



GUIDING SOLUTIONS IN THE
NATURAL ENVIRONMENT

Natural Heritage Evaluation 12541 & 12577 Airport Road Town of Caledon, Regional Municipality of Peel

Prepared For:

Nishan Transport Inc.

Prepared By:

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1. Introduction

Beacon Environmental Limited (Beacon) has been retained by Nishan Transport Inc. to prepare a Scoped Natural Heritage Evaluation (NHE) as a requirement for a Temporary Use By-law for 12541 and 12577 Airport Road in the Town of Caledon, Regional Municipality of Peel (hereafter referred to as the “subject property”; **Figure 1**). The application is to permit commercial vehicle parking for three years on the subject property.

The subject properties together form a slightly irregular rectangular parcel of land encompassing an area of approximately 11.9 ha located on the west side of Airport Road, north of Regional Road 14 (Mayfield Road), just north of the Tullamore Secondary Plan area, which is predominantly employment lands. The subject property is currently predominantly cultivated lands with two residences, a barn and associated outbuildings on the western end of the property. A tributary associated with the West Humber River, known as Salt Creek traverses the subject property at the south corner. A small marsh (approximately 0.35 ha) occurs in the north corner, with a hedgerow extending along the northern property boundary.

The subject property is within the Rural System and is not within the Greenbelt Plan Area.

The Town of Caledon Official Plan requires a NHE be prepared to assess the potential impacts of a development proposal on environmental features.

The property falls within the jurisdiction of the Toronto and Region Conservation Authority (TRCA).

The purpose of this NHE is to:

- Determine the location of any Key Natural Heritage Features (KNHFs) and Key Hydrologic Features (KHF) on and within the 120 m of the subject property;
- Review project conformity with the applicable natural heritage policies of the Town of Caledon and Peel Region Official Plans as well the TRCA and *Endangered Species Act* (ESA); and
- Provide recommendations for appropriate mitigation measures to reduce or eliminate potential impacts on KNHFs and KHF.

2. Methodology

Beacon completed a review of background information and visited the subject property to characterize the natural heritage resources and functions on and adjacent to the subject property. The information sources reviewed, and surveys undertaken are summarized below.

2.1 Background Review

Background information was gathered and reviewed at the outset of the project. This involved consideration of the following documents or information sources relevant to the subject property:

- Provincial Policy Statement (2020);
- The Growth Plan for the Greater Golden Horseshoe (May 2019);
- The Greenbelt Plan (2017);
- Region of Peel Official Plan (2018);
- Town of Caledon Official Plan (2018);
- Toronto and Region Conservation Authority (TRCA) policies and regulations;
- Land Information Ontario (LIO) and Ministry of Natural Resources and Forestry (MNRF) resource information; and
- *Endangered Species Act* (2007).

Other sources of information such as current and historical aerial photographs, local topographic survey data, soil geology and physiography mapping were also reviewed prior to commencing field investigations.

Beacon's background review also includes analysis of numerous information sources in a Geographic Information System (GIS) environment that facilitates an assessment of the likelihood that species at risk and other natural heritage features are present in an area of interest. This system allows Beacon to combine the most current information provided by the Ministry of Natural Resources and Forestry (MNRF) through the Land Information Ontario (LIO) portal with GIS layers from other provincial and local datasets, including but not limited to, floral and faunal atlas data. This system enables the creation of a list of Species at Risk for which there are records or which might be expected to occur within 5 km of a location. All relevant layers can then be overlaid on the most recent high resolution orthoimagery.

Information sources reviewed, included:

- Provincially tracked species layer (1 km grid LIO dataset);
- Ontario Reptile and Amphibian Atlas (ORAA);
- Ontario Breeding Bird Atlas (OBBA);
- Natural Heritage Information Centre (NHIC) Data *via* the Make-A-Map application;
- Species at risk range maps (Government of Ontario);
- High resolution aerial photography of the property;
- Natural and physical feature layers (e.g. topographic, wetland, waterbody, watercourse data), LIO and Aquatic Resource Area (ARA) datasets; and
- Ontario Geological Survey (OGS) and soil physiography (Chapman and Putnam) datasets.

2.2 Field Investigations

Field investigations on the subject property were undertaken by Beacon staff throughout 2020. Seasonal surveys included vegetation inventories, as well as wildlife and species at risk habitat assessments. **Table 1** below lists the dates on which visits occurred.



Site Location		Figure 1
12541 & 12577 Airport Road, Caledon		
		Project: 220196 Last Revised: November 2020
Client: Nishan Transport Inc.		Prepared by: BD Checked by: LC
	1:7,000	Inset Map: 1:70,000
Contains information licensed under the Open Government License—Ontario Orthoimagery Baselayer: 2019 (FBS)		

Table 1. Summary of Field Investigations

Surveys Undertaken	Dates
Headwater Drainage Feature Assessment (HDFA)	June 16, June 30 and November 15, 2020
Vegetation Community Mapping and Floral Survey	June 30 and July 12, 2020
Breeding Bird Surveys	June 9, June 18, and June 30, 2020
Geomorphic Assessment	August 12, 2020
Feature Staking with the TRCA	November 12, 2020

2.2.1 Ecological Communities and Floral Survey

The existing vegetation communities were identified and mapped using the Ecological Land Classification (ELC) system for southern Ontario (Lee *et al.* 1998) through a site visit conducted on June 30, 2020. This is the standard method used for describing vegetation communities in southern Ontario.

A plant species inventory was also completed at this time as well as on July 12, 2020 to document the flora present on the subject property and determine if any endangered and threatened species of plant, shrub or tree are present on the subject property.

Headwater Drainage Feature Assessment

Headwater Drainage Features (HDFs) within the subject property were assessed following the *Ontario Stream Assessment Protocol Headwater Drainage Feature Module* (“OSAP”; Stanfield *et al.* 2017) and followed the requirements as set out in the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (“Guidelines”; TRCA and Credit Valley Conservation 2014).

The Guidelines use an integrated approach for the evaluation of key attributes of drainage features including flow and feature form, riparian vegetation, fish and fish habitat and terrestrial habitat. The evaluation divides headwater drainage features into segments, with breaks between segments occurring where key attributes change.

The locations and extent of any drainage features identified through the background review and ortho-imagery interpretation were verified throughout the field investigation. Site investigations were conducted on June 16 and November 15, 2020.

Breeding Bird Surveys

Three breeding bird surveys were conducted for the subject property on the mornings of June 9, 18 and 30, 2020 (start times of 06:55, 07:15, and 05:35 hrs. respectively), under appropriate weather conditions (while the temperature was within 5° C of normal, no rain nor excessively windy). The breeding bird community was surveyed using a roving type survey, in which all parts of the subject property were walked to within 50 to 100 m and all birds heard or observed and showing some inclination toward breeding were recorded as breeding species. All birds heard and seen were recorded in the location observed on an aerial photograph of the site.

Feature Staking

TRCA staked the feature limits with Beacon staff on the subject property on November 21, 2020. Features that were staked included the top of bank associated with the Salt Creek, and the marsh community in the northern corner of the property.

2.2.2 Endangered or Threatened Species Habitat Assessment

Potential habitat for species of plants and wildlife subject to the ESA and associated regulations was determined and assessed during the visit conducted on June 30, 2020. MECP was also contacted with respect to Redside Dace (*Clinostomus elongatus*) habitat. Salt Creek is considered occupied Redside Dace habitat, and therefore meander belt plus 30 m on either side is regulated as habitat under the ESA.

2.2.3 Incidental Wildlife

Wildlife observations and any evidence observed of wildlife presence or breeding or foraging habitat, were noted during all field activities throughout the field program, including visual observations of species, tracks, or scat as well as auditory observations.

3. Policy Review

The following policy documents were reviewed with respect to natural heritage features on the subject property in order to determine the applicable policy framework.

3.1 Provincial Policy Statement

The *Natural Heritage Reference Manual* (MNR 2010) is a technical document used to help assess the natural environment to identify natural heritage or significant features and areas, as defined by the PPS. The natural heritage policies outlined in Section 2.1 of the PPS relate to the following features:

- Natural heritage systems;
- Natural heritage features and areas;
- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat;
- Significant Areas of Natural and Scientific Interest (ANSIs);
- Fish habitat; and
- Habitat of endangered or threatened species.

Each of these features or defined areas are afforded varying levels of protection subject to guidelines, and in some cases, regulations. Of these features, significant wetlands and coastal wetlands are

designated by the Ministry of Natural Resources and Forestry (MNR), while significant woodlands can be designated by the municipality. Habitat of endangered or threatened species is regulated by Ministry of Environment, Conservation and Parks (MECP) through the ESA. Fish habitat is governed by Fisheries and Oceans Canada (DFO). There are both provincial and local ANSIs, which have been identified by the MRNF and municipalities respectfully. Ensuring the identification and regulation of the remaining features is the responsibility of the municipality.

