



FINAL

Scoped Environmental Impact Study

540 King Street East, Cobourg, Ontario

Prepared for:

Sunnyside Village Inc.

6849 County Road #10,
Port Hope, Ontario L1A 3V5

Attn: Napalys and Ruth Kane Juodzevicius

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1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Sunnyside Village Inc. (Client) to conduct a Scoped Environmental Impact Study (EIS) for the subject property located at 540 King Street East, Cobourg, Ontario (Site). The Site and its immediate surrounding areas as the Study Area for this EIS is shown on Figure 1 in **Appendix A**. The EIS was requested by the Town of Cobourg in support of a Development Application (DA). The proposed development is the construction of a subdivision, including 6 detached residences, 4 semi-detached residences, 55 townhouses, and 24 mixed-use units, with associated amenities. An existing residential building and a barn structure will be retained on the Site.

As shown on Figure 1 in **Appendix A**, the Site can be visualized in two sections; the developed residential and agricultural areas dominated by disturbed areas and common landscape trees, and the more natural areas dominated by mixed meadows, meadow marshes and swamp. The Site is situated on the boundary between a rural agricultural community and urban developed area, surrounded by both agriculture and low-density real estate development. The Site is bounded by a railroad to the north, undeveloped land to the west, a rural residential property to the east, and King Street to the south.

Currently the Site is a mostly vegetated lot with a single-family residential building and a barn and auxiliary structure, with associated amenities. The remainder of the Site is split between an active agriculture field and more naturalized areas consisting of with a mix of grass meadow marshes, mixed meadow, deciduous swamp and deciduous woodland communities.

This Scoped EIS report was prepared to: identify natural heritage features present on or immediately adjacent to the Site and characterize their ecological functions; evaluate the environmental effects of the development proposal that might reasonably be expected to have an impact on the natural features; and provide recommendations of mitigation measures to avoid or minimize the potential impacts. This Scoped EIS report will be prepared in general accordance with the Town of Cobourg and the Ganaraska Region Conservation Authority (GRCA) guidelines for an EIS.

2.0 POLICY CONTEXT

The following provincial, regional, and municipal legislation and policies were reviewed prior to an evaluation of the natural heritage features and functions of the Site and adjacent area was undertaken:

- Provincial Policy Statement (2020);
- Northumberland County Official Plan (2016 Consolidation);
- Town of Cobourg Official Plan (2018 Consolidation);
- Ontario Regulation 168/06 (1990);

The sections below provide a summary of the above legislation and policies applicable to the development planning of the Site.



2.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) 2020 sets a policy foundation for regulating development and land use. It sets out guidelines for development while protecting resources of interest to the province, public health and safety and the quality of the natural environment. The PPS does support development and improved land use for planning, management and growth, but it does so in ways to enhance communities through efficient land use and environmental management and protection. The PPS states that Site alteration shall not be permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions (Ministry of Municipal Affairs and Housing, 2020).

2.2 Northumberland County Official Plan

The most recent consolidation of the Northumberland County Official Plan (NCOP) was released in 2016. The Study Area is classified as “Urban Area” as seen in Schedule A of the OP. Policies within the NCOP direct a significant portion of new growth to the Built-up Areas of the community through intensification, to protect the surrounding countryside, including Environmental Protection Areas and the Oak Ridges Moraine. The plan does not permit development in significant wetlands or coastal wetlands of any kind. Section D 1.9.2 states that an EIS shall be prepared in accordance with the requirements of this section of the Plan in order to understand the boundaries and attributes of natural heritage features and their functions (Northumberland County, 2016). The eastern edge of the Site overlaps with a Key Natural Heritage Feature, primarily present on the adjacent property as shown on the Natural Heritage System map. Both of these maps can be seen in **Appendix C**.

2.3 Town of Cobourg Official Plan

The Study Area is subject to the policies and designations in the Town of Cobourg Official Plan (2018). Currently, the Town has zoned the Site as Rural (RU-3) as shown on Schedule A Land use Plan mapping (Town of Cobourg, 2018). Development is permitted in “Environmental Constraint Area” given they follow the appropriate bylaws. The Official Plan also identifies areas as a part of the “Greenland System” as shown on Schedule B Greenland System and Gateway Areas (Town of Cobourg, 2018). This Site does not overlap with any Greenland System, linkage or Gateway Areas. Both of these maps can be seen in **Appendix C**.

2.4 Ontario Regulation 168/06

Pursuant to the *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*, any development in or on areas defined in the regulation area (e.g. river or stream valleys, hazardous land, wetlands) requires permission from the Ganaraska Region Conservation Authority under Ontario Regulation 168/06 (GRCA, 2013). GRCA may grant permission for development in or on these areas if the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development.



The Regulation also states that it is prohibited to straighten, change, divert or interfere in any way the existing channel of a river, creek, stream or watercourse or change or interfere in any way with the wetland without the permission from the GRCA.

3.0 STUDY METHODOLOGY

3.1 Background Review and Agency Consultation

A desktop background review of available information sources relating to the Study Area was conducted prior to a site reconnaissance. Included in the review were natural heritage features present on the Site and in the surrounding area, historical species occurrences available from the Natural Heritage Information Centre (NHIC), existing wildlife data records, Species of Conservation Concern lists and other relevant information. Information and documents available from the Client including site history and Site plan were also reviewed for this Site. Applicable policies and guidelines including the Town of Cobourg Official Plan (Town of Cobourg, 2018). This document references the Ministry of Northern Development, Mining, Natural Resources and Forestry's (NDMNRF) Natural Heritage Reference Manual (NDMNRF, 2010) and the PPS 2020 which were reviewed for this report.

Additionally, a Pre-consultation was conducted by the Client with the Town of Cobourg and the GRCA for the proposed residential subdivision. A scoping exercise with the GRCA on October 20, 2020 was conducted through a Terms of Reference for the EIS with respect to the natural heritage features present in the Study Area prior to the completion of this report. A record of the agency consultation is included in **Appendix B** for reference. This Scoped EIS report was completed based on the review comments and feedback received from the Town and the GRCA.

Natural heritage resources with the potential to be present on the Study Area were identified through the following information sources:

- An assessment of habitat through aerial photographs and online mapping:
 - Land Information Ontario (MNRF, 2019a); and
 - Google Earth.
- A review of historical occurrence records for Species of Conservation Concern within or adjacent to the Study Area:
 - Natural Heritage Information Centre (MNRF, 2019b);
 - Atlas of the Breeding Birds of Ontario (BSC, 2019);
 - Atlas of the Mammals of Ontario (Dobbyn, 1994);
 - Ontario Reptile and Amphibian Atlas (ON, 2019);
 - Ontario Butterfly Atlas (TEA, 2019);



- Ontario Regulation 230/08 Species at Risk in Ontario List (COSSARO, 2019); and
- Provincial and federal assessments, recovery strategies, and management plans.

3.2 Field Assessment

Pinchin conducted field studies to characterize the natural heritage features present on the Site and in the surrounding landscape. A summary of methodologies for the field work completed by Pinchin is provided below for reference.

3.2.1 Vegetation Assessment

Vegetation communities within the Study Area were assessed and described using the provincial Ecological Land Classification system. The *Ecological Land Classification for Southern Ontario: First Approximation and its Application* (Lee et al., 1998) was referenced to classify the habitats to ecosite. Ecosites classified within the Study Area were then applied to Ecological Land Classification (ELC) polygons mapped using aerial imagery.

The vegetation communities for three seasons in spring, summer and fall were sampled for their structure, species composition and habitat characteristics. This information was supplemented by floristic surveys at the time of each visit. Species names generally follow the nomenclature of Flora Ontario (Newmaster and Ragupathy, 2012) and the NHIC.

3.2.2 Wetland Assessment

Assessment of the Study Area followed the criteria outlined in the *Ontario Wetland Evaluation System* (OWES) 3rd Edition (MNRF, 2013). Although the area in question on the Site is too small to be properly evaluated using the OWES framework, the evaluation criteria therein provide an appropriate benchmark to work from. In particular, soil classification, the “50% rule” and the presence of wetland species and wetland indicator species form a useful basis for evaluation of the upland-wetland transition on the Site. According to the OWES, the “50% rule” is defined as that if 50% or more of the relative vegetation cover in a given area consists of wetland plants (including wetland tolerant species and wetland indicator species), then the area should be considered a “wetland”. Wetland indicator species are plant species that cannot live in upland areas, as compared with wetland species which include wetland indicator species and plant species that can tolerate both wetland and upland habitats. Additionally, the Coefficient of Wetness (CW) was used in our assessment. This CW is an indicator varying from -5 (obligate wetland) to 5 (obligate upland) that describes the tolerances to wetness of an individual plant species



3.2.3 *Species at Risk*

The Ontario Endangered Species Act (ESA) 2007, provides protection from harm, harassment, or captures to species listed as extirpated, endangered, or threatened on the Species at Risk Ontario List. Additional protection is provided to the habitat of endangered or threatened species on the Species at Risk Ontario List. Species habitat includes anywhere the species depends on for reproduction, rearing, hibernation, migration, or feeding; or prescribed habitat as defined in Ontario Regulation 242/08 of the General Regulation.

The likelihood of occurrence for Species at Risk was assessed qualitatively based on the ability of the habitat to meet one or more life requisites for each Species at Risk identified during the desktop assessment. If habitat suitable for Species at Risk was identified, additional survey effort was applied in that area. If incidental Species at Risk were observed, they were recorded throughout the field assessment within and adjacent to the Site.

3.2.4 *Incidental Wildlife Observations*

Wildlife was surveyed as part of general wildlife surveys during the two Site visits. These surveys involved general coverage recording all species observations and signs, including tracks / trails, scat, burrows, dens, browse, and vocalizations. The wildlife surveys occurred during the coincident surveys for vegetation communities and vascular plants. Significant wildlife habitat was assessed according to the MNRF Natural Heritage Reference Manual (MNRF 2010) and the MNRF Significant Wildlife Habitat Technical Guide (MNRF 2000).

4.0 **EXISTING CONDITIONS**

4.1 **Landform, Physiography, and Geology**

The Site is bounded by King Street to the south, a railroad to the North, and private properties to the east and west. The private residence to the west is slated for development, and the clearing and grading had begun at the time of Site visit. The Study Area is located on the boundary between a rural agricultural area, consisting primarily of active and abandoned agricultural fields which have begun to naturalize, and urban developments including light industrial, commercial and residential buildings.

The Ontario Geological Survey classifies the bedrock underlying the Study Area as consisting of Middle Ordovician (443.7 to 488.3 million year old) limestone, dolostone, shale, arkose and sandstone of the Ottawa Group. The quaternary geology being glaciomarine deposits composed predominantly of sand, gravely sand and gravel. (Ontario Geological Survey, 1991). The surficial geology of the Site consists of fine – textured glaciolacustrine deposits of sands and clays.



