Scoped Environmental Impact Statement

5160-5170 Ninth Line

Mississauga, Ontario

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1. Introduction

GEI Consultants Inc. (GEI) has been retained by Branthaven Development to undertake a Scoped Environmental Impact Statement (EIS) to inform the Rezoning and Site Plan applications for the 5160-5170 Ninth Line property located in the City of Mississauga, Ontario (herein referred to as the Subject Lands; **Figure 1**, **Appendix A**). The subject site (0.73 ha) is an inline property generally bounded by Ninth Line to the northeast, future townhouses to the southeast and southwest (i.e., Your Home Development and Mattamy Homes, respectively), and a woodland owned by the City of Mississauga to the northwest. The existing property is characterized by anthropogenic land uses (i.e., residential and commercial) with limited natural heritage features present.

On August 1, 2018, Mississauga Zoning By-Law Amendment 0167-2018 came into effect. This by-law specifies zoning across the entire Ninth Line Lands. Through this by-law, the Subject Lands were re-zoned as residential lands (per. Map M-1, Part of Schedule 10; Appendix A) proposed for residential medium density development. The proposed Site Plan (July 2022) illustrates the proposed development within the Ninth Line land holdings (0.73 ha). The Site Plan proposes a six-storey building containing 187 residential units, and associated amenity and parking areas.

The City of Mississauga Planning and Building Department provided a Pre-Consultation Checklist for Official Plan Amendments and/or Rezoning Applications to Branthaven Development following a meeting held on June 23, 2021 to inform the proposed residential development application. Provisions for the requirements for a complete application included an EIS (to be determined following a site visit prior to application submission) to provide additional ecological context in support of the proposed site plan. As such, this Scoped EIS has been prepared in support of the detailed site plan application under the *Planning Act* (e.g., Zoning By-law Amendment, Consent, Minor Variance) in order to be consistent with provincial interests defined under the Provincial Policy Statement (PPS; MMAH 2020) and other relevant provincial plans.

1.1 Project Overview

In 2014, the City of Mississauga initiated the Ninth Line Lands Planning Study to develop a land use framework to guide future development of the Ninth Line Lands. A three phase Scoped Subwatershed Study (SWS) was commissioned, based on guidance provided by the Ninth Line Corridor Study (NSEI 2012), to define constraints and opportunities and management recommendations within the Ninth Line Lands Study Area (generally bounded by the Highway 407 and Highway 401 interchange to the northwest, Ninth Line to the northeast, the Highway 407 and Highway 403 interchange to the southeast and Highway 407 to the southwest; **Figure 1**, **Appendix A**):

- Phase 1: Study Area Characterization
- Phase 2: Impact Assessment/Management Strategy

- Phase 3: Implementation and Monitoring

High-level ecological field investigations were undertaken as part of the Phase 1 SWS (Amec 2015) to provide a broad characterization of baseline conditions within the overall Study Area. The report summarizes methodologies and results to provide general guidance to the subsequent phases of the SWS process. The Phase 2 SWS (Amec 2017) identified four existing natural features for retention within the overall Study Area: the NHS corridor associated with Lisgar Creek, the outlet and corridor associated with Reach NLT-1, and two woodland features, one located south of Derry Road and one owned by the City of Mississauga that occurs immediately southwest of Erin Centre Boulevard. As part of the Phase 3 SWS (Wood 2020), wetland and woodland creation was proposed within the Lisgar Creek riparian corridor to compensate for the removal of tableland wetlands and woodlands from the overall Ninth Line Lands Study Area in order to ensure that significant ecological functions (i.e., migratory stop-over habitat, amphibian breeding habitat, stepping stone habitat between adjacent wetlands offsite) are maintained within the Study Area and to enhance the ecological integrity of the landscape of the City of Mississauga.

A Comprehensive Environmental Impact and Integration Study (CEIIS) Terms of Reference (TOR; NRSI 2020) was included in the Phase 3 SWS (Wood 2020) to guide the preparation of CEIIS's for the Ninth Line Lands in support of future development applications. The CEIIS is an overall collection of various studies (i.e., EIS, Tree Inventory and Protection Plan, Natural Heritage System Restoration Plan, Fluvial Geomorphological Assessment, Feature Based Water Balance Analyses, Floodplain Analysis Study, Stormwater Management and Servicing Strategy and Preliminary Phasing Plan) integrated into a single report to fully characterize the natural features, functions and hazards associated with each Block of the Ninth Line Lands Study Area. The CEIIS defines how these studies should be integrated with engineering components, stormwater management (SWM) strategies, natural channel design and the Functional Servicing Report. All technical study components of the final CEIIS reports are to integrate the recommendations provided by the Ninth Line Lands Scoped SWS (Amec 2015; Amec 2017; Wood 2020) and the Transitway Environmental Assessment (MTO 2020).

1.1.1 Project Study Area

The Study Area for the proposed CEIIS should be defined as a subcomponent of the Ninth Line Study Area that considers development boundaries, ecological features and functions on and adjacent to the proposed development area, and upstream/downstream fluvial impacts. In this regard, the Study Area is expected to extend beyond the development footprint to provide a systems-based characterization of existing conditions. As such, the CEIIS TOR (NRSI 2020) recommends a block-by-block approach to the delineation of Study Areas where the Subject Lands form a component of Block 3 (i.e., Britannia Road to the Highway 407 and Highway 403 interchange). Although this approach reduces the number of potential connection points between multiple design strategies, it does not consider the planning stages of various stakeholders, access restrictions or the costs incurred by the first landowner/developer within each block to initiate the Draft Plan approval process and conduct the CEIIS. Although coordination among landowners is encouraged, due to the high degree of variability in the planning stages of various properties this may not be feasible. Furthermore, data greater than five years old is generally considered historic. Therefore, data collection and

analysis completed as part of the CEIIS may not be valid during the Draft Plan approval process for landowners that are currently inactive and may reduce landowner participation in a comprehensive study. As a result, this approach may impede the progression of future growth and development as it may not be viable for all areas within the proposed block and places an excess of responsibility on the first landowner/developer.

In the context of the Subject Lands, the block-based approach recommended by the CEIIS TOR (NRSI 2020) is not feasible given the anthropogenic nature of the existing land uses and constraints associated with applying a block-based approach to a 0.73 ha property. The approach proposed by the CEIIS TOR is intended to "*provide an appropriate scale for this study so that the implementation of natural channel design, creation of wetlands, meadows, and woodlands in the NHS, assessment of hazards, and floodplain areas is integrated in a logical way*" and to ensure that the number of potential connection points between various design strategies are reduced. The Subject Lands are largely isolated from natural heritage features to the southwest where adjacent lands are also proposed for residential development. The Transitway EA corridor to the southwest is expected to restrict biotic and abiotic interactions on the Subject Lands and further isolate the property from the Natural Heritage System (NHS) associated with the Ninth Line NHS Corridor. Although the adjacent woodland to the northwest has been designated as a component of the NHS, this feature will be protected through mitigation measures applied on the Subject Lands and will not be linked to the overall NHS Corridor.

Given the lack of natural heritage features present on the Subject Lands, it is expected that all mitigation for development and site alteration can be accommodated on-site. As such, providing provisions for the implementation of the Block 3 NHS is not considered necessary relative to the scope of development and potential impacts on the Subject Lands. Therefore, in accordance with comments provided by the City of Mississauga (June 29,2021; **Appendix C**) within the Project Status Report for the 5160 Ninth Line rezoning application (DARC 21-241 W10), the CEIIS has been scoped to an EIS in support of the development application.

1.2 Purpose of the Report

A Scoped EIS is required to characterize the existing environment, provide an overview of the landscape context, consider the significance and sensitivity of natural heritage features and functions, provide an assessment of potential impacts, and recommend mitigation strategies associated with the proposed residential development. This Scoped EIS has been prepared in support of the development application based on the CEIIS TOR defined within the Ninth Line Lands Phase 3 SWS (Wood 2020) and incorporates requirements defined within the City of Mississauga's Environmental Impact Study Checklist (2017). Where study requirements have been fulfilled through ecological field investigations completed via the SWS (Amec 2015, Amec 2017, Wood 2020) or in support of adjacent development applications (e.g., 5150 Ninth Line), survey effort is not proposed to be duplicated on the Subject Lands. Instead, the assessment of ecological and natural heritage significance will be informed by previous site investigations to provide insight into the overall character of the property and adjacent lands within 120 m. However, as a requirement of the municipal planning process, the Scoped EIS

will include the following components to address the environmental policies of Peel Region, the City of Mississauga and the Credit Valley Conservation Authority (CVC):

- A review of existing background information, policies and legislation applicable to the Subject Lands in its regional context;
- A field review of the natural environmental features on, and immediately adjacent to, the Subject Lands that have not been previously assessed through the completion of various ecological surveys and inventories;
- An evaluation of the sensitivity of the natural heritage features and their functions on, and adjacent to, the Subject Lands;
- An assessment of constraints to development and whether any of the existing natural heritage features within the Subject Lands meet the test of 'significance' as identified by the PPS (MMAH 2020), or the requirements to be part of the City's NHS;
- A description of the proposed undertaking and development proposal;
- Identification and discussion of the potential impacts that could occur to natural heritage features as a result of the proposed development;
- Recommendations for mitigation measures to avoid or minimize impacts; and
- Opportunities for enhancement or restoration of natural features.

A Scoped EIS TOR, specific to the preparation of the Scoped EIS for the Subject Lands, was prepared and circulated to the City of Mississauga and CVC on October 21, 2021 (**Appendix D**). The CVC approved the TOR via email confirmation on December 16, 2021 (Refer to **Appendix C**). The Scoped EIS TOR outlines the purpose, study area and scope of work, in accordance with the City of Mississauga's Environmental Impact Study Checklist (October 2017). The proposed work program considers applicable polices of the Province of Ontario's PPS (MMAH 2020) and associated provincial implementation guidance contained within the Natural Heritage Reference Manual (NHRM; MNR 2010), as well as the current Official Plan for the City of Mississauga (2021 Consolidation), Region of Peel Official Plan (2018 Consolidation), the Ninth Line Secondary Plan (2018), and CVC regulations and policies. A copy of the draft TOR is provided in **Appendix D**.

2. Natural Heritage Legislation & Policy Context

2.1 Natural Heritage Planning Considerations

An assessment of the quality and extent of natural heritage features and functions found on, and adjacent to, the Subject Lands was undertaken to comply with the requirements of the following legislation, plans and policies:

- Federal *Fisheries Act* (2019);
- Federal *Migratory Birds Convention Act* (MBCA; 1994);
- Provincial *Endangered Species Act*, *2007* (ESA; Consolidated 2020);
- *Planning Act* and Provincial Policy Statement (MMAH 2020);
- Region of Peel Official Plan (2018 Consolidation);
- City of Mississauga Official Plan (2021 Consolidation) and Ninth Line Secondary Plan (2018);
- *Conservation Authorities Act* and Ontario Regulation 160/06, *O. Reg. 160/06*: *Credit Valley Conservation Authority: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation*;
- Credit Valley Conservation's Watershed Planning and Regulation Policies (CVC 2010);
- Credit River Subwatershed Natural Heritage System Strategy (2015); and
- Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSEI et al. 2009).

2.1.1 Federal Fisheries Act

The Department of Fisheries and Oceans Canada (DFO) administers the federal Fisheries Act, which defines fish habitat as "*spawning grounds and other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes*" (subsection (2)1). The *Fisheries Act* prohibits the death of fish by means other than fishing (subsection 34.4 (1)) and the harmful alteration, disruption, or destruction of fish habitat (HADD; subsection 35. (1)). A HADD is defined as "*any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat's capacity to support one or more life processes*" (DFO 2019a).

Some projects may be eligible for exemption from the DFO review process, as specified under Step 3 of the DFO Fish and Fish Habitat Protection Program review process (DFO 2019b; e.g., clear-span bridges and bridge maintenance projects where DFO mitigation measures are applied, artificial waterbodies with no hydrological connection to occupied fish habitat, and projects that follow the Standards and Codes of Practice defined by DFO). All other projects or activities that have the potential to impact fish or fish habitat should be

submitted to DFO through the “Request for Review” process. DFO will review the proposed project to determine whether there is potential to (1) impact an aquatic species at risk (SAR), (2) cause the death of fish or (3) result in HADD of fish habitat. The death of fish by means other than fishing or a HADD of fish habitat can be authorized by DFO under paragraphs 34.4(2)(b) or 35(2)(b) of the *Fisheries Act*. Authorizations require the preparation and submission of an application package identifying the impacts on fish and fish habitat as well as the avoidance, mitigation and offsetting measures that will be implemented as well as any monitoring that is proposed.

2.1.2 Migratory Birds Convention Act

This federal legislation prohibits killing, capturing, injuring, taking, or disturbing of the listed migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests of the listed species. In its application, it requires best management practices to detect and avoid disturbance to active nests during development activities.

2.1.3 Provincial Endangered Species Act

The provincial ESA (2007; Consolidated 2020) was developed to:

- Identify SAR, based upon best available science;
- Protect SAR and their habitats and to promote the recovery of SAR; and
- Promote stewardship activities that would support those protection and recovery efforts.

The ESA protects all threatened, endangered, and extirpated species listed on the Species at Risk in Ontario (SARO) list. These species are legally protected from harm or harassment and their associated habitats are legally protected from damage or destruction, as defined under the ESA.

2.1.4 Planning Act and Provincial Policy Statement

The 2020 PPS is created under the authority of the *Planning Act* and provides direction on matters of provincial interest related to land use planning and development and “…*supports a comprehensive, integrated and long-term approach to planning*…”. The PPS is to be read in its entirety and land use planners and decision-makers need to consider all relevant policies and how they work together when reviewing development applications.

Eight types of significant natural heritage features or areas are defined in the PPS, as follows:

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat (SWH);

- Fish habitat;
- Habitat of endangered and threatened species; and
- Significant areas of natural and scientific interest (ANSIs).

The PPS indicates that development and site alteration shall not be permitted in significant wetlands, or in significant coastal wetlands. Development and site alteration shall not be permitted in significant woodlands, significant valleylands, SWH or significant ANSIs, unless it is demonstrated that there will be no negative impacts on the natural features or their ecological functions.

The PPS indicates that development and site alteration shall not be permitted in the habitat of endangered and threatened species or in fish habitat, except in accordance with provincial and federal requirements.

The PPS indicates that development and site alteration may be permitted on lands adjacent to the above features provided it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.1.5 Region of Peel Official Plan

On January 1, 2010, the Ninth Line Lands were brought under the jurisdiction of the City of Mississauga and the Region of Peel as part of a restructuring process for municipal boundary realignment. Through Regional Official Plan Amendment (ROPA) 33 the proposed expansion of the Regional Urban Boundary of the City of Mississauga brought the Ninth Line Lands (350 ha) into conformity with the Region of Peel Official Plan to guide future development. ROPA 33 was adopted by Peel Council on March 12, 2020, and was approved by the Province on October 20, 2020.

As per ROPA 33, the Ninth Line Lands are considered a Greenfield Expansion Area but are addressed as an intensification area in the context of growth management planning under the Official Plan. As such, the Ninth Line Lands have been identified as a Designated Greenfield Area (Schedule D4) through the Municipal Comprehensive Review process. Density targets within Designated Greenfield Areas should exceed 50 persons and jobs per hectare combined. Designated Greenfield Areas are required to accommodate forecasted growth for urban nodes and corridors of high-density development as per Section 5.5.4.2.5 of the Region of Peel Official Plan.

The Region of Peel Official Plan (2018 Consolidation) identifies a Greenlands System (Schedule A), made up of Core Areas, Natural Areas and Corridors and Potential Natural Areas and Corridors. ROPA 33 identifies “New Core Areas of the Greenlands System” including the woodlands south of Derry Road at Ninth Line and southwest of Erin Centre Boulevard to be included in Schedule A (Core Areas of the Greenlands System in Peel) of the Region of Peel Official Plan (2018 Consolidation). It is the intent of Regional Council for the policies in the Region of Peel Official Plan Section 2.3.2.6 to apply to these lands.

The Greenlands System generally consists of the following types of features:

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

The Region of Peel Official Plan indicates that "*core areas represent provincially and regionally significant features and areas and are considered a sub-set of what would be significant under the PPS*" and includes:

- Significant Wetlands;
- Significant Coastal Wetlands;
- Core Woodlands;
- Environmentally Sensitive or Significant Areas;
- Provincial Life Science ANSIs;
- Significant Habitats of Threatened or Endangered Species;
- Escarpment Natural Areas of the Niagara Escarpment Plan; and
- Core Valley and Stream Corridors, which includes major watercourses as well as other tributaries that contain habitat of aquatic endangered or threatened aquatic species.

Section 2.3.2.6 of the Region of Peel Official Plan (2018 Consolidation) prohibits development and site alteration within Core Areas of the Greenlands System with the exception of forest, fish and wildlife management, conservation and flood or erosion control projects, essential infrastructure, passive recreation, minor development and minor site alteration, existing uses, buildings or structures, expansions to existing buildings or structures, accessory uses, building or structures or new single family residential dwellings on an existing lot of record. Minor development and minor site alteration are defined as development or site alteration,

"*which due to its scale or intensity, can demonstrate no significant incremental or cumulative impacts on the landform, features or ecological functions of the Greenlands System in Peel.*"

2.1.6 City of Mississauga Official Plan

The City of Mississauga Official Plan (2021 Consolidation) was officially adopted by City Council on September 29, 2010. The Region of Peel granted partial approval on September 22, 2011, and the Official Plan came into partial effect on November 14, 2012. Further amendments have been made to the Mississauga Official Plan to reflect Council-approved Official Plan amendments, with the most recent office consolidation released on April 8, 2021.

Schedule 10 (Land Use Designations) of the Official Plan identifies the Subject Lands as a Residential Medium Density area in which all forms of townhouse dwellings are permitted. The adjacent woodland owned by the City of Mississauga is illustrated as Greenland (Schedule 10; Section 6.3.27) and forms a component of the Green System (Schedule 1a). Lands designated as Greenlands are generally associated with natural areas where development is restricted to provide protection to the NHS.

Section 6.3.9 of the Mississauga Official Plan identifies the following natural heritage features as being part of the NHS:

- Significant Natural Areas;
    - Provincially or regionally significant ANSIs;
    - Environmentally sensitive or significant areas;
    - Habitat of endangered or threatened species;
    - Fish habitat;
    - Significant wildlife habitat;
    - Significant woodlands;
    - Significant wetlands; and
    - Significant valleylands;
- Natural Green Spaces;
- Special Management Areas;
- Residential Woodlands; and
- Linkages.

Section 6.3.29 of the Official Plan states that an EIS will be required should any development or site alteration be proposed adjacent to provincially significant wetlands (PSWs), provincially significant coastal wetlands, habitats of endangered or threatened species, or other Significant Natural Areas to demonstrate no negative impact to the features and their associated functions. The Official Plan notes that, should they be required, setbacks and vegetated buffer zones from these natural heritage features will be determined at the EIS planning stage.

Section 6.3.32 of the Official Plan notes that development and site alteration "*will not be permitted within or adjacent to Natural Green Spaces, Linkages and Special Management*

Areas" unless demonstration of no negative impact to the features has been identified through an EIS. Natural Green Spaces are identified based on criteria that do not fulfil the requirements of significance (i.e., should a wetland not be deemed significant, it is still considered a Natural Green Space). Special Management Areas are lands adjacent to, or within close proximity to, Significant Natural Areas or Natural Green Spaces. The purpose of these areas is to enhance and restore natural functions in support of the Significant Natural Area or Natural Green Space. Residential Woodlands are described as plots of land containing mature trees that form a "*continuous canopy and minimal native understory due to maintenance of lawns and landscaping*"; these are usually found within older residential neighbourhoods. Finally, Linkages are defined as areas that maintain the biodiversity and ecological functions of Significant Natural Areas and Natural Green Spaces but are not defined as one of these features. As per Schedule 3 (Natural Heritage System), no components of the currently mapped NHS overlap with the Subject Lands.

Mississauga Official Plan Amendment 90 (MOPA 90) came into effect on August 1, 2018, to create a new Neighbourhood Character Area for the Ninth Line Lands and remove the Special Study Area designation. Through this amendment, the Subject Lands were designated as Residential Medium Density. Through MOPA 90, the Subject Lands were designated as a component of Precinct 5 (Community Park/Residential Area; Section 16.20.3.5). Development within this area will consist of a mixture of housing forms (e.g., townhouses, mid-rise apartments), and facilities to service residents and the broader community.

Schedule 10 (Land Use Designations of Mississauga Official Plan) of MOPA 90 designates the Subject Lands as primarily Residential Medium Density with adjacent Greenlands to the northwest and Parkway Belt West lands (Schedule 4-Parks and Open Spaces of Mississauga Official Plan) as well as the Natural Hazard lands to the southwest.

2.1.7 Credit Valley Conservation Authority

CVC reviews planning application submissions associated with future development of properties within its jurisdictional boundaries. In addition, CVC provides planning and technical advice to planning authorities through Memoranda of Understanding to assist them in fulfilling their responsibilities regarding natural hazards, natural heritage, and other relevant policy areas pursuant to the *Planning Act*, as both a watershed-based resource management agency and through planning advisory services, in addition to their regulatory responsibilities.

CVC was a member of the Technical Advisory Committee during the preparation of the Ninth Line SWS and had input into the creation of the NHS and management recommendations. CVC staff have also reviewed and provided comment on the Ninth Line Secondary Plan.

CVC administers the Development, Interference with Wetlands, Alterations to Shorelines and Watercourses regulation, under Ontario Regulation (O. Reg.) 160/06. This Regulation defines the areas of interest that allow CVC to:

- Prohibit, regulate, or provide permission for straightening, changing, diverting, or interfering in any way with the existing channel of a river, creek, stream, watercourse or changing or interfering with a wetland; and

- Prohibit, regulate, or provide permission for development if the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land may be affected by the development.

CVC also provides guidance for development through their Watershed and Planning Regulation Policies (2010). This document outlines restrictions to development in order to protect natural areas and features. Per these policies, the exact limits of woodlands will be determined through site-specific field investigations and confirmed to the satisfaction of CVC and the associated planning authority, as appropriate. CVC recommends a minimum setback of 10 m from the dripline of significant woodlands.

2.1.8 Credit River Subwatershed Natural Heritage System

The Credit River Watershed Natural Heritage System Strategy (CVC 2015) outlines a comprehensive approach to defining a Credit River Watershed Natural Heritage System (CRWNHS) aimed at strategically improving connectivity and resilience. Under the System Strategy Phase 3 report (CVC 2015), the Credit River Watershed is defined as all lands within the Credit River Watershed within CVC's jurisdiction, as well as the watersheds of smaller creeks flowing directly into Lake Ontario.

The Subject Lands occur within the South Slope physiographic region of the Lower Watershed of the Credit River and are subject to the policies of the Credit River Subwatershed Natural Heritage System Strategy (CVC 2015). The Lower Watershed is characterized by increased runoff and surficial soils with lower infiltration rates than the upper portions of the watershed. As such, provincial direction through the Greenbelt Plan and the Growth Plan for the Greater Golden Horseshoe has directed urban development to the Lower Watershed to prevent urban sprawl in higher functioning areas. Natural cover within the Lower Watershed is approximately 16%, as compared to 42% and 45% in the Upper and Middle Watersheds, respectively, and woodland cover is 8% (Upper and Middle Watershed at 27% and 36%, respectively). Natural features within the watershed have been increasingly isolated through the urbanized landscape and remaining features are affected by stressors associated with adjacent development (CVC 2015). The Subject Lands consist of urban cover types while the adjacent woodland is characterized as a high functioning component of the CRWNHS essential for maintaining biodiversity and the ecological function of the watershed.

2.1.9 Peel Caledon Significant Woodlands and Significant Wildlife Habitat Study

The Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSEI et al. 2009) provides a comprehensive analysis of defining criteria and thresholds for the identification of significant woodlands and SWH. As per the Phase 1 SWS (Amec 2015), recommendations from the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSEI et al. 2009) should be considered in the context of the Regional Official Plan (2018 Consolidation) as part of the natural heritage policy review. This recommendation was not carried forward in subsequent phases of the SWS or included in the CEIIS TOR (NRSI 2020).

Natural feature significance will be assessed, and the process of evaluation described, along with the results, in accordance with provincial and municipal criteria. This includes habitats for significant species in accordance with the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (MNRF 2015), and the Peel-Caledon Significant Woodland and Significant Wildlife Habitat Study (NSEI et al. 2009). However, where the Peel-Caledon Significant Woodland and Significant Wildlife Habitat Study (NSEI et al. 2009) defers to the Significant Wildlife Habitat Technical Guide (MNR 2000), it is recommended that the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (MNRF 2015) be referenced instead, as the Significant Wildlife Habitat Technical Guide (MNR 2000) is no longer current, per direction provided by Conservation Halton (CH). In addition, as the thresholds identified within the Peel-Caledon Significant Woodland and Significant Wildlife Habitat Study (NSEI et al. 2009) have not been adopted as policy in the Region of Peel Official Plan (2018 Consolidation), should there be a conflict in significance assessment for a designated criteria between the Peel-Caledon Significant Woodland and Significant Wildlife Habitat Study (NSEI et al. 2009), and the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (MNRF 2015), the determination of the latter document will apply to that designated criteria. Where insufficient information is available to suggest a threshold, it is recommended that the Region of Peel and Town of Caledon defer to the Significant Wildlife Habitat Technical Guide (MNR 2000), as this document served as a foundation for the Peel-Caledon Study (NSEI et al. 2009).

Therefore, although the analysis of natural heritage and ecological significance provided herein considers feature significance in the context of the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSEI et al. 2009), the ultimate designation of natural features will rely on the SWH Ecoregion 7E Criterion Schedule (MNRF 2015).

3. Data Collection Approach & Methods

3.1 Background Information Review

GEI relied, in part, on supporting background information from government agencies and existing studies completed by others to provide insight into the overall character of the Subject Lands. Examples of these resources include:

- Natural Areas Survey (City of Mississauga 2011);
- Ministry of Natural Resources and Forestry (MNRF) Land Information Ontario (LIO) Natural Features Mapping;
- Natural Heritage Information Centre (NHIC) database (MNRF 2021);
- Provincial wildlife atlases (i.e., Ontario Breeding Bird Atlas, etc.);
- DFO Aquatic Species at Risk Distribution Mapping (2021);
- Ninth Line Lands Scoped SWS Phase 1: Background Report Study Area Characterization (Amec 2015);
- Ninth Line Lands Scoped SWS Phase 2: Impact Assessment and Management Strategy (Amec 2017);
- Ninth Line Lands Scoped SWS Phase 3: Implementation and Monitoring Plan (Wood 2020); and,
- The 5150 Ninth Line Scoped EIS (GEI 2021).

Results of the Ninth Line SWS (Amec 2015; Amec 2017; Wood 2020) reports as well as ecological field investigations completed on the adjacent lands (i.e., 5150 Ninth Line) are discussed in **Section 3.2** to supplement the results of ecological investigations conducted on the Subject Lands. Data available from the various agencies databases, atlases and existing studies are summarized in the following sections and are provided and shown only as a point of reference. These data assisted in defining the target species, habitat, and survey effort of the ecological field program.

GEI also completed field investigations within and adjacent to the Subject Lands on November 1, 2021, and July 21, 2022 in order to confirm the onsite existing conditions and assess the condition of the adjacent woodland.

3.1.1 Natural Areas Survey

As per the Natural Areas Survey (City of Mississauga 2011) mapping, no natural areas, residential woodlands, special management areas or linkages, as defined by the City of Mississauga Official Plan (2021 Consolidation), occur on or within 120 m of the Subject Lands. As part of the Natural Areas Survey (City of Mississauga 2011), ecological field investigations were conducted in Wards 5, 6 and 11 where lands were in public ownership. As the Subject

Lands occur within Ward 10 of the City of Mississauga, no ecological field investigations as part of the City of Mississauga Natural Area surveys were undertaken within or immediately adjacent to the Subject Lands.

3.1.2 Land Information Ontario Natural Features Results

Based on the MNRF LIO geographic database, no natural heritage features are present on the Subject Lands (**Figure 2**, **Appendix A**).

The woodland located northwest of the Subject Lands is approximately 5 ha in size and satisfies the minimum size threshold for significance, as defined by the City of Mississauga Official Plan (2021 Consolidation). The woodland feature was characterized as a deciduous forest community (i.e., FOD5) with inclusions of deciduous swamp (SWD2-2) in the Ninth Line Scoped SWS (Amec 2015). This feature shall be retained as a component of the NHS in accordance with the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020) and is recommended to be protected through the application of a woodland buffer. The application of reduced woodland buffer shall be considered herein; through an examination of the existing conditions, consideration of potential impacts and application of mitigation measures.

3.1.3 NHIC Database Results

The NHIC (MNRF 2021) database was searched for records of SAR, provincially rare species (S1 to S3), and rare vegetation communities on, and in the vicinity of, the Subject Lands. The database provides occurrence data by 1 km x 1 km squares, with one square overlapping the Subject Lands (17PJ0121) and one square occurring within 120 m of the Subject Lands boundary (17PJ0221). It should also be noted that the NHIC (MNRF 2021) database does not provide observation dates, therefore, some records may be 'Historical' (greater than 50 years old) and may be unlikely to occur within the urbanized landscape of the City of Mississauga. Within these squares, the search revealed two species records: Henslow's Sparrow (*Ammodramus henslowii*; S1B) listed as Endangered on the SARO list, and Bobolink (*Dolichonyx oryziorus*) listed as Threatened on the SARO list. Of these, only Bobolink occurred within the square overlapping the Subject Lands. Preferred habitat for these species was not identified on the Subject Lands based on a preliminary review of aerial imagery and previous studies completed on and adjacent to the Subject Lands.

A summary of the results of the NHIC records for the vicinity of the Subject Lands are provided in **Table 1** (**Appendix B**).

3.1.4 Ontario Breeding Bird Atlas Results

The Ontario Breeding Bird Atlas Data Summary: 2001–2005 (BSC 2006) contains detailed information on the population and distribution status of birds in Ontario. The database provides occurrence data by 10 km x 10 km squares with one square overlapping a portion of the Subject Lands (17PJ02). It should be noted that the Subject Lands are a small component of the overall bird atlas square, and therefore it is unlikely that all bird species previously recorded within the atlas square are found within the Subject Lands. Habitat type, availability and size are all contributing factors in bird species presence and use.

In total, 84 bird species were recorded in atlas square 17PJ02, with the following species of interest noted:

- Species listed as Threatened on the SARO List:
  - Bank Swallow (*Riparia riparia*);
  - Barn Swallow (*Hirundo rustica*);
  - Bobolink (*Dolichonyx oryzivorus*);
  - Chimney Swift (*Chaetura pelagica*); and
  - Eastern Meadowlark (*Sturnella magna*).
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):
  - Common Nighthawk (*Chordeiles minor*) – Special Concern in Ontario;
  - Eastern Wood-Pewee (*Sturnella magna*) – Special Concern in Ontario;
  - Peregrine Falcon (*Falco peregrinus*) – Special Concern in Ontario; and
  - Wood Thrush (*Hylocichla mustelina*) – Special Concern in Ontario.

A summary of the SAR and Species of Conservation Concern records identified through the Ontario Breeding Bird Atlas within the vicinity of the Subject Lands are provided in **Table 2** (**Appendix B**).

3.1.5 Ontario Reptile and Amphibian Atlas Results

The Ontario Reptile and Amphibian Atlas (Ontario Nature 2020) contains detailed information on the population and distribution status of reptiles and amphibians in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Subject Lands are located within the atlas square 17PJ02, which was used to determine a potential reptile and amphibian species list for the area.

In total, 25 reptile and amphibian species were recorded in atlas square 17PJ02, including five turtle species, six snake species, eight frog and toad species, and six salamander species. The following species of interest were noted:

- Species listed as Threatened or Endangered on the SARO List:
  - Blanding's Turtle (*Emydoidea blandingii*) – Threatened; and
  - Jefferson Salamander (*Ambystoma jeffersonianum*) – Endangered.
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):
  - Northern Map Turtle (*Graptemys geographica*) – Special Concern; and
  - Snapping Turtle (*Chelydra serpentina*) – Special Concern.

The Study Area is a small component of the overall atlas square, and therefore all the reptile and amphibian species listed for this atlas square may not be found within the Study Area. Habitat type, availability, and size are all contributing factors to reptile and amphibian species presence and use. It should also be noted that some of these occurrences have not been

recorded in over a decade suggesting that these species may not be found within these areas presently (e.g., Jefferson Salamander was last recorded in 2004). A summary of the SAR and Species of Conservation Concern records identified through the Ontario Reptile and Amphibian Atlas within the vicinity of the Subject Lands are provided in **Table 3** (**Appendix B**).

3.1.6 Ontario Butterfly and Moth Atlas Results

The Ontario Butterfly and Moth Atlases (Toronto Entomologists' Association 2021a, 2021b) contain detailed information on the population and distribution status of butterflies and moths in Ontario. The database provides occurrence data by 10 km x 10 km squares with one square overlapping a portion of the Subject Lands (17PJ02). It should be noted that the Subject Lands are a small component of the overall atlas square, and therefore it is unlikely that all butterfly and moth species previously recorded in the atlas square are found within the Subject Lands. Habitat type, availability and size are all contributing factors in butterfly and moth species presence and use.

In total, 122 species were recorded in the atlas square that overlaps with the Subject Lands, of which 62 are butterfly species and 60 are moth species. Of these species, one species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species) was noted: Monarch (*Danaus plexippus*) ranked Special Concern in Ontario and Endangered in Canada. A summary of the Species of Conservation Concern records identified through the Ontario Butterfly and Moth Atlases within the vicinity of the Subject Lands are provided in **Table 4** (**Appendix B**).

3.1.7 Aquatic SAR Distribution Mapping Results

The DFO Aquatic Species at Risk Map (2021) was reviewed to identify any known occurrences of aquatic SAR, including fish and mussels, within the subwatershed where the Subject Lands are located. No aquatic SAR were identified on or within 120 m of the Subject Lands.

