 Lakes and their Littoral Zones**

No lakes were identified in the Subject Property or adjacent lands during RiverStone's on-site assessment or background information review. No further assessment was undertaken.

#### **4.12 Seepage Areas and Springs**

No seeps or springs were identified in the Subject Property or adjacent lands during RiverStone's on-site assessment or background information review. No further assessment was undertaken.

#### **4.13 Key Natural Heritage/Hydrologic Feature Summary**

Based on our review of background materials and assessment of natural heritage information collected on site, RiverStone has determined that the features listed below are relevant as a potential constraint to development within the Subject Property:

- Wetlands
- Potential occurrences of individuals of endangered and/or threatened species (grassland birds,)
- Potential occurrences of individuals of special concern and/or rare wildlife species (Canada Warbler, Grasshopper Sparrow, Monarch, Barn Swallow)

### **5 IMPACT ASSESSMENT & MITIGATION PLANNING**

It is our understanding that the development proposal includes construction of office buildings and associated parking, stormwater management, landscaping, and a small industrial warehouse and contractor's yard that would encompass the majority of the Phase 2 lands (**Figure 3, Appendix 4**). As previously discussed, prior to site clearing KNHFs were confirmed or found likely to be present within the Subject Property. The following sections outline how the proposed development may compensate for current impacts to KNHFs, and mitigation measures to avoid or minimize potential future impacts.

## 5.1 Habitat of Endangered and Threatened Species

### 5.1.1 *Bobolink and Eastern Meadowlark*

Areas of identified habitat for any endangered or threatened species are protected from destruction as per Section 10 of the ESA. Additionally, individuals of endangered or threatened species cannot legally be killed, harmed, or harassed as per Section 9 of the ESA. Due to clearing occurring outside of the breeding season, killing, harming, and harassing did not occur. Additionally, because habitat is no longer present it is not possible to confirm that the habitat was suitable or that these species were using habitat in the Subject Property. RiverStone cannot conclusively say that clearing of the Subject Property resulted in contravention of the ESA, but that there is potential for contravention to have occurred. Without confirmation of the presence/absence of these species, RiverStone is not able to make recommendations regarding potential requirements for habitat offsetting or other measures related to ESA authorizations/exemptions.

Because all potential habitat has been removed from the Subject Property future impacts are not possible to discern, and due to the scale of proposed development, all natural habitats would be eliminated. RiverStone would have suggested a timing window for clearing be observed to avoid potential impacts to grassland birds and clearing did occur during this window. Therefore, RiverStone does not anticipate any negative impacts to occur during future development.

## 5.2 Wetlands

Generally, wetlands receive protection from development and site alteration under one or more planning policies applicable to the jurisdiction and application. A single wetland polygon was interpreted to be present within the subject property prior to site alterations. We do not expect that a proposal to remove this feature will conform to applicable policies. In particular, policy 3.4.8 of the York Region Official Plan states that it is the policy:

*3.4.8 To prohibit removal, in whole or in part, of a key natural heritage feature or a key hydrologic feature by unauthorized development or site alteration. Areas where an unauthorized removal has occurred shall continue to be subject to the policies of the Plan as if the feature was still in place. Impacted areas shall be restored to the previous condition or better.*

As noted in the introduction to this NHE, discussions with the Region regarding Official Plan Policy 3.4.8 may be addressed to allow the full employment use and development and to address unauthorized removal of the wetland feature on the Phase 2 lands according to the LSRCA Ecological Offsetting Policy, Cash-in-Lieu and Regulation Area Permit Guidelines Section 8.5. If the ROPA for this policy is granted, the development as planned can proceed with the wetland feature and function loss being replaced through ecological offsetting.

Given the discussions above regarding the Regional review of the planning applications to the Town and the LSRCA Ecological Offsetting the loss of the wetland feature and its vegetation protection zone, RiverStone provides the following recommendations regarding development on Phase 2 lands, specifically the wetland feature and its compensation.

- **Should the ROPA be granted, discussions with the Region, Town and LSRCA regarding compensation for the Phase 2 wetland should continue to finalize the cash-in-lieu requirements.**

- **Consideration of wetland compensation should be reviewed in the context of the watershed and the adjacent Bogart Creek Provincially Significant Wetland.**
- **Any wetland cash-in-lieu compensation, should promote the expansion and/or protection of wetlands associated with the adjacent Bogart Creek Provincially Significant Wetland located to the north of Aurora Road.**

### 5.3 **Significant Wildlife Habitat**

#### 5.3.1 ***Habitat of Special Concern and Rare Wildlife Species***

Species of Special Concern are not afforded habitat protection under the ESA. However, impacts to their habitat are still considered within the scope of this NHE. It is RiverStone's opinion that the Subject Property may have provided habitat for one or more species of Special Concern prior to site alteration activities. We note that this clearing occurred within the timing window RiverStone would have suggested to avoid negative impacts to these species (i.e., outside of the active season). Given that the property has been significantly altered, future impacts during development are not anticipated. Therefore, RiverStone does not have any further recommendations to protect Special Concern species or their habitat.

## 6 **CONFORMANCE WITH APPLICABLE ENVIRONMENTAL POLICIES**

The following sections summarize the relevant federal, provincial, and municipal environmental policies that are applicable to the proposed development application.

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

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

Restricting clearing of any vegetation for any current or future proposed development to times outside of the period of April 15 to August 31 inclusive, will prevent contravention of Section 6 of the regulations. As previously noted, clearing of the site occurred outside of this period. Due to the thoroughness of site clearing there is no habitat left to remove and future development will not need to adhere to this window.

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

The Provincial Policy Statement (PPS) is promulgated under the *Planning Act* and provides direction to municipalities on matters of provincial interest related to land-use planning. The PPS was updated in 2020. Municipal OP's must be consistent with the PPS. Key natural heritage-related provisions of the PPS, as assessed in this report, are listed below:

#### **2.1.4 Development and site alteration shall not be permitted in:**

- a) significant wetlands in Ecoregions 5E, 6E, and 7E1; and

b) significant coastal wetlands.

**2.1.5** Development and site alteration shall not be permitted in:

- a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E<sup>1</sup>;
- b) significant woodlands in Ecoregions 6E and 7E;
- c) significant valleylands in Ecoregions 6E and 7E;
- d) significant wildlife habitat;
- e) significant areas of natural and scientific interest; and
- f) coastal wetlands in Ecoregions 5E, 6E and 7E<sup>1</sup> that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be *no negative impacts on the natural features or their ecological functions*.

**2.1.7** Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

**2.1.8** Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Through retroactive mitigation planning, including measures for ecological offsetting, it is our opinion that the proposed development can be accomplished in a manner that is consistent with the policies of the PPS.

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

The 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). Our assessment determined that the Subject Property likely supported functional habitat for endangered and threatened species; however, it is no longer possible to confirm use of the area by these species. Clearing occurred during timing windows that would have been proposed as mitigation measures for development. Therefore, it is RiverStone's opinion that implementation of the proposed development will not result in negative impacts to endangered and threatened species or their habitat. On this basis, there is no expectation that the proposed development will result in contravention of the ESA. It is noted that this assessment does not represent 'clearance' with respect to ESA compliance. It remains a proponent's continued and sole responsibility to ensure that a project does not result in a contravention to the ESA.

### **6.4 Lake Simcoe Protection Plan (2009)**

The Subject Property is located within the authority of the Lake Simcoe Protection Plan. Natural heritage-related policies and provisions of the LSPP are provided as follows:

#### **Key Natural Heritage Features**

**6.21-DP** Key natural heritage features are *wetlands, significant woodlands, significant valleylands* and natural areas abutting Lake Simcoe.