The Study Area is situated within Ecodistrict 6E-13, which forms part of the Lake Simcoe – Rideau Ecoregion in the Mixedwood Plains. Ecodistrict 6E – 13 is also known as the Oshawa – Cobourg Ecodistrict, comprises of a long narrow band along the northern shore of Lake Ontario. This landscape consists of gently rolling undulations dominated by glaciolacustrine deposits overlying Paleozoic bedrock. The vegetation within this Ecodistrict is primarily cropland, with deciduous and mixed forests present in patches throughout. The soils in the Study Area are classified by Agriculture Canada and the Ministry of Agriculture and Food as Smithfield Silty Clay Loam in the west, and Tecumseth Sandy Loam in the east. Soil samples taken at the time of visit indicated sand and sandy loam soils. Wetland indicators (mottles and gley) were found within multiple vegetation communities described below. Gley occurs when the oxygen in the soil becomes depleted (due to water saturation) resulting in the iron being completely reduced taking on a blue-grey colouration. This reduced iron is also mobile and can re-oxidize, producing reddish, yellow, or orange spotting, which is known as mottling. Both of these are indicators of wetland presence due to the water table being close to the surface.

A detailed review and analysis on the vegetation communities and potential natural features on the Site are provided in Section 4.2 below.

4.2 Vegetation

4.2.1 Vascular Plants

Vegetation surveys were conducted on June 17, 2020. The weather during the Site visit was sunny, with a temperature of 28° Celsius. A total of 63 plant species were identified on the Site from the vegetation surveys. Of these 63 species, 29 are non-native species, many of which are typical in old-fields and disturbed habitats. These species are generally widespread and abundant within the area. 31 of the 38 native species found within the Site are considered “secure, common and widespread” in Ontario (Ranked S5), and the remaining seven are considered “apparently secure, uncommon but not rare” in Ontario (S4 or S4?). A full vascular plant species inventories as observed on the Site during the field assessment program throughout the Site is catalogued in Table 1 in **Appendix D**.

4.2.2 Vegetation Communities

In total, seven vegetation communities were identified on the Site. The communities present on the Site include an Annual Row Crop, Black Ash Mineral Deciduous Swamp, Reed-canary Grass Graminoid Mineral Meadow Marsh, Common Reed Graminoid Mineral Meadow Marsh, Fresh-Moist Mixed Meadow, Rural Property Residential, and White Ash Deciduous Woodland. These vegetation communities with their ELC polygons surveyed on the Site and the surrounding area are mapped on Figure 2 in **Appendix A**. Selected site photographs of the vegetation communities are included in **Appendix E** for reference.



Annual Row Crop (OAGM1): The annual row crops consist of Soybean (*Glycine max*) and make up the largest community on the Site. Beginning on the southwest corner of the Site, this community spreads northeast on an angle through the centre of the Site. This community was observed to be actively farmed at the time of the Site visit. The dominant species in this community was Soybean with presence of Field Horsetail (*Equisetum arvense*).

Black Ash Mineral Deciduous Swamp (SWDM2-1): This community is present along the western edge of the Site, between the northern boundary and approximately the midway point of the Site. The sparse canopy of this community consisted of Black Ash trees, many of which showed signs of Emerald Ash Borer (*Agrilus planipennis*) damage. There are also a number of dead White Elm (*Ulmus americana*) trees within this community, however the cause of death could not be identified in the field. A dense and diverse understorey consists of common wetland vegetation such as Climbing Nightshade (*Solanum dulcamara*), Spotted Jewelweed (*Impatiens capensis*), Sensitive Fern (*Onoclea sensibilis*), Canada Bluejoint (*Calamagrostis canadensis*) and Reed–canary Grass. A soil sample taken from within this community showed three distinct horizons. The A horizon was a thin, approximately 5 cm deep mesic organic layer. The B horizon was approximately 20 cm deep of sandy loam, with mottling at 10 cm. Finally, the C horizon was a fine sand, with gley present at a depth of 20 cm. Some minimal refuse dumping was also found within this community.

Fresh – Moist Mixed Meadow (MEMM4): This community is present in the northeastern corner of the Site, to the east of the Reed–canary Grass marsh described below, and north of the large brick barn, adjacent to the railroad. This community is dominated by common meadow species and invasives such as Late Goldenrod, Garlic Mustard (*Allaria petiolata*), Cow Vetch, Kentucky Blue Grass, Barnyard Grass (*Dactylis glomerata*), and Reed–canary Grass. A soil sample from within this community showed two horizons. The A horizon consisted of 10 cm of sandy loam soil, while the B horizon was a thick clay. This thick clay, as well as the raised topography of this community and its proximity to the railway and barn indicates that this may have been cleared as part of the farming operation and has naturalized since that operation ended.

Reed–canary Grass Graminoid Mineral Marsh (MEMM1-3): This community is present starting on the northwestern side of the Site and spreading to the northeastern side, generally found between the Black Ash swamp described above, and the farm fields or mixed meadow. This large, uniform community is dominated by Reed – canary grass, with secondary species of Common Reed (*Phragmites australis*) and Field Horsetail (*Equisetum arvense*). The occasional Red–osier Dogwood (*Cornus sericea*) and Missouri Willow (*Salix eriocephala*) can be found growing within this community. A soil sample taken from this community showed two distinct horizons. The A horizon consisted of a very sandy loam for approximately 20 cm. The B horizon consisted of a fine sand for more than 30 cm, with mottling found at 25 cm and gley at 30 cm.



The majority of this community has been cleared for agriculture in the past, with the operations concluding sometime between 1988 and 2012 based on Site history and historical photographs. The heavy presence of invasive species and disturbed fields observed concur with this on the Site.

Common Reed Graminoid Mineral Meadow Marsh (MAMM1-12): This community is found in a strip between the Black Ash Swamp and Reed–Canary Grass Marsh described above, near the western edge of the Site. This community is a dense monoculture of Common Reed, with only the occasional Climbing Nightshade found within, as is typical within Common Reed marshes. A soil sample taken from within this community matched that found within the Reed–canary Grass marsh, as described above. Common Reed is an invasive species manifested in Ontario and replacing native species in its formed habitat.

White Ash Deciduous Woodland (WODM4-2): This small community is found along King Street, south of the residence. This community is dominated by young White Ash (*Fraxinus americana*) trees ranging between 5 cm dbh and approximately 20 cm dbh. There are also the occasional Manitoba Maple (*Acer negundo*), Trembling Aspen (*Populus tremuloides*) and Red Oak (*Quercus rubra*) trees within this community. The regenerating shrub layer consists of White Ash, Trembling Aspen and Common Buckthorn (*Rhamnus catharica*), while a sparse understorey consists of Kentucky Blue Grass, Smooth Brome, Reed–Canary Grass and Field Horsetail. Many of the Ash trees within this community are showing signs of Emerald Ash Borer damage, ranging from initial signs of infection to dead trees. A soil sample taken from within this community showed two horizons. The A horizon was approximately 47 cm deep of sandy loam soil. The B horizon was at least 30 cm deep of sandy soils, with mottling and gley present at the surface of this B horizon, at a depth of 48 cm. At approximately 55 cm gley became very prominent throughout the soil. There is some evidence that this area has been mowed in the past; however, it was not done at the time of Site visit.

Rural Residential Property (CVR_4): The rural residence present within the Site consists of a brick house, a brick barn and a shed structure. The vegetation present within this community consist primarily of landscaping trees, mainly Norway Maple and Norway Spruce, and species associated with lawns and gardens, such as Kentucky Blue Grass, Common Dandelion (*Taraxacum officinionale*) and a variety of ornamental flowers and shrubs. The brick barn present appears to have been used in the past as part of a cattle operation, with stalls, feeding areas and a loading platform for rail transport found on Site.



4.3 Wetland Assessment

Following the criteria from OWES and ELC, the Fresh–Moist Mixed Meadow (**MEMM4**), Rural Residential Property (**CVR_4**), White Ash Deciduous Woodland (**WODM4-2**), and Annual Row Crops (**OAGM1**) communities are considered to be “upland”. There are minimal wetland indicator species present, with those wetland species covering much less than 50% of the relative area. Analysis of the Black Ash Mineral Deciduous Swamp (**SWDM2-1**), Common Reed Graminoid Mineral Meadow Marsh (**MAMM1-12**), and portions of the Reed–canary Grass Graminoid Mineral Meadow Marsh (**MAMM1-3**), are similarly unambiguous, with many wetland indicator species present and covering well over 50% of the area. The portion of the Reed–canary Grass Graminoid Mineral Meadow Marsh south of the brick barn however, was not unambiguous, likely due to its past practice being a farm field and naturalized with Reed-canary Grass and other invasive species.

Furthermore, soil core samples under ELC methodology were taken from each vegetation community following OWES protocol, with the results matching the vegetation survey. In total, ten soil core samples were conducted throughout the Site, with sampling locations being picked at random for representative results and at least one soil core sample was taken from each vegetated community. These soil samples were used to support the analysis of wetland presence.

4.4 Incidental Wildlife

Only a limited number of wildlife were encountered on the Site during the field surveys conducted in the summer season. The following incidental wildlife were observed during the vegetation survey within the Study Area:

- Red-winged Black Bird (*Agelaius phoeniceus*);
- Common Grackle (*Quiscalus quiscula*);
- Monarch (*Danaus plexippus*);
- American Robin (*Turdus migratorius*); and
- American Bullfrogs (*Lithobates catesbeianus*)

These species are common in the suburban area of past farming practices given the variety of habitats throughout the Site.



4.5 Species at Risk Screening

A total of 31 Species at Risk (SAR) were identified as having potential occurrence on the Site, resulting from the background review of the NHIC records and other available data sources for the Study Area surrounding the Site. These 31 species, their listing status, the last observed date and the sources used to identify their presence in the area surrounding the site are all summarized in the Species at Risk Screening Table in **Appendix E**.

Based on the background review and field assessment, 18 SAR were determined to have suitable habitat on the Site, with one species being confirmed on the Site. The one SAR observed was Monarch Butterfly (Special Concern) on the Site in one occasion. The Monarch Butterfly relies on Common Milkweed, which is abundantly present within the Mixed meadow community at the northeaster corner.

Three plant species were determined to have suitable habitat on the Site. These species were the Butternut (*Juglans cinera*), Broach Beech Fern (*Phegopteris hexagonoptera*) and Eastern Prairie Fringed Orchid (*plantanthera leucophaea*). Both Butternut and Broad Beech Fern have suitable habitat in the woodland areas on the Site, while the Eastern Prairie Fringed Orchid has potential habitat in the Reed–canary Grass marsh. None of these species were observed at the time of the Site visit.

