Environmental Impact Assessment Guidelines

Regional Official Plan Guidelines

Halton REGION

Halton Region Official Plan Guidelines

The **Regional Official Plan (ROP)** is Halton's guiding document for land use planning. It contains policies that guide decisions related to, among other things, managing growth and its effects on Halton's social, economic and natural environment.

The **ROP Guidelines** are a set of documents that clarify, inform, and aid in the implementation of the Plan's policies.

"This Plan calls for the preparation of certain guidelines or protocols to provide more detailed directions in the implementation of its *policies*."

Halton Region Official Plan [June 19, 2018 Office Consolidation] – Section 192

The Guidelines have been prepared in accordance with Section 192 of the ROP. They provide direction and outline approaches that can be used to satisfy the relevant policies of the Plan. They do not introduce additional policy requirements, and, in the event of a conflict between the Guidelines and the Regional Official Plan, the Plan shall prevail.

The Guidelines may be updated from time to time as required through a report to Regional Council.

For more information, visit https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-(ROP) or https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-(ROP)/About-Regional-Official-Plan-(ROP)/Regional-Official-Plan-Guidelines or call 311.

Environmental Impact Assessment Guidelines

The **Environmental Impact Assessment (EIA) Guidelines** is intended to provide guidance regarding the Region's policies on the Halton Natural Heritage System and Environmental Impact Assessments.

Purpose	The purpose of the **Environmental Impact Assessment (EIA) Guideline** is to: • **explain** the Regional Official Plan (ROP) policies regarding the Halton Natural Heritage System (NHS) and requirements for triggering an EIA; • **provide** tools to support the EIA process, direction for on the EIA process and content required for an EIA; • **identify** ways to avoid or minimize potential impacts to the NHS and its key features and ecological functions; and, • **enable** municipal decision-making on development proposals which have the potential to impact the NHS.
Application & Use	To maintain a healthy balance between settlement areas, the rural countryside and the Halton NHS, when development is proposed within or adjacent to the NHS, an Environmental Impact Assessment (EIA) may be required. The Guidelines should be used to understand the implementation of these requirements and are applicable to a variety of users, including: • **Regional, Local and external agency staff**: as a resource when reviewing development applications that may require an EIA; • the **development industry** and **agricultural community**: for clarity on the application of ROP policy regarding EIAs; and • the **public**: to understand how the protection and promotion of the NHS occurs through the development process.
Supporting Documents	In addition to the policy direction provided by the ROP, the following documents informed the guideline and should be considered alongside this guideline, or in the preparation of an EIA, as appropriate: • Provincial Policy Statement, 2014 • Greenbelt Plan, 2017 • Niagara Escarpment Plan, 2017 • Growth Plan for the Greater Golden Horseshoe, 2019 • Ontario's Endangered Species Act, 2007 • Ministry of Natural Resources [Forestry] – Natural Heritage Reference Manual (Second Edition) • Local Official Plan & Zoning By-law(s) • Conservation Authority Act and associated Ontario Regulations and Conservation Authority Policies
Version	**Version 2** | This version of the Environmental Impact Assessment Guidelines was brought before Regional Council on [to be added after presentation to council] through Report Number [to be added upon completion]. **GUIDELINE IS DRAFT AT THIS TIME**.

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Introduction

The Regional Municipality of Halton (Halton) is a fast-growing community within the Greater Golden Horseshoe (GGH) comprised of four communities: The City of Burlington, the Town of Halton Hills, the Town of Milton, and the Town of Oakville. Within the 2041 planning horizon, Halton and its communities expect to accommodate a population of 1,000,000, almost doubling its 2016 population (548,924 residents in 2016).
Through Halton's Regional Official Plan (ROP), significant value has been placed on the permanent protection of Halton's landscape. This includes the protection of existing natural heritage features and functions, enhancement of Halton's natural heritage on the landscape, and respecting the value of the rural and agricultural landscape.

The Natural Heritage System Policies implemented through Regional Official Plan Amendment (ROPA) # 38, brought in a systems-based approach to natural heritage planning, assessment and protection in Halton. Through these policies, approximately 50% of the Region was identified as part of a Natural Heritage System (NHS) and represent protected natural heritage features and functions.

As a growing municipality, it is understood that development and *site alteration* activities / projects will be proposed within or on lands adjacent to the Halton NHS. To facilitate protection of the features and functions that comprise the Halton NHS as development and growth proceeds, these activities may require the completion and submission of an Environmental Impact Assessment (EIA) to ensure there is no negative impact to the NHS as a result of the proposed activity or development. An EIA is a primary tool through which the Region ensure the long-term protection of its natural heritage on the landscape.

How to Use This Guideline

This EIA Guideline is intended to provide direction to the proponents of *development* or *site alteration* and EIA practitioners in determining when an EIA is required and the procedure for completing an EIA. A brief summary of the intended purpose of each major section is provided below as a quick reference guide in using this document.

Section 1 | EIA Primer. This section contains a high-level, plain language overview of what an EIA is, why and when they are needed, who can complete them and how they fit into the development process.

Section 2 | **EIA Process**. This section provides an overview of the EIA process, roles and responsibilities of stakeholders involved in the EIA process, etc.

Section 3 | **EIA Content**. This section provides direction on the technical content and approach to completing an EIA, including minimum submission requirements for a complete EIA.

Defined Terms

The guidelines include words with defined meanings as per the ROP, the Provincial Policy Statement (2014), the Niagara Escarpment Plan (2017) and the Greenbelt Plan (2017) and the Growth Plan for the Greater Golden Horseshoe (2019). These words are shown in italics, and definitions are compiled in **Appendix A** for ease of reference.

1.0 EIA Primer

1.1 What is an EIA?

An EIA is a study that assesses the potential impacts to the form and function of the natural environment resulting from a proposed *development* or *site alteration* project. It documents the existing conditions of the Natural Heritage System's (NHS) features and functions on and around the site of such projects, identifies the potential impacts associated with the project, and recommends ways to avoid (preferred) or mitigate (where they cannot be avoided) negative impacts. Wherever possible, an EIA also identifies opportunities to enhance natural features and functions to assist in the long-term objectives of creating a sustainable natural environment in Halton as a permanent and prominent part of the Region's landscape. An EIA may also help to inform refinements to portions of the NHS where justified.

1.1.1 Impact Assessments: Terminology and a One-Study Approach

Terminology associated with natural environment / natural heritage impact assessment studies varies across jurisdictions, plans or planning process scales; however, the basic approach and purpose of the impact assessment remains relatively consistent regardless of variation in terminology. Terminology that refers to a natural environment / natural heritage impact assessment includes:

- Environmental Impact Assessment (EIA)
- Environmental Impact Study (EIS)
- Natural Heritage Evaluation (NHE)
- Environmental Impact Report (EIR)
- Subwatershed Impact Study (SIS)

Guidelines, study requirements and approaches may differ slightly however, the similarities across these study types can support a 'one-study' approach to impact assessment in Halton. Specifically, where the requirement for an impact assessment is triggered across multiple jurisdictions or plans (e.g., Conservation Authority and the Region), the guidance provided herein will be applicable in supporting a 'one-study' approach for a proposed *development* or *site alteration*. The goal is to encourage all agencies to address their environmental study requirements through identifying a suitable scope of work and reporting requirements as part of an EIA in Halton.