**6.22-DP** Key hydrologic features are *wetlands, permanent and intermittent streams, and lakes* other than Lake Simcoe

**6.23-DP** *Development or site alteration* is not permitted within a key natural heritage feature, a key hydraulic feature and within a related vegetation protection zone referred to in policy 6.24, except in relation to the following:

- a. Forest, fish, and wildlife management;
- b. Stewardship, conservation, restoration and remediation undertakings;
- c. *Existing uses* as specified in policy 6.45;
- d. Flood or erosion control projects but only if the projects have been demonstrated to be necessary in the public interest after all alternatives have been considered;
- e. Retrofits of existing *stormwater management works* (i.e. improving the provision of stormwater services to existing *development* in the watershed where no feasible alternative exists) but not new *stormwater management works*;
- f. New *mineral aggregate operations* and wayside pits and quarries pursuant to policies 6.41 – 6.44;
- g. *Infrastructure*, but only if the need for the project has been demonstrated through an Environmental Assessment of other similar environmental approval and there is no reasonable alternative; and
- h. Low-intensity recreational uses that require very little terrain or vegetation modification and few, if any, buildings or structures, including but not limited to the following:
  - i. non-motorized trail use;
  - ii. natural heritage appreciation;
  - iii. unserviced camping on public and institutional land; and
  - iv. accessory uses to existing buildings or structures.

**6.24-DP** The minimum vegetation protection zone for all key natural heritage features and key hydrologic features is the area within 30 metres of the key natural heritage feature and key hydrologic feature, or larger if determined appropriate by evaluation required by policy 6.25.

**6.25-DP** An application for *development or site alteration* within 120 metres of a key natural heritage feature or key hydrologic features shall be accompanied by a natural heritage evaluation meeting the requirements of policy 6.26, unless the *development or site alteration* is for a purpose specified by policy 6.23.

**6.26-DP** A natural heritage evaluation referred to in policies 6.3 and 6.25 shall be carried out in accordance with guidelines developed by the MNR and shall:

- a. demonstrate that the *development* or *site alteration* applied for will have no *adverse effects* on the key natural heritage feature, key hydrologic feature, Lake Simcoe and its associated vegetation protection zone, or on the related *ecological functions*;
- b. identify planning, design and construction practices that will maintain and, where feasible, improve or restore the health, diversity and size of the key natural heritage feature or key hydrologic feature and its *connectivity* with other key natural heritage features or key hydrologic features as well as *connectivity* and linkages to natural heritage systems identified in Provincial Plans or by municipalities, the LSRCA or MNR;
- c. demonstrate how *connectivity* within and between key natural heritage features and key hydrologic features will be maintained and, where possible, improved or restored before, during and after construction to allow for the effective dispersal and movement of plants and animals;
- d. determine if the minimum vegetation protection zone is sufficient to protect the *ecological functions* of the feature and the area being evaluated, in particular where this feature or area is adjacent to a coldwater stream, headwaters, freshwater estuaries, steep slope or is acting as or has been identified as a wildlife corridor to ensure that the area will continue to effectively act and function as a wildlife corridor;
- e. determine if the minimum vegetation protection zone is sufficient to protect areas adjacent to existing features that would be appropriate for restoration or renaturalization to enhance the ecological functioning of that feature, such as lands that provide for rounding out or filling of gaps in *significant woodlands*; and
- f. if the minimum vegetation protection zone is not sufficient to protect the function of the feature or protect opportunities for feature enhancement, specify the dimensions of the required vegetation protection zone.

**6.27-DP** A proposal for *new development* or *site alteration* within 120 metres of the *Lake Simcoe shoreline*, a key natural heritage feature or key hydrologic feature shall provide for the establishment and maintenance of *natural self-sustaining vegetation* to the extent and width of the associated vegetation protection zone required by the policies in this Chapter, except in relation to uses and structures in the vegetation protection zone that are permitted by the policies of this Chapter.

**6.28-DP** Where, through an application for *development* or *site alteration*, a buffer or vegetation protection zone is required to be established as a result of the application of the policies in this Plan, the buffer or vegetation protection zone shall be composed of and maintained as *natural self-sustaining vegetation*.

**6.29-DP** If the *natural self-sustaining vegetation* is removed along the *Lake Simcoe shoreline*, from a key natural heritage feature, a key hydrologic feature or from any related vegetation protection zone, as a result of any *development* or *site alteration* permitted under the policies 6.1, 6.23, 6.43, and 6.45, the *natural self-sustaining vegetation* shall be re-established to the extent feasible following completion of that activity.

Based on our assessment, it is RiverStone's opinion that the clearing was not consistent with the LSPP policies outlined above regarding protection of ecological and hydrological integrity of the Lake

Simcoe watershed. Notwithstanding previous site alteration activities, wetland/habitat offsetting measures are recommended to promote a development scenario that meets the intent of these policies.

## 6.5 Greenbelt Plan (2017)

The Subject Property is located within the Greenbelt Area, which contains policies regarding key natural heritage features and key hydrologic features. The following policies apply:

1. *Development or site alteration* is not permitted in *key hydrologic features* and *key natural heritage features* within the Natural Heritage System, including any associated *vegetation protection zone*, with the exception of:
  - a) Forest, fish and wildlife management;
  - b) Conservation and flood or erosion control projects, but only if they have been demonstrated to be necessary in the public interest and after all alternatives have been considered; or
  - c) *Infrastructure*, aggregate, recreational, shoreline and *existing uses*, as described by and subject to the policies of section 4.
2. Beyond the Natural Heritage System within the Protected Countryside, *key hydrologic features* are defined by and subject to the policies of section 3.2.5.
3. Beyond the Natural Heritage System within the Protected Countryside, *key natural heritage features* are not subject to the policies of section 3.2.5, but are to be defined pursuant to, and subject to the policies of, the PPS.
4. In the case of *wetlands, seepage areas and springs, fish habitat, permanent and intermittent streams, lakes and significant woodlands*, the minimum *vegetation protection zone* shall be a minimum of 30 metres measured from the outside boundary of the *key natural heritage feature* or *key hydrologic feature*.
5. A proposal for *new development or site alteration* within 120 metres of a *key natural heritage feature* within the Natural Heritage System of a *key hydrologic feature* anywhere within the Protected Countryside requires a natural heritage evaluation or a hydrological evaluation which identifies a *vegetation protection zone* which:
  - a. Is of sufficient width to protect the *key natural heritage feature* or *key hydrologic feature* and its functions from the impacts of the proposed change and associated activities that may occur before, during and after construction and, where possible, restore or enhance the feature and/or its function; and
  - b. Is established to achieve and be maintained as *natural self-sustaining vegetation*.
6. A proposal for *new development or site alteration* within the Natural Heritage System is not subject to section 3.2.5.5 where the only *key natural heritage feature* is the *habitat of endangered species and threatened species*.

Based on our assessment, it is RiverStone's opinion that the clearing was not consistent with and does not meet the intent of the Greenbelt Plan policies outlined above regarding protection of ecological and hydrological integrity of the Greenbelt Area. Notwithstanding previous site alteration activities, wetland/habitat offsetting measures are recommended to promote a development scenario that meets the intent of these policies.