Ten other bird species were considered to have suitable habitat on Site. These species were the Bobolink (*Dolichonyx oryzivorus*), Northern Bobwhite (*Colinus virginianus*), Barn Swallow (*Hirundo rustica*), Prothonotary Warbler (*Protonotaria citrea*), Short–eared Owl (*Asio flammeus*), Eastern Meadowlark (*Sturnella magna*), Eastern Wood–Pewee (*Contopus virens*), Bald Eagle (*Haliaeetus leucocephalus*), Wood Thrush (*Hylocichla mustelina*), and Chimney Swift (*Chaetura pelagica*). The Northern Bobwhite, Eastern Meadowlark, and Bobolink all have potential habitat in the meadow and crop land communities on the Site. The Barn Swallow and Chimney Swift both have potential habitat provided by the structures that are on the Site. The Prothonotary Warbler, Eastern Wood–Pewee, Wood Thrush and Bald Eagle all have potential habitat provided by the woodlands and woodland edges. The Short–eared Owl has potential habitat in the various marsh communities that are present on the Site. None of these species were observed at the time of the Site visit.

Four bat species were considered to have suitable habitat on the Site. These species are the Little Brown Bat (*Myotis lucifuga*) (Endangered), Eastern Small–footed Myotis (*Myotis leibii*) (Endangered), Northern Myotis (*Myotis septentrionalis*) (Endangered), and Tri–coloured Bat (*Pipistrellus subflavus*) (Endangered). All four species can form summer colonies within attics, abandoned building and barns as well as within established deciduous forests with loose bark and tree cavities. The barn and similar structures may provide potential habitat for these species, as well as the cavity trees within the woodlands.

Further detail on all species screened for this Site and their habitat requirements can be found in **Appendix E**.



4.6 Significant Wildlife Habitat Screening

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (The MNRF, 2015) was consulted to screen the wildlife habitat for significance on Site. Field assessments of the Site were also undertaken to assess the quality of the habitat on the Site in relation to Significant Wildlife Habitat. According to Site observations during the vegetation surveys, Significant Wildlife Habitat is likely not present within the study area.

The Site was extensively farmed in the past until more recently in 1988-2012 when farming was gradually concluded in most of the Site that is now slowly naturalized, with the remaining southcentral area being farmed actively. There are many invasive species and disturbances observed within many of the vegetation communities. Based on these historical facts and Site observations, Significant Wildlife Habitat is not determined to be present on the Site.

5.0 ECOLOGICAL FUNCTION ASSESSMENT

To protect the diversity and connectivity of natural features and long-term ecological function of the natural heritage system, an ecological function assessment needs to be completed. This ecological function assessment assesses the Site by its ecological functions by providing avenues in which plants and animals can propagate, move and replenish from other natural areas.

The Site consists of Annual Row Crop, Black Ash Mineral Deciduous Swamp, Reed-canary Grass Graminoid Mineral Meadow Marsh, Common Reed Graminoid Mineral Meadow Marsh, Fresh Moist Mixed Meadow, Rural Residential Property, and White Ash Deciduous Woodland. The eastern side of the Site is bounded by a forested and wetland area in the adjacent property; however, both of these communities are disturbed. To the north of the Site there are agricultural fields and a railroad, and to the west is a residential development in progress. South of the Site past King Street is a vacant field that is surrounded by developed homes. The area is zoned as “Urban” in the Northumberland County Official Plan and is on the edge of development that spans to the south and west. A majority of the surrounding area is developed or is used for agriculture, with pockets of wetlands and woodlands found north of the Site beyond the agricultural fields. Lake Ontario is found just over a kilometer to the south of the Site.

Although a good portion of the Site is fairly naturalized, due to the immediate surrounding areas being mostly urbanized or used for agricultural purposes, the Site becomes less ideal for dispersal of both flora and fauna. The Site can provide habitat to species within the area; however, the Site is farmed and also has a residential development on it. The wetlands on the Site provide good value to the area for both flood control and wildlife habitat; however, there are larger wetlands in the surrounding areas that provide similar functions. Overall, due to the majority of the Site already containing development and active agriculture, the ecological value is low for functions and linkages.

Further recommendations of mitigations measures can be found in Section 8.0.



6.0 PROPOSED DEVELOPMENT

The Site is currently occupied by a single-dwelling residence, a barn and auxiliary structure, and cultivated farmland. Natural heritage features include a swamp, marsh, meadow and woodland within Site boundaries. As mentioned above the Client intends to develop the Site into a residential subdivision with detached, semi-detached, townhomes, mixed-use, restoration area, central park and barn parkette. A Site Plan showing the proposed development and associated infrastructures can be found in **Appendix G**. The proposed subdivision development will be constructed throughout a majority of the Site, with the western edge preserved and restored.

The purpose of this Scoped EIS is to understand the current constraints on the Site and within the Study Area for the proposed development, as well as the direct and indirect impacts from development in those areas. The following impact assessment in Section 7.0 is based on the proposed Site Plan brought forth by the Client.

7.0 IMPACT ASSESSEMENT

There are potential direct and indirect impacts to the natural heritage features on and adjacent to the Site from the development proposal, as described in Sections 7.1 and 7.2 below.

7.1 Direct Impacts

The proposed development will be contained within the existing footprint of the development plans. The potential direct impacts from Site construction on the natural features (meadow, meadow marsh and woodland) as a result of the proposed development on the Site will include the following

- Stripping of vegetation and topsoil on the meadow, meadow marsh and woodland;
- Removal of trees and shrubs on the Site; and
- Displacement of wildlife on the Site.

To accommodate the proposed development, the stripping of vegetation and topsoil will take place within meadow, meadow marsh and woodland communities on Site, with the exception of the Black Ash Swamp. The wildlife utilizing these areas on the Site will be displaced permanently by the construction of the residential subdivision and associated infrastructure. Birds and wildlife use these areas seasonally for foraging and feeding. They will be displaced from the meadow and immediately surrounding areas as a result of construction and Site alteration. The impact to wildlife can be avoided by properly timing the vegetation and topsoil removal. Additionally, the areas of the vegetation communities identified to be replaced or removed have been actively farmed in the past and contain invasive species that will need to be properly managed. A future Restoration Plan as part of the Site Plan submission stage will be considered for the removal of the above features in a Restoration Area located at the western/northwestern portions of the Site.



Included will be details for the Restoration Area to be an environmental regeneration area that is intended to re-establish the environmental functions while also offering intrinsic value to the newly developed community (Fotenn, 2022). The designated area for restoration is 0.34 hectares, as shown on Figure 3 in **Appendix A** with further details provided in Section 8.0 below and in the detailed design stage.

The trees and shrubs on the Site will need to be removed in order to accommodate the proposed development. A separate Tree Inventory and Protection Plan (TIPP) has been completed by a qualified Arborist in addition to this Scoped EIS. This will set out the basis of the direct impact of the number and location of trees being replaced, removed, or preserved for the development of the Site. The majority of the mature trees > 30 cm dbh proposed to be removed to accommodate the residential subdivision are located at the eastern portion of the Site (Pinchin, 2022). The species of these mature trees include Green Ash, Silver Maple, Norway Maple, Norway Spruce, Aspen and Black Locust. A hoarding strategy to protect the remaining trees has been included in the TIPP (Pinchin, 2022). Further, preservation of as many trees as possible on the Site has been considered along with the preservation of the existing house and barn at the southcentral and northeast areas, pending the Site Plan and stormwater management strategies in the detailed design stage. They have been integrated into the subdivision development as a preserved central park/heritage house and barn for cultural heritage protection according to the Urban, Landscape & Sustainable Design Study conducted by Fotenn (Fotenn, 2022).

7.2 Indirect Impacts

The potential indirect impacts to the natural heritage features (wetlands and drainage features) include the following:

- Effects on plants and wildlife by construction noise, dust and vibration;
- Sedimentation of the woodland by construction activities; and
- Alteration of water quality and flow regime in the adjacent natural heritage resources.

The indirect impacts on the Black Ash Swamp community and its plants and wildlife is limited to the species located within the Site, as a result of the contained development within the Site. During the construction period, wildlife including birds and mammals that occasionally use the swamp within the Site for foraging and breeding may be disrupted and are likely to abandon the disturbed edges due to indirect impacts of noise and vibration. The wildlife living within the Site will be disturbed temporarily, while over time the wildlife will likely move to more naturalized habitats nearby or utilize the edge habitats.

Additionally, there is potential sedimentation buildup in the edge of the swamp from construction activities on the Site. With the application of a protective buffer to the surrounding forest, the ecosystem will continue to perform its landscape and ecological functions.



Stormwater runoff from the construction site has potential impacts to the adjacent wetland and drainage features off the Site by releasing sediment-laden water into these natural features. The successful establishment of erosion and sediment control measures may act as a sufficient barrier to protect these adjacent natural features. There is a sufficient buffer (i.e. <30 m) from the construction area to the wetland and drainage features to the east; therefore, with the installation of erosion and sediment control measures, the hydrological functions of the drainage feature will be preserved.

Currently stormwater of the Site flows into catch basins to the municipal storm sewer for drainage. A Preliminary Stormwater Management Report has been conducted by D.M. Wills Associates Limited to address stormwater concerns including water quality and water quantity controls (D.M. Wills, 2022). Stormwater quality control measures will be required to ensure that the receiving drainage system will not be negatively impacted, these will include a combination of Low Impact Development features and oil-grit separator structures. Stormwater quantity control will be provided by underground chamber storage in order to ensure that flows do not exceed the limits of the existing system, additionally the system will require an impermeable liner to separate stormwater from groundwater (D.M. Wills, 2022). At this point, it is not anticipated that significant hydrologic or hydrogeological impacts will occur on the Site as a result of the proposed development.

7.3 Residual and Cumulative Effects Assessment

Residual environmental effects are any permanent, non-mitigable change in an identified valued ecosystem component. As residual environmental effects on the natural environment cannot be completely addressed through mitigation, they are likely to persist following project completion. Residual effects may result in cumulative effects through the interaction between residual effects of the project and those associated with other identified project and/or activities.

Due to the short-term, local construction of the residential development and associated infrastructures within the Site surrounded by roadways, housing developments and farming operations, the residual effects from the Site construction is projected to be low significance in magnitude, geographic extent, duration and frequency. Residual adverse effects are not expected from the proposed development on the Site as all of the direct and indirect impacts identified above can be addressed through appropriate mitigation.

With sufficient mitigation measures implemented prior to the construction activities, no cumulative impacts are anticipated as a result of the proposed residential construction. Recommendations and mitigation measures for the potential impacts are detailed in Section 8.0 below.