While this document is a Halton ROP Guideline intended to provide direction for and outline requirements under ROP policies, the content may be of value to scoping an impact assessment that addresses all agency requirements. Proponents should seek guidance from the applicable authority / authorities where the requirement for multiple studies has been triggered to develop a single scope.

1.2 Why is an EIA Needed?

Where *development* or *site alteration* may affect significant natural features and functions, Ontario's Provincial Policy Statement (PPS; MMAH, 2014) requires that it be demonstrated that no negative impacts will occur. The ROP is consistent with the PPS. The ROP applies a *systems approach* to protecting and enhancing natural features and functions within the Region, by implementing a NHS. The NHS in Halton consists of the Regional Natural Heritage System (RNHS), the Greenbelt Natural Heritage System (GBNHS) and the Growth Plan Natural Heritage System (GPNHS). While the GBNHS, GPNHS and the RNHS have different sets of planning *policies*, they complement each other and together implement *Halton's* vision of a sustainable NHS.

The goal of the NHS is to increase the certainty that the biological diversity and *ecological functions* within Halton will be preserved and enhanced for future generations (s. 114 of the ROP). Within rural areas of Halton Region, agricultural land use and the NHS coexist; the NHS is not intended to restrict *normal farm practices*.

The requirement for undertaking an EIA is specified for *development* and/or *site alteration* within section 118(3) of the ROP.

The purpose of an EIA is to demonstrate that a proposed *development* or *site alteration* will result in no *negative impact(s)* to that portion of the NHS or unmapped *Key Features* affected by the *development* or *site alteration* by identifying components of the NHS and their associated *ecological functions* and assessing the potential environmental impacts, requirements for impact avoidance and mitigation measures, and opportunities for enhancement.

1.3 When is an EIA Required?

An EIA is generally triggered when *development* or *site alteration* is proposed to occur within or adjacent to the NHS or an unmapped *Key Feature* (confirmed or potential). Confirmation of the requirement for an EIA is addressed through a project screening process (**Section 2.1**). EIA triggers and exemptions to the requirement for an EIA are discussed in **Section 2.1.1** and opportunities to have the EIA requirement waived are discussed in **Section 2.1.2**. Where waiving is being considered, the proponent may be required to make modifications to their plan, adhere to specific mitigation measures or other conditions for waiving to be permitted. Site visits may be required to confirm Key Feature boundaries and/or discuss EIA requirements including waiving considerations.

1.3.1 Agricultural Buildings

Halton Region recognizes the importance of agriculture to the vitality of the Region and recognizes the important contribution that rural landowners make to the preservation of natural heritage features on their lands. The RNHS was developed to ensure that a system of *key features*, *enhancements to key features*, *linkages* and *buffers* has been identified that is sufficiently robust to withstand the more intense ecological impacts associated with a change from rural to urban land use and thereby achieve long term protection of biodiversity. Halton Region recognizes that within rural areas of Halton Region, agriculture and the RNHS can coexist, and the policies of the ROP are intended to support continued viability of farms while avoiding/minimizing impacts to the RNHS and its key features. The ROP achieved this balance through modified EIA triggers for proposed *agricultural buildings*, agriculture-specific waiving criteria and through a commitment to assist the proponent in carrying out an EIA required for an *agricultural building* through EIA scoping and/or by providing financial aid and/or in-kind service.

Direction with respect to agricultural buildings in the EIA process is provided through **Section 2.0 EIS Process** and associated tools and appendices.

1.4 Scope of an EIA

Upon confirmation that an EIA is required through the screening process (i.e., the project triggers the need for an EIA, is not exempt, and the requirement cannot be waived – **Sections 2.1.2** and **2.1.3**), the requirements of the EIA are determined through scoping (**Section 2.2**).

The requirements for an EIA are scoped based on the scale and complexity of the proposed work, the NHS feature(s) and function(s) known to be present or potentially present, and the potential scale and magnitude of the impacts associated with the proposed *development* or *site alteration*. As such, the scope of an EIA occurs on a 'sliding scale' of extent and comprehensiveness. An EIA may need to draw information from other studies requested as part of the application such as fluvial geomorphology assessment, hydrogeological study, stormwater management plan, etc. It is important that appropriate components of each study be integrated through the EIA as they may inform potential change to conditions important for the support and maintenance of the NHS or *key feature(s)*

1.4.1 Relationship between EIAs and Subwatershed (or Comparable) Studies

Regional policy allows an alternate EIA process to be identified through a comprehensive environmental review as part of a secondary plan process or a watershed and/or subwatershed study (SWS) (e.g. Environmental Implementation Report, Subwatershed Impact Study). When this alternate process is agreed to by the Region and the applicable local planning approval authority, it will supersede the Region's EIA requirements and the Region will work in consultation with the local municipality to coordinate the alternate process and ensure that matters of Regional concern are addressed.

1.5 Who Prepares an EIA?

An EIA is to be prepared by a professional or team of professionals with relevant and applied expertise in impact assessment studies. Generally, an EIA will be led by, or include substantive contributions by a senior ecologist, senior biologist or comparable professional. Components of the EIA or additional studies integrated into the EIA will be completed by a professional or team of professionals who have the appropriate knowledge and applied experience in the relevant disciplines for the required study component(s) (e.g., a hydrogeologist, fluvial geomorphologist, etc.). All EIA practitioners shall be retained at the expense of the proponent.

Some examples of study components and appropriate professionals are provided below. Individuals with alternative titles than those provided who have the appropriate qualifications and experience to complete a study component may be engaged, as appropriate. In some cases, the Region may wish to verify the qualifications of persons who are involved in carrying out an EIA, such as educational qualifications, experience, special certifications (e.g. Ecological Land Classification, Wetland Evaluation, electro-fishing, etc.); Curriculum Vitae are to be provided upon request.

- **Biophysical Inventories** should be conducted by individuals with applied experience in natural heritage / biological inventories appropriate the features and function in the study area. This may include ecologist(s) or biologist(s) specializing in one or more area (e.g., aquatic, fish & fish habitat, terrestrial, botany, wildlife, Species at Risk).
- **Wetland or Site Water Balance(s) / Hydrogeological Studies / Surface Water Studies** should be conducted by individuals with applied experience in water resource engineering, hydrology, hydrogeology, as appropriate for the specific work to be completed.
    - Wetland water balances generally require input from an ecologist / biologist (or comparable) in addition to those disciplines listed above as it considers the form, function and requirements of the wetland and its hydrologic requirements for persistence.
- **Landform and Fluvial Geomorphology Studies** should be conducted by individuals with training and experience in geomorphology, fluvial geomorphology or comparable knowledge / experience.