## **6.6 Lake Simcoe Region Conservation Authority Regulation 179/06, pursuant to the Conservation Authorities Act, R.S.O. 1990**

LSRCA's regulatory jurisdiction extends to areas within and adjacent to valley and stream corridors, shorelines, hazard lands (*i.e.*, floodplains, valley slopes), watercourses, and wetlands as provided under O. Reg. 179/06 of the *Conservation Authorities Act, 1990*. It is our understanding that a permit from LSRCA under O. Reg. 179/06 is required to facilitate the proposed development and was not obtained prior to site clearing. The details contained in this report are intended to facilitate review by LSRCA staff for the purposes of permitting and as a guide for compensation.

An application to the LSRCA for a Development, Interference with Wetlands and Alteration to Shoreline and Watercourses Regulation would be applicable. In particular, Sections 8.3 and 8.5 of the Implementation Guidelines would direct the review of wetland removal and compensation. The development proposal notes that the plan will result in the loss of the already impacted wetland feature, and compensation can be considered, through consultation with the Region and LSRCA as discussed in the background section of this report.

## **6.7 York Region Official Plan (November 4, 2022)**

The subject property is subject to policies within the York OP, specifically policies governing wetlands and KNHF/KHF.

### **3.4 Natural Features**

3.4.1 That key natural heritage features and key hydrologic features within York Region include:

- a. Habitat of endangered and threatened species;
- b. Fish habitat;
- c. Wetlands;
- d. Life Science Areas and Earth Science Areas of Natural and Scientific Interest (ANSI's);
- e. Significant valleylands;
- f. Significant woodlands;
- g. Significant wildlife habitat (including habitat of special concern species);
- h. Sand barrens, savannahs and tallgrass prairies;
- i. Lakes and their littoral zones;
- j. Permanent and intermittent streams;
- k. Kettle lakes;
- l. Seepage areas and springs; and
- m. Lake Simcoe Shoreline

3.4.3 That key natural heritage features and key hydrologic features in policy 3.4.1 shall be identified and confirmed in accordance with criteria contained within the Plan or, where Regional criteria are not provided, using procedures established by the Province, where applicable.

3.4.5 To prohibit development and site alteration within key natural heritage features, key hydrologic features, vegetation protection zones and adjacent lands, unless:

- a. The use is permitted by the Plan, the applicable Provincial Plan and it is demonstrated through an environmental impact study that the development or site alteration will not result in a negative impact on the natural feature or its ecological functions; or,
- b. As authorized through an Environmental Assessment; or
- c. For agricultural, agriculture-related and on-farm diversified uses, subject to the applicable Provincial plan.

3.4.7 That key natural heritage features and key hydrologic features shall be precisely delineated on a site-by-site basis using procedures established by the Province or other authorities, where applicable. Such delineation shall occur through the approval of Planning Act applications supported by appropriate technical studies such as master environmental servicing plans or environmental impact study(ies). Where such delineation refines boundaries shown on related maps within the Plan, updates to these maps can occur without an amendment to the Plan.

3.4.8 To prohibit removal, in whole or in part, of a key natural heritage feature or key hydrologic feature by unauthorized development or site alteration. Areas where an unauthorized removal has occurred shall continue to be subject to the policies of the Plan as if the feature was still in place. Impacted areas shall be restored to previous condition or better.

This policy is the subject of the application and preconsultation with the Region and LSRCA, which is seeking to allow monetary compensation for the unauthorized removal of a wetland on this property in regard to LSRCA Regulation Area Guideline policy 8.5.

3.4.9 That an application for development and site alteration within 120 metres of a key natural heritage feature or key hydrological feature shall be accompanied by an environmental impact study. The requirement for, content and scope of the study will be determined through the pre-consultation meeting and a terms of reference shall be submitted to the approval authority early in the application process. The environmental impact study shall also address the requirements of any applicable Provincial plan.

3.4.13 That the vegetation protection zone and adjacent land to key natural heritage features and key hydrologic features shall be determined through environmental impact study and meet the minimum widths identified in Table 3.

3.4.19 That notwithstanding policy 3.4.5 of the Plan, development and site alteration is prohibited within Provincially Significant and Provincial Plan Area wetlands as shown on Map 4 of the Plan. Due to the scale of the mapping of the Plan, smaller wetlands may not be visible. More detailed mapping is available from York Region.

3.4.20 To permit development and site alteration within 120 metres of wetlands identified on Map 4, but not within the vegetation protection zone, subject to an approved environmental impact study that demonstrates no negative impacts to the wetland feature or its ecological functions. Notwithstanding the aforementioned, within the vegetation protection zone, development and site alteration may be permitted in accordance with policies 3.2.5c and 3.2.5d of the Plan.

3.4.21 That applications for development and site alteration within 120 metres of wetlands not evaluated per the Ontario Wetland Evaluation System, or wetlands not shown on Map 4 of the Plan shall be accompanied by an environmental impact study that determines their importance,

functions and means of protection and/or maintenance of function, as appropriate, to the satisfaction of the approval authority.

3.4.22 That where newly identified wetlands are:

- a. Determined as Provincially Significant Wetlands, or are outside of urban areas and towns and villages, they will be subject to policies 3.4.13, 3.4.19, and 3.4.20 of the Plan and subject to the requirements of applicable Provincial plan.
- b. Not captured in policy 3.4.22, they will be subject to policies 3.4.13 ad 3.4.21 of the Plan.

Based on our assessment, it is RiverStone's opinion that key hydrologic features were removed by unauthorized site alteration. Notwithstanding previous site alteration activities, wetland/habitat offsetting measures are recommended to promote a development scenario that meets the intent of these policies, which is to occur off-site, whether monetary or built features, and associated with the PSW located north of Aurora Road.

## **6.8     The Town of Whitchurch Stouffville Official Plan (consolidated to 2020)**

The Subject Property is located within the Greenbelt Area, for which the Town OP contains a policy that all proposals be evaluated with respect to requirements in the Greenbelt Plan and Section 3 of the OP. The Town OP also contains policies related to SAR, included below:

### **3.5.6 Significant Habitat of Endangered Species and Threatened Species, Fish habitat and Wildlife**

- i) Notwithstanding any other provisions of the Plan, and regardless of the land use designation no development or site alteration shall be permitted in significant habitat of endangered species and threatened species; and in fish habitat, except in accordance with provincial or federal requirements.
- ii) Development and site alteration shall not be permitted in significant wildlife habitat or on adjacent lands to any significant habitat of endangered species and threatened species, fish habitat or significant wildlife habitat unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no impacts on the natural features or their ecological functions.
- iii) The Town will encourage private land stewardship, which protects and enhances the habitat of species at risk.
- iv) The Town will work with the Province, as appropriate, on the preparation of recovery strategies or management plans for species at risk.

Based on our assessment, it is RiverStone's opinion that the clearing was not consistent with and does not meet the intent of **Section 3.5.6** of the Town OP. Notwithstanding previous site alteration activities, wetland/habitat offsetting measures are recommended to promote a development scenario that meets the intent of these policies.