8.0 RECOMMENDED AVOIDANCE AND MITIGATION MEASURES

Based upon the above impact assessment, there are identified direct impacts and indirect impacts on the natural environment, including the meadow, woodland and wetlands present on the Site. Proposed mitigation measures, including recommendations for timing windows or other specifications for implementation, for all potential negative impacts will need to be included in the EIS. Furthermore, mitigation measures relating to the protection of setbacks and buffers during onsite works (such as fencing) must be implemented prior to the commencement of those works. Therefore, exclusion fencing to the sensitive natural features should be established and protected from the proposed residential subdivision development.

The proposed development should be set back from the western swamp on the Site, as well as adjacent wetland and drainage features to the east. Within the exclusion zone established, no development activities including site grading and construction will take place in this area. The natural heritage feature described above provide a good ecological value for plants and wildlife, protection of the swamp on the Site and adjacent natural features from the proposed development is warranted to prevent soil erosion from occurring and sediment-laden water from entering the nearby wetlands.

The following recommendations are provided for the protection of the above key features prior to construction or site alteration. Additionally, restoration and enhancement plans must be timely developed and effectively implemented on the Site to ensure that no negative impacts will occur to the swamp on the Site and adjacent natural features post construction.

Tree and vegetation removal:

- The extent of potential tree and vegetation removal within the Site is restricted to the construction footprint as necessary.
- To minimize or avoid impacts to breeding and nesting birds, the removal of vegetation will be outside of the critical breeding period between April 15 and August 15. If tree removal needs to occur within this timing constraint window, a qualified Avian Biologist should be deployed to conduct bird nest surveys and monitoring prior to any tree removal.
- A Tree Inventory and Preservation Plan has been developed for the Site and will need to be approved by the regulatory agencies prior to construction and site alteration.
- The Black Ash Swamp boundary may be staked with the GRCA, as required, to set out appropriate setbacks for development.
- The removal of non-native or invasive plants should be conducted by a Professional Landscaper who is familiar with the procedures of invasive plant control and removal.
- The movement of weed-infested soil should be limited. Construction vehicles and equipment arriving and leaving the Site should be clean of invasive plants and seeds.



Erosion and sediment control:

- A Preliminary Stormwater Management Report has been completed including ecological protection measures.
- An Erosion and Sediment Control Plan as part of the Stormwater Management Report prior to the construction of the new subdivision will be implemented with protection measures of natural features for the construction on the Site.
- Prior to construction and site alteration, adequate erosion and sediment control (ESC) measures including a sediment fencing should be established around the Site upgradient from the natural heritage features until the disturbed area is restored upon construction completion. Sufficient buffers to the adjacent natural features through protection zones will be established.
- If required, repairs and maintenance of the installed ESC measures are conducted regularly until construction completion.
- Disturbed areas should be stabilized immediately post construction to prevent site erosion and/or sedimentation.

Wildlife and Species at Risk encounter protocol:

- If wildlife are encountered during construction, work should cease immediately and allow the animal to naturally move out of the construction zone. If the animal does not leave the area for a prolonged period of time, please consult with a qualified biologist for possible response or mitigation measures.
- If an animal is injured or deceased or if a Species at Risk is found on the Site, the Ministry of the Environment, Conservation and Parks district office in Peterborough will be contacted for guidance and handling.

Restoration and enhancement:

- Planting details of species, quantity, location, etc. developed for the restoration and enhancement area at the western portion of the Site will be provided at the Site Plan stage. Appropriate restoration for the replaced or removed meadow marsh on the Site through this planting plan is utmost important to ensure that no negative impact will occur to the natural features as a result of the construction.
- The removed trees should be compensated at a minimum 1:1 ratio with the planting of native deciduous or coniferous tree species on the Site ideally in the central park/heritage house area to provide for enhanced natural habitats.



9.0 CONCLUSION

There are environmental opportunities and constraints identified on the Site as outlined in this EIS report. The assessed impacts, including direct and indirect impacts, can be avoided or mitigated through effective stormwater and environmental management measures. With the implementation of the environmental plans sought out in this EIS and a Restoration Plan prior and during construction on the Site, the proposed development would preserve the ecological functions of the adjacent natural features and enhance natural landscape on the Site through the installation of planned restoration and enhancement measures on the Site post construction.

With the above recommendations taken into account and diligently implemented on the Site, no adverse negative impacts to the ecological integrity of the Site will result from the proposed subdivision with associated roadways.

10.0 CLOSURE

The enclosed Environmental Impact Study report has been prepared to assess the natural heritage features including the terrestrial and aquatic conditions on the Site within the Study Area. The information contained herein as a result of the Scoped EIS regarding the proposed mixed-use development is solely provided to the Client and approval agencies as a reference only.

In the event that clarifications or further information is required by the Client and approval agencies, please do not hesitate to contact the primary Pinchin contact indicated in the contact page of this document.

11.0 REFERENCES

- Alan Macnaughton, Ross Layberry, Rick Cavasin, Bev Edwards and Colin Jones. 2018. Ontario Butterfly Atlas - Toronto Entomologists Association. Accessed June 2020 at: www.ontarioinsects.org/atlas_online.htm
- Bird Studies Canada. 2020. Atlas Data Summary. Accessed June 2020 at: Atlas of the Breeding Birds of Ontario: <http://www.birdsontario.org/atlas/datasummaries.jsp?lang=en>
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at: <https://www.ontarioinsects.org/herp/index.html?Sort=1&area2=squaresCounties&records=all&myZoom=5&Lat=42.95&Long=-81.01&fbclid=IwAR09zSmn-vcnoYFaql32ZInVoW2Oa9LjSJ6IVoMYQWroTo63YwKZH1iTXMc>



- Pinchin Ltd., 2022. Tree Inventory and Preservation Plan Report for the Subject Property at 540 King Street East, Cobourg ON-February 17, 2022.
- Town of Cobourg. 2018. Town of Cobourg Official Plan. Accessed February 2022 at: https://www.cobourg.ca/en/resources/Official-Plan--2010/TOWN-OF-COBOURG-OFFICIAL-PLAN-2010-Five-Year-Review-Consolidation_FINAL-LPAT-APPROVAL-May-29-2018.pdf

12.0 LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project. Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

274057 FINAL Scoped Environmental Impact Study 540 King Street East Cobourg ON April 4 2022.docx

APPENDIX A
FIGURES



PROJECT NAME: ENVIRONMENTAL IMPACT STUDY
CLIENT NAME: Sunnyside Village Inc.
PROJECT LOCATION: 540 KING STREET, COBOURG, ONTARIO
FIGURE NAME: STUDY AREA

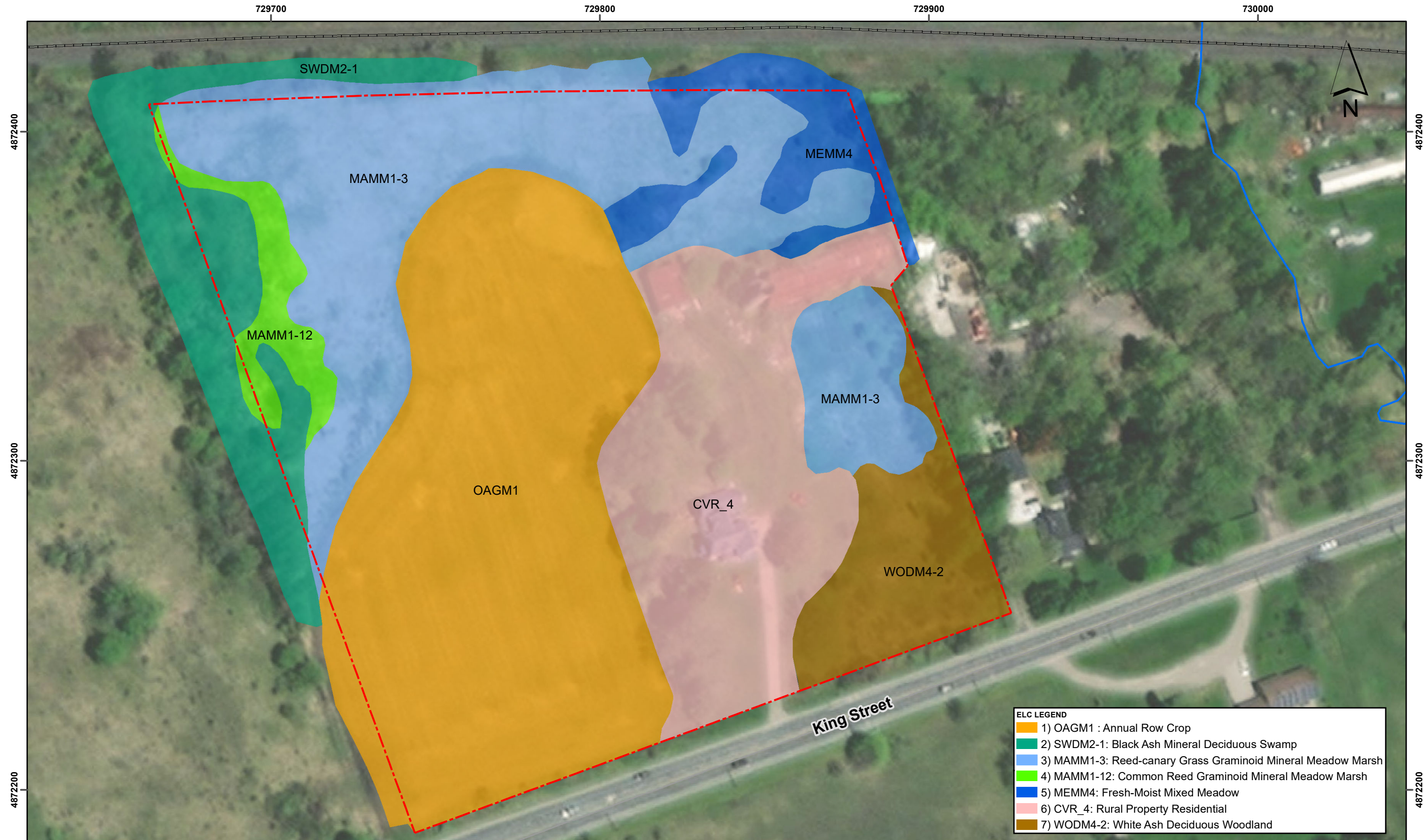
PROJECT NO. 275057
DATE: APRIL 2020
SCALE: 1:1,100
FIGURE NO. 1

- LEGEND**
- Site Boundary
 - Marsh Line (DFP Surveyors)
 - Railway Line
 - Watercourse
 - Wetland (Unevaluated)

Service Layer Credits: Image: NHIC, date unknown. Environmental data, MNRF.