3.1.8 eBird Results

The eBird (2021) database is a large citizen science-based project with a goal to gather bird diversity information in the form of checklists of birds, archive it, and share it to power new data-driven approaches to science, conservation, and education. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

In total, nine bird species were observed in the closest hotspot of activity, which was located 693 m northeast of the Subject Lands within Marco Muzzo Memorial Woods and Park. No species listed as Threatened or Endangered on the SARO list were recorded and no Species of Conservation Concern (i.e., listed as Special Concern on the SARO list or identified as an S1-S3 species) were identified.

3.1.9 iNaturalist Results

The iNaturalist (2021) database is a large citizen science-based identification and data collection application. It allows any citizen to submit observations to be reviewed and identified by other naturalists and scientists to help provide accurate species observations. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

No species listed as Threatened or Endangered on the SARO list were recorded and no Species of Conservation Concern (i.e., listed as Special Concern on the SARO list or identified as an S1-S3 species) were identified.

3.2 Background Studies

As per the CEIIS TOR (NRSI 2020), the Ninth Line Lands Scoped SWS (Amec 2015, Amec 2017, Wood 2020) and Transitway Environmental Assessment (MTO 2020) should be used as background resources to guide area-specific assessments of survey effort. Background information available through previous fieldwork conducted on, and adjacent to, the Subject Lands as part of the Phase 1 SWS (Amec 2015) and the 5150 Ninth Line Site Plan application is discussed in the following sections. As applicable, background data has been supplemented with targeted field investigations conducted on the Subject Lands to verify current ecological conditions and assess the Subject Lands in a landscape context (**Section 4.0**). Where study requirements defined through the CEIIS TOR (NRSI 2020) were fulfilled through previous ecological field investigations on or adjacent to the Subject Lands, additional survey effort was not proposed on the Subject Lands.

Supplementary ecological field investigations (e.g., benthic surveys, fish community sampling, local water quality monitoring, fish, and aquatic habitat assessments) were not conducted within the larger study block (i.e., Block 3) due to access restrictions and/or a lack of suitable habitat. Therefore, data obtained through background studies and the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020) was reviewed to assess the Subject Lands in a landscape context. Where applicable, the locations of surveys are provided on **Figure 3a**, **Attachment A**.

3.2.1 Ninth Line Scoped Subwatershed Study

Vegetation

High-level data regarding the delineation of vegetation communities within the Ninth Line Study Area is provided through the Ninth Line Corridor Study (NSEI 2012) and the Phase 1 SWS (Amec 2015). Based on a desktop review and scoped field verification completed in support of these studies, the Subject Lands were characterized as a mixture of anthropogenic and manicured areas surrounded by cultural meadow, open aquatic habitat and a Dry-Fresh Sugar Maple Deciduous Forest (FOD5) with two Green Ash Mineral Deciduous Swamp (SWD2-2) inclusions (Map 2c; Amec 2015). No natural vegetation communities were identified on the subject property (Refer to **Figure 3a, Appendix A**).

Botanical inventories conducted as part of the Ninth Line Corridor Study (NSEI 2012) identified a total of 189 species of vascular plants within the Ninth Line Study Area. Subsequent inventories conducted through the Phase 1 SWS (Amec 2015) documented 215 vascular plant species. One provincially significant plant species (S2 - imperiled; NHIC 2021) was identified south of Britannia Road (i.e., Block 3) through the Phase 1 SWS (Amec 2015): Kentucky Coffee-tree (*Gymnocladus dioicus*), ranked Threatened in Ontario and Canada. Based on discussions held with MNRF as part of the Phase 1 SWS (Amec 2015), it was determined that this species was planted and occurred far outside of its natural range. A total of 17 regionally rare plant species were observed, as per the Peel and Halton Region rarity rankings (Varga 2005).

Updated vegetation surveys were completed for the 5160-5170 Ninth Line Subject Lands, refer to **Section 4.4** below. None of the aforementioned provincially or regionally rare plants were identified within the 5160-5170 Subject Lands.

Breeding Birds

Terrestrial field studies were completed in 2014 as part of the Ninth Line Scoped SWS Phase 1: Background Report Study Area Characterization (Amec 2015). The Phase 1 report sought to provide a high-level characterization of existing conditions across the Ninth Line Lands Study Area, therefore site-specific field data with regards to the Subject Lands was limited within the report.

Five breeding bird stations (BMB-014, BMB-015, BMB-016, BMB-017 and BMB-018) and three nocturnal bird monitoring stations (NOC-007, NOC-008 and NOC-009) were surveyed on the Block 3 lands on June 4, June 20 and July 2, 2014 as part of the Phase 1 SWS (Map 3c; Amec 2015). The locations of these surveys in proximity to the Subject Lands are illustrated on **Figure 3a** (**Appendix A**). Two species listed as Species of Conservation Concern (i.e., listed as Special Concern on the SARO list, or identified as an S1-S3 species) were identified within the woodland located adjacent to the Subject Lands (i.e., BMB-017): Eastern Wood-Pewee and Wood Thrush.

Herpetofauna

Visual encounter surveys for reptile species were conducted on May 12, June 4, and August 29, 2014, in support of the Phase 1 Ninth Line Scoped SWS (Amec 2015). Within the Ninth Line Lands Study Area, one Eastern Gartersnake (*Thamnophis sirtalis*) was observed within a meadow community, although no candidate overwintering sites were identified on the Subject Lands. No turtle species were observed within the Block 3 lands through the Phase 1 SWS (Amec 2015) and no herpetofauna species were documented within the Study Area through the Ninth Line Corridor Study (NSEI 2012).

Amphibians

Three anuran calling stations (ANR-006, ANR-007 and ANR-008) were surveyed on the Block 3 lands on April 24, May 22, and June 26, 2014. The locations of these surveys in proximity to the Subject Lands are illustrated on **Figure 3a** (**Appendix A**). Although a total of five amphibian species were recorded during ecological field investigations (i.e., Northern Green Frog - *Lithobates clamitans*; Spring Peeper - *Pseudacris crucifer*; Gray Treefrog - *Hyla versicolor*; American Bullfrog - *Lithobates catesbeiana*; and Northern Leopard Frog - *Lithobates pipiens*), overall numbers of calling amphibians were observed to be low (Call Code 1) with no more than three amphibians heard calling simultaneously. Both American Bullfrog and Northern Leopard Frog were observed incidentally within the Study Area, therefore, the locations of these observations were not specified. No amphibian call stations were surveyed on the Subject Lands; however, surveys were conducted within the adjacent woodland (i.e., ANR-008). No amphibian species were detected at ANR-006.

Bat Habitat

Candidate Bat Maternity Colonies were confirmed within the woodland community adjacent to the Subject Lands (Refer to **Figure 3a**, **Appendix A**) through cavity assessments and may provide suitable habitat for Little Brown Myotis (*Myotis lucifugus*). Little Brown Myotis is listed as Endangered on the SARO list; as such, individuals and their habitat are protected under the provincial ESA. Should development within SAR habitat be proposed, it is recommended that additional consultation be undertaken with the Ministry of Environment, Conservation and Parks in order to ensure compliance with the ESA (Consolidated 2020).

3.2.2 5150 Ninth Line Scoped Environmental Impact Study

5150 Ninth Line is immediately adjacent the Subject Lands and Natural Heritage features surveys as part of this Project are also associated with the 5160-5170 Ninth Line Subject Lands (Refer to **Figure 3a**, **Appendix A**). Therefore, given the close proximity of the two Subject Lands, it was deemed unnecessary to repeat the ecological investigations completed for the 5150 Ninth Line Scoped EIS for this EIS. The relevant results of these previously ecological field investigations will be summarized herein.

Field investigations within 5150 Ninth Scoped EIS Study Area were conducted in 2019. Surveys completed included a headwater drainage feature assessment, a three-season botanical inventory, Ecological Land Classification (ELC), a bat habitat assessment, snake visual encounter surveys, turtle basking surveys, breeding amphibian surveys, breeding bird surveys, nest search and incidental wildlife observations. As the 5150 Ninth Line lands occur within 120 m of the Subject Lands, the results of these surveys are presented in the following sections to inform the overall characterization of the Subject Lands.

Vegetation

Vegetation assessments were completed on the 5150 Ninth Line property on June 12, June 27, and August 20, 2019. Vegetation communities consisted of three vegetation cover types (Refer to **Figure 3a**, **Appendix A**):

- anthropogenic areas including a residence, barn, commercial building, lawns, and landscaped areas;
- mixed meadow and agricultural areas associated with livestock pasture; and,
- three farm ponds.

Meadow, anthropogenic and open aquatic feature types were the result of historical and ongoing disturbances (i.e., farming practices). The majority of the site was composed of agricultural fields and anthropogenic mixed meadows. The only locations where natural vegetation cover was present were three small farm ponds where wetland vegetation had developed.

Botanical inventories (i.e., spring, summer, and fall) completed on the property identified a total of 95 species of vascular plants. Of that number, 41 (or 43%) were native and 54 (or 57%) were exotic. None of the species observed on the property were listed as SAR, and none had a co-efficient of conservation value of 9 or 10. Four locally uncommon or rare plants were observed, as per the Peel Region rarity rankings (Varga 2005):

- Red Cedar (*Juniperus virginiana var. virginiana*; R5);
- White Spruce (*Picea glauca*; R3);
- Blunt Spike-rush (*Eleocharis obtusa*; U); and
- Northern Manna Grass (*Glyceria borealis*; R4).

Both Red Cedar and White Spruce are cultivars and do not naturally occur on the landscape. Blunt Spike-rush and Northern Manna Grass are obligate wetland species and would not be expected to occur outside of this habitat type. None of these species are considered rare in Ontario and Canada.

Updated vegetation surveys were completed for the 5160-5170 Ninth Line Subject Lands, refer to **Section 4.4** below. None of the aforementioned regionally rare plants were identified within the 5160-5170 Subject Lands.

Breeding Birds

A single point station was established at 5150 Ninth Line (Refer to **Figure 3a**, **Appendix A**) - it was situated to best represent the various habitat types and was combined with area searches to help determine the presence, variety, and abundance of bird species. The point-count station was surveyed for 10 minutes for birds within 100 m and outside 100 m.

In total, 22 bird species were observed on, and adjacent to, the 5150 Ninth Line lands. Of this total, five species were confirmed, five were probable and nine were possible breeders. All species are provincially ranked S5 (common and secure), S4 (apparently common and secure) or SNA (species not native to Ontario). No bird species breeding on the property were considered provincially rare (S1-S3; NHIC 2021).

One Eastern Wood-Pewee was heard calling from suitable breeding habitat within the adjacent woodland during both survey rounds. This species is a Species of Conservation Concern (i.e., listed as Special Concern on the SARO list, or identified as an S1-S3 species).

Probable breeding evidence for Barn Swallow, listed as Threatened in Ontario and Canada, was identified on property in the vicinity of an existing barn structure. A Replacement Habitat Structure was erected on the 5150 Ninth Line property in March 2020, within 1 km of the original structure and within 200 m of suitable foraging habitat, to facilitate removal of the barn in compliance with O. Reg 242/08, Section 23.5, Subsection 6.

Herpetofauna

Visual encounter surveys for snakes and turtles were conducted on the property on April 25 and May 24, 2019, to capture the spring emergence period (i.e., late-April to mid-May). Refer to **Figure 3a**, **Appendix A**. No snakes were detected on site, and no turtles or evidence of turtle nesting was observed.

Amphibians

A total of four amphibian calling stations were established at 5150 Ninth Line (Refer to **Figure 3a**, **Appendix A**). Three rounds of evening amphibian call surveys (AMC) were conducted on April 25, May 15, and June 18, 2019. These surveys followed standard protocols outlined in the Great Lakes Marsh Monitoring Program (BSC 2003).

A cumulative total of two amphibian species was recorded in association with the artificial ponds located on the 5150 Ninth Line property: Northern Green Frog and Gray Treefrog. Features supported low numbers of calling amphibians and all the amphibian species recorded were provincially ranked S5 (common and secure) or S4 (apparently common and secure). Call counts targeting the adjacent woodland community documented the presence of five Gray Treefrogs and 12 Northern Green Frogs over the course of three survey rounds.

Bat Habitat

A bat habitat assessment was completed within 5150 Ninth Line and in the adjacent City woodlot on May 3, 2019, using survey methods developed based on a combination of professional experience and a modified application of the MNRF survey guidelines for “Bats and Bat Habitats: Guidelines for Wind Power Projects” (MNR 2011) and “MNRF Survey Protocol for Species at Risk Bats within Treed Habitats: Little Brown Myotis, Northern Myotis and Tri-Coloured Bat” (MNRF 2017). The adjacent City woodlot was assessed from the fence line to a depth of approximately 6 m.

The Significant Wildlife Habitat Criteria Schedules (MNRF 2015) consider deciduous forests, mixed forests and swamps (i.e., ELC communities: FOD, FOM, SWD, SWM), which include trees at least 25 cm diameter-at-breast-height (DBH), suitable bat maternity colony habitat. The Survey Protocol for Species at Risk Bats (MNRF 2017) states that any coniferous, deciduous or mixed wooded ecosites, including treed swamps, which includes trees at least 10 cm DBH should be considered suitable maternity roost habitat for SAR.

Suitable roosting tree densities to support candidate bat maternity roost habitat were identified within the adjacent woodland (FOD5). The woodland is owned by the City of Mississauga and will be retained and protected post-development, therefore targeted acoustic surveys to

confirm the presence of bats were not required. No SWH or habitat for SAR bats was identified on the 5150 Ninth Line property.

Headwater Drainage Feature Assessment

Potential headwater drainage features were assessed using the Credit Valley Conservation/Toronto Region and Conservation Authority (CVC/TRCA) 2014 "Evaluation, Classification and Management of Headwater Drainage Features Guidelines." No headwater drainage features connecting to the Subject Lands were observed.

Incidental Wildlife Observations

One Species of Conservation Concern was identified incidentally through surveys conducted on the 5150 Ninth Line lands: Monarch, ranked Special Concern in Ontario and Endangered in Canada. Two Monarchs were observed along the western extent of the property where populations of Common Milkweed (*Asclepias syriaca*), which functions as a host breeding plant for Monarch, were observed. Given that Monarchs were only observed on the property during the primary migration season (August to early November), it is expected that the site is predominantly used as a resting/feeding area for migrant Monarchs.

3.3 Technical Methods and Field Studies

Guidelines for the collection of ecological baseline data within each block were developed within the CEIIS TOR (NSRI 2020) based on input provided by the City of Mississauga, CH and CVC. Recommended ecological field studies included the following:

- Three-season vegetation inventory;
- Refinement of ELC mapping provided in the Scoped SWS;
- Breeding bird surveys. If applicable, additional bird surveys to address SWH will need to be completed based on available habitat types (e.g., waterfowl surveys, raptor surveys, colonial nesting bird surveys, marsh bird breeding surveys, open country bird breeding surveys, shrub/early successional bird breeding surveys);
- Herpetofauna;
    - Anuran call surveys in suitable wetlands and vernal pools;
    - Egg mass surveys in suitable wetlands and vernal pools; and
    - Surveys to support SWH assessments, potentially including snake emergence/convergence surveys, turtle emergence and nesting surveys based on suitable habitats present.
- Insects, including identification of habitat for SAR and SCC species and migratory stopover habitat;
- Mammals, including identification of habitat for SAR and SCC species, and bat maternity colonies;
- Fish and aquatic surveys;

    - Detailed aquatic habitat assessment to support Fish Habitat Offsetting Plans for Fisheries and Oceans Canada permits and design of the NHS with natural channel design strategies; and
    - Fish community assessments to update the Scoped SWS and support natural channel designs.
- Benthic invertebrate surveys to support water quality base line assessments and monitoring; and
- Water quality assessments, which may be done by others and integrated into the EIS.

The proposed development footprint does not extend into natural areas, therefore, only limited ecological inventories are warranted to inform the assessment of potential direct and indirect impacts of the proposed site plan. Of the recommended studies, herpetofauna, insect, bat and aquatic surveys were omitted given the absence of suitable habitat types on the Subject Lands. Furthermore, as breeding bird point-count stations on the adjacent property (i.e., 5150 Ninth Line) captured species observations within 100 m and outside 100 m of the survey station (i.e., including on the Subject Lands), no additional survey effort was recommended given the limited availability of suitable habitat types.

Ecological field investigations completed on the Subject Lands to inform the assessment of natural heritage features and functions include:

- Site Reconnaissance Survey (2021);
- Botanical Inventory (Fall 2021 and Summer 2022) and Ecological Land Classification; and
- Feature Staking (2021).

Based on a review of existing background studies and aerial imagery interpretation, limited habitat to support amphibians, breeding birds, reptiles, bats, and insects occurs on the Subject Lands, therefore no targeted surveys were proposed. Furthermore, as no natural vegetation communities were identified on the Subject Lands (i.e., with the exception of disturbed woodland edge habitat), a spring botanical inventory was not warranted.

Survey methodologies for each of the field investigations conducted by GEI through the course of this work are presented in **Section 4.0**. Dates and purposes of the fieldwork, as well as surveyor and protocol information, are summarized in **Table 5** (**Appendix B**).

4. Environmental Setting & Characteristics

Figure 2 (Appendix A) depicts the larger local landscape setting surrounding the Subject Lands. Natural features within the landscape are localized and largely confined to woodland and wetland fragments as a reflection of the urban nature of the City of Mississauga. The dominant features in terms of the potential movement of organisms, matter and energy across the landscape are associated with the Lisgar Creek Tributary of Sixteen Mile Creek located northwest of the Subject Lands. The Subject Lands occur within a Settlement Area of the City of Mississauga and are greater than 120 m from PSWs and ANSIs.

Natural features within the Ninth Line Study Area are highly disturbed by adjacent land uses and occur in close proximity to congested road networks. Wildlife movement in the vicinity of the Subject Lands is largely restricted by Highway 407 to the southwest, Highway 403 to the southeast, Ninth Line to the east and associated development surrounding of the Subject Lands.

Natural features identified within 120 m of the Subject Lands through the Ninth Line SWS (Amec 2015; Amec 2017; Wood 2020) are limited to a significant woodland, which was been delineated as a Dry-Fresh Sugar Maple Deciduous Forest (FOD5) with two Green Ash Mineral Deciduous Swamp (SWD2-2) inclusions. No other natural heritage features were identified on, or in the vicinity of, the Subject Lands based on a review of MNRF, CVC, Region of Peel and City of Mississauga mapping.

4.1 Physiography

The Subject Lands are situated within the South Slope physiographic region of southern Ontario. The South Slope is a transitional zone between the Oak Ridges Moraine and the Peel Plain physiographic regions. The area is characterized by bedrock parent material overlain by sandy silt or silty sand till deposits associated with the Halton Till formation. Bedrock is composed of a combination of shale, limestone, dolostone and siltstone. Soils are relatively impermeable with surficial despots composed of clay to silt-textured till derived from glaciolacustrine deposits or shale.

The topography of the Subject Lands is generally flat with a slight slope to the southeast. Studies conducted as part of the 5150 Ninth Line Site Plan application determined that the groundwater table occurs at depths of 4 m to 5 m or more on the Subject Lands and flows in a north-easterly direction. As a result of surficial deposits, runoff is conveyed quickly to local waterbodies (Chapman and Putnam 1984). The Subject Lands and adjacent woodland drain in a southeasterly direction to existing storm sewers along Ninth Line.

The Subject Lands also occur within the southwestern extent of the Sawmill Creek Subwatershed and are located approximately 1 km from the riparian corridor of the Lisgar Creek tributary of Sixteen Mile Creek. The Sawmill Creek Subwatershed is highly urbanized and contains fragmented patches of wetland and forest habitat (CVC 2009).

4.2 Landscape Ecology

The Study Area occurs within Lake Erie-Lake Ontario Ecoregion 7E, which extends from Windsor and Sarnia east to the Niagara Peninsula and Toronto, and includes areas of the Lake Huron, Lake Erie and Lake Ontario shorelines. Ecoregion 7E falls within the Niagara Deciduous Forest Region, an area of mild climate containing large remnants of Carolinian forests and tall-grass prairie habitat.

Consideration of the larger ecological matrix or landscape around the Study Area contributes to a better understanding of potential interactions between abiotic and biotic flows and exchanges. As depicted on **Figures 3a & 3b** (**Appendix A**), the landscape surrounding the Subject Lands is a mixture of agricultural and open space land uses, as well as residential communities located east of Ninth Line. The surrounding road networks serve as a considerable barrier to wildlife movement and include busy roads such as Highway 407, Ninth Line, Lower Baseline East and Britannia Road. Functional habitat is largely limited as a result of historic and ongoing impacts associated with anthropogenic use; however, fragmented areas of woodland, wetland and open aquatic habitats are present on the adjacent lands.

Baseline conditions within the Ninth Line Lands Study Area were characterized through the Phase 1 SWS (Amec 2015). The vegetation communities and associated wildlife present reflect, in part, the urbanized nature of the surrounding landscape and are largely impacted by adjacent land uses.

Existing conditions defined through the Ninth Line SWS (Amec 2015; Amec 2017; Wood 2020) provide an overview of the landscape context and were used to guide site-specific investigations conducted on the Subject Lands. Site Reconnaissance completed during 2021 verified community boundaries and feature types in order to assess the significance and sensitivity of natural heritage features and functions located on, and adjacent to, the Subject Lands. This information, in conjunction with the data obtained through previous ecological field investigations conducted on, and adjacent to, the Subject Lands, was used to provide an assessment of potential impacts and recommended mitigation strategies.

4.3 Site Reconnaissance

In accordance with the recommendations provided within the Pre-Consultation Checklist, GEI conducted a site reconnaissance survey with the City of Mississauga on November 1, 2021, to characterize potential natural heritage features that may occur on, or immediately adjacent to, the Subject Lands. Based on the site reconnaissance survey results, no additional survey effort was deemed necessary to characterize existing conditions. However, as a conservative measure, GEI completed an ELC and botanical inventory and a dripline staking exercise.

As well, to address comments received by the City of Mississauga in June 2022, an additional site visit to assess the vegetation and existing conditions on and adjacent to the Subject Lands was completed in July 2022.

4.4 Vegetation

4.4.1 Botanical Inventory & Ecological Land Classification Survey

GEI staff completed ELC on October 12, 2021, and July 28, 2022. The purpose of the survey was to document natural and anthropogenic vegetation features on the Subject Lands and to determine their provincial and regional significance. Vegetation communities were first identified based on aerial imagery and through a review of the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020), and then verified in the field. Vegetation community types were confirmed, sampled, and revised, if necessary, using the sampling protocol of the ELC for Southern Ontario (Lee et al. 1998) manual. ELC was completed to the finest level of resolution (Vegetation Type) where feasible. Species names generally follow nomenclature from the Flora Ontario – Integrated Botanical Information System (Newmaster and Ragupathy 2012).

The Subject Lands are represented by a tableland topographic feature which does not consist of any naturalized vegetation communities. The property known as 5160 Ninth Line, consists of a commercial building and a large, paved parking area. A narrow band of weedy vegetation persists along the eastern most boundary of 5160 Ninth Line and a small, manicured patch of grass containing street trees is present along the northern limit of 5160 Ninth Line (Refer to the Photographic Log in **Appendix B**).

Meanwhile the property known as 5170 Ninth Line is a residential property and its associated lawns, gardens, and street trees. The mowed lawn and a cleared drainage feature extend into the woodland immediately adjacent to 5170 Ninth Line (Refer to the Photographic Log in **Appendix B**).

As previously mentioned, a Dry – Fresh Sugar Maple Deciduous Forest (FOD5) that contains two Green Ash Mineral Deciduous Swamp (SWD2-2) inclusions abuts the northwestern limit of the Subject Lands. This community is also represented by a tableland topographic feature and was assessed in the field as a Dry – Fresh Sugar Maple Oak Deciduous Forest (FOD5-3). Although this woodland does not overlap the Subject Lands, the ELC boundary of the woodland has been extended to reflect the location of the staked dripline. ELC mapping of the Subject Lands is shown on **Figure 3b** (**Appendix A**). A fulsome description of the vegetation community is provided in **Table 5** (**Appendix B**). No provincially rare vegetation communities were present on or abutting the Subject Lands (NHIC, 2021).

Historical and on-going land use practices have anthropogenically disturbed the dripline and edge of this forest community. In the past, a drainage feature was installed that runs beneath the dripline of the woodland. The placement of this drainage feature has created a long linear separation of the woodland along the outermost boundary. As a result, there are a number of trees abutting the Subject Lands that are functionally similar to a hedgerow (i.e., a line of single trees), adjacent to this is the cleaned and mown drainage feature, which is followed then by the woodland edge (Refer to the Photographic Log in **Appendix B**). Other evidence of anthropogenically disturbance include the following:

- Presence of paved portions of Ninth Line located within the dripline on the northernmost limit of the woodland
- Mowing of vegetation under the dripline to the edge of the woodland which suppresses natural vegetation growth;
- Abundance of non-native and invasive species noted within the drainage feature, edge of the woodland and dominating in the ground cover and shrub layers of woodland. Some plants of concern noted included Common Buckthorn (*Rhamnus cathartica*), Reed Canary Grass (*Phalaris arundinacea var. arundinacea*), Common Timothy (*Phleum pratense ssp. pratense*), Garlic Mustard (*Alliaria petiolata*), Tartarian Honeysuckle (*Lonicera tatarica*) and Canada Thistle (*Cirsium arvense*);
- Presence of a large, cleared access route and wide trail into the woodland; and
- Abundance of garbage within the woodland.

Photographic examples of each of the above anthropogenic disturbances are available in Photographic Log in **Appendix B**). In addition to the above, some Red Oak (*Quercus rubra*) exhibited disease edge (Refer to the Photographic Log in **Appendix B**) and some White Elm (*Ulmus amereicana*) were dead.

4.4.2 Botanical Inventory

The botanical inventory completed within the Subject Lands identified only seven species of vascular plants. It should be noted that the inventory excluded planted garden plants. Of the 24 species recorded, five (21%) were native and the remaining 19 (79%) were exotic. A full species list is included in **Table 7** (**Appendix B**)**.** Of the native species present, all are ranked S5 (secure in Ontario), and no species are considered provincially or regionally rare.

Meanwhile, the botanical inventory completed within the woodland adjacent to the Subject Lands identified a total of 38 species of vascular plants. Of that number, 22 (58%) are native and 16 (42%) are exotic. A full species list is included in **Table 7** (**Appendix B**)**.** Of the native species present, all were either ranked as S5 (secure in Ontario) or S4 (apparently secure in Ontario (NHIC, 2021) and no species are considered provincially or regionally rare were recorded.

4.4.3 Invasive Species

Invasive species are those that can become (or presently are) a serious problem within a defined location. These species reproduce and spread aggressively, reducing the local biodiversity, and threatening ecological function. Depending on existing conditions, some invasive species can outcompete all other species. Urban Forest Associates (2002) provides a categorical ranking system for species known to be invasive in southern Ontario. Of the 54 species observed on the Subject Lands, four are ranked as Category 1 by Urban Forest Associates.

Category 1 species are deemed to be the most invasive and can dominate a site to exclude all other species, remaining dominant on the site indefinitely. These are a threat to natural areas wherever they occur because they have very effective reproduction and dispersal

mechanisms, allowing them to move long distances. These are regarded as a top priority for control, where eradication and follow-up monitoring are often necessary to ensure its effective removal, where sought. The four Category 1 species observed on the Subject Lands are:

- Canada Thistle
- Garlic Mustard
- Tartarian Honeysuckle
- European Buckthorn

No Priority 1 invasive flora species, as defined in the City of Mississauga Invasive Species Management Plan and Implementation Strategy (2021), were identified during the field investigations.

4.4.4 Feature Staking

Feature staking was conducted for the woodland abutting the northwestern boundary of the Subject Lands to ensure that constraints associated with the woodland are accurately represented. A preliminary feature staking exercise was completed to delineate the proposed development boundary and the extent of the feature identified on the Subject Lands. The woodland boundary was staked by a GEI botanist on October 12, 2021.

A formal dripline staking exercise was completed with the proponent, the City of Mississauga and J.D. Barnes on November 1, 2021, using a sub-meter capable GPS unit. An invitation to attend the staking exercise was also extended to CVC, however, CVC opted to defer to the City. The extent of the dripline is depicted on **Figure 4** (**Appendix A**).

As previously described, the installation of a drainage feature has created a long linear separation of the woodland along the outer most boundary. As a result, there are a number of trees abutting the Subject Lands that are functionally similar to a hedgerow (i.e., a line of single trees), adjacent to this is the cleared and mown drainage feature, which is followed then by the woodland edge (Refer to the Photographic Log in **Appendix B**). As a conservative approach, these hedgerow-like trees and portions of mown lawn were included in the dripline staking exercise conducted on November 1, 2021.

5. Analysis of Ecological & Natural Heritage Significance

The Mississauga Official Plan (2021 Consolidation) identifies natural heritage features that form a component of the City's NHS, including the following:

- Significant Natural Areas;
    - Significant wetlands;
    - Significant woodlands;
    - Significant valleylands;
    - Significant wildlife habitat;
    - Fish habitat;
    - Habitat of endangered and threatened species;
    - Provincial or regionally significant ANSIs;
    - Environmentally Sensitive or Significant Areas;
- Natural Green Spaces;
    - Woodlands >0.5 ha not meeting criteria for significance;
    - Wetlands not meeting criteria for significance;
    - Watercourses not considered to be significant valleylands;
    - Natural areas >0.5 ha with uncommon vegetation;
- Special Management Areas;
- Residential woodlands; and
- Linkages.

Significant Natural Areas as defined in the Mississauga Official Plan (2021 Consolidation) include the eight types of significant natural heritage features and areas defined in the PPS (MMAH 2020). In addition to the guidance provided in the Mississauga Official Plan (2021 Consolidation), the MNRF's NHRM (MNR 2010) provides technical guidance on the identification and definition of the significant natural heritage features defined in the PPS (MMAH 2020).

The following sections provide a detailed discussion regarding the designation of features as defined by the NHRM and Mississauga Official Plan (2021 Consolidation), and whether any of the above-noted features are present on, or within 120 m of, the Subject Lands. This section also includes an assessment of other features identified by the Mississauga Official Plan (2021 Consolidation) as part of the NHS that are not included in the PPS (i.e., Natural Green Spaces, Special Management Areas, Residential Woodlands and Linkages).

5.1 Significant Wetlands

Within Ontario, significant wetlands are identified by the MNRF or by their designates. Other evaluated or unevaluated wetlands may be identified for conservation by the municipality or the conservation authority. The LIO database was accessed to determine if any wetlands mapped by the MNRF occur on, or in the vicinity of, the Subject Lands. Such wetlands could include PSWs, MNRF evaluated wetlands, unevaluated wetlands, or wetlands identified as "other."

Significant wetlands, as defined by the Mississauga Official Plan (2021 Consolidation), include:

- Provincially significant coastal wetlands;
- Provincially significant wetlands;
- Coastal wetlands; and
- Other wetlands greater than 0.5 ha in size.

No significant wetlands are located on, or within 120 m of, the Subject Lands based on an examination of available mapping from the Town of Milton Official Plan (2008 Consolidation) or the Halton Region Official Plan (2018 Consolidation) prior to the annexation of the Ninth Line Lands by the City of Mississauga, and no significant wetlands are depicted on the City of Mississauga Official Plan (2021 Consolidation), the Peel Region Official Plan (2018 Consolidation) or LIO mapping provided through the Ontario MNRF Geohub website (2020; **Figure 2**, **Appendix A**).

5.2 Significant Woodlands

The PPS (MMAH 2020) notes that significant woodlands should be defined and designated by the planning authority using criteria established by the MNRF. In accordance with the NHRM (MNR 2010), natural treed communities (FOC, FOD, FOM, SWC, SWD, SWM) and cultural woodland/plantation communities (CUW, CUP) are considered woodlands. Woodland patches are considered part of the same continuous woodland if they are within 20 m of each other.

As per the Phase 1 SWS (Amec 2015), significant woodland criteria were not defined within the previous iterations of the Region of Peel and City of Mississauga Official Plans. Therefore, evaluations of woodland significance within the Ninth Line SWS (Amec 2015; Amec 2017; Wood 2020) were based on the criteria defined by the City of Mississauga Natural Heritage and Urban Forestry Strategy Report (NSEI et. al. 2014):

- any woodland including cultural woodlands and plantations ≥4ha
- any woodland excluding cultural woodlands and plantations ≥2ha
- any woodland excluding cultural woodlands and plantations ≥0.5ha to 2 ha:
    - with old growth characteristics

- within 100 m of another significant feature (as defined in the Peel Region Official Plan)
- within 30 m of a watercourse or evaluated wetland, or
- supporting significant species or communities (i.e., G1, G2, G3, S1, S2 or S3).

Based on these criteria, the Ninth Line SWS (Amec 2015; Amec 2017; Wood 2020) concluded that all woodlands within the Study Area satisfied minimum size criteria to be designated as significant woodlands. A such, the Dry-Fresh Sugar Maple Oak Deciduous Forest (FOD5-3; 5 ha) located northwest of the Subject Lands is considered a significant woodland (Refer to **Figure 4**, **Appendix A**).

It should also be noted that feature satisfies the significant woodland criteria as defined under the City of Mississauga Official Plan (2021 Consolidation), wherein features greater than or equal to 4 ha in size are deemed significant.

5.3 Significant Valleylands

Significant valleylands are defined and designated by the planning authority. General guidelines for determining significance of these features are presented in the NHRM (MNR 2010) for Policy 2.1 of the PPS (MMAH 2020). Recommended criteria for designating significant valleylands include prominence as a distinctive landform, degree of naturalness, and importance of its ecological functions, restoration potential, and historical and cultural values.

No valleylands or significant valleyland features were identified on, or within 120 m of, the Subject Lands.