Provincial plans, such as the Greenbelt Plan and the Growth Plan for the Greater Golden Horseshoe build upon the policy foundation provided by the PPS and provide additional land use planning policies for these specific geographic areas in Ontario. Provincial plans are to be read in conjunction with the PPS. They take precedence over the policies of the PPS to the extent of any conflict, except where the relevant legislation provides otherwise.

3.2 A Place to Grow – Growth Plan for the Greater Golden Horseshoe

The provincial growth plan is issued under the *Places to Grow Act*, 2005, SO 2005, c. 13. The 2019 provincial growth plan titled: “A Place to Grow – Growth Plan for the Greater Golden Horseshoe” came into effect on May 16, 2019 (the “Growth Plan”). The subject property is located within the Greater Golden Horseshoe Growth Plan Area.

The Growth Plan, together with the Greenbelt Plan, Oak Ridges Moraine Conservation Plan (ORMCP), and the Niagara Escarpment Plan (NEP), builds on the PPS to establish a land use planning framework for the Greater Golden Horseshoe (GGH) that supports the achievement of complete communities, a thriving economy, a clean and healthy environment, and social equity.

The Growth Plan provides for the identification and protection of a “Natural Heritage System for the Growth Plan” outside of the “Greenbelt Area” and “settlement areas” and applies protections similar to those in the Greenbelt Plan to provide consistent and long-term protection throughout the GGH.

A review of the Growth Plan schedules has identified that the subject property, in its entirety, is located within the *Greater Golden Horseshoe Growth Plan Area*.

Growth Plan Policy 4.2.4.6 states that:

Beyond the Natural Heritage System for the Growth Plan, including within settlement areas, the municipality:

- *Will continue to protect any other natural heritage features and areas in a manner that is consistent with the PPS; and*
- *May continue to protect any other natural heritage system or identify new systems in a manner that is consistent with the PPS.*

Lands within the Greenbelt planning area are subject to the policies of the Greenbelt Plan.

3.3 Regional Municipality of Peel Official Plan

The Region of Peel Official Plan (2018) provides direction on land use within the Region. The Region of Peel Official Plan (OP) Office Consolidation December 2018 is the most current version of the Region's OP.

The Region's OP identifies a Greenlands System consisting of Core Areas, Natural Areas and Corridors (NAC's), and Potential Natural Areas and Corridors (PNAC's) and includes policies aimed at protecting, maintaining, and restoring this system.

Key elements of the Region's Greenlands System include the following:

- *Areas of Natural and Scientific Interest;*
- *Environmentally Sensitive or Significant Areas;*
- *Escarpment Natural Areas;*
- *Escarpment Protection Areas;*
- *Fish and wildlife habitat;*
- *Habitats of threatened and endangered species;*
- *Wetlands;*
- *Woodlands;*
- *Valley and stream corridors;*
- *Shorelines;*
- *Natural lakes;*
- *Natural corridors;*
- *Groundwater recharge and discharge areas;*
- *Open space portions of the Parkway Belt West Plan; and*
- *Other natural features and functional areas.*

The various components of the Regional Greenlands System are to be interpreted, identified and protected in accordance with ROP policies.

The following maps and schedules were reviewed to determine the applicable policy framework for this application:

- *Schedule A - Core Areas of the Greenlands Systems in Peel* – shows Core Areas of the Greenland System on the subject property corresponding with a drainage feature in the southern corner (Salt Creek);
- *Schedule B - Prime Agricultural Area* – shows that the subject property is within the Prime Agricultural Area;
- *Schedule D – Regional Structure* – shows that the subject property entirely within the Rural System; and
- *Schedule D3 – Greenbelt Plan Area Designations* – shows the subject property is not within the Greenbelt Plan Area.

Policy 2.3.2.6 prohibits development and site alteration within the Core Areas of the Greenlands System in Peel except for limited uses such as, but not limited to: conservation and erosion control projects, passive recreation, minor development, and existing uses.

Area municipalities are directed to adopt appropriate policies to allow the above exceptions when it can be demonstrated that there is no reasonable alternative location outside of the Core Area and the use, development or site alteration is directed away from the Core Area feature to the greatest extent possible and the impact to the Core Area feature is minimized and any impact to the feature or its functions that cannot be avoided is mitigated through restoration or enhancement to the greatest extent possible.

The area associated with the Salt Creek is considered part of the NAC of the Regional Greenlands Systems. NAC's and PNAC's represent natural features and areas that are considered locally significant. Regional policies pertaining to NAC's and PNAC's defer their interpretation, protection, restoration, enhancement, proper management and stewardship to local municipalities.

3.4 Town of Caledon Official Plan

The *Town of Caledon Official Plan* (2018) provides direction as to the land use within the Town.

Schedule A - Town of Caledon Land Use Plan shows that the subject property is designated as a Prime Agricultural Area. The watercourse (Salt Creek) is shown as Environmental Policy Area (EPA).

New development is prohibited from EPA (Section 5.7.3.1.1), with the except of permitted uses of section 5.7.3.1.2. These uses include legally existing uses, non-intensive recreation and essential infrastructure.

Environmental Policy Area

New development is generally prohibited within areas designated Environmental Policy Area (EPA) with limited exceptions described in Section 5.7.3.1.2.

Major expansions of existing uses are generally not permitted within the EPA (Section 5.7.3.2.3), unless demonstrated through an EIS that the form and function of the EPA will be protected.

Proposed new development adjacent to an EPA will require an EIS and Management Plan (MP) to the satisfaction of the Town and other relevant agencies (Section 5.7.3.7). Given the occurrence of EPA across the northeastern portion of the site, consistent with the Greenbelt NHS, an EIS is required.

3.5 Toronto and Region Conservation Authority Regulations and Policies

3.5.1 Ontario Regulation 166/06

The TRCA regulates hazard lands including floodplains, watercourses, valleylands, shorelines, and wetlands under *Ontario Regulation 166/06* (TRCA 2006). TRCA also regulates other areas where development could interfere with the hydrologic function of a wetland, including areas within 120 m of Provincially Significant Wetlands (PSWs), and within 30 m of other wetlands. Proposed development within the regulated area may require the preparation of an EIS.

Generally, development within the flood limit of a watercourse is not allowed. However, subject to conformity with the Official Plan and completion of appropriate studies and Conservation Authority permits, development may be permitted within other regulated areas. The Authority may grant permission for development in or on the areas regulated if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development. The permission of the Authority shall be given in writing, with or without conditions.

The subject property is located within the Humber River Watershed and Salt Creek flows through the southern corner of the subject property. Areas regulated by the TRCA on the subject property are associated with this watercourse, its associated valley corridor and floodplain; and the wetland in the northern corner.

3.5.2 Toronto and Region Conservation Authority Living City Policies

The *Living City Policies (LCP) for Planning and Development in the Watersheds of the TRCA* was approved by its board on November 28, 2014. The LCP contains policies related to terrestrial resources, water resources, natural features and areas, natural hazards, and potential natural cover and buffers. Section 7.3 contains TRCA's policies for how to define, protect, enhance, and secure a Natural Heritage System. The policies described in Section 7.3.1.4 have been identified with the goal of protecting lands that have the potential to be restored in order to enhance existing natural cover and manage natural hazards.

As per Section 7.3.1.4 of the LCP, the TRCA prescribes the following buffers to natural features and hazards as it may relate to the subject properties:

- **Valley or Stream Corridors** – a 10 m buffer from the greater of the long-term stable top of slope/bank, the stable toe of slope, Regulatory flood plain, meander belt, and any contiguous natural features or areas;
- **Wetlands** – a 30 m buffer from PSWs and a 10 m buffer for all other wetlands and any contiguous natural features or areas;
- **Woodlands** – a 10 m buffer from the dripline and any contiguous natural features or areas;
- Any additional distances prescribed by federal, provincial, or municipal requirements or standards (e.g., Greenbelt); and
- Any additional distances demonstrated as necessary through technical reports.

The valley and stream corridor and wetland on the subject property are subject to the LCP policies.

3.6 Endangered Species Act

The ESA (2007) protects species listed as threatened or endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO). Over 200 species in Ontario are identified as extirpated, endangered, threatened, or of special concern under the ESA.

The purposes of the ESA are:

- To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;

- To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk; and
- To promote stewardship activities to assist in the protection and recovery of species that are at risk.

Section 9 of the ESA generally prohibits the killing or harming of a Threatened or Endangered species, as well as the destruction of its habitat.