Coordinate System: WGS 1984 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: WGS 1984



ELC LEGEND

■	1) OAGM1 : Annual Row Crop
■	2) SWDM2-1: Black Ash Mineral Deciduous Swamp
■	3) MAMM1-3: Reed-canary Grass Graminoid Mineral Meadow Marsh
■	4) MAMM1-12: Common Reed Graminoid Mineral Meadow Marsh
■	5) MEMM4: Fresh-Moist Mixed Meadow
■	6) CVR_4: Rural Property Residential
■	7) WODM4-2: White Ash Deciduous Woodland



PROJECT NAME: Environmental Impact Study
CLIENT NAME: Sunnyside Village Inc.
PROJECT LOCATION: 540 King Street, Cobourg, Ontario
FIGURE NAME: Ecological Land Classification

PROJECT NO. 275057
DATE: August 2021
SCALE: 1:1,100
FIGURE NO. 2

LEGEND
- - - Site Boundary
 Railway Line
 Watercourse

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 10 20 40 Metres
 Coordinate System: WGS 1984 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: WGS 1984

DRAWN BY: MH REVIEWED BY: RY REVISION: 3



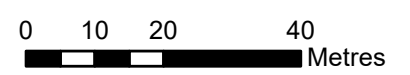
PROJECT NAME: Environmental Impact Study
CLIENT NAME: Sunnyside Village Inc.
PROJECT LOCATION: 540 King Street, Cobourg, Ontario
FIGURE NAME: Restoration Area

PROJECT NO. 274057
DATE: August 2021
SCALE: 1:1,100
FIGURE NO. 4

LEGEND
 Site Boundary
 Railway Line
 Watercourse
 Development Plan (Fotenn)

Restoration Area (15 m buffer from wetland)
 SWDM2-1: Black Ash Mineral Deciduous Swamp

Service Layer Credits: Development plan (Fotenn) provided by the Client. Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,



Coordinate System: WGS 1984 UTM Zone 17N
 Projection: Transverse Mercator
 Datum: WGS 1984

DRAWN BY: MH REVIEWED BY: RY REVISION: 2

APPENDIX B
AGENCY CONSULTATION

Scott Robertson

From: Rocky Yao
Sent: Thursday, October 8, 2020 2:59 PM
To: Ken Thajer
Cc: Neal Pope
Subject: RE: EIS Terms of Reference for 540 King Street Cobourg
Attachments: 274057 EIS Terms of Reference 540 King Street Cobourg ON July 13 2020.pdf

Hi Ken,

Hope you had enjoyed your summer. I am surprised how fast summer has gone by and now fall is upon us.

I just wanted to check back with you to see if you have any comments on the TOR attached. If you agree with our approach to the EIS, we will continue to complete the EIS for this project.

Please let me know. Thanks,

Rocky Yao, M.Sc, CISEC, EP
Regional Practice Lead, Biologist, Environmental Science
Pinchin Ltd. | T: 365.873.0355 | C: 289.971.7821

From: Rocky Yao
Sent: Friday, July 24, 2020 12:42 PM
To: Ken Thajer <kthajer@grca.on.ca>
Cc: Neal Pope <npope@npcservices.ca>
Subject: EIS Terms of Reference for 540 King Street Cobourg

Hi Ken,

Hope you have been safe and healthy. Are you working at regular hours at GRCA?

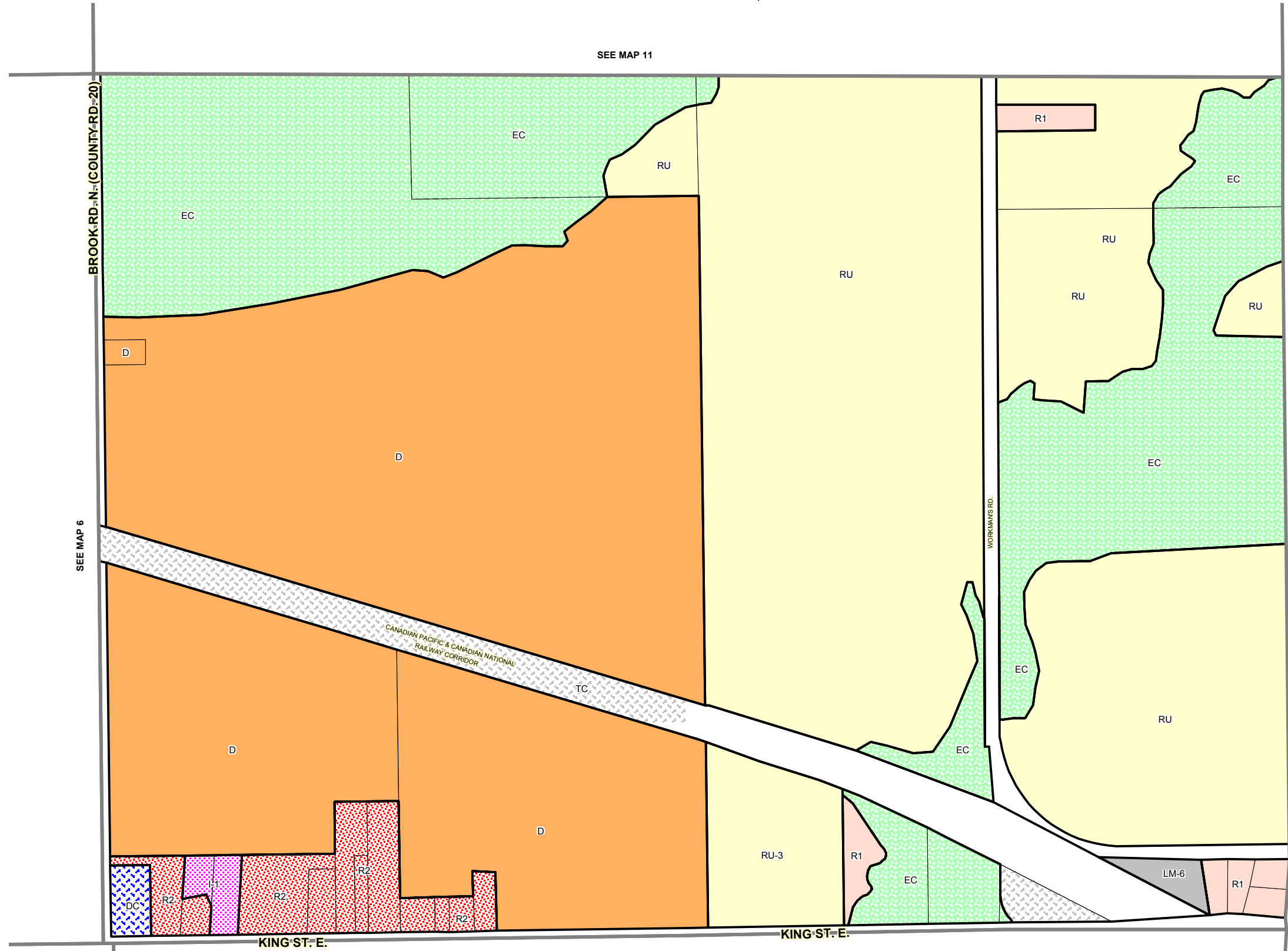
We are working on an EIS for another Cobourg site located at 540 King Street. Could you please review the attached EIS Terms of Reference and let me know if you have any comments? Also attached is the Town's pre-consultation report for your reference.

I look forward to hearing back from you.

Thanks,

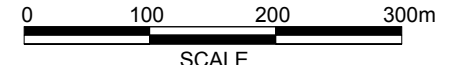
Rocky Yao, M.Sc, CISEC, EP
Regional Practice Lead, Biologist, Environmental Science
Pinchin Ltd. | T: 365.873.0355 | C: 289.971.7821

APPENDIX C
SUPPLEMENTARY INFORMATION

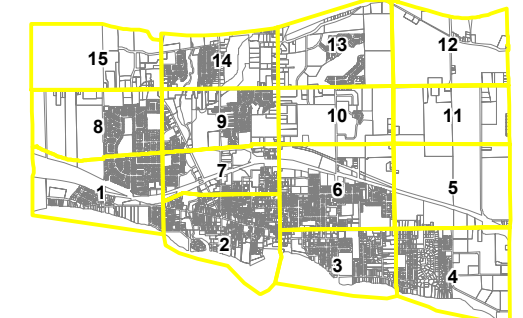


LEGEND - ZONING

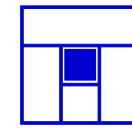
- R1 - RESIDENTIAL 1
- R2 - RESIDENTIAL 2
- R3 - RESIDENTIAL 3
- R4 - MULTIPLE RESIDENTIAL 4
- R5 - HIGH DENSITY RESIDENTIAL 5
- NC - NEIGHBOURHOOD COMMERCIAL
- SC - SHOPPING CENTRE COMMERCIAL
- DC - DISTRICT COMMERCIAL
- MC - MAIN CENTRAL COMMERCIAL
- LM - LIGHT INDUSTRIAL
- GM - GENERAL INDUSTRIAL
- BP - BUSINESS PARK
- I - INSTITUTIONAL
- OS - OPEN SPACE
- EC - ENVIRONMENTAL CONSTRAINT
- RU - RURAL
- D - DEVELOPMENT
- TC - TRANSPORTATION CORRIDOR
- NR1 - NEIGHBOURHOOD RESIDENTIAL 1
- NR2 - NEIGHBOURHOOD RESIDENTIAL 2
- NMU - NEIGHBOURHOOD MIXED USE
- B - URBAN RURAL TRANSITION



KEY MAP



THIS TILE BASED MAPPING IS PROVIDED FOR CONVENIENT REFERENCE ONLY. SCHEDULE 'A' PASSED BY COUNCIL ON OCT 14, 2003 UNDER BY-LAW 85-2003 SHOULD BE REFERENCED FOR ACCURATE, LEGAL INFORMATION.