It is important that the component studies be integrated through the EIA; this requires that the potential change to other conditions (e.g., water balance) be considered in the context of the form and function of the natural heritage features potentially impacted by the proposed activity / *development* and appropriately discussed in the report.

1.6 EIAs in the Development Process

An EIA is one of the studies that may be required to support a *development* or *site alteration* application; determination of what studies are required to support a project are identified through Screening (refer to **Section 2.1**). An EIA is multi-disciplinary, meaning that there is overlap with or the need to integrate and consider information collected across multiple studies (e.g., groundwater / hydrogeology studies, stormwater management reports, etc.). Similarly, the EIA may overlap and

require consideration of multiple Acts, Policies and Regulations (e.g., PPS, Official Plans, Niagara Escarpment Plan, Greenbelt Plan, Growth Plan, Conservation Authorities Act / Regulations, Endangered Species Act 2007). These may be administered by the Region or external agencies (e.g., Conservation Authorities, Niagara Escarpment Commission, Ministry of Environment Conservation and Parks). A *development* or *site alteration* application must conform to the requirements of all applicable plans and policies.

The EIA process in Halton is a One-Study approach, meaning that the requirements for an EIA are coordinated between the Region, the local municipality, the Conservation Authority and the NEC, as appropriate. This approach avoids duplication and ensures that requirements for applicable regulatory and approval agencies are addressed through a single study (i.e., an EIA). The proponent (or their consultant) should co-ordinate the requirements across all agencies / guidance documents to ensure field investigations capture the appropriate information and are timed appropriately to inform the requirements of the process.

It is the applicant's responsibility to ensure the requirements of all studies identified as required are met, and that the EIA integrates the results of other studies into the analysis of environmental impacts.

The completion and approval of an EIA may be part of the requirement for granting of *development* or *site alteration* approvals. If it is determined that an EIA is required, an application can only be considered complete following the submission of the Draft EIA in accordance with the approved terms of reference (ToR).

1.7 Roles & Responsibilities in the EIA Process

1.7.1 Agency Roles & Responsibilities

As noted above, the EIA process within Halton is a one-study approach; as such, the Lead Planning Authority (i.e., the authority to whom the application is submitted) and other approval or commenting agencies have a responsibility to coordinate the requirements set out for the study and also have specific roles / jurisdictions within the review and approval of an EIA. In consideration for the overlap that can exist, some general guidance has been provided in **Table 1** to assist all parties involved in the EIA process.

Table 1: Agency Roles & Responsibilities within the Halton One-Study EIA Process

Agency	Roles in the EIA Process
Lead Planning Authority	The Lead Planning Authority is the planning authority to whom the application is submitted for approval. Generally, this may be the Region, local area municipality, Niagara Escarpment Commission (NEC), or Conservation Authority. When an EIA is triggered under Regional policy on lands within the Niagara Escarpment Plan Area, the EIA process will be coordinated between Halton Region and NEC and other relevant planning approval authorities and review agencies. The Lead Planning Authority (or its delegate(s) or assign(s)) coordinates the one-study process, engaging with other agencies (as applicable), acting as the primary liaison with the proponent and leading the EIA Process (**Section 2.0**). This includes project screening to determine if an EIA is required, coordination of input from other relevant planning approval authorities and review agencies in scoping and development of TOR for the EIA, submission screening, circulation and coordination of review of EIA draft(s) and the final EIA report approvals and submission package. Where appropriate, the Lead Planning Authority may engage external agencies or consultants to support technical review requirements (e.g.,

Agency	Roles in the EIA Process
	technical consultant(s) on retainer or MOU with Conservation Authorities).
Region of Halton	Where applicable, the Region may be the Lead Planning Authority (e.g. where approval authority for a given Planning Application is retained by the Region or where a Regional Official Plan Amendment Application is involved). The Region will primarily act as a commenting agency. Through this role, Regional staff will ensure that Regional interests related to the identification and protection of the NHS are addressed in accordance with applicable policy through the One-Study process. The Region may act as a commenting agency on other items, if / as appropriate. Technical review requirements relating to the protection of the NHS such as boundary delineation, review of inventory work, and evaluation of impact assessments and mitigation strategies may be delegated to others. Where refinements to the boundaries of the NHS through an EIA, they must be accepted by the Region. Decisions with respect to specific components are deferred to the responsible authority (e.g., CA, MECP), where appropriate.
Local Area Municipality	Where applicable, a local area municipality may be the Lead Planning Authority (e.g. where they are the delegated approval authority for a certain type of Planning Application). Local area municipal staff will also act as a commenting agency on applications where they are not the Lead Planning Authority. Through this role, local municipal staff will ensure their interests with respect to conformity of proposed projects with local policies and plans are met if /as appropriate. *Development* and *site alteration* application processes are often initiated through the local municipality; as such, pre-consultation and/or the initial screening to determine if an EIA is required may be triggered by these agencies.
Conservation Authority (CA)	A Conservation Authority may be the Lead Planning Authority where *site alterations* activities are proposed within a Conservation Authority regulated area. *Site alteration* within regulated areas may require a permit, or other authorization from the Conservation Authority. The permit / authorization process may require preparation of an impact assessment (e.g., an EIS) to support a permit application. This overlap is the intersection between the EIA process and associated study requirements for the CA and are intended to be addressed through the One-Study EIA Approach. CAs are an approval agency for projects within Regulated Areas (per the CA Act and associated Ontario Regulation(s)). The CA may act as a commenting agency for other features / study components in an EIA, if / as appropriate. A CA may, through a Memorandum of Understanding, provide technical review on behalf of a municipality or the Region. Areas regulated by CAs include hazard lands (floodplain, steep slopes, etc.), wetlands, watercourses and shorelines and lands adjacent to these features.
Niagara Escarpment Commission (NEC)	Projects within the Niagara Escarpment Plan (NEP) area may require a development permit from the NEC. The NEC plan contains policies that may trigger the requirement for an Natural Heritage Evaluation (NHE) if deemed necessary by staff. Where an EIA is also triggered under ROP

Agency	Roles in the EIA Process
	policies, staff from the Region and NEC will work together to coordinate this process. The NEC may act as a commenting agency for EIAs if / as appropriate.
Ministry of Environment, Conservation and Parks (MECP)	MECP is responsible for the Endangered Species Act (ESA 2007). MECP is the regulatory / approval agency for the assessment of presence, potential impacts to and any authorizations associated with Species at Risk.[1] Species at Risk are to be addressed through the EIA Process, however decisions with respect to impacts and/or authorization requirements rests with the MECP.
Ministry of Natural Resources and Forestry (MNRF)	MNRF has prepared guidance documents applicable to many projects requiring an EIA (e.g., Natural Heritage Resource Manual, Significant Wildlife Habitat Technical Guide and Ecoregion Criteria Schedules). The MNRF is the Ministry responsible for Areas of Natural and Scientific Interest (ANSIs), Provincially Significant Wetlands, Significant Wildlife Habitat, and Fisheries Management and may act as a commenting agency for Significant Woodlands and Natural Heritage Systems, as appropriate. Where known features or those with potential to be identified as one of the above are present, engagement with the MNRF may be required and should be initiated early in the EIA process. The MNRF may also be engaged as a commenting agency (e.g., advisory role) for implementation of guidance documents, etc.
Department of Fisheries and Oceans (DFO)	The DFO administers the Fisheries Act; lands where fish habitat occurs must have regard for the Act. Consultation with and /or authorization from DFO may be required based on proposed works.