Section 10 of the ESA prohibits the damage or destruction of the habitat of all endangered or threatened species.

Salt Creek is occupied Redside Dace habitat.

4. Existing Conditions

This rural property is under active anthropogenic uses. The subject property is within a rural landscape and is in a matrix of agricultural lands, but south of the area has undergone residential development.

The results of field investigations are depicted in **Figure 2** and are described in greater detail below.

4.1 Vegetation

4.1.1 Ecological Communities and Land Use

Ecological communities were mapped and described according to the ELC system for southern Ontario (Lee *et al.* 1998) and are illustrated in **Figure 2**. A description of these communities is provided below. The staked top of bank is also shown on **Figure 2**.

Anthropogenic (ANT)

Approximately 90% of the subject property is being utilized for anthropogenic purposes associated with agricultural activity, including two residences, barns and outbuildings and lawn. The small dug pond visible on the orthophoto was not present during Beacon field investigations.

Planted garden trees around the houses included: Honey Locust (*Gleditsia triacanthos*), White Spruce (*Picea glauca*), Crimson King Maple (*Acer platanoides* 'Crimson King'), and some fruit trees.

Agricultural (AG)

This is the dominant land use on the subject property. These fields were in row crop during the 2020 season.

Dry-moist Old Field Meadow (CUM1-1)

Three relatively small areas of Dry-moist Old Field Meadow (CUM1-1) communities are located adjacent to the Anthropogenic area, and in the north east and southeast corners of the subject property. These communities are dominated by Reed Canary Grass (*Phalaris arundinacea*) with associates of Bird's-foot Trefoil (*Lotus corniculatus*), Chicory (*Cichorium intybus*) and Cow Vetch (*Vicia cracca*).

Forb Mineral Meadow Marsh (MAM2-10)

A small marsh community, approximately 0.35 ha, occurs in the north west corner. This community is mainly comprised of a forb mineral meadow marsh dominated by non-native Ox-eye Daisy (*Leucanthemum vulgare*), with Red Clover (*Trifolium pratense*), Reed Canary Grass and Cattail (*Typha* spp.). Cattail dominates the interface between this community and the agricultural field. The limit of this community was staked by the TRCA (November 2020).

Reed-canary Grass Mineral Meadow Marsh (MAM2-2)

This marsh community is associated with Salt Creek and is dominated by non-native and invasive Reed Canary Grass, with lesser, scattered occurrences of cattail.

This community includes upland meadow and thicket (dominated by Staghorn Sumac *Rhus typhina*) along the upper reaches of the slope and top of bank.

Hedgerow (HE)

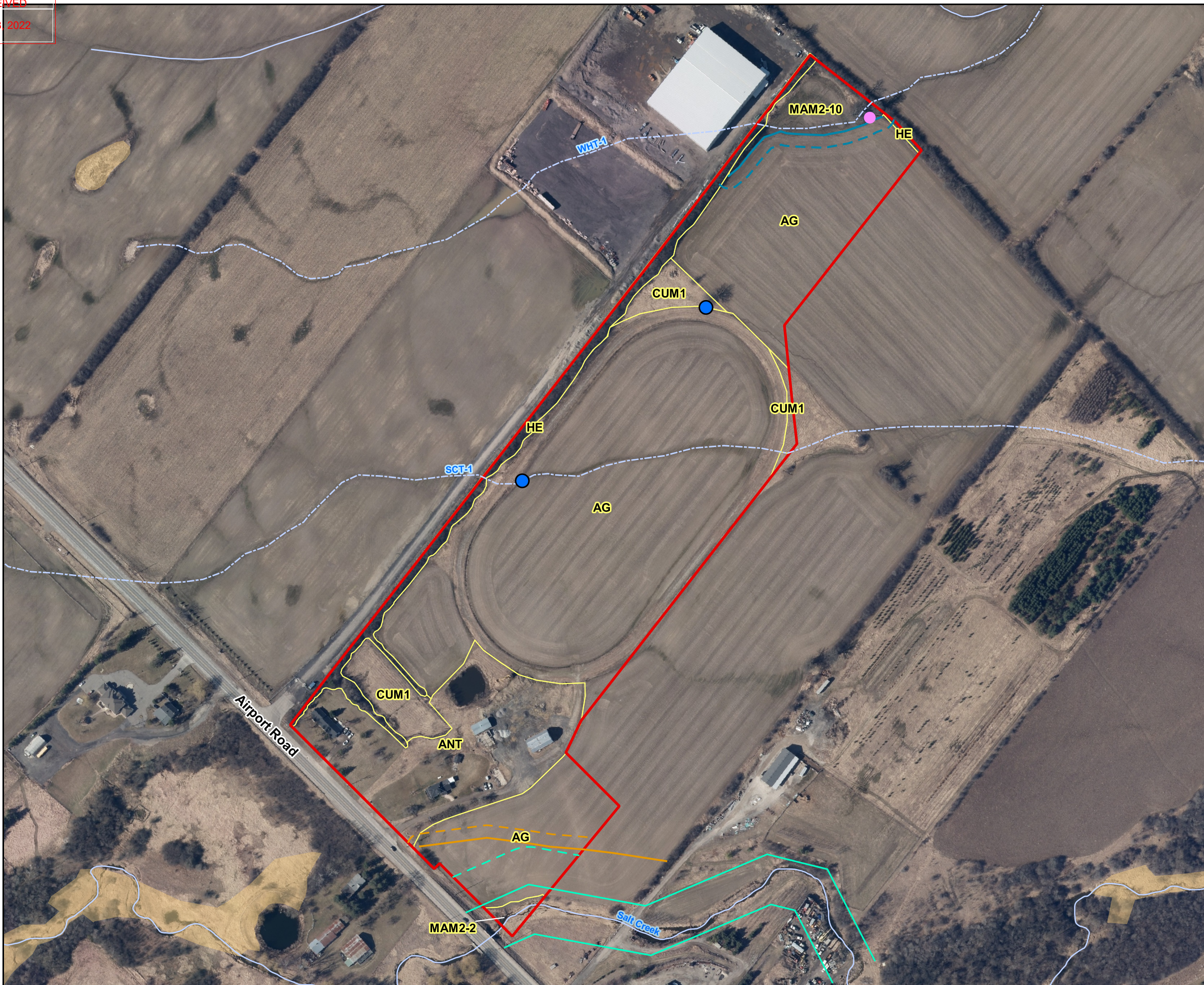
A Hedgerow (HE) is situated along the western boundary, dominated by non-native Common Buckthorn (*Rhamnus cathartica*) with Wild Grape (*Vitis riparia*) and the occasional Manitoba Maple (*Acer negundo*), Black Walnut (*Juglans nigra*) and American Elm (*Ulmus americana*). Reed Canary Grass dominates the ground cover along the edges of the hedgerow and where the canopy is more open.

4.1.2 Flora

A total of 88 vascular plant species were recorded on the subject property. An annotated list of vascular plants recorded on the subject property is provided in **Appendix A**.

Of 88 species identified, just 35 (42%) are considered native to Ontario, while the remainder are considered to be non-native. All native species have been assessed by the MNR as common to very common in Ontario. The high number of non-native species is indicative of the anthropogenic disturbance on the subject property.

The majority of species inventoried have a high range of habitat tolerances, as evident by the high proportion of species with a low coefficient of conservatism (CC) values. None of the species recorded during surveys are of global, national, or provincial significance.



Existing Conditions	Figure 2
12541 & 12577 Airport Road, Caledon	
Legend	
	Subject Property
	Watercourse (MNRF 2020)
	Drainage Feature
	Ecological Communities
	Staked Top of Bank (TRCA Nov. 12 2020)
	Staked Top of Bank + 10 m
	Staked Wetland (TRCA Nov.12 2020)
	Staked Wetland + 10 m
	Meander Belt
	Meander Belt + 30 m
	Unevaluated Wetland (MNRF 2020)
●	Semi-terrestrial Crayfish Burrows – June 2020
Code	Wetland Communities
MAM2-10	Forb Mineral Meadow Marsh
MAM2-2	Reed-canary Grass Mineral Meadow Marsh
	Cultural Communities
CUM1	Mineral Cultural Meadow
	Other Communities
AG	Agricultural Crop
ANT	Anthropogenic
HE	Hedgerow
Project: 220196 Last Revised: March 2021	
Client: Nishan Transport Inc.	Prepared by: BD Checked by: LC
1:3,000 0 60 120 m	
Contains information licensed under the Open Government License—Ontario Orthoimagery Baselayer: 2019 (FBS)	

4.2 Breeding Birds

Over the three breeding bird surveys 23 breeding bird species were recorded (**Appendix B**). Most of the species observed are widespread and common species that are frequently found in rural contexts and are disturbance-tolerant species.