TSH
engineers
architects
planners
513 Division Street,
Cobourg, Ontario
K9A 5G6
TEL: 905-372-2121
FAX: 905-372-3621
E-mail: cobourg@tsh.ca









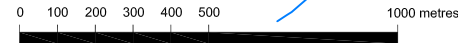
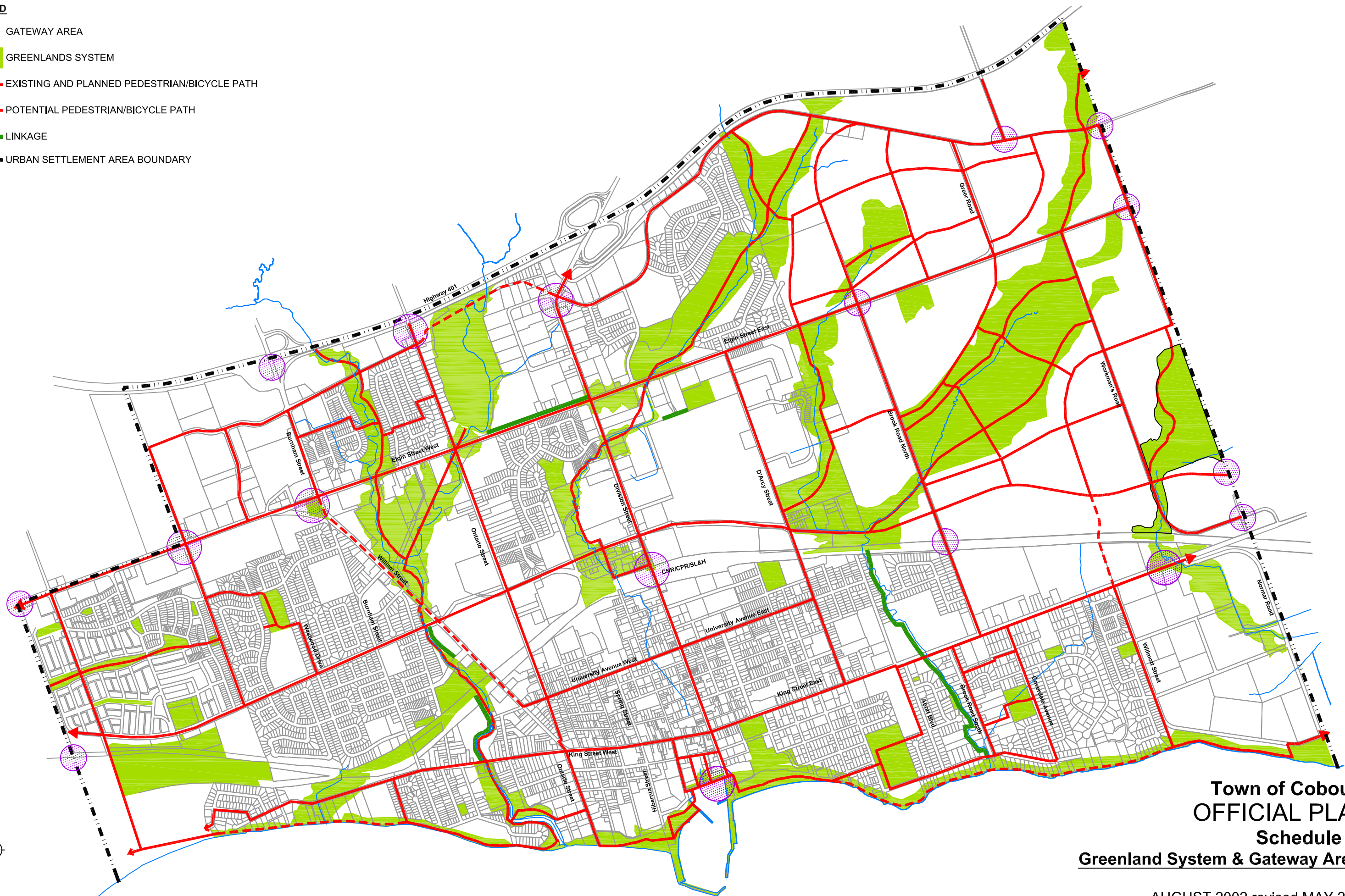
THE CORPORATION OF THE TOWN OF COBOURG
VICTORIA HALL
55 KING STREET WEST
COBOURG, ONTARIO
K9A 2M2

**ZONING BY-LAW
No. 85-2003
SCHEDULE A**

DATE APR-2004	PROJECT No. 12-29344	MAP 5
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LEGEND

-  GATEWAY AREA
-  GREENLANDS SYSTEM
-  EXISTING AND PLANNED PEDESTRIAN/BICYCLE PATH
-  POTENTIAL PEDESTRIAN/BICYCLE PATH
-  LINKAGE
-  URBAN SETTLEMENT AREA BOUNDARY



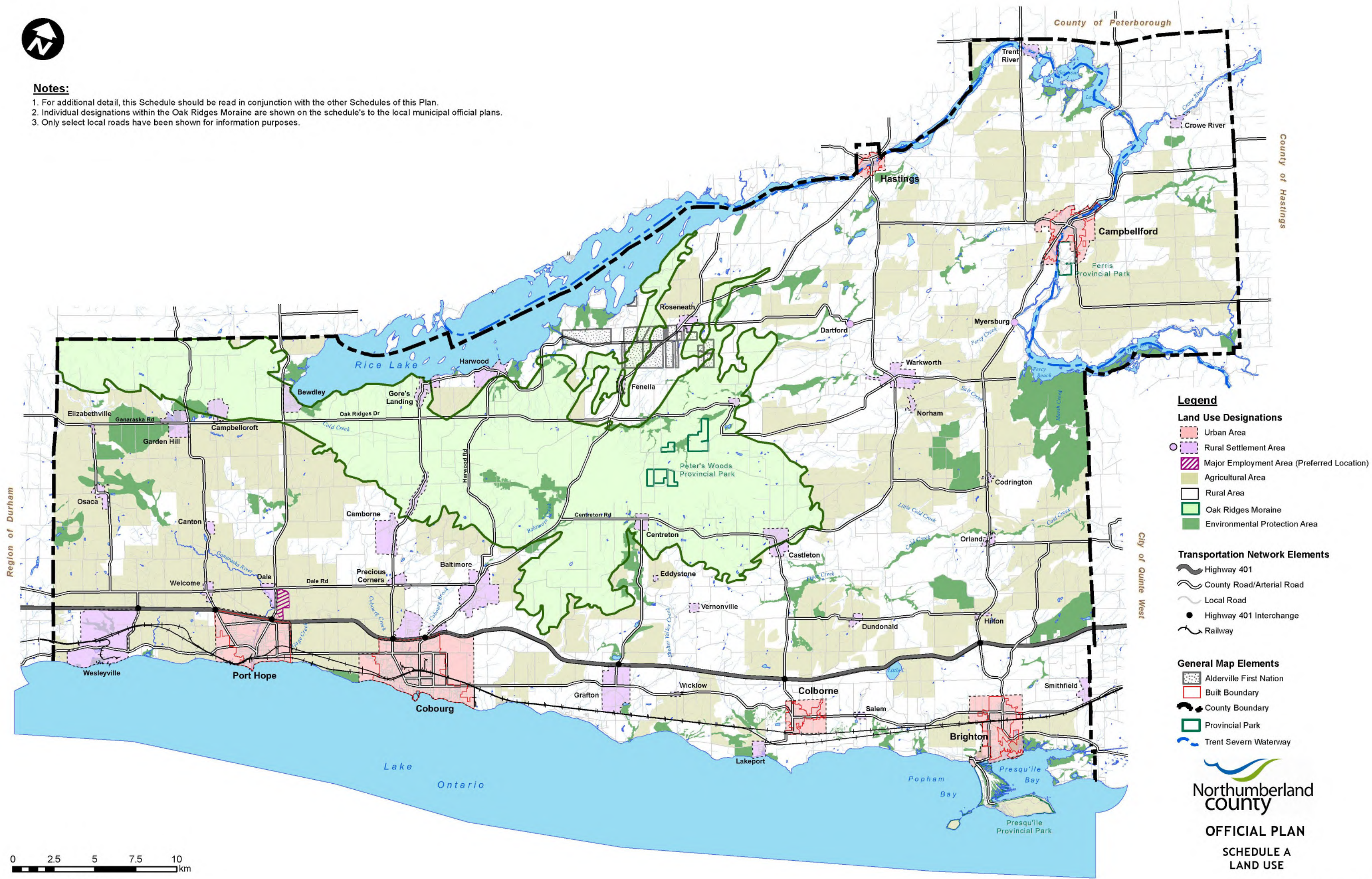
**Town of Cobourg
OFFICIAL PLAN
Schedule 'B'
Greenland System & Gateway Areas**

AUGUST 2002 revised MAY 2010
To reflect updated lotting fabric and other base information such as designation tones, which do not change the intent of the Plan



Notes:

1. For additional detail, this Schedule should be read in conjunction with the other Schedules of this Plan.
2. Individual designations within the Oak Ridges Moraine are shown on the schedule's to the local municipal official plans.
3. Only select local roads have been shown for information purposes.



Legend

- Land Use Designations**
- Urban Area
 - Rural Settlement Area
 - Major Employment Area (Preferred Location)
 - Agricultural Area
 - Rural Area
 - Oak Ridges Moraine
 - Environmental Protection Area

Transportation Network Elements

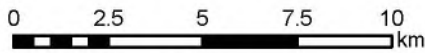
- Highway 401
- County Road/Arterial Road
- Local Road
- Highway 401 Interchange
- Railway

General Map Elements

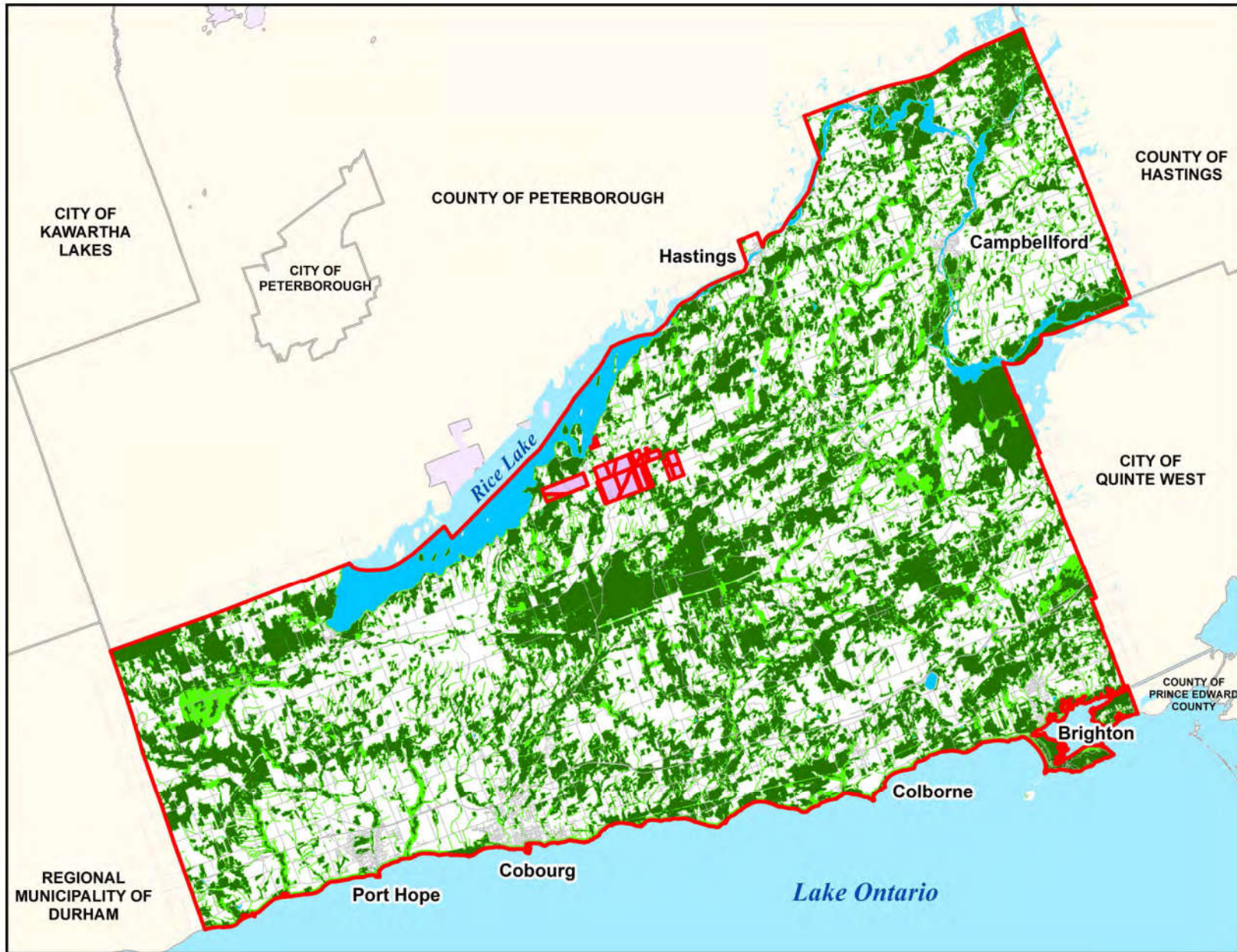
- Alderville First Nation
- Built Boundary
- County Boundary
- Provincial Park
- Trent Severn Waterway