5.4 Significant Wildlife Habitat

SWH is one of the more complex natural heritage features to identify and evaluate. There are several provincial documents that provide guidance for identifying and evaluating SWH including the NHRM (MNR 2010), the Significant Wildlife Habitat Technical Guide (MNR 2000), the Peel-Caledon SWH Study (NSEI et al. 2009) and the SWH Ecoregion 7E Criterion Schedule (MNRF 2015).

There are four general types of SWH: seasonal concentration areas, rare or specialized habitat, habitat for species of conservation concern and animal movement corridors A detailed screening assessment of all SWH types was completed based on the Ecoregional criteria for 7E and the Peel-Caledon SWH Study (NSEI 2009) to support the assessment of potential SWH on the Subject Lands. These results are provided in **Table 8** and **Table 9** (**Appendix B**). No candidate or confirmed SWH is present within the Subject Lands; however some candidate SWH is present within 120 m of the Subject Lands (i.e., within the significant woodland). These SWH types are discussed in the following sections.

5.4.1 Seasonal Concentration Areas

Seasonal concentration areas are those sites where large numbers of a species gather together at one time of the year, or where several species congregate. Seasonal concentration

areas include deer yards; wintering sites for snakes, bats, raptors, and turtles; waterfowl staging and molting areas, bird nesting colonies, shorebird staging areas, and migratory stopover areas for passerines or butterflies.

No seasonal concentration areas were identified on the Subject Lands as per the SWH Ecoregion 7E Criterion Schedule (MNRF 2015) and the Peel-Caledon SWH Study (NSEI et al. 2009).

The presence of candidate bat maternity colonies within the Dry-Fresh Sugar Maple Oak Deciduous Forest (FOD5-3) was identified in the 5150 Ninth Line Scoped EIS (GEI 2021). As no direct impacts (i.e., tree removals) to the feature were anticipated through the proposed development; no further confirmational studies were deemed necessary.

Habitat occurring within the significant woodland will not be directly affected by the proposed development.

5.4.2 Rare or Specialized Habitats

Rare and specialized habitat are two separate components. Rare habitats are those with vegetation communities that are considered rare in the province. SRANKS are rarity rankings applied to species at the 'state', or in Canada at the provincial level, and are part of a system developed under the auspices of the Nature Conservancy (Arlington, VA). Generally, community types with SRANKS of S1 to S3 (extremely rare to rare-uncommon in Ontario), as defined by the NHIC (2020), could qualify. It is to be assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are considered significant.

No rare vegetation communities were identified on, or adjacent to, the Subject Lands (NHIC 2020) as per the SWH Ecoregion 7E Criterion Schedule (MNRF 2015) and the Peel-Caledon SWH Study (NSEI et al. 2009).

Specialized habitats are microhabitats that are critical to some wildlife species. The NHRM (MNR 2010) defines specialized habitats as those that provide for species with highly specific habitat requirements; areas with exceptionally high species diversity or community diversity; and areas that provide habitat that greatly enhances species' survival. Similar to seasonal concentration areas, these are typically identified as exceptional examples of, or support significant numbers and/or diversity within them.

No specialized wildlife habitat was identified on, or adjacent to, the Subject Lands as per the SWH Ecoregion 7E Criterion Schedule (MNRF 2015) and the Peel-Caledon SWH Study (NSEI et al. 2009). Initially it was assumed that candidate seeps and springs may have the potential to occur within the adjacent significant woodland; however, no evidence of seeps and/or springs were noted during field investigations completed within the Subject Lands or within the woodland abutting the Subject Lands. As such, these features are considered absent.

5.4.3 Habitat for Species of Conservation Concern

Species of conservation concern include those that are provincially rare (S1 to S3), provincially historic records (SH) and Special Concern species. Several specialized wildlife habitats are also included in this SWH category, including Terrestrial Crayfish (*Fallicambarus fodiens* and/or *Cambarus Diogenes*) habitat, and significant breeding bird habitats for marsh, open country and early successional bird species.

Habitats of species of conservation concern do not include habitats of endangered or threatened species as identified by the ESA (2007; Consolidated 2020). Endangered and threatened species are discussed in **Section 5.6**.

No habitat for species of conservation concern was identified on the Subject Lands. Within the adjacent significant woodland (i.e., FOD5), SWH habitat criteria were met for two species listed as Special Concern in Ontario: Wood Thrush and Eastern Wood-Pewee.

Based on the results of previous ecological field investigations conducted as part of the Phase 1 SWS (Amec 2015), Wood Thrush and Eastern Wood-Pewee were documented within suitable breeding habitat associated with the significant woodland in 2014 (i.e., BMB-017). Both species were also observed through the Ninth Line Corridor Study (NSEI 2012). Breeding bird surveys conducted in support of the 5150 Ninth Line Site Plan application confirmed that Eastern Wood-Pewee (one male) was heard calling from suitable breeding habitat within the significant woodland but was not directly observed using potential foraging habitat on the Subject Lands. Despite survey effort, Wood Thrush was not detected on, or adjacent to, the Subject Lands in 2019; however, given the limited range of the breeding bird surveys, it is considered probable that this species is present within the woodland under existing conditions.

The Subject Lands and the portion of the Woodland which abuts the Subject Lands were surveyed on July 21, 2022, for the presence of suitable Terrestrial Crayfish habitat and/or their chimneys. No Crayfish chimneys were observed. As such, no habitat for Terrestrial Crayfish is present within the Subject Lands or within the portion of the Woodland abutting the Subject Lands.

Monarch habitat and foodplants were searched for within the Subject Lands and the portion of the Woodland which abuts the Subject Lands on July 21, 2022. Neither Monarch nor their foodplants were present within the Subject Lands and the portion of the Woodland which abuts the Subject Lands. As such, habitat for Monarch is not present within the Subject Lands.

Monarch may use habitat present on the adjacent lands (i.e., 5150 Ninth Line) where host plants for this species (i.e., Common Milkweed) were sporadically present within meadow communities. Though this habitat, which occurs on 5150 Ninth Line has been addressed as part of the 5150 Ninth Line Site Plan application

5.4.4 Animal Movement Corridors

Animal movement corridors are areas that are traditionally used by wildlife to move from one habitat to another. This is usually in response to different seasonal habitat requirements, including areas used by amphibians between breeding and summer/over-wintering habitats, called amphibian movement corridors.

No animal movement corridors were identified on, or adjacent to, the Subject Lands as per the SWH Ecoregion 7E Criterion Schedule (MNRF 2015) and MNRF mapping.

5.5 Fish Habitat

Fish habitat, as defined in the federal *Fisheries Act,* c. F-14, means "*spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes.*" Fish, as defined in S.2 of the *Fisheries Act*, c. F-14, includes "*parts of fish, shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals."* The definition of fish habitat includes direct fish habitat (i.e., habitat that may be occupied by fish on a permanent or periodic basis) and indirect fish habitat (i.e., habitat that is not be used directly by fish, but that may be important for downstream direct fish habitat).

No direct or indirect fish habitat was identified on, or within 120 m of, the Subject Lands.

5.6 Habitat for Endangered and Threatened Species

The background review identified six Threatened (i.e., Bobolink, Barn Swallow, Bank Swallow, Chimney Swift, Eastern Meadowlark and Blanding's Turtle) and two Endangered (i.e., Henslow's Sparrow and Jefferson Salamander) species with the potential to occur on, or in the vicinity of, the Subject Lands. In addition, the presence of woodland communities adjacent to the Subject Lands requires that SAR bats (i.e., Little Brown Myotis, Northern Myotis, and Tri-Coloured Bat) be considered. Although Western Chorus Frog is federally ranked Threatened in Canada, federally listed species are not necessarily protected under provincial policies and guidelines on non-federal land.

Notwithstanding, in the proposed development limit, suitable habitat for these species was not identified on the Subject Lands as no natural vegetation communities are present.

Barn Swallow was observed in association with a barn structure located on the adjacent 5150 Ninth Line property. Potential impacts to this species have been evaluated and addressed as part of the 5150 Ninth Line Site Plan application and will not be discussed further through this reporting.

Ecological investigations conducted within the Ninth Line Lands Study Area in April 2014 confirmed the presence of candidate bat maternity colony habitat within the FOD5 (i.e., significant woodland) adjacent to the Subject Lands. Furthermore, the 2019 bat habitat assessment confirmed that suitable cavity trees occur within the adjacent woodland that may

provide potentially suitable roosting habitat for SAR bats. Acoustic monitoring surveys for bats were not conducted given that no direct impacts (i.e., tree removals) to the woodland are proposed.

Candidate habitat for SAR bats may occur within the significant woodland located adjacent to the Subject Lands as suitable cavity trees with the potential to provide bat maternity colony habitat were identified through previous ecological field investigation conducted on the adjacent lands (i.e., 5150 Ninth Line). Furthermore, the presence of candidate bat maternity colony habitat was confirmed within the adjacent significant woodland through the Phase 1 SWS (Amec 2015) based on the results of cavity assessments completed in 2014. Due to the scoped nature of this EIS, the presence of SAR was not confirmed beyond the bounds of the Subject Lands; therefore, it is assumed that candidate habitat for SAR bats occurs within the adjacent woodland. Trees identified on the Subject Lands are isolated and do not represent either SWH or habitat for SAR bats.

5.7 Provincial or Regionally Significant Areas of Natural and Scientific Interest

ANSIs are defined by the Region of Peel Official Plan (2018 Consolidation) as *"areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education."*

Based on a review of the MNRF LIO Natural Features Mapping and the NHIC database, no provincially or regionally significant ANSIs were identified on, or within 120 m of, the Subject Lands.

5.8 Environmentally Sensitive or Significant Areas

The Region of Peel Official Plan (2018 Consolidation) designates Environmentally Sensitive or Significant Areas as a component of the Greenlands System. These features and their functions warrant special protection and may include rare species populations, habitats, communities, or concentrations of ecological functions.

As per the City of Mississauga Official Plan (2021 Consolidation), Environmentally Sensitive or Significant Areas are inventoried and designated by Conservation Authorities and the province. Based on a review of the MNRF LIO Natural Features Mapping and the NHIC database, no Environmentally Sensitive or Significant Areas were identified on, or within 120 m of, the Subject Lands.

5.9 Natural Green Spaces

As per the Mississauga Official Plan (2021 Consolidation), Natural Green Spaces are a component of the NHS and include areas that meet one or more of the following criteria:

a. woodlands greater than 0.5 hectares that do not fulfill the requirements of a significant woodland;

b. wetlands that do not fulfill the requirements of a significant wetland;

c. watercourses that do not fulfill the requirements of a significant valleyland, even if they are predominantly engineered; and

d. all natural areas greater than 0.5 hectares that have vegetation that is uncommon in the City.

5.9.1 Woodlands >0.5 ha Not Meeting Criteria for Significance

Woodlands greater than 0.5 ha in size that do not meet significance criteria, as defined by Section 6.3.12(f) of the Mississauga Official Plan (2021 Consolidation), are designated as Natural Green Spaces of the City of Mississauga NHS.

No woodlands greater than 0.5 ha in size that do not meet significance criteria occur on, or within 120 m of, the Subject Lands.

5.9.2 Wetlands Not Meeting Criteria for Significance

Wetlands not deemed to be significant (i.e., provincially significant, coastal or wetlands >0.5 ha) are considered Natural Green Spaces under the Mississauga Official Plan (2021 Consolidation). No wetland vegetation communities were identified on the Subject Lands.

Other (non-PSW) wetland communities identified adjacent to the Subject Lands (i.e., within 120 m) as per the Phase 3 SWS (Wood 2020; Map 1c) include:

- Wetland No. 35 (SWD2-2): 0.713 ha; and
- Wetland No. 37 (MAS2-1/SAF1-3): 0.056 ha.

Two wetland features (i.e., Wetland No. 35) were identified within the adjacent woodland and three open aquatic features were identified on the 5150 Ninth Line property (i.e., Wetland No. 37) as part of the wetland analysis completed through the Phase 3 SWS (Wood 2020). Features associated with the 5150 Ninth Line property (i.e., Wetland No. 37) have been addressed, in consultation with the City of Mississauga and CVC, through the 5150 Ninth Line Site Plan application process. As per the Phase 3 SWS (Wood 2020), wetlands within the significant woodland (i.e., Wetland No. 35) shall be protected in accordance with the City of Mississauga and Region of Peel Official Plans. Furthermore, a 30 m area of interference has been applied to wetlands (SWD2-2) located within the significant woodland to determine the approximate extent of the CVC regulation limit (**Figure 3**, **Appendix A**) as no limit is currently defined. Although a small portion of the regulated area (0.002 ha; 2.2 m wide) overlaps the boundary of the Subject Lands, this area will be retained within the proposed vegetation protection zone (VPZ). Therefore, no further assessment of these features was warranted.

5.9.3 Watercourses Not Considered to be Significant Valleylands

Significant valleylands identified within the City of Mississauga are associated with watercourse corridors draining directly to Lake Ontario, including the main tributaries of Sixteen Mile Creek. Watercourses that do not fulfill the requirements of a significant

valleyland, including engineered watercourses, are considered Natural Green Spaces under the Mississauga Official Plan (2021 Consolidation).

No watercourses were identified on, or within 120 m of, the Subject Lands.

5.9.4 Natural Areas >0.5 ha with Uncommon Vegetation

Natural areas greater than 0.5 ha in size that support locally uncommon vegetation are designated as Natural Green Spaces under the Mississauga Official Plan (2021 Consolidation). No local uncommon vegetation communities or plant species, as per the Peel Region rarity rankings (Varga 2005), were identified on the Subject Lands. Therefore, natural areas >0.5 ha with uncommon vegetation will not be addressed further in this reporting.

5.10 Special Management Areas

The Mississauga Official Plan (2021 Consolidation) identifies Special Management Areas as lands adjacent to or near Significant Natural Areas or Natural Green Spaces that would be managed or restored to enhance and support the Significant Natural Area or Natural Green Space with which they are associated. Special Management Areas are identified in Schedule 3 of the Mississauga Official Plan (2021 Consolidation). No such areas are identified on, or within 120 m of, the Subject Lands. Further, given the limited presence of Significant Natural Areas, the isolated nature of existing Significant Natural Areas and the limited number, size and quality of wetlands being considered as Natural Green Spaces, no Special Management Areas are defined for the Block 3 lands.

5.11 Residential Woodlands

Residential woodlands are defined by the City of Mississauga Official Plan (2021 Consolidation) as areas, generally in older residential areas, with large lots and mature trees forming a generally continuous canopy with minimal native understory due to lawn maintenance and landscaping. No Residential Woodlands are identified as being present on, or adjacent to, the Subject Lands on Schedule 3 of the City of Mississauga Official Plan (2021 Consolidation). Furthermore, no residential woodland features were identified based on previous ecological field investigations conducted on the adjacent lands. Therefore, this component of the City's NHS is considered to be absent from the Subject Lands.

5.12 Linkages

Linkages are defined by the City of Mississauga Official Plan (2021 Consolidation) as areas necessary to maintain biodiversity and support the ecological functions of Significant Natural Areas and Natural Green Spaces, but that do not fulfil any other criteria themselves. Given the fragmented nature of natural heritage features on the landscape, no linkages were identified based on ecological field investigations conducted on, and adjacent to, the Subject Lands. Furthermore, no linkage areas are identified as being present on, or adjacent to, the Subject Lands on Schedule 3 of the City of Mississauga Official Plan (2021 Consolidation).

5.13 Summary of Ecological Components Subject to Impact Assessment

The PPS (MMAH 2020) defines important natural heritage features to consider in terms of impact assessment. An analysis of existing natural heritage features located on, and adjacent to, the Subject Lands was completed, followed by an evaluation of their significance against criteria in the City of Mississauga Official Plan (2021 Consolidation), the NHRM (MNR 2010), SWH Ecoregion 7E Criteria Schedule (MNRF 2015) and the Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study (NSEI et al. 2009).

Although no natural heritage features or functions were identified on the Subject Lands, the following components located within 120 m of the Subject Lands were considered for impact avoidance, mitigation and/or potential offsets:

- Significant Woodland (i.e., FOD5);
- Significant Wildlife Habitat (i.e., candidate bat maternity colonies, and habitat of species of conservation concern);
- Habitat of Endangered and Threatened Species (i.e., SAR bats); and
- Other Wetlands (i.e., Wetland No. 35).

Natural heritage features associated with the adjacent property have been addressed as part of the 5150 Ninth Line Site Plan application and are therefore not discussed further herein.

6. Description of Development Proposal

On August 1, 2018, By-law 0167-2018 came into effect; this by-law specifies zoning across the entire Ninth Line Lands. Through this by-law, the Subject Lands were re-zoned as residential lands (per. Map M-1, Part of Schedule 10; Appendix A) proposed for medium density development. The proposed Site Plan (July 2022) illustrates the proposed development block within the 5160-5170 Ninth Line land holdings (0.73 ha). The proposed residential development, and preliminary configuration of roads and amenities are illustrated on **Figure 4** (**Appendix B**). The Site Plan proposes a medium-density residential block (i.e., six-story building containing 187 units) and a central outdoor amenity courtyard (1,276 m^2). Proposed development will include provisions for a variable-width dripline buffer and associated landscape buffer applied along the northwestern property boundary.

The variable-width dripline buffer as measured from the dripline to the limit of the underground parking structure will provide the dripline of the forest with a buffer that ranges from 9.03 m to 0.74 m in width. This buffer will provide a VPZ adjacent to the woodland that is 340 m^2. This buffer will referred to herein as the Interim Buffer as it will represent the buffer from the dripline to the outermost infrastructure (i.e., the parking garage) during construction.

The variable-width dripline buffer as measured from the dripline to the extent of the proposed Landscape Buffer will provide the dripline of the forest with a buffer that ranges from 10.52 m to 2.23 m. This buffer will provide a VPZ adjacent to the woodland that is 351 m^2. This VPZ will be restored with native vegetation. This buffer will refer to herein as the Ultimate Buffer as it will represent the buffer from the dripline and the proposed restoration areas following construction of the development.

Recommended low impact development (LID) measures will be evaluated during the detailed design stage to ensure that groundwater gradients toward retained features are maintained. Cumulative LID and SWM strategies proposed on the Subject Lands will provide onsite runoff detention to support groundwater recharge/water balance, erosion control and overall runoff volume reduction, in compliance with the City of Mississauga requirements.

As per the Arborist Report, Tree Inventory and Tree Preservation Plan (Adesso 2021), the removal of 23 trees is required to accommodate the proposed development. It should be noted that these trees are located within the limits of the Subject Lands and not within the woodland feature that abuts the Subject Lands. A Tree Permit/Permission for the removal of trees for land development is required for trees greater than 10 cm diameter-at-breast-height (DBH) on private property and trees greater than 6 cm DBH on municipal lands within 6 m of the subject property.

7. Impact Assessment, Avoidance & Mitigation Measures

This section assesses the impacts, predicted effects, mitigation and enhancement measures associated with potential development. Potential effects to the natural heritage features and environmental functions are evaluated over the short and long term, with consideration given to measures to avoid and/or mitigate negative impacts, where appropriate.

As no natural heritage features or functions were identified on the Subject Lands, potential impacts will primarily be addressed with regards to the significant woodland located adjacent to the northwestern property boundary. Potential ecological functions identified within the woodland and associated wetland inclusions (i.e., SWD2-2) include candidate bat maternity colonies, candidate habitat of species of conservation concern (i.e., Eastern Wood-Pewee and Wood Thrush) and potential habitat of endangered and threatened Species (i.e., SAR bats). Enhancements are proposed within the adjacent VPZ to mitigate potential impacts of the adjacent development over the long term.

The range of potential impacts from proposed development can generally be divided into four categories:

1) Direct impacts are normally associated with the physical removal or alteration of natural features that could occur based upon a land use application;
2) Indirect impacts may be changes or impacts (these could be minor or major) to less visible functions or pathways that could cause negative impacts to natural heritage features over time;
3) Induced impacts are associated with post-development impacts that may result in increased demand on natural resources; and
4) Cumulative impacts account for effects to natural features resulting from adjacent land use.

The impact assessment outlined in **Table 10** (**Appendix B**) examines the predicted effects of development on the natural heritage features and associated functions present on, and adjacent to, the Subject Lands with recommendations for proposed mitigation. This evaluation was formulated based on the limits of the proposed development boundary. The potential direct and indirect effects of development, and a summary of recommended mitigation and restoration strategies are provided in the following sections. Detailed ecological enhancement and restoration opportunities will be determined during the detailed design phase pending approval of the proposed Site Plan (July 2022).

7.1 Potential Direct Effects

This section assesses the impacts associated with the proposed development boundary. Potential effects to the natural heritage features and environmental functions that exist on, and adjacent to, the Subject Lands have been evaluated over the short and long term.

As described in **Section 5.2**, the woodland community adjacent to the Subject Lands will be designated as significant woodland and retained on the landscape, in accordance with the PPS (MMAH 2020), the City of Mississauga Official Plan (2021 Consolidation) and the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020). All other natural heritage features or functions identified on the adjacent lands (i.e., SWH, candidate SAR bat habitat, wetlands) are contained within the significant woodland and will subsequently be retained and protected on the landscape. No direct tree removal from the main body of the significant woodland or its conservatively measured dripline will occur. As such, no direct impacts to the significant woodland, SWH, SAR habitat or other wetlands (i.e., SWD2-2) are anticipated, provided that appropriate mitigation measures (**Section 8.0**) are implemented.

Minor grading is expected to occur near the outermost bounds of a small portion of the dripline; however, given the minor nature of these works and the ongoing anthropogenic effects (refer to **Section 4.4**) that are already experienced by the woodland, these activities are not anticipated affect the woodland. Furthermore, these works will be temporary in nature and are mainly limited to the residential lawn portions of the dripline. Potential effects associated with the grading will be addressed through the application of migration measures and restoration plantings. Details pertaining to restoration are provided in **Section 8.1.1**.

7.2 Potential Indirect Effects

Indirect effects are those potential effects on the biophysical environment that could potentially result in adverse effects on natural heritage features and associated functions. This could potentially include erosion from the work area with associated sedimentation in natural features, accidental spills, impacts to migratory birds and SAR bats, and the introduction of exotic and/or invasive plant species. Each of these are discussed in the following sections.

7.2.1 Erosion and Sedimentation

Erosion and sedimentation from the disturbed work area associated with the proposed development could potentially result in adverse effects to wetland water quality (e.g., increased turbidity), or sedimentation and associated effects on the significant woodland.

A detailed Erosion and Sediment Control (ESC) Plan should be developed as part of the detailed design engineering package based on the guidance provided in the *Erosion and Sediment Control Guide for Urban Construction* (TRCA 2019). Basic elements of the plan should include consideration of:

- Construction phasing to minimize the amount of time soils are barren and therefore more susceptible to erosion;
- Requirements and timing for rehabilitation of disturbed areas;
- Stormwater management strategies during construction;
- Grading during periods when features are dry, to minimize potential for adverse effects on water quality;

- Erosion prevention measures (e.g., hydroseeding, sodding, erosion control matting, tarping of stockpiles);
- Sedimentation control measures (e.g., silt fences); and
- Inspection and performance monitoring requirements and adaptive management considerations.

The implementation of an effective ESC Plan, incorporating both erosion and sediment controls, coupled with regular inspection and performance monitoring and implementation of any remedial actions necessary to ensure effective performance, are anticipated to be largely effective in preventing the movement of eroded soil particles towards adjacent natural heritage features.

Overall, no adverse effects are anticipated as a result of erosion and sedimentation during construction, provided that an effective ESC Plan, including monitoring and adaptive management, is implemented.

7.2.2 Accidental Spills

Accidental spills of potentially hazardous materials (e.g., fuel and oil from heavy equipment), if transported into the significant woodland or associated wetland communities, could cause stress or injury to biota.

In order to mitigate the potential for adverse effects on adjacent habitats due to potential accidental spills during construction, it is recommended that a spill prevention and response plan be prepared to outline the material handling and storage protocols, mitigation measures (e.g., spill kits on-site), monitoring measures and spill response plans (i.e., emergency contact procedures, including the Spills Action Centre, and response measures including containment and clean-up). Implementation of an effective spill prevention and response plan is anticipated to be largely effective in preventing adverse effects on natural heritage features.

7.2.3 Impacts on Migratory Birds and Bird Species of Conservation Concern

The federal MBCA (1994) prohibits the killing, capturing, injuring, taking, or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests. During construction, particularly during activates that may result in tree removals, with lack of appropriate mitigation, migratory birds, and eggs and nests of these birds could be harmed inadvertently.

As per the MBCA (1994), it is recommended that any tree removals occur prior to, or after, the migratory breeding bird season (April 1 to August 31). If this window cannot be avoided, nest searches are necessary to determine the presence/absence of nesting birds or breeding habitat every 72 hours until clearing is complete, or until August 31, whichever comes first. If an active nest is observed, a designated setback will be identified within which no construction activity will be allowed while the nest remains active. The setback distance ranges from 5 m to 60 m from the nest, depending on the species and its sensitivity to adjacent activities.

Furthermore, in accordance with the guidelines established by Environment and Climate Change Canada (ECCC) for establishing buffer zones and setback distances, setback distances can vary greatly according to the degree of tolerance of the species, previous exposure of birds to disturbance, level of disturbance and landscape context. As such appropriate setback distances should be determined on a case-by-case basis. ECCC recommends two benchmark measurements to determine an effective setback distance (2022):

1. *Alert Distance: is the distance at which the bird adopts an alert posture or emits alarm calls. Birds usually perceive humans as potential predators. They may leave their nests in response to being approached, or abort nesting because of stressful situations.*
2. *Flush Distance: is the distance at which a bird takes flight or moves away from a threat performs distraction displays (such as feigning a broken wing or sitting down on a non-nesting site to draw attention away from the nest) actively defends the nest*

Therefore, taking these guidelines into consideration, in the unlikely event that the nest of an Eastern Wood-Pewee or Wood Thrush be identified the following will occur:

- All works within 10 m of the nests will be halted;
- A minimum buffer of 10 m from the nest will be applied and no work will be undertaken within the buffer area until the nest has fledged or otherwise become inactive; and,
- A qualified biologist will observe the nests and birds; and if deemed necessary (i.e., if the nesting birds exhibit signs of disturbance or flushing), the buffer may be expanded.

With the implementation of the above-stated mitigation measures, no disturbance to migratory birds and/or their nests are anticipated during the breeding season.

7.2.4 Impacts on Species at Risk Bats

No Section 9 or Section 10 contraventions of the ESA (2007) are anticipated as a result of the proposed development. However, as a precautionary measure, it is recommended that any tree removals proposed on the Subject Lands should not occur between April 1 and September 30 to prevent disruption to bats during critical reproductive and juvenile growth periods. If tree removal is required during this period, bat surveys should be completed by a qualified biologist. If no SAR bats are observed, the tree(s) can be removed within 24 hours.

7.2.5 Introduction of Exotic and Invasive Plant Species

The introduction of invasive and non-native plant species along the disturbed margins of the development footprint may displace some native flora, particularly in areas where vegetation removals disturb existing invasive species seedbanks. In order to reduce opportunities for the colonization of invasive and non-native species, areas where disturbance has exposed bare soils should be seeded with a cover crop and native species seed mix.

If any Priority 1 flora species (City of Mississauga 2021) are introduced as a result of the construction activities, the specimens will be removed.

7.3 Potential Induced Effects

Induced impacts are potential environmental effects associated with the post-development landscape. These effects could potentially include light and noise effects, and disturbance from domestic pets and the public. Each of these are discussed in the following sections.

7.3.1 Light and Noise Effects on Wildlife

Light could be a concern where it is directed towards sensitive natural features, with functions and/or species that may be intolerant of light disturbance. Primary sources for “new light” will be from exterior lighting on the residential dwellings, residential street lighting and parking areas.

To minimize light being directed into the adjacent ecological features, outdoor lighting should be located and directed away from the retained features. In addition, to minimize potential impacts, direct upward light should be eliminated, spill light should be minimized, and all lighting sources should illuminate only non-reflective surfaces (e.g., as per City of Toronto Green Development Standard 2007). Given that the existing surrounding land uses are largely residential and commercial, existing communities are expected to be at least somewhat tolerant of disturbance from artificial lighting.

Noise associated with heavy equipment movement may temporarily disturb wildlife. However, given the existing traffic noise along Ninth Line and Highway 407, it is expected that local wildlife communities are at least somewhat tolerant of anthropogenic noise sources. Given the vicinity of the proposed development envelope and woodland to the existing road, the relatively short time period associated with construction and existing disturbances in the area, it is not expected that the additional noise generated from construction would have a measurable effect on the local distribution of wildlife.

Bat SAR and Bat SWH, if present within the woodland, would be most susceptible to disturbance from construction noise and/or light during their emergence from roosting habitat in the early evening. As such, where possible construction at night should be avoided in close proximity to the woodland edge during the active season for bats (April 1 and September 30). If lights must be used during construction, they should be directed away from the woodland.

7.3.2 Human Disturbance to Natural Features

Urbanization can increase access to natural features and, in general, could result in a variety of adverse impacts. Vegetation trampling, the establishment of ad-hoc trails and other recreational uses within natural features are expected in an urban context and need to be managed appropriately to ensure sustainability over the long term. Furthermore, illegal dumping, debris accumulation and encroachment of private property into natural features can occur where communities are established adjacent to natural areas. Each of these impacts are undesired and/or typically not permitted under municipal by-laws as they can result in adverse effects on key natural heritage features.

Mitigation strategies to address human disturbance associated with the adjacent residential development have been incorporated into the proposed Site Plan through the inclusion of a VPZ, the exclusion of rear yards that abut the boundary of the retained natural area and placement of a 1.5m tall black vinyl chain link fence that will provide a physical barrier to the woodland. Although the woodland may continue to be accessed via adjacent lands and along Ninth Line, the proposed development is not expected to increase accessibility to the woodland.

7.3.3 Window-Bird Collisions

Window-bird collisions have been extensively studied to establish best management practices and mitigation measures. Mitigation strategies include angled windows, marked or tinted windows and reduced window size. In a continent-wide analysis of the impacts of urbanization on bird-window mortalities in North America, Hager et al. (2017) concluded that "*the positive relationship between collision mortality and building size was greatest in regions of low urbanization containing locally extensive landscaped grass and few structures. Collision mortality was low to non-existent in regions that were highly urbanized*." The study concluded that applying visual mitigation systems was the most effective method to reduce collisions. Landscaping adjacent buildings was also a well-supported model but was not an important driver of collision mortality.

No support was found for vegetated buffers as an effective means to reduce window-bird collisions as buffers do not address the visual challenges created by anthropogenic structures and cannot be expected to effectively mitigate this impact.

7.3.4 Domestic Pets

In accordance with municipal By-law 98-04, no owner shall permit an animal to be at large on public or private property. Domestic cats are known to prey on small mammals and birds, in that order of preference. It is recommended that the homeowners ensure that any domestic cats are kept out of the adjacent natural areas to prevent wildlife mortality. However, it is recognized that not all owners will be aware of or adhere to this by-law. Given the proximity of the significant woodland, it is recommended that a homeowner brochure be prepared and distributed to residents to outline key mitigation strategies applied to natural areas adjacent to the Subject Lands.

7.4 Potential Cumulative Effects

Cumulative effects are those potential impacts that may occur as a result of adjacent land use. These effects could potentially include upstream or downstream impacts, or activities that could otherwise affect natural features connected to the Subject Lands.

The condition of adjacent lands located northwest and southeast of the significant woodland is expected to be influenced by proposed development of the Subject Lands, 5150 Ninth Line property and the Park 459 lands owned by the City of Mississauga. As existing land uses on the Subject Lands are primarily anthropogenic, impacts as a result of the proposed development are expected to be limited. Furthermore, parklands are considered a low-impact

land use, therefore, development of the Park 459 lands is not expected to have a cumulative negative impact on the adjacent significant woodland.

The Transitway (i.e., to the southwest) is expected to have considerable cumulative effects on adjacent lands, however, these impacts shall be addressed by the Ministry of Transportation through their Environmental Assessment process. Residential lands to the northeast will remain largely unchanged post-development as adjacent lands currently support established anthropogenic uses.

Cumulative impacts associated with the proposed development that may have the potential to influence the significant woodland will be buffered by the application of a VPZ and associated landscape buffer adjacent to the development boundary. Furthermore, as detailed within the Functional Servicing and Stormwater Management Report (Urbantech 2021), SWM on the Subject Lands will convey runoff and overland flows away from retained natural features to an underground SWM storage tank with a connection to existing storm sewers along Ninth Line.

8. Mitigation & Enhancement Opportunities

Mitigation and restoration strategies will be reviewed at the detailed design stage pending approval of the proposed Site Plan (July 2022). However, the implementation of the following measures is recommended as part of the planning process in an effort to ensure that no net negative impacts to natural features or their associated ecological functions occur as a result of the proposed development. Potential mitigation strategies include:

- Setbacks and buffers;
- Tree protection zone; and
- Monitoring and adaptive management.

A summary of each of these mitigation strategies is provided in the following sections. Proposed mitigation strategies are intended ensure that retained communities function as a healthy and diverse ecosystem composed of resilient and self-sustaining vegetation over the long term.

The extent to which construction will affect retained features adjacent to the Subject Lands can be further limited through the implementation of the following measures:

- Locate and flag development limits prior to construction;
- Pre-construction erection of tree protection fencing along confirmed protection edges and specific trees (at outer limit of the dripline) for proposed retention along the woodland edge closest to the development; and
- Appropriate pre-construction briefing of site workers to advise regarding the sensitivity of the development edge conditions (i.e., specialized wildlife habitat, species of conservation concern, etc.).

8.1 Setbacks and Buffers

The City of Mississauga and Region of Peel Official Plans do not stipulate a minimum VPZ for significant woodlands, therefore, in accordance Section 6.3.8 of the City of Mississauga Official Plan (2021 Consolidation), buffers shall be determined on a site-specific basis as part of a Scoped EIS or like study.

