FINAL

Environmental Impact Study

2105 Headon Road, Burlington, Ontario

Prepared for:

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Attn: Rana Abdullah

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1.0 INTRODUCTION

JEC Properties Inc. (Client) retained Pinchin Ltd. (Pinchin) to conduct a Scoped Environmental Impact Study (EIS) of the subject property located at 2105 Headon Road, Burlington, Ontario (Site). The location of the Site is shown on Figure 1 in **Appendix A.** The EIS was requested by Halton Region and Conservation Halton (CH) in respect of a proposed development, as the Client intends to redevelop the property for increased residential use.

The Site and immediately surrounding area extending outward 120 metres (m) from the Site boundary, identified as the Study Area for this EIS, is depicted on Figure 2 in **Appendix A**. The Site is a 0.4-hectare (ha) parcel of land currently developed with a single-family residence and detached garage. Natural heritage features on and adjacent to the Site include a woodland and a watercourse, Tuck Creek, approximately 50 m to the east, that is regulated by CH.

This EIS report was prepared to: identify natural heritage features present on or immediately adjacent to the Site and characterize their ecological functions; evaluate aspects of the development proposal that might reasonably be expected to affect natural features; and provide recommendations of mitigation measures to avoid or minimize potential adverse impacts. This EIS report has been prepared in general accordance with the Environmental Impact Assessment Guidelines from the Region of Halton (Halton Region, 2020) and Conservation Halton (Conservation Halton, 2014), following the Terms of Reference established in consultation with the regulatory agencies.

2.0 NATURAL HERITAGE POLICY CONTEXT

Pinchin reviewed the following federal, provincial, regional, and municipal legislation and policies before undertaking our evaluation of the natural heritage features and functions of the Site and adjacent area:

- Migratory Birds Convention Act (1994)
- Species at Risk Act
- Ontario Regulation 42/06
- Provincial Planning Statement (2024)
- Halton Region Official Plan (2024)
- City of Burlington Official Plan (2020)

2.1 The Provincial Planning Statement

The Provincial Planning Statement 2024 (PPS) sets a policy foundation for regulating development and land use in the Province of Ontario. It sets out guidelines for development while protecting resources of interest to the province including public health and safety and the quality of the natural environment (Ministry of Municipal Affairs and Housing, 2024).

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While the PPS does support development and improved land use for planning, management, and growth, it does so in ways intended to enhance communities through efficient land use and environmental management and protection.

Chapter 4, Policy 4.1 of the PPS provides direction for wise use and management of resources by conserving and protecting natural areas and their associated features and functions. Policy 4.1.1 stipulates that the natural features and areas are to be protected for the long term. Policy 4.1.2 also states that the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, are to be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features, and ground water features. Policy 4.1.3 stipulates that the natural heritage systems are to be identified in Ecoregions 6E and 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

As the Study Area falls within Ecoregion 7E, development and Site alteration are not permitted within significant wetlands and significant coastal wetlands, as stipulated in Policy 4.1.4., Further, as per Policy 4.1.5, development and Site alteration are also not permitted within the following significant natural heritage features unless it has been demonstrated that there will be no negative impacts on those natural features or their ecological functions:

a) significant woodlands;
b) significant valleylands;
c) significant wildlife habitat;
d) significant areas of natural and scientific interest; and
e) coastal wetlands are not subject to policy 4.1.4 (b)

Policies 4.1.6 and 4.1.7 prohibit development or Site alteration within fish habitat or the habitat of endangered species and threatened species, except in accordance with provincial and federal requirements. Furthermore, Policy 4.1.8 prohibits development and Site alteration on land adjacent to the natural heritage features and areas listed above unless ecological functions of adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Policy 2.9.1 states that planning authorities are to plan to reduce greenhouse gas emissions and prepare for impacts of a changing climate through approaches that incorporate climate change considerations in planning and development of infrastructure, including stormwater management systems and public service facilities.

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The PPS provides overall policy direction and is intended to be read in conjunction with other provincial and municipal plans. Where the policies from various plans overlap, the more stringent policy applies unless otherwise stated

2.2 Migratory Birds Convention Act

The *Migratory Birds Convention Act* (MBCA; 1994) is the primary federal legislation aimed at protecting migratory birds, their nests, eggs, and habitats in Canada. It is prohibited to disturb, harm, or destroy migratory birds, their nests, or their eggs, except under the authority of a permit. This restriction includes disturbance or destruction of actively occupied nests or eggs within them. Activities that may harm or disturb migratory birds or their nests require compliance with the MBCA and may require a permit from the Canadian Wildlife Service of Environment and Climate Change Canada (ECCC).

For 18 species of migratory birds, nests are protected year-round, and any disturbance or destruction is prohibited even outside the nesting season. Nests must be confirmed as inactive for a defined period (12 to 36 months, depending on the species) before they can be disturbed. The nests must also be registered at the start of this period for proper documentation.

ECCC can issue permits for nest destruction for scientific purposes or to prevent damage caused by birds, but there is no process for permits to exempt development activities, including maintenance or rehabilitation, from the MBCA restrictions. To avoid incidental take, ECCC recommends scheduling activities outside the migratory bird nesting season. If bird activity poses a risk to property or safety, proponents may apply for a danger or damage permit (DDP), enabling removal or active deterrence of migratory birds from structures, provided it is demonstrated that the activity is causing damage or posing a health and safety concern.

2.3 Species at Risk

2.3.1 Species at Risk Act

The *Species at Risk Act* of 2002 (SARA) is federal legislation designed to protect and recover at-risk species and their critical habitats in Canada. Under SARA, it is prohibited to kill, harm, harass, capture, or take an individual of a species listed as extirpated, endangered, or threatened on Schedule 1. Destruction or interference with critical habitat of those species is also prohibited unless authorized.

On private or provincially owned lands, only aquatic species listed as endangered, threatened, or extirpated, and migratory birds under the MBCA, are protected under SARA, unless ordered by the Governor in Council (Cabinet). SARA is not applicable to terrestrial species that are not on federal lands.

SARA establishes a process for listing at-risk species and developing recovery strategies and action plans. Activities that may affect listed species or their critical habitats require compliance with SARA and permits or exemptions may be necessary for activities that could cause harm.

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SARA mandates protection of critical habitat and requires federal agencies to consider at-risk species when making relevant decisions. Proponents must assess projects for potential impacts on listed species and their habitats and ensure compliance with SARA. If an activity threatens survival of a species, approved mitigation measures or permits may be required to proceed.

2.3.2 Endangered Species Act

The *Endangered Species Act*, 2007 (ESA) is Ontario's primary legislation for protecting species at risk and their habitats. Subsection 9(1) of the ESA prohibits the killing, harming, or harassing of species identified as endangered or threatened under the Act. Subsection 10(1)(a) further prohibits the damage or destruction of the habitat of any species listed as endangered or threatened under the SARA or the ESA.

The ESA provides general habitat protection for all endangered and threatened species, but species-specific habitat protection is provided only for species for which habitat regulations have been prepared and passed into law under the ESA. The Act also includes a permitting and exemption process, allowing alterations to the habitat of protected species under certain conditions.

As of June 20, 2008, the species at risk in Ontario are governed by Ontario Regulation 230/08. Under the ESA, activities that could harm, capture, or take an individual of a listed species, or damage their habitat, must comply with the Act. Proponents must assess the potential impacts of their activities and, if necessary, apply for permits or exemptions for activities that may harm a species or its habitat. The MECP manages species at risk (SAR) in Ontario and enforces the ESA.

The ESA applies to both public and private lands, protecting endangered and threatened species and their habitats. Regulators may apply exceptions, however, such as those for certain agricultural or forestry activities, where specific conditions are met.

Recent legislative changes under the provincial government, including the passing of Bills 5 *Unleashing our Economy Act,* have significantly altered the implementation of the *Endangered Species Act*, 2007. These changes have effectively reduced the scope and strength of species protections, with elements of the Act being revoked or overridden. As of now, the regulatory framework remains in transition to the *Species Conservation Act*, and the long-term implications for species at risk policy in Ontario are still uncertain.

2.4 Halton Region Official Plan

The most recent consolidation of the Halton Region Official Plan (ROP) was consolidated in 2024 (Halton Region, 2022). The Site is designated as "Urban Area" and "Key Features" within the Regional Natural Heritage System (RNHS), as shown in **Appendix C**. These Key Features within the Study Area include a significant woodland and a watercourse adjacent to the Site, Tuck Creek. The purpose of the RNHS is to increase the certainty that biological diversity and ecological functions within Halton will be preserved and enhanced for future generations.

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Development or alteration of any component of the RNHS is not permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. The RNHS is a system comprised of key features and associated components, as defined in the ROP and supporting implementation documents. The policies are implemented through the Phase 3 – Sustainable Halton Report and supported by the Region of Halton Environmental Impact Assessment Guideline, which provide direction for identifying system components, including buffers, and demonstrating no negative impacts. As the development is proposed within and adjacent to the RNHS, an EIS is required to evaluate potential impacts and demonstrate conformity with this framework.

2.5 City of Burlington Official Plan

The most recent consolidation of the City of Burlington Official Plan (CBOP) was completed in 2020 (City of Burlington, 2020). The Site is designated as “Residential – Low Density” and is adjacent to a “City’s Natural Heritage System” to the south and east and “Residential – Medium Density” areas to the west and southeast. These land use designation from Schedule C of the CBOP are found in **Appendix C** for reference. The City’s Natural Heritage System embodies a systems approach to protecting and enhancing natural heritage features and areas and ecological and hydrologic functions and is scientifically structured on the basis of the following components: Key Natural Features (including significant woodlands), linkages, buffers, watercourses within a Conservation Halton Regulation Limit, and wetlands. Development or Site alteration is not permitted within or adjacent to the City’s Natural Heritage System unless it has been demonstrated through and Environmental Impact Assessment (EIA) that there are no negative impacts on the natural heritage features. The boundaries of the City’s Natural Heritage System, and of Key Natural Features within it, may be refined, with additions, deletions or boundary adjustments, through an EIA provided that the study has been accepted by the City, Region, and Conservation Halton where appropriate. With these natural heritage features present on the Site; an EIS is required to ensure that no negative impacts will occur due to the development. The City of Burlington is consistent with the PPS and supports sustainable land use development and environmental protection.

For the purposes of this EIS, the extent of the natural heritage system on the Site will be refined through the identification of significant features and associated system components, including buffers, based on the results of the field investigations and policy-based evaluation. This refined limit is intended to be reflected through the applicable implementing planning and zoning framework.

2.5.1 City of Burlington Private Tree By-law

The City of Burlington’s Private Tree By-law 02-2020 is intended to prohibit and regulate the destruction of trees (City of Burlington, 2006). The by-law sets out restrictions of specific trees, sizes, and numbers that are prohibited from being removed or destroyed. As the proposed development requires vegetation alteration and removal, assessment of the woodland and a permit may be required to enable development to continue and ensure that appropriate buffers and mitigation measures are in place.

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2.6 Ontario Regulation 41/24

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 Conservation Halton (CH) under Ontario Regulation 41/24 (Government of Ontario, 2022). CH 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 with 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 CH.

3.0 STUDY METHODOLOGY

3.1 Background Review and Agency Consultation

Pinchin conducted a desktop background review of available information sources relating to the Study Area prior to completion of field investigations. Included in the review were natural heritage features present on the Site and in the surrounding area, historical species occurrences available from the Ministry of Natural Resources and Forestry's (MNRF) Natural Heritage Information Centre (NHIC), MECP LIO mapping, 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.

Additionally, a scoping exercise with the Halton Region and CH was conducted through a Terms of Reference (TOR) for the EIS prior to the completion of this report, and review comments were received from the agencies for establishing the basis of this EIS. A record of this agency consultation on the TOR is included in **Appendix B** for reference. Further, comments received from the City Peer Reviewer on November 8, 2024, and January 12, 2026, were reviewed and incorporated into the report.

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

- Assessment of habitat through aerial photographs and online mapping:
  - Land Information Ontario (MNRF, 2020a); and
  - Google Earth.
- Review of historical occurrence records for Species of Conservation Concern within or adjacent to the Study Area:
  - Natural Heritage Information Centre (MNRF, 2020b);

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- Ontario Regulation 230/08 Species at Risk in Ontario List (COSSARO, 2020);
- Atlas of the Breeding Birds of Ontario (BSC, 2020);
- Atlas of the Mammals of Ontario (Dobbyn, 1994);
- Ontario Reptile and Amphibian Atlas (ON, 2020);
- Ontario Butterfly Atlas (TEA, 2020); 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. Pinchin applied the methods described in this section during fieldwork.

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 and the Second Approximation* (Lee et al., 1998 and 2008) were referenced to classify the habitats to EcoSite. EcoSites classified within the Study Area were then applied to ELC polygons mapped using aerial imagery.

The vegetation communities were sampled for their structure, species composition, and habitat characteristics. That 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 Woodland Assessment

Evaluation criteria for assessing significant woodlands have been established by both Halton Region and the City of Burlington. The following analysis is based on the methodologies and criteria outlined in the Halton Region Official Plan (2022) and the City of Burlington Official Plan (2020).

A designated woodland is one that is 0.5 ha or larger as determined through an EIS. Woodlands satisfying one or more of these four criteria are considered significant by the Region and the City:

- The woodland contains forest patches over 99 years old;
- The patch size of the Woodland is 2 ha or larger if it is located in the Urban Planning Area; or 4 ha or larger if it is located outside the Urban Planning Area but below the Escarpment Brow; or 10 ha or larger if it is located outside the Urban Planning Area but above the Escarpment Brow;
- The woodland has an interior core area of 4 ha or larger, measured 100 m from the edge; or

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- The woodland is wholly or partially within 50 m of a major creek, or certain headwater creek, or within 150 m of the Escarpment Brow.

3.2.3 Watercourse Assessment

Watercourse assessment in the Study Area followed the criteria outlined in the Ontario Stream Assessment Protocol (OSAP) Version 10 (Stanfield, 2017). The Site was identified and documented at the screening level as per the OSAP guidelines. A rapid assessment of watercourses was conducted of the Site and within the Study Area with access and safety considerations.

The physical processes and channel structures were documented during the Site visit. The thermal regime and fish community presence were based on literature reviews publicly available from MECP LIO mapping and field observations from the Site visit. Additionally, analysis of fish and fish habitat classification follows the Evaluation, Classification and Management of Headwater Drainage Features Guidelines (TRCA & CVC, 2014). The important, valued or contributing functions were analyzed through the field data collected and observations of suitable, seasonal or contributing fish habitat on the Site and within the Study Area.

3.2.4 Species at Risk

The *Ontario Endangered Species Act*, 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 that list. A species' habitat includes anywhere on which the species depends 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 SAR 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 SAR was identified, additional survey effort was applied in that area. If incidental SAR were observed, they were recorded throughout the field assessment within and adjacent to the Site.

3.2.5 Incidental Wildlife Observations

Wildlife was surveyed as part of general wildlife surveys during the Site visit. These surveys involved general coverage recording all species observations and signs, including tracks and trails, scat, burrows, dens, browse, and vocalizations. The wildlife surveys were made 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).

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3.2.6 Breeding Bird Surveys

Pinchin carried out breeding bird surveys during the breeding bird season on accordance with the Ontario Breeding Bird Atlas (OBBA; Cadman and Kopysh, 2001) protocol. Surveys were conducted between dawn and five hours after dawn during appropriate weather and consisted of both standardized 5-minute point counts at six pre-determined Sites within the property and active searching for evidence of breeding birds according to the OBBA breeding evidence guidelines.

Point count Sites were selected to minimize overlap and to incorporate a variety of habitat types. During the 5-minute period, the surveyor recorded all birds seen or heard from the stationary position and indicated whether individuals were within a 100-m radius. In addition, the surveyor recorded any observed breeding behaviours (i.e., nest building, courtship displays, etc.). Two breeding bird surveys, 22 days apart, were conducted on the Site as part of the field assessment program.

3.2.7 Bat Habitat Suitability Surveys

Based on the presence of treed habitats within the Site, bat habitat suitability surveys are required. The Survey Protocol for Species at Risk Bats within Treed Habitats, released in April 2017 by the MNRF Guelph District, serves as the basis for these surveys.