The three most abundant species were Song Sparrow (*Melospiza melodia*), Savannah Sparrow (*Passerculus sandwichensis*), and Red-winged Blackbird (*Agelaius phoeniceus*). The few species observed in the cultivated fields were: Savannah Sparrow, Horned Lark (*Eremophila alpestris*) and Killdeer (*Charadrius vociferous*). The Savannah Sparrow is considered a field/grassland area-sensitive species. Area-sensitive species are those which either require a larger area in which to nest, or which are more productive in larger area. The Savannah Sparrow, is nonetheless, a very common and widespread species in south and central Ontario. No other area-sensitive species were observed.

The hedgerows, plus the portion of the property adjacent to Airport Road, which contained buildings, a pond and scattered trees, held the majority of species, although none were found in large numbers.

Two avian Species at Risk was observed. Two pairs of Barn Swallow (*Hirundo rustica*) were observed nesting; one nest was found in the large barn and another in the small shed near the house. This provincially threatened species usually nests on artificial structures and is an aerial insectivore which forages over fields, grasslands, wetlands and other open areas. While still relatively common, its populations are declining.

One Bobolink (*Dolichonyx oryzivorus*), a provincially threatened species, was observed on one of the three survey days (June 18), singing briefly in a hedgerow on the border of the property. It was considered a wandering bird and not a breeding species due to: the brief nature of the use of the property (perched in the hedgerow) when observed; the lack of suitable breeding habitat on the subject property; and its absence from the two other surveys.

No species listed provincially as S1 through S3 (Critically Imperiled, Imperiled or Vulnerable) were observed.

Four TRCA L3 avian species were observed: Wild Turkey (*Meleagris gallopavo*), Horned Lark (*Eremophila alpestris*), Brown Thrasher (*Toxostoma rufum*), and Vesper Sparrow (*Pooecetes gramineus*). L3 species are of 'regional concern; restricted in occurrence and/or requires specific site conditions; generally occurs in natural rather than cultural areas' whereas L4 species are 'widespread regionally but are vulnerable to long-term declines in urban areas' and L5 species are 'not of conservation concern'. Despite the L3 definition, these four species are all found in non-forested non-wetland habitats that are heavily altered by humans. In south-central Ontario, Vesper Sparrow and Horned Lark are found in large open fields that are usually cultivated. Wild Turkeys are increasing and tend to use habitats that have adjacent woodland and open field habitats. Over the last few decades, the population of this species in Ontario has increased significantly. Brown Thrasher is a species usually found in extensive shrublands, although as here, can be found in hedgerows and scattered woody vegetation within an agricultural landscape.

4.3 Incidental Wildlife Observations

Other wildlife likely to occur on the subject property includes those that are commonly associated with rural and urban fringe such as: Grey Squirrel (*Sciurus carolinensis*), Raccoon (*Procyon lotor*), White-tailed Deer (*Odocoileus virginianus*), Skunk (*Mephitis mephitis*), Red Fox (*Vulpes vulpes*) and Coywolf (*Canis X latrans*).

The presence of semi-terrestrial crayfish species (i.e., Chimney or Digger Crayfish) (*Fallicambarus fodiens*) was noted in two locations within the subject property. One burrow was adjacent to the WHT-1 feature at the northern-most portion of the property, and the second burrow was adjacent to the inlet culvert at the upstream extent of the SCT-1 channel. Only one burrow was observed at each location.

4.4 Endangered or Threatened Species

To determine what endangered or threatened species have previously been recorded in the vicinity of the subject property, records from the resources identified in **Section 3.1** were reviewed. Through this review, 13 species that are identified as endangered or threatened under the provincial ESA were identified as having previously been recorded in the vicinity of the subject property. The full list of species is provided in **Appendix C**.

An assessment of the existing conditions of the subject property and the presence of potentially suitable habitat for these species was completed. Through this assessment, it was determined that potentially suitable habitat for three of species was present: Butternut (*Juglans cinerea*), Barn Swallow (*Hirundo rustica*), and Redside Dace.

The site, including hedgerows was searched for Butternut and none were found.

During the breeding bird survey two pairs of Barn Swallow were recorded with nests in buildings that are to be retained.

Correspondence with the MECP confirmed the presence of occupied habitat for Redside Dace within Salt Creek. Subsequently, a geomorphic assessment was completed to determine the extent of the regulated habitat for the species (i.e., meander belt width plus 30 m). This Geomorphic Assessment was prepared by Beacon (2021) under separate cover.

No other evidence of any other endangered or threatened species was documented breeding or inhabiting the subject property.

4.5 Aquatic Resources

The southern two-thirds of the subject property drain towards Salt Creek, a small catchment area located within the West Humber River subwatershed, within the larger Humber River watershed. Salt Creek, within the subject property, is identified by MECP as occupied habitat for the endangered Redside Dace. Within the central portion of the subject property, a small drainage feature flows easterly and connects to Salt Creek approximately 1 km to the east of the subject property. This drainage channel is identified as SCT-1.

The northern portion of the subject property does not drain towards Salt Creek, but instead comprises a portion of the West Humber River subwatershed catchment area. A small drainage feature exists within the northern-most portion of the property and is identified as WHT-1. WHT-1 connects to the West Humber River south of Countryside Drive approximately 5.5 km downstream of the subject property.

Locations of the SCT-1 and WHT-1 channels are shown on **Figure 2**.

As described in Section 4.5.1, headwater drainage feature assessments were conducted in June and July 2020 for the SCT-1 and WHT-1 features.

During geotechnical investigations, several boreholes were drilled on the subject property. Soil Engineers Limited (2020) concluded that because groundwater was not recorded in the boreholes during the drilling operation and upon the completion of drilling, that continuous groundwater does not exist in the boreholes within the depth of investigation. In this regard, it is assumed there is no groundwater contribution to either headwater drainage feature.

4.5.1 Headwater Drainage Feature Assessment

SCT-1

SCT-1 emerges along the western boundary of the subject property through a large (750 mm) corrugated steel pipe (CSP) culvert. From here the drainage path of SCT-1 traverses a farm field in an easterly direction. During the June 2020 field investigation, no riparian vegetation was observed within the farm field (i.e., it was bare soil), however, by August the field was a row-crop of soybean. No flow or standing water was observed during either of the 2020 site visits. Damp soil was observed around the inlet and outlet culverts during the June site visit, but not in August.

The SCT-1 drainage path is undefined and features little to no substrate variability when compared to the surrounding agricultural lands. Evidence of erosion was difficult to determine as the field appeared to be recently tilled prior to the initial June 2020 site visit. At the eastern edge of the farm field the SCT-1 channel exits the subject property through a CSP culvert which is roughly half the diameter (350 mm) of the inlet culvert.

Channel substrates were recorded as predominantly silts, with some sands, and a small amount of gravel noted near the inlet and outlet CSP culverts. This is consistent with the soil within the agricultural lands.

SCT-1 feature does not provide coarse sediments to downstream reaches (i.e., Salt Creek), and no groundwater indicators were observed that suggested baseflow contributions through surface or subsurface flows, which is corroborated by the Geotechnical Investigation (Soil Engineers Ltd 2020). In this regard, it is not considered contributing Redside Dace habitat, as it does not meet the definition in Ontario Regulation 242/08, that is:

A stream, permanent or intermittent headwater drainage feature, groundwater discharge area or wetland that augments or maintains the baseflow, coarse sediment supply or surface water quality of a part of a stream or other watercourse described in subparagraph i or ii, provided the part of the stream or watercourse has an average bankfull width of 7.5 metres or less.

Evidence of semi-terrestrial crayfish species were observed along the SCT-1 channel by ecologists during the June 30, 2020 breeding bird field investigation.

WHT-1

The WHT-1 feature flows onto the subject property from a hedgerow of European Buckthorn (*Rhamnus cathartica*) and cattail (*Typha* spp.) which separates the northern corner of the subject property from the industrial warehouse and truckyard in the neighbouring property.

The WHT-1 feature exhibits low sinuosity as it meanders through the cattail within the subject property. At approximately its midway point within the subject lands, the flow path becomes heavily braided as it flows through denser vegetation. Along its length within the subject property, the WHT-1 channel maintains a relatively gentle gradient and measured flow velocities were low (approximately 0.04 m/s) during the June 2020 field investigation. Flow was observed within WHT-1 during all 2020 field investigations, this includes site visits where no precipitation was measured within the prior 24 to 48 hours (as per Environment Canada Toronto INTL A weather station).