As per the Phase 3 SWS (Wood 2020), "*woodland buffers are prescribed based on protecting the trees and their root zones, as well as providing associated open habitats required by forest species or for wildlife movement. Conservation Halton policies and guidelines (CH 2006) recommend a 30 m buffer for Significant Woodlands, measured from the tree dripline*." However, the significant woodland adjacent to the Subject Lands was identified as a candidate for a reduced VPZ based on the existing quality of the feature (e.g., clearing and installation of drainage features within the woodland edge, residential land uses including mowing of lawn within the dripline, prevalence of invasive species and existing trails and garbage within the

feature), surrounding land uses and proposed future urban development on the adjacent lands. As such, secondary mitigation techniques were considered, in conjunction with a reduced VPZ width, in order to support buffer functions defined though the Credit River Subwatershed Natural Heritage System Strategy (CVC 2015):

- *"Water quality improvement via nutrient attenuation or transformation*
- *Sediment attenuation*
- *Fecal coliform or bacterial attenuation*
- *Wind, noise, and light attenuation*
- *Screening from human encroachment, disturbance, and trampling*
- *Provision of a hazard mitigation zone and*
- *Core habitat protection such as contribution of nutrients, protection of tree roots, maintenance of microhabitat conditions such as humidity, shade, and temperature, limiting spread of invasive species, and protection of plants and wildlife occurring at the edges of the feature."*

Proposed restoration plantings within the VPZ will help to mitigate edge effects (i.e., wind, light, noise), although it is expected that the existing feature is tolerant of anthropogenic impacts given its proximity to Ninth Line, and adjacent residential and commercial land uses. Drainage entering the significant woodland from the adjacent lands to the west will be attenuated by the existing feature and will ultimately discharge into the woodland buffer.

A conservative approach to the dripline delineation was utilized during GEI's survey in that hedgerow-like trees occurring along the outermost edge of the feature were included as part of the dripline. As a result, much of the dripline is represented by mown lawn areas and the dripline in one constrained area comes in close proximity to the development limit. As such, the Draft Plan incorporates a variable-width dripline buffer.

The variable-width dripline buffer as measured from the dripline to the limit of the underground parking structure will provide the dripline of the forest with a buffer that ranges from 9.03 m to 0.74 m in width. This buffer will provide a VPZ adjacent to the woodland that is 340 m^2. This buffer is referred to herein as the Interim Buffer as it will represent the buffer from the dripline to the outermost infrastructure (i.e., the parking garage) during construction (Refer to **Figure 4**, **Appendix A**).

The variable-width dripline buffer as measured from the dripline to the extent of the proposed Landscape Buffer will provide the dripline of the forest with a buffer that ranges from 10.52 m to 2.23 m. This buffer will provide a VPZ adjacent to the woodland that is 351 m^2. This VPZ will be restored with native vegetation. This buffer will refer to herein as the Ultimate Buffer as it will represent the buffer from the dripline and the proposed restoration areas following construction of the development (Refer to **Figure 4**, **Appendix A**).

The Interim and Ultimate Buffers will protect the tree rooting zone, enhance edge habitat, reduce impacts associate with light and noise and provide a provision of safety zone for tree fall in compliance with Section 6.3.7 of the City of Mississauga Official Plan (2021 Consolidation). Therefore, a 30 m buffer is not required to maintain the buffer functions identified within the Credit River Subwatershed Natural Heritage System Strategy (CVC 2015).

In a landscape context, the existing significant woodland is surrounded by anthropogenic land uses. For example, paved portions of Ninth Line, a residential property, a drainage feature, and an actively mown lawn are all located within the dripline of the feature (Refer to the photograph log in **Appendix B**). Furthermore to this, along Ninth Line VPZ has not been applied to the significant woodland, and proposed future widening of Ninth Line is expected to result in further encroachment into the woodland.

As well, adjacent development proposed on the 5150 Ninth Line lands will afford the woodland a variable-width setback, with widths ranging between 7.28 m to 11.51 m (as measured from the dripline). Per the Draft Plan, the proposed significant woodland buffer and landscape buffer on the Subject Lands have been strategically located to provide continuity with the site plan on the adjacent lands to the west, including a required sidewalk connection to Ninth Line.

As previously noted, existing residential land uses on the Subject Lands extend into the dripline VPZ, including the footprint of the residential building. As such, the removal of anthropogenic stressors from the VPZ (i.e., lawn and residential uses), the removal of structures encroaching on the existing dripline and the application of restoration plantings within the VPZ are expected to improve conditions within the woodland as compared to the existing land use.

8.1.1 Vegetation Protection Zone Plantings

Native tree, shrub and herbaceous species plantings that reflect the composition of the existing vegetation community will be considered within the VPZ to establish robust edge habitat and promote a self-sustaining vegetation community where natural vegetation is currently lacking. Deep-rooting species tolerant of edge conditions and anthropogenic impacts (e.g., salt and drought) are preferred in buffer applications. The VPZ will be naturally vegetated/restored with native groundcover, shrub, and tree plantings (Seed Zone 33) derived from locally propagated species, where available, that are suited to the local climate, soil types and soil moisture. Plantings are also expected to improve the biodiversity of edge habitat and promote wildlife habitat opportunities within the buffer zone. Available technical reference guidelines (e.g., Society for Ecological Restoration publications) should be referenced regarding technical approaches to restoration during the detailed design phase.

As no policies, regulations, or guidelines in terms of restoration planting densities are provided by CVC, the City or the Region, recommended planting densities have been based on the standards provided by the Toronto and Region Conservation Authority (TRCA) Forest Edge Management Plan Guidelines (2004) and the Conservation Halton Landscaping and Tree Preservation Guidelines (2010). A nodal approach to planting within the VPZ is recommended, as this method is well-adapted to urbanized settings within a highly

fragmented landscape. Nodal plantings also promote vertical structure and cover diversity by blending a variety of plant material sizes. This approach functions as a successional model that will more effectively mitigate edge effects and promote biodiversity through environmental heterogeneity.

In accordance with the planting standards adjacent to natural areas defined within CH's Landscaping and Tree Preservation Guidelines (2010), minimum planting densities for woodland buffers are as follows:

- Band 1: Represents the portion of the buffer immediately adjacent to the natural area (i.e., 5 m or half the buffer width, whichever is greater). This should be planted with a tree density of 5 trees per 100m^2 (i.e., 500 trees/ha).
- Band 2: Represents the portion of the buffer (i.e., 2.5 m) that occurs between Band 1 and 3. This should be planted with a density of 3 trees per 100m^2 (i.e., 300 trees/ha).
- Band 3: Represents the portion of the buffer (i.e., 2.5 m) immediately adjacent to the development. This should be planted with a ground cover mix.

As such, a minimum planting density of approximately 500 trees/ha is recommended within the VPZ (i.e., Band 1 and Band 2). Additional plantings will also be provided within the associated landscape buffer (i.e., 2.3 m). Proposed planting densities account for natural regeneration, seed fall from the adjacent woodland and the growth requirements of planted stock.

Nodal tree plantings in groupings of three to five (mixed species) are recommended to occur every 2.5 m on center (i.e., increased from 3 m on center recommended by TRCA). Nodal shrub plantings, in groupings of five to 10 (mixed species), should be interspersed with nodal tree plantings and planted at 0.75 m to 1.5 m on center densities to promote species viability. Where applicable, mulch and rodent guards may be applied to larger planted stock (i.e., deciduous trees) to prevent stem damage and desiccation.

In order to reduce opportunities for the colonization of invasive and non-native species, areas where disturbance has exposed bare soils should be seeded with a cover crop and native species seed mix. Selected seed mixes should follow the CVC's Plant Selection Guidelines (2018). Application of CVC Lowland Restoration Seed Mix #3 (i.e., seed rate: 25 kg/ha) and a cover crop is recommended to establish native ground cover. The following plant species are recommended for use within the proposed VPZ based on the species assemblages proposed for planting within the adjacent VPZ located on the 5150 Ninth Line lands. The proposed native plant assemblages have been tailored to suit adjacent, retained features considering available light, soil, slope, and growing conditions. All species are provincially secure or apparently secure (S5 or S4), globally common (G5; NHIC 2021) and no locally/regionally rare species are included.

Table 1: Vegetation Protection Zone Plant Species List

Latin Name	Common Name
Trees	
Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Carya ovata	Shagbark Hickory
Quercus rubra	Northern Red Oak
Tilia americana	American Basswood
Ulmus americana	American Elm
Picea glauca	White Spruce
Tsuga canadensis	Hemlock
Shrubs	
Cornus racemosa	Grey Dogwood
Viburnum lentago	Nannyberry
Rubus idaeus	Red Raspberry
Prunus virginiana	Chokecherry

Table 2: Vegetation Protection Zone Seed Mixes (25 kg/ha)

Latin Name	Common Name	% Mix
Lowland Restoration Seed Mix (CVC Seed Mix 3; 2018)		
Anemone canadensis	Canada Anemone	1
Bidens cernua	Nodding Beggarticks	1
Carex vulpinoidea	Fox Sedge	25
Elymus virginicus var. virginicus	Virginia Wildrye	25
Eutrochium maculatum var. maculatum	Spotted Joe Pye Weed	1
Juncus effusus ssp. solutus	Soft Rush	5
Juncus tenuis	Path Rush	5
Poa palustris	Fowl Bluegrass	25
Scirpus atrovirens	Dark-green Bulrush	5
Symphyotrichum novae-angliae	New England Aster	1
Symphyotrichum puniceum	Swamp Aster	1
Verbena hastata	Blue Vervain	5

Latin Name	Common Name	% Mix
Cover Crop		
Avena sativa	Oats	40
Hordeum vulgare	Barley	45
Elymus canadensis	Canada Wildrye	15

Proposed plantings will support a transitional zone between the proposed development and the significant woodland. Shrubs and successional/pioneer tree species should be planted within edge habitat to increase the robustness of the understory, shelter interior woodland vegetation from edge effects and provide additional cover for wildlife.

Planting windows for seeded stock and additional whip, bareroot, potted and ball and burlap stock depend upon moisture conditions. With irrigation, stock may be planted in the spring, summer or fall. If irrigation is not planned for the site, plantings must occur between April and the first week of May or in September in order to avoid desiccation. Note that planting times may vary between species and with annual precipitation levels.

8.2 Woodland Drainage

Existing woodland drainage shall be directed to the woodland buffer to provide natural storage, quality control and replicate existing conditions from a land-volume perspective. The VPZ is expected to slow infiltration rates and convey clean drainage to the edge of the development boundary where proposed and existing grades (i.e., 3:1 slope) will largely prevent flows from discharging to the developable area.

Minor grading will be completed within the buffer zone to achieve appropriate base elevation and topographical variation to capture and direct overland flows from the adjacent woodland. Minor re-grading (cut) is required within the buffer zone to facilitate the proposed Site Plan. Grades will be designed to retain surface flows from the existing contributing drainage area to the north and to promote infiltration within the VPZ. No road or lot drainage from the development will be directed to this area, only clean flows from the existing contributing drainage area.

8.3 Tree Preservation and Tree Protection Zones (TPZ)

Tree preservation and application of a minimum Tree Protection Zone shall be applied based on the recommendations made in the Tree Inventory and Preservation Plan Report (Jackson Arboricultural Inc. 2021). Mitigation measures outlined in this report have been reproduced below:

- Once tree protection fence has been installed it must not be moved, relocated, or altered in any way (unless repairing fallen fence etc.) for the duration of the construction period;
- No intrusion into an area identified on Sheet L-1 as a tree preservation zone (TPZ) is allowed at any time during construction unless noted otherwise in this report and on Sheet

L-1;

- No storage of machinery, construction debris, materials, waste, or any other items is allowed within a TPZ;
- Any tree branches and roots that conflict with the proposed development must be pruned by a Certified Arborist in accordance with acceptable arboricultural practice; and,
- Tree protection fencing should be inspected by a Certified Arborist prior to and during construction to ensure that the fencing remains intact and in good repair throughout the stages of development;

To further protect the Woodland, GEI recommends the following additional mitigation measures and monitoring requirements:

- Grading within the VPZ will be minimized to the extent possible and where the limit of grading activities will not extend to the TPZ boundary, the limit of the TPZ should be extended to include the additional area outside of the grading limit in order to prevent a further loss of feeder roots;
- Existing ground levels will be retained within the TPZ to reduce impacts to the rooting zone of the retained vegetation community;
- For the protection of woodland features, the TPZ should include a linear fence extending the length of the VPZ to prevent physical damage to the trees and compaction of the soil;
- The TPZ must remain fully intact and cannot be used for the temporary storage of fill, topsoil, building materials, equipment storage, washing of equipment, or dumping of any construction debris. Signage must be posted in visible locations around the perimeter of each TPZ fence and should clearly state restrictions within the TPZ;
- Any areas intended for stockpiling of excavated soil must be enclosed with sediment control fencing to further safeguard the TPZ. The sediment control fencing must be installed to Ontario Provincial Standards 219.130 and to the satisfaction of the Project Arborist. Where practical, the sediment control fencing can be attached to the tree protection barrier;
- Monitoring of the TPZs should be conducted or supervised by the Project Arborist prior to and during construction to ensure compliance with tree protection guidelines, monitor the health and structure of the trees, identify changes to environmental conditions, and respond appropriately where necessary. The Project Arborist should be on site prior to and during any construction activity occurring within the TPZ to monitor root exposure, identify root disturbance, and propose site-specific mitigation, where appropriate; and,
- Following complete build-out of the development, post-construction monitoring should occur once per year over a two-year period. This monitoring will be completed in conjunction with monitoring of vegetation survival and growth to ensure that the construction activity did not significantly impact the health of the trees. Each assessment will occur during the summer and will document percentage of live canopy, as well as any other apparent structural or biological impacts. Canopy dieback of 50% or greater will be deemed significant and trigger a requirement for removal. At the end of the two-year monitoring period, a post-construction monitoring report will be prepared and submitted to the client and the City.

8.4 Tree Removals

The City of Mississauga regulates the removal of all trees greater than 15 cm DBH. Issuance of a Tree Permit/Permission (required prior to site alteration) will be subject to the review and acceptance of the Tree Inventory and Preservation Plan (Adesso 2021). Under the *Forestry Act*, written consent must be obtained from neighbouring landowners as a condition of the permit application. Following tree removals, trees may be planted within the boundary between the two lands provided that consent of the owner of the adjoining land is obtained.

Trees within the significant woodland will be identified for preservation. Private tree removals will be compensated at a 1:1 replication ratio for all trees in good condition between 15 cm DBH and 49 cm DBH, and coniferous hedgerows. Trees $\geq$50 cm DBH that are in good condition shall be compensated at a 2:1 compensation ratio. It is recommended that vegetation removals occur between November and March to minimize impacts to wildlife.

If adequate compensation for tree removals cannot be provided on the Subject Lands, monies, or a letter of credit in a form satisfactory to the City of Mississauga may be required as compensation for the replacement of these trees on City lands and tree maintenance for a period of up to two years. Where the total number of replacement trees cannot be provided on site, a payment shall be required to the City of Mississauga's replacement tree planting fund, as defined in the City of Mississauga Fees and Charges By-law.

For additional information pertaining to tree removals, refer to the Tree Inventory and Preservation Plan Report (Jackson Arboricultural Inc. 2021).

9. Monitoring & Adaptive Management Plans

A Monitoring and Adaptive Management Plan will be prepared and implemented by the proponent to assess key performance measures per City of Mississauga and CVC requirements. Results-oriented monitoring is required for adaptive management; the adaptive actions need to span from site-specific solutions to identified problems, to modifications in strategies for environmental management at the Municipal scale.

A preliminary monitoring plan has been developed following and refining the requirements defined by the Ninth Line Phase 3 SWS (Wood 2020) and is based on impact validation indicators (e.g., reliable, cost-effective, accurate, efficient, etc.). The proposed monitoring plan will ensure that protective mitigation strategies (i.e., VPZ) effectively achieve their intended purpose (e.g., woodland protection). Any identified deficiencies will be addressed by the developer.

A variety of pre-construction, construction and post-construction monitoring strategies are recommended to ensure that construction mitigation and post-construction enhancements have been installed and are functioning as designed and that no unanticipated impacts are occurring. The proposed preliminary monitoring plan is intended to inform the preparation of a comprehensive monitoring program as part of the detailed design stage. As further details become available, the proposed preliminary monitoring plan may be revised, refined, or amended, as required. The comprehensive monitoring program will incorporate specific design elements, compensation measures and adaptive monitoring. Specific monitoring targets and appropriate adaptive management responses will be defined through the comprehensive monitoring plan for review and approval by regulatory authorities.

9.1 Monitoring Plan

9.1.1 Pre-Construction Monitoring

Pre-construction baseline monitoring to establish monitoring stations and define existing conditions has been informed by previous ecological field investigations conducted as part Phase 1 SWS (Amec 2015) and the 5150 Ninth Line Site Plan application. As no natural heritage features or functions were identified on the Subject Lands, construction and post-construction monitoring will target the adjacent significant woodland and associated VPZ.

9.1.2 Construction Monitoring

The construction monitoring phase will evaluate the effectiveness of environmental protection and mitigation measures as they relate to protection of the significant woodland and its associated wetland inclusions, SWH and potential SAR habitat. Construction monitoring will ensure that woodland setbacks are maintained, tree protection fencing is installed and functioning, and that the erosion and sedimentation control plan is implemented, maintained, and functioning effectively.

9.1.3 Post-Construction Monitoring

As per the Ninth Line Phase 3 SWS (Wood 2020), post-construction monitoring shall assess the early establishment of vegetation communities associated with the NHS.

A detailed planting and landscaping plan will be developed through the detailed design stage for implementation within the proposed VPZ and landscape buffer. Monitoring of vegetation survival and growth is recommended to confirm targets for survival, community composition and form are met. In addition, the health of any proposed tree plantings should be assessed, and additional trees should be planted if mortalities are observed. The following are key restoration performance measures that should be considered in the development of a comprehensive monitoring program:

Growth Rate – Sampling using statistically valid methods to assess the relative growth rates of each size category of woody material that is used.

Survivorship – Sampling using statistically valid methods to assess the establishment and survivorship for each size category of plant material that is used.

'Free-to-grow' Performance (FTG) – Sampling using statistically valid methods to assess the relative percentage of woody plants that achieve 'free-to-grow' status three, five and 10 years after planting under the relevant monitoring program(s). FTG is defined as growth exceeding the average height of surrounding herbaceous meadow cover. Maintenance interventions, including irrigation of planted areas, mulch top-ups, and annual control of competing vegetation, may be conducted for a minimum of two years, and thereafter where necessary, until the "free to grow" stage is achieved.

Node Coverage – Percentage of total cover of woody node cover by node type, to be determined three and five years after planting.

Invasive Species – Checklist of all invasive species present, and rating of level of infestations. Invasive species to be tracked include those Priority 1 invasive species as outlined in the considered Invasive Species Management Plan and Implementation Strategy (2021) and those falling within Category 1 (Species that exclude all other species and dominate sites indefinitely) and Category 2 (*Species that are highly invasive but tend to dominate only certain niches or do not spread rapidly from major concentrations*) of *Sustaining Biodiversity: A Strategic Plan for Managing Invasive Plants in Southern Ontario* (Havinga et. al. 2000). During the establishment period, measures to monitor and control the spread of highly invasive and competing species should be implemented to prevent establishment and achieve effective removal of invasive species.

Disturbance and Encroachment – Checklist and annotated mapping of areas where disturbance and encroachment are evident. To be determined one, three and five years after planting.

9.2 Adaptive Management Plan

Adaptive management actions may be undertaken during the third year of assessment, if not sooner, to provide corrective measures as needed. Potential adaptive management measures may include, but are not limited to:

- **Vegetation Plantings** – In-plantings of native species (i.e., seeding, tree and/or shrub) to reduce invasion by non-native species or to replace desiccated planted stock.
- **Invasive Species Management**
    - If Priority 1 Invasive species (City of Mississauga 2021) are detected within the buffer zone, they specimens will be removed; and,
    - If any Category 1 (Urban Forest Associates 2002) invasive species are detected within the buffer zone, species should be evaluated on a case-by-case basis to determine the extent of the invasion, assess the risk of further spread, evaluate preferred control methods, and complete a risk assessment in terms of whether control or eradication is warranted. The outcome (i.e., intervention or no intervention) should be monitored and documented along with any follow up actions.

While it is expected that achievement of the target vegetation communities will facilitate growing conditions for target flora, which in turn will attract target fauna, the occupation of target species cannot be guaranteed. Should target indicator species not be detected through the monitoring program, the need for adaptive management efforts should be assessed. This type of data, regarding species' usage of created habitats, will be used to assist with planning for future development areas where habitat restoration is being considered.

Where necessary, adjustments through adaptive management should be applied to ensure that performance standards are achieved and to address any necessary adjustments. Maintenance interventions, such as irrigation of planted areas, mulch top-ups, and annual control of competing vegetation, should be conducted intensively for a minimum of two years, and thereafter where necessary, until the "free to grow" stage is achieved. During this establishment period, measures to monitor and control the spread of highly invasive and competing species should be implemented.

9.3 Reporting

9.3.1 Annual Reporting

Post-construction, annual monitoring reports are to be prepared summarizing the findings from the previous year. These reports are not expected to contain detailed assessment or interpretation of data. Discussion will be limited to general observations and summary of development activities and extent during the monitoring year. In addition, these reports will include any required recommendations for modifications to the monitoring program, repair/rehabilitation work required and system design modifications. The reports will be provided to the City and CVC on or before March 1 of each year, covering the monitoring from the previous calendar year.

9.3.2 Milestone Reporting

Ecological monitoring is recommended to occur in years one, three and five for five years. Milestone reports are proposed at year three and year five. These reports will include more detailed commentary on NHS integrity, any perceived trends in the data collected, and general infrastructure performance, and will provide a summary of adaptive management approaches. In addition, these reports will include any required recommendations for modifications to the monitoring program, repair/rehabilitation work required, and system design modifications.

10. Conclusions and Recommendations

This Scoped EIS was developed as part of the municipal planning process for the Draft Plan of Subdivision for the 5160-5170 Ninth Line property located in Mississauga, Ontario. A block-based approach to the assessment of natural heritage features and functions was not deemed applicable in the context of the Subject Lands given that the property is largely isolated from the primary restoration plan area and that all necessary mitigation will be accommodated within the property. An assessment of the natural heritage features and their associated functions on, and adjacent to, the Subject Lands has been conducted and discussed in relation to the PPS (MMAH 2020), related guidance documents, and the regional and municipal Official Plans. The objectives of this Scoped EIS were to delineate the boundaries of significant natural features, provide an analysis of potential impacts to natural heritage features and associated ecological functions, and identify appropriate compensation measures (i.e., area and/or functional compensation).

Various natural heritage features were identified adjacent to the Subject Lands; however, no natural features were identified on the subject property given the anthropogenic nature of existing land uses. Within the adjacent significant woodland, associated habitat types include other wetlands, candidate bat maternity colonies, potential SAR bat habitat, and candidate habitat for Species of Conservation Concern (i.e., Eastern Wood-Pewee and Wood Thrush). Potential impacts to these features have been considered herein.

Potential impacts to natural heritage features and functions associated with the adjacent development site have been addressed as part of the 5150 Ninth Line Site Plan application and were therefore not subject to further assessment under this Scoped EIS, although the presence of these features is acknowledged.

The development boundary has been designed in a manner that minimizes indirect impacts to adjacent natural heritage features and their associated functions to the maximum extent possible through the application of a VPZ and landscape buffer (**Figure 4**, **Appendix A**). No direct impacts are anticipated as a result of the development proposal. Indirect effects associated with the adjacent significant woodland and associated features/functions contained therein, shall be mitigated through the application of a woodland VPZ. Under existing conditions, the anthropogenic vegetation adjacent to the woodland boundary (i.e., manicured lawn) does not provide an effective minimum VPZ, as evidenced by the disturbed nature of the existing woodland edge. Furthermore, the anthropogenic vegetation communities and the edge habitat of the woodland provide limited support of natural heritage features and candidate SWH. It is expected that impacts to the woodland will primarily result from indirect disturbance associated with vectors similar to those present on the existing residential and commercial lots adjacent to the feature. Potential impacts may be primarily mitigated through the implementation of a buffer zone, which will replace the existing disturbed areas with a stratified vegetation community designed to provide robust protection to the significant woodland and its associated ecological functions. The proposed VPZ, in conjunction with strategic mitigation techniques, will aim to improve the resiliency and structural integrity of woodland habitat.

A preliminary monitoring program is recommended to verify that mitigation is having the intended effects (e.g., erosion and sediment control measures during construction) and that ecological enhancement measures (e.g., native vegetation plantings within the VPZ) have established successfully.

Overall, the proposed development is not expected to have a negative impact on natural features and their ecological functions provided that the appropriate mitigation and/or restoration strategies, as outlined in this report, are implemented to maintain, and enhance existing conditions.

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Appendix C – Consultation and Agency Correspondence

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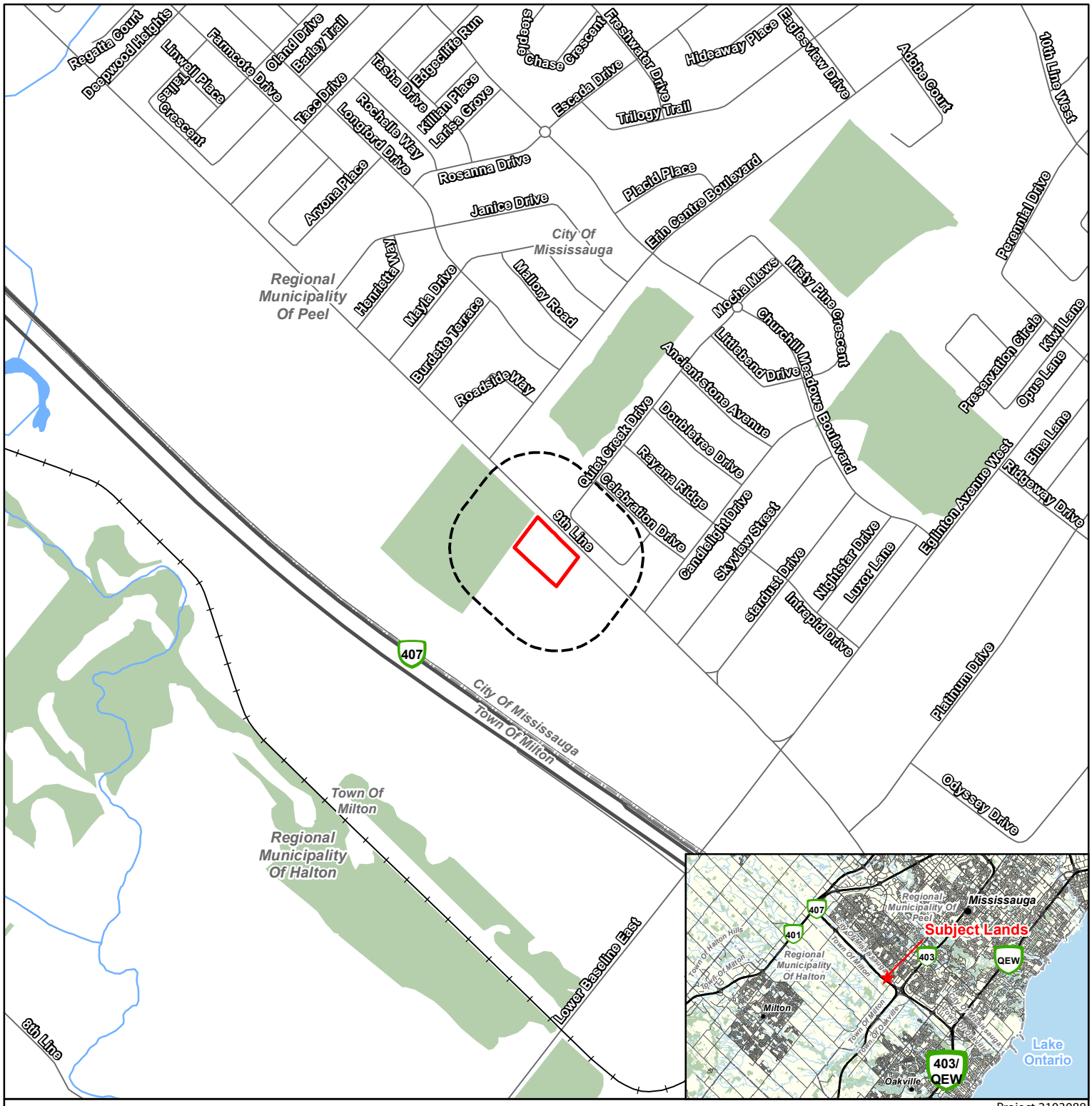

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NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2022.

Legend

- Subject Lands
- 120 metre Area of Investigation
- Railway
- Municipal Boundary, Lower/Single Tier
- Municipal Boundary, Upper Tier
- Watercourse
- Waterbody
- Wooded Area

5160-5170 Ninth Line
Branthaven Developments

Figure 1
Location of Subject Lands

0 100 m
1:10,000

N

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Legend

- Subject Lands
- 120 metre Area of Investigation
- Hydro Line
- Railway
- Highway
- Road
- Trail Segment (OTN)
- Conservation Authority Administrative Boundary
- Municipal Boundary, Lower/Single Tier
- Municipal Boundary, Upper Tier
- Provincially Significant Wetland
- Watercourse
- Waterbody
- Wooded Area

5160-5170 Ninth Line
Branthaven Developments

Figure 2
Designated Natural Heritage Features

0 100 m
1:10,000

N

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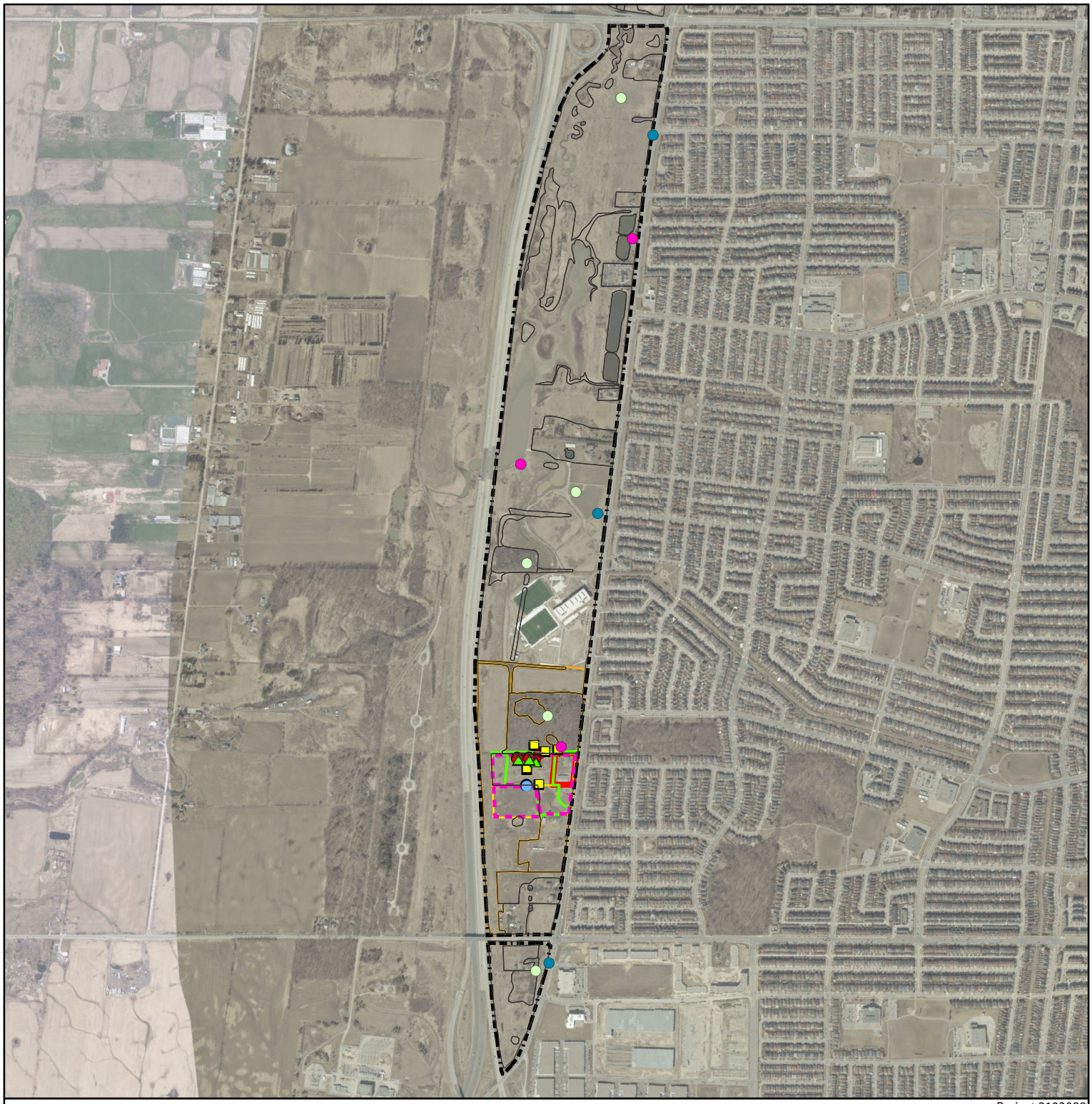

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Legend

- Subject Lands
- Block 3
- Ecological Land Classification (Savanta 2019)
- Ecological Land Classification (SWS; Amec Foster Wheeler 2015)

Background Study Locations (5150 Ninth Line)

- Breeding Bird Point Count Station
- Turtle Basking Survey Station
- Snake Visual Encounter Survey Area
- Bat Snags
- Amphibian Call Count Survey Station
- Bat Habitat Assessment Polygon

Background Study Locations (Subwatershed Study)

- Anuran Monitoring Station (NRSI 2014)
- Breeding Bird Monitoring Station (NRSI 2014)
- Nocturnal Bird Monitoring Station (NRSI 2014)
- ELC - NSRI
- Bat Habitat Assessment