Contact information for the planning approval authorities and review agencies referred to above is provided in **Appendix B**.

1.7.2 Role of the Proponent

The proponent has an important role throughout the EIA Process to:

- Liaise and engage with the Lead Planning Authority and / or other agencies, as appropriate from project screening through to EIA approval;
- Arrange for the completion of the EIA, which will generally include engaging consultant(s) with expertise in coordinating and/or conducting EIAs, as appropriate for the scope and scale of the proposed *development* or *site alteration*;
- Become familiar with the EIA process (**Section 2**) and understand the key steps and components of an EIA.

Proponents should also be aware of the following when engaging in the EIA process:

- Time to prepare an EIA may be tied, in part, to the field data collection required. Different field studies have different 'field seasons' or periods in which the data must be collected (e.g., breeding bird data must be collected during the breeding bird season);Review of an EIA is generally an iterative process requiring more than one submission to incorporate any recommended amendments to plans (e.g., opportunities to avoid impact through design

[1] MECP regulates other Acts and policies that may apply to *development* (e.g., water quality requirements for stormwater management). Only those that pertain specifically to natural heritage are provided here.

alterations), and ensure that the EIA is complete and appropriate information and analyses have been completed to the satisfaction of the approval agencies, as applicable.

2.0 EIA Process

The following section outlines the 5 main steps of the EIA process: Project Screening (Step 1), EIA Scoping (Step 2), Data Gathering & Draft EIA Preparation (Step 3), Draft EIA Submission (Step 4) and Final EIA Submission (Step 5). The process is also represented in several figures:

- **Figure 2.1** aligns the EIA Process to application processes for Planning Act and Non-Planning Act applications;
- **Figure 2.2** provides a brief overview of key elements of each step in the EIA process;
- **Appendix C** contains a detailed process flow chart with key decision points and outcomes.

Several tools are provided to support the EIA process and are provided in **Appendix D**. The tools are listed below and discussed in the relevant sections below:

- EIA Waiving Assessment Tool (**Appendix D-1**)
- EIA Scoping Checklist (**Appendix D-2**)
- EIA Complete Application/Initial Submission Checklist (Appendix D-3)
- EIA Comment and Response Table Template (**Appendix D-4**)
- Final Submission Package Checklist (**Appendix D-5**)

***Figure 2.1**: Process Alignment for Planning Act and Non-Planning Act Applications*

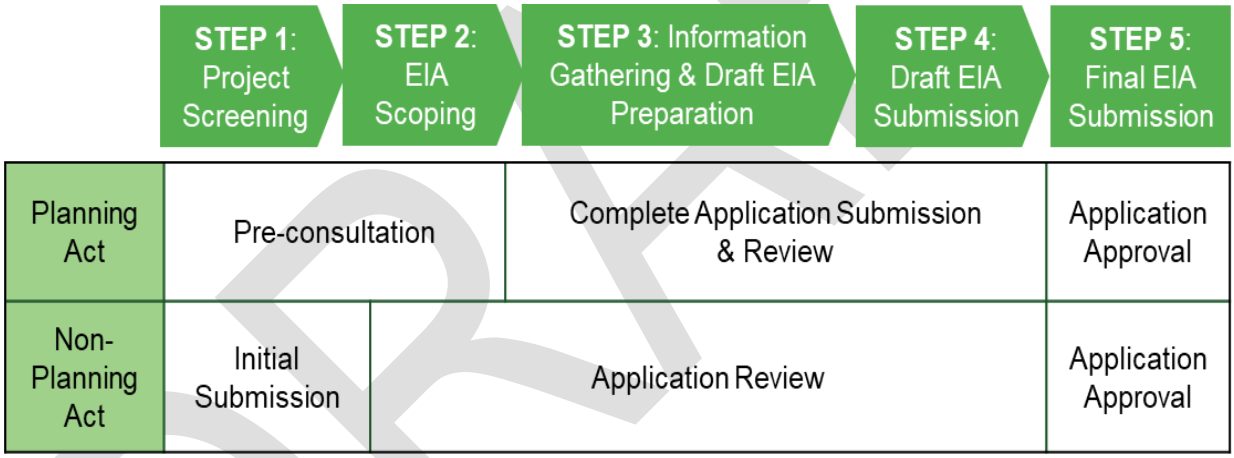
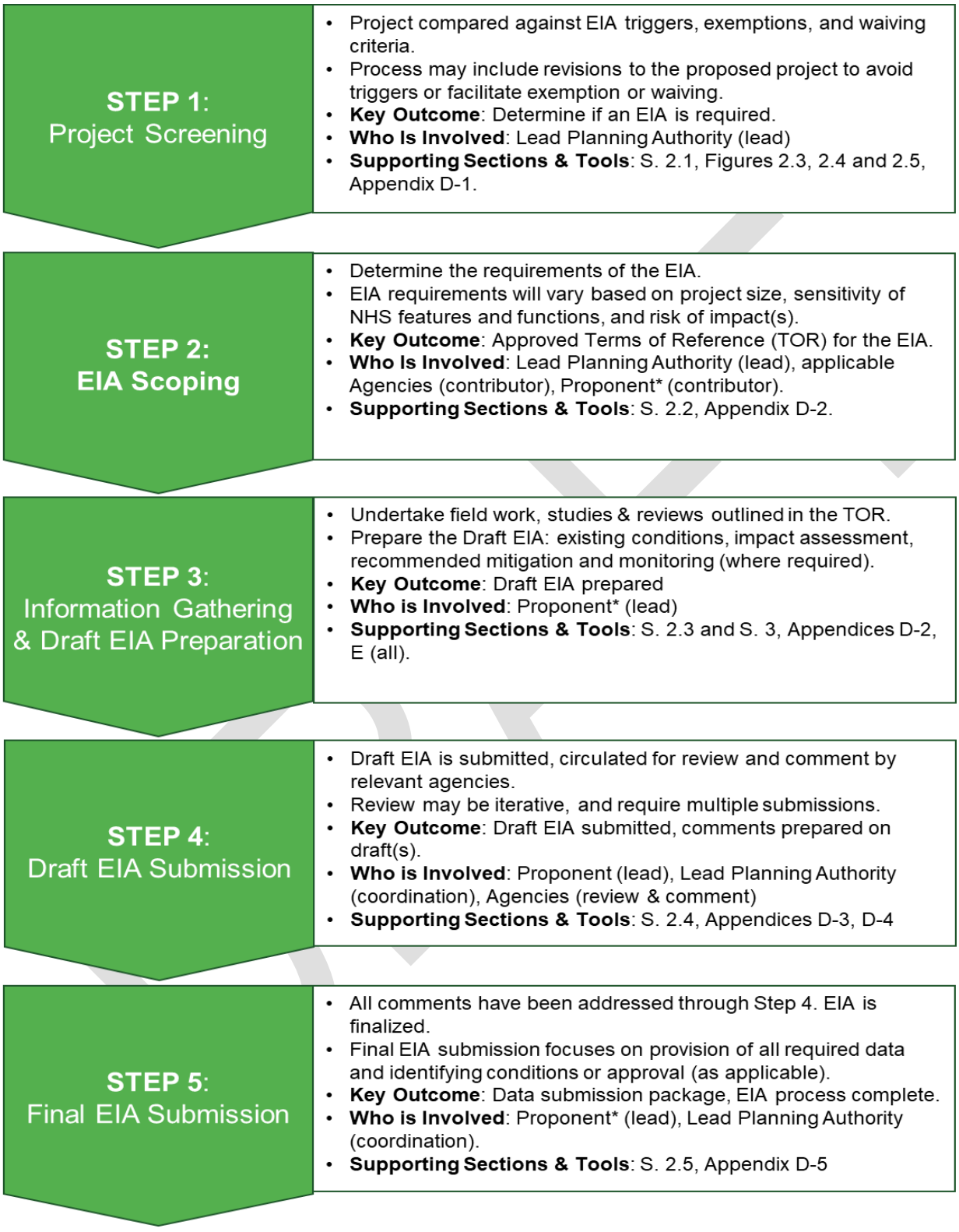