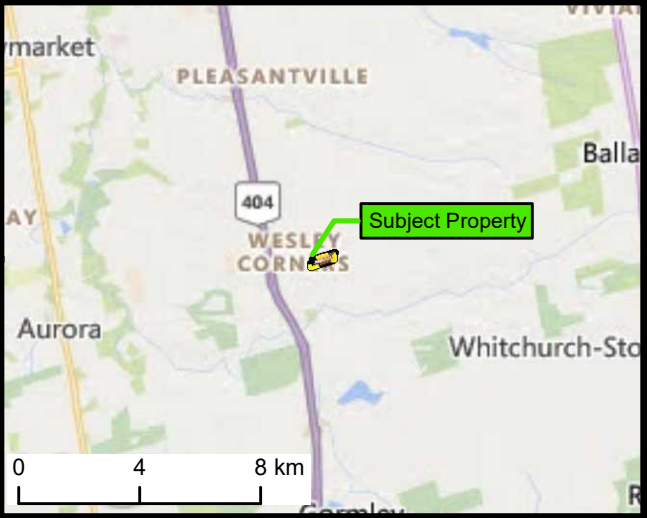
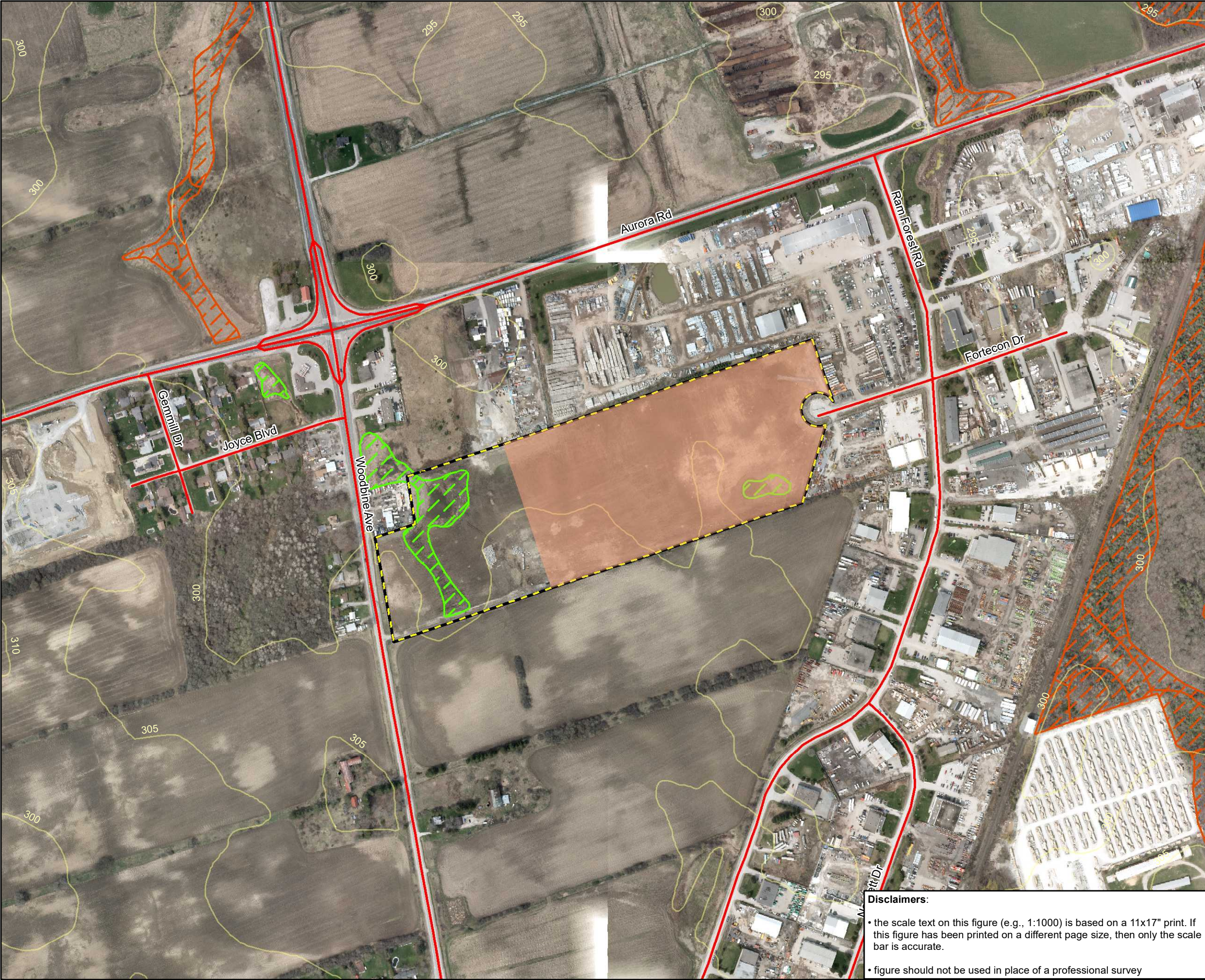
## 7 **CONCLUSIONS**

In accordance with the requirements of the Town of Whitchurch-Stouffville OP, Lake Simcoe Protection Plan, and Greenbelt Plan, the preceding report provides the results of RiverStone's natural heritage evaluation. This report includes details regarding historical and existing physical and ecological conditions within the Subject Property, a description of the proposed development, an assessment of potential impacts to identified features (if present), and a general assessment of consistency and conformity with relevant municipal, provincial, and federal environmental policies.

Based upon the findings presented in this report and contingent upon the implementation of and adherence to the recommendations made herein, particularly offsetting, it is our conclusion that proposed development can be accomplished without further negative impacts to the functions of KNHFs located on adjacent lands to the north. We advise that any recommended mitigation measures outlined in **Section 5** be implemented through site plan control that is subsequently enforced with appropriate by-laws, as applicable.

## 8 **REFERENCES**

- Lee, H. T., W. D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray.** 1998. Ecological land classification for Southern Ontario: first approximation and its application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch.
- Cadman, M. D., D. A. Sutherland, G. G. Beck, D. Lepage, and A. R. Couturier.** 2007. Atlas of the Breeding Birds of Ontario, 2001–2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, Ontario Nature, Toronto.
- Chapman, L. and D. F. Putnam.** 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 228.
- Dobbyn, J.** 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists. Toronto.
- MNRF.** 2000. Significant Wildlife Habitat Technical Guide. Fish and Wildlife Branch (Wildlife Section) and Science Development and Transfer Branch (Southcentral Sciences Section).
- MNRF.** 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second edition. Toronto: Queen's Printer for Ontario.
- MNRF.** 2014. Significant Wildlife Habitat Mitigation Support Tool. Ontario Ministry of Natural Resources and Forestry. 533 pp.
- MNRF.** 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.
- LSRCA.** 2021. Ecological Offsetting Policy.



**Legend**

**Ontario Base Mapping (OBM)**

- Roads
- 5 m Contours

**Planning Boundaries**

- Subject Property
- Subject Property Outside Scope of Study

**Features with Natural Heritage Value - Identified by the Province**

**Wetland Significance (MNRF)**

- Evaluated-Provincial (Bogart Creek Wetland Complex)
- Not evaluated per OWES

Orthorectified aerial photo - spring 2022

| Scale   | RS Project No. | Date Last Updated | By |
|---------|----------------|-------------------|----|
| 1:5,000 | 2022-088       | Feb 10, 2023      | JG |