5160-5170 Ninth Line
Branthaven Developments

Figure 3a
Background Information Study Locations

0 100 m
1:18,000

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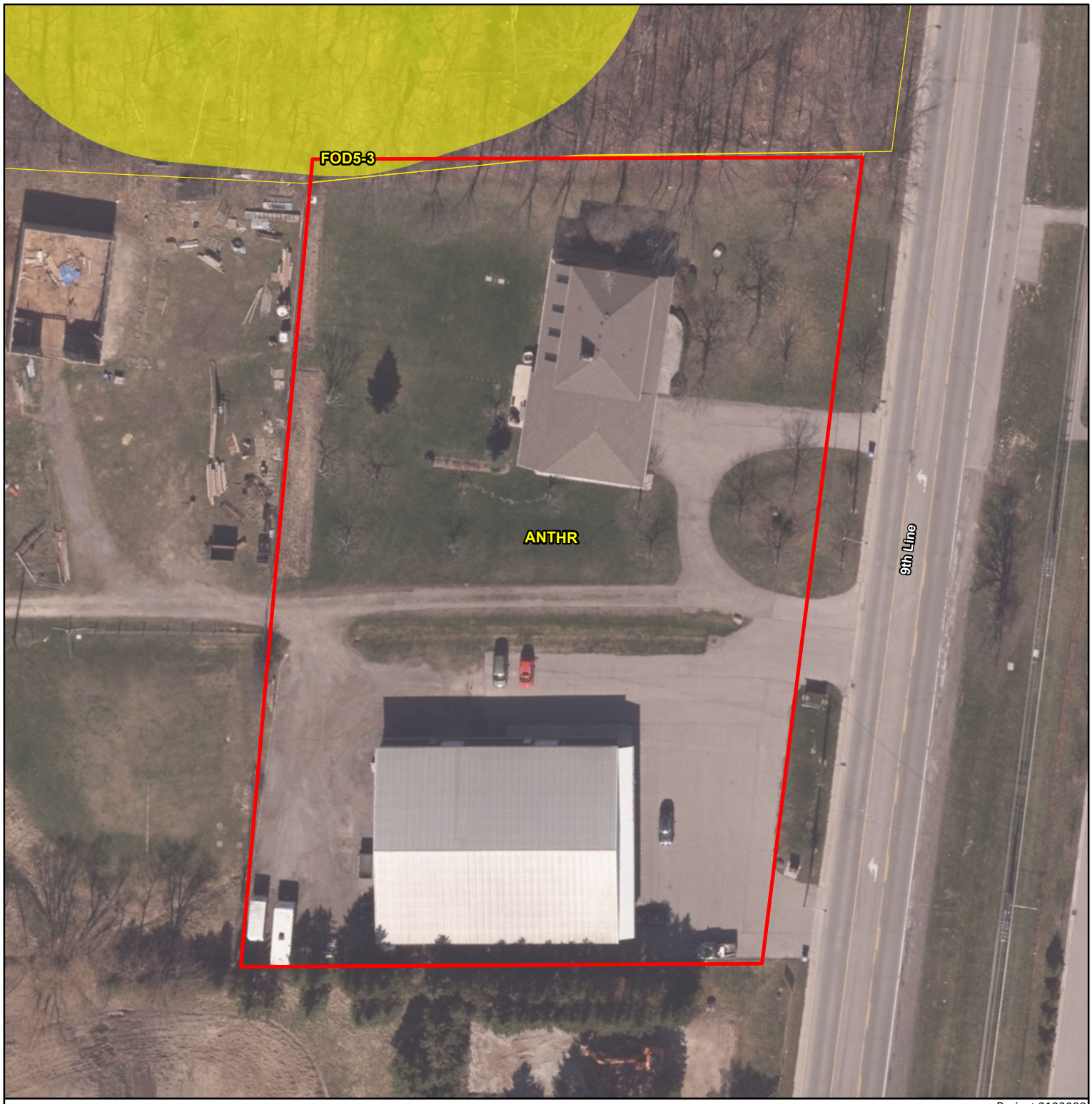

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Legend

Subject Lands

Ecological Land Classification (GEI 2022)

Approximate Extent of Credit Valley Conservation Authority Regulated Area

ELC Legend

ANTHR, Anthropogenic

FOD5-3, Dry – Fresh Sugar Maple Oak Deciduous Forest

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5160-5170 Ninth Line
Branthaven Developments

Figure 3b
Ecological Land Classification

0 10 m

1:700

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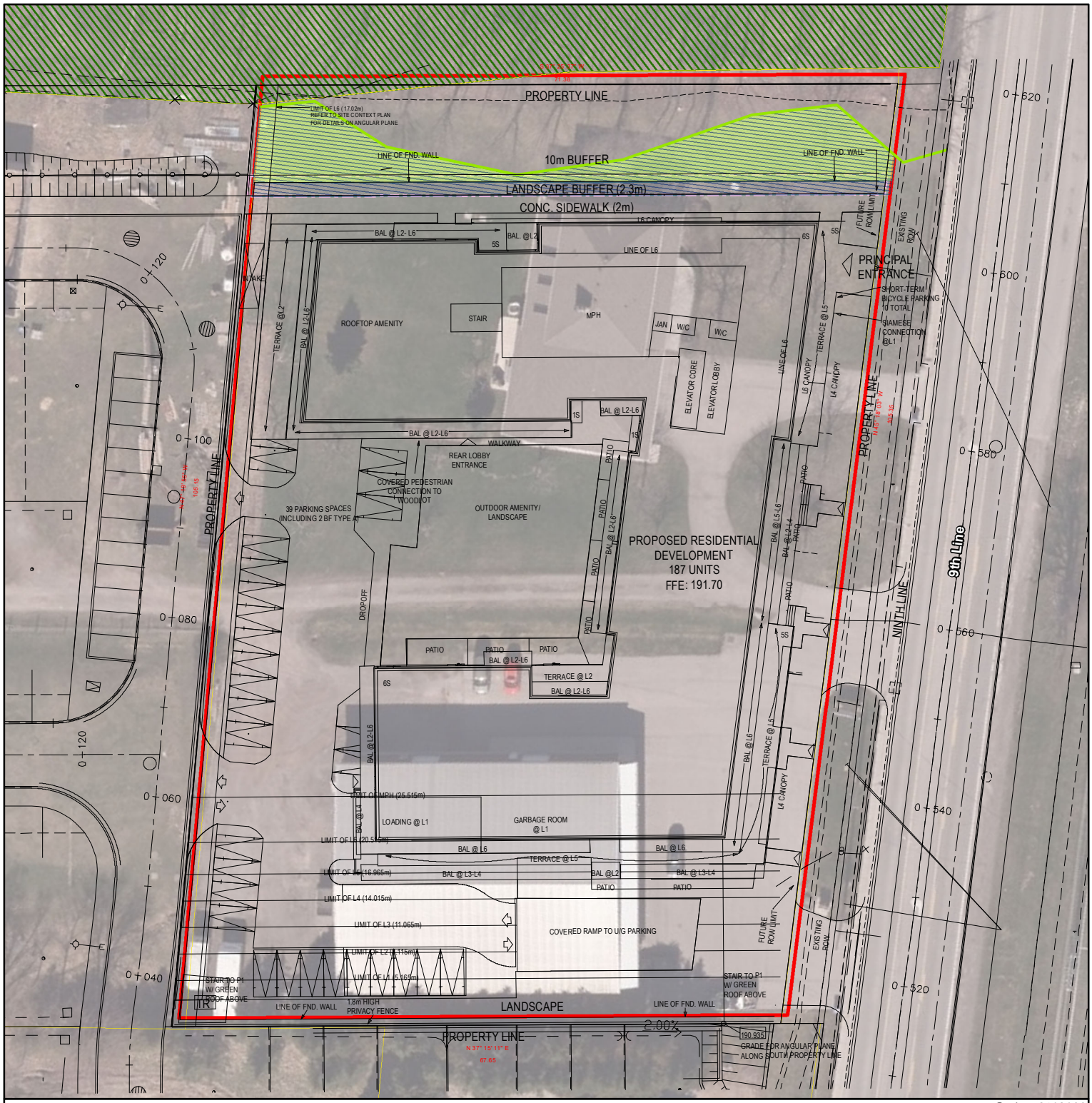

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4. Site Plan: '21014P04_Ninth Line_SPA_current_Site Plan_2022_07_04.dwg'.

Legend

- Subject Lands
- Significant Woodland
- Ultimate Buffer to Dripline
- Interim Buffer To Dripline
- Landscape Buffer
- Staked Dripline (Nov 2021)

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5160-5170 Ninth Line
Branthaven Developments

Figure 4
Natural Heritage Features & Proposed Site Plan

0 10 m
1:600

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Appendix B

Tables

Table 1: Natural Heritage Information Centre (NHIC) Data

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC	Last Observed	Extirpated
Bobolink	*Dolichonyx oryzivorus*	S4B	G5	THR	THR		N
Eastern Milksnake	*Lampropeltis triangulum*	S4	G5	---	SC		N
Henslow's Sparrow	*Ammodramus henslowii*	S1B	G4	END	END		N
Midland Painted Turtle	*Chrysemys picta marginata*	S4	G5T5	---	SC		N

Table 2: Ontario Breeding Bird Atlas (OBBA) Data

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC	Last Observed	Extirpated
Bank Swallow	*Riparia riparia*	S4B	G5	THR	THR		N
Barn Swallow	*Hirundo rustica*	S4B	G5	THR	THR		N
Bobolink	*Dolichonyx oryzivorus*	S4B	G5	THR	THR		N
Chimney Swift	*Chaetura pelagica*	S3B	G4G5	THR	THR		N
Eastern Meadowlark	*Sturnella magna*	S4B, S3N	G5	THR	THR		N
Common Nighthawk	*Chordeiles minor*	S4B	G5	SC	SC		N
Eastern Wood-Pewee	*Contopus virens*	S4B	G5	SC	SC		N
Peregrine Falcon	*Falco peregrinus*	S4	G4	SC	NAR		N
Wood Thrush	*Hylocichla mustelina*	S4B	G4	SC	THR		N

Note: A “Last Observed” date is not provided in the OBBA database search.

Table 3: Ontario Nature Herpetology Atlas Data

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC	Last Observed	Extirpated
Eastern Milksnake	*Lampropeltis triangulum*	S4	G5	NAR	SC	2018	N
Jefferson Salamander	*Ambystoma jeffersonianum*	S2	G4	END	END	2004	N
Snapping Turtle	*Chelydra serpentina*	S4	G5	SC	SC	2019	N
Western Chorus Frog (Great Lakes / St. Lawrence - Canadian Shield population)	*Pseudacris triseriata*	S4	G5TNR	NAR	THR	2012	N
Northern Map Turtle	*Graptemys geographica*	S3	G5	SC	SC	2015	N
Blanding's Turtle	*Emydoidea blandingi*	S3	G4	THR	END	2015	N
Midland Painted Turtle	*Chrysemys picta marginata*	S4	G5T5	---	SC	2018	N

Table 4: Ontario Butterfly Atlas Data

Common Name	Scientific Name	S-Rank	G-Rank	COSSARO	COSEWIC	Last Observed	Extirpated
Monarch	*Danaus plexippus*	S4B, S2N	G4	SC	END	2019	N

Table 5: Field Studies and Natural Inventories (2021 & 2022)

SURVEYORS (SURNAME, INTL)	SURVEY ROUND	SURVEY TYPE	DATE	TIME		AIR TEMP (°C)	HUMIDITY (%)	CLOUD COVER (%)	BEAUFORT WIND SPEED	PRECIPITATION COMMENTS
				START	END					
2021										
Leslie, J.	1	Preliminary Feature Staking Ecological Land Classification (verification)	12-OC	09:00	11:00	19	78	20	4	None
Leslie, J.	1	Formal Feature Staking – Agency Site Visit Site Reconnaissance	01-NO	14:00	15:00	9	54	0	3	None
2022										
Snow, J	2	Botanical Inventory and Ecological Land Classification (verification)	21-Jul	11:00	12:00	28	51	50	3	None

Table 5: Field Studies and Natural Inventories (2021 & 2022)

LEGEND:

BEAUFORT WIND SPEED SCALE	
1	Calm (<1 km/hr)
2	Light Air (1-5 km/hr)
3	Light Breeze (6-11 km/hr)
4	Gentle Breeze (12-19 km/hr)
5	Moderate Breeze (20-28 km/hr)

MONTH (CODE)	
JA	January
FB	February
MR	March
AP	April
MA	May
JU	June
JL	July
AU	August
SE	September
OC	October
NO	November
DE	December

Table 6: Ecological Landscape Characterization (ELC) Community Description

ELC TYPE	COMMUNITY DESCRIPTION	S-RANK (NHIC 2021)
FOREST		
Deciduous Forest		
FOD5-3 Dry-Fresh Sugar Maple – Oak Deciduous Forest	• Mature canopy adjacent to 5170 Ninth Line was dominated by Red Oak (*Quercus rubra*) Bur Oak (*Quercus macrocarpa*), Sugar Maple (*Acer saccharum*), Basswood (*Tilia americana*) and Shagbark Hickory *(Carya ovata var. ovata).* • Subcanopy consisted of Basswood, White Elm (*Ulmus americana*) and Ironwood (*Ostrya virginiana*). • Understory species often include canopy saplings, Chokecherry (*Prunus virginiana*), White Ash (*Fraxinus americana*), Common Buckthorn (*Rhamnus cartharica*) and Sugar Maple. • Groundcover species included Enchanter's Nightshade (*Circaea canadensis ssp. canadensis*), Garlic Mustard (*Alliaria petiolata*), Running Strawberry Bush (*Euonymus obovatus*) and Jack-in-the-pulpit (*Arisaema triphyllum ssp. triphyllum*). • Some diseased oaks and elms were present. As well, cleared areas and trash were observed within the feature.	S5

ORDER	FAMILY	LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIAL STATUS (S-RANK)	GLOBAL STATUS (G-RANK)	COSSARO (MNRF)	COSEWIC STATUS	PEEL (Varga 2005)	CVC/PEEL (CVC 2002)	PEEL	Anthropgenic Areas	FOD5-3
DICOTYLEDONS	Amaranthaceae	*Chenopodium album*	Common Lamb's-Quarters		3		-1		SNA	G5T5			X	X	I	x	
DICOTYLEDONS	Apiaceae	*Daucus carota*	Wild Carrot		5		-2		SNA	GNR			X	X	I	x	
DICOTYLEDONS	Asteraceae	*Cichorium intybus*	Wild Chicory		5		-1		SNA	GNR			X	X	I	x	
DICOTYLEDONS	Asteraceae	*Cirsium arvense*	Canada Thistle		3		-1	1	SNA	GNR			X	X	I	x	x
DICOTYLEDONS	Asteraceae	*Cirsium vulgare*	Bull Thistle		3		-1		SNA	G5			X	X	I	x	x
DICOTYLEDONS	Asteraceae	*Erigeron annuus*	Annual Fleabane	0	3				S5	G5			X	X			x
DICOTYLEDONS	Asteraceae	*Nabalus altissimus*	Tall Rattlesnakeroot	5	3				S5	G5			X	X	X		x
DICOTYLEDONS	Asteraceae	*Solidago caesia var. caesia*	Blue-Stemmed Goldenrod	5	3				S5	G5			X	X	X		x
DICOTYLEDONS	Asteraceae	*Solidago canadensis*	Canada Goldenrod	1	3				S5	G5T5			X	X	X	x	
DICOTYLEDONS	Asteraceae	*Sonchus arvensis ssp. arvensis*	Field Sow-Thistle		3				SNA	GNR			X	I	I	x	x
DICOTYLEDONS	Asteraceae	*Symphyotrichum lanceolatum*	Panicled Aster	3	-3	I			S5	G5			X	X	X	x	
DICOTYLEDONS	Asteraceae	*Symphyotrichum lateriflorum var. lateriflorum*	Calico Aster	3	0	T			S5	G5T5			X	X	X		x
DICOTYLEDONS	Asteraceae	*Taraxacum officinale*	Common Dandelion		3		-2		SNA	G5			X	I	I		x
DICOTYLEDONS	Berberidaceae	*Podophyllum peltatum*	May-Apple	5	3				S5	G5			X	X	X		x
DICOTYLEDONS	Betulaceae	*Ostrya virginiana*	Eastern Hop-Hornbeam	4	3				S5	G5			X	X	X		x
DICOTYLEDONS	Bignoniaceae	*Catalpa speciosa*	Northern Catalpa		3		-1		SNA	GU			X	I	I	x	
DICOTYLEDONS	Brassicaceae	*Alliaria petiolata*	Garlic Mustard		0		-3	1	SNA	G5			X	X	I		x
DICOTYLEDONS	Caprifoliaceae	*Dipsacus fullonum*	Common Teasel		3		-1	3	SNA	G?T?			X	X	I		x
DICOTYLEDONS	Caprifoliaceae	*Lonicera tatarica*	Tartarian Honeysuckle		3		-3	1	SNA	GNR			X	I	I		x
DICOTYLEDONS	Caryophyllaceae	*Dianthus armeria ssp. armeria*	Deptford Pink		5		-1		SNA	GNR			X	X	I		x
DICOTYLEDONS	Celastraceae	*Euonymus obovatus*	Running Strawberry Bush	6	5				S4	G5			X	X	X		x
DICOTYLEDONS	Fabaceae	*Lotus corniculatus*	Garden Bird's-Foot Trefoil		3		-2	2	SNA	GNR			X	I	I	x	
DICOTYLEDONS	Fabaceae	*Medicago lupulina*	Black Medick		3		-1	4	SNA	GNR			X	I	I	x	
DICOTYLEDONS	Fagaceae	*Fagus grandifolia*	American Beech	6	3				S4	G5			X	X	X		x
DICOTYLEDONS	Fagaceae	*Quercus macrocarpa*	Bur Oak	5	3	T			S5	G5			X	X	X		x
DICOTYLEDONS	Fagaceae	*Quercus rubra*	Northern Red Oak	6	3				S5	G5			X	X	X	x	x
DICOTYLEDONS	Geraniaceae	*Geranium robertianum*	Herb-Robert	2	3		-2		S5	G5			X	I	I		x
DICOTYLEDONS	Grossulariaceae	*Ribes rubrum*	European Red Currant		5	T	-2		SNA	G4G5			X	I	I		x
DICOTYLEDONS	Juglandaceae	*Carya ovata var. ovata*	Shagbark Hickory	6	3	T			S5	G5			X	X	X		x
DICOTYLEDONS	Lamiaceae	*Glechoma hederacea*	Ground-Ivy		3		-2	4	SNA	GNR			X	I	I		x
DICOTYLEDONS	Lamiaceae	*Nepeta cataria*	Catnip		3		-2	4	SNA	GNR			X	I	I	x	
DICOTYLEDONS	Lamiaceae	*Prunella vulgaris ssp. vulgaris*	Common Self-Heal		0		-1		S5	G5T?			X				x
DICOTYLEDONS	Malvaceae	*Tilia americana*	Basswood	4	3				S5	G5			X	X	X	x	x
DICOTYLEDONS	Oleaceae	*Fraxinus americana*	White Ash	4	3				S4	G5			X	X	X		x
DICOTYLEDONS	Oleaceae	*Syringa vulgaris*	Common Lilac		5		-2	2	SNA	GNR			X	I	I	x	
DICOTYLEDONS	Plantaginaceae	*Plantago lanceolata*	English Plantain		3		-1		SNA	G5			X	I	I	x	
DICOTYLEDONS	Plantaginaceae	*Plantago major*	Common Plantain		3		-1		SNA	G5			X	I	I		x
DICOTYLEDONS	Polygonaceae	*Rumex crispus*	Curled Dock		0	T	-2		SNA	GNR			X	I	I	x	
DICOTYLEDONS	Ranunculaceae	*Anemone canadensis*	Canada Anemone	3	-3	T			S5	G5			X	X	X		x
DICOTYLEDONS	Rhamnaceae	*Rhamnus cathartica*	European Buckthorn		0	T	-3	1	SNA	GNR			X	I	I		x
DICOTYLEDONS	Rosaceae	*Fragaria vesca*	Woodland Strawberry	4	3				S5	G5			X	X	X		x
DICOTYLEDONS	Rosaceae	*Geum aleppicum*	Yellow Avens	2	0	T			S5	G5			X	X	X		x
DICOTYLEDONS	Rosaceae	*Geum canadense*	White Avens	3	0	T			S5	G5			X	X	X		x
DICOTYLEDONS	Rosaceae	*Malus pumila*	Common Apple		5		-1		SNA	G5			X	I	I	x	
DICOTYLEDONS	Rosaceae	*Potentilla simplex*	Old Field Cinquefoil	3	3				S5	G5			U	X	X		x
DICOTYLEDONS	Rosaceae	*Prunus virginiana var. virginiana*	Chokecherry	2	3				S5	G5T?			X	X	X		x
DICOTYLEDONS	Sapindaceae	*Acer platanoides*	Norway Maple		5		-3	2	SNA	GNR			X	I	I	x	
DICOTYLEDONS	Sapindaceae	*Acer saccharum*	Sugar Maple	4	3				S5	G5			X	X	X		
DICOTYLEDONS	Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade		0	T	-2	3	SNA	GNR			X	I	I		x
DICOTYLEDONS	Ulmaceae	*Ulmus americana*	White Elm	3	-3	T			S5	G5			X	X	X	x	
DICOTYLEDONS	Vitaceae	*Vitis riparia*	Riverbank Grape	0	0				S5	G5			X	X	X		x
GYMNOSPERMS	Pinaceae	*Picea pungens*	Blue Spruce		3				SNA	G5						x	
GYMNOSPERMS	Pinaceae	*Pinus strobus*	Eastern White Pine	4	3	T			S5	G5			X	X	X		x
MONOCOTYLEDONS	Araceae	*Arisaema triphyllum ssp. triphyllum*	Jack-In-The-Pulpit	5	-3	T			S5	G5			X	X	X		x
MONOCOTYLEDONS	Poaceae	*Phalaris arundinacea var. arundinacea*	Reed Canary Grass	0	-3	T		P	S5	GNR			X	X	X	x	
MONOCOTYLEDONS	Poaceae	*Phleum pratense ssp. pratense*	Common Timothy		3		-1		SNA	GNR			X	I	I	x	
MONOCOTYLEDONS	Poaceae	*Poa pratensis*	Kentucky Bluegrass	0	3			2	S5	G5			X	X	X	x	
PTERIDOPHYTES	Dryopteridaceae	*Polystichum acrostichoides*	Christmas Fern	5	3				S5	G5			X	X	X		x

ORDER	FAMILY	LATIN NAME	COMMON NAME	COEFFICIENT OF CONSERVATISM	WETNESS INDEX	OWES WETLAND SPECIES	WEEDINESS INDEX	INVASIVE EXOTIC RANK (Urban Forest Associates 2002)	PROVINCIAL STATUS (S-RANK)	GLOBAL STATUS (G-RANK)	COSSARO (MNRF)	COSEWIC STATUS		PEEL (Varga 2005)	CVC/PEEL (CVC 2002)	PEEL	Anthropgenic Areas	FOD5-3

STATISTICS		
Species Diversity		
Total Number of Species:	58	
Native Species:	31	53%
Exotic Species:	27	47%
S1-S3 Species:	0	0%
S4 Species:	3	10%
S5 Species:	28	90%
Floristic Quality Assessment (FQA)		
Mean Co-efficient of Conservatism (CC)	3.4	
CC 0 - 3 = lowest sensitivity	14	45%
CC 4 - 6 = moderate sensitivity	16	52%
CC 7 - 8 = high sensitivity	0	0%
CC 9 - 10 = highest sensitivity	0	0%
Floristic Quality Index (FQI)	19	
Weedy & Invasive Species		
Mean Weediness Index (Oldham et al):	-1.7	
-1 = low potential invasiveness	13	48%
-2 = moderate potential invasiveness	10	37%
-3 = high potential invasivenss	4	15%
Mean Exotic Rank (Urban Forest Associates):	2	
Category 1	4	15%
Category 2	4	15%
Category 3	2	7%
Category 4	3	11%
Potentially Invasive (P)	1	4%
Wetland Species		
Mean Wetness Index	2.3	
Upland	8	14%
Facultative upland	36	62%
Facultative	9	16%
Facultative wetland	5	9%
Obligate wetland	0	0%

Table 8: Significant Wildlife Habitat Assessment (7E Ecoregion)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
1. SEASONAL CONCENTRATION AREAS					
Waterfowl Stopover and Staging Areas (terrestrial)	No – Eligible vegetation communities are absent from the Subject Lands.	No	No	N/A	Not Present
Waterfowl Stopover and Staging Areas (aquatic)	No – Eligible vegetation communities are absent from the Subject Lands. Deciduous swamp (SWD2-2) vegetation communities on the adjacent lands will be retained and protected within the significant woodland in accordance with the City of Mississauga Official Plan (2021 Consolidation). However, these isolated features are predominately ephemeral and would not be expected to attract or support significant numbers of waterfowl.	No	No	N/A	Not Present
Shorebird Migratory Stopover Areas	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No	No	N/A	Not Present
Raptor Wintering Areas	No – Eligible vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) does not meet minimum size criteria (>20 ha).	No	No	N/A	Not Present
Bat Hibernacula	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No	No	N/A	Not Present
Bat Maternity Colonies	No – Eligible vegetation communities are absent from the Subject Lands. Based on the results of the SWS bat habitat assessment and site reconnaissance visits the features is candidate habitat for bat maternity colonies. This feature will be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation).	No	No	N/A	Not Present within the Subject Lands. Candidate habitat is present beyond the Subject Lands.
Turtle Wintering Areas	No – Eligible vegetation communities are absent from the Subject Lands.	No	No	N/A	Not Present

Table 8: Significant Wildlife Habitat Assessment (7E Ecoregion)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
Reptile Hibernacula	No – Natural ecosites are absent from the Subject Lands.	No potential hibernacula were identified during the field investigations completed within and adjacent to the Subject Lands.	No	N/A	Not Present
Colonial Bird Nesting Sites (bank/cliff)	No – Eligible vegetation communities are absent on or adjacent to the Subject Lands.	No	No	N/A	Not Present
Colonial Bird Nesting Sites (tree/shrubs)	No – Eligible vegetation communities are absent from the Subject Lands. Deciduous swamp (SWD2-2) vegetation communities on the adjacent lands are not large enough to provide a suitable colonization area for local bird populations.	No	No	N/A	Not Present
Colonial Bird Nesting Sites (ground)	No – No rocky islands or peninsulas are present on or adjacent to the Subject Lands.	No	No	N/A	Not Present
Migratory Butterfly Stopover Areas	No – Eligible vegetation communities are absent from the Subject Lands and the Subject Lands occur greater than 5 km from Lake Erie and Lake Ontario.	No	No	N/A	Not Present
Landbird Migratory Stopover Areas	No – Eligible vegetation communities are absent from the Subject Lands and the Subject Lands occur greater than 5 km from Lake Erie and Lake Ontario.	No	No	N/A	Not Present
Deer Winter Congregation Areas	No – MNRF has not identified the Subject Lands as having deer winter congregation areas.	No	No	N/A	Not Present
2. RARE VEGETATION COMMUNITIES OR SPECIALIZED HABITAT FOR WILDLIFE					
2a. Rare Vegetation Communities					
Rare Vegetation Types (cliffs, talus slopes, sand barrens, alvars, old-growth forests, savannahs, and tallgrass prairies)	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No	No	N/A	Not Present

Table 8: Significant Wildlife Habitat Assessment (7E Ecoregion)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
Other Rare Vegetation Types (S1 to S3 communities)	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No	No	N/A	Not Present
2b. Specialized Wildlife Habitat					
Waterfowl Nesting Area	No – Eligible vegetation communities are absent from the Subject Lands. Wetland communities (i.e., SWD2-2, MAS2-1) on the adjacent lands do not meet candidate habitat criteria (i.e., cluster of 3 or more wetlands <0.5 ha) (>120 m wide).	No	No	N/A	Not Present
Bald Eagle and Osprey Habitats	No – Eligible vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) will be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation). However, as aquatic habitat immediately adjacent to the woodland is not large enough to support these species and their life cycles, candidate habitat criteria are not met.	No	No	N/A	Not Present
Woodland Raptor Nesting Habitat	No – Eligible vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) does not meet minimum size criteria (i.e., >30 ha with >4 ha interior habitat).	No stick nests were observed during field investigations with the significant Woodland feature that abuts the Subject Lands	No	N/A	Not Present
Turtle Nesting Areas	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No suitable substrate types or evidence of turtle nesting was observed during field investigations within the Subject Land or within the woodland abutting the Subject Lands.	No	N/A	Not Present
Seeps and Springs	No – Eligible vegetation communities are absent from the Subject Lands.	No evidence of seeps or springs were observed	No	N/A	Not Present

Table 8: Significant Wildlife Habitat Assessment (7E Ecoregion)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
	Adjacent significant woodland (FOD5) is associated with headwater drainage features, and will be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation).	during field investigations within the woodland abutting the Subject Lands.			
Woodland Amphibian Breeding Habitats (within or < 120m from woodland)	No – Eligible vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) with deciduous swamp (SWD2-2-) inclusions will be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation). However, based on surveys conducted in support of the 5150 Ninth Line Site Plan Application, abundance criteria were not met for the adjacent woodland.	No	No	N/A	Not Present
Wetland Amphibian Breeding Habitats (wetland >120m from woodland)	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No	No	N/A	Not Present
Woodland Area-Sensitive Bird Breeding Habitat	No – Eligible vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) with deciduous swamp (SWD2-2-) inclusions does not meet minimum size criteria (i.e., >30 ha).	No	No	N/A	Not Present
3. SPECIES OF CONSERVATION CONCERN					
Marsh Bird Breeding Habitat	No – Eligible vegetation communities are absent from the Subject Lands. Abundance criteria for marsh birds were not met for shallow aquatic habitat (SAF1-3) on the adjacent lands. This feature shall be addressed as part of the 5150 Ninth Line Site Plan Application.	No	No	N/A	Not Present
Open Country Bird Breeding Habitat	No – Eligible vegetation communities are absent from the Subject Lands. Meadow habitat on the adjacent lands does not meet minimum size criteria (i.e., >30 ha).	No	No	N/A	Not Present

Table 8: Significant Wildlife Habitat Assessment (7E Ecoregion)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
Shrub/Early Successional Bird Breeding Habitat	No – Eligible vegetation communities are absent on and adjacent to the Subject Lands.	No	No	N/A	Not Present
Terrestrial Crayfish	No – Eligible vegetation communities are absent from the Subject Lands. No evidence of Terrestrial Crayfish was identified on the adjacent lands although candidate habitat may be present within the significant woodland.	No crayfish chimneys were observed during field investigations within the Subject Land or within the woodland abutting the Subject Lands.	No	N/A	Not Present
3a. Special Concern and Rare Wildlife Species					
(i) Common Nighthawk (*Chordeiles minor*)	N/A	No – Natural vegetation communities to support this species are absent from the Subject Lands.	No	N/A	Not Present
(ii) Eastern Wood-Pewee (*Contopus virens*)	N/A	No – Forested vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) will be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation).	No	N/A	Not Present within the Subject Lands. Candidate habitat is present beyond the Subject Lands.
(iii)Peregrine Falcon (*Falco peregrinus*)	N/A	No – Forested vegetation communities are absent from the Subject Lands. No large bodies of water to support associated habitat functions occur on or within 120 m of the Subject Lands.	No	N/A	Not Present
(iv) Wood Thrush (*Hylocichla mustelina*)	N/A	No – Forested vegetation communities are absent from the Subject Lands. Adjacent significant woodland (FOD5) will be retained and protected in accordance with the City of Mississauga	No	N/A	Not Present within the Subject Lands. Candidate habitat is present beyond the Subject Lands.

Table 8: Significant Wildlife Habitat Assessment (7E Ecoregion)

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT
		Official Plan (2021 Consolidation).			
(v) Snapping Turtle (*Chelydra serpentina*)	N/A	No – Aquatic habitat types are absent from the Subject Lands.	No	N/A	Not Present
(vi) Northern Map Turtle (*Emydoidea blandingi*)	N/A	No – Aquatic habitat types are absent from the Subject Lands.	No	N/A	Not Present
(vii) Monarch (*Danaus plexippus*)	N/A	No – Natural vegetation communities and host plants to support this species are absent from the Subject Lands.	No	N/A	Not Present
4. ANIMAL MOVEMENT CORRIDORS					
Amphibian Movement Corridors	N/A	No – No amphibian breeding SWH types are present on the Subject Lands, therefore, no SWH is present.	No	N/A	Not Present

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
Seasonal Concentrations of Animals	
A1. Deer Wintering Area	**None detected.**
A2. Colonial Bird Nesting Sites	**None detected.**
A3. Waterfowl Nesting Habitat	**None detected.** None of the indicator species listed were observed through previous studies conducted on the adjacent lands to indicate significance. Furthermore, no natural habitats generally associated with this SWH type (i.e., marsh, swamp, shallow water) occur on the Subject Lands.
A4i. Migratory Landbird Stopover Areas	**Not applicable.** Subject Lands occur greater than 5 km from the Lake Ontario shoreline.
A4ii. Migratory Bat Stopover Areas	**Not applicable.** This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
A4iii. Migratory Butterfly Stopover Areas	**Not applicable.** Subject Lands occur greater than 5 km from the Lake Ontario shoreline.
A4iv. Migratory Waterfowl Stopover and/or Staging (Terrestrial)	**None detected.** No evidence of flooded fields was identified on or in the vicinity of the Subject Lands. No aggregations of indicator species were observed on, or adjacent to, the Subject Lands.
A4v. Migratory Waterfowl Stopover and/or Staging (Aquatic)	**None detected.** No aquatic habitat was identified on or adjacent to the Subject Lands that is considered suitable to support large numbers of migratory waterfowl. Furthermore, there are no records of migratory stopover areas on the Subject Lands.
A4vi. Migratory Shorebird Stopover Areas	**None detected.** No suitable areas for shorebird migratory stopover areas were identified on the Subject Lands.