Figure 2.2: EIA Process Overview



* Proponent may delegate to a qualified EIA practitioner, or similar.

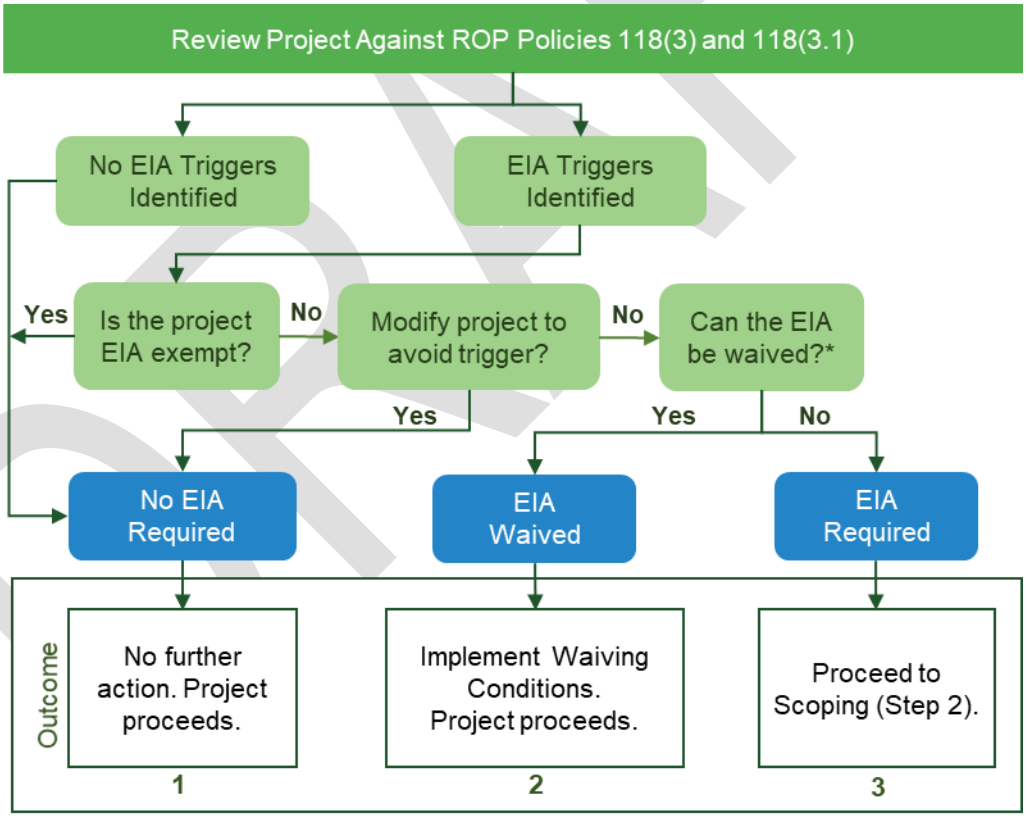
2.1 Step 1 | Project Screening

The first step is determining whether an EIA is required. Project screening should occur through pre-consultation (Planning Act applications) or, where no formal pre-consultation is required (non-Planning Act application), at the time of initial application submission (**Figure 2.1**). *Site alteration* projects and development permit applications under the Niagara Escarpment Plan are examples of application processes which do not require mandatory pre-consultation.

Project screening may involve agencies affected by the proposal in addition to the Lead Planning Authority. Generally, this occurs where other agencies have applicable natural heritage protection policies, or where an agency has been designated to provide technical review (e.g., on behalf of the Lead Planning Authority). The Lead Planning Authority should coordinate input, as appropriate, to ensure all relevant policies and requirements are met through the One-Study approach to impact assessment.

Projects may not be required to proceed past **Step 1: Project Screening**. It is through this initial step that EIA triggers are assessed and opportunities to avoid triggers, projects exemptions and opportunities to waive the EIA requirement are considered. The screening process is shown in **Figure 2.3** and is outlined in the sections below.

Figure 2.3: Project Screening Process



*Waiving may be achieved through plan modification.

2.1.1 EIA Triggers and Exemptions

The Lead Planning Authority screens the project against ROP policies to determine if an EIA is triggered and, if triggered, whether the project is exempt from the EIA requirement. EIA Triggers vary based on the component of the NHS (i.e., the Regional NHS, the Greenbelt NHS and the Growth Plan NHS) that the proposed *development* or *site alteration* occurs within / adjacent to. The applicable

policies are provided below; **Figure 2.4** (Agricultural Buildings) and **Figure 2.5** (Non-Agricultural *Development* and *Site alteration*) illustrate the EIA triggers.

Regional Natural Heritage System

118 (3) *Require the proponent of any development or site alteration that meets the criteria set out in Section 118(3.1) to carry out an Environmental Impact Assessment (EIA), unless:*

a) the proponent can demonstrate to the satisfaction of the Region that the proposal is minor in scale and/or nature and does not warrant an EIA,

b) it is a use conforming to the Local Official Plan and permitted by Local Zoning By-laws;

c) it is a use requiring only an amendment to the Local Zoning By-law and is exempt from this requirement by the Local Official Plan; or

d) exempt or modified by specific policies of this Plan.

The purpose of an EIA is to demonstrate that the proposed development or site alteration will result in no negative impacts to that portion of the Regional Natural Heritage System or unmapped Key Features affected by the development or site alteration by identifying components of the Regional Natural Heritage System as listed in Section 115.3 and their associated ecological functions and assessing the potential environmental impacts, requirements for impact avoidance and mitigation measures, and opportunities for enhancement. The EIA, shall, as a first step, identify Key Features on or near the subject site that are not mapped on Map 1G.