The bat habitat surveys were completed at the Site and involved the identification of suitable maternity roost trees through leaf-off and leaf-on surveys. The leaf-off component involved the identification of and the evaluation of any snags of cavity trees present within the Site, as well as general characteristics of those trees. The leaf-on component was completing during the leaf-on season with appropriate foliage characteristics being identified.

4.0 LANDFORMS, GEOLOGY, AND PHYSIOGRAPHY

The Site is bounded by Jordan Avenue and residential areas to the north, Cleaver Avenue and residential areas to the east, Upper Middle Road and residential and forested areas to the south, and Headon Road and residential and forested areas to the west. The Ontario Geological Survey classifies the Site as part of the Queenston formation. The geology on the Site is Upper Ordovician in origin and is dominated by red shale. The Site is within the Toronto Ecodistrict (7E-4), located along the shore of Lake Ontario from Markham to Burlington. Communities and associated infrastructure occupy over half of the landscape within the EcoDistrict, with agriculture occupying another third. Morainal materials dominate the landscape within Ecodistrict 7E-5 at 66%, while urban deposits make up 30%. The substrate types within the EcoDistrict are 68% Gray Brown Luvisol, 30% Urban, and 2% other types (MNRF, 2018). The majority of the Site is flat, at 145 m elevation, with a small section of the Site in the southern corner at 140 m.

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5.0 FIELD SURVEY RESULTS

5.1 Field Assessment Summary

Field surveys, including wildlife and vegetation assessments, were conducted across multiple seasons. During each survey, incidental wildlife observations were recorded. In addition, area searches were carried out to identify suitable habitats for SAR, based on species identified in the background SAR review. A detailed list of those surveys, including dates, survey types, weather conditions, and name of the evaluator, is provided in Table 1.

Table 1 – Summary of Field Survey Conducted for the Site and Study Area

Date of Visit	Survey	Weather at time of Survey
Spring: May 29, 2022	BBS (Round 1)	Sunny with a high of 18º Celsius
Spring: June 19, 2022	BBS (Round 2)	Sunny with a high of 20º Celsius
Summer: June 28, 2022	ELC	Sunny and a high of 22º Celsius
Fall; October 13, 2022	ELC	Overcast with a high of 9º Celsius
Spring: April 18, 2023	ELC	Overcast with some flurries and a high of 5º Celsius
Spring: May 5, 2023	Snag Suitability Survey (leaf off)	Sunny with a high of 9º Celsius
Summer: July 6, 2023	Snag Suitability Survey (leaf on)	Sunny with a high of 25º Celsius.

5.2 Vegetation Assessment

5.2.1 Vascular Plants

A total of 35 plant species were identified on the Site during vegetation surveys. A full vascular plant species inventory as observed on the Site and Study Area during the field assessment program is provided in Table 1 in **Appendix D**.

5.2.2 Vegetation Communities

Six vegetation communities and one aquatic feature were identified on the Site. Those vegetation communities with their ELC polygons surveyed on the Site and the surrounding area are mapped on Figure 3 in **Appendix A**. Selected Site photographs of the vegetation communities are included in **Appendix E** for reference.

Single Family Residential (CVR_3) includes several within the Study Area. These lots are vegetated primarily with common landscape trees, manicured lawns, and shrubs. The residence within the Site consists of one single storey structure and associated garage and driveway.

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Low Density Residential (CVR_1) is found to the northeast and southwest of the Site. The community is primarily made up of townhouses and apartment complexes with manicured lawns and common landscape trees.

CH Norton Public School (CVS_1) is found to the northwest of the Site and includes the school building, associated play structures, and manicured lawns with some native trees, namely Red Oak (*Quercus rubra*) and Shagbark Hickory (*Carya ovata*), similar to those found within the neighbouring woodland.

Cleaver Park (CGL_2) is found on the north side of the Study Area and is bounded by the Dry – Fresh Oak – Hickory Deciduous Forest to the south and Cleaver Avenue to the north. Vegetation in this community consists of manicured lawns, and common landscaping trees, and other features include play structures.

Dry – Fresh Oak – Hickory Deciduous Forest (FODM2-2) is the largest vegetated community within the Study Area and includes most natural features within the area. This forest is primarily composed of Red Oak and Shagbark Hickory. Other trees within this community include Eastern White Pine (*Pinus strobus*), Sugar Maple (*Acer saccharum*), Manitoba Maple (*Acer negundo*), American Basswood (*Tilia americana*), Ironwood (*Ostrya virginiana*), and Black Walnut (*Juglans nigra*). As the forest is crossed by walking trails, some areas have minimal subcanopy and ground cover. Natural areas, however, have a subcanopy of Common Buckthorn (*Rhamnus cathartica*), Tartarian Honeysuckle (*Lonicera tatarica*), and saplings of tree species already listed. The groundcover in these natural areas consists mainly of Wild Red Raspberry (*Rubus idaeus* ssp. *strigosus*), Enchanter's Nightshade (*Circaea alpina*), Lily of the Valley (*Convallaria majalis*), and Garlic Mustard (*Alliaria petiolate*). Along the roadside edges of this community are dense patches of Garlic Mustard, Canada Goldenrod (*Solidago canadensis*), and Kentucky Bluegrass (*Poa pratensis*). A chain link fence surrounds the Site and separates the forest from the neighbouring cultural woodland.

Dry – Fresh Oak – Hickory Cultural Deciduous Woodland (WODM3) is found in three patches throughout the Site. The canopy composition of this community is similar to the Dry – Fresh Oak – Hickory Deciduous Forest with dominant Red Oak and Shagbark Hickory. The cultural woodland also has some Sugar Maple, Bur Oak, and Ironwood throughout. This community does not have an understory shrub layer, but rather a ground-cover layer with vegetation composed of a manicured lawn with Kentucky Bluegrass, Canada Goldenrod, Garlic Mustard, Wild Carrot (*Daucus carota*), Canada Thistle (*Cirsium arvense*), and Periwinkle (*Vinca minor*). This community has been historically mown and has a much lower density of trees than the neighbouring forest community. Despite this community being classified as a cultural woodland under the ELC naming convention, it is important to note that it does not meet the density criteria to be considered a woodland under the ROP, based on a woodland evaluation completed by Kuntz Forestry Consulting Inc. (2023).

Tuck Creek (OAO) flows past the Site to the south, through the Forest community described above.

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5.3 Watercourse Assessment

The watercourse, Tuck Creek, is located south of the Site. Tuck Creek has headwaters on the Niagara Escarpment and flows generally southward before draining into Lake Ontario. The Tuck Creek watershed is fully developed and within the urban boundaries of Burlington. During field observations, the Creek was evaluated to be about 6 m wide and 10 cm to 15 cm deep, with a cobble and gravel stream bed. The creek within the study area was fully channelized within an armourstone retaining wall. Garbage dumping was evident throughout the Tuck Creek channel.

Based on the MECP LIO mapping, the watercourse has a warm thermal regime, with the following fish having potential presence: Blacknose Dace (*Rhinichthys atratulus*), Bluegill (*Lepomis macrochirus*), Bluntnose Minnow (*Pimephales notatus*), Brook Stickleback (*Culaea inconstans*), Brown Trout (*Salmo trutta*), Rainbow Trout (*Oncorhynchus mykiss*), Chinook Salmon (*O. tshawytscha*), Common Shiner (*Luxilus cornutus*), Creek Chub (*Semotilus atromaculatus*), Fathead Minnow (*Pimephales promelas*), Goldfish (*Carassius auratus*), Largemouth Bass (*Micropterus salmoides*), Longnose Dace (*Rhinichthys cataractae*), Mottled Sculpin (*Cottus bairdii*), Northern Pike (*Esox lucius*), Pumpkinseed (*Lepomis gibbosus*), and White Sucker (*Catostomus commersonii*).

Although habitat quality of Tuck Creek has been degraded by urban activities such as garbage dumping, the permanent flow and connectivity to Lake Ontario suggest the potential for fish use, particularly by tolerant warmwater species. Species most likely to be present in this section of Tuck Creek include Blacknose Dace, Bluntnose Minnow, Creek Chub, Fathead Minnow, Common Shiner, Pumpkinseed, Bluegill, Goldfish, White Sucker, and Brook Stickleback. These species are known for their adaptability to disturbed, low-quality habitats and are commonly found in shallow, urban streams with moderate flow. Additionally, seasonal movement of migratory species from Lake Ontario, such as Chinook Salmon and Rainbow Trout, may occur during spawning periods, though successful use of the habitat is likely limited by shallow waters and potential barriers. Presence of more sensitive or coolwater species, such as Brown Trout, Mottled Sculpin, Longnose Dace, Northern Pike, and Largemouth Bass, is considered unlikely due to thermal preferences and habitat requirements that are not supported by the observed conditions.

5.4 Woodland Assessment

The following woodland assessment criteria have been derived from the City of Burlington Official Plan (2020) and Halton Region Official Plan (2022). A designated woodland is 0.5 ha or larger as determined through an EIS in the City of Burlington. Criteria are provided above in Section 3.2.2.

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The Dry – Fresh Oak – Hickory Deciduous Forest (FODM2-2) on the Site and within the Study area covers approximately 2 ha. The forest surrounds the Site and extends to the north to parkland and the edge of developed subdivision, and to the east and west along Tuck Creek. From Pinchin's Site reconnaissance in late fall of 2021 and spring 2023, the Dry – Fresh Oak – Hickory Deciduous Forest (FODM2-2) on the Site should be considered "significant" based on City of Burlington Criteria 2 and 4, in being over 2 ha in size within the Urban Planning Area, and within 50 m of a major creek (Tuck Creek). The forest did not appear to meet Criterion 1, containing no forest patches over 99 years old, or Criterion 3, not having an interior core area of 4 ha or more. A variable buffer should be established from the dripline of this significant woodland to mitigate adverse effects of the proposed development. Mitigation measures to avoid and minimize negative effects on this natural heritage feature are discussed in section 10.0 below.

The Dry – Fresh Oak – Hickory Cultural Deciduous Woodland (WODM3) on the Site should not, however, be considered a significant woodland. The Woodland Assessment completed by Kuntz Forestry Consulting Inc. (2023) that included a density analysis determined that this community does not meet any stated criteria for "Woodland" under the ROP, as shown in **Appendix F**. Section 295 of the ROP defines a "Woodland" as an area of land with at least: 1,000 trees of any size per ha, or 750 trees over 5 cm in diameter per ha, or 500 trees over 12 cm in diameter per ha, or 250 trees over 20 cm..

A dripline staking exercise was conducted on May 5, 2023, with representatives from Halton Region, which delineated the total extent for the treed communities on the Site, confirmation of site staking exercise is shown in **Appendix B**. A secondary staking was conducted with Kuntz by Pinchin Staff to delineate the significate Dry – Fresh Oak – Hickory Deciduous Forest (FODM2-2) from the Dry – Fresh Oak – Hickory Cultural Deciduous Woodland (WODM3). Results of this dripline staking are shown in **Appendix A** for reference. The staked dripline of the significant woodland has been used as the basis for establishing the feature limit through this EIS. The associated ecological buffer recommended through this study forms part of the refined NHS limit on the Site.

5.5 Incidental Wildlife Observations

The following wildlife were incidentally observed during vegetation surveys within the Study Area: American Robin (*Turdus migratorius*), American Crow (*Corvus brachyrhynchos*), Black-capped Chickadee (*Poecile atricapillus*), Coopers Hawk (*Accipiter cooperii*), Downy Woodpecker (*Picoides pubescens*), Eastern Cottontail (*Sylvilagus floridanus*), Eastern Phoebe (*Sayornis phoebe*), Northern Cardinal (*Cardinalis cardinalis*), and Gray Squirrel (*Sciurus carolinensis*). These species are all common for the residential area and are adapted to a variety of habitats.

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5.6 Species at Risk Screening

A total of 36 Species at Risk (SAR) were identified as having potential occurrence on the Site, according to Pinchin's background review of the NHIC records and other available data sources for the Study Area. These 36 species, their listing status, the last observed date and the sources used to identify their presence in the area surrounding the Site are summarized in the Species at Risk Screening Table in **Appendix G**.

Based on the background review and field assessment, it was determined that suitable habitat was available on the Site for 13 SARs, with none of these species having confirmed observations there.

Habitat suitable for one SAR amphibian, Jefferson Salamander (*Ambystoma jeffersonianum*), was found to be present within the woodlands on the Site. This species is found in moist loose soil under logs and in lead litter or under rocks and stumps, and breed in vernal pools. Surveys of the woodland determined, however, that there are no vernal pools present on the Site.

One SAR reptile, the Five-Lined Skink (*Plestiodon fasciatus* pop. 2), also has potentially suitable habitat on the Site. The Five-Lined Skink lives in moderately dense or open deciduous or mixed woodlands with logs or slash piles. The skinks are found in damp spots under logs and leaf litter. Despite suitable habitat being present, no salamanders or skinks were observed on the Site during field surveys.

Six SAR bird species, Barn Swallow (*Hirundo rustica*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Chimney Swift (*Chaetura pelagica*), Eastern Wood-pewee (*Contopus virens*), Evening Grosbeak (*Coccothraustes vespertinus*), and Hooded Warbler (*Wilsonia citrina*) were considered to have suitable habitat within the Site boundaries. Barn Swallows and Chimney Swifts have the potential to utilize the structure on the Site as nesting habitat. The woodlands on the Site could provide habitat for Eastern Wood-pewee and Evening Grosbeak. Both species are found in a variety of deciduous, coniferous, and mixed forested habitats. Red-headed Woodpecker also has potential habitat within the woodland community there were several dead trees observed within the community. Although potential suitable habitat for all of these avian SAR is found on the Site, only Eastern Wood-pewee was heard singing within the Study Area during breeding bird surveys. Results of the breeding bird survey conducted on the Site are discussed in Section 4.7 below. No other avian SAR of their nests were observed on the Site.

Four SAR bat species, Little Brown Bat (*Myotis lucifuga*), Eastern Small-footed Myotis (*Myotis leibii*), Northern Myotis (*Myotis septentrionalis*), and Tri-coloured Bat (*Pipistrellus subflavus*) were found to have potential habitat on the Site. Further, in January 2025 three other bat species potentially present, the Eastern Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), and Silver-haired Bat (*Lasioncyteris noctivagans*), were listed as Endangered in the ESA 2007, based on assessment by COSSARO.

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The dead trees within the woodland and the structure on the Site both provide potential maternity roost habitat to all four species, but no bats were observed on the Site. One additional SAR mammal, the Woodland Vole (*Microtus pinetorum*), also has potential habitat on the Site. The woodland vole is found in deep litter layers of mature deciduous forests in the Carolinian region. No woodland voles or their signs were observed on the Site.

Further recommendations of avoidance and other mitigation measures to reduce impacts on SAR on Site are provided in Section 10.0.

5.7 Breeding Bird Surveys

Nine avian species were seen or heard at or in the vicinity of the Site during the breeding bird season on May 29, 2022, and June 19, 2022. The survey route and point count locations are shown in **Appendix G**. The Site is located within Ontario Breeding Bird Atlas square 17TNJ90.

Of those nine species, one species was observed in flight, all other species were possible breeders. One of the avian species (Eastern Wood Pewee) surveyed is S*pecies of Concern* under the *Species at Risk Act* 2002 (SARA) and the Ontario *Endangered Species Act* 2007 (ESA). This species was not on the subject Site but was heard on both visits in the ravine to the west of the subject Site. All the species observed are ranked as S5 (secure), S4 (apparently secure). The statuses of observed species, their provincial NHIC rank (SRank), and the likelihood of their breeding at the Site are summarized in **Appendix H**.

5.8 Bat Habitat Suitability Survey

The Site and vegetated areas within the Study Area were surveyed, with a focus on larger trees. Those areas were walked through and assessed, and those that could provide cavities and other roosting habitat were identified. Leaf-off surveys were conducted on May 5, 2023, and leaf-on surveys on July 6, 2023. No snags or cavity trees were identified to be present on the Site, while three snags were identified in the woodland west of Headon Road. The location of the snag trees identified in the Study Area are depicted in Figure 5 in **Appendix A**. As the small number of snags are more than 30 m from the Site and separated from the Site by a large roadway, Pinchin has determined that there is no significant bat roosting habitat on the Site.

5.9 Significant Wildlife Habitat Screening

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF, 2015) were consulted to screen the Site for the potential presence of SWH. In addition, field assessments were undertaken to evaluate habitat quality in relation to SWH criteria. A summary of the SWH types screened and the associated evaluations is provided in Table 2 in **Appendix G**.