OFFICIAL PLAN
SCHEDULE A
LAND USE

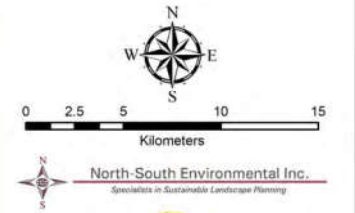


1:200,000



Northumberland Natural Heritage System Option 1 Legend

- Key Natural Heritage Features
- Supporting Features and Areas
- First Nations Territory
- Roads
- Northumberland County



APPENDIX D
VASCULAR PLANT LIST

Table 1: Vascular Plant List of the Study Area

Scientific Name	Common Name	S-Rank	CC	CW
<i>Acer negundo</i>	Manitoba Maple	S5	0	0
<i>Acer saccharinum</i>	Silver Maple	S5	5	-3
<i>Aegopodium podagraria</i>	Goutweed	SNA		0
<i>Alisma subcordatum</i>	Southern Water-plantain	S4?	1	-5
<i>Alliaria petiolata</i>	Garlic Mustard	SNA	-	3
<i>Arctium minus</i>	Common Burdock	SNA	-	3
<i>Asclepias syriaca</i>	Common Milkweed	S5	0	5
<i>Betula papyrifera</i>	White Birch	S5	2	3
<i>Boehmeria cylindrica</i>	False Nettle	S5	4	-5
<i>Bromus inermis</i>	Smooth Brome	SNA		5
<i>Chichorium intybus</i>	Chicory	SNA		5
<i>Cirsium arvense</i>	Canada Thistle	SNA		3
<i>Cirsium vulgare</i>	Bull Thistle	SNA		3
<i>Cornus racemosa</i>	Gray Dogwood	S5	2	0
<i>Cornus sericea</i>	Red Osier Dogwood	S5	2	-3
<i>Dactylis glomerata</i>	Orchard Grass	SNA		3
<i>Daucus carota</i>	Queen Anne's Lace	SNA		5
<i>Echinocystis lobata</i>	Wild Mock-cucumber	S5	3	-3
<i>Equisetum arvense</i>	Field Horsetail	S5	0	0
<i>Equisetum scirpoides</i>	Dwarf Scouring-rush	S5	7	0
<i>Erigeron annuus</i>	Annual Fleabane	S5	0	3
<i>Fraxinus pennsylvanica</i>	Green Ash	S4	3	-3
<i>Glechoma hederaceae</i>	Ground Ivy	SNA		3
<i>Glycine max</i>	Soy Bean	SNA		5
<i>Hesperis matronalis</i>	Dame's Rocket	SNA		3
<i>Impatiens capensis</i>	Spotted Jewelweed	S5	4	-3
<i>Impatiens glandulifera</i>	Purple Jewelweed	SNA		-3
<i>Juglans nigra</i>	Black Walnut	S4	5	3
<i>Leucanthemum vulgare</i>	Oxeye Daisy	SNA		5
<i>Malus pumila</i>	Common Apple	SNA		5
<i>Medicago lupulina</i>	Black Medic	SNA		3
<i>Onoclea sensibilis</i>	Sensitive Fern	S5	4	-3

<i>Bardarea vulgaris</i>	Bitter Wintercress	SNA		0
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	S4	6	3
<i>Phalaris arundinacea</i>	Reed Canary Grass	S5	0	-3
<i>Phragmites australis</i>	Common Reed	S4?	0	-3
<i>Poa pratensis</i>	Kentucky Bluegrass	S5	0	3
<i>Podophyllum peltatum</i>	May-apple	S5	5	3
<i>Populus deltoides</i>	Eastern Cottonwood	S5	4	0
<i>Prunus virginiana</i>	Choke Cherry	S5	2	3
<i>Ranunculus acris</i>	Tall Buttercup	SNA		0
<i>Rhamnus cathartica</i>	Common Buckthorn	SNA		0
<i>Robinia pseudoacacia</i>	Black Locust	SNA	-	3
<i>Rosa palustris</i>	Swamp Rose	S5	7	-5
<i>Rubus idaeus</i>	Common Red Raspberry	S5	2	3
<i>Rubus occidentalis</i>	Black Raspberry	S5	2	5
<i>Rumex crispus</i>	Curly Dock	SNA		0
<i>Salix amygdaloides</i>	Peach-leaved Willow	S5	6	-3
<i>Salix x fragilis</i>	Crack Willow	SNA		0
<i>Solanum dulcamara</i>	Bittersweet Nightshade	SNA		0
<i>Solidago altissima</i>	Tall Goldenrod	S5	1	3
<i>Sorbus aucuparia</i>	European Mountain-ash	SNA		5
<i>Taraxacum officinale</i>	Common Dandelion	SNA	-	3
<i>Thuja occidentalis</i>	Eastern White Cedar	S5	4	-3
<i>Toxicodendron radicans</i>	Poison Ivy	S5	2	0
<i>Typha angustifolia</i>	Narrow-leaved Cattail	SNA		-5
<i>Typha latifolia</i>	Broad-leaved Cattail	S5	1	-5
<i>Urtica dioica</i>	Stinging Nettle	S5	2	0
<i>Verbascum thapsus</i>	Common Mullein	SNA	-	5
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum	S5	6	5
<i>Vicia cracca</i>	Tufted Vetch	SNA		5
<i>Vincetoxicum rossicum</i>	Dog Strangling Vine	SNA	-	5
<i>Vitis riparia</i>	Riverbank Grape	S5	0	0

APPENDIX E
SELECTED SITE PHOTOGRAPHS

SELECTED SITE PHOTOGRAPHS

(All Photos Taken June 17, 2020)



Photo 1 – View of Reed–canary Grass Marsh with the farm field in the background.



Photo 2 - View of Mixed Meadow community and brick barn.



Photo 3 – View of the Reed–canary Grass marsh south of the brick barn.



Photo 4 – View from within the White Ash woodland at the south edge of the Site.

APPENDIX F
SPECIES AT RISK SCREENING TABLE

Table 1. Species at Risk Screening for the Study Area

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Observed on Site	Suitable Habitat on Site
							NHIC Grid 17QJ3072, 17QJ2971	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Reptile and Amphibian Atlas (ON 2018)	Ontario Butterfly Atlas (Macnaughton 2018)			
REPTILE	Snapping Turtle	<i>Chelydra serpentina</i>	S3	SC	SC	2018				◆		Prefer shallow, slow-moving waters with abundant vegetation, but can also live in deeper water habitats. During the nesting season June-July, they can be found on gravelly or sandy areas on land.	No	No, the wetlands on the Site are not standing water bodies that this species would be utilizing as its main habitat.
PLANT	Butternut	<i>Juglans cinerea</i>	S2?	END	END						◆	Grows alone or in small groups in deciduous forests. Prefers moist, well-drained soil and is often found along streams.	No	Yes, there is potential habitat in the woodland on Site.
	American Ginseng	<i>Panax quinquefolius</i>	S2	END	END						◆	Rich, undisturbed, mature sugar maple-dominated forest. Often on moist, yet well-drained, soil, often on limestone or marble bedrock	No	No, there are no sugar maple forests on the Site.
	Broad Beech Fern	<i>Phegopteris hexagonoptera</i>	S3	SC	SC						◆	Rich, moist deciduous forests, often at bases of slopes, edges of seeps, and along streams	No	Yes, there are deciduous forests on the Site this species could utilize.
	Eastern Prairie Fingert Orchid	<i>Platanthera leucophaea</i>	S2	END	END						◆	Fens, limestone shorelines, wet mesic prairies and old fields	No	Yes, there are old fields on Site that this species could utilize.
	White Prairie Gentian	<i>Gentiana alba</i>	S1	END	END						◆	Prairies, savannahs, woodlands and glades generally with drier soils and prolonged periods of sunlight	No	No, the woodlands on the Site do not have dry soils.
BIRD	King Rail	<i>Rallus elegans</i>	S2B	END	END	2001-2005					◆	Densely vegetated freshwater marshes with open shallow water containing shrubby areas. Can be found in small isolated marshes, but prefer larger coastal wetlands.	No	No, there are no open water areas on the Site.

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Observed on Site	Suitable Habitat on Site	
							NHIC Grid 17QJ3072, 17QJ2971	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Reptile and Amphibian Atlas (ON 2018)	Ontario Butterfly Atlas (Macnaughton 2018)				Rare Vascular Plants of Ontario (Oldham & Brinker, 2009)
BIRD	Least Bittern	<i>Ixobrychus exilis</i>	S4B	THR	THR	2001-2005			◆				Variety of wetland habitats with a preference for cattail marshes with a mix of open pools and channels. Build nests amongst dense vegetation near open water for foraging	No	No, there are no open pools and channels within the marsh community.
	Acadian Flycatcher	<i>Empidonax virescens</i>	S2B S3B	END	END	2001-2005			◆				Mature shady forests with ravines, or in forested swamps with lots of maple and beech trees. Typically they nest in Southwest Ontario in large forested areas or forested ravines near Lake Erie shores.	No	No, the species of trees that this species prefers are not dominant on Site and the Site is not close to the Lake Erie shores.
	Black Tern	<i>Chlidonias niger</i>	S3B	SC	NAR	2001-2005			◆				They build floating nests in loose colonies along shallow marshes. Typically they are found amongst cattails.	No	No, there is no area for this species to build floating nests on the Site.
	Northern Bobwhite	<i>Colinus virginianus</i>	S1	END	END	2001-2005			◆				Live in savannahs, grasslands, abandoned farm fields and along bushy fencerows. In severe weather conditions they move into small forest areas to find snow-free areas for foraging.	No	Yes, there are farm fields and fencerows that this species could utilize.
	Bank Swallow	<i>Riparia riparia</i>	S4B	THR	THR	2001-2005			◆				Nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on river banks, but can be found in sand and gravel pits.	No	No, there are no vertical silt faces on the Site that this species could utilize.
	Prothonotary Warbler	<i>Protonotaria citrea</i>	S1B	END	END	2001-2005			◆				Nest in small shallow holes in the trunks of dead and decaying trees standing in flooded or wet woodlands and swamps. Silver Maple, Ash and Yellow Birch are common trees in these habitats.	No	Yes, there are wet woodlands on the Site that this species could utilize as habitat.
	Short-eared Owl	<i>Asio flammeus</i>	S2N, S4B	SC	SC	2001-2005			◆				Lives in open areas such as grasslands, marshes and tundra. It nests on the ground and hunts small mammals in the grasses.	No	Yes, there are marshes on the Site that this species could utilize.