118 (3.1) *Set the criteria for the requirement of an EIA for proposed developments and site alterations as follows:*

a) agricultural buildings with a footprint not exceeding 1,000 sq m or single detached dwellings on existing lots and their incidental uses that are located wholly or partially inside or within 30 m of any Key Feature of the Regional Natural Heritage System other than those areas where the only Key Feature is a significant earth science area of natural and scientific interest; if the proposed buildings or structures are located entirely within the boundary of an existing farm building cluster surrounded by woodlands, no EIA is required as long as there is no tree removal within the woodlands;

b) agricultural buildings with a footprint over 1,000 sq. m that are located wholly or partially inside or within 30m of the Regional Natural Heritage System; and

c) all other developments or site alterations, including public works, that are located wholly or partially inside or within 120m of the Regional Natural Heritage System.

Greenbelt Natural Heritage System

139.3.7(4) *[It is the policy of the Region to:] Require the proponent of any development or site alteration, including public works, that is located wholly or partially within the Greenbelt Natural Heritage System or within 120m of a Key Feature to*

carry out an Environmental Impact Assessment (EIA). The EIA will identify a vegetation protection zone which:

a) *is of sufficient width to protect the Key Feature and its functions from the impacts of the proposed change and associated activities that may occur before, during, and after, construction, and where possible, restore or enhance the feature and/or its function; and*
b) *is established to achieve and be maintained as natural self-sustaining vegetation.*

139.3.7(4.1) *Notwithstanding Section 139.3.7(4) for agriculture-related development or site alteration, the requirement for an EIA is reduced to within 30m of a Key Feature.*

139.3.7(6) *Notwithstanding Sections 139.3.7(4), 139.3.7(4.1) and 139.3.7(5), permit without the requirement of an EIA the expansion of existing agricultural buildings and structures, residential dwellings, and accessory uses to both, within Key Features, subject to the following being demonstrated to the satisfaction of the Region:*

i. *there is no alternative and the expansion, alteration or establishment is directed away from the Key Features to the maximum extent possible;*
ii. *the impact of the expansion or alteration on the Key Feature and its functions is minimized to the maximum extent possible; and,*
iii. *sewage and water services as described in Section 101(1.3).*

2.1.2 Avoiding or Waiving the EIA Requirement

If an EIA is triggered and the project is not exempt, opportunities to avoid an EIA and waiving options should be considered. **EIA avoidance** may be possible if a proponent modifies their proposal to avoid an EIA in consideration of the above trigger policies. **EIA waiving** may be possible if the impacts of the proposed works are minor in nature and can be addressed through implementing a combination of mitigation measures and conditions of approval without the need to undertake an EIA. The **Waiving Assessment Tool** (**Appendix D-1**) is used by the Lead Planning Authority (or their delegate or assign) to assist with this task and outlines key areas for consideration in the waiving process. Technical matters may be addressed through the waiving assessment, as required.

It is anticipated that the EIA process for most small-scale *development* and *site alteration* applications, including agricultural building applications, would conclude at this stage as a result of EIA avoidance and/or waiving. Should the project not be exempt, and avoidance or waiving is not possible, the EIA requirement is confirmed; these projects then proceed to Step 2 of the EIA process.

Avoiding or waiving the requirement for an EIA may be conditional on the proposed development incorporating specific provisions to avoid or minimize environmental impacts, such as modifications to the project and / or mitigation measures (e.g., tree protection fencing, buffers, etc.). Any substantive revisions to the project or plan may require that the project is re-screened to ensure that it continues to meet the requirements for avoidance or waiving of the requirement for an EIA.

2.1.2.1 Supporting Materials and Information

The following information may be required to assess the project against waiving criteria:

- A description of the proposed project (*development* or *site alteration*), including the nature and scale of the proposed *development*. For agricultural projects, the intended use should be identified.

- A site plan, drawn to scale, include dimensions and distances from the RNHS that shows the following:
    - Location and extent of the *site alteration* or *development*, including any building, grading, underground servicing etc.;
    - Material storage or staging areas;
    - Roads, driveways and parking areas;
    - Amenity areas;
    - Wells and septic systems;
    - Stormwater management facilities, including any outlets.

A site visit with the proponent, local municipality, Region and/or Conservation Authority may be required to inform the screening process and will be coordinated by the Lead Planning Authority. The site visit must be completed by an individual with appropriate technical knowledge and expertise to characterize the natural environment (ecological form and function, hydrologic interactions) and experience in conducting and/or reviewing impact assessments. The Lead Planning Authority can consult the Region (or the delegates or assigns) to provide an appropriate individual to complete the site visit.