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Based on the initial screening, the Site met the habitat criteria for the following candidate SWH types: Bat Maternity Colonies and Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat.

Targetted breeding bird surveys and bat habitat suitability assessments were subsequently completed to further assess the potential for SWH within the Study Area. The breeding bird surveys did not confirm the presence of any breeding bird species associated with the Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat criteria.

During the breeding bird surveys, an Eastern Wood-pewee (Contopus virens) was detected singing within the Study Area, indicating possible breeding; however, the species was not observed on the Site and no direct evidence of breeding (e.g., nests or fledglings) was recorded. As a result, SWH for Special Concern and Rare Wildlife Species is not considered to be present on the Site or within the Study Area.

Bat habitat suitability assessments also did not identify any significant roosting habitat within the Study Area.

Based on the results of the SWH screening and follow-up field investigations, no Significant Wildlife Habitat is confirmed or considered likely to occur on the Site. Mitigation measures for the protection of SWH are outlined in Section 10.0.

6.0 POLICY-BASED EVALUATION OF NATURAL HERITAGE FEATURES

The PPS (2024) requires that natural heritage features and adjacent lands be evaluated to demonstrate that no negative impacts will result from development. The City of Burlington Official Plan (CBOP) applies that same principle and establishes a system-based approach to the identification and protection of natural heritage features and ecological functions.

While the RHOP is now implemented through the City, the policies of the RHOP continue to define the Regional Natural Heritage System (RNHS) framework and remain applicable to this assessment. The RNHS is implemented through the Phase 3 – Sustainable Halton Report and the Region of Halton Environmental Impact Assessment Guideline, which together provide direction for identifying system components, including key features and associated buffers, and for demonstrating no negative impacts.

Within this framework, buffers are recognized as an integral component of the RNHS and are subject to the same no negative impact (NNI) requirement as key natural heritage features. Accordingly, this assessment considers both the significant woodland and its associated buffer as components of the RNHS.

The following sections identify natural heritage features on the Site and within the Study Area. The evaluation of potential impacts and confirmation of no negative impacts are provided in Sections 9.0 and 10.0.

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Key Natural Heritage Features:

- Significant habitat of endangered and threatened species;
- Fish habitat;
- Wetlands (only significant in PPS);
- Life Science Areas of Natural and Scientific Interest (ANSIs);
- Significant valleylands;
- Significant wildlife habitat; and
- Significant woodlands.

6.1.1 Habitat of Endangered and Threatened Species

There were no Habitat of Endangered or Threatened Species identified on the Site.

6.1.2 Fish Habitat

Based on the LIO mapping, the watercourse within the Study Area has the potential to provide fish habitat. As noted in the CBOP, a minimum 30 m wide VPZ shall be required measured from the outside boundary of the feature. As noted within the PPS, development and Site alteration is not to be permitted in fish habitat except in accordance with provincial and federal requirements. A 30 m watercourse VPZ is recommended, which will protect any potential fish habitat within the study area.

6.1.3 Provincially Significant Wetlands and Wetlands

There were no wetlands identified on the Site or Study Area.

6.1.4 Life Science Areas of Natural and Scientific Interest (ANSIs)

There were no ANSI identified in the Study Area.

6.1.5 Significant Valleylands

There were no significant valleylands identified in the Study Area.

6.1.6 Significant Wildlife Habitat

There were no SWH identfied on the Site or Study Area.

6.1.7 Significant Woodlands.

Based on the woodland analysis discussed in Section 5.4, the Dry – Fresh Oak – Hickory Deciduous Forest is considered a significant woodland and forms part of the RNHS, as shown on Figure 3 of Appendix A.

The delineation of the woodland limit (dripline) has been established through field investigation and has been reviewed in consultation with regional staff.

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In accordance with Regional and City policy, the extent of the RNHS on the Site is defined by the significant woodland (key feature) and the associated ecological buffer established through this EIS.

The buffer is considered an integral component of the RNHS and is required to protect the ecological function of the significant woodland. As such, both the woodland and its associated buffer are subject to the no negative impact test.

The refined RNHS limit, including the significant woodland and buffer, is intended to be implemented through the planning framework, including appropriate zoning (e.g., Open Space or Environmental Protection), as part of the OPA/ZBA process.

In accordance with applicable policy, development adjacent to significant woodlands requires the establishment of an appropriate buffer and the demonstration that no negative impacts will occur to the feature or its ecological functions. A variable width buffer has been recommended based on Site-specific considerations. The appropriateness of this buffer, along with mitigation measures and the demonstration of no negative impacts, is discussed further in Sections 9.0 and 10.0.

7.0 ECOLOGICAL FUNCTION ASSESSMENT

The Site is bordered by Headon Road to the west, residential areas and Jordan Ave. to the north, Cleaver Ave. and Cleaver Park to the east, and deciduous forest and residential area to the south. The Site consists of a Dry – Fresh Oak – Hickory Deciduous Forest and a Single-Family Residential Building.

Most of the Site is occupied by the Single-family residence, and any pre-existing habitat is heavily disturbed and provides little ecological function. The residential area is fragmented, with a driveway, structures, and evidence of garbage dumping throughout. The residential area is bordered by a large woodland. Tuck Creek flows adjacent to the Study area within this woodland. Due to the size of the woodland within the Study Area and its proximity to a watercourse, the Dry – Fresh Oak – Hickory Deciduous Forest is a significant woodland. The forest provides habitat and wildlife passage for many species that use the creek and its watershed. With residential development surrounding the woodland in all directions, the community acts as an important refuge for urban wildlife species and contributes to local habitat connectivity within the surrounding landscape. While the woodland contributes to local wildlife movement, it is not identified as a formal linkage within the Regional or City Natural Heritage System on the Site. Linkage functions in the area are primarily associated with the adjacent Tuck Creek corridor and surrounding off-Site natural features.

Further recommendations of mitigation and avoidance measures for the natural heritage system on Site can be found in Section 8.0.

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8.0 PROPOSED DEVELOPMENT

Pinchin understands that the proposed development would entail demolition of all existing structures, followed by construction of one 3-storey townhouse block containing eight units. As the existing asphalt driveway does not provide sufficient vehicle access for the new development, a new asphalt driveway with visitor parking and associated concrete sidewalk would be installed. A Site Plan showing the proposed residential development can be found in **Appendix H** for reference.

9.0 IMPACT ASSESSEMENT

9.1 Direct Permanent Impacts and Potential Mitigation

The proposed development would be contained within the existing footprint of the development plan. Potential direct impacts on the natural features from Site construction would include:

- Stripping of vegetation and topsoil from the Single-Family Residence and Dry – Fresh Oak – Hickory Cultural Deciduous Woodland on the Site;
- Removal of trees and shrubs from the Site;
- Effects of lighting and salt storage on the Site; and
- Displacement of wildlife on the Site.

To accommodate the proposed residential development, the stripping of vegetation and topsoil will take place within the Single-Family Residence and Dry – Fresh Oak – Hickory Cultural Deciduous Woodland on the Site. That woodland potentially provides seasonal habitat to birds and other wildlife. It is noteworthy that proposed development will be set back from Tuck Creek. Lighting can disturb wildlife by disorienting nocturnal species, making it harder for them to feed, move, or find shelter.

Encroachment into the significant woodland (FODM2-2) has been avoided; however, limited encroachment into the critical root zone (CRZ) of an edge tree associated with the significant woodland has been identified through the Tree Protection Plan (Kuntz, 2025). The encroachment is minor in extent, confined to the woodland edge, and has been reviewed and accepted by the project arborist.

9.1.1 Tree Inventory and Preservation Plan

A total of 118 individual trees and two tree polygons (i.e., mapped areas with multiple trees) were identified on and adjacent to the subject property as documented in the Tree Protection Plan (TPP) prepared by Kuntz (2025). To accommodate the proposed development, removal of 52 individual trees and one tree polygon will be required (Kuntz, 2025). In accordance with the City's tree replacement policies, a total of 88 replacement trees is to be planted on the subject property. Where on-Site replacement is not feasible, cash-in-lieu compensation may be provided at the discretion of the City.

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The TPP confirms that the majority of development activities, including grading and construction, are located outside of the critical root zones (CRZs) of retained trees within the significant woodland. Minor encroachments into the CRZ of two edge trees are required; however, these are limited in extent and will be managed in accordance with arboricultural recommendations to minimize potential impacts. These limited edge encroachments do not result in the loss of woodland area, do not extend into the woodland interior, and are not anticipated to compromise the ecological function of the significant woodland or its associated buffer.

Tree protection fencing will be installed prior to construction and maintained throughout all phases of development. Additional mitigation measures, including adherence to arboricultural best management practices, will be implemented to minimize potential impacts on retained trees. If proposed mitigation measures are implemented, including establishment of a variable ecological buffer, it is our opinion that the proposed development will not result in negative impacts on the identified significant woodland (FODM2-2) or its associated ecological functions. The feature and its buffer are considered to be maintained within the Regional Natural Heritage System, consistent with the policies of the Halton Region Official Plan and supporting guidance.

9.1.2 Landscape Plan

A landscape plan has been prepared for the Site by Hill Design Studio (2026) that details the vegetative enhancements designed to complement the proposed residential development. The plan includes retention of existing trees where feasible, planting of new deciduous trees, and introduction of shrubs and perennial beds. The landscape plan proposes using sod for majority of the open areas, rather than impermeable hard surfaces such as asphalt or concrete. Sod maintains the permeability of the landscape, allowing rainwater to infiltrate the soil, thereby reducing stormwater runoff and promoting groundwater recharge. To further enhance ecological function, portions of the permeable yard can incorporate native grasses in place of or alongside sod.

9.1.3 Restoration Planting Plan

The Restoration Plan prepared by Hill Design Studio (2026) focusses on ecological rehabilitation along the top-of-bank and buffer zones adjacent to the significant woodland and Tuck Creek.

The plan emphasizes the use of native plants, including canopy species such as Bur Oak (*Quercus macrocarpa*), Sugar Maple (*Acer saccharum*), and Ironwood (*Ostrya virginiana*), along with understory species like Red Osier Dogwood (*Cornus sericea*), Nannyberry (*Viburnum lentago*), and Meadowsweet (*Spiraea alba*).

Restoration efforts are concentrated within the available buffer areas and other disturbed portions of the Site through a combination of native tree and shrub planting, as well as the application of a native woodland seed mix to stabilize soils and promote establishment of groundcover vegetation.

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The Restoration Plan also includes an invasive species management strategy, identifying species present on Site (e.g., Common Buckthorn, Garlic Mustard, Manitoba Maple, Reed Canary Grass, and Tartarian Honeysuckle) and outlining appropriate removal and follow-up management techniques.

Fine grading, mulching, and planting will be completed in accordance with landscape best management practices to support vegetation establishment. Tree and shrub plantings will include standard installation measures such as soil preparation, mulching, and watering provisions to promote survival and long-term growth.

Overall, the restoration approach is intended to enhance the condition of the woodland edge and contribute to the ecological function of the buffer, within the constraints of the Site and the variable buffer width established through this study.

9.2 Construction Impacts and Mitigation

Potential impacts on the natural heritage features (i.e., Dry– Fresh Oak – Hickory Deciduous Forest and adjacent watercourse) during construction include:

- Effects on plants and wildlife by construction noise, dust and vibration;
- Sedimentation of the forest, and adjacent watercourse by construction activities; and
- Alteration of water quality and flow regime in the adjacent natural heritage features including the creek.

Temporary impacts on the forest community and its plants and wildlife would be limited to the species within the Site within which the development is contained. During the construction period, wildlife, including birds and mammals that occasionally use the forest communities 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 in the forest within the Site will be disturbed temporarily, while over time the wildlife will likely return to the forest edge area on the Site.

9.2.1 Stormwater Management Report

Stormwater runoff from the redeveloped Site has potential to adversely affect NHF. To address stormwater quantity requirements, the proposed development incorporates a subsurface stormwater management (SWM) system designed to control post-development runoff from the 100-year storm to pre-development 5-year levels, in accordance with City of Burlington guidelines (Everwest Engineering, 2025). Runoff from rooftops, driveways, and internal roads is collected via a series of catch basins and directed to an underground infiltration gallery equipped with a 75 mm orifice control device (Everwest Engineering, 2025).

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For quality control, an oil/grit separator (OGS) unit is proposed on the downstream catchbasin manhole to treat stormwater from impervious surfaces prior to discharge into the municipal storm sewer (Everwest Engineering, 2025). This treatment train approach aligns with enhanced Level 1 water quality objectives, targetting 80% total suspended solids (TSS) removal (Everwest Engineering, 2025). No active quality control measures are proposed for the minor portion of the Site that drains via overland flow toward Tuck Creek, which primarily consists of rooftop and landscaped areas (Everwest Engineering, 2025).

Although a portion of the Site (Catchment P2) drains toward the adjacent Tuck Creek, this drainage consists only of overland flow from vegetated and rooftop surfaces. There is no proposed stormwater outfall or active infrastructure discharging directly into the Natural Heritage System. As such, the potential for thermal loading or disturbance to fish habitat is minimal.

An Erosion and Sediment Control Plan (ESC) has been prepared, describing the use of sediment fencing and a stabilized mud mat at construction access points (Everwest Engineering, 2025).

The grading plan is intended to function in coordination with the SWM strategy by directing surface runoff towards planned drainage infrastructure, preventing uncontrolled flow into NHF. The grading plan illustrates proposed Site elevations, overland flow directions, and the configuration of swales and slope treatments to direct stormwater toward collection points and protect adjacent natural features (Everwest Engineering, 2025). Elevation tags and contours are provided across the Site to demonstrate conformity with municipal grading and drainage standards (Everwest Engineering, 2025).

No grading associated with Site servicing or development is proposed within the significant woodland. Grading within the ecological buffer is limited to minor edge adjustments required to tie into proposed Site elevations and is not intended to alter the function of the buffer. These works have been designed in coordination with the TPP to avoid impacts on critical root zones of retained trees to the extent feasible. Where minor encroachments occur, they are limited in scale, located at the woodland edge, and will be implemented in accordance with arboricultural recommendations to prevent soil compaction and root disturbance. These works are not anticipated to alter soil conditions, root stability, or growing conditions for retained trees at the woodland edge.

9.3 Residual and Cumulative Effects Assessment

Residual environmental effects are those that may remain following the implementation of mitigation measures. While the proposed development has been designed to avoid and minimize impacts on natural heritage features, some minor residual effects are expected from introducing residential use adjacent to the significant woodland.

Potential residual effects are limited to:

- localized edge disturbance associated with increased human activity;

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- effects from lighting and noise associated with residential use;
- potential introduction or spread of invasive species; and
- increased presence of domestic pets and associated disturbance to wildlife.

The potential for invasive species introduction and increased presence of domestic pets represents a minor negative pressure on the adjacent woodland; however, these effects are expected to be limited to the immediate woodland edge and are consistent with existing urban interface conditions. As such, these stressors are not anticipated to result in a measurable change to species composition or ecological function of the significant woodland.

Minor effects on edge trees are anticipated, including the encroachment into the CRZ of a tree to accommodate the proposed development. All remaining trees will be protected through establishment and maintenance of a CRZ, which will not be encroached upon during construction. Protection of the CRZ will maintain root systems and tree health, and encroachment on two trees is not anticipated to affect the overall ecological function of the woodland.

These effects are expected to be confined to the woodland edge and are consistent with existing urban interface conditions. No residual impacts are anticipated within the interior of the significant woodland, and overall effects are not expected to adversely affect its ecological function.

Cumulative effects have been considered in the context of existing Site conditions and surrounding land uses. The Site has historically been influenced by residential use, including vegetation clearing and ongoing maintenance (e.g., mowing), which has contributed to the degraded condition of portions of the cultural woodland (WODM-3). The surrounding landscape is similarly characterized by residential development and a fragmented urban-natural environment.

The proposed development represents an intensification of an already disturbed setting rather than a new encroachment into an intact natural feature. As such, it is not expected to introduce new or compounding stressors beyond those already present within the Study Area.

Based on the above, cumulative effects are not expected to result in a measurable change to the ecological function of the significant woodland. The proposed development is therefore consistent with applicable natural heritage policy, including the requirement to demonstrate no negative impacts on the RNHS and its components.