075150 Metres

**Figure 1. Location Of Subject Property**  
15123 Woodbine Avenue, Township of Whitchurch-Stouffville, Region of York

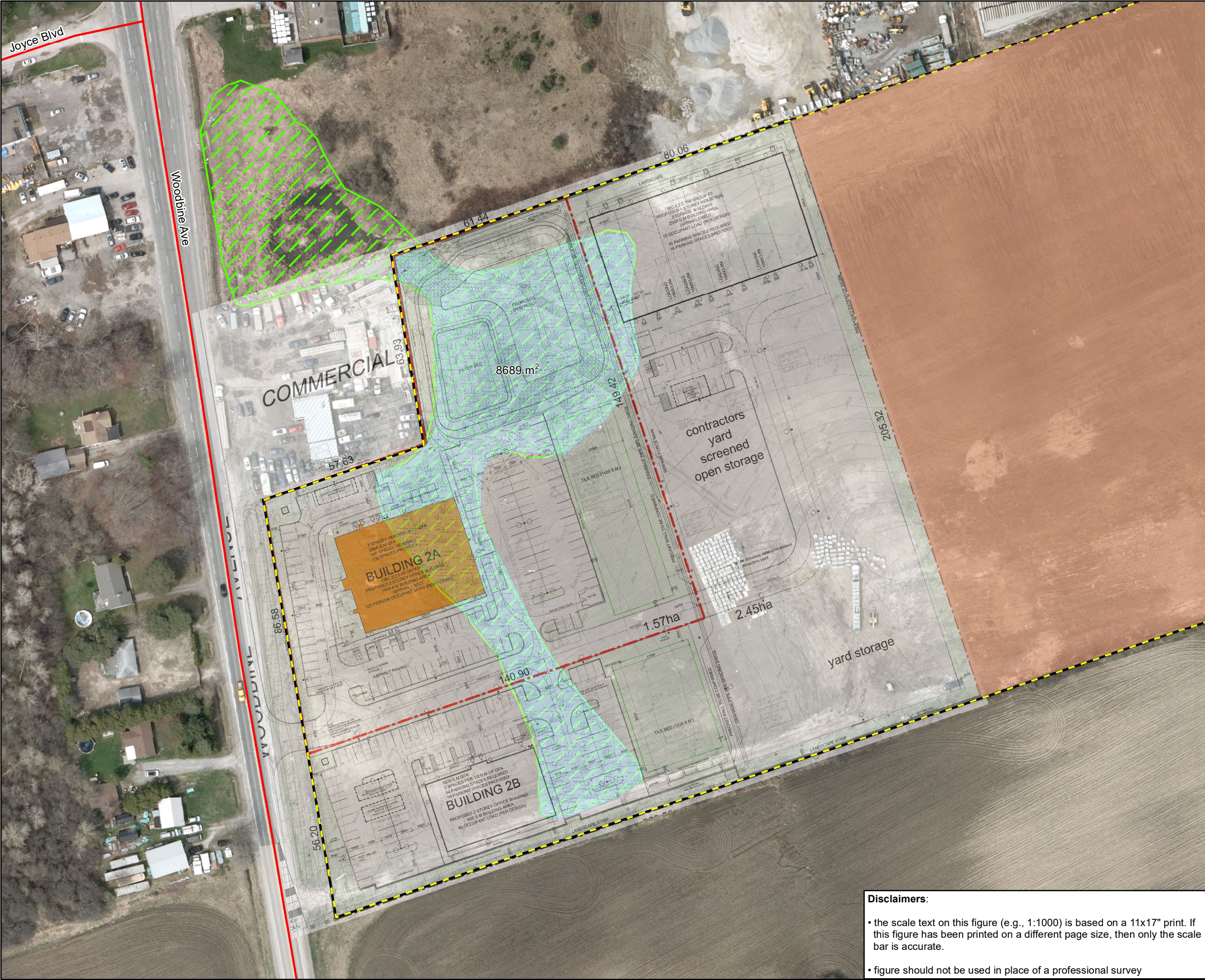
Prepared for: Limen Group  
c/o Randy Alcorn

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





Legend

Ontario Base Mapping (OBM)

Roads

Planning Boundaries

Subject Property

Phase 1 Lands (Subject to Separate NHE)

Features with Natural Heritage Value

Wetland Delineated by MNRF

Wetland Significance (MNRF)

Not evaluated per OWES

Proposed Development and Site Alteration

"Final Site Plan"

LIMEN GROUP HEAD OFFICE

KNYMH Architecture Solutions

PHASE 2 SITE PLAN - SP1

April 5, 2023

Orthorectified aerial photo - spring 2022

|         |                |                   |    |
|---------|----------------|-------------------|----|
| Scale   | RS Project No. | Date Last Updated | By |
| 1:1,250 | 2022-088       | Apr 21, 2023      | AS |

0 10 20 Metres

Figure 3. Proposed Development And Constraints

15123 Woodbine Avenue, Township of Whitchurch-Stouffville, Region of York

Prepared for: Limen Group  
c/o Randy Alcorn

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

## **Appendix 1.** Select Photos from the Site Investigation



**Photo 1.** Pooled water in the location of the previous wetland within the Phase 2 lands (April 6, 2022).



**Photo 2.** Phase 2 lands, with Woodbine Avenue in the background (April 6, 2022).



**Photo 3.** Wetland on adjacent lands that was previously continuous with wetland on the subject property (April 6, 2022).



**Photo 4.** View along the northern fencerow facing Woodbine Avenue. Pooled water shows where the wetland was previously located (April 6, 2022).



**Photo 6.** Historical fencerow and subject property vegetation (provided by LSRCA, April 21, 2021).

## **Appendix 2. Endangered and Threatened Species Assessment**

| Common Name <sup>1</sup> | General Description of Habitat and Range                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Is the study area within the known range of the species. | Is suitable habitat present within the study area. | Is suitable habitat present within lands adjacent to the study area. | Discussion of relevance to proposal                                                                                                                                                                                                                                                                                                                |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bank Swallow             | The Bank Swallow is a small aerial insectivore bird that nests colonially in burrows they excavate within banks. Colonies will nest in bluffs, riverbanks, aggregate pits, roadside embankments, and topsoil piles near open habitat that provides a steady source of insects. Colony sites must also be near roosting areas in wetland, reed, or cane beds.                                                                                                                                  | YES                                                      | NO                                                 | NO                                                                   | The subject property and surrounding industrial areas do not contain piles of substrate appropriate for nesting by Bank Swallows. It is unlikely that the subject property was historically used by Bank Swallows.                                                                                                                                 |
| Barn Swallow             | The Barn Swallow is distinguishable by its cinnamon underparts and forked tail. It forages in open to semi-open agricultural, residential, and aquatic habitats that provide abundant insect prey. Nests are mostly in man-made structures (e.g., buildings, bridges) but can occur in caves and under cliff overhangs. Nesting is almost always colonial and birds have high fidelity to nest sites. After breeding birds roost communally with other swallow species in cane and reed beds. | YES                                                      | NO                                                 | YES                                                                  | The subject property did historically contain structures that would be suitable for nesting by Barn Swallows; however, use was not confirmed before the barn was removed. A barn is present on an adjacent property to the north. There is the potential for Barn Swallows to have historically foraged over the wetlands on the subject property. |
| Bobolink                 | Nests in Southern Ontario hayfield and pastureland. Fields must have 25% or less woody plant cover. They require large fields (>10ha) and avoid small, fragmented habitats. They also avoid habitat within 75m of a forest edge.                                                                                                                                                                                                                                                              | YES                                                      | YES                                                | YES                                                                  | The subject property historically had fields appropriate for grassland nesting birds. It is possible that Bobolink nested on the subject property.                                                                                                                                                                                                 |

<sup>1</sup>Shaded rows indicate species likely to be present on the subject property

|                    |                                                                                                                                                                                                                                                                                                                        |     |     |     |                                                                                                                                                                                                                       |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chimney Swift      | The Chimney Swift is a cigar-shaped dark brown aerial insectivore. Historically they nested and roosted in large hollow trees, rock walls, and other vertical surfaces. They now use human-made structures like chimneys and have high site fidelity to nesting chimneys. 95% of nests are within 1 km of a waterbody. | YES | NO  | NO  | Although Chimney Swift was identified in OBBA records as being near the subject property, there is no habitat on the subject property or adjacent lands. It is unlikely that Chimney Swift were historically present. |
| Eastern Meadowlark | Nests in Southern Ontario hayfields and pastureland. Will also nest in young orchards, golf courses, roadside verges, grain fields, and fencerows. Prefers habitat with >80% grass cover. Needs a minimum of 5 ha of continuous habitat.                                                                               | YES | YES | YES | The subject property historically had fields appropriate for grassland nesting birds. It is possible that Eastern Meadowlark nested on the subject property.                                                          |