WHT-1 is an unconfined swale with no defined channel banks and exhibits small riffles and pools which contain substrates composed of clays and silts. Riparian vegetation consisted of mostly cattails and short grasses along its northern bank, and agricultural field to the south. The average bankfull width was recorded at approximately 1650 mm with an average bankfull depth recorded at approximately 200 mm. No evidence of groundwater was noted along the WHT-1 channel within the subject property.

Evidence of semi-terrestrial crayfish species were observed in proximity to the WHT-1 channel during the June 16 and 30, 2020 site visits.

4.6 Assessment of Significant Natural Heritage Features

The findings of this study have been used to determine if the subject property support any natural heritage components that are recognized under the PPS, the Region of Peel Official Plan or the Town of Caledon Official Plan (**Table 2**).

Table 2. Assessment of Significant Natural Heritage Features

Natural Heritage Feature	Assessment	Present on property?
Significant Wetlands	No Significant Wetlands occur on or directly adjacent to the subject property.	No
Significant Woodlands	There is no woodland on or adjacent to the subject property.	No
Significant Valleylands	The top of bank to Salt Creek was staked by the TRCA.	Yes
Potential Significant Wildlife Habitat	The criteria for potential Significant Wildlife Habitat for semi-terrestrial crayfish from the MNR is the presence of one burrow. Therefore, potential significant wildlife habitat exists in two locations: at the northern-most point of the property, and on the west side associated with SCT-1 as shown on Figure 2 .	No

Natural Heritage Feature	Assessment	Present on property?
	The northern burrow will be retained within the buffer to the marsh; the southern burrow will be removed. In our experience semi-terrestrial crayfish can be abundant where conditions are suitable. we don't believe that the presence of one burrow should constitute significant wildlife habitat. In this case, one burrow will be retained and one removed. See discussion in section 6.	
Fish Habitat	Fish habitat is present within Salt Creek, which cuts across the south-eastern corner of the subject property. Mapping provided by the MNR identifies the watercourse as a Warmwater Watercourse.	Yes
Habitat for Endangered or Threatened Species	<p>Salt Creek has been identified as occupied habitat for Redside Dace by the MECP. The meander belt has been calculated and 30 m added to identify the regulated area.</p> <p>Two pairs of Barn Swallow were recorded nesting in outbuildings on the subject property that are being retained.</p> <p>No other breeding habitat for endangered or threatened was noted on the subject property.</p>	Yes
Significant Area of Natural and Scientific Interest	The Brampton Buried Esker Earth Science ANSI is located approximately 2.5 km to the south west of the subject property.	No

5. Proposed Development Plan

The Temporary Use proposal is to permit a gravel parking area for transport trucks and trailers on the subject property. There will be no new structures or buildings constructed as part of this application; all existing structures will be retained unaltered. The parking area will be constructed in the existing agricultural area (**Figure 3**).

To facilitate this use, a private stormwater management (SWM) system is required. A Stormwater Management Report (Masongsong Associates Engineering Limited [MAEL] March 2021) has been prepared which outlines the proposed servicing infrastructure. The system will be refined subsequent to conversations with associated regulatory agencies: MECP for Redside Dace considerations; and TRCA for regulated hazard lands (i.e., wetlands, watercourse, top of slope). The SWM system must be designed to ensure compliance with the *Guidance for Development Activities in Redside Dace Protected Habitat* (MNR 2016) document pursuant to the ESA and Ontario Regulation 242/08.

In general quantity control will have two aspects: peak volume control will be provided by a site storm sewer system, while Low Intensity Development (LID) measures in the form of enhanced grass swales will further reduce peak post development runoff. Quality control will be achieved through the use of an offline Jellyfish oil-grit separator (OGS) system to treat water prior to discharge. Enhanced grass swales will provide additional quality treatment. The Water Balance found that there will not be a significant change from the existing conditions to post development, given the pervious nature of the proposed gravel parking lot. However, the enhanced grass swales do provide an opportunity for infiltration to offset loss of infiltration (MAEL 2021).

The enhanced grassed swales will be located along the southern boundary of the site.

The SWM outfall, including headwall and rip-rap splashpad are proposed within the valley so as to convey stormwater to the watercourse, discharging at the toe of slope to Salt Creek (refer to Drawing SGR-1; MAEL 2021). The stormwater pipe will be installed via open cut to the headwall structure. This SWM infrastructure is proposed within Redside Dace habitat and will require approvals from MECP.

6. Impact Assessment

The proposed development of the subject property will consist of the construction of a gravel parking area and storm system in the agricultural area. There are only two locations on the subject property with natural heritage features: the marsh in the north corner and top of bank associated with Salt Creek in the southeast corner.

Noise and Light Effects on Wildlife

Acute and cumulative effects associated with noise and light are very difficult to quantify on a lot by lot basis. The effects of these stressors can be significant in previously undeveloped areas. The natural features associated with Salt Creek are currently influenced to some extent by the light and noise of Airport Road and the existing buildings and activity. However, the wetland in the north has until recently likely not been affected by noise and light, except for the recent construction of the adjacent industrial building.

Risk of Increased Encroachment into the Natural Features

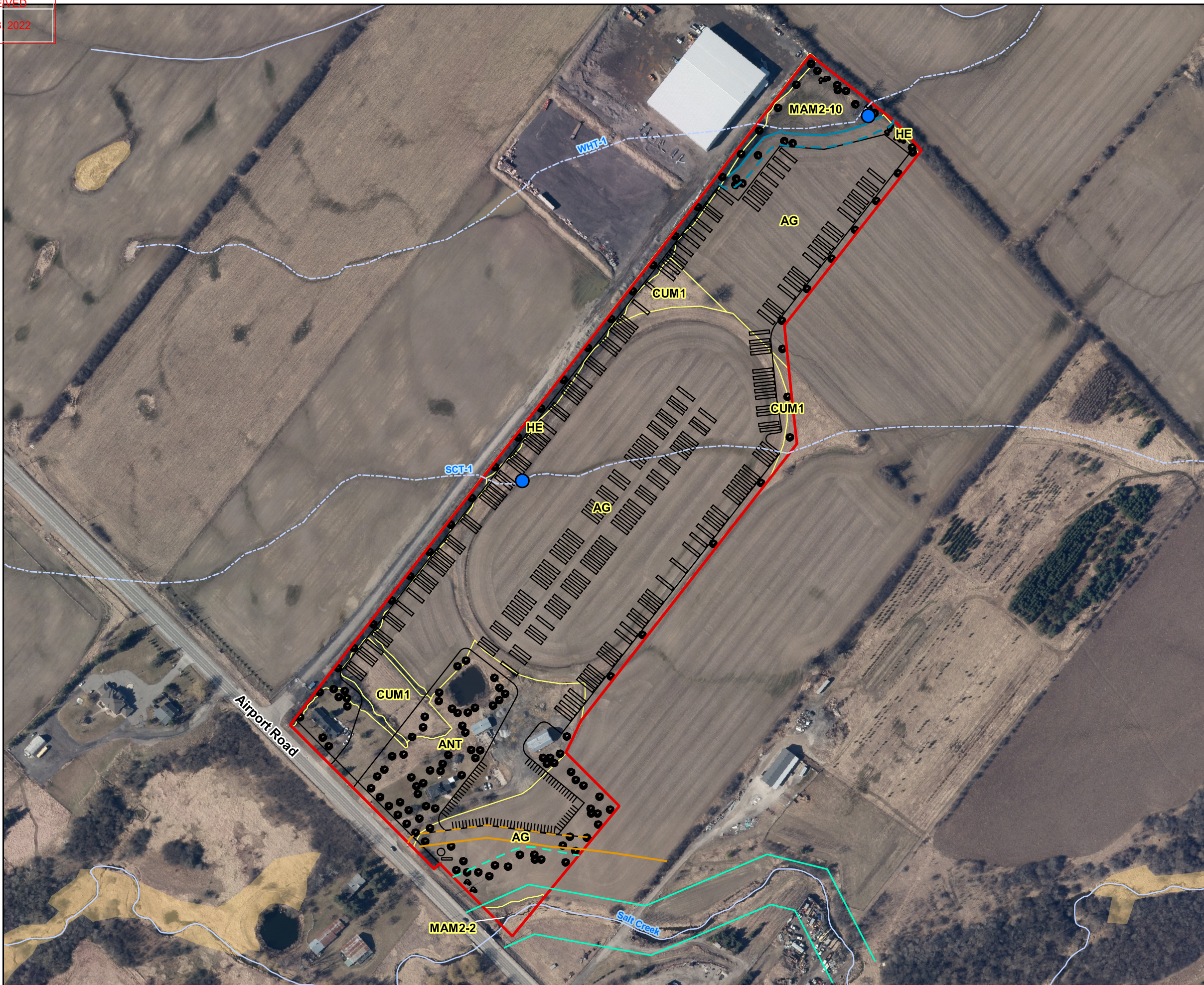
Encroachment can have negative effects on the natural heritage feature and/or its ecological functions such as vegetation trampling, dumping, and/or increased wildlife disturbance and stress. However, as this development is industrial (rather than residential) there are fewer disturbances associated with people.