10.0 RECOMMENDED AVOIDANCE AND OTHER MITIGATION MEASURES

Based on the impact assessment above and in accordance with the City of Burlington Official Plan, temporary and permanent effects on the NHF present on the Site and within the Study Area have been identified.

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The proposed mitigation measures for all potential negative impacts, including recommendations for VPZs, timing windows, and other implementation specifications, are described in the section. Additionally, mitigation measures related to the protection and preservation of natural features during on-Site activities (such as the installation of fencing) must be implemented before any work commences.

Since avoidance is the most effective means of mitigating environmental impacts, in consultation with the Region of Halton, the proposed development has been designed to preserve the Long Term Top of Bank with a 6 m erosion access allowance, ensuring the necessary protection of the feature, as shown on Figure 4 of **Appendix A**.

The woodland (FODM2-2) ecological buffer is treated as a continuous feature along the woodland edge, rather than a series of isolated setbacks, and is intended to function as a protective interface between development and the significant woodland.

While the proposed development does not comply with the standard 10 m buffer required for significant woodlands under the Region of Halton Buffer Refinement Framework, a series of mitigation measures has been incorporated to minimize potential adverse effects on the Dry – Fresh Oak – Hickory Deciduous Forest. Due to Site constraints, the buffer width varies significantly and, in some areas, is reduced to approximately 2.8 m to 13.3 m with an average width of 6.2 m. Buffer widths were established based on site-specific conditions, including vegetation sensitivity, existing disturbance, and proximity of proposed works. Wider setbacks have been applied in areas of higher ecological value, while reduced widths are limited to previously disturbed or constrained portions of the Site. In all areas, the buffer is intended to function as a protective interface to minimize edge-related impacts (e.g., light, noise, and human disturbance), maintain vegetation structure, and support suitable habitat conditions at the woodland edge. In this context, the applied buffer is considered sufficient to maintain the ecological function of the feature and is consistent with the intent of the Region of Halton Environmental Impact Assessment Guideline and applicable Official Plan policies requiring demonstration of no negative impacts to the RNHS. Restoration measures include plantings of native species of trees and shrubs that will help protect and enhance the woodland edge by providing transitional habitat between the built environment and the woodland interior.

The ecological buffer has been designed to maintain the key functions required to protect the significant woodland edge, including protection of the CRZ of retained trees to the extent feasible, minimization of edge disturbance, and maintenance of vegetation cover. The Tree Protection Plan (Kuntz, 2025) confirms that the majority of retained trees are located outside of their CRZ, with only minor encroachments identified for two edge trees. These encroachments are limited in extent and will be managed in accordance with arboricultural best management practices. As such, no negative effects to the ecological function of the retained trees are anticipated.

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The buffer is defined as a continuous ecological protection zone (Figure 4 of **Appendix A**), representing the limit within which no development or site alteration is permitted within the buffer, consistent with applicable RNHS policy. No grading, material storage, or other site alteration activities (including snow storage) are proposed within the buffer, except where required for restoration and stabilization purposes.

At localized pinch points where the buffer is reduced, no additional grading or disturbance is proposed beyond that assessed through the TPP and grading design. These areas are limited in extent, occur adjacent to previously disturbed portions of the Site, and do not extend into the interior of the significant woodland.

The overall approach is intended to align, to the extent feasible, with the intent of the Official Plan to protect significant natural heritage features while accommodating the proposed land use. Protective fencing and tree barriers will be established to ensure that no development activities, including site grading and construction, can be conducted within the designated protected areas.

Mitigation techniques for lighting, such as using low-intensity, warm-coloured lights and implementing shielded fixtures, can significantly reduce light pollution and its impact on wildlife behavior. The City of Burlington was formally recognized as a Bird Friendly City in April 2022 and recertified at the intermediate level in 2024. As such, the OP (2020) and the Sustainable Building & Development Guidelines (2021) require bird-safe glazing treatments (e.g., dot markers, fritted glass) for:

- New buildings with large glass surfaces
- Developments adjacent to natural heritage areas or the Lake Ontario shoreline

The provision of bird-friendly design of buildings should be considered at Site plan stage. To reduce the risk of bird collisions and align with the City of Burlington's bird-friendly design policies, the following mitigation measures are recommended for building and Site design. These strategies support the City's Bird Friendly City designation and reduce potential impacts on migratory and breeding birds, particularly near natural heritage features:

- Use bird-safe glazing (e.g., fritted or patterned glass) up to 12 m on all exterior façades.
- Avoid glass corners, transparent passageways, and reflective surfaces near vegetation.
- Install fully shielded, downward-directed exterior lighting.
- Implement "Lights Out" policies during spring and fall migration periods.
- Retain or enhance native vegetation, particularly near habitat edges or corridors.
- Avoid vegetation clearing during the bird nesting season (April 1–August 31), or conduct nest surveys beforehand.
- Monitor for bird collisions post-construction and retrofit problem areas if needed.

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All snow removal and landscaping services for the property will be managed by a third-party contractor. The application of salt or de-icing materials will be the responsibility of the homeowners. While the developer encourages the use of environmentally friendly alternatives to traditional road salt to help minimize impacts on vegetation and nearby water resources, the choice and use of such materials ultimately rests with the homeowners.

As part of the Halton Region and Subwatershed management requirements for the proposed development the following mitigation measures are recommended:

Removal of Trees and Other Vegetation:

During removal of trees and other vegetation, implement these best management practices (BMPs):

- Restrict the extent of potential removal of trees and other vegetation from within the Site to the construction footprint wherever practicable and within operational and safety parameters.
- To minimize or avoid impacts on breeding birds and, remove vegetation outside of the breeding period between March 23 and August 26 (ECCC, 2025).
- To minimize or avoid impacts on roosting bats, remove vegetation outside of the breeding and roosting period between April to October (MECP, 2020).
- If trees need to be removed within this timing constraint window, deploy a qualified Biologist to conduct bird nest and bat roost surveys and ongoing monitoring prior to any tree removal.
- Ensure the TPP that has been developed for the Site is approved by the regulatory agencies prior to construction and Site alteration (Kuntz, 2025).
- Install compensatory measures that may be required on the Site to ensure tree removal ratios are met.
- Erect tree protection fencing prior to construction to prevent impacts from grading and construction activities.
- Ensure removal of non-native or invasive plants is through the services of a Professional Landscaper who is familiar with the procedures for invasive plant control and removal, and that this measure specifically includes the removal of trees detailed in the TPP.

Erosion and Sediment Control:

Apply these BMPs for controlling erosion and sedimentation:

- Limit movement of weed-infested soil and ensure construction vehicles and equipment arriving at and leaving the Site clean of invasive plants and seeds.
- Implement the Erosion and Sediment Control Plan developed by Everwest Engineering (2025).

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- Implement the Functional Servicing and Stormwater Management Report completed by Everwest Engineering (2025).
- As required, conduct repairs and maintenance of the installed ESC measures regularly until construction completion.
- Stabilize disturbed areas immediately post construction to prevent Site erosion and sedimentation.

Wildlife and Species at Risk Encounter Protocols:

Apply these BMPs to minimize risk from wildlife-human encounters:

- If wildlife is encountered during construction, cease work 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, 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, contact the MECP for guidance and handling.

Restoration and Enhancement:

Restoration and enhancement measures are reflected in the Landscape Plan and Restoration Planting Plan (Hill Design Studio, 2026). Appropriate compensation for the removed trees, as detailed in the TPP (Kuntz, 2026), is of utmost importance to ensuring against adverse effects on the NHF on the Site as a result of the construction. These measures can be implemented through a draft plan condition

- A monitoring plan will be developed at the detailed design stage to assess the success of the planting. Monitoring the success of vegetation establishment is critical for ensuring that the planted species are thriving, achieving the desired ecological outcomes, and contributing to long-term habitat stability. A minimum two-year monitoring and maintenance period is recommended to assess plant establishment and growth. During this time, monitoring should focus on evaluating plant survival rates, growth performance, and the establishment of desired plant communities

Restoration and enhancement plans must be developed in a timely fashion and effectively implemented on the Site to mitigate potential adverse effects on the woodlands and adjacent watercourse post construction.

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Occupancy-Related Impacts

The introduction of residential land use adjacent to the significant woodland has the potential to result in cumulative edge-related disturbances associated with human occupancy. To minimize these effects, the following measures are recommended:

- Implement restoration planting within the buffer, including native shrub species (e.g., Meadowsweet), to establish a defined and vegetated transition between the developed area and the woodland edge.
- Install signage, where appropriate, to discourage off-trail access and informal use of the woodland edge.
- Use downward-directed, shielded exterior lighting to minimize light spill into the adjacent woodland.

Invasive Species Management:

- Several invasive species were identified on the Site, including Common Reed, Common Buckthorn, Tartarian Honeysuckle. It is mandatory that invasive species be properly managed according to the guidelines from the Ontario Invasive Plant Council.
- An Invasive Species Management Plan (ISMP) must be created to the satisfaction of the City prior to any Site alteration if invasive species have been identified. An ISMP is a Site-specific plan that documents invasive species, describes measures to remove existing populations, outlines standards to prevent re-introduction and occurrences resulting from construction activities, and provides recommendations to rehabilitate infested areas.
- Non-native or invasive plants are to be removed by a Professional Landscaper who is familiar with the procedures of invasive plant control and removal and in keeping with the ISMP.

11.0 CONCLUSION

There are environmental opportunities and constraints identified on the Site as outlined in this EIS report. The potential impacts, including permanent and construction impacts, can be avoided or otherwise mitigated through effective stormwater and environmental management measures. With implementation of the environmental plans sought out in this EIS and recommended Stormwater Management Plan, Erosion and Sediment Control Plan, and Landscape Plan, the proposed residential development would preserve the ecological functions of the adjacent natural features and enhance natural landscape on the Site through the installation of restoration and enhancement measures on the Site post construction.

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With the above mitigative recommendations taken into account and diligently implemented on the Site, no adverse negative impacts on the ecological integrity of the Site will result from the proposed residential development.

12.0 CLOSURE

This Scoped 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 commercial redevelopment 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.

13.0 REFERENCES

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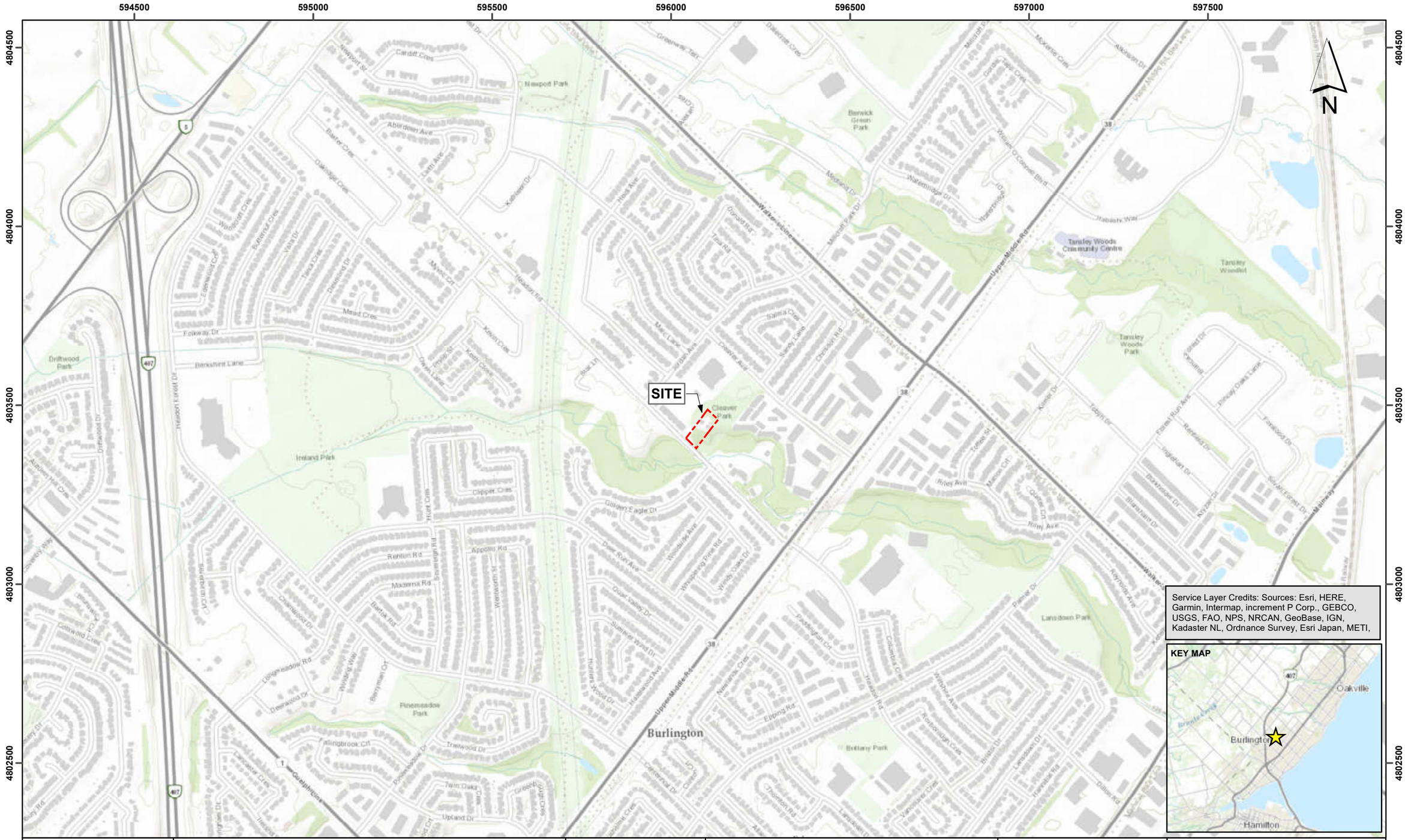
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14.0 LIMITATIONS

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.

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APPENDIX A
FIGURES



PINCHIN	**PROJECT NAME:** Environmental Impact Study **CLIENT NAME:** JEC Properties Inc. **PROJECT LOCATION:** 2105 Hedon Road, Burlington, Ontario **FIGURE NAME:** Site Location	**PROJECT NO.** 295593.000 **DATE:** January 2022 **SCALE:** 1:10,000 **FIGURE NO.** 1	**LEGEND** Site Boundary	**NOTES** 1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only 2. Use dimensions as shown, do not scale drawing 3. This map is not to be used for legal purposes	0 100 200 400 Metres Coordinate System: NAD 1983 CSRS UTM Zone 17N Projection: Transverse Mercator Datum: North American 1983 CSRS DRAWN BY: MH REVIEWED BY: SR REVISION: 0

595800 595900 596000 596100 596200 596300

4803600 4803500 4803400 4803300

HEIDI AVENUE
JORDAN AVENUE
SANDY LANE
CHRISDON ROAD
CLEAVER AVENUE
HEADON ROAD
GOLDEN EAGLE DRIVE
Cleaver Park
Tuck Creek
140
145

N

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

PINCHIN

PROJECT NAME:	Environmental Impact Study
CLIENT NAME:	JEC Properties Inc.
PROJECT LOCATION:	2105 Hedon Road, Burlington, Ontario
FIGURE NAME:	Study Area

PROJECT NO.	295593.000
DATE:	January 2022
SCALE:	1:1,600
FIGURE NO.	2

LEGEND

- Site Boundary
- Study Area (120 m)
- Roadway
- Watercourse
- Topography Contours (5 m)

NOTES

1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only
2. Use dimensions as shown, do not scale drawing
3. This map is not to be used for legal purposes

0 15 30 60 Metres

Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: SR REVISION: 0

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HEIDI AVENUE
JORDAN AVENUE
SANDY LANE
CHRISDON ROAD
CLEAVER AVENUE
HEADON ROAD
GOLDEN EAGLE DRIVE
Cleaver Park
Tuck Creek
N

1 2 3 4 5 6

Ecological Land Classification
1. CVR_3 Single Family Residence
2. FODM2-2 Dry – Fresh Oak – Hickory Deciduous Forest (significant woodland)
3. CVS_1 CH Norton Public School
4. CGL_2 Cleaver Park
5. CVR_1 Low Density Residential
6. WODM3 Dry – Fresh Oak – Hickory Cultural Deciduous Woodland (not significant woodland)
6. OAO Tuck Creek

Service Layer Credits: MNRF, MECP, 2023. MacKay & Peters Limited (Land Survey) 20-152-SK-20230524. 2105 HEadon New Dripline.dwg.