<sup>1</sup>Shaded rows indicate species likely to be present on the subject property

## **Appendix 3. Significant Wildlife Habitat Assessment**

| 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 SWH might be present? |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Seasonal Concentration Areas of Animals            |                                                                                                                                                                                             |                                                                                                                                                                                     |                                                                                                                                                                                                    |
| Waterfowl Stopover and Staging Areas (Terrestrial) | Fields with sheet water during Spring (mid March to May)                                                                                                                                    | CUM1 , CUT1                                                                                                                                                                         | There is no evidence of spring flooding creating appropriate habitat on the subject property. This SWH is not present.                                                                             |
|                                                    | Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.                                                                     | Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.                                                                                           |                                                                                                                                                                                                    |
|                                                    | Agricultural fields with waste grains are commonly used by waterflow, these are not considered SWH unless they have spring sheet water available.                                           |                                                                                                                                                                                     |                                                                                                                                                                                                    |
| Waterfowl Stopover and Staging Areas (Aquatic)     | Ponds, marshes, lakes, bays, coastal inlest, and watercourses used during migration.                                                                                                        | MAS1 , MAS2, MAS3, SAS1, SAM1, SAF1 , SWD1 , SWD2, SWD3, SWD4, SWD5, SWD6, SWD7                                                                                                     | Wetlands historically on the subject property would not be large enough to support SWH. This SWH is not present.                                                                                   |
|                                                    | 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)                                                                                 |                                                                                                                                                                                     |                                                                                                                                                                                                    |
| Shorebird Migratory Stopover Areas                 | Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.                                                    | BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1 , MAM2, MAM3, MAM4, MAM5                                                                                                 | Wetlands historically on the subject property would not be large enough to support SWH. This SWH is not present.                                                                                   |
|                                                    | 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.                                                                                                                       |                                                                                                                                                                                     |                                                                                                                                                                                                    |
| Raptor Wintering Areas                             | The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.                                                      | <u>Hawks/Owls:</u><br>Combination of ELC Community Series; need to have present one Community Series from each land class;<br>Forest: FOD, FOM, FOC.<br>Upland: CUM; CUT; CUS; CUW. | While the subject property historically contained fields, forested habitats were not present on the subject property and are not adjacent to the subject property. This SWH is not present.        |
|                                                    | 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                                                                                           | <u>Bald Eagle:</u><br>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).      |                                                                                                                                                                                                    |
|                                                    | Field area of the habitat is to be wind swept with limited snow depth or accumulation.                                                                                                      |                                                                                                                                                                                     |                                                                                                                                                                                                    |
| Bat Hibernacula                                    | Eagle sites have open water, large trees and snags available for roosting.                                                                                                                  |                                                                                                                                                                                     | The appropriate ecosites are not found on the subject property. This SWH is not present.                                                                                                           |
|                                                    | Hibernacula may be found in caves, mine shafts, underground foundations and Karsts.                                                                                                         | Bat Hibernacula may be found in these ecosites: CCR1, CCR2, CCA1, CCA2.                                                                                                             |                                                                                                                                                                                                    |
|                                                    | Active mine sites are not SWH.                                                                                                                                                              |                                                                                                                                                                                     |                                                                                                                                                                                                    |
|                                                    | The locations of bat hibernacula are relatively poorly known.                                                                                                                               | (Note: buildings are not considered to be SWH).                                                                                                                                     |                                                                                                                                                                                                    |

\*as per 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 SWH might be present?                                                                                                             |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bat Maternity Colonies                                                    | <p>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</p> <p>Maternity roosts are not found in caves and mines in Ontario</p> <p>Maternity colonies located in Mature (dominant trees &gt; 80yrs old) deciduous or mixed forest stands with &gt;10/ha large diameter (&gt;25cm dbh) wildlife trees</p> <p>Female Bats prefer wildlife trees (snags) in early stages of decay, class 1-3 .</p> <p>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.</p>                                                                                                                                                                          | <p>Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD, FOM, SWD, SWM.</p>                                                                                                                                                                                                                                                        | <p>Forested ecosites are not present on or adjacent to the subject property. This SWH is not present.</p>                                                                                                                                                                                                      |
| Turtle Wintering Areas                                                    | <p>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.</p> <p>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen</p> <p>Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO.</p> <p>Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as overwintering habitat.</p>                                                                                                                     | <p>While wetlands were present on and are present adjacent to the subject property, they were not deep enough to provide appropriate overwintering habitat for turtles. This SWH is not present.</p>                                                                                                           |
| Reptile Hibernaculum                                                      | <p>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.</p> <p>Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line</p> <p>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.</p> <p>Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.</p> | <p>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.</p> <p>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.</p> <p>For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1, FOC3.</p> | <p>Structural features allowing access to below the frost line are not present on the subject property. While wetlands were present on and are present adjacent to the subject property, they are not the appropriate wetland type to provide overwintering habitat for reptiles. This SWH is not present.</p> |
| Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)               | <p>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.</p> <p>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</p> <p>Does not include a licensed/permitted Mineral Aggregate Operation.</p>                                                                                                                                                                                                                                                                                                                                                                                         | <p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites: CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1.</p>                                                                                                                                                              | <p>Structural features (banks and cliffs) are not present on or adjacent to the subject property. This SWH is not present.</p>                                                                                                                                                                                 |
| Colonially - Nesting Bird Breeding Habitat Breeding Habitat (Tree/Shrubs) | <p>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</p> <p>Most nests in trees are 11 to 15 m from ground, near the top of the tree.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>SWM2, SWM3, SWM5, SWM6, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7, FET1.</p>                                                                                                                                                                                                                                                                                                                | <p>While wetlands were present on and are present adjacent to the subject property, they are not treed and do not provide the appropriate habitat for colony nesting birds. This SWH is not present.</p>                                                                                                       |

\*as per 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 SWH might be present? |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map).                            | While open fields were present on and are present adjacent to the subject property, there are no large watercourses or waterbodies in the area. This SWH is not present.                           |
|                                                     | Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird) MAM1 – 6, MAS1 – 3, CUM, CUT, CUS |                                                                                                                                                                                                    |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Combination of ELC Community Series; need to have present one Community Series from each landclass:                                              | The subject property is not located within 5 km of Lake Ontario. This SWH is not present.                                                                                                          |
|                                                     | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>Field:</u><br>CUM, CUT, CUS                                                                                                                   |                                                                                                                                                                                                    |
|                                                     | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>Forest:</u><br>FOC, FOD, FOM, CUP                                                                                                             |                                                                                                                                                                                                    |
|                                                     | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.                                          |                                                                                                                                                                                                    |
| Landbird Migratory Stopover Areas                   | Woodlots need to be > 10 ha in size and within 5 km of Lake Ontario.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD.                                                           | The subject property is not located within 5 km of Lake Ontario. This SWH is not present.                                                                                                          |
|                                                     | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                  |                                                                                                                                                                                                    |
| 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. | Note: OMNRF to determine this habitat.                                                                                                           | The subject property does not contain appropriate habitat and is not designated as a Deer Yard by the OMNRF. This SWH is not present.                                                              |
|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 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                                                                                                     |                                                                                                                                                                                                    |
|                                                     | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                  |                                                                                                                                                                                                    |