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
A5. Raptor Wintering Areas	**None detected.** Open field habitat and abandoned agricultural fields adjacent to the Subject Lands, do not meet minimum size criteria (>20 ha). Furthermore, indicator species were not observed in sufficient numbers to warrant SWH based on previous studies conducted on the adjacent lands.
A6. Snake Hibernacula	**None detected.** None of the indicator species listed were observed on, or adjacent to, the Subject Lands through previous studies. No hibernacula sites were identified on or in the vicinity of the Subject Lands through the Phase 1 SWS (Amec 2015) or during field investigation completed for the Subject Lands (including within the abutting woodland).
A7. Bat Maternal Roosts and Hibernacula	**Candidate detected within adjacent woodland** Suitable roosting sites for bat maternal colonies do not occur on the Subject Lands. Candidate bat maternity colonies have the potential to occur within the adjacent significant woodland (FOD5) where habitat assessments conducted through previous studies identified sufficient snag densities (>10 snags/ha) to warrant SWH.
A8. Bullfrog Concentration Areas	**Not applicable.** The Peel-Caledon SWH Study (2009) incorporated this SWH type into criterion B8ii. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
A9. Wild Turkey Winter Range	**Not applicable.** No threshold recommended, as Wild Turkey is no longer of conservation concern in Ontario, the Region of Peel or Town of Caledon. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
A10. Turkey Vulture Summer Roosting Areas	**None detected.** Insufficient information to suggest specific threshold for this criterion; most preferred roosting areas would be protected through SWH Criteria B1 (rare vegetation communities) and B6 (cliffs and caves). This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
Rare vegetation communities or specialized habitat for wildlife	
B1. Rare Vegetation Communities	**None detected.**
B2. Forests Providing a High Diversity of Habitats	**Not applicable.** It is assumed that all forests providing a high diversity of habitats will be captured by the suite of significant woodland criteria. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
B3. Old-Growth or Mature Forest Stands	**Not applicable.** It is assumed that all old-growth and mature forests will be captured by the significant woodlands criteria.
B4. Foraging Areas with Abundant Mast	**None detected.** This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
B5. Highly Diverse Areas	**Not applicable.** The Caledon-Peel SWH study consultant team provided a map to the Town for review regarding the most diverse patches in Caledon / the Region. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
B6. Cliffs and Caves	**None detected.**
B7. Seeps and Springs	**None detected.** Candidate seeps and springs may occur on adjacent significant woodland (FOD5). This feature will be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation).
B8i. Amphibian Breeding Habitat (Forested Sites)	**None detected.** Suitable habitat for amphibian breeding is absent from the Subject Lands. The adjacent significant woodland (FOD5) was surveyed for calling amphibians as part of the Phase 1 SWS (Amec 2015) and the 5150 Ninth Line Site Plan Application. Breeding populations did not occur in

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
	sufficient numbers (i.e., diversity or abundance) to warrant SWH.
B8ii. Amphibian Breeding Habitat (Non-Forested Sites)	**None detected.** Suitable habitat features are absent from the Subject Lands. Wetlands on adjacent lands occur within 120 m of woodland ecosites and are therefore assessed as Amphibian Breeding Habitat (Forested Sites).
B9. Turtle Nesting Habitat and Turtle Overwintering Areas	**None detected.** Suitable ecosites are absent from the Subject Lands. No turtle species were detected on the adjacent lands through previous field investigations.
B10. Habitat for Area-Sensitive Forest Interior Breeding Bird Species	**None detected.** Woodland ecosites are absent from the Subject Lands. The adjacent woodland (FOD5) does not meet interior patch size thresholds to be considered SWH.
B11. Habitat for Open Country and Early Successional Breeding Bird Species	**None detected.** Open fields that are > 10 ha occur adjacent to the Subject Lands; however, farming practices have occurred within the past 5 years including during recent years. As such habitat criteria are not met for this SWH type.
B12. Habitat for Wetland Breeding Bird Species	**None detected.** Based on previous studies, indicator species are not present in sufficient quantity to meet this criterion.
B13i. Raptor Nesting Habitat (Raptors associated with wetlands, ponds, and rivers)	**None detected.** No Northern Harrier or Osprey nests were detected on, or adjacent to, the Subject Lands (indicator species from the Peel-Caledon study). The habitat size criteria (MNRF 2015) are also not met (i.e., woodland > 30 ha with > 10 ha interior that is 200m from the woodland edge).
B13ii. Raptor Nesting Habitat (Raptors associated with woodland habitats)	**None detected.** No nests or indicator species were recorded on, or adjacent to, the Subject Lands through previous field investigations completed on the adjacent lands. The habitat size criteria (MNRF 2015) are also not met (i.e., woodland > 30 ha with > 10 ha interior that is 200m from the woodland edge).

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
B14. Mink, River Otter, Marten and Fisher Denning Sites	**None detected.** Suitable habitat for these species is not present on, or adjacent to, the Subject Lands. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
B15. Mineral Licks	**Not applicable.** Mineral licks are not recommended as an SWH type for the Region of Peel or the Town of Caledon. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
Species of Conservation Concern	
C1. Species Identified as Nationally Endangered or Threatened by COSEWIC which are not listed as Endangered or Threatened under Ontario's *Endangered Species Act*	**None detected.** No suitable habitat for Monarch was present within the Subject Lands. No foodplants required by the species were present within the Subject Lands or within the Woodland abutting the Subject Lands. No observations of Monarch have been made within the Subject Lands or within the Woodland abutting the Subject Lands. Northern Rough-winged Swallow (2 individuals) were observed as a flyover during breeding bird surveys conducted on the adjacent property. Due to the anthropogenic nature of the Subject Lands, it is expected that this was an incidental observation and that this species does not occupy habitat on the Subject Lands. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
C2. Species Identified as Special Concern based on Species at Risk in Ontario List that is Periodically updated by OMNR	**None detected.**
C3. Species that are listed as Rare (S1-S3) or Historical in Ontario based NHIC	**None detected.**
C4. Species whose populations appear	**Not applicable.**

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
to be experiencing substantial declines in Ontario	The Peel-Caledon SWH Study (2009) does not provide a threshold for this criterion due to insufficient information. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
C5. Species that have a high percentage of their global population in Ontario and are Rare or Uncommon in the Region of Peel/ Town of Caledon	**Not applicable.** The Peel-Caledon SWH Study (2009) does not provide a threshold for this criterion due to insufficient information. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
C6. Species that are Rare within the Region of Peel or Town of Caledon, even though they may not be Provincially Rare	**None detected.** No natural vegetation communities are present on the Subject Lands. Rare or uncommon species detected on the adjacent lands (i.e., 5150 Ninth Line; e.g., Red Cedar, White Spruce, Blunt Spike-rush, Northern Manna Grass) were either cultivars that do not naturally occur within the landscape or obligate wetland species that would not be expected to occur on the Subject Lands.
C7. Species that are subjects of Recovery Programs	**None detected.** This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
C8. Species considered important to the Region of Peel/ Town of Caledon, based on recommendations from a Local Conservation Advisory Committee	**Not applicable.** No Conservation Advisory Committee currently exists in the Region or the Town of Caledon. This is not considered an SWH type under the Province's ecoregional criteria (MNRF 2015).
Animal Movement Corridors	
D. Animal Movement Corridors	**None detected.** Due to the limited abundance of species habitats present on the Subject

Table 9: Significant Wildlife Habitat Review (Peel ROP Peel-Caledon Significant Wildlife Habitat Study 2009; MNRF Ecoregional Criteria for 7E 2015)

SWH Type	SWH Analysis based on the most recent year of GEI Consultants. data
	Lands, no animal movement corridors were identified on the Subject Lands.

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
PPS NATURAL HERITAGE FEATURES						
1. Significant Wetlands	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
2. Significant Coastal Wetlands	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
3. Significant Woodlands	One significant woodland (i.e., FOD5-3), as defined by the City of Mississauga Official Plan (2021 Consolidation; i.e., >4 ha within a settlement area), occurs within 120 m of the Subject Lands. This feature is not contiguous with the Natural Heritage System or other natural heritage features on the surrounding landscape. Candidate bat maternity colonies, and habitat for species of conservation concern (i.e., Eastern Wood-Pewee and Wood Thrush) were identified as having the potential to occur with the significant woodland (**Table 7**, **Appendix B**). In accordance with planning direction provided within the City of Mississauga Official Plan (2021 Consolidation) and the Ninth Line Scoped SWS (Amec 2015; Amec 2017, Wood 2020), the significant woodland (i.e., owned by the City of Mississauga) will be retained and protected post-development.	• Development and site alteration, including grading and heavy equipment use, adjacent to the significant woodland. • Potential disturbance from anthropogenic stressors due to the long-term presence of a residential community adjacent to the retained woodland.	• Damage to the rooting zone of retained vegetation adjacent to the proposed development area. • Wildlife disturbance due to increased presence of people, pets and lighting. • Potential construction-related impacts from onsite grading and other machinery include soil compaction, changes to micro-drainage resulting in localized ponding and inundation of root systems, introduction of invasive species, and displacement or dieback of native flora.	• A variable-width dripline buffer and associated landscape buffer will be established adjacent the significant woodland to mitigate indirect impacts of adjacent development and site alteration. • A tree protection zone will be established at the maximum limit of the proposed vegetation protection zone in accordance with the Tree Inventory and Preservation Plan Report (Jackson Arboriculture Inc. 2021). • Tree protection fencing, and erosion and sediment control (ESC) measures will be installed adjacent to the retained feature to aide in reducing excess disturbance caused by vegetation removals, ground disturbance and dislodging of sediment. • Heavy equipment use will be managed to prevent inadvertent damage to the woodland, and transportation of non-native and invasive species. • Native groundcover, shrub and tree plantings will be installed within the vegetated buffer zone. • Low radiance exterior lighting will be directed away from the significant woodland to limit	Enhancements within the woodland buffer zone will result in an overall net gain in the ecological function of the woodland. No net negative effects are predicted to occur.	• Construction monitoring to ensure that woodland setbacks are maintained, and that tree protection fencing, and ESC measures are functioning. • Monitoring of vegetation survival and growth within retained vegetation communities is recommended to confirm targets for survival, vegetation species and form are met. • Monitor health of any proposed tree plantings and plant additional trees if mortality observed.

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
				impacts to vegetation communities and wildlife activity.		
4. Significant Valleylands	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
5. Significant Wildlife Habitat	No SWH types were identified on the Subject Lands. The following candidate SWH types have the potential to occur within the significant woodland located adjacent to the northwestern boundary of the Subject Lands: • Bat Maternity Colony; and, • Special Concern and Rare Wildlife Species: Eastern Wood-Pewee (*Contopus virens*) and Wood Thrush (*Hylocichla mustelina*); and As the significant woodland is proposed to be retained and due to the scoped nature of this EIS, the presence of key features was not confirmed beyond the property boundary. Therefore, it is assumed that candidate SWH occurs within the adjacent significant woodland based on suitable habitat criteria.	Potential disturbance during construction and from anthropogenic stressors due to the long-term presence of a residential community adjacent to the retained woodland.	The predicted effects to SAR bats, Eastern Wood-Pewee, Wood Thrush and Terrestrial Crayfish are minimal. Breeding ability is not anticipated to be impacted as existing habitat will be retained and protected. As drainage across the Ninth Line Lands is conveyed in a southeasterly direction through the adjacent woodland. Therefore, downstream development and site alternation is not predicted to effect candidate seeps and springs within the significant woodland. Potential indirect effects and short-term impacts include: (1) Increased soil disturbance: • Soil compaction reduces the pore space within the soils, limiting what plant species are able to root in the substrate; and • Colonization of invasive species on disturbed soils. (2) Noise disturbance: • Disturbance of wildlife patterns and behaviours (i.e., interfere with breeding calls from amphibians and birds); and • Temporarily vacate habitats near construction.	• Avoidance, mitigation and/or restoration measures would be similar to those identified with respect to Significant Woodlands. • Noise associated with construction is only temporary and will have short-term impacts on wildlife behaviour. Wildlife in this area are tolerant of anthropogenic disturbance due to the proximity of Highway 407, Ninth Line and the existing adjacent land uses. • Where possible construction at night should be avoided in close proximity to the woodland edge during the active season for bat (April 1 and September 30). • Any tree or vegetation removals on the Subject Lands should occur outside of the migratory bird-nesting window from April 1 – August 31 (approximate) as a precautionary measure. Where this window cannot be avoided, a nest search is recommended, and a buffer will be marked off surrounding any active nests that must be maintained until activity in the nest has ceased. • In the unlikely event that the nest of an Eastern Wood-Pewee or Wood Thrush be	• No long-term negative effects to candidate SWH are expected. • Temporary disturbance during construction may still occur despite implemented mitigation measures. Disturbance effects would no longer be present following the completion of construction. • The proposed woodland buffer may result in improvements to the ecological functions within the retained woodland.	Monitoring and management measures would be similar to those identified with respect to Significant Woodlands.

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
			Potential long-term impacts (i.e., related to residential development) include: (1) Increased pedestrian usage: • Increased invasive species transport; and • Degradation of surrounding vegetation. (2) Introduction of pets: • Predation of wildlife (e.g., bird nests). (3) Increased lighting: • Disrupt wildlife behaviours (i.e., disturb migration of food sources); and Shade tolerant vegetation unable to prosper where future urban lighting is directed into the woodland	identified the following will occur: ○ All works within 10 m of the nests will be halted; ○ A minimum buffer of 10 m from the nest will be applied and no work will be undertaken within the buffer area until the nest has fledged or otherwise become inactive. ○ A qualified biologist will observe the nest and birds; if deemed necessary (i.e., if nesting bird exhibits signs of distrubance or flushing behavior) the buffer may be expanded. • Tree removals should not occur between April 1 and September 30 to prevent disruption to bats during critical reproductive and juvenile growth periods. If tree removal is required during this period, bat surveys will be completed by a qualified biologist. If no SAR bats are observed, the tree(s) can be removed within 24 hours.		
6. Fish Habitat	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
7. Habitat of Endangered and Threatened Species	No habitat of Endangered and Threatened species was identified on the Subject Lands. One Threatened species in Ontario and Canada (i.e., Barn Swallow – *Hirundo rustica*) was observed associated with a barn structure on	Potential disturbance during construction and from anthropogenic stressors due to the long-term presence of a residential community adjacent to the retained woodland.	Predicted effects with regards to SAR bats would be similar to those identified with respect to Significant Wildlife Habitat.	Avoidance, mitigation and/or restoration measures would be similar to those identified with respect to Significant Wildlife Habitat.	• No long-term negative effects are anticipated given the availability of suitable habitat adjacent to the Subject Lands. • Temporary disturbance to SAR bats may still occur during construction despite implemented mitigation	Monitoring and management measures would be similar to those identified with respect to Significant Woodlands.

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
	the adjacent lands. Potential impacts to Barn Swallow have been addressed as part of the 5150 Ninth Line Site Plan Application. Candidate habitat for SAR bats may occur within the significant woodland located adjacent to the Subject Lands as suitable cavity trees with the potential to provide bat maternity colony habitat were identified. Due to the scoped nature of this EIS, the presence of SAR was not confirmed beyond the bounds of the Subject Lands; therefore, it is assumed that candidate habitat for SAR bats occurs within the adjacent woodland. Trees identified on the Subject Lands are isolated and do not represent either SWH or habitat for SAR bats.				measures. Disturbance effects would no longer be present following the completion of construction.	
8. Significant Areas of Natural and Scientific Interest	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
OTHER PROVINCIAL PLANS						
1. Greenbelt Plan	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
2. Oak Ridges Moraine	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
NATURAL GREEN SPACES (MISSISSAUGA OFFICIAL PLAN)						
1. Woodlands >0.5 ha not meeting criteria for significance	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
2. Wetlands not meeting criteria for significance	No wetland vegetation communities were identified on the Subject Lands. Three small, isolated wetlands (i.e., MAS2-1 and SAF1-3) were identified on the adjacent property and have been addressed as part	Impactors to SWD2-2 communities would be as identified with respect to Significant Woodlands.	• There are no perceived direct effects associated with the proposed development as drainage across the Ninth Line lands flows in a southeasterly direction. Therefore, surface hydrology associated with these features will not be effected by downstream	• A variable-width buffer and associated landscape buffer will be established adjacent the significant woodland to provide protection to interior wetland habitat. • Appropriate application of stormwater drainage services on the Subject Lands (e.g., LID	No long-term negative effects are anticipated as wetland communities and the associated 30 m area of interference shall be retained and protected within the significant woodland.	Monitoring and management strategies would be similar to those identified with respect to Significant Woodlands.

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
	of the 5150 Ninth Line Site Plan Application. Wetland communities (SWD2-2) identified within the significant woodland shall be retained and protected in accordance with the City of Mississauga Official Plan (2021 Consolidation). The protected area will include a 30 m area of interference, which correlates with the approximate extent of the CVC regulation limit (i.e., 30 m buffer), that will be contained within the retained woodland and associated buffer.		development and site alteration. • Potential for decreased groundwater quantity due to the development of the Subject Lands.	measures) will be used to maintain on-site water balance and to encourage infiltration.		
3. Watercourses not considered to be significant valleylands	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
4. Natural areas >0.5 ha with uncommon vegetation	No regionally rare or uncommon vegetation was identified on the Subject Lands. Two regionally rare or uncommon species occur on the adjacent 5150 Ninth Line lands: • Blunt Spike-rush (*Eleocharis obtuse*; U); and • Northern Manna Grass (*Glyceris borealis*; R4). Blunt Spike-rush and Northern Manna Grass are obligate wetland species and would not be expected to occur outside of this habitat type. As no wetland vegetation communities were identified on the Subject Lands, suitable habitat to support these species is absent.	N/A	N/A	N/A	N/A	N/A
OTHER FEATURES AND FUNCTIONS						

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
1. Regionally and Locally Important Species	No regionally rare or locally important species were identified on the Subject Lands. Two regionally uncommon species were identified in association with the significant woodland through previous ecological field investigations conducted on the adjacent lands (Varga 2005): • Cooper's Hawk (*Accipiter cooperii*; U); and • Northern Rough-winged Swallow (*Stelgidopteryx serripennis*; U).	Impactors would be as identified with respect to Significant Woodlands.	Predicted effects would be similar to those identified with respect to Significant Wildlife Habitat.	• Avoidance, mitigation and/or restoration measures would be similar to those identified with respect to Significant Wildlife Habitat.	• No long-term negative effects are anticipated given the availability of suitable habitat adjacent to the Subject Lands. • Temporary disturbance during construction may still occur despite implemented mitigation measures. Disturbance effects would no longer be present following the completion of construction. • The proposed woodland buffer may result in improvements to the ecological functions within the retained woodland.	N/A
2. Environmentally Significant Areas	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
3. Other – Greenbelt	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
4. Other – Presence of Species under the ESA	Not Present/Not Applicable	N/A	N/A	N/A	N/A	N/A
5. Other - Presence of Species Under the *Migratory Birds Convention Act*	The federal *Migratory Birds Convention Act* (MBCA) prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests.	During construction, in particular tree removal, migratory birds, and eggs and nests of these birds could inadvertently be harmed.	Inadvertent harm to migratory birds or their eggs or nests.	Any tree or vegetation removal should occur outside of the migratory bird-nesting window of April 1 – August 31 (approximate). In rare circumstances where this window cannot be avoided, a nest search is recommended, and a buffer will be marked off surrounding any active nests that must be maintained until activity in the nest has ceased. • In the unlikely event that the nest of an Eastern Wood-Pewee or Wood Thrush be identified the following will occur: ○ All works within 10 m of the nests will be halted;	With the implementation of the mitigation measures, no net effect is anticipated.	N/A

Table 10: Predicted Effects, Mitigation, Enhancement and Net Effects

NATURAL HERITAGE FEATURES AND ASSOCIATED FUNCTIONS	SIGNIFICANT CHARACTERISTICS AND SENSITIVITY	IMPACTOR	PREDICTED EFFECTS	AVOIDANCE, MITIGATION AND/OR RESTORATION	NET EFFECTS	MONITORING AND MANAGEMENT
				○ A minimum buffer of 10 m from the nest will be applied and no work will be undertaken within the buffer area until the nest has fledged or otherwise become inactive. ○ A qualified biologist will observe the nest and birds; if deemed necessary (i.e., if nesting bird exhibits signs disturbance or flushing behavior) the buffer may be expanded.		

Photographic Record

Photo 1 – Site Conditions at 5160 Ninth Line.

Photo 2 – Site Condition at 5170 Ninth Line.

Photo 3 – Condition of the dripline immediately north of the woodland. Note that paved portions of Ninth Line are located within the Dripline of the woodland.

Photo 4 – Condition of the dripline immediately east of the woodland. Note the lawn and drainage feature have disturbed the exisiting woodland edge under the dripline.

5160 - 5170 Ninth Line, Exisiting Conditions

July 21, 2022

PHOTOGRAPHIC RECORD

GEI Consultants

Photo 5 – Condition of the dripline immediately east of the woodland. Note the large, disturbed gap between the outermost trees and contiguous woodland edge.

Photo 6 – Condition of Woodland, note the deadfall and presence of non-native species.

Photo 7 – Condition of the dripline immediately east of the woodland. Note the culvert and cleared path leading into the woodland.

Photo 8 – Condition of the dripline immediately east of the woodland. Note the large, cleared path leading into the woodland.

5160 - 5170 Ninth Line, Exisiting Conditions

July 21, 2022

PHOTOGRAPHIC RECORD

GEI Consultants

Photo 9 – Condition of the woodland. Note continuation of the large, cleared path leading into the woodland.

Photo 10 – Conditions within the woodland. Note debris and trash within the woodland

Photo 11 – Conditions within the woodland. An example of diseased tree present

Photo 12 – Conditions within the woodland. Note debris and trash within the woodland.

5160 - 5170 Ninth Line, Exisiting Conditions

July 21, 2022

PHOTOGRAPHIC RECORD

GEI Consultants

Appendix C

Consultation and Agency Correspondence

Project Status Report

Project Review Status

Please click on the '+' sign for the Review Cycle to expand the Project Review Status information.

Project Number	Site Address	Project Description	Report Run Date
DARC 21-241 W10	5160 Ninth Line	6 storey Residential Apartment Building	6/29/2021 12:46:41 PM

Please refrain from contacting plan reviewers until they have completed their review and you have received comments. Contacting plan reviewers prior to their review adds delays to the review process.

Review Cycle	Review Group	Review Status	Reviewer Contact Information
1			
	CPS - HOUSING	Comments Provided	Catherine Parsons catherine.parsons@mississauga.ca 905-615-3200
	DEVELOPMENT ENGINEERING REVIEW	Comments Provided	Tony Iacobucci tony.iacobucci@mississauga.ca 905-615-3200 x5129
	ENVIRONMENTAL ENG REV STORM	Comments Provided	Tony Iacobucci tony.iacobucci@mississauga.ca 905-615-3200 x5129
	ENVIRONMENTAL ENG REVIEWER	Comments Provided	Valeriya Danylova valeriya.danylova@mississauga.ca 905-615-3200 x5930
	LANDSCAPE ARCH - COMM SERVICES	No Comments	Ashley Visneski ashley.visneski@mississauga.ca 905-896-5382
	LANDSCAPE ARCH - DEV DESIGN	Comments Provided	Cameron Maybee cameron.maybee@mississauga.ca 905-615-3200 x4041
	PLANNER - COMM SERVICES	Comments Provided	Jim Greenfield james.greenfield@mississauga.ca 905-615-3200 x8538
	PLANNER - DEV DESIGN	Comments Provided	Matthew Shilton matthew.shilton@mississauga.ca 905-615-3200 x5299

Project Status Report

Review Cycle	Review Group	Review Status	Reviewer Contact Information
1	PUBLIC ART COORDINATOR	Comments Provided	Michael Tunney michael.tunney@mississauga.ca 905-615-3200 x4602
	REGION OF PEEL	Comments Provided	Anthony Lalingo anthony.lalingo@peelregion.ca 9057917800 x4612
	TRAFFIC REVIEW	Comments Provided	Kate Vassilyev kate.vassilyev@mississauga.ca 9056153200 x8171
	URBAN DESIGNER	Comments Provided	Michael Votruba michael.votruba@mississauga.ca 905-615-3200 x5759

Review Status Legend	
“Approved”	Review Group has completed the review and has no outstanding conditions.
“Comments Provided”	Review Group has completed the review and has provided comments.
“In-Review”	Reviewer in the Review Group has accepted the task and is in the process of reviewing the project.
“No Comments”	Review Group has completed the review and has no comments.
“No Review Required”	Review Group has determined that no review is required for the project.
“Not Reviewed this Cycle”	Review Group did not review the project for the applicable review cycle.
“Withheld”	Review Group has completed the applicable review cycle and the project has outstanding conditions that need to be addressed.

Outstanding Checklist Items

Please be advised that the information noted below is subject to change until all the required review groups have completed the applicable review cycle. You will not be able to respond to any of outstanding checklist items or changemarks until you have been assigned a Prescreen Corrections or an Applicant Resubmit task. Please refer to ePlans help guides for more information.

If you require an explanation or would like to discuss the comments found in this report, please contact the reviewer directly. Reviewers are available in person by appointment only. Please call or email the reviewer to schedule an appointment.

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	85	The applicant is proposing a development of 192 units. At the DARC meeting on June 23, 2021, the applicant indicated that the proposed tenure is ownership.			Note	06/28/2021 2:02 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	86	The City is seeking to ensure that large developments represent good planning by providing a mix of housing options including options for tenure, unit type, and affordability. Chapter 7 Complete Communities of Mississauga Official Plan provides the following policies to ensure development meets the needs and preferences of residents:"7.1.6 Mississauga will ensure that the housing mix can accommodate people with diverse housing preferences and socioeconomic characteristics and needs.7.2.2 Mississauga will provide opportunities for:a. the development of a range of housing choices in terms of type, tenure and price;b. the production of a variety of affordable dwelling types for both the ownership and rental markets; and c. the production of housing for those with special needs, such as housing for the elderly and shelters.7.2.3 When making planning decisions, Mississauga will ensure that housing is provided in a manner that fully implements the intent of the Provincial and Regional housing policies.7.2.5 The onus will be placed on the applicant/developer to address Provincial and Regional housing requirements."			Note	06/28/2021 2:02 PM
	1	87	As part of a complete application, the applicant is required to submit a Housing Report in accordance with the Housing Report Terms of Reference. The Housing Report provides the City with information to evaluate how the proposed development achieves Provincial, Regional, and City housing objectives, including the provision of the range of housing options.			Note	06/28/2021 2:02 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
CPS - HOUSING	1	88	For large developments of 50 or more ownership units, the City is seeking to ensure the provision of middle income affordable housing at a rate of 10%. The calculation does not include the first 50 units of a building. Based on the proposal, the City is requesting the provision of 15 units to be sold at a rate affordable to middle income households. Further information is available in the Housing Report Terms of Reference.			Note	06/28/2021 2:02 PM
	1	89	The Housing Report Terms of Reference is available here: www7.mississauga.ca/documents/Business/Housing_Report_Terms_of_Reference.pdf			Note	06/28/2021 2:02 PM
	1	90	There is 1 existing dwelling on the subject lands, and retention of the dwellings is not proposed. Although not a requirement for the formal application submission, the applicant should be made aware that to implement the proposal, a Demolition Control Permit in accordance with Demolition Control By-law 45-19 will be required. In addition, the proposed demolition of these units may trigger Rental Protection By-law 0121-2018.			Note	06/28/2021 2:02 PM
	1	91	The City is committed to an open dialogue with the applicant to ensure that a positive outcome is achieved.			Note	06/28/2021 2:02 PM
DEVELOPMENT ENGINEERING REVIEW							
	1	56	COMMENT: Municipal Infrastructure (Servicing Works) in accordance with the Development Agreement may be required.			Note	06/22/2021 7:56 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
DEVELOPMENT ENGINEERING REVIEW	1	57	COMMENT: Should these lands be developed as a multi-family or any condominium, the applicant is advised that internal roads and services are to be constructed to meet the City's minimum condominium standards in accordance with Section 6, Development Requirements Manual, Transportation and Works Department, City of Mississauga.http://www.mississauga.ca/portal/business/developmentrequirements			Note	06/22/2021 7:56 AM
	1	58	SHORING, TIEBACKS, HOARDING - In the event that placement of any shoring and tiebacks systems are proposed, the owner is to contact the Building Division to apply for a permit for the required shoring on site. The owner is further advised that an encroachment agreement may be required and that only tiebacks encroachments (below a certain depth) will be accepted, if any. No other underground encroachments are permitted in the municipal right-of-way. Shoring and associated works are to be wholly within private lands, including excavation support such as 'soldier piles and lagging'.			Note	06/22/2021 7:56 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
DEVELOPMENT ENGINEERING REVIEW	1	59	SUBMISSION REQUIREMENT: Acoustical Feasibility Study that includes the following:(i) A technical assessment of the existing and predicted future noise and vibration levels from all transportation (road, rail, aircraft) and stationary noise sources on the indoor and outdoor environment. Please contact the City's Transportation and Infrastructure Management section at (905) 615-3200 ext 3016 to obtain the ultimate traffic data for municipal roads; (ii) Description of impacts of noise generated by a proposed development on the surrounding environment, the impact of noise from the surrounding environment on the proposed development and the impact of noise from the proposed development on itself;(iii) Recommendation of mitigative measures and features (e.g. building materials, ventilation requirements, noise barrier (berm/fence) design and height, building orientation, warning clauses) required to meet indoor and outdoor sound level limits, in accordance with the applicable Ministry of the Environment and Climate Change and City/Region of Peel Guidelines.			Note	06/22/2021 7:56 AM
	1	60	SUBMISSION REQUIREMENT: (i) Grading Plan (ii) Servicing Plan (iii) Underground Parking Plan			Note	06/22/2021 7:56 AM
	1	61	Acknowledging that this property currently has an access to Ninth Line, the proposed 6 storey apartment building will be dependent on it's primary access from the abutting Mattamy Subdivision File T-M19006. Our comments for T-M19006 currently reflect the proposed roadway to be constructed as a Public Vehicular and Pedestrian Access Easement over all internal private condo roads to provide access to the subject lands.			Note	06/22/2021 7:57 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
DEVELOPMENT ENGINEERING REVIEW	1	62	Acknowledging that a Functional Servicing Proposal has not been reviewed for the proposed 6 storey apartment building , servicing for this development will likely be dependent on municipal services from the abutting Mattamy subdivision currently being processed under File T-M19006. Details with regards to the servicing the Mattamy Subdivision are currently being reviewed and to date not finalized.			Note	06/22/2021 8:13 AM
	1	63	Acknowledging that the subject lands are in their initial stages of development and not within the Mattamy Subdivision File T-M19006 lands , they will be reviewed in conjunction with that development			Note	06/22/2021 9:31 AM
ENVIRONMENTAL ENG REV STORM							
	1	9	SUBMISSION REQUIREMENT: A Functional Servicing Report with Stormwater Management is required. The site is within the Sawmill Creek subwatershed. It will be necessary to implement on-site stormwater management techniques into the design to limit the post development stormwater discharge that adheres to the Ninth Line Scoped Subwatershed Study.The first 5mm of runoff shall be retained on site.			Note	06/04/2021 1:21 PM
	1	10	SUBMISSION REQUIREMENT: A drainage proposal is required to determine the outlet and the capacity of the outlet.			Note	06/04/2021 1:21 PM
	1	11	COMMENT: The applicant is required to implement low impact development measure such as permeable pavement, green roofs, landscape irrigation with stormwater re-use, etc.			Note	06/04/2021 1:21 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
ENVIRONMENTAL ENG REV STORM	1	12	SUBMISSION REQUIREMENT: If the development will have basements or an underground parking garage a Hydrogeological Report that establishes the seasonally high groundwater level on the property is to be provided for review. If the applicant ends up discharging stormwater to the City's storm sewer it must meet the quantity and quality requirements to the satisfaction of the City.			Note	06/04/2021 1:21 PM
	1	13	COMMENT: Please be advised that the Stormwater Charge has come into effect as of January 2016. Credits of up to 50% are available for on-site stormwater management on non-residential and multi-residential properties. Learn more at www.stormwatercharge.ca			Note	06/04/2021 1:21 PM
	1	14	COMMENT: The Site must achieve the 80% TSS removal rate (enhanced protection) in accordance with the Ministry of the Environment, Conservation, and Parks (MECP) criteria.			Note	06/04/2021 1:21 PM
	1	16	SUBMISSION REQUIREMENT: A Comprehensive Environmental Impact and Integration Study (CEIIS) CEIIS is required (likely scoped to an EIS) to support the development.			Note	06/04/2021 1:21 PM
	1	17	COMMENT: The Ministry of Transporatation's (MTO) approval will be required.			Note	06/04/2021 1:21 PM
ENVIRONMENTAL ENG REVIEWER							
	1	33	NOTE: Further comments may be provided upon receipt and review of the requested materials.			Note	06/15/2021 2:10 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
	1	34	SUBMISSION REQUIREMENT: The proposed development may require the discharge of groundwater or accumulated rain water/snow melt to the Citys storm sewer system. Therefore, please provide the Temporary Discharge to Storm Sewer Commitment Letter to the Transportation and Works Department to ensure compliance with the Citys Storm Sewer By-law. A copy of the letter template can be acquired from the Environmental Reviewer. When the Temporary Discharge Approval is required please contact the Environment Coordinator, Storm Sewers at Env.Inquiries@mississauga.ca for the applicable requirements.			Note	06/15/2021 2:10 PM
ENVIRONMENTAL ENG REVIEWER			SUBMISSION REQUIREMENT: Please be advised that if lands to be dedicated to the City, they will be in a condition acceptable to the City in its sole and unfettered discretion that such land is environmentally suitable for the proposed use, as determined by the City, and shall be certified as such by a Qualified Person, as defined in Ontario Regulation 153/04 (as amended). All environmental reports submitted to the City must:a)include a specific reference of all lands to be dedicated to the City (provide a written legal description in the letter and as a separate attachment, include an overlay on a plan of survey drawn to scale and signed by a licenced Ontario Land Surveyor that clearly outlines the legal boundaries of the conveyance lands); be completed in accordance with O. Reg. 153/04 ;b)be signed and dated by a Qualified Person (as defined by section 5 and 6 under O. Reg. 153/04, as applicable);c)include a clear statement that these lands meet the applicable full depth generic site condition standards in accordance with O. Reg. 153/04 and are suitable for the intended land use.d)include confirmation that there are no well(s) (monitoring/domestic) or include proof of decommissioning of all well(s) on the conveyance				