PINCHIN

PROJECT NAME: Environmental Impact Study
CLIENT NAME: JEC Properties Inc.
PROJECT LOCATION: 2105 Hedon Road, Burlington, Ontario
FIGURE NAME: Ecological Land Classification

PROJECT NO. 295593.000
DATE: July 2023
SCALE: 1:1,600
FIGURE NO. 3

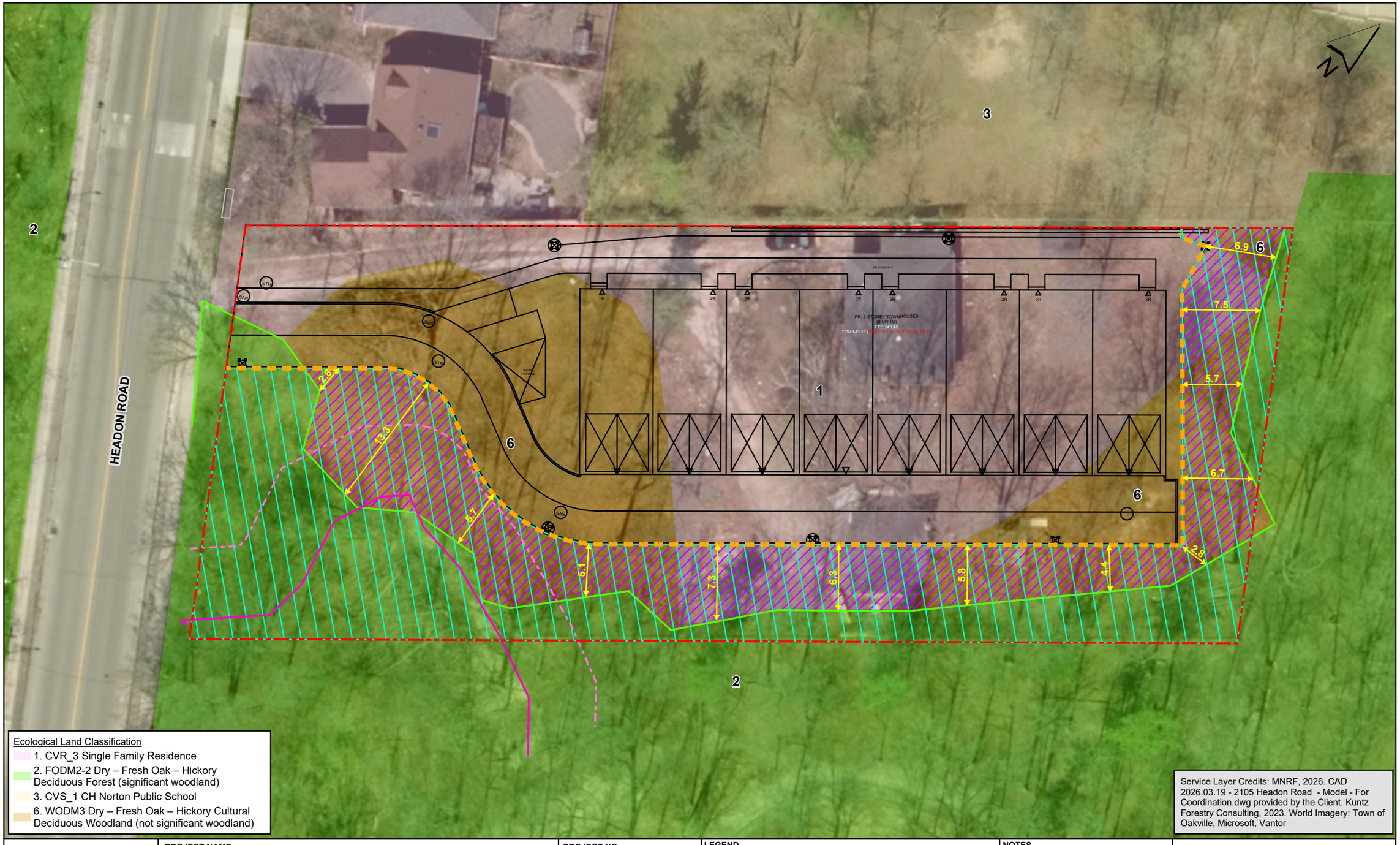
LEGEND
- Site Boundary
- Study Area (120 m)
- Roadway
- Watercourse
- Staked Dripline with Region on May 5, 2023
- Surveyed Dripline by Kuntz and Pinchin on July 6, 2023

NOTES
1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only
2. Use dimensions as shown, do not scale drawing
3. This map is not to be used for legal purposes

0 15 30 60 Metres

Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: RY REVISION: 5



PINCHIN

PROJECT NAME:	Environmental Impact Study
CLIENT NAME:	JEC Properties Inc.
PROJECT LOCATION:	2105 Headon Road, Burlington, Ontario
FIGURE NAME:	Environmental Constraints 2026
PROJECT NO.	295593.000
DATE:	April 2026
SCALE:	1:350
FIGURE NO.	4A

LEGEND

- Site Boundary
- Top of Bank Staked by Region and Land Surveyor, September 22 2022
- Top of Bank Buffer (6 m)
- Surveyed Dripline by Kuntz and Pinchin on July 6, 2023
- Approximate Development Limit
- Measurements (m)
- Significant Woodland Buffer (Min= 2.8 m, Max= 13.3 m, Avg= 6.2 m)
- Regional Natural Heritage System

NOTES

1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only
2. Use dimensions as shown, do not scale drawing
3. This map is not to be used for legal purposes

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Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: KH REVISION: 5

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4803600 4803500 4803400 4803300

HEIDI AVENUE
JORDAN AVENUE
HEADON ROAD
SANDY LANE
CHRISDON ROAD
CLEAVER AVENUE
GOLDEN EAGLE DRIVE
Tuck Creek
N

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

PINCHIN

PROJECT NAME:	Environmental Impact Study
CLIENT NAME:	JEC Properties Inc.
PROJECT LOCATION:	2105 Hedon Road, Burlington, Ontario
FIGURE NAME:	Ecological Land Classification

PROJECT NO.	295593.000
DATE:	April 2023
SCALE:	1:1,600
FIGURE NO.	5

LEGEND
- Site Boundary
- Study Area (120 m)
- Roadway
- Watercourse
- Snag Tree Locations

NOTES
1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only
2. Use dimensions as shown, do not scale drawing
3. This map is not to be used for legal purposes

0 15 30 60 Metres

Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: EO REVISION: 0

APPENDIX B
AGENCY CONSULTATION

Appendix D-2

Scoping and Terms of Reference Checklist

The **Scoping Checklist** provides a brief summary of components to be considered in the preparation of an EIA Terms of Reference. Scoping is to be completed in consideration of the following:

- Scope and scale of the proposed *development* or *site alteration*;
- Scope and scale of potential impacts resulting from the proposed *development* or *site alteration*;
- Sensitivity or complexity of the features on or adjacent to the proposed project to land use change and specific impacts associated with the proposed project;
- Surrounding land use context (e.g., existing *development*);

Depending on the items above, not all elements listed below will necessarily be required. Large projects, those with a higher risk of potential impact, and those with complex natural heritage features and functions will generally require a more comprehensive set of assessments, analyses, etc. Smaller scale projects with lower potential impacts and where natural heritage features and functions are less complex are suitable for a scoped EIA and a greater number of items may be 'scoped out' (i.e., not required). In all cases, some items listed below may not be required depending on the specific site conditions and project.

Who Prepares the Checklist: The checklist is to be completed by the Lead Planning Agency (or by their delegate or assign) with input from other agencies with jurisdiction within the subject property or features that triggered the EIA requirement.

Who Uses the Checklist: The scoping checklist is to be used by the EIA practitioner who will be preparing the EIA to inform the preparation of a Terms of Reference for submission, review and approval.

When is the Checklist Completed? The scoping checklist may be completed through Step 2 of the EIA Process (Scoping the EIA).

Part 1 – Project Information

1-A | General Information

Project Name:	
Proponent:	
Primary Contact:	
Contact Information:	E: P:
Project Location:	(*Street Address or Lot and Concession*) 2105 Headon Road, Burlington
Consultant:	
Consultant Lead:	
Contact Information:	E: P:

1-B | Project Type

- ☐ *Agricultural building* or structure within building cluster
- ☐ *Agricultural building* or structure outside building cluster
- ☐ Lot Severance for *single detached dwelling*
- ☐ New *single detached dwelling* on an existing lot
- ☐ New accessory structure (garage, shed, etc.)
- ☐ New accessory *development* (e.g., swimming pool, driveway)
- ☐ Re-build – same footprint
- ☐ Re-build – larger or altered footprint
- ☐ Addition to existing dwelling / structure
- ☐ Accessory re-*development* or modification (e.g., swimming pool, driveway)
- ☐ Septic system or other servicing
- ☒ Other *development* or *site alteration*. Specify:

Part 2 – Scoping of Inventories and Delineations

Project Area	Adjacent Lands
☒	☒

This section provides general guidance on what types of field inventories and feature delineations are anticipated to be required for the EIA. The proponent (or consultant) is to provide detailed description(s) of the proposed approach (survey type, specific methods, seasons, etc.), rationale and locations for surveys as part of a Draft Terms of Reference.

☒ ☒ Species at Risk

- ☒ ☒ Screening Assessment[19]
- ☒ ☒ Targeted surveys are anticipated to be required. To be confirmed through Screening Assessment and/ or in consultation with MECP, as appropriate
- ☒ ☒ **All of the above**

☒ ☒ *Significant Wildlife Habitat*

- ☒ ☒ Screening Assessment[20]
- ☒ ☒ Field program to address assessment of *Significant Wildlife Habitat*, as appropriate
- ☒ ☒ **All of the above**

☒ ☒ Terrestrial

- ☒ ☒ Ecological Land Classification (ELC)
- ☒ ☒ Botanical Inventory
- ☒ ☒ Significant woodland assessment[21]
- ☒ ☒ Avifauna (Birds)
  - ☒ ☒ In-Field Habitat Assessment
  - ☒ ☒ Incidental / General Observations[22]
  - ☒ ☒ Detailed or Targeted Survey(s)
- ☒ ☒ Herpetofauna (Amphibians and Reptiles)

[19] The Terms of Reference (TOR) is to include a preliminary Species at Risk (SAR) screening assessment to identify if any SAR have potential to occur within or adjacent to the study area within a distance appropriate to determine impacts to the species or influence of species presence on the proposed *development* or *site alteration*. This may include species listed Provincially (ESA 2007) or federally (SARA 2004), as applicable to the species type and project.

[20] A Screening Assessment for *Significant Wildlife Habitat* (SWH) includes a desktop and secondary-source level assessment of habitats present against criteria for SWH in the applicable Ecoregion Criteria Schedule for the Project. This assessment approach is suitable for identifying most candidate habitat areas (e.g., by vegetation community); for most SWH types this approach is not enough to confirm presence or absence. Where candidate areas may be impacted, additional field surveys to confirm will be required.

[21] A significant woodland assessment may require targeted field surveys to inform the assessment of significance (e.g., prism sweeps, forest patch age).

[22] This survey approach should be limited to only those projects with low risk of impact to this species group and where the potential presence of Species at Risk or *Significant Wildlife Habitat* is very low.

☒☒ In-Field Habitat Assessment
☒☒ Incidental / General Observations[21]
☒☒ Detailed or Targeted Survey(s)

☒☒ Mammals
☒☒ In-Field Habitat Assessment
☒☒ Incidental / General Observations
☒☒ Detailed or Targeted Survey(s)

☐☐ Terrestrial Crustaceans (e.g., chimney crawfish)
☐☐ In-Field Habitat Assessment
☐☐ Incidental / General Observations
☐☐ Detailed or Targeted Survey(s)

☒☒ Insects
☒☒ In-Field Habitat Assessment
☒☒ Incidental / General Observations
☐☐ Detailed or Targeted Survey(s)

☐☐ **All of the above**

☒☒ Aquatic
☒☒ In-Field Habitat Assessment / General Assessment
☒☒ Detailed / Targeted Survey(s)
☒☒ **All of the above**

☒☒ Delineation of Features[23]
☒☒ Woodland (If determined to be a *significant woodland*)
☐☐ Wetland
☒☒ Valleyland (Top of Bank / Slope)
☐☐ Other: _____
☐☐ **All of the above**

Notes:

The proposed development falls within Regional Natural Heritage System (RNHS) Key Features (both mapped and unmapped). In accordance with Halton Regional Official Plan Section 118(3), an EIA must demonstrate that the proposed development or site alteration will result in no negative impacts to that portion of the RNHS or unmapped Key Features. Given the scale of the proposal and potential impacts on the woodland and potential habitat, the applicant should be aware that the completion of an EIA doesn't negate that there may still be a potential negative impact to the RNHS and additional mitigation may be required.

Part 3 – Other Studies[24]

[23] Where Species at Risk are found to occur, delineation of habitat will also be required, but cannot be known at the scoping stage. Delineation of habitat is to be done in consultation with, or be approved by the MECP, as appropriate.
[24] These studies are generally prepared as stand-alone reports. Relevant information on the interaction of these processes and functions with natural heritage features and functions is to be addressed in the EIS. It is strongly encouraged that the programs for these studies be integrated with the EIA Terms of Reference to ensure information appropriate to informing the EIA is collected.

☒ ☒ Geotechnical
- ☒ ☒ Secondary Source
- ☒ ☒ Study Required

☐ ☐ Hydrogeological
- ☐ ☐ Secondary Source
- ☐ ☐ Study Required

☐ ☐ Geomorphological
- ☐ ☐ Secondary Source
- ☐ ☐ Study Required

☒ ☒ Surface Water (e.g. hydrologic review, fluvial geomorphology)
- ☒ ☒ Secondary Source
- ☒ ☒ Study Required

☒ ☒ Natural Hazard(s)[25]
- ☒ ☒ Secondary Source
- ☒ ☒ Study Required

☐ ☐ Wetland Water Balance

☐ ☐ Other (specify): _____

☐ ☐ **All of the above**
- ☐ ☐ Secondary Source
- ☐ ☐ Study Required

Part 4 – Terms of Reference Requirements

☒ Introduction
- ☒ Description of Subject Property
- ☒ Description of proposed d*evelopment* or *site alteration*
- ☒ Description of known site history pertinent to the EIA (e.g., former land use(s), grading, filling)
- ☒ Description of landscape context
- ☒ **Map**: location of subject property, orthophotography base.

☒ Planning Context
- ☒ Legislative, regulatory and policies applicable to the property and the proposed *development* or *site alteration*.
- ☒ Current land use designation and zoning
- ☒ Proposed land use designation and zoning to support proposed *development*

☒ Background Review
- ☒ List relevant natural heritage information secondary sources (e.g., species atlases, databases);
- ☒ List relevant existing studies, plans, etc. (if / as available).
- ☒ **Map**: location of subject property, mapped feature(s), orthophotography base.

☒ Biophysical Inventory
- ☒ Define and provide rationale for study area.
- ☒ Detailed study approach and methods for all identified inventories and delineations identified in **Part 2.** Where there is rationale to exclude a specific feature or area from assessment, provide rationale for consideration. Appropriate justification /

[25] This includes slopes, valleylands, steep and oversteep slopes, etc.

rationale for single-season or multi-season surveys shall be provided (e.g., vegetation community / ELC, wetland delineation, etc.)

☒ **Map**: location of proposed surveys, subject property, proposed study area, orthophotography base.

☒ Biophysical Analysis

Describe the general approach and anticipated approach and/or method(s) of analyses for the following:

- ☒ Species at Risk:
  - ☒ Preliminary screening assessment to be provided as part of the TOR. This will inform the field program.
- ☒ *Significant Wildlife Habitat*:
  - ☒ Preliminary screening assessment to be provided as part of the TOR. This will inform the field program.
- ☒ Evaluation of significance for natural heritage species, features and/or areas within the study area against appropriate policies and guidelines[26];
- ☒ *Linkage* Assessment;
- ☒ Enhancement Area(s);
- ☒ Natural Hazards within the study area;
- ☒ *Buffer* assessment;

☒ Alternative Assessment

Outline approach to identifying or assessing alternatives to avoid or minimize impacts.