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Observed on Site	Suitable Habitat on Site	
							NHIC Grid 17QJ3072, 17QJ2971	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Reptile and Amphibian Atlas (ON 2018)	Ontario Butterfly Atlas (Macnaigh ton 2018)				Rare Vascular Plants of Ontario (Oldham & Brinker, 2009)
BIRD	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR	2001-2005			◆				Can be found in tallgrass prairie, open meadows, hayfields, and dense grasses. They build their nests on the ground amongst the dense vegetation .	No	Yes, there are meadows on the Site for this species to utilize.
	Eastern Meadowlark	<i>Sturnella magna</i>	S4B	THR	THR	2001-2005	◆		◆				Breed primarily in moderately tall grasslands such as pastures, hayfields and weedy borders of croplands, roadsides and other open areas.	No	Yes, there are weedy borders of croplands on the Site this species could utilize.
	Eastern Wood-Pewee	<i>Contopus virens</i>	S4B	SC	SC	2001-2005			◆				Live in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundantly found in intermediate-age mature forest stands with little understory vegetation.	No	Yes, there are forest edges that this species could utilize on the Site.
	Peregrine Falcon	<i>Falco peregrinus</i>	S2S3B	THR	SC	2001-2005			◆				Usually nests on tall, steep, cliff ledges close to large bodies of water. Can inhabit urban areas, nesting on tall building ledges.	No	No, there are no cliff edges on the Site for this species to utilize.
	Bald Eagle	<i>Haliaeetus leucocephalus</i>	S4B	SC	NAR	2001-2005			◆				Nests in a vareity of forest types near major lakes or rivers where they can hunt.	No	Yes, there are woodlands on the Site that is near a river.
	Common Nighthawk	<i>Chordeiles minor</i>	S4B	SC	SC	2001-2005			◆				Rocky areas with little vegetation and clearings. Can use gravel roads, flat roofs, and fields. ³	No	No, there is no suitable habitat for this species on the Site.
	Wood Thrush	<i>Hylocichla mustelina</i>	S4B	SC	THR	2001-2005			◆				Lives in mature deciduous and mixed forests, seeking moist stands of trees with well-developed undergrowth and tall trees for perching. They prefer large forests, but will also use smaller stands of trees, building their nests in saplings, trees or shrubs, usually of Sugar Maple or American Beech.	No	Yes, there are moist stands of trees on the Site that this species could utilize.
	Chimney Swift	<i>Chaetura pelagica</i>	S4B, S4N	THR	THR	2001-2005			◆				Historically have nested on cave walls and in hollow trees, but are more likely to be found in urban settlements nesting in chimneys and manmade structures. They tend to stay close to water where flying insects congregate for foraging.	No	Yes, there are chimneys on the Site that this species could utilize.

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Observed on Site	Suitable Habitat on Site	
							NHIC Grid 17QJ3072, 17QJ2971	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Reptile and Amphibian Atlas (ON 2018)	Ontario Butterfly Atlas (Macnaughton 2018)				Rare Vascular Plants of Ontario (Oldham & Brinker, 2009)
BIRD	Barn Swallow	<i>Hirundo rustica</i>	S4B	THR	THR	2001-2005			◆				Nest along human-made structures such as open barns, under bridges and in culverts. Attracted to open structures to build their nests, including ledges. They prefer rough-cut wood structures as the mud nests adheres better.	No	Yes, there are structures on the Site that this species could utilize for nesting.
	Eastern Whip-poor-will	<i>Caprimulgus vociferus</i>	S4B	THR	THR	2001-2005			◆				Areas with a mix of open and forested areas such as savannahs, woodlands or openings in more mature deciduous, coniferous and mixed forests. It forages in open areas and uses forested areas for roosting.	No	Yes, there are woodlands, marshes and open areas that this species could utilize.
	Yellow-Breasted Chat	<i>Icteria virens</i>	S2B	END	SC	2001-2005			◆				Lives in thickets and scrub, and areas where clearings have become overgrown. They forage from the foliage of low, dense shrubs, or from the ground.	No	No, there are no thicket communities on the Site that this species could utilize.
	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	S4B	THR	SC	2001-2005			◆				Open forests and savannahs with clear understories, including pine plantations, agricultural areas and treerows	No	No, there are no forests on the Site that have clear understories.
INSECT	Monarch	<i>Danaus plexippus</i>	S4B	SC	SC	2018					◆		Caterpillars feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adults forage on a variety of wildflowers and milkweed.	Yes	Yes, there is Milkweed and other wildflowers present on the Site
MAMMAL	Little Brown Bat	<i>Myotis lucifuga</i>	S4	END	END	-		◆					Roost in trees and buildings such as attics, abandoned buildings and barns. Generally found in coniferous or deciduous forests along edge habitat, foraging in clearings near sources of water.	No	Yes, there are cavity trees and older homes on the property this species could utilize as nesting habitat.
	Tri-coloured Bat	<i>Pipistrellus subflavus</i>	S3	END	END	-							Forms day roosts and maternity colonies in older forests but can also be found in barns or other structures. Forage over water along streams in the forest. Overwinter in caves from October-April.	No	Yes, there are cavity trees and older homes on the property this species could utilize as nesting habitat.
	Eastern Small-footed Myotis	<i>Myotis leibii</i>	S2S3	END	END	-							Roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines or hollow trees	No	Yes, there are cavity trees and older homes on the property this species could utilize as nesting habitat.
	Northern Myotis	<i>Myotis septentrionalis</i>	S3	END	END	-							Roost under loose bark and in cavities of trees. Hibernate from October/November to March/April most often in caves or abandoned mines	No	Yes, there are cavity trees and older homes on the property this species could utilize as nesting habitat.

SARO	Species at Risk Ontario (O. Reg. 230/08)
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
Definitions	
Endangered (END)	Species facing imminent extirpation or extinction
Threatened (THR)	Species likely to become endangered if nothing is done to reverse the factors leading to their extirpation or extinction
Special Concern (SC)	Species that may become threatened or endangered because of a combination of biological characteristics and identified threats
Extirpated (EXR)	Species which no longer exist in the wild in Ontario, but exist elsewhere in the world
DD	Data deficient

References

1	Ministry of Natural Resources (MNR). 2000. Significant Wildlife Habitat Technical Guide. Peterborough: Queen's Printer for Ontario.
2	Government of Canada. 2018. Species at Risk Act: COSEWIC Assessments and Status Reports. Accessed February 2019. https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/cosewic-assessments-status-reports.html .
3	Government of Canada. 2011. Species at Risk Public Registry: A to Z Species Index. Ottawa: Government of Canada. Accessed February 2019. http://sararegistry.gc.ca/sar/index/default_e.cfm .
4	Ministry of the Environment, Conservation and Parks. 2018. Species at Risk in Ontario. Accessed February 2019. https://www.ontario.ca/page/species-risk-ontario#section-3 .
5	Butterflies of Ontario. 2019. Red-disked Alpine. Accessed February 2019. http://www.ontariobutterflies.ca/families/nymphalidae/red-disked-alpine .
6	Butterflies and Moths of North America. 2018. Red-disked Alpine. Accessed February 2019. https://www.butterfliesandmoths.org/sighting_details/1053970 .

NHIC Srank (Subnational) Legend

S1	Critically imperiled, at very high risk of extirpation.
S2	Imperiled, at high risk of extirpation.
S3	Vulnerable, at moderate risk of extirpation.
S4	Apparently secure, at fairly low risk of extirpation.
S5	Secure, at low or no risk of extirpation.
B	Conservation status refers to breeding population.
N	Conservation status refers to non-breeding population.

**APPENDIX G
PROPOSED SITE PLAN**

CANADIAN NATIONAL AND CANADIAN PACIFIC RAILWAY TRACKS



SITE INFORMATION

SITE AREA
Total Site Area: 3.97he

PARKING RATES REQUIRED
Residential (Detached, Semi-detached): 2.0 p/unit
Residential (Townhouses): 1.0 p/unit
Mixed-Use: 1.0 p/unit
Retail: 3 p/100m² GFA

SETBACKS F.Y. C.Y. S.Y. R.Y.
Detached: 4.5m 2.4m 1.2m 7.5m
Semi-Detached: 4.5m 2.4m 1.2m -
Townhouses: 4.5m 2.4m 1.2m -
Mixed-Use: 1.8m 1.8 0m -

DEVELOPMENT STATISTICS

RESIDENTIAL UNITS
Detached: 6
Semi-Detached: 4
Townhouses: 55
Mixed-Use: 24
TOTAL: 89

PARKING Required Provided
Residential: 87 118
Visitor: 22 33
Commercial: 36 38
Subtotal: 145 190

Barn Cultural Hub: 49
Total: 239

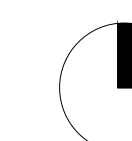
OPEN SPACE
Storm Water Management Pond Park: 0.255he
Central Park: 0.136he
Barn Cultural Hub Parkette: 0.085he

**540 King St,
Cobourg
Concept Plan**



LEGEND

- PROPERTY BOUNDARY
- ENVIRONMENTAL ZONE
- FUTURE ROAD ROW WIDENING



No.	REVISION	DATE	BY
7	REVISED CONCEPT PLAN	2022.02.22	UMG
6	REVISED CONCEPT PLAN	2022.02.18	UMG
5	REVISED CONCEPT PLAN	2021.09.08	TK
4	PREFERRED CONCEPT PLAN	2021.06.18	TK
3	CONCEPT PLAN	2021.05.11	TK
2	CONCEPT PLAN	2021.04.23	TK
1	BASE PLAN	2021.04.07	TK

CLIENT
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REVIEWED UM
DATE 2022.02.22

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