	1	35	lands. The document must reference all applicable guidelines and regulations respecting water wells, including Ontario Regulation 903, R.R.O. 1990, made under the Ontario Water Resources Act and must provide details of the well(s) decommissioning.e)include confirmation that there is no debris (including buried debris or waste, as defined by Reg. 347) on the lands to be dedicated to the City. If the removal of demolition or buried debris has occurred, the certification letter must include a statement that indicates all demolition debris has been removed in accordance with applicable guidelines and regulations, and attach copies of waste manifests and other supporting documentation. f)be accompanied by a letter signed by the author of the report or a Principal of the Consulting Firm, which allows the City of Mississauga to make reliance on the findings and conclusions presented in the reports to the same extent as to the property owner. The wording of the reliance must meet the Citys sole and unfettered satisfaction. The template is provided on the last page of the following document: https://www.mississauga.ca/wp-content/uploads/2020/08/26144135/Section-5-Environmental-Requirements-1.pdfPlease note if a Record of Site Condition (RSC) is required to be filed for the property or for the lands to be dedicated, the RSC filing must be completed prior to land dedication.			Note	06/15/2021 2:10 PM
	1	36	[RSC - prior to BL enactment] As the proposed land use is changing from a less sensitive to a more sensitive use, in accordance with Ontario Regulation 153/04 as amended, the applicant is required to submit a complete Record of Site Condition (RSC), including all supporting documents to the Transportation and Works Department for review.The RSC must be posted to the Ministry of the Environment, Conservation and Parks Environmental Site Registry (ESR).			Note	06/15/2021 2:10 PM
			SUBMISSION REQUIREMENT: A current Phase One Environmental Site Assessment (ESA) must be				

	1	37	submitted to the Transportation and Works Department for review. The report should be prepared in accordance with O. Reg 153/04. If the Phase One ESA indicates potential for contamination, a Phase Two Environmental Site Assessment will be required. If contamination is confirmed, a Remedial Action Plan (RAP) that appropriately addresses the contamination will be required. Recommendations contained within the plan will be implemented by way of conditions to development approval. If site remediation works are required, the satisfactory completion of site remediation works will be a condition of the approval. Any and all contaminated areas of the site identified in the report must be remediated in accordance with Ministry of the Environment, Conservation and Parks Standards. Upon completion of the remediation, a final clean-up report must be submitted to the Transportation and Works Department for review. All reports must be prepared in accordance with O. Reg. 153/04 , signed and dated by a Qualified Person (as defined by section 5 and 6 under Ontario Regulation 153/04, as applicable) and be accompanied by a letter signed by the author of the reports or a Principal of the Consulting Firm, which allows the City of Mississauga to make reliance on the findings and conclusions presented in the reports. The wording of the reliance must meet the Citys sole and unfettered satisfaction. The template is provided on the last page of the following document: https://www.mississauga.ca/wp-content/uploads/2020/08/26144135/Section-5-Environmental-Requirements-1.pdf.Environmental reports that are not accompanied with reliance to the City shall be deemed as an incomplete application			Note	06/15/2021 2:10 PM
	1	38	SUBMISSION REQUIREMENT: A completed Environmental Site Screening Questionnaire and Declaration (ESSQD) form, signed by the Owner and a Commissioner of Oaths, must be submitted to the Transportation and Works Department for review.			Note	06/15/2021 2:10 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	39	SUBMISSION REQUIREMENT: A Tree Survey/ Inventory and Tree Preservation Plan is required to evaluate the potential effects of proposed development on existing trees and ensure the proposal conforms to the relevant policies, standards and guidelines. The Tree Inventory/Survey and Tree Preservation Plan must identify existing trees that are to be preserved, removed and/or transplanted and shall be prepared in accordance with the Terms of Reference available on the Citys website at: https://www.mississauga.ca/services-and-programs/building-and-renovating/development-applications/apply-for-site-plan-approval/. The Tree Inventory/Survey and Tree Preservation Plan is to be coordinated with the Arborist Report and be consistent with the completed Tree Injury or Destruction Questionnaire (Schedule D). The information and drawings shall conform to the criteria in the Terms of Reference to the satisfaction of the Development & Design Division.			Note	06/16/2021 12:59 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	40	SUBMISSION REQUIREMENT: An Arborist Report is required to evaluate the potential effects of proposed development on existing trees and ensure the proposal conforms to the relevant policies, standards and guidelines. The report must identify existing trees that are to be preserved, removed and/or transplanted and shall be prepared in accordance with the Terms of Reference available on the Citys website at: https://www.mississauga.ca/services-and-programs/building-and-renovating/development-applications/apply-for-site-plan-approval/. The Arborist Report is to be coordinated with the Tree Preservation Plan and be consistent with the completed Tree Injury or Destruction Questionnaire (Schedule D). The report shall conform to the criteria in the Terms of Reference to the satisfaction of the Development & Design Division.			Note	06/16/2021 12:59 PM
	1	41	SUBMISSION REQUIREMENT: Upload the Parcel Register (available from Service Ontario) to confirm the location, dimensions and type of any easements, covenants, agreements and restrictions on the Land Title and include any applicable information on all plans.			Note	06/16/2021 12:59 PM
	1	42	SUBMISSION REQUIREMENT: Provide a site Grading Plan that shows, as a minimum, the existing and proposed grades around the perimeter of the building (s), parking areas and parking structures, property lines, retaining walls, ramps/stairs, walkways, vents, base of existing trees, natural features and other site features as requested.			Note	06/16/2021 12:59 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	43	SUBMISSION REQUIREMENT: Mississauga encourages sustainable stormwater management by maximizing the natural infiltration and retention of rainwater through site development. Consider a pervious stable surface for parking areas, driveways, walkways, and other hard surfaces. Also investigate implementation of rainwater harvesting, greywater irrigation system, bioretention systems, green roofs and other technologies. Indicate in your covering letter how sustainable stormwater management has been addressed through the current proposal.			Note	06/16/2021 12:59 PM
	1	44	COMMENT: Dimension and label the required landscaped buffers on the Concept Plan. The proposed development is to provide landscaped buffers that conform to the Zoning By-law. The required landscaped buffers on the subject property are to be unencumbered from any utilities, obstructions, restrictive easements, etc.			Note	06/16/2021 12:59 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
LANDSCAPE ARCH - DEV DESIGN	1	45	COMMENT: Indicate the location and size of all proposed Outdoor Amenity Areas on the Concept Plan. The Project Site Statistics must include calculations for Outdoor Amenity Area - required as per the applicable Zoning By-law. If the proposed development is to be phased, the Project Site Statistics must include calculations for all phases including the proposed total Outdoor Amenity Area for the development. Ensure the locations of all proposed Outdoor Amenity Areas are reviewed in conjunction with Sun/Shadow Studies, Pedestrian Wind Study, and Noise Feasibility Studies to ensure they comply with applicable City of Mississauga Urban Design Guidelines and other applicable policy and guidelines. Please refer to the City of Mississauga Outdoor Amenity Area Design Reference Note (http://www7.mississauga.ca/documents/pb/main/2015/Amenity_Space_Reference.pdf) for more information. Detailed design will be required through the Site Plan Application process.			Note	06/16/2021 12:59 PM
	1	47	COMMENT: On the Site Plan, indicate the location of all on site and boulevard utilities, such as gas meters, fire hydrants, electrical transformers and meters, light standards, catch basins etc. in order to ascertain where conflicts could arise between the utilities and the functioning of the site. Ensure there are no negative impacts to tree preservation, and no conflicts with utilities.			Note	06/16/2021 1:00 PM
PLANNER - COMM SERVICES	1	64	COMMENT: Please note the following may be required as part of the development application review and approval process:- Hoarding to protect natural features;- Greenlands fencing along the shared property line with the proposed development;- An arborist report and tree preservation plan;- A restoration plan; and/or- Securities related to the above.			Note	06/23/2021 12:38 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PLANNER - COMM SERVICES	1	65	COMMENT: Please be advised that development is not permitted on lands below the established top of bank, the Regional storm floodline, or within the stable valley slope, woodland/woodland buffer (whichever is greater). These lands must be appropriately zoned as Greenlands through the development application process and are not appropriate for development. Greenlands may be deeded gratuitously to the City. In the event of dedication, the final Environmental Site Assessment report must include a statement confirming the suitability of the conveyed lands for inclusion within the City's greenlands system. Contact Community Services - Park Planning for details.			Note	06/23/2021 12:38 PM
	1	67	COMMENT: Please note that the proposed development must not encroach upon adjacent parkland/greenlands/woodland buffer. This includes, but is not limited to, the following:- construction or maintenance access;- staging or storage of equipment or materials;- parking (above or below grade); and/or,- structural tiebacks.			Note	06/23/2021 12:38 PM
	1	68	COMMENT: Please be advised that prior to the issuance of building permit, for each lot or block cash-in-lieu for park or other public recreational purposes is required pursuant to Section 42(6) of the Planning Act (R.S.O.1990, c.P. 13, as amended) and in accordance with the City's Policies and By-laws.			Note	06/23/2021 12:38 PM
	1	69	SUBMISSION REQUIREMENT: The plans must identify the top of bank, Regional storm floodline, stable valley slope, and/or woodland boundary/dripline to the satisfaction of the pertinent Conservation Authoirty and the City. Prior to the prepration of the plans, the applicant is to contact Community Services - Park Planning to co-ordinate a site visit with appropriate staff from the Conservation Authority and the City.			Note	06/23/2021 12:38 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PLANNER - COMM SERVICES	1	70	SUBMISSION REQUIREMENT: In accordance with Mississauga Offical Plan, an Environmental Impact Statement (EIS) is required as the site is abutting or identified within the City's Natural Area Survey (NAS). Please contact Park Planning Staff for a Terms of Reference and potential for the study to be scoped.			Note	06/23/2021 12:38 PM
PLANNER - DEV DESIGN							
	1	71	IMPORTANT NOTICE The comments provided from all City departments are for preliminary information and/or discussion purposes only and shall not be construed as the City's position on the project. Comments are not comprehensive and additional comments will be provided through a formal application submission review.			Note	06/25/2021 1:54 PM
	1	72	SUBMISSION REQUIREMENT: A concept plan is required, indicating how the proposed development will be integrated with the adjacent properties in terms of road network, access, etc.			Note	06/25/2021 1:54 PM
	1	73	COMMENT: Due to the proximity to the Highway, the Ministry of Transportation (MTO) should be contacted at 416-235-5385 to determine if any permits or approvals are required.			Note	06/25/2021 1:54 PM
	1	74	SUBMISSION REQUIREMENT: Planning Justification Report prepared by a Registered Professional Planner (RPP) is required.			Note	06/25/2021 1:54 PM
	1	75	SUBMISSION REQUIREMENT: Draft Zoning By-law is required.			Note	06/25/2021 1:57 PM
	1	76	SUBMISSION REQUIREMENT: Zoning Matrix indicating which zone regulations are met and not met, and why those regulations cannot be met.			Note	06/25/2021 1:57 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
PLANNER - DEV DESIGN	1	77	COMMENT: Shift emergency access lane to the north of the site and align it with CEC Road "E" (Mattamy Lands). If a second access into the site is required from the proposed townhouse development to the west, align this access with the proposed CEC Road "G". Consolidate all loading and visitor parking and relocate it underground to the greatest extent possible. East-West pedestrian connection at the south end of the site is encouraged. Maintain 45 degree angular plan at south property line. Provide at grade amenity area, and if possible, rooftop amenity area. Work with adjacent land owner to eliminate grading differential at south end of the property. See UD/LA comments for further direction regarding building design and site layout.			Note	06/25/2021 1:57 PM
PUBLIC ART COORDINATOR	1	8	The City of Mississauga strongly encourages the inclusion of public art in developments that are greater than 10,000m2 (100,000 sq. ft.) in gross floor area, with the exception of non-profit organizations and social housing. Developers are encouraged to include public art as part of their development and/or contribute an agreed upon amount of their gross construction costs to the Citys Public Art Program. The dollar value of the public art contribution should be determined by the Citys Planning and Building Department, together with the Public Art Program when calculating the value of construction for building permit fees on relevant projects.			Note	06/02/2021 4:44 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
REGION OF PEEL							
	1	78	PUBLIC HEALTH - After review of the site plan, please find our recommendations below: - Where any paving or parking is proposed on site, it should be designed to minimize negative aesthetic and environmental impacts. This can include porous/permeable surfaces, light coloured materials instead of asphalt, landscaping and tree plantings.- Any pedestrian walkways should include pedestrian- scaled lighting and benches.- Please also include secure short term and long term bicycle parking.- To support an age-friendly development, the open spaces should be planned for multi-generational use.- Upon receipt of a detailed site plan, through the future site plan application, we may have additional comments.			Note	06/28/2021 11:24 AM
	1	79	There is no landfill site within the vicinity of the subject property.			Note	06/28/2021 11:25 AM
	1	80	Residential units are eligible for Front-End waste collection provided that requirements in Sections 2.0 and 4.0 of the Waste Collection Design Standards Manual are met.A Waste Management Plan is required at the Official Plan Amendment and Rezoning stage. This plan must demonstrate:- Collection vehicle access route requirements can be met- Collection point has overhead clearance and can hold all waste bins of the larger stream- Waste storage room is large enough for all required bins For more information, please consult the Waste Collection Design Standards Manual available at: https://peelregion.ca/public-works/design-standards/pdf/waste-collection-design-standards-manual.pdf			Note	06/28/2021 11:25 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
	1	81	WATER SERVICING-Servicing of this site may require municipal and/or private easements and the construction, extension, twinning and/or upgrading of municipal services. All works associated with the servicing of this site will be at the applicants expense. The applicant will also be responsible for the payment of applicable fees, DC charges, legal costs and all other costs associated with the development of this site. -This development proposal requires a water system looped to municipal water, to provide a redundant water supply, as per standard drawing 1-8-2 -Please review the Regions Water Design Criteria found on-line-For location of existing water and sanitary sewer Infrastructure please contact Records by e-mail at PWServiceRequests@peelregion.ca-For Underground Locate Requests please go to the following link: https://www.peelregion.ca/pw/locaterequest/SANITARY SEWER SERVICING-Servicing of this site may require municipal and/or private easements and the construction, extension, twinning and/or upgrading of municipal services. All works associated with the servicing of this site will be at the applicants expense. The applicant will also be responsible for the payment of applicable fees, DC charges, legal costs and all other costs associated with the development of this site. -Please review the Regions Sanitary Sewer Design Criteria found on-line-A miscellaneous project for the extension of a Sanitary Sewer on Ninth Line is currently being designed and review through the abutting the Mattamy Subdivision 21T-19006M. Please ensure the servicing proposal aligns with the external infrastructure proposed through the Mattamy subdivision.			Note	06/28/2021 11:53 AM
			SUBMISSION REQUIREMENTS (SERVICING REVIEW)-Please refer to Section 3 of our Site Plan Procedure document found on-line-A satisfactory Functional				

REGION OF PEEL	1	82	Servicing Report is required to determine the adequacy of the existing services for the proposed development prior to RZ approval. The reports shall be in digital format. -Consultant is required to complete and submit the Single-Use Demand table for the Region to fulfil our modelling requirements and determine the proposals impact to the Existing system. The demand table shall be in digital format and accompanied by the supporting graphs for the hydrant flow tests and shall be stamped and signed by the Professional Consulting Engineer. This demand table will be required prior to RZ Approval-For the design flow calculations, please use your site-specific estimated population or the most current Ontario Building Code Occupant Load determination.-Prior to Site Plan approval, Site servicing drawings are required for Review by Servicing Connections-Prior to RZ approval, the non-refundable Report Fee of $515 is required as per the current Fee By-law. -Please be advised that due to the ongoing developments of the novel coronavirus outbreak, the Region of Peel is currently implementing various measures to ensure the safety of our customers, employees and the workplace. Our front counter is now closed to the public and our staff have been directed to work from home for the foreseeable future. Therefore, Servicing Connections cannot process any payments over the counter at this time, however, we will accept Electronic Fund Transfers (EFT). Please contact us at siteplanservicing@peelregion.ca for the process to submit an Electronic Fund Transfer for your servicing application fees. -To accompany the servicing review, the supporting Mechanical Drawings are required for review by Servicing Connections prior to issuing site servicing approval-Site Servicing approvals are required prior to the local municipality issuing building permit-Please indicate if the developer will be pursuing LEED certification.			Note	06/28/2021 11:53 AM
			Please Refer to the most current Region of Peel Design, Standards specification and Procedures and				

	1	83	By-laws:-Servicing for the proposed development must comply with the Local Municipalitys Requirements for the Ontario Building Code and most current Region of Peel standards-All our Design criteria, standards, specifications, procedures and report and submission requirements are found on-line at https://www.peelregion.ca/public-works/design-standards/#procedures-Please refer and adhere to the Regional by-laws that are applicable to your proposal, such as but not limited to the Water, Wastewater and Backflow Prevention by-laws https://www.peelregion.ca/council/bylaws/archive.asp-Please refer to the Latest Fees By-law. Fees may be subject to change on annual basis pending Council approval.-Water Design Criteria -Sanitary Sewer Design Criteria -Functional Servicing and Stormwater Management Report Criteria-Standard Drawings (to determine which standards are applicable to your Project)			Note	06/28/2021 11:53 AM
	1	84	LEGAL REQUIREMENTS-Prior to site plan approval, a copy of the most up-to-date PINS is required for review by a Regional Law Clerk. PINS are to be dated with a month of the application/-A Condominium Water Servicing Agreement may be required prior to Condominium Registration			Note	06/28/2021 11:53 AM
Review Coordinator							
	0	1	PRE-SCREEN REVIEW Your pre-application consultation request has been pre-screened, but requires additional information and/or does not meet the minimum submission criteria. Each checklist item must be addressed before your pre-application consultation can be processed. After you have addressed each item accordingly, please complete the 'Pre-screen Corrections' task by clicking the 'Complete' button to resubmit to the City.			Note	05/14/2021 2:51 PM
	0	4	ADDITIONAL COMMENTS Additional comments may be forthcoming when the requested information is provided.			Note	05/14/2021 2:51 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
Review Coordinator	0	5	KEY PLAN The Site Plan must contain a key plan			Not Met	05/20/2021 12:21 PM
TRAFFIC REVIEW	1	48	COMMENT: [CYCLING FACILITIES] - The Owner will be required to provide accessible and secure short term (outdoor) and long term (indoor) bicycle storage facilities on site. The Site Plan shall be revised to identify the cycling facility locations and to specify the facility detail(s), including quantity of spaces proposed for each. The following rates are to be used: (a) Apartment Mississauga - A minimum of 0.60 long term spaces and 0.05 (6 spaces min.) short term spaces per residential unit.			Note	06/21/2021 12:16 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
TRAFFIC REVIEW	1	49	COMMENT: [TRAFFIC NOTES] - (i) All damaged or disturbed areas within the municipal right-of-way are to be reinstated at the Owner's expense. (ii) All landscaping and grading within close proximity to the proposed access points is to be designed to ensure that adequate sight distances are available for all approaching and exiting motorists and pedestrians. (iii) The portion of the driveway within the municipal boulevard is to be paved by the Owner. (iv) Driveway accesses shall maintain a 1.5m setback from aboveground features such as utilities and trees. (v) Any above ground utilities located within 1.5m of a proposed access are to be relocated at the Owner's expense. (vi) The cost for any/all road improvements required in support of this development application will be borne by the Owner. (vii) The Owner shall make satisfactory arrangements with the Transportation and Works Department for the design, construction and payment of all costs associated with works necessary in support access to this site. (viii) Any access to internal servicing shall be provided internally through the site. (ix) Details of the site specific access configurations will be finalized in conjunction with the Site Plan review/approval process.			Note	06/21/2021 12:16 AM
	1	50	COMMENT: [NINTH LINE ENVIRONMENTAL ASSESSMENT] - The City is undertaking an Environmental Assessment for Ninth Line from Eglinton Avenue West to Derry Road West. Ninth Line is identified as an arterial road in the Official Plan. The Owner is also advised to review project details as there will be impacts to this site such as future right-of-way widening and restricted access. Project details can be found at: https://www.mississauga.ca/projects-and-strategies/environmental-assessments/ninth-line-class-environmental-assessment-study/			Note	06/21/2021 12:16 AM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
TRAFFIC REVIEW	1	51	SUBMISSION REQUIREMENT: [TRAFFIC IMPACT STUDY] - A Transportation Impact Study representative of the proposed land use and gross floor area is required. The study is to include a Transportation Demand Management component. The traffic consultant should provide a terms of reference to the City's Traffic Section for review and receive confirmation prior to commencing of the study.			Note	06/21/2021 12:17 AM
	1	52	COMMENT: [SITE ACCESS] - As identified in Official Plan, Chapter 1 the creation of new additional access to an arterial road will be discouraged. The applicant is advised that proposed emergency access to Ninth Line should be eliminated.			Note	06/21/2021 12:17 AM
	1	53	COMMENT: [PROPER TURNING AROUND FACILITY] - The applicant will be required to provide a proper turning around facility for the loading area and all dead ends within the proposed development to ensure vehicles, garbage collection, fire & emergency services can be accommodated.			Note	06/21/2021 12:24 AM
	1	54	COMMENT: [DROP OFF AREA] The applicant is advised that the Drop Off/ Pick up area should be provided.			Note	06/21/2021 12:56 AM
	1	55	COMMENT: [LOADING AREA]- The service vehicles entering/exiting loading area will obstruct the active lane of traffic and adjacent parking spots which is unacceptable. The proposal is to be revised to provide a truck loading area that does not result in any negative impacts on the proposed vehicular / pedestrian routes or any proposed parking spots.			Note	06/21/2021 12:56 AM
URBAN DESIGNER							
	1	18	COMMENT: Detailed UD Comments are provided in Changemarks on the drawings please refer to these comments for more information. Comments have been provided to improve site access, pedestrian safety, walkways and reduced excess paving.			Note	06/08/2021 1:06 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
URBAN DESIGNER	1	19	SUBMISSION REQUIREMENT: Sun/Shadow Study is required to ensure adequate sunlight is achieved. The proposed building(s) should be designed and sited to minimize shadow impacts onto the surrounding area.			Note	06/08/2021 1:07 PM
	1	20	SUBMISSION REQUIREMENT: Acoustical Study prepared by a qualified acoustical consultant is required, recommending noise control features to meet the noise level objectives of the City and the Ontario Ministry of Environment (MOE).			Note	06/08/2021 1:07 PM
	1	21	SUBMISSION REQUIREMENT: If the proposed building height is greater than 20 meters a Quantitative Pedestrian Wind Comfort and Safety Feasibility Study is required to demonstrate minimal wind impacts. The proposed building should be designed and sited to minimize wind impacts onto the proposed development and the surrounding area.			Note	06/08/2021 1:09 PM
	1	22	SUBMISSION REQUIREMENT: GREEN DEVELOPMENT - Provide a cover letter outlining building and site design features that address issues of sustainability and green technology. The City's Green Development Strategy encourages proponents to pursue LEED NC Silver Certification. Consider a design that incorporates low-impact site features, minimizes reliance on infrastructure, conserves building energy, optimizes site and building water management, and includes sustainable stormwater management practices and green roof technology, among other sustainable goals. For more information, review the City's Green Development Standards on-line.			Note	06/08/2021 1:09 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
URBAN DESIGNER	1	23	COMMENT: The location and size of all roof top mechanical units must be shown on the elevation and site plan drawings as well as the proposed method of screening. An acceptable appearance is required from all directions and the design/or screening of the units should complement the architecture of the building with respect to form, materials and colour. For more information, review the City's Urban Design Reference Notes available on the City's website.			Note	06/08/2021 1:09 PM
	1	24	COMMENT: Mississauga City Council has adopted the document "Crime Prevention Through Environmental Design (CPTED)" which is available on the City's website. Applicants are encouraged to review this document to optimize safety and crime prevention on the site.			Note	06/08/2021 1:09 PM
	1	25	COMMENT: BUILDING RECOMMENDATIONS - Due to the high visibility of the building the front elevation should be upgraded to complement and enhance the character of the area. In this regard, upgrade the main elevation with a greater variety of building materials, incorporate visual interest and pattern, a strong base, building articulations and projections, interesting roof forms, detail and trim, and a design that addresses its prominent location.			Note	06/08/2021 1:09 PM
	1	26	COMMENT: SERVICE VEHICLES - Indicate on the site plan drawing the travel route of the service vehicle and/or fire truck. Show all turning radii, travel widths, sufficient back-out space, overhead clearances, internal and/or external storage requirements, etc. For residential buildings contact Peel Region early in the planning process for waste collection requirements. Please see UD comments on the site plan for alternate location for site access.			Note	06/08/2021 1:09 PM

Project Status Report

Group Name	Cycle	Ref #	Comment Text	Applicant Response	Milestone	Resolved Status	Create Date (M/D/Y)
URBAN DESIGNER	1	27	COMMENT: Provide a communal bicycle storage room, preferably on the ground floor, for the building occupants and visitors.			Note	06/08/2021 1:09 PM
	1	28	COMMENT: GARBAGE SCREENING - Indicate the locations and dimensions of interior and/or exterior storage and handling facilities for waste collection on the site plan drawing. Interior waste storage and handling facilities are required. If the garbage enclosure must not be located in a prominent location on site or adjacent to a street, the construction materials are to coordinate with the building.			Note	06/08/2021 1:09 PM
	1	29	COMMENT: LOCATE UTILITIES - Accurately indicate all on-site and boulevard utilities, such as gas metres, hydro metres, electrical transformers, light standards, fire hydrants, catch basins etc. in order to ascertain where possible conflicts could arise between the utilities and the functioning of the site. Indicate the location of the transformer and electrical rooms. The transformer must be located within the ground floor of the building away from public visibility.			Note	06/08/2021 1:09 PM
	1	30	COMMENT: OVERLOOK CONDITIONS - The location, size and internal layout of the proposed building creates undesirable overlook conditions onto the neighbouring property. An alternative design which adequately addresses this issue is required.			Note	06/08/2021 1:09 PM
	1	31	COMMENT: TYPE OF MATERIALS - Indicate the type and colour of all exterior building materials on the elevation drawings for information purposes only.			Note	06/08/2021 1:09 PM
	1	32	COMMENT: Indicate bus bays, stops or shelters on the site plan drawing.			Note	06/08/2021 1:09 PM

Outstanding changemarks

Please be advised that the information noted below is subject to change until all the required review groups have completed the applicable review cycle. You will not be able to respond to any of outstanding checklist items or changemarks until you have been assigned a Prescreen Corrections or an Applicant Resubmit task. Please refer to ePlans help guides for more information.

If you require an explanation or would like to discuss the comments found in this report, please contact the reviewer directly. Reviewers are available in person by appointment only. Please call or email the reviewer to schedule an appointment.

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A100-Site Plan.pdf							
	1	18	LANDSCAPE ARCH - DEV DESIGN	LA01 - Pedestrian Circulation	A more comprehensive pedestrian circulation network is to be provided on the site to provide more permeability to Ninth Line. Incorporate a pedestrian circulation network on the south side of the proposed building w/ associated soft landscaped areas. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM
	1	19	LANDSCAPE ARCH - DEV DESIGN	LA02 - Ninth Line Setback	Clarify the proposed setback to Ninth Line with the formal submission. Please be advised all setbacks and minimum balcony requirements along Ninth Line are to conform to the Shaping Ninth Line Urban Design Guidelines. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A100-Site Plan.pdf	1	20	LANDSCAPE ARCH - DEV DESIGN	LA03 - Garbage Loading Area	Please provide turning movement diagrams for the proposed garbage loading / staging area with the formal submission.		06/16/2021 10:52 AM
	1	21	LANDSCAPE ARCH - DEV DESIGN	LA04 - Loading Space Funcitonality	The proposed loading space is to be incorporated in the design of the ground floor plan to improve functionality and internalize loading operations. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM
	1	22	LANDSCAPE ARCH - DEV DESIGN	LA05 - Residential Setback to North	The setback from the building face to the proposed sidewalk is to be increased to be a minimum 4.5m to allow for a 3m unencumbered landscaped area and a minimum 1.5m porch / balcony. Revise the Concept Plan accordinly with the next formal submission.		06/16/2021 10:52 AM
	1	23	LANDSCAPE ARCH - DEV DESIGN	LA06 - Landscaped Buffer Adjacent to CEC Road	Clarify the proposed Landscaped Buffer adjacent to the CEC Road with the formal submission. The proposal is to be revised to provide a minimum 4.5m Landscaped Buffer adjacent to CEC Road and residential uses to the west. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A100-Site Plan.pdf	1	24	LANDSCAPE ARCH - DEV DESIGN	LA07 - Residential Units Fronting Courtyard	Provide a minimum 3m setback from the building face to the edge of the proposed walkway. This will allow for a generous balcony as well as an associated landscaped area to improve privacy for the residential units on the ground floor. Revise the Concept Plan accordingly with the next formal submission.		06/16/2021 10:52 AM
	1	25	LANDSCAPE ARCH - DEV DESIGN	LA08 - Transformer Location	Investigate opportunities to locate the proposed transformer within the ground floor design. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM
	1	26	LANDSCAPE ARCH - DEV DESIGN	LA09 - Surface Parking Stalls / Required Landscaped Buffer	Please be advised a 4.5m Landscaped Buffer is required to the adjacent residential lands to the south. Relocate the proposed surface parking stalls to the underground parking structure to allow for an increased Landscaped Buffer along the southern property line. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A100-Site Plan.pdf	1	27	LANDSCAPE ARCH - DEV DESIGN	LA10 - Underground Parking Structure	Illustrate the proposed underground parking structure on the Concept Plan with the formal submission. The proposed parking structure is to be setback a minimum of 3m from all lot lines with no tiebacks permitted within any City owned right-of-ways or parkland. Revise the Concept Plan accordingly with the formal submission.		06/16/2021 10:52 AM
	1	1	URBAN DESIGNER	UD01 - Height Labels	Label the proposed height and number of storeys on the site plan. Follow the recommended building stepbacks in the Shaping Ninth Line Urban Design Guidelines.		06/08/2021 11:23 AM
	1	2	URBAN DESIGNER	UD02 - Intake Shaft - Ninth Line	Relocate the intake shaft into the building away from the Ninth Line ROW.		06/08/2021 11:23 AM
	1	3	URBAN DESIGNER	UD03 - Surface Parking	Relocate surface parking inside the building or underground it should not be exposed to the Ninth Line Frontage.		06/08/2021 11:23 AM
	1	4	URBAN DESIGNER	UD04 - Loading	Relocate the Loading into the ground floor of the building. The loading should be internalized within the builing and away from the adjacent townhouses.		06/08/2021 11:23 AM
	1	5	URBAN DESIGNER	UD05 - Intake Shaft - CEC Road F	Relocate the intake shaft into the building away from the Ninth Line ROW.		06/08/2021 11:23 AM
	1	6	URBAN DESIGNER	UD06 - Accesses and Vehicular Routes	Ensure that accesses and vehicular routes are designed to Regional, T&W, and Fire Standards. Label the width of the vehicle routes and ensure that turning radii are 13 meters for Service and Fire Vehicles. Ensure that there is a turn around for Service Vehicles so that they do not back out onto CEC Road F.		06/08/2021 11:23 AM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A100-Site Plan.pdf	1	7	URBAN DESIGNER	UD07 - Align Access	Align access with CEC Road E creating an intersection with CEC Road F and remove the proposed acces on the south side of the site.		06/08/2021 11:23 AM
	1	8	URBAN DESIGNER	UD08 - Rear Entry Area	Please see UD comment 'UD03 - Rear Entry, Drop-off and Vehicle Ramp' on the Ground Floor Plan for required revisions to this area.		06/08/2021 11:23 AM
	1	9	URBAN DESIGNER	UD09 - Access Location	Please see UD comment 'UD07 - Align Access' it is suggested that the access be moved to the north of the site.		06/08/2021 11:23 AM
	1	10	URBAN DESIGNER	UD10 - Sun Access Factor	Please ensure that the proposed outdoor amenity area meets the required sun access factor of 50%.		06/08/2021 11:23 AM
A201-North East Elevation.pdf							
	1	15	URBAN DESIGNER	UD01 - Angular Plane	a 45-degree angular plane should be applied 7.5m from the property at a height at 10.5m. Please ensure the builing height does not exceed this angular plane.		06/08/2021 11:27 AM
A300-Level P1 Plan.pdf							
	1	17	URBAN DESIGNER	UD01 - Underground Parking Setback	A 3 meter setback to the underground parking must be provided to all property lines as per RA zone general provisions.		06/08/2021 11:31 AM
A301-Level 1 Floor Plan.pdf							
	1	11	URBAN DESIGNER	UD01 - Walkways	Pedestrian Walkways are required to be a minimum width of 1.8 meters. Please dimension all proposed pedestrian walkways on the site concept plan.		06/08/2021 11:14 AM
	1	12	URBAN DESIGNER	UD02 - Surface Parking	Relocate Surface parking underground to reduce excess paved area. Surface Parking must not be exposed to Ninth Line.		06/08/2021 11:14 AM

Project Status Report

File Name	Cycle	Ref #	Group Name	Subject	Comment / Condition	Applicant Response	Create Date (M/D/Y)
A301-Level 1 Floor Plan.pdf	1	13	URBAN DESIGNER	UD03 - Rear Entry, Drop-off and Vehicle Ramp	The rear entry, drop-off and vehicle ramp requires redesign to make the area safer for pedestrians and to reduce the amount of excess paved area. The two accesses to CEC Road F are not necessary and the drop of can be designed more efficiently to reduce the amount of paved area.The rear entry is too close to the vehicle ramp creating an unsafe condition for pedestrians. Pleae redesign this area of the site concept plan.		06/08/2021 11:14 AM
A400- Sections.pdf							
	1	16	URBAN DESIGNER	UD01 - Angular Plane	A 45-degree angular plane should be applied 7.5m from the property at a height at 10.5m. Please ensure the builing height does not exceed this angular plane.		06/08/2021 11:29 AM
A500-Composite plan.pdf							
	1	14	URBAN DESIGNER	UD01 - Access Alignment	Please create access alignment with CEC Road E please see UD Commnents on the Site Plan for more detail.		06/08/2021 11:21 AM

Dougherty, Stephanie

From: Hosale, Lisa <Lisa.Hosale@cvc.ca>
Sent: Thursday, December 16, 2021 2:27 PM
To: Paul Tripodo; Jim Greenfield; Rochon, Megan
Subject: [EXT] CVC review of EIS TOR for 5160-5170 9th Line, Miss (PD 21/242)

EXTERNAL EMAIL

Hi Megan,
Good afternoon- thank you for your patience as we finished review of the EIS TOR for the proposed development at 5160-5170 9th Line, Miss (PD 21/242). Also, thank you for inviting us to the site for the feature staking on November 1, 2021 which we are unable to attend but understand was completed by City staff on that date. I cc'd colleagues at the City on this email - please do take CVC's comments, below, in context of any forthcoming City review, and we are happy to have any meetings as necessary to integrate in that regard.