☒ Impact Assessment

Confirm scope includes an impact assessment that will consider direct, indirect (including induced) and cumulative impacts and provide general approach to impact assessment.

☒ Mitigation

Confirm scope includes identification of mitigation measures that effectively address anticipated impacts resulting from the proposed development or site alteration. Mitigation is to include recommendations for enhancement or restoration.

☒ Monitoring Program

If a monitoring program may be required, confirm that consideration and recommendations for a monitoring plan (or rationale that one is not required) will be included in the EIA.

☒ Recommendations and Conclusions

Confirm that recommendations and conclusions with respect to the 'no negative impact' test will be included in the EIA.

☒ Maps and Figures

Outline anticipated maps and figures to be prepared for and included in the EIA to document and support assessment(s), recommendations and conclusions.

Note: Maps / figures may be combined for ease of production and review. The maps / figures listed are provided to illustrate the information that is to be included as part of the TOR submission.

---

[26] This may include local municipal, regional, provincial, federal legislation, policies, plans and guidance documents, as appropriate and applicable to the study area, project type, species and features.

CHECKLIST COMPLETION RECORD

A record of the individuals who complete the checklist is provided below.

COMPLETED BY:			
Name:	Pinremola Olufemi	Name:	Elisa Bernier
Position	Intermediate Planner	Position	Planning Ecologist
Agency:	Halton Region	Agency:	Conservation Halton
Contact Information:		Contact Information:	
Date:	September 7, 2021	Date:	September 1, 2021

CHECKLIST COMPLETION RECORD (Continued)

COMPLETED BY (Continued):	
Name: _____	Name: _____
Position _____	Position _____
Agency:	Agency:
Contact Information:	Contact Information:
Date: _____	Date: _____

APPENDIX C
SUPPLEMENTARY INFORMATION

SCHEDULE C
Land Use - Urban Area
City of Burlington

Legend

MIXED USE INTENSIFICATION AREAS
- Urban Centres

Mixed Use Nodes and Intensification Corridors
- Mixed Use Commercial Centre
- Neighbourhood Centre
- Local Centre
- Employment Commercial Centre
- Urban Corridor
- Urban Corridor - Employment

RESIDENTIAL NEIGHBOURHOOD AREAS
- Residential - Low Density
- Residential - Medium Density
- Residential - High Density

EMPLOYMENT LANDS
- General Employment
- Business Corridor

NATURAL HERITAGE SYSTEM AND MAJOR PARKS AND OPEN SPACE
- City's Natural Heritage System
- Major Parks and Open Space

MINERAL RESOURCE EXTRACTION AREA

INFRASTRUCTURE AND TRANSPORTATION CORRIDORS

CONTEXTUAL REFERENCES
- Municipal Boundary
- Urban Boundary
- Urban Growth Centre Boundary
- Special Street (Tremaine Dundas Secondary Plan)

RURAL AREA

HAMILTON

NORTH ALDERSHOT

HAMILTON

OAKVILLE

BURLINGTON BAY

LAKE ONTARIO

Approximate Location of Site

**Uptown Urban Centre

*Downtown Urban Centre

HWY 407
HWY 403
Q.E.W.
DUNDAS ST.
UPPER MIDDLE ROAD
UPPER MIDDLE RD.
NORTH SERVICE RD.
SOUTH SERVICE RD.
MAINWAY
MOUNTAINSIDE DR.
LEIGHLAND RD.
HARVESTER RD.
FAIRVIEW ST.
C.N.R.
PLAINS RD. W.
PLAINS RD. E
TOWNSEND AVE.
NORTH SHORE BLVD. E
LAKESHORE RD.
NEW ST.
SPRUCE AVE
DRYDEN AVE
MILLCROFT PARK DR.
PALLADIUM WAY
THOMAS ALTON BLVD.
CEDAR SPRINGS RD.
GUELPH LINE
APPLEBY LINE
TREMAINE RD.
BURLOAK DR.
WALKER'S LINE
BERWICK DR.
HEADON RD.
SUTTON RD.
FISHER AVE.
BRANT ST.
KERNS RD.
CORPORATE DR.
WATERDOWN RD.
HWY 6
KING RD.
MAPLE AVE.
EASTPORT DR.
BELVENIA ROAD
HAMPTON
HEATH RD.

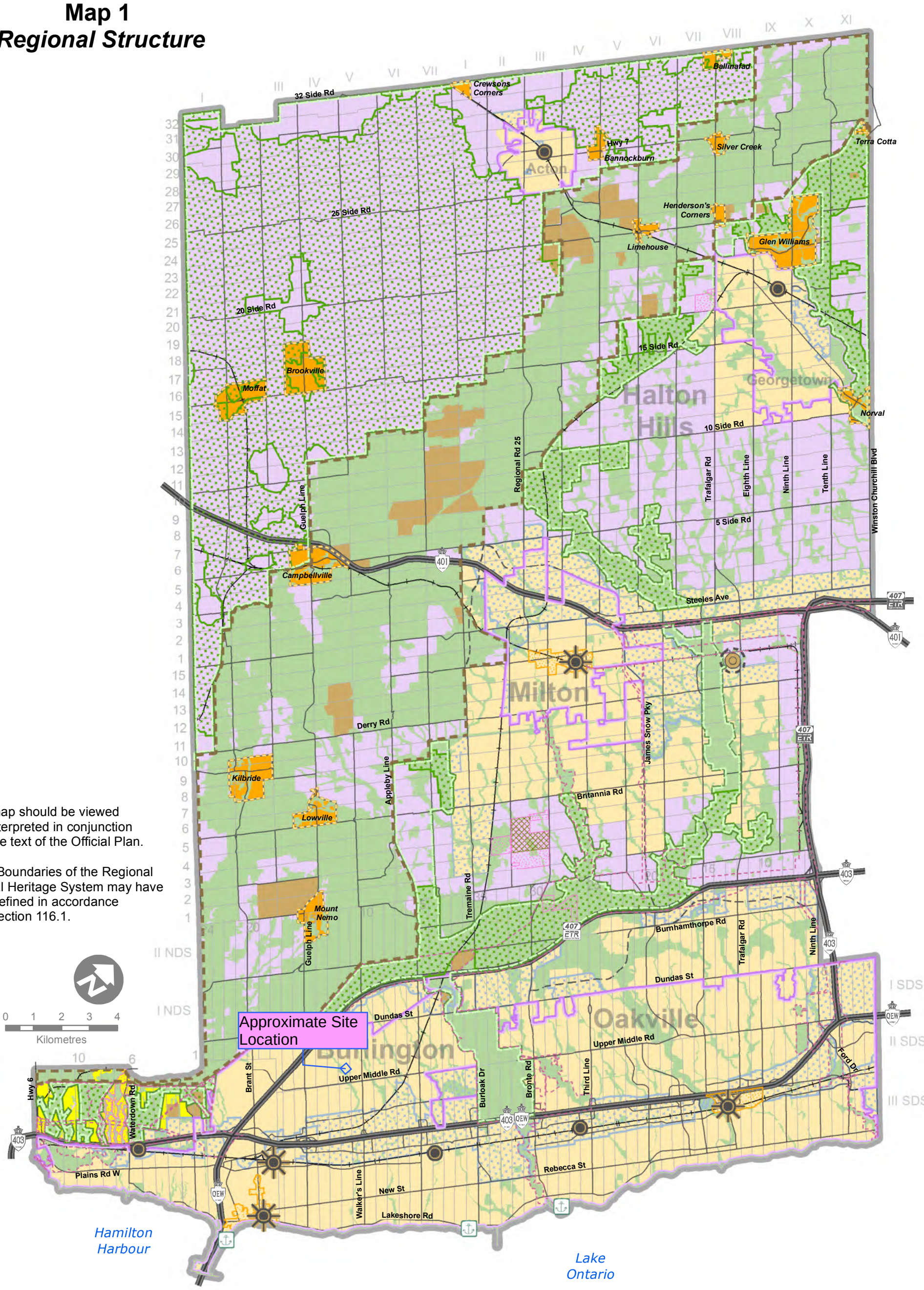
0 0.5 1 2 3 4 5 Km

*For land use precincts within the Downtown Urban Centre see Schedule D.
**For land use designations within the Uptown Urban Centre see Schedule E.

This schedule shall be used in conjunction with other applicable schedules and policies of this Plan.

NOVEMBER 2020

Map 1
Regional Structure



This map should be viewed and interpreted in conjunction with the text of the Official Plan.

* The Boundaries of the Regional Natural Heritage System may have been refined in accordance with Section 116.1.

- Waterfront Park (See Map 2)
- Major Transit Station
- Proposed Major Transit Station
- Mobility Hub
- Rail Line
- Proposed Major Arterial
- Major Road
- Provincial Freeway
- Lot and Concession Line
- Municipal Boundary

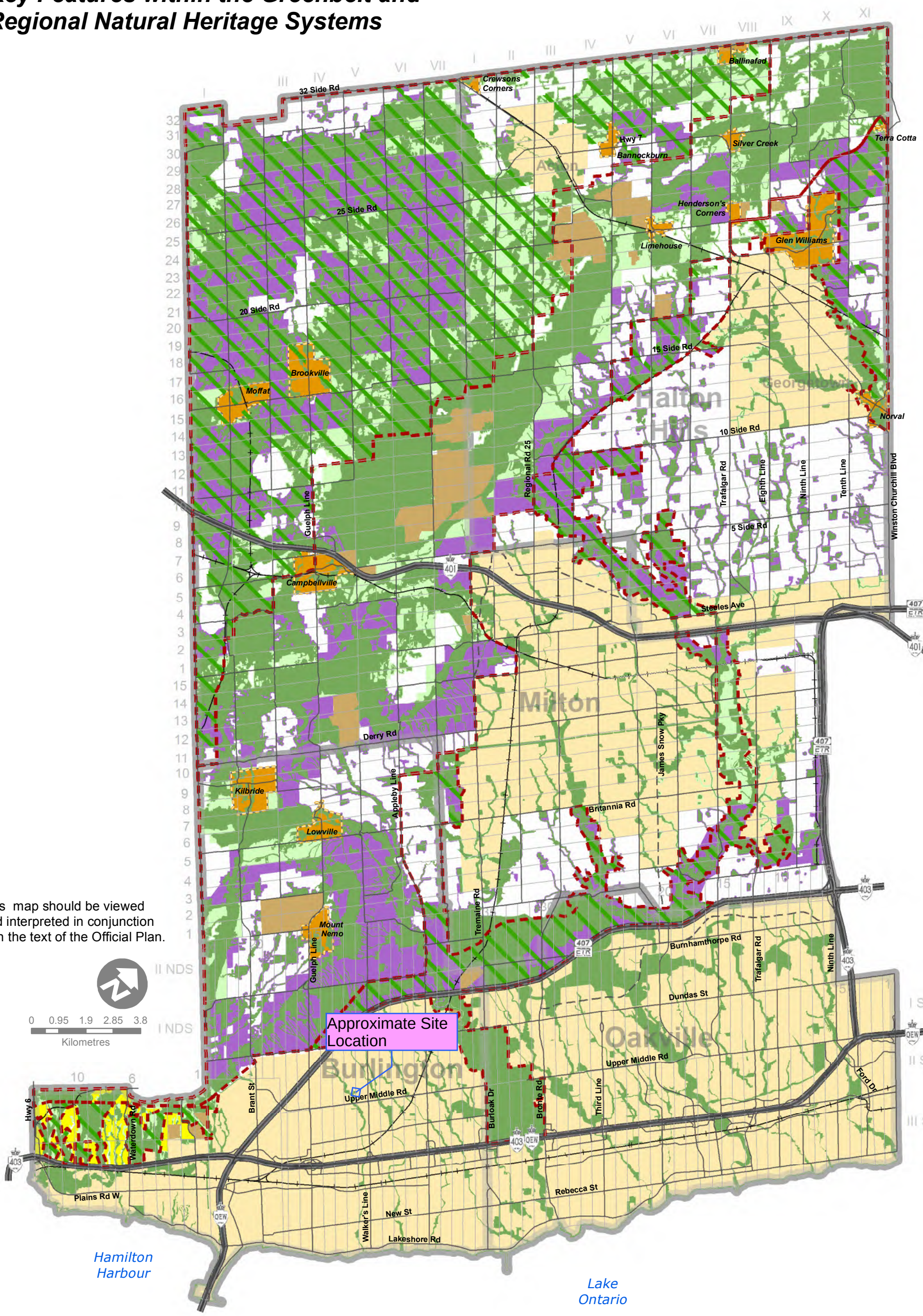
- Urban Area
- Hamlet
- Agricultural Area
- Regional Natural Heritage System *
- Mineral Resource Extraction Area
- North Aldershot Policy Area
- Greenbelt Natural Heritage System (Overlay)

- Greenbelt Plan Protected Countryside Boundary
- Niagara Escarpment Plan Boundary
- Parkway Belt West Plan Boundary
- Built Boundary
- Employment Area
- Urban Growth Centre
- Area Eligible for Urban Servicing
- Halton Waste Management Site

June 19, 2018

Map 1G

Key Features within the Greenbelt and Regional Natural Heritage Systems



This map should be viewed and interpreted in conjunction with the text of the Official Plan.

0 0.95 1.9 2.85 3.8

Kilometres

- Rail Line
- Proposed Major Arterial
- Major Road
- Provincial Freeway
- Lot and Concession Line
- Municipal Boundary
- Greenbelt Plan Boundary
- Urban Area
- Hamlet
- Key Features
- Enhancement Areas, Linkages and Buffers
- Prime Agricultural Areas in NHS Enhancements/Linkages/Buffers
- Greenbelt NHS
- Mineral Resource Extraction Area
- North Aldershot Policy Area

June 19, 2018

APPENDIX D
VEGETATION INVENTORY

Table 1: Vegetation Inventory for Study Area

Scientific Name	Common Name	Srank	CC	CW
Tilia americana	American Basswood	S5	4	3
Juglans nigra	Black Walnut	S4?	5	3
Quercus macrocarpa	Bur Oak	S5	5	3
Solidago canadensis	Canada Goldenrod	S5	1	3
Cirsium arvense	Canada Thistle	SNA		3
Rhamnus cathartica	Common Buckthorn	SNA		0
Arctium minus	Common Burdock	SNA		3
Verbascum thapsus	Common Mullein	SNA		5
Ostrya virginiana	Eastern Hop-hornbeam	S5	4	3
Pinus strobus	Eastern White Pine	S5	4	3
Convallaria majalis	European Lily-of-the-valley	SNA		5
Alliaria petiolata	Garlic Mustard	SNA		0
Cornus racemosa	Gray Dogwood	S5	2	0
Arisaema triphyllum	Jack-in-the-pulpit	S5	5	-3
Poa pratensis	Kentucky Bluegrass	S5	0	3
Acer negundo	Manitoba Maple	S5	0	0
Podophyllum peltatum	May-apple	S5	5	3
Ribes rubrum	Northern Red Currant	SNA		5
Quercus rubra	Northern Red Oak	S5	6	3
Lilium bulbiferum	Orange Lily	SNA		
Symphyotrichum lanceolatum	Panicled Aster	S5	3	-3
Vinca minor	Periwinkle	SNA		5
Phalaris arundinacea	Reed Canary Grass	S5	0	-3
Vitis riparia	Riverbank Grape	S5	0	0
Carya ovata	Shagbark Hickory	S5	6	3
Circaea alpina	Small Enchanter's Nightshade	S5	6	-3
Rhus typhina	Staghorn Sumac	S5	1	3
Acer saccharum	Sugar Maple	S5	4	3
Erythronium americanum	Yellow Trout-lily	S5	5	5
Lonicera tatarica	Tartarian Honeysuckle	SNA		3
Fraxinus americana	White Ash	S4	4	3
Quercus alba	White Oak	S5	6	3
Daucus carota	Wild Carrot	SNA		5
Rubus idaeus ssp. strigosus	Wild Red Raspberry	S5	2	3
Melilotus officinalis	Yellow Sweet-clover	SNA		3

APPENDIX E
SELECTED SITE PHOTOGRAPHS

SELECTED SITE PHOTOGRAPHS

(All photos taken on June 28, 2022, and April 18, 2023)



Photo 1 – View of the Single Family Residence



Photo 2 – View of Tuck Creek as it passes below Headon Road.