Potential Significant Wildlife Habitat

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (OMNRF 2015) provide guidance for the Significant Wildlife Habitat (SWH) designation for the four categories of SWH outlined in the Significant Wildlife Habitat Technical Guide and its Appendices (OMNR 2000). Very few municipalities have provided their own thresholds for the suggested criteria but some have, and in many cases the thresholds are higher than that suggested for use by MNRF.

Regarding these guidelines the Province notes that:

They are advisory only and may be updated as technology or techniques improve. They provide information to assist in understanding the policy. They do not add to or detract from policy. Except as otherwise specified (e.g. where requirements are established by legislation or regulation), they do not represent the only acceptable approaches.



Proposed Development **Figure 3**

12541 & 12577 Airport Road, Caledon

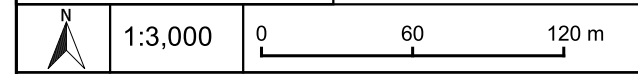
Legend

- Subject Property
- Proposed Development
- Watercourse (MNR 2020)
- Drainage Feature
- Ecological Communities
- Staked Top of Bank (TRCA Nov. 12 2020)
- Staked Top of Bank + 10 m
- Staked Wetland (TRCA Nov.12 2020)
- Staked Wetland + 10 m
- Meander Belt
- Meander Belt + 30 m
- Unevaluated Wetland (MNR 2020)
- Semi-terrestrial Crayfish Burrow (June 2020)

Code	Wetland Communities
MAM2-10	Forb Mineral Meadow Marsh
MAM2-2	Reed-canary Grass Mineral Meadow Marsh
Cultural Communities	
CUM1	Mineral Cultural Meadow
Other Communities	
AG	Agricultural Crop
ANT	Anthropogenic
HE	Hedgerow

BEACON ENVIRONMENTAL Project: 220196
 Last Revised: March 2021

Client: Nishan Transport Inc. Prepared by: BD
 Checked by: LC



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Perhaps the greatest challenge in applying these guidelines is that functional thresholds for the criteria are generally absent. The criteria provided by MNRF for SWH is simply the presence of Chimney Crayfish or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. However, firstly, some chimneys are not occupied (they may have been at some point, but chimneys alone are not indicative of occupied habitat and crayfish move around. Secondly, these animals also move around on an annual basis. Thirdly, an appropriate threshold for significance (e.g., “ten occupied burrows”) has not been created by the municipality and in its absence Beacon staff have provided their professional opinion as to whether or not the mere presence of a few chimneys, used or empty, rises to the test of SWH.

Evidence of semi-terrestrial crayfish were recorded from two locations (**Figures 2, 3**): associated with WHT-1 and marsh feature in the northwest corner; and associated with the SCT-1 feature.

The crayfish burrow associated WHT-1 was found in June 2020 and was open at the time, indicating it was not occupied. As this burrow is within the buffer to the wetland and is being retained as Environmental Protection Area, there will be no disturbance of this habitat.

The burrow associated with the SCT-1 channel was also found during the June visit (one chimney, closed, June 30, 2021) and was not recorded in subsequent visits during July or September. The SCT-1 channel does not include marsh or swamp habitat and lacked moist conditions during most of the 2020 field visits. Therefore SCT-1 the presence of one crayfish burrow is not considered SWH as it/they were not within suitable meadow marsh, swamp or moist terrestrial conditions, which is likely why the burrow did not persist during the year.

Potential Impacts to Endangered or Threatened Species

To protect for Redside Dace, the SWM design must include best efforts to maintain the following conditions:

- Discharge temperature below 24°C;
- Dissolved oxygen concentration at discharge of at least seven milligrams per litre; and
- TSS of <25 mg/L above stream background (MNRF 2016).

Discussions with MECP to address these criteria are ongoing.

The regulated habitat for the Redside Dace (meander belt plus 30 m) is generally contained within the staked top of bank. The SWM outfall, including headwall and rip-rap splashpad are proposed to be constructed within habitat (refer to Drawing SGR-1; MAEL 2021). The stormwater pipe will be installed via open cut to the headwall structure. This SWM infrastructure is proposed within Redside Dace habitat and will require approvals from MECP. All works must take place within the Redside Dace habitat window of July 1 to September 15 of any given year.

The Barn Swallow nests were located within structures that are being retained post-development.

Headwater Drainage Feature Direct Impacts

As shown on **Figure 3** the proposed development plan would result in the removal of the SCT-1 feature. No seasonal or permanent fish or terrestrial habitat would be directly impacted by the removal of SCT-

1. The primary function of this headwater segment is to convey ephemeral surface water flows and limited allochthonous material downstream to aquatic habitats associated within Salt Creek. This feature does not require a management recommendation (see Section 6.1), and therefore need not be retained in the landscape.

As for WHT-1, the current development plan does not interfere with this feature, respecting the staked wetland setback. Based on the Guidelines (TRCA and Credit Valley Conservation 2014), WHT-1 qualifies for a management recommendation of “Protection” as it provides perennial flows, along with valued riparian and terrestrial characteristics. With Protection status, it may not be altered without approval from the TRCA.

6.1 Recommended Mitigation Measures

The following mitigation measures are intended to lessen or eliminate potential impacts of the proposed development on the natural heritage system.

Removal of Habitat

The removal of vegetation associated with the agricultural area, the federal *Migratory Birds Convention Act* (1994) as well as other provincial legislation protects the nests, eggs and young of most bird species from harassment, harm or destruction. Environment Canada considers the “risk period” for breeding birds in southern Ontario to be from the end of March to late August, and so the most cautious approach is to confine approved vegetation removal from September 1 to March 31.

However, should vegetation removal be required outside of this window, a qualified avian biologist can conduct a survey to determine whether there are nesting birds in the vegetation (trees, shrubs or grasses) approved for removal up to two days prior to the activity; such surveys typically find nesting birds.

The SWM outfall, including headwall and rip-rap splashpad are proposed within Redside Dace habitat and will require approvals from MECP, under the ESA.

Feature Buffer

The prescribed minimum buffer for the wetland is 10 m, and 10 m on the top of bank. There will be some temporary and limited disturbance through the top of bank as the stormwater system is installed, which will then be restored. Otherwise there will be no grading or site alteration within these areas.

Noise and Light Effects on Wildlife

It is recommended that lighting of the subject property generally be directed down and away from the marsh in the north and the creek in the south.

HDF Management Recommendations

Management recommendations, following the application of the TRCA and CVC (2014) guidelines is provided in **Table 3**. A detailed classification table is provided in **Appendix D**.

Table 3. Headwater Drainage Feature Recommendations

Drainage Feature Segment	Final Management Recommendations	Comments/Rationale
SCT-1	No Management Required	Undefined farm field swale absent of riparian vegetation with ephemeral flow regime.
WHT-1	Protection	Perennially flowing feature with wetland and thicket riparian areas.

For SCT-1, the final management recommendation of “No Management Required” is identified as the feature provides limited hydrologic function, does not provide direct fish habitat, does not exhibit any groundwater or baseflow contributions, and is highly altered with no important riparian vegetation. Nevertheless, replication of any hydrologic contributions to Salt Creek will be maintained through the proposed stormwater management system which will add treatment for Total Suspended Solids (as prepared by MAEL 2021).

WHT-1 receives a final management recommendation of “Protection” because this feature provides perennial hydrologic function and exhibits important riparian and terrestrial characteristics. WHT-1 is not anticipated to be altered under the current development plan, and no direct impacts are expected to occur to this feature as a result of the proposed development. From site investigations, the main contributions to this feature appear to originate offsite.

Lot Conveyance and Stormwater Management

As discussed in Section 5, the SWM plan for the subject property incorporates LID measures to provide control at the lot level and conveyance (to the extent feasible) to infiltration-based controls.

Sedimentation and Erosion Control

For SWM works and/or construction, an erosion and sediment control (ESC) plan must be prepared for the construction phase of the development prior to the start of construction works that is consistent with TRCA’s Erosion and Sediment Control Guideline for Urban Construction (December 2006).

Any grading or site alteration related activities should be confined to the established limit of development. Fencing at the development limit should be regularly inspected and maintained in good working order throughout the construction period. Fencing should be removed upon completion of construction after exposed soils have been stabilized.