1. Overall CVC staff finds the proposed Terms of Reference acceptable, inclusive of the following comments.

2. From our perspective we would not recommend further evaluation of the ecological functions associated with this woodland, provided that the development remains outside of the feature. If tree removal is proposed, updated surveys may be required.

3. We support the recommendations made in the Terms of Reference, specifically that:
    i. The woodland boundary be staked, which was completed by City staff on November 1;
    ii. A 10m buffer to the woodland be applied to protect the form and function of the feature.

4. We recommend that the 10m buffer to the woodland should be planted with native vegetation. The EIS should clearly identify the objective and targets of the proposed restoration. In order to effectively mitigate impacts to the form and function of the Significant Woodland, CVC recommends plant material to be calculated based on shrubs planted 0.5-1.0m on centre and trees 2.7-3.0m on centre for the entire area to be planted. Please refer to CVC's plant selection guideline for further guidance: https://cvc.ca/wp-content/uploads/2018/04/Plant-Selection-Guideline-FINAL-APRIL-24th-2018.pdf

Please let me know if you have any questions, or if you would like to discuss any of the points above.
Best wishes,
Lisa

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

Lisa Hosale | M.A., M.Sc., AICP | she/her/hers
Planner, Planning and Development Services | Credit Valley Conservation
905-670-1615 ext 268 | M: 437-881-1737
lisa.hosale@cvc.ca | cvc.ca

Credit Valley Conservation
inspired by nature

2021 CANADA'S GREENEST EMPLOYERS

GREATER TORONTO'S TOP 2021 EMPLOYERS

View our privacy statement

Appendix D

Terms of Reference

GEI Consultants
Savanta Division

October 21, 2021

City of Mississauga
Community Services, Planning and Building Departments
300 Centre Drive
Mississauga, ON
L5B 3C1

Credit Valley Conservation Authority
1255 Old Derry Road
Mississauga, ON
L5N 6R4

To Whom It May Concern:

RE: Scoped Environmental Impact Statement Terms of Reference
5160-5170 Ninth Line, Mississauga, Ontario

1.0 INTRODUCTION

GEI Consultants, Savanta Division (GEI) has been retained by Branthaven Development to complete a Scoped Environmental Impact Statement (EIS) for the properties located at 5160-5170 Ninth Line in the City of Mississauga (herein referred to as the Subject Lands; **Figure 1**, **Appendix A**). The property is generally bounded by Ninth Line to the northeast, future townhouses to the southeast and southwest (i.e., Mattamy Homes), and a woodlot owned by the City of Mississauga to the northwest.

GEI understands that the City of Mississauga Planning and Building Department provided a Pre-Consultation Checklist for Official Plan Amendments and/or Rezoning Applications to the proponent following a meeting held on June 23, 2021 to inform the proposed residential development application. Provisions for the requirements for a complete application included an EIS (to be determined following a site visit prior to application submission).

An assessment of the existing natural heritage features and associated functions on the Subject Lands will be undertaken by GEI to assess potential impacts of the proposed development. The intent of submission of this Terms of Reference (TOR) is to outline the proposed workplan in support of the Scoped EIS submission.

The Subject Lands occur within the Ninth Line Lands Study Area and are currently subject to a Scoped Subwatershed Study (SWS) being completed by the City of Mississauga as a companion study to the Secondary Plan. As per Schedule 3 (Natural System) of the City of Mississauga Official Plan (2021 Consolidation), no portions of the Natural Heritage System were identified within the Subject Lands. The adjacent woodland, owned by the City of Mississauga, has been designated as a component of the Natural Heritage System (NHS) through the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020) and must be protected through the application of appropriate mitigation measures on the Subject Lands.

This TOR provides an outline for the Scoped EIS report based on the Comprehensive Environmental Impact and Integration Study (CEIIS) TOR defined within the Ninth Line Lands Phase 3 SWS (Wood 2020) and incorporates requirements defined within the City of Mississauga's Environmental Impact Study Checklist (2017). Where study requirements have been fulfilled through ecological field investigations completed on the adjacent 5150 Ninth Line lands in 2019, survey effort is not proposed to be duplicated on the Subject Lands.

2.0 SCOPED EIS CONTENT

The technical investigations to be conducted as part of the Scoped EIS will focus on the Subject Lands as shown on **Figure 1** (**Appendix A**). Impacts to adjacent lands (i.e., within 120 m of the Subject Lands, as identified within the Natural Heritage Reference Manual; MNR 2010) will also be considered.

The CEIIS TOR recommends a block-by-block approach to the delineation of Study Areas where the Subject Lands form a component of Block 3 (i.e., Britannia Road to the Highway 407 and Highway 403 interchange). Although this approach reduces the number of potential connection points between multiple design strategies, it does not consider the planning stages of various stakeholders, access restrictions or the costs incurred by the first landowner/developer within each block to initiate the Draft Plan approval process and conduct the CEIIS. In the context of the Subject Lands, the block-based approach recommended by the CEIIS ToR (NRSI 2020) is not feasible given the anthropogenic nature of the existing land uses and constraints associated with applying a block-based approach to a 0.73 ha property. The approach proposed by the CEIIS TOR is intended to "*provide an appropriate scale for this study so that the implementation of natural channel design, creation of wetlands, meadows, and woodlands in the NHS, assessment of hazards, and floodplain areas is integrated in a logical way*" and to ensure that the number of potential connection points between various design strategies are reduced. Given the lack of natural heritage features present on the Subject Lands, it is expected that all mitigation for development and site alteration can be accommodated on-site. Therefore, providing provisions for the implementation of the Block 3 NHS is not considered necessary relative to the scope of development and potential impacts on the Subject Lands.

Overall, the Subject Lands are largely isolated from natural heritage features, and the future Transitway corridor is expected to further restrict biotic and abiotic interactions on the property. The ecological and

natural heritage significance of the adjacent City woodland to the northwest was assessed through ecological field investigations completed on the 5150 Ninth Line property in 2019 as well as through the Phase 1 SWS (Amec 2015). As such, no further evaluation of the ecological functions associated with this woodland are proposed, however, the boundary of the woodland on the Subject Lands will be delineated as part of this Scoped EIS.

In accordance with the City of Mississauga's Environmental Impact Study Checklist (2017), the Scoped EIS will consider and include the following information:

- Description of the subject property;
- Description of the type and scale of the development proposal;
- Description of the surrounding environment, including existing and historic land uses;
- Identification of current land use designations and zoning, as well as the type of development application required;
- Review of environmental legislative, regulatory and policy requirements;
- Review of supporting background information and previous site investigations to provide additional insight into the overall character of the property;
- Detailed studies of natural heritage features and associated functions occurring on and adjacent to the property;
- Identification and assessment of the potential impacts of the proposal on the environment and the significant features and functions;
- Identification of positive effects of the proposal such as opportunities for enhancement and/or restoration of significant features;
- Evaluation of the feasibility of alternative mitigation measures or techniques and the ability of such measures to prevent or minimize impacts;
- Recommendation on the suitability of proceeding with the proposal, appropriate mitigation measures, whether changes to the proposal are advised; and
- Recommendation for a monitoring plan and contingency plans and funds should the proposal result in any unexpected impacts to the NHS, if necessary.

Moreover, the Scoped EIS will be coordinated with other studies to fulfil the following requirements:

- Planning Justification Report (Korsiak Urban Planning);
- Sun/Shadow Study (ZO1);
- Wind Study (Gradient Wind);
- Acoustical Feasibility Study (HGC);
- Arborist Report, Tree Inventory & Tree Preservation Plan (Adesso);
- Traffic Impact Study (Crozier);
- Functional Servicing & Stormwater Management Report (Urbantech);

- Grading and Servicing Plans (Urbantech);
- Geotechnical Report (DS Consultants);
- Phase 1 Environmental Site Assessment (DS Consultants); and
- Housing Report (Altus).

All figures provided within the Scoped EIS will use the most up-to-date aerial imagery available. A proposed Table of Contents for the Scoped EIS is provided within **Appendix B.**

2.1 Background Information Review

GEI has reviewed the following background material and policy documents to determine the proposed scope of work:

- Aerial imagery;
- City of Mississauga Official Plan (2021 Consolidation);
- Provincial Policy Statement (MMAH 2020);
- Credit Valley Conservation Authority's (CVC) planning documents and online mapping; and
- Online citizen science databases (e.g., eBird and iNaturalist).

It should be noted that the Subject Lands are located outside of the Greenbelt Planning Area. The following background materials have already been reviewed by GEI:

- Natural Areas Survey (City of Mississauga 2011);
- Ministry of Natural Resources and Forestry's (MNRF) Natural Heritage Information Centre (NHIC) database (2021);
- MNRF's Land Information Ontario (LIO) database (2020);
- Bird Studies Canada's Atlas of the Breeding Birds of Ontario (BSC 2006);
- Ontario Nature's Reptile and Amphibian Atlas (2020);
- Toronto Entomologists' Association's Ontario Butterfly and Moth Atlases (2021); and
- Fisheries and Oceans Canada's (DFO) Aquatic Species at Risk (SAR) Map (2021).

Additional background reports that are made available to GEI by reviewing agencies will be reviewed and incorporated into the NHIS, as appropriate.

2.1.1 Natural Areas Survey

As per the Natural Areas Survey (City of Mississauga 2011) mapping, no natural areas, residential woodlands, special management areas or linkages, as defined by the City of Mississauga Official Plan (2021 Consolidation), occur on or within 120 m of the Subject Lands. As part of the Natural Areas Survey (City of Mississauga 2011), ecological field investigations were conducted in Wards 5, 6 and 11 where lands were

in public ownership. As the Subject Lands occur within Ward 10 of the City of Mississauga, no ecological field investigations were undertaken on or adjacent to the property.

2.1.2 NHIC Database Results

The NHIC (MNRF 2021) database was searched for records of SAR, provincially rare species (S1 to S3), and rare vegetation communities on, and in the vicinity of, the Subject Lands. The database provides occurrence data by 1 km x 1 km squares, with one square overlapping the Subject Lands (17PJ0121) and one square occurring within 120 m of the Subject Lands boundary (17PJ0221). Within these squares, the search revealed four species records: Henslow's Sparrow (*Ammodramus henslowii*; S1B; listed as Endangered on the Species at Risk Ontario (SARO) list), Bobolink (*Dolichonyx oryziorus*; listed as Threatened on the SARO list), Eastern Milksnake (*Lampropeltis triangulum;* listed as Special Concern in Canada) and Midland Painted Turtle (*Chrysemys picta marginate*; listed as Special Concern in Canada). Of these, only one species (i.e., Bobolink) occurred within the square overlapping the Subject Lands. It should be noted that the NHIC (MNRF 2021) database does not provide observation dates, therefore, some records may be considered to be 'Historical' (greater than 50 years old) and may be unlikely to occur within the urbanized landscape of the City of Mississauga. Preferred habitat for these species was not identified on the Subject Lands based on a preliminary review of aerial imagery and previous studies completed on, and adjacent to, the Subject Lands.

2.1.2 Land Information Ontario Natural Features Results

Based on the MNRF LIO geographic database, no natural features were identified on the Subject Lands (**Figure 2**, **Appendix A**).

The woodland located northwest of the Subject Lands is approximately 5 ha in size and satisfies the minimum size threshold for significance, as defined by the City of Mississauga Official Plan (2021 Consolidation). This feature shall be retained as a component of the NHS in accordance with the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020), and protected through the application of a 10 m woodland buffer. Under existing conditions, the woodland feature is characterized as a deciduous forest community (i.e., FOM5) and supports inclusions of deciduous swamp (SWD2-2), candidate significant wildlife habitat for bat maternity colonies, candidate seeps and springs, and confirmed Eastern Wood-Pewee (*Contopus virens*) and Wood Thrush (*Hylocichla mustelina*) habitat. Potential impacts associated with site alteration and/or development to adjacent natural heritage features will be discussed within the mitigation and restoration sections of the Scoped EIS, including potential impacts to ecological functions. As the woodland occurs outside of the proposed development footprint, no direct impacts to this feature are anticipated. Indirect impacts are expected to be minimal, given the prevalence of existing anthropogenic land uses (i.e., residential, livestock, agricultural and commercial), and shall be assessed based on the previous studies completed on, and adjacent to, the Subject Lands.

2.1.3 Ontario Breeding Bird Atlas Results

The Ontario Breeding Bird Atlas Data Summary: 2001–2005 (BSC 2006) contains detailed information on the population and distribution status of birds in Ontario. The database provides occurrence data by 10 km x 10 km squares with one square overlapping a portion of the Subject Lands (17PJ02). It should be noted that the Subject Lands are a small component of the overall bird atlas square, and therefore it is unlikely that all bird species previously recorded within the atlas square are found within the Subject Lands. Habitat type, availability and size are all contributing factors in bird species presence and use.

A total of 84 bird species were recorded in atlas square 17PJ02, with the following species of interest noted:

- Species listed as Threatened on the SARO List:
  - Bank Swallow (*Riparia riparia*);
  - Barn Swallow (*Hirundo rustica*);
  - Bobolink (*Dolichonyx oryzivorus*);
  - Chimney Swift (*Chaetura pelagica*); and
  - Eastern Meadowlark (*Sturnella magna*).
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):
  - Common Nighthawk (*Chordeiles minor*) – Special Concern in Ontario;
  - Eastern Wood-Pewee (*Sturnella magna*) – Special Concern in Ontario;
  - Peregrine Falcon (*Falco peregrinus*) – Special Concern in Ontario; and
  - Wood Thrush (*Hylocichla mustelina*) – Special Concern in Ontario.

2.1.4 Ontario Reptile and Amphibian Atlas Results

The Ontario Reptile and Amphibian Atlas (Ontario Nature 2020) contains detailed information on the population and distribution status of reptiles and amphibians in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Subject Lands are located within the atlas square 17PJ02, which was used to determine a potential reptile and amphibian species list for the area.

A total of 25 reptile and amphibian species were recorded in atlas square 17PJ02, including five turtle species, six snake species, eight frog and toad species, and six salamander species. The following species of interest were noted:

- Species listed as Threatened or Endangered on the SARO List:
  - Blanding's Turtle (*Emydoidea blandingii*) – Threatened; and
  - Jefferson Salamander (*Ambystoma jeffersonianum*) – Endangered.
- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):

- Northern Map Turtle (*Graptemys geographica*) – Special Concern; and
- Snapping Turtle (*Chelydra serpentina*) – Special Concern.

The Study Area is a small component of the overall atlas square, and therefore all the reptile and amphibian species listed for this atlas square may not be found within the Study Area. Habitat type, availability, and size are all contributing factors to reptile and amphibian species presence and use. It should also be noted that some of these occurrences have not been recorded in over a decade suggesting that this species may not be found within these areas presently (e.g., Jefferson Salamander was last recorded in 2004).

2.1.5 Ontario Butterfly and Moth Atlas Results

The Ontario Butterfly and Moth Atlases (Toronto Entomologists' Association 2021a, 2021b) contain detailed information on the population and distribution status of butterflies and moths in Ontario. The database provides occurrence data by 10 km x 10 km squares with one square overlapping a portion of the Subject Lands (17PJ02). It should be noted that the Subject Lands are a small component of the overall atlas square, and therefore it is unlikely that all butterfly and moth species previously recorded in the atlas square are found within the Subject Lands. Habitat type, availability and size are all contributing factors in butterfly and moth species presence and use.

A total of 122 species were recorded in the atlas square that overlaps with the Subject Lands, of which 62 are butterfly species and 60 are moth species. Of these species, one is a species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species) was noted: Monarch (*Danaus plexippus*) ranked Special Concern in Ontario and Endangered in Canada.

2.1.6 Aquatic SAR Distribution Mapping Results

The DFO Aquatic Species at Risk Map (2021) was reviewed to identify any known occurrences of aquatic SAR, including fish and mussels, within the subwatershed where the Subject Lands are located. No aquatic SAR were identified on or within 120 m of the Subject Lands.

2.1.7 eBird Results

The eBird (2020) database is a large citizen science-based project with a goal to gather bird diversity information in the form of checklists of birds, archive it, and share it to power new data-driven approaches to science, conservation and education. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

A total of nine bird species were observed in the closest hotspot of activity, which was located 693 m northeast of the Subject Lands within Marco Muzzo Memorial Woods and Park. No species listed as

Threatened or Endangered on the SARO list were recorded and no Species of Conservation Concern (i.e., listed as Special Concern on the SARO list or identified as an S1-S3 species) were identified.

2.1.8 iNaturalist Results

The iNaturalist (2020) database is a large citizen science-based identification and data collection application. It allows any citizen to submit observations to be reviewed and identified by other naturalists and scientists to help provide accurate species observations. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

No species listed as Threatened or Endangered on the SARO list were recorded and no Species of Conservation Concern (i.e., listed as Special Concern on the SARO list or identified as an S1-S3 species) were identified.

2.2 Ecological Inventories

Due to the anthropogenic nature of the Subject Lands, limited natural heritage features appear to occur on the property. Under existing conditions, land uses consist of a mixture of residential and commercial buildings, including a paved parking area. Scattered trees present on the property shall be assessed through the Arborist Report, Tree Inventory and Tree Preservation Plan.

The proposed development footprint does not extend into natural areas, therefore, only limited ecological inventories are warranted to inform the assessment or potential direct and indirect impacts of the proposed site plan. Ecological data collected through secondary sources and previous studies completed on the adjacent lands will inform the characterization of ecological features and functions within and adjacent to the Subject Lands. Should works be proposed outside of the existing development limit, additional ecological inventories may be required, and the TOR will be updated.

A scoped ecological field survey program is proposed to provide a biophysical inventory of the features present on the Subject Land and to inform the significance assessment of the natural heritage features present. The proposed field program will build upon previous field investigations completed on, and adjacent to, the Subject Lands as part of the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020) and adjacent development applications (i.e., 5150 Ninth Line). Recommended ecological field investigations include:

- Site Reconnaissance Survey (2021);
- Botanical Inventory and Ecological Land Classification (Fall 2021); and
- Feature Staking (2021).

Based on a review of existing background studies and aerial imagery interpretation, limited habitat to support amphibians, breeding birds, reptiles, bats and insects occurs on the Subject Lands, therefore no targeted surveys are proposed. Should any species be incidentally observed, they will be recorded and addressed within the Scoped EIS. Furthermore, as no natural vegetation communities were identified on the Subject Lands, a spring botanical inventory was not warranted.

2.2.1 Site Reconnaissance

In accordance with the recommendations provided within the Pre-Consultation Checklist, GEI will conduct a site reconnaissance survey with the City of Mississauga to characterize potential natural heritage features that may occur on or immediately adjacent to the Subject Lands in order to inform the proposed scope of work. Based on the site reconnaissance survey results, additional surveys may be required, and the TOR will be amended as applicable.

2.2.2 Botanical Inventory and Ecological Land Classification

A botanical inventory and Ecological Land Classification (ELC) survey will be completed on the Subject Lands. Vegetation communities will first be identified based on aerial imagery and through a review of the Ninth Line Scoped SWS (Amec 2015; Amec 2017; Wood 2020), and then verified in the field. Vegetation community types will be confirmed, sampled and revised, if necessary, using the sampling protocol of the ELC for Southern Ontario (Lee et al. 1998). ELC will be completed to the finest level of resolution (Vegetation Type) where feasible. Species names will generally follow nomenclature from the Flora Ontario – Integrated Botanical Information System (Newmaster and Ragupathy 2012). The provincial status of all plant species and vegetation communities is based on NHIC (2021 and 2020, respectively).

2.2.3 Feature Staking

Feature staking will be conducted for the woodland identified adjacent to the Subject Lands to ensure that constraints associated with this feature are accurately represented. A preliminary feature staking exercise will be arranged to delineate the proposed development boundary and the extent of features identified on the Subject Lands. Features will be staked by a GEI botanist and surveyor retained by the proponent. Formal feature staking will be conducted in the presence of a survey crew and the appropriate agencies, which may include CVC, MNRF and the City of Mississauga.

2.3 Natural Heritage Features Analysis

Eight types of significant natural heritage features or areas are defined in the PPS (MMAH 2020), as follows:

- Significant wetlands;
- Significant coastal wetlands;

- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat;
- Fish habitat;
- Habitat of endangered and threatened species; and
- Significant areas of natural and scientific interest.

All significant natural heritage feature types defined under the PPS (MMAH 2020) will be evaluated. Significant Wildlife Habitat (SWH) will be assessed in accordance with the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015). Although the CEIIS TOR recommends the consideration of the Peel-Caledon Significant Woodlands and SWH Study (NSEI et al. 2009) criteria in the evaluation of SWH, where the Peel-Caledon Significant Woodland and SWH Study (NSEI et al. 2009) criteria defer to the Significant Wildlife Habitat Technical Guide (MNR 2000) it is recommended that the SWH Criteria Schedule for Ecoregion 7E (MNRF 2015a) take precedence as the SWH Technical Guide (MNR 2000) is no longer current, as per direction provided by Conservation Halton. In addition, as the thresholds identified within the Peel-Caledon Significant Woodland and SWH Study (NSEI et al. 2009) have not been adopted as policy in the Region of Peel Official Plan (2018 Consolidation), should there be a conflict in significance assessment for a designated criteria between the Peel-Caledon Significant Woodland and SWH Study (NSEI et al. 2009), and the SWH Criteria Schedule for Ecoregion 7E (MNRF 2015), the determination of the latter document will apply to that designated criteria.

In addition to PPS policies, the Scoped EIS will include an evaluation of the City of Mississauga's natural heritage policies, particularly where those policies may be more restrictive than the PPS (MMAH 2020).

SAR and their habitats are considered provincially sensitive information. Due to the sensitive nature of this information, all correspondence and precise location-related information will remain with the Ministry of Environment, Conservation and Parks (MECP). As required, all SAR information will be disclosed to the MECP through their Information Gathering Form, or a similar process upon completion of the Scoped EIS prior to site alteration/development.

2.4 Description of Development Proposal

The Scoped EIS will discuss and describe the development proposal for the Subject Lands. A conceptual site plan will be provided overlaying significant natural heritage features (identified in the Natural Heritage Features Analysis section). Key details outlined within engineering reports (e.g., stormwater management, geotechnical) will be discussed within this section. Any potential impacts associated with site alteration or development will be discussed within the impact assessment portion of the report. Within this section of the report, ecological buffer zones will be discussed and illustrated on the conceptual plan.

2.5 Impact Assessment, Avoidance and Mitigation Measures

The Scoped EIS will present and discuss the natural heritage features and associated functions that occur on, and adjacent to, the Subject Lands. Where available, engineering reports will be incorporated into the impact assessment to assess potential impacts to the Subject Lands.

The Scoped EIS will assess the potential effects to natural heritage features and functions that may occur over various periods of time (short and long term) following the implementation and construction of a conceptual site plan. The Scoped EIS will also identify planning, design and construction practices that are recommended to maintain, and where possible, improve or restore the health, diversity and size of natural heritage features located on, and adjacent to, the Subject Lands. Impact avoidance, mitigation and/or restoration measures will be identified along with predicted net effects. Recommended monitoring strategies will be provided to assess the effectiveness of mitigation measures.

The impact assessment will identify direct and indirect impacts, as well as cumulative impacts associated with site alteration and/or development, while the mitigation measures section will specifically target discussions around measures proposed to eliminate or reduce impacts (e.g., restoration and enhancement, avoidance, invasive species management, adaptive management, erosion and sediment control). Setbacks from natural heritage features (e.g., dripline) will be provided within the impact assessment section.

3.0 PROPOSED TIMELINE

Below is the proposed timeline for the Scoped EIS.

TIME PERIOD	KEY ACTIVITIES
October/November 2021	Complete Ecological Field Program
October/November 2021	Prepare Scoped EIS Report
November 2021	Submit Scoped EIS Report to Reviewing Agencies with Planning Application

4.0 FINAL REMARKS

We trust that the above information and proposed TOR will be met with your approval. Should you have any questions or comments, please do not hesitate to contact the undersigned.

Kindest regards,

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APPENDICES

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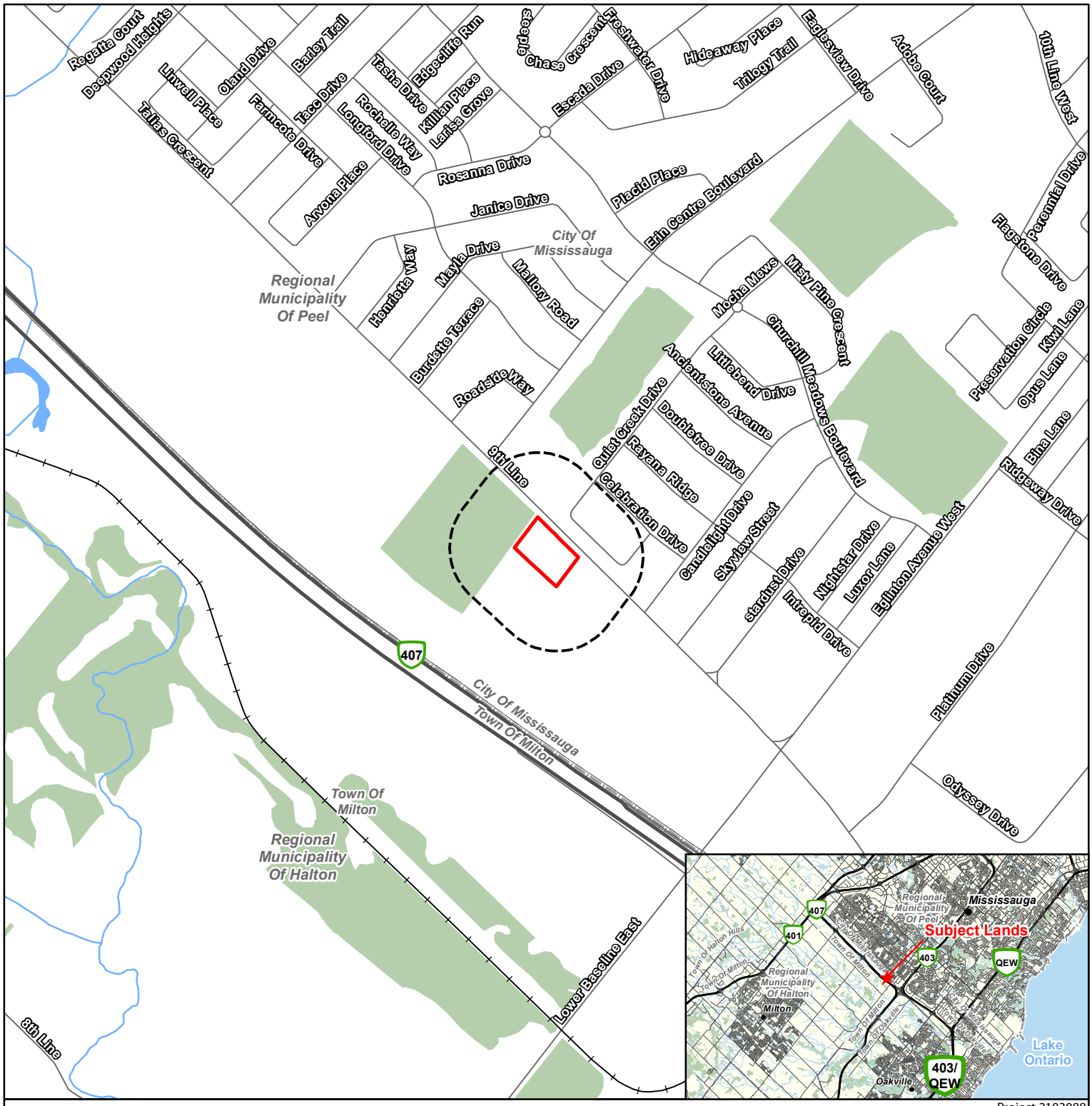
Appendix A – Figures



Project 2103088

NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2021.

Legend

- Subject Lands
- 120 metre Area of Investigation
- Railway
- Municipal Boundary, Lower/Single Tier
- Municipal Boundary, Upper Tier
- Watercourse
- Waterbody
- Wooded Area

5160-5170 Ninth Line
Branthaven Developments

Figure 1
Location of Subject Lands

0 100 m
1:10,000

N

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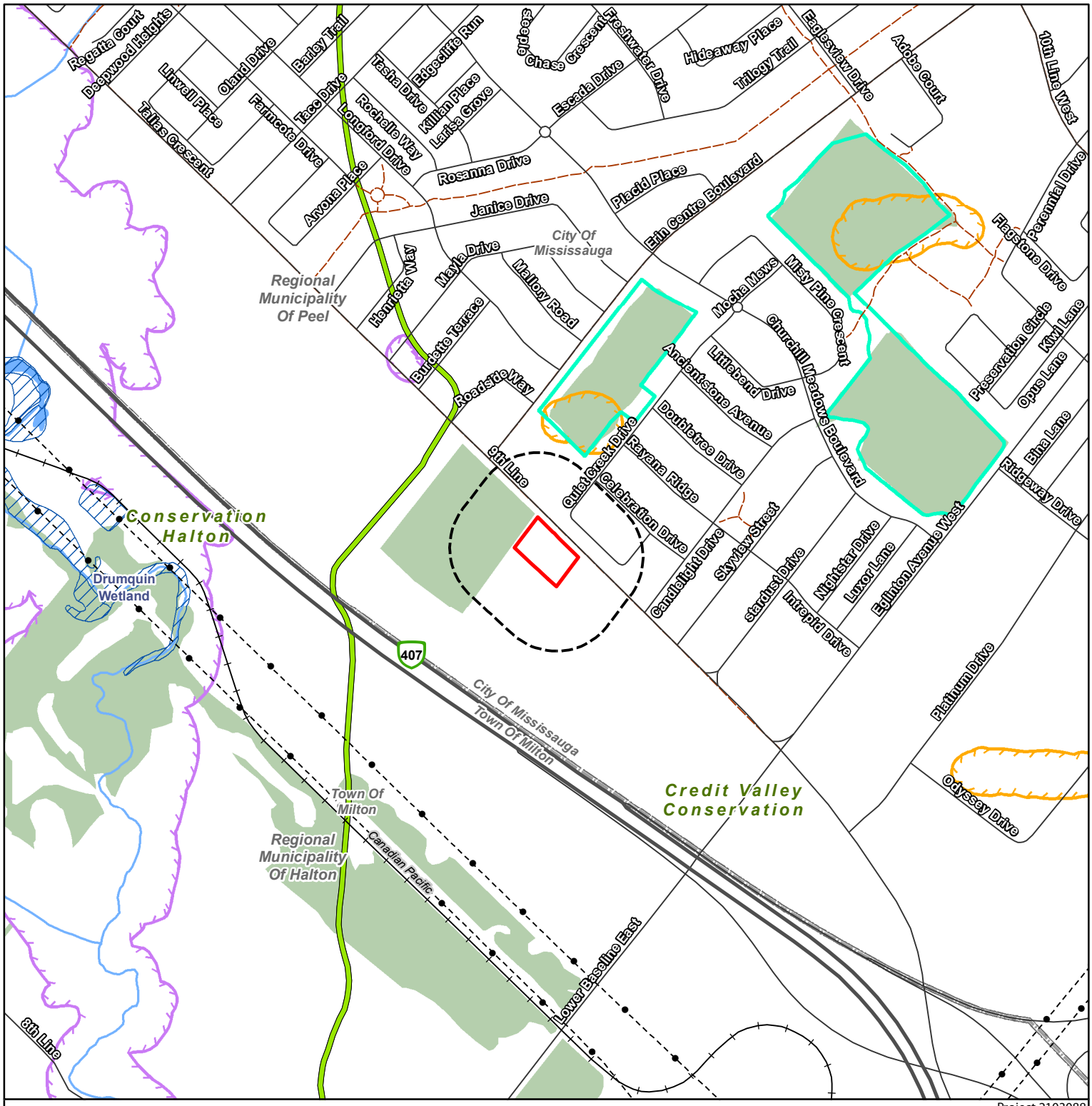

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Legend

- Subject Lands
- 120 metre Area of Investigation
- Hydro Line
- Railway
- Highway
- Road
- Trail Segment (OTN)
- Conservation Authority Administrative Boundary
- Municipal Boundary, Lower/Single Tier
- Municipal Boundary, Upper Tier
- Provincially Significant Wetland
- Watercourse
- Waterbody
- Wooded Area
- Natural Areas System - Significant Natural Area (Mississauga)
- Regulation Limit (CVC)
- Regulation Limit (CH)

5160-5170 Ninth Line
Branthaven Developments

Figure 2
Designated Natural Heritage Features

0 100 m
1:10,000

N

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