© 2026 Pinchin Ltd.



Photo 3 – View of the trails within the Dry – Fresh Oak – Hickory Deciduous Forest.



Photo 4 – View of the natural areas within the Dry – Fresh Oak – Hickory Deciduous Forest.

© 2026 Pinchin Ltd.



Photo 5 – View looking west of the Dry – Fresh Oak – Hickory Cultural Deciduous Woodland on the Site.

© 2026 Pinchin Ltd.

APPENDIX F
WOODLAND ASSESSMENT MEMO

KUNTZ FORESTRY CONSULTING Inc.

PO Box 1267 Lakeshore W PO
146 Lakeshore Road West
Oakville ON L6K 0B3
289.837.1871
www.kuntzforestry.ca
consult@kuntzforestry.ca

20 July 2023

JEC Developments Inc.
5341 John Lucas Drive, 2nd Floor
Burlington, Ontario L7L 6A8

RE: Extent of Significant Woodland, 2105 Headon Road, Burlington

Introduction

Kuntz Forestry Consulting Inc. (KFCI) was retained by JEC Developments Inc. to assess the woodland status of portions of the property located at 2105 Headon Road in the City of Burlington. The subject site is located northwest of the intersection of Headon Road and Upper Middle Road, south of CH Norton Public School and bordered on the northeast and southeast by Cleaver Park. The surrounding area is residential. A dripline staking exercise was conducted on 05 May 2023 with representatives from Halton Region present. This memo presents our opinion on the extent of the woodland, which differs from the staked dripline.

Methods

The assessment was conducted using data collected by KFCI on 14 September 2022. A clearing envelope was identified which, at that time, was believed to require complete removal to accommodate the then-proposed site plan (see **Figure 1**). A 100% tally of trees greater than 10cm at 1.4m above ground level (DBH) was conducted within the clearing envelope. It is this data that was used in the assessment pertaining to this memo. This clearing envelope roughly follows Pinchin's CVR_3 and WODM3 ELC units – refer to Appendix B for Pinchin's ELC figure.



Figure 1. Aerial image of 2105 Headon Rd showing property boundary (blue) and original clearing envelope (yellow).

Results

Table 1 displays the calculation used in the assessment.

Table 1. Assessment calculations

Clearing Envelope Area (m^2)	2,954
Area of Hectare (m^2)	10,000
Tree Factor (10,000 / 2,954)	3.385
Tree Count (trees ≥10cm DBH)	38
Trees per hectare (38 x 3.385)	129

Refer to Appendix A for full tree tally information.

Discussion

The Region of Halton's By-Law no. 121-05 (Forest Conservation By-Law) defines a "Woodland" as an area of land with at least:

1. *1000 Trees, of any size, per hectare or 500 such Trees per 0.5 hectare;*
2. *750 Trees, measuring over five (5) centimeters in Diameter at DBH, per hectare or 375 such Trees per 0.5 hectare;*
3. *500 Trees, measuring over twelve (12) centimeters in Diameter at DBH, per hectare or 250 such Trees per 0.5 hectare;*
4. *250 Trees, measuring over twenty (20) centimeters in Diameter at DBH, per hectare or 125 such Trees per 0.5 hectare.*

The definition of woodland within Section 295 of the Halton Regional Official Plan (ROP), used to identify significant woodlands as defined in the ROP, is consistent with this By-law definition above.

As KFCI collected trees that were ≥10cm DBH, criteria 3 and 4 were the most relevant to the assessment and, as shown in **Table 1**, the clearing envelope does not meet criteria 3. Reducing the tree count to 35 (count of trees greater than 20cm DBH) resulted in a trees per hectare figure of 118; the clearing envelope does not meet criteria 4.

In order to meet criteria 1 (for the calculation to result in a minimum of 1,000 trees per hectare), an additional 258 trees of any size would need to be added to the tree count within the clearing envelope. A site visit occurring on 6 July 2023 confirmed there are limited, if any, undersized trees within the "clearing envelope" and therefore it does not meet criteria 1 or 2.

The clearing envelope consists of the front, side, and rear yards of the dwelling at 2105 Headon Rd; these areas have been maintained as lawn, with advanced regeneration removed and the area between trees historically mowed. Although trees below 10cm DBH were omitted from the data collection, based on observations made on site during multiple

site visits, there is a limited quantity of trees less than 10cm DBH and not enough to increase the density of trees to satisfy criteria 1 or 2 (i.e. there are fewer than 258 trees of regenerating size classes that exist within the clearing envelope).

Based on the results of this assessment, we assert that the front, side, and rear yards (the clearing envelope/ELC units CVR_3 and WODM3) of the property do not meet any stated criteria for woodland under the Halton Region By-law and ROP definitions, and therefore suggest that the extent of the 5 May 2023 staked dripline does not adequately represent the extent of the significant woodland proper.

KFCI attended the site again on 6 July 2023 with Pinchin staff. Considering the data that supports separate ecological units - ie. the CVR_3/WODM3 units interior to the site which do not qualify as woodland, and the FODM2-2 unit along the periphery and surrounding the site, a new dripline of the significant woodland was identified and located using KFCI's GPS unit. The limit of the significant woodland was identified to be the dripline of the FODM2-2 unit (ie. the unit that qualifies as a woodland in terms of density per the Halton Region Forest By-law and ROP definitions). Refer to Appendix B for this updated dripline which we feel more appropriately represents the extent of the significant woodland.

We feel that the area within the CVR_3 and WODM3 units should be considered separate vegetation units, ones which do not meet the definition of woodland, and which should therefore be treated a feature separate from the broader significant woodland adjacent to the property.

Please contact us with any questions.

Respectfully Submitted,

Kuntz Forestry Consulting Inc.

Celine Batterink

Celine Batterink, H.B.Sc. Ecology
Senior Consulting Arborist, Ecologist
ISA Certified Arborist #ON1546-A
Email: cbatterink@kuntzforestry.ca
Phone: 289-837-1871 ext 18

Kyle Buckley

Kyle Buckley, B.Sc.F., R.P.F., TPAQ, TRAQ
Forester, ISA Certified Arborist® ON-2744A

Appendix A. Tree Tally

Polygon: Clearing Envelope

Polygon Analysis Tally (by Species, Size Class and Quality Class)

Tree Size Class >>>>	10 - 20 cm		20 - 35 cm		36 - 74 cm		75 cm +		Total All Sizes		Total By Species
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	
Black Cherry (*Prunus serotina*)	1								1	0	**1**
Sugar Maple (*Acer saccharum*)	1		6			1			7	1	**8**
Shagbark Hickory (*Carya ovata*)	1		13	1	4				18	1	**19**
Red Oak (*Quercus rubra*)			1		1				2	0	**2**
White Oak (*Quercus alba*)					4	2			4	2	**6**
White Birch (*Betula papyrifera*)			1						1	0	**1**
White Pine (*Pinus strobus*)			1						1	0	**1**
Total Number of Trees	3	0	22	1	9	3	0	0	34	4	**38**

Appendix B. Pinchin ELC Figure and Extent of Updated Significant Woodland Dripline

595800 595900 596000 596100 596200 596300

4803600 4803500 4803400 4803300

HEIDI AVENUE
JORDAN AVENUE
SANDY LANE
CHRISDON ROAD
CLEAVER AVENUE
HEADON ROAD
GOLDEN EAGLE DRIVE
Cleaver Park
Tuck Creek
N

1 2 3 4 5 6

Ecological Land Classification
1. CVR_3 Single Family Residence
2. FODM2-2 Dry – Fresh Oak – Hickory Deciduous Forest (significant woodland)
3. CVS_1 CH Norton Public School
4. CGL_2 Cleaver Park
5. CVR_1 Low Density Residential
6. WODM3 Dry – Fresh Oak – Hickory Cultural Deciduous Woodland (not significant woodland)
6. OAO Tuck Creek

Service Layer Credits: MNRF, MECP, 2023. MacKay & Peters Limited (Land Survey) 20-152-SK-20230524. 2105 HEadon New Dripline.dwg.

PINCHIN

PROJECT NAME: Environmental Impact Study
CLIENT NAME: JEC Properties Inc.
PROJECT LOCATION: 2105 Hedon Road, Burlington, Ontario
FIGURE NAME: Ecological Land Classification

PROJECT NO. 295593.000
DATE: July 2023
SCALE: 1:1,600
FIGURE NO. 3

LEGEND
- Site Boundary
- Study Area (120 m)
- Roadway
- Watercourse
- Staked Dripline with Region on May 5, 2023
- Surveyed Dripline by Kuntz and Pinchin on July 6, 2023

NOTES
1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only
2. Use dimensions as shown, do not scale drawing
3. This map is not to be used for legal purposes

0 15 30 60 Metres

Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: RY REVISION: 5

APPENDIX G
SPECIES AT RISK AND SIGNIFICANT WILDLIFE HABITAT SCREENING

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]	Suitable Habitat on Site	Confirmed observation on Site
							NHIC Grid 17NJ9603	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Butterfly Atlas (Macnaighton 2018)	Rare Vascular Plants of Ontario (Oldham & Brinker 2009)			
BIRDS	Barn Swallow	*Hirundo rustica*	S4B	SC	SC	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.	Yes, suitable habitat is found in the single family residential area on the Site. However, no individuals or their nests were observed.	No
	Bobolink	*Dolichonyx oryzivorus*	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, suitable habitat is not found on the Site.	No
	Chimney Swift	*Chaetura pelagica*	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.	Yes, suitable habitat is found in the single family residential area on the Site. However, no individuals or their nests were observed and all chimneys were capped.	No
	Eastern Meadowlark	*Sturnella magna*	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, suitable habitat is not found on the Site.	No
	Eastern Wood-pewee	*Contopus virens*	S4B	SC	SC	2001-2005	•		•			Live in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundandtly found in intermediate-age mature forest stands with little understory vegetation.	Yes, suitable habitat is found in the deciduous forest on the Site. An individual was heard singing on the Site during breeding bird surveys and was determined to be a possible breeder on the Site.	Yes
	Wood Thrush	*Hylocichla mustelina*	S4B	SC	THR	2001-2005			•			Carolinian and Great Lakes-St. Lawrence forest zones; undisturbed moist mature deciduous or mixed forest with deciduous sapling growth; near pond or swamp; hardwood forest edges; must have some trees higher than 12 m	No, suitable habitat is not found on the Site.	No
	Common Nighthawk	*Chordeiles minor*	S4B	THR	SC	2001-2005			·			grassland, prairie or hay fields with woody cover in form of thickets, tangles of vines, shrubs; fence rows or woodland edges; cropland growing corn, soybeans or small grains and clover or grass; well-drained sandy or loamy soil; pond edges	No, suitable habitat is not found on the Site.	No
	Whip-poor-will	*Caprimulgus vociferus*	S4B	THR	THR	2001-2005			·			open ground; clearings in dense forests; ploughed fields; gravel beaches or barren areas with rocky soils; open woodlands; flat gravel roofs	No, suitable habitat is not found on the Site.	No
	Black Tern	*Chlidonias niger*	S3B	SC	SC	2001-2005			·			wetlands, coastal or inland marshes; large cattail marshes, marshy edges of rivers, lakes or ponds, wet open fens, wet meadows; returns to same area to nest each year in loose colonies; must have shallow (0.5 to 1 m deep) water and areas of open water near nests; requires marshes >20 ha in size; feeds over adjacent grasslands for insects;	No, suitable habitat is not found on the Site.	No
	Least Bittern	*Ixobrychus exilis*	S4B	THR	THR	2001-2005			·			deep marshes, swamps, bogs; marshy borders of lakes, ponds, streams, ditches; dense emergent vegetation of cattail, bulrush, sedge; nests in cattails;	No, suitable habitat is not found on the Site.	No
	Peregrine Falcon	*Falco peregrinus*	S2S3B	THR	--	2001-2005			·			rock cliffs, crags, especially situated near water; tall buildings in urban centres; threatened by chemical contamination; reintroduction efforts have been attempted in numerous locations throughout Ontario	No, suitable habitat is not found on the Site.	No
	Acadian Flycatcher	*Empidonax virescens*	S2BS3B	END	END	2001-2005						mature, shady, deciduous forests; heavily wooded ravines; creek bottoms or river swamps; availability of good quality habitat is limiting factor; needs at least 30 ha of forest	No, suitable habitat is not found on the Site.	No
	Bank Swallow	*Riparia riparia*	S4B	THR	THR	2001-2005			·			sand, clay or gravel river banks or steep riverbank cliffs; lakeshore bluffs of easily crumbled sand or gravel; gravel pits, road-cuts, grassland or cultivated fields that are close to water;	No, suitable habitat is not found on the Site.	No
	Short-eared Owl	*Asio flammeus*	S2N, S4B	THR	SC	2001-2005			·			grasslands, open areas or meadows that are grassy or bushy; marshes, bogs or tundra; both diurnal and nocturnal habits; ground nester; requires 75-100 ha of contiguous open habitat	No, suitable habitat is not found on the Site.	No
	Red-headed Woodpecker	*Melanerpes erythrocephalus*	S4B	THR	SC	2001-2005	•		·			open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; feeds on insects and stores nuts or acorns for winter; loss of habitat is limiting factor; requires cavity trees with at least 40 cm dbh; require about 4 ha for a territory	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals or their nests were observed.	No
	Evening Grosbeak	*Coccothraustes vespertinus*	S4B	SC	SC	2001-2005			·			coniferous or mixed forests; deciduous tree stands; parks, orchards	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals or their nests were observed.	No
	Grasshopper Sparrow	*Ammodramus savannarum*	S4B, SZN	SC	SC	2001-2005	•		·			well-drained grassland or prairie with low cover of grasses, taller weeds on sandy soil; hayfields or weedy fallow fields; uplands with ground vegetation of various densities; perches for singing; requires tracts of grassland > 10 ha	No, suitable habitat is not found on the Site.	No
	Canada Warbler	*Wilsonia canadensis*	S4B	SC	THR	2001-2005			·			an interior forest species; dense, mixed coniferous, deciduous forests with closed canopy, wet bottomlands of cedar or alder; shrubby undergrowth in cool moist mature woodlands; riparian habitat; usually requires at least 30 ha	No, suitable habitat is not found on the Site.	No
	Golden-winged Warbler	*Vermivora chrysoptera*	S4B, SZN	SC	THR	2001-2005			·			early successional habitat; shrubby, grassy abandoned fields with small deciduous trees bordered by low woodland and wooded swamps; alder bogs; deciduous, damp woods; shrubbery clearings in deciduous woods with saplings and grasses; brier-woodland edges; requires >10 ha of habitat	No, suitable habitat is not found on the Site.	No
	Louisiana Waterthrush	*Seiurus motacilla*	S3B	THR	THR	2001-2005			·			prefers wooded ravines with running streams; also woodlands swamps; large tracts of mature deciduous or mixed forests; canopy cover is essential	No, suitable habitat is not found on the Site.	No
	Cerulean Warbler	*Dendroica cerulea*	S3B	THR	END	2001-2005			·			mature deciduous woodland of Great Lakes- St. Lawrence and Carolinian forests, sometimes coniferous; swamps or bottomlands with large trees; area sensitive species needing extensive areas of forest (>100 ha)	No, suitable habitat is not found on the Site.	No
	Hooded Warbler	*Wilsonia citrina*	S3B	SC	THR	2001-2005			·			favours mature, deciduous forest (Carolinian), particularly along stream bottoms, ravine edges and where saplings and shrubbery grow; nests above ground in small shrubs; feeds on or near ground	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals were observed.	No