| 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 SWH might be present? |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | All Forested Ecosites with these ELC Community Series; FOC , FOM, FOD, SWC, SWM, SWD .                                                                                                                                                                                                            | The subject property does not contain appropriate habitat to function as a deer congretation area. This SWH is not present.                                                                        |
|                                 | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                               | Conifer plantations much smaller than 50 ha may also be used.                                                                                                                                                                                                                                     |                                                                                                                                                                                                    |
|                                 | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                    |
| 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                                                                                                                                                                                                                             | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
| 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<br><br>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always < 60%.                                                                                                  | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
| 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<br><br>Five Alvar Indicator Species: 1) Carex crawei, 2) Panicum philadelphicum, 3) Eleocharis compressa, 4) Scutellaria parvula, 5) Trichostema brachiatum<br><br>These indicator species are very specific to Alvars within Ecoregion 6E | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
| 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                                                                                                                                                                                                                                             | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
| Savannah                        | A Savannah is a tallgrass prairie habitat that has tree cover between 25–60%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | TPS1, TPS2, TPW1, TPW2, CUS2                                                                                                                                                                                                                                                                      | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
| Tallgrass Prairie               | Tallgrass Prairie is an open vegetation with less than < 25% tree cover, and dominated by prairie species, including grasses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | TPO1, TPO2                                                                                                                                                                                                                                                                                        | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
| Other Rare Vegetation Community | ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.                                                                                                                                                                                                     | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                           |
|                                 | The OMNRF/NHIC will have up to date listing for rare vegetation communities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.                                                                                                                                                                                          |                                                                                                                                                                                                    |

| 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 SWH might be present?                                                                                         |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                            | 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                            | While wetlands were present on the subject property and are present on adjacent lands, appropriate upland habitat is not present. This SWH is not present.                                                                                                                                 |
|                                                              | Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests.                                                                                                                                                                                   | Note: includes adjacency to provincially Significant Wetlands                                                                                                                                                               |                                                                                                                                                                                                                                                                                            |
|                                                              | Wood Ducks, Bufflehead, Common Goldeneye and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites.                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |
| 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.                                                                                                                                                                                       | ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.                                                                                       | While wetlands were present on the subject property and are present on adjacent lands, appropriate forest habitat is not present. This SWH is not present.                                                                                                                                 |
|                                                              | 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).                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |
| Woodland Raptor Nesting Habitat                              | All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer.                                                                                                                                                                    | May be found in all forested ELC Ecosites.                                                                                                                                                                                  | Appropriate forest habitat is not present. This SWH is not present.                                                                                                                                                                                                                        |
|                                                              | In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.                                                                                                                                                                                                                | May also be found in SWC, SWM, SWD and CUP3.                                                                                                                                                                                |                                                                                                                                                                                                                                                                                            |
| 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.                                                                                                                                                 | Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1                                                                                 | While wetlands were present on the subject property and are present on adjacent lands, and soft substrate is present, the types of wetlands present are not appropriate for turtles and it is unlikely that turtles would travel to the subject property to nest. This SWH is not present. |
|                                                              | 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.                                                                                                                                                                                       |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |
| Seeps and Springs                                            | Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.                                                                                                                                                                                                             | 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. | There are no records of seeps or springs being present on the subject property, and they were not observed during RiverStone's site visit. This SWH is not present.                                                                                                                        |
|                                                              | Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.                                                                                                                                                                 |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |
| Amphibian Breeding Habitat (Woodland)                        | Presence of a wetland or pond >500 m <sup>2</sup> (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. | All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD                                                                                                                                       | This vegetation community was not historically present on the subject property. This SWH is not present.                                                                                                                                                                                   |
|                                                              | Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.                                                                                                                                                                             | 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.                                   |                                                                                                                                                                                                                                                                                            |

\*as per 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 SWH might be present?                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amphibian Breeding Habitat (Wetlands)                                                        | <p>Wetlands and pools (including vernal pools) &gt;500 m<sup>2</sup> (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.</p> <p>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.</p> <p>Bullfrogs require permanent water bodies with abundant emergent vegetation.</p>                        | <p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Typically these wetland ecosites will be isolated (&gt;120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.</p> | <p>While wetlands were present on the subject property and are present on adjacent lands, it is not possible to know if breeding amphibians were present without historical records; however, open water is visible on historical aerial photos and there is potential for wetlands on the subject property to have functioned as SWH. This habitat is discussed further in the report.</p> |
| Area-Sensitive Bird Breeding Habitat                                                         | <p>Habitats where interior forest breeding birds are breeding, typically large mature (&gt;60 yrs old) forest stands or woodlots &gt;30 ha. Interior forest habitat is at least 200 m from forest edge habitat.</p>                                                                                                                                                                                                                                                                                                                                                              | <p>All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD.</p>                                                                                                                                                                       | <p>This vegetation community was not historically present on the subject property. This SWH is not present.</p>                                                                                                                                                                                                                                                                             |
| Habitat for Species of Conservation Concern (not including Endangered or Threatened Species) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                             |
| Marsh Bird Breeding Habitat                                                                  | <p>Nesting occurs in wetlands.</p> <p>All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present.</p> <p>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.</p>                                                                                                                                                                                 | <p>MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, FEO1, BOO1.</p> <p>For Green Heron: All SW, MA and CUM1 sites.</p>                                                                                                                                         | <p>Review of background information does not indicate that emergent wetland vegetation was present in the wetlands discussed within this NHE. This SWH was likely not present.</p>                                                                                                                                                                                                          |
| Open Country Bird Breeding Habitat                                                           | <p>Large grassland areas (includes natural and cultural fields and meadows) &gt;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).</p> <p>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.</p> <p>The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species.</p> | <p>CUM1, CUM2</p>                                                                                                                                                                                                                                                   | <p>The subject property previously contained appropriate habitat; however, areas are of insufficient size. This SWH is not present.</p>                                                                                                                                                                                                                                                     |
| Shrub/Early Successional Bird Breeding Habitat                                               | <p>Large field areas succeeding to shrub and thicket habitats &gt;30 ha in size.</p> <p>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).</p> <p>Shrub thicket habitats (&gt;10 ha) are most likely to support and sustain a diversity of these species.</p> <p>Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or lightly grazed pasturelands.</p>               | <p>CUT1, CUT2, CUS1, CUS2, CUW1, CUW2.</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species.</p>                                                                                                                           | <p>The subject property previously contained appropriate habitat; however, areas are of insufficient size. This SWH is not present.</p>                                                                                                                                                                                                                                                     |

\*as per 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 SWH might be present? |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Terrestrial Crayfish                      | <p>Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish.</p> <p>Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water.</p> <p>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.</p> | <p>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.</p>                                                                                                                                                                                            | <p>Evidence of terrestrial crayfish was not observed during RiverStone's on-site assessment. It is unlikely that this SWH is present.</p>                                                          |
| Special Concern and Rare Wildlife Species | <p>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</p>                                                                                                                                                                                                                                           | <p>All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species.</p> <p>All plant and animal element occurrences (EO) within a 1 or 10 km grid.</p> <p>Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy</p>                                                                      | <p><b>YES.</b> See RiverStone's description of potential habitat for Special Concern and provincially rare species in <b>Table 2 below</b>.</p>                                                    |
| Animal Movement Corridors                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                    |
| Amphibian Movement Corridors              | <p>Movement corridors between breeding habitat and summer habitat.</p> <p>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.</p>                                                                                                                                                                                                   | <p>Corridors may be found in all ecosites associated with water.</p> <p>Corridors will be determined based on identifying the significant breeding habitat for these species (see above).</p>                                                                                                                                                                            | <p>It is unlikely that the subject property previously contained amphibian breeding habitat, and it does not currently contain amphibian breeding habitat. This SWH is not present.</p>            |
| Deer Movement Corridors                   | <p>Corridors may be found in all forested ecosites.</p> <p>A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.</p>                                                                                                                                                                                                                                                                                            | <p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH (see above).</p> <p>A deer wintering habitat identified by the OMNRF as SWH will have corridors that the deer use during fall migration and spring dispersion.</p> <p>Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges).</p> | <p>The subject property does not contain and is not adjacent to Deer Wintering Areas. Therefore, this SWH is not present.</p>                                                                      |