Figure 2.4: EIA Triggers for Non-Agricultural Projects

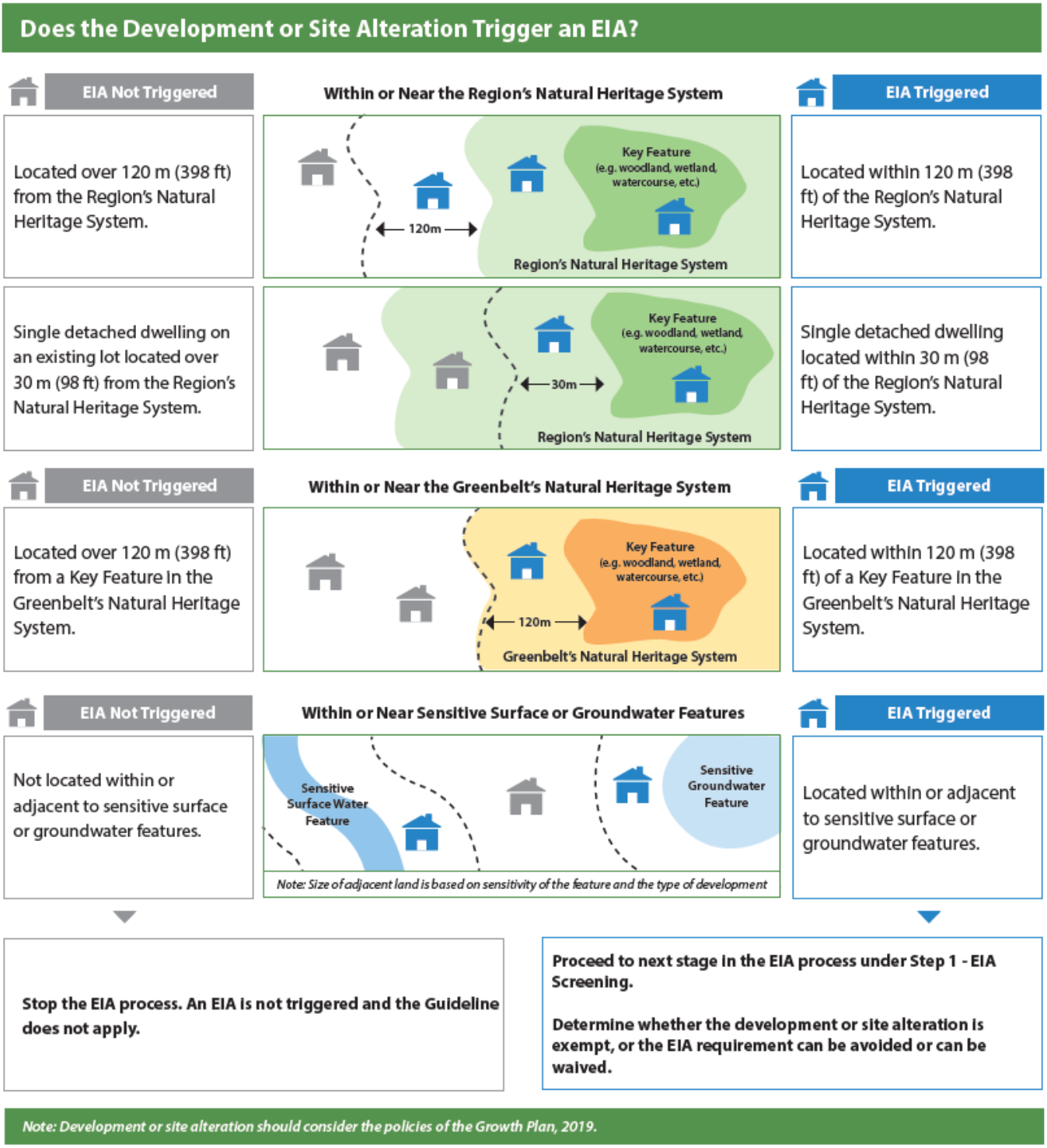
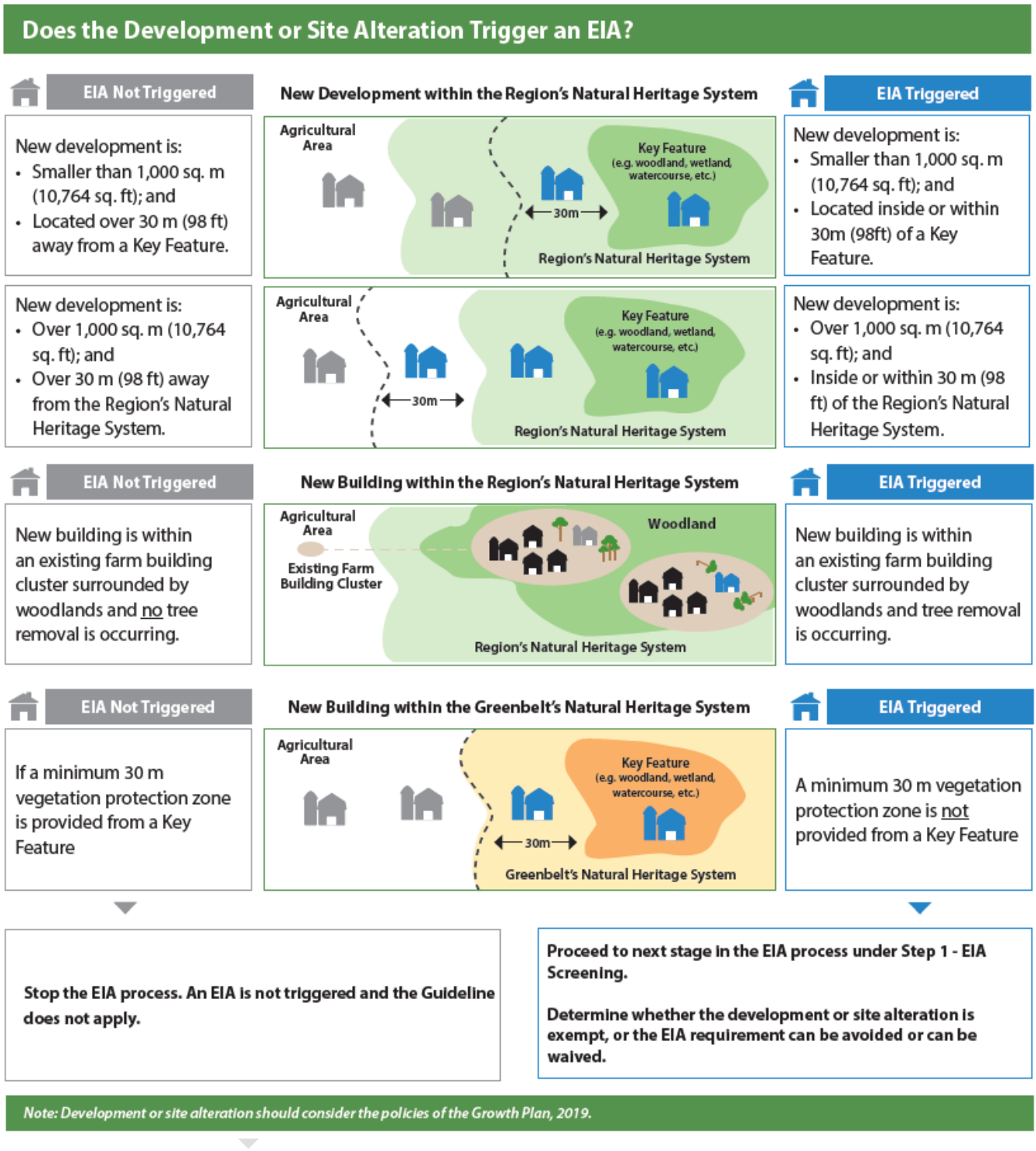


Figure 2.5: EIA Triggers for Agricultural Projects



2.2 Step 2 | Scoping the EIA

Scoping establishes the extent of work required for an EIA. Scoping occurs upon confirmation that an EIA is required and is concluded with the development of an approved Terms of Reference (TOR).

The scope of the EIA will depend on the scope and scale of the proposal, its relationship to adjacent land uses, and the type of planning approval required. The scope will be established on a site-by-site basis to identify the appropriate study requirements to address the *development* or *site alteration* proposed. Smaller scale *development* proposals will be appropriately scoped to avoid placing an undue burden on the proponent.

The ***Scoping and Terms of Reference Checklist*** (**Appendix D-2**) is coordinated by the Lead Planning Authority (or delegate or assigned) with input from other agencies, as appropriate. This checklist is used to document and provide initial direction with respect to the scope and scale of the EIA and is used by the proponent to inform the preparation of the TOR.

During the completion of the EIA, features and / or functions unanticipated during the scoping exercise may be discovered. If this occurs, the proponent should contact the relevant planning approval authority or review agency as soon as possible to discuss potential policy implications and determine if additional studies may be required.

A site visit may be requested to facilitate scoping of the EIA.

2.1.3 Submission and Approval of Terms of Reference

Based on the ***Scoping and Terms of Reference Checklist*** (**Appendix D-2**) and in the context of the natural heritage features and functions present and the proposed project, the proponent will submit a draft TOR for the EIA to the Lead Planning Authority. The Lead Planning Authority will review the TOR in consultation with other agencies, as appropriate, and identify any modifications required. Iterative submission and review of the draft TOR may be necessary to achieve a TOR that is acceptable to all parties. The Lead Planning Authority, in consultation with the review agencies, as established through the One-Study process, will provide final approval of the TOR for the EIA. Upon approval, the proponent may formally proceed to undertake the EIA.