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]	Suitable Habitat on Site	Confirmed observation on Site
							NHIC Grid 17NJ9603	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Butterfly Atlas (Macnaighton 2018)	Rare Vascular Plants of Ontario (Oldham & Brinker 2009)			
BIRDS	Yellow-breasted Chat	*Icteria virens*	S2B	SC	END	2001-2005			·			thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines etc.	No, suitable habitat is not found on the Site.	No
REPTILES	Common Snapping Turtle*	*Chelydra serpentina*	S4	SC	SC	2019				•		Prefer shallow, slow-movnig waters with abundant vegetation, but can also live in deeper water habitats. During the nesting season June-July, they can be gound on gravel or sandy areas on land.	No, suitable habitat is not found on the Site.	No
	Eastern Hognose Snake	*Heterodon platirhinos*	S3	THR	THR	1935				•		Often hunts toads and can be found in araes with lots of toads. They prefer sandy well-drained habitats like beaches and dry forests that allows them to dig burrows.	No, suitable habitat is not found on the Site.	No
	Five-Lined Skink* (Great Lakes St.Lawrence/Southern Shield Population)	*Plestiodon fasciatus pop.2*	S3	END	END	1992				•		moderately dense or open deciduous or mixed woodlands with logs and slash piles; damp spots underlogs, leaf litter, or sawdust; open talus slopes, barren rock; sandy beaches of Lake Erie, Lake Ontario; breeds in forest floor litter; lays, protects eggs under rocks, logs; forages in open woodlands, in sandy areas, along shores of lakes, and islands; hibernates under rock piles, in rock crevices, under logs and in stumps	Yes, suitable habitat is found in the deciduous forest on the Site. However, no indiviiduals were observed.	No
	Timber Rattlesnake	*Crotalus horridus*	SX	EXP	EXP		•					Known to be found in upland forests with clearings and rocky to bask in.	No, no longer occurs in Canada since 1941.	No
AMPHIBIAN	Jefferson Salamander	*Ambystoma jeffersonianum*	S2	END	THR	2018				•		Prefer moist, loose soil under logs and in leaf litter. Can be found under rocks and stumps.	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals were observed.	No
INSECT	Monarch	*Danaus plexippus*	S2N,S4B	SC	END	2021				•		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.	No, suitable habitat is not found on the Site.	No
MAMMALS	Little Brown Myotis	*Myotis lucifugus*	S4	END	END			•				Roosts in trees and buildings. Often found in attics, abandoned barns and crevices in trees.	Yes, suitable habitat is found in the single family residential area and deciduous forest on the Site. However, no individuals of their signs were observed.	No
	Northern Long-eared Myotis	*Myotis septentrionalis*	S3	END	END			•				Can be found in boreat forests, often under loose bark strips and in tree cavities.	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals or their signs were observed.	No
	Eastern Small-footed Bat*	*Myotis leibii*	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	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals or their signs were observed.	No
	Tricolored Bat	*Pipistrellus subflavus*	S3?	END	END			•				Can be found in forested habitats. Makes maternity colonies in older forests and occasionally in barns and other structures.	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals or their signs were observed.	No
	Woodland Vole*	*Microtus pinetorum*	S3	SC	SC			•				Prefers mature deciduous forests in Carolinian region. Burrows in deep litter layer.	Yes, suitable habitat is found in the deciduous forest on the Site. However, no individuals or their signs were observed.	No

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 biolodical characteristics and identified threats
Extirpated (EXR)	Species which no longer exist in the wild in Ontario, but exist elsewhere in the world
DD	Data defficient
Not at Risk (NAR)	Not at risk

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.

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 December 2022. 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 December 2022. http://sararegistry.gc.ca/sar/index/default_e.cfm.

4 Ministry of the Environment, Conservation and Parks. 2018. Species at Risk in Ontario. Accessed December 2022. https://www.ontario.ca/page/species-risk-ontario#section-3.

7 Oldham, M. J. and S. R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, Ontario. 188 pp.

Table 2. Significant Wildlife Habitat Assessment for the Study Area

Significant Habitat Type	Habitat Criteria Met	Targeted Field Surveys Required	SWH Type Present
Seasonal Wildlife Concentration Areas			
Waterfowl Stopover and Staging Areas (Terrestrial)	Meadows and fields are not found within the Site or Study Area.		**Not SWH**
Waterfowl Stopover and Staging Areas (Aquatic)	No ponds, marshes or lakes are found on the Site or Study Area.		**Not SWH**
Shorebird Migratory Stopover Area	No shorelines of lakes rives or welands are found on the Site or Study Area.		**Not SWH**
Raptor Wintering Area	Forests are found within the Site and Study Area. However, there are no fields and the forest found within the Site and Study Area are smaller than 20 ha.		**Not SWH**
Bat Hibernacula	No caves or crevices are found within the Site or Study Area.		**Not SWH**
Bat Maternity Colonies	A forested community is found within the Site and Study Area.	Yes, bat suitability surveys were conducted on May 5, 2023 and July 6, 2023.	Based on the targetted field surveys, no snags observed on the Site and 3 snags were observed within the Study Area. **Not SWH**
Turtle Wintering Areas	No large, permanent water bodies or wetlands are present within the Site. A watercourse is located within the Study Area; however, it is shallow and not expected to remain unfrozen throughout the winter.		**Not SWH**
Reptile Hibernaculum	No areas of broken rock, rock piles, slopes or similar features were observed within Study Area.		**Not SWH**
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	No large banks or cliffs observed on Site or Study Area.		**Not SWH**
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)	No live or dead standing trees in wetlands or lakes are foun on the Site or Study Area.		**Not SWH**
Colonially - Nesting Bird Breeding Habitat (Ground)	No rocky islands or peninsulas within lakes or large rivers found within the Site or Study Area.		**Not SWH**
Migratory Butterfly Stopover Area	Meadow communities with milkweed are not observed within the Site or Study Area boundaries.		**Not SWH**
Landbird Migratory Stopover Area	Wooded areas are present within the Study Area; however, based on aerial imagery, the total woodland cover is under 5 hectares, and the Site is located more than 5 kilometres from the Lake Ontario shoreline.		**Not SWH**
Deer Winter Congregation Area	The Site has not been identfied by the MNR as Stratum I or II. Futhur, the forested areas on the Site and Study Area are less than 50 ha in size		**Not SWH**
Rare Vegetation Communities or Specialized Habitat for Wildlife			
Cliffs and Talus Slopes	No cliffs or talus slopes found within the Site or Study Area.		**Not SWH**
Sand Barren	No sand barrens found within the Site or Study Area.		**Not SWH**
Alvar	No alvars found within the Site or Study Area.		**Not SWH**
Old Growth Forest	No old growth forests found within the Site or Study Area.		**Not SWH**
Savannah	No savannahs found within the Site or Study Area.		**Not SWH**
Tallgrass Prairie	No tallgrass prairies found within the Site or Study Area.		**Not SWH**
Other Rare Vegetation Communities	No other provincially rare plant communities are found within the Site or Study Area.		**Not SWH**
Specialized Habitat for Wildlife			
Waterfowl Nesting Area	No wetlands are found on the Site or Study Area.		**Not SWH**
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Forested areas adjacent to a creek is found within the Site and Study Area.	Yes, breeding bird surveys were completed on May 29 and June 19, 2022.	None of the candidate species were observed during field surveys. **Not SWH**
Woodland Raptor Nesting Habitat	Woodlands are found within the Site and Study Area. However, they do not meet the required size criteria to be considered SWH.		**Not SWH**
Turtle Nesting Areas	No sand or gravel areas adjacent to undistubes shallow marshes lakes or rivers found on the Site or Study Area.		**Not SWH**
Seeps and Springs	No seeps or springs observed within the Site or Study Area.		**Not SWH**
Amphibian Breeding Habitat (Woodland)	No wetlands, pools, or woodlands pools >500m2 found on the Site or Study Area.		**Not SWH**
Amphibian Breeding Habitat (Wetlands)	No wetlands found within the Study Area.		**Not SWH**
Woodland Area - Sensitive Bird Breeding Habitat	No forests over 60 years old and larger than 30 ha found within the Site.		**Not SWH**
Habitat for Species of Conservation Concern (Not Including Endangered or Threatened Species)			

Table 2. Significant Wildlife Habitat Assessment for the Study Area

Significant Habitat Type	Habitat Criteria Met	Targeted Field Surveys Required	SWH Type Present
Marsh Bird Breeding Habitat	No wetlands found on the Site or Study Area.		**Not SWH**
Open Country Bird Breeding Habitat	No large grassland areas bigger than 30 ha found within the Site or Study Area.		**Not SWH**
Shrub/Early Successional Bird Breeding Habitat	No shrub thicket found within the Site or Study Area.		**Not SWH**
Terrestrial Crayfish	Meadows are not present within Study Area. No evidence of terrestrial crayfish was observed along the banks of the watercourse.		**Not SWH**
Special Concern and Rare Wildlife Species	Eastern Wood Pewee heard on Site during breeding bird survey, however no confirmed breeding evidence was observed.	Yes, breeding bird surveys were completed on May 29 and June 19, 2022.	The Eastern Wood-pewee was only heard foraging and no breeding evidence was noted. **Not SWH**
Animal Movement Corridors			
Amphibian Movement Corridors	No aquatic ecosites found in within the Study Area.		**Not SWH**

SWH Assessment Criteria

Candidate: An area that has the potential to be Significant Wildlife Habitat based on desktop screening or preliminary field evidence and required field surveys to verify the defining criteria

Confirmed: Identfied as significant wildlife habitat based on thorough assessments and evidence that demonstrate the presence of important species or habitat features

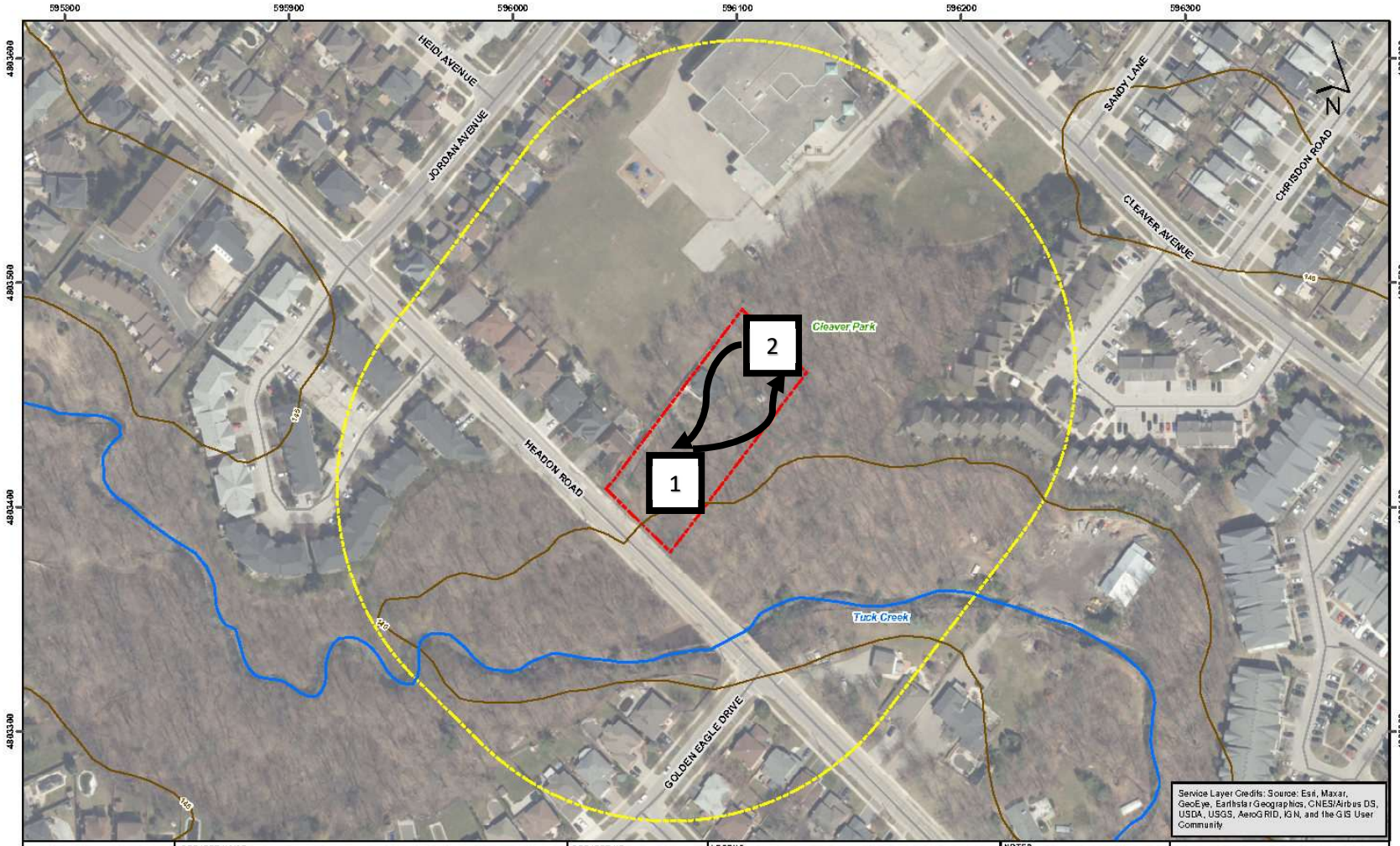
Not significant: refers to areas that have been assessed and found not to meet the criteria for significant wildlife habitat

References

Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Crieteria Schedules for Ecoregion 7E. Queen's Printer for Ontario

Ministry of Natural Resources and Forestry. 2000. Significant Wildlife Habitat Technical Guide. Peterborough, ON.

APPENDIX H
BREEDING BIRD SURVEY



PINCHIN

PROJECT NAME:	Environmental Impact Study
CLIENT NAME:	JEC Properties Inc.
PROJECT LOCATION:	2105 Hedon Road, Burlington, Ontario
FIGURE NAME:	Study Area
PROJECT NO.	295593.000
DATE:	January 2022
SCALE:	1:1,600
FIGURE NO.	2

LEGEND
- Site Boundary
- Study Area (120 m)
- Roadway
- Watercourse
- Topography Contours (5 m)

NOTES
1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only
2. Use dimensions as shown, do not scale drawing
3. This map is not to be used for legal purposes

0 15 30 60 Metres

Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: SR REVISION: 0

Table 1. Breeding Bird Survey Results

SCIENTIFIC NAME	ENGLISH COMMON NAME	S RANK	SARO STATUS	COSEWIC STATUS	SARA STATUS	G RANK	N RANK	BREEDING LIKELIHOOD AND OBSERVED ACTIVITIES
Melanerpes carolinus	Red-bellied Woodpecker	S5				G5	N4B,N4N,N3M	S - Possible
Contopus virens	Eastern Wood-pewee	S4B	SC	SC	SC	G5	N5B,N5M	S - Possible
Vireo olivaceus	Red-eyed Vireo	S5B				G5	N5B,N5N,N5M	S - Possible
Cyanocitta cristata	Blue Jay	S5				G5	N5B,N5N,NNRM	S - Possible
Sitta carolinensis	White-breasted Nuthatch	S5				G5	N5	S - Possible
Toxostoma rufum	Brown Thrasher	S4B				G5	N5B,NUN,N5M	S - Possible
Turdus migratorius	American Robin	S5				G5	N5B,N4N5N,N5M	S - Possible
Spinus tristis	American Goldfinch	S5				G5	N5B,N5N,N5M	X - Observed
Cardinalis cardinalis	Northern Cardinal	S5				G5	N5	S - Possible

APPENDIX I
PROPOSED SITE PLAN

CONCEPT PLAN

OF

PART OF LOT 17 REGISTERED PLAN 242

CITY OF BURLINGTON
REGIONAL MUNICIPALITY
OF HALTON

SITE STATISTICS
EXISTING ZONE: R2.3
PROPOSED ZONE: RM2(_)

	REQUIRED	PROPOSED
Lot Area	0.4 ha	0.4 ha
Lot Width	45 m	40 m*
Lot Depth	N/A	100.6 m
Front Yard	7.5 m	34.3 m
Rear Yard	9 m	10.2 m
Side Yard (N)	4.5 m	6.0 m
Side Yard (S)	4.5 m	21.3 m
Height	2–storey	3–storey
Landscape Buffer (abutting R3)	6 m	0.85 m*
Floor Area Ratio	N/A	0.5
Amenity Area	25 m²/bedroom	– m²/bedroom
Privacy Area	20 m²/unit	– m²/unit
Parking	2 spaces/unit + 0.25(v)/unit	21
Density	25uph–40uph	23 uph*

* SUBJECT TO SPECIAL PROVISION

DRAWING BASED ON SURVEY COMPLETED BY MMP IN 2020

NO.	REVISION	DATE	INITIAL
3.	REVISION	MAR 30	RA
2.	REVISION	MAR 03	RA
1.	REVISION	JAN 25	MC

JEC PROPERTIES

2105 HEADON ROAD,
BURLINGTON

DRAWN BY	PROJECT NO.
MC	–

DATE	SCALE
MARCH 2026	1: –