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

TABLE 2 - Special Concern Species

| Common Name        | Description, Habitat and Range                                                                                                                                                                                                                                                                                                                                                                                           | Is the study area within the known range of the species | Is suitable habitat present within the study area | Is suitable habitat present within lands adjacent to the study area | Discussion of available habitat and potential impacts                                                                                                                                                       |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Canada Warbler     | The Canada Warbler is a small forest songbird that nests on the ground in moist boreal and mixedwood habitats. They breed below the tree line in Ontario. They prefer forests with dense shrub layers that provide cover and perches. They are found in forested swamps, shrub thicket swamps, riparian woodlands, moist forests, brushy ravines, open and treed muskeg, and mature forests with canopy gaps.            | YES                                                     | POSSIBLE                                          | POSSIBLE                                                            | Red-osier dogwood and other woody shrubs were present adjacent to wetland areas on the subject property prior to clearing. It is possible that this species was previously present on the subject property. |
| Eastern Wood Pewee | The Eastern Wood-pewee nests along the edge of deciduous and mixed forests. They prefer forests dominated by sugar maple, elm, and oak and use forest edges and clearings to forage for insects. They prefer an open understory. Their Ontario breeding range is south of boreal forest where deciduous and mixed forests are dominant.                                                                                  | YES                                                     | NO                                                | NO                                                                  | Woodlands are not present within or adjacent to the subject property.                                                                                                                                       |
| Evening Grosbeak   | The Evening Grosbeak is a colorful, stocky bird that is a major predator of Spruce Budworm. Their range extends from Canada into the United States and Mexico. Their habitat is mature boreal and other conifer-dominated forests where they can feed on spruce budworm, fir seeds, and fruit. During the winter they can be found further south than their breeding range. Their Ontario range is north of Lake Simcoe. | YES                                                     | NO                                                | NO                                                                  | Woodlands are not present within or adjacent to the subject property.                                                                                                                                       |

<sup>1</sup>Shaded rows indicate species likely to be present on the subject property.

TABLE 2 - Special Concern Species

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |     |     |                                                                                                                                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grasshopper Sparrow    | The Grasshopper Sparrow nests in medium to large grasslands (at least 6 ha) surrounded by other grasslands and pastures but will also use cereal crops and corn as habitat. They prefer grassland species adapted to poor, dry soil and landscapes with minimal shrub and herb cover. Their range in Ontario is south of Lake Nipissing.                                                                                                                             | YES | YES | YES | Agricultural fields and fallow fields provide habitat for Grasshopper Sparrows and it is possible that the subject property previously supported this species.                                                                   |
| Midland Painted Turtle | The Midland Painted Turtle is a small freshwater turtle with bright colorful stripes on a dark background. They have a large range and the Midland subspecies is found in Ontario. They use slow-moving, shallow, well-vegetated wetlands and waterbodies with abundant basking sites and submerged plants. Nesting habitat is open with sand or gravel substrate.                                                                                                   | YES | NO  | NO  | While wetlands were present on and are present adjacent to the subject property, they did not contain appropriate habitat for turtles.                                                                                           |
| Monarch                | The Monarch is a large, distinctive orange and black butterfly. They rely on milkweed species for egg laying and larvae development. Pupae are attached away from the host plant, and adults range widely. Adults feed on wildflowers, and Monarch can be found in Southern Ontario and along the north shore of the Great Lakes. During migration Monarchs roost in large trees along the shoreline of                                                              | YES | YES | YES | Fallow fields containing milkweed support foraging and breeding Monarch Butterflies. It is possible that milkweed was present on the subject property before clearing and that appropriate habitat for this species was present. |
| Northern Map Turtle    | The Northern Map Turtle is an aquatic turtle named for the yellow net pattern on their dark carapace. They forage in aquatic vegetation along undeveloped shorelines and bask on structures and shorelines near deeper water. They breed in water near their overwintering sites, which have a slight current and oxygen-rich water with sand or gravel substrates. Nests are dug near the shore in full sun. Their range is Southern Ontario and the Ottawa Valley. | YES | NO  | NO  | While wetlands were present on and are present adjacent to the subject property, they did not contain appropriate habitat for turtles.                                                                                           |

<sup>1</sup>Shaded rows indicate species likely to be present on the subject property.

TABLE 2 - Special Concern Species

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |    |    |                                                                                                                                                    |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Purple Martin       | The Purple Martin is a large swallow with brown-black wings and tail. Males are iridescent dark blue/purple, female and immature birds are dull with a grey head and chest, and dingy underparts. Their Ontario range is south of the Shield in open and wetland habitats with abundant flying insects. They nest in colonies within tree cavities and artificial nesting structures. Before and during migration they form large flocks in wetlands.                                                 | YES | NO | NO | There is no evidence that martin houses or large tree cavities previously supported Purple Martin colonies on or adjacent to the subject property. |
| Red-shouldered Hawk | The Red-shouldered Hawk has reddish-brown shoulders, brown upper parts, and black-and-white striped flight and tail feathers. They are most common in the Great Lakes Forest Region. They require mature forests >100 ha near aquatic habitats. Nest sites have >70% canopy closure, large hardwoods, total basal area $\geq 20\text{m}^2/\text{ha}$ , and at least $5\text{m}^2$ of trees > 40 cm dbh. Most nests are within 250 m of a water body. Adults use the same breeding territory for life. | YES | NO | NO | Woodlands are not present on or adjacent to the subject property.                                                                                  |
| Snapping Turtle     | The Snapping Turtle is a large freshwater turtle distinguishable by its long tail and reduced plastron. Their Ontario range extends north to Wawa and Kirkland Lake. They prefer slow-moving water with soft mud and abundant vegetation. They are found along shorelines, in streams, and in wetland complexes. Nests are dug into gravel or sand banks near water. They will use anthropogenic structures and waterbodies as habitat. They are highly tolerant to pollution.                        | YES | NO | NO | While wetlands were present on and are present adjacent to the subject property, they did not contain appropriate habitat for turtles.             |

<sup>1</sup>Shaded rows indicate species likely to be present on the subject property.

**TABLE 2 - Special Concern Species**

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |    |    |                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|----|-------------------------------------------------------------------|
| Wood Thrush | The Wood Thrush is a robin-sized bird with rusty-brown plumage on its crown, back, and wings, pale underparts, and large dark spots on the breast and flanks. Their deciduous and mixed forest breeding habitat must include (lower elevations, trees >16m, >70% canopy closure, high deciduous tree diversity, moderate subcanopy and shrub density, shade, open forest floor, moist soil, decaying leaf litter). They prefer mosaics and second-growth forests. | YES | NO | NO | Woodlands are not present on or adjacent to the subject property. |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|----|-------------------------------------------------------------------|

<sup>1</sup>Shaded rows indicate species likely to be present on the subject property.

**Appendix 4.** Development Site Plan (provided by KNYMH, July 28, 2022)