Standard Best Management Practices, including the provision of sediment control measures, should also be employed during the construction process.

7. Policy Conformity

A summary of federal, provincial and municipal environmental protection and planning policies and regulations applicable to the subject property were discussed in **Section 2**. An evaluation of how the proposed development complies with the applicable environmental policies and legislation are summarized below in **Table 4**.

Table 4. Policy Compliance Assessment

Applicable Policy / Legislation	Relevant NHE Findings and Recommendations	Policy Compliance
Endangered Species Act (2007)	<p>Regulated habitat for Redside Dace (occupied) is present on the subject property. All activities within this area will be subject to approval by MECP.</p> <p>Two pairs of Barn Swallow were recorded as nesting in outbuildings. These structures will not be removed or altered. Existing foraging habitat will be removed, but suitable foraging habitat remains in adjacent areas. Barn Swallow are highly tolerant of human presence and often nest on buildings and in areas of frequent human activity. It is likely that they will continue to nest in this location post development.</p>	Yes
Greenbelt Plan (2017)	The subject property is not within the Green Belt Plan area.	Yes
Provincial Policy Statement (2014) Section 2.1 – Natural Heritage		
1. Habitat for Threatened and Endangered Species	<p>Redside Dace Regulated habitat is associated with Salt Creek. See above.</p> <p>Barn Swallow were recorded nesting in outbuildings on the subject property. See above.</p>	Yes
2. Significant Valleylands	The top of bank to Salt Creek was staked by the TRCA and Salt Creek is identified in the Town's Official Plan as a Core Valley and Stream Corridor.	Yes
3. Significant Wetlands	There are no Significant Wetlands within or adjacent to the subject property.	Yes
4. Significant Woodlands	There are no significant woodlands within or adjacent to the subject property.	Yes
5. Significant Wildlife Habitat	There is potential significant wildlife habitat for semi-terrestrial crayfish associated with the marsh and WHT-1 that will be protected.	Yes
6. Significant Areas of Natural and Scientific Interest	There are no ANSIs within or adjacent to the subject property.	Yes
7. Fish Habitat	Salt Creek provides fish habitat and is regulated as Redside Dace occupied habitat. There will be no development within watercourses on site which provide fish habitat.	Yes
Region of Peel OP	The area associated with Salt Creek meets criteria (Table 2 of the ROP) as a Core Valley and Stream Corridor within the Greenlands Systems. Regional policies generally direct development away from these areas, with some exceptions.	Yes

Applicable Policy / Legislation	Relevant NHE Findings and Recommendations	Policy Compliance
	There will be no development or site alteration within this area, with the exception of temporary disturbance associated with the installation of SWM infrastructure as permitted and in accordance with the Redside Dace regulation.	
Caledon OP (2018)	The Salt Creek system is identified in the Town's Official Plan as Environmental Protection Area. New development is not permitted within this area. A 10 m buffer has been applied to the staked top of bank which delineates this feature. There is no new development proposed within this area.	Yes
TRCA Regulations and Policies Ontario Regulation 160/06	There are two regulated features on the subject property: Salt Creek and its associated valley; and the wetland in the north-western corner. Buffers have been applied to each of these features and there will be no development within the buffers or features, with the exception of some temporary disturbance for the installation of SWM structures.	Yes
Living City Policies (TRCA 2014)	The minimum required buffers have been applied to the features: 10 m to the staked top of bank; and 10 m to the wetland in the north-western corner. There will be no development or site alteration within these areas.	Yes

8. Summary

Beacon has reviewed the existing natural heritage policies as they pertain to the subject property. A field visit was undertaken to understand the site conditions, context and function with respect to natural heritage features. The proposed development of the subject property demonstrates compliance with the relevant policies.

We trust that this information is sufficient at this time. Should you have any questions or require any additional information please contact the undersigned at (519) 826-0419 x23.

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TOWN OF CALEDON
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Mar 18, 2022



Appendix A

Plant List

Appendix A

Plant List

Floral Inventory				
Scientific Name	Common Name	COSEWIC	SARO	SRank
<i>Acer negundo</i>	Manitoba Maple			S5
<i>Acer platanoides</i>	Norway Maple			SE5
<i>Acer saccharum</i>	Sugar Maple			S5
<i>Achillea millefolium</i>	Common Yarrow			SE5?
<i>Agrostis gigantea</i>	Redtop			SE5
<i>Agrostis stolonifera</i>	Creeping Bentgrass			SE5
<i>Alliaria petiolata</i>	Garlic Mustard			SE5
<i>Alopecurus pratensis</i>	Meadow Foxtail			SE5
<i>Ambrosia artemisiifolia</i>	Common Ragweed			S5
<i>Arctium minus</i>	Common Burdock			SE5
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit			S5
<i>Asclepias syriaca</i>	Common Milkweed			S5
<i>Barbarea vulgaris</i>	Bitter Wintercress			SE5
<i>Betula papyrifera</i>	Paper Birch			S5
<i>Bromus inermis</i>	Smooth Brome			SE5
<i>Caragana arborescens</i>	Siberian Pea Shrub			SE1
<i>Carex sp.</i>	Sedge Species			
<i>Carya ovata</i>	Shagbark Hickory			S5
<i>Chelidonium majus</i>	Greater Celandine			SE5
<i>Cicuta bulbifera</i>	Bulbous Water-hemlock			S5
<i>Cirsium arvense</i>	Canada Thistle			SE5
<i>Cirsium vulgare</i>	Bull Thistle			SE5
<i>Convolvulus arvensis</i>	Field Bindweed			SE5
<i>Crataegus sp.</i>	Hawthorn Species			
<i>Dactylis glomerata</i>	Orchard Grass			SE5
<i>Daucus carota</i>	Wild Carrot			SE5
<i>Dipsacus fullonum</i>	Common Teasel			SE5
<i>Erigeron strigosus</i>	Rough Fleabane			S5
<i>Erigeron subtrinervis</i>	Hairy Showy Fleabane			
<i>Eutrochium maculatum</i>	Spotted Joe Pye Weed			S5
<i>Fraxinus pennsylvanica</i>	Red Ash			S4
<i>Geum aleppicum</i>	Yellow Avens			S5
<i>Gleditsia triacanthos</i>	Honey Locust			S2?

Floral Inventory				
Scientific Name	Common Name	COSEWIC	SARO	SRank
<i>Hypericum perforatum</i>	Common St. John's-wort			SE5
<i>Impatiens capensis</i>	Spotted Jewelweed			S5
<i>Juniperus virginiana</i>	Eastern Red Cedar			S5
<i>Leonurus cardiaca</i>	Common Motherwort			SE5
<i>Leucanthemum vulgare</i>	Oxeye Daisy			SE5
<i>Lolium arundinaceum</i>	Tall Ryegrass			SE5
<i>Lolium perenne</i>	Perennial Ryegrass			SE4
<i>Lonicera tatarica</i>	Tatarian Honeysuckle			SE5
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil			SE5
<i>Lycopus americanus x europaeus</i>	Hybrid Water-horehound			
<i>Malus prunifolia</i>	Pear-leaved Crabapple			SE1
<i>Malus pumila</i>	Common Apple			SE4
<i>Medicago lupulina</i>	Black Medick			SE5
<i>Medicago sativa</i>	Alfalfa			SE5
<i>Melilotus albus</i>	White Sweet-clover			SE5
<i>Parthenocissus vitacea</i>	Thicket Creeper			S5
<i>Persicaria sp.</i>	Smartweed Species			
<i>Persicaria hydropiper</i>	Marshpepper Smartweed			SE5
<i>Phalaris arundinacea</i>	Reed Canarygrass			S5
<i>Pheum pratense</i>	Common Timothy			SE5
<i>Picea glauca</i>	White Spruce			S5
<i>Picea pungens</i>	Blue Spruce			SE1
<i>Picea rubens</i>	Red Spruce			S3
<i>Pinus strobus</i>	Eastern White Pine			S5
<i>Plantago lanceolata</i>	English Plantain			SE5
<i>Plantago major</i>	Common Plantain			SE5
<i>Poa pratensis</i>	Kentucky Bluegrass			S5
<i>Populus deltoides</i>	Eastern Cottonwood			S5
<i>Potentilla recta</i>	Sulphur Cinquefoil			SE5
<i>Pyrus communis</i>	Common Pear			SE4
<i>Ranunculus acris</i>	Common Buttercup			SE5
<i>Rhamnus cathartica</i>	European Buckthorn			SE5
<i>Rhus glabra</i>	Smooth Sumac			S5
<i>Rubus idaeus</i>	Red Raspberry			S5
<i>Rumex crispus</i>	Curled Dock			SE5
<i>Salix discolor</i>	Pussy Willow			S5
<i>Salix euxina</i>	Crack Willow			SE
<i>Salix lucida</i>	Shining Willow			S5
<i>Saponaria officinalis</i>	Bouncing-bet			SE5

Floral Inventory				
Scientific Name	Common Name	COSEWIC	SARO	SRank
<i>Securigera varia</i>	Purple Crown-vetch			SE5
<i>Silene vulgaris</i>	Bladder Campion			SE5
<i>Solidago altissima</i>	Tall Goldenrod			S5
<i>Solidago canadensis</i>	Canada Goldenrod			S5
<i>Taraxacum officinale</i>	Common Dandelion			SE5
<i>Thuja occidentalis</i>	Eastern White Cedar			S5
<i>Tilia americana</i>	Basswood			S5
<i>Trifolium pratense</i>	Red Clover			SE5
<i>Trifolium repens</i>	White Clover			SE5
<i>Typha latifolia</i>	Broad-leaved Cattail			S5
<i>Verbascum thapsus</i>	Common Mullein			SE5
<i>Vicia cracca</i>	Tufted Vetch			SE5
<i>Vitis riparia</i>	Riverbank Grape			S5

RANK

DEFINITION

EXP

Extirpated - A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

END

Endangered - A wildlife species facing imminent extirpation or extinction.

THR

Threatened - A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

SC

Special Concern - A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

RANK

DEFINITION

EXP

Extirpated - A species that no longer exists in the wild in Ontario but still occurs elsewhere.

END

Endangered - A species facing imminent extinction or extirpation in Ontario.

THR

Threatened - A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

SC

Special Concern - A species with characteristics that make it sensitive to human activities or natural events.

RANK

DEFINITION

NX

SX

Presumed Extirpated - Species or ecosystem is believed to be extirpated from the jurisdiction (i.e., nation, or state/province). Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered. [equivalent to "Regionally Extinct" in IUCN Red List terminology]

NH

SH

Possibly Extirpated - Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty. Examples of

such evidence include (1) that a species has not been documented in approximately 20-40 years despite some searching and/or some evidence of significant habitat loss or degradation; (2) that a species or ecosystem has been searched for unsuccessfully, but not thoroughly enough to presume that it is no longer present in the jurisdiction.

N1

S1

Critically Imperiled - At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

N2

S2

Imperiled - At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

N3

S3

Vulnerable— At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

N4

S4

Apparently Secure - At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

N5

S5

Secure - At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats.

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Appendix B

Breeding Bird Data

Appendix B

Breeding Bird List

Common Name	Scientific Name	Status		Provincial breeding season SRANK ^b	TRCA Status ^d	Area-sensitive (OMNR) ^c	Number of Pairs/Territories
		National Species at Risk COSEWICa	Species at Risk in Ontario Listing a				
Wild Turkey	<i>Meleagris gallopavo</i>			S5	L3		1
Killdeer	<i>Charadrius vociferus</i>			S5	L5		1
Spotted Sandpiper	<i>Actitis macularia</i>			S5	L4		2
Mourning Dove	<i>Zenaida macroura</i>			S5	L5		1
Eastern Phoebe	<i>Sayornis phoebe</i>			S5	L5		1
Horned Lark	<i>Eremophila alpestris</i>			S5	L3		3
Barn Swallow	<i>Hirundo rustica</i>	THR	THR	S4	L4		2
Blue Jay	<i>Cyanocitta cristata</i>			S5	L5		1
Black-capped Chickadee	<i>Poecile atricapillus</i>			S5	L5		2
American Robin	<i>Turdus migratorius</i>			S5	L5		2
Brown Thrasher	<i>Toxostoma rufum</i>			S4	L3		1
Cedar Waxwing	<i>Bombycilla cedrorum</i>			S5	L5		1
European Starling	<i>Sturnus vulgaris</i>			SE	L+		2
Northern Cardinal	<i>Cardinalis cardinalis</i>			S5	L5		1
Vesper Sparrow	<i>Poocetes gramineus</i>			S4	L3		1
Savannah Sparrow	<i>Passerculus sandwichensis</i>			S4	L4	A	6
Song Sparrow	<i>Melospiza melodia</i>			S5	L5		8
Red-winged Blackbird	<i>Agelaius phoeniceus</i>			S4	L5		4
Common Grackle	<i>Quiscalus quiscula</i>			S5	L5		1
Brown-headed Cowbird	<i>Molothrus ater</i>			S4	L5		3
House Finch	<i>Haemorhous mexicanus</i>			SNA	L+		1
American Goldfinch	<i>Spinus tristis</i>			S5	L5		2 (16F)
House Sparrow	<i>Passer domesticus</i>			SNA	L+		1

Field Work Conducted On: June 8, June 18, and June 30, 2020 F = foraging only

Number of Species: 23

Number of (provincial and national) Species at Risk: 1 (Barn Swallow)

Number of S1 to S3 Species: 0

Number of TRCA L1, L2 and L3 Species (Species of Concern): 4 (Wild Turkey, Horned Lark, Brown Thrasher, Vesper Sparrow)

Number of Grassland Area-sensitive Species: 1 (Savannah Sparrow)

KEY

a COSEWIC = Committee on the Status of Endangered Wildlife in Canada

a Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)

END = Endangered, THR = Threatened, SC = Special Concern

^b SRANK (from Natural Heritage Information Centre) for breeding status if:

S1 (Critically Imperiled), S2 (Imperiled), S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)

SNA (Not applicable...because the species is not a suitable target for conservation activities'; includes non-native species)

c Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

d Toronto and Region Conservation Authority L rank (Dec 2010):

L1 to L3 Regional species of concern from highest to lowest; L4 Urban concern; L5 Secure through region; L+ Non-native

Appendix C

Endangered and Threatened Species Screening List

Appendix C

Endangered and Threatened Species Screening List – Accessed May 7, 2020

Common Name	Scientific Name	Group	SARO Status	COSEWIC Status	SARA Schedule	SARA Status	S Rank	Beacon Comments on Status
Prothonotary Warbler	<i>Protonotaria citrea</i>	Birds	END	END	Schedule 1	END	S1B	
Bank Swallow	<i>Riparia riparia</i>	Birds	THR	THR	Schedule 1	THR	S4B	Added to SARO List: June 27, 2014
Chimney Swift	<i>Chaetura pelagica</i>	Birds	THR	THR	Schedule 1	THR	S4B,S4N	
Barn Swallow	<i>Hirundo rustica</i>	Birds	THR	THR	Schedule 1	THR	S4B	Date added to the SARO List Jan 13, 2012
Acadian Flycatcher	<i>Empidonax virescens</i>	Birds	END	END	Schedule 1	END	S2S3B	
Bobolink	<i>Dolichonyx oryzivorus</i>	Birds	THR	THR	Schedule 1	THR	S4B	
Eastern Meadowlark	<i>Sturnella magna</i>	Birds	THR	THR	Schedule 1	THR	S4B	
Butternut	<i>Juglans cinerea</i>	Dicots	END	END	END	END	S2?	COSEWIC Status re-examined and confirmed in April 2017
Little Brown Myotis	<i>Myotis lucifugus</i>	Mammals	END	END	Schedule 1	END	S3	Last COSEWIC Assessment: November 2013; Date added to the Species at Risk in Ontario List January 24, 2013
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Mammals	END				S2S3	Date added to the SARO List June 27, 2014
Tri-colored Bat	<i>Perimyotis subflavus</i>	Mammals	END	END	Schedule 1	END	S3?	Date added to the SARO List June 15, 2016
Northern Myotis	<i>Myotis septentrionalis</i>	Mammals	END	END	Schedule 1	END	S3	Date added to the SARO List January 24, 2013
Redside Dace	<i>Clinostomus elongatus</i>	Ray-finned fishes	END	END		END	S2	

Note: Highlighted species or their habitat are present on site

Appendix D

Headwater Drainage Feature Data

Appendix D

Headwater Drainage Feature Data

Table D1. Headwater Drainage Feature Assessment Classification – 12541 & 12577 Airport Road

Drainage Feature Segment	Step 1		Step 2	Step 3	Step 4	Output from HDFA	Final Management Recommendations	Comments/Rationale
	Hydrology	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat			
2020 Assessments								
SCT-1	Contributing	Agriculture	Limited	Contributing	Limited	Mitigation	Mitigation	Undefined farm field swale with potentially ephemeral flow regime.
SCT-2	Important	Agriculture	Important	Contributing	Valued	Protection	Protection	Perennially flowing feature with wetland and thicket riparian areas.