In some cases, season-specific field studies are likely to be required (e.g., amphibian calling or breeding bird surveys). In these instances, and to avoid waiting for the next appropriate study season, the proponent may choose to conduct these studies adhering to accepted field methods prior to receiving final approval of the TOR. It is recommended that the proponent confirm the proposed surveys and methods with the appropriate agency in advance of undertaking them.

2.2.1 Agricultural Buildings

Where a proposed agricultural building requires the completion of an EIA, Halton Region will assist in developing an appropriate scope based on the project and site-specific conditions. The Region may provide financial or in-kind support in completing the scoped EIA. The level of support will be determined on a case by case basis. Component(s) of the EIA eligible for in-kind or financial support will be determined following approval of the TOR.

In-kind services that may be provided by the region, as staffing capacity allows, include:

- Undertake background information review to identify known locations of key features of the NHS on and adjacent to the proponent's property.
- Prepare mapping in accordance with scoped EIA TOR.

- Obtain Ecological Land Classification (ELC) mapping for the subject property (where available) or undertake desktop ELC mapping.

- Coordinate a site visit with other relevant review agencies to advise the proponent on building locations that would avoid triggering the requirement to complete an EIA or avoid or minimize impacts to the NHS such that the scope of study is reduced.
- Undertake staking and/or survey of key features of the RNHS or the disturbance envelope associated with the proposed building in consultation with other review agencies to inform and verify study/buffer requirements.
- Coordinate communication / input from other agencies such as the Conservation Authority or Ministry of Environment Conservation and Parks to ensure their policy requirements are addressed expeditiously.

2.3 Step 3 | Information Gathering & Draft EIA Preparation

With the approval of the TOR, the information gathering phase is initiated. The information gathering phase includes detailed review of background and secondary source information sources, undertaking the field program, completion and review of studies that inform the EIA (e.g., stormwater, hydrogeological, etc.). Completion of analyses (e.g., significance assessments) will generally occur during and after completion of the information gathering phase, as appropriate.

When all data collection and analysis is completed, the draft EIA should be prepared by the proponent in accordance with the approved TOR. The EIA will be considered draft until the Lead Planning Authority and relevant agencies' comments have been addressed.

2.4 Step 4 | Draft EIA Submission

The EIA should be submitted as part of a complete application. The Lead Planning Authority will use the **EIA Submission Checklist** (**Appendix D-3**) to confirm that the EIA meets submission requirements and has been prepared in accordance with an approved TOR. If the submitted EIA does not meet the submission standards or was not prepared in accordance with the approved TOR, the Lead Planning Authority may reject the submission. The identified deficiencies must be addressed, and the EIA re-submitted prior to the initiation of the review process.

The Lead Planning Authority will coordinate review of, and comments on, the EIA and will liaise with the proponent. Commenting agencies will consider how the EIA demonstrates compliance with relevant Federal, Provincial and Regional policy and legislation related to environmental protection.

The Lead Planning Authority or other planning approval authorities/agencies may request that the proponent attend a meeting to discuss the EIA.

Review of the EIA is often an iterative process. Based on the nature and extent of comments, a re-submission(s) of the EIA, addenda, or alterations to the site plan may be required to address key issues and comments identified by the approval and commenting agencies (as appropriate). Ensuring a complete and high quality first application will assist in reducing the total review process timeline.

2.4.1 Comment and Response Matrix Template

A **Comment and Response Matrix** is provided in **Appendix D-4**. Approval, review agencies and proponents are encouraged to use this, or a similar comment matrix to manage the review process.

Proponents are required to provide a cover letter documenting how comments on the EIA have been addressed. The **Comment and Response Matrix**, or a comparable comment response matrix, is to be used to track comment responses.

2.5 Step 5 | Final EIA & Data Package Submission

The EIA is considered final when all substantive and all technical comments have been addressed to the satisfaction of the approval agencies[2]. The Lead Planning Authority, in consultation with the other relevant agencies, will provide approval of the EIA to the proponent.

The lead planning authority staff will consider the final EIA in preparing comments on the *development* or *site alteration* proposal. Proponents should note that while an approved EIA is a pre-condition for *development* or *site alteration* approval, an approved EIA does not secure or guarantee the approval of a *development* or *site alteration* application.

Proponents should note the ROP policy requirement regarding an approved EIA:

> 118(4) Require that the recommendations of an Environmental Impact Assessment, including the placement of *lot* lines and structures, carried out under Section 118(3) and endorsed by the *Region* be implemented through official plan amendments, zoning by-laws, site plan control, conditions of planning approval or regulations by the appropriate authority.

The proponent is required to submit a data package upon approval of the EIA, which includes:

- The approved EIA report with any associated addenda;
- A revised *development* or *site alteration* proposal (if required); and/or
- Appropriate conditions of approval which incorporate the final EIA recommendations;
- GIS data package;
- Survey results tables;
- Survey Datasheets.

The **Final EIA Submission Package Checklist** (**Appendix D-5**) outlines the requirements of the final data package to be submitted by proponents. A complete data package must be provided for the final submission of the EIA to be considered complete.

[2] Refer to roles and responsibilities (**Section 1.7**) for information on areas of jurisdiction for agencies that may be involved in the EIA process

3.0 EIA Content

The following sections outline the structure and content of a typical EIA. This outline should be interpreted as the minimum standard for content in an EIA. The actual field program, supporting studies and content required for an EIA will be determined on a case-by-case basis through scoping and confirmed through the approval of the Terms of Reference (TOR) for the EIA.

3.1 Introduction

The introduction to the EIA should:

a) Briefly describe the site location, existing land uses on the site and surrounding area;
b) Briefly describe the proposed *development* or *site alteration*;
c) Define the study area boundary and the rationale for the extent of the study;
d) Identify why an EIA is required for the proposed *development* or *site alteration* (i.e. the ROP policy requirement and the portion of the NHS triggering the EIA); and
e) Describe the scoped issues and tasks required for the EIA based on the approved TOR (include the approved TOR as an appendix to the EIA);

3.2 Planning Context

Briefly describe the natural heritage planning context for the proposed project:

a) Clearly Identify current Provincial legislation, regulations, plans and policies which apply to the subject site, such as but not limited to:
    - Federal *Fisheries Act*, 1985, and associated regulations;
    - Federal *Species at Risk Act*, 2002, and associated regulations and recovery documents;
    - Provincial *Endangered Species Act*, 2007, and associated regulations, recovery strategies and government response statements;
    - Provincial Policy Statement (2014);
    - Growth Plan for the Greater Golden Horseshoe (2019)
    - Greenbelt Plan (2017) and Technical Papers;
    - Niagara Escarpment Plan (2017);
    - Conservation Authority regulations and policies;
    - ROP policies; and
    - Official Plan policies of lower tier municipalities.
b) Identify the current land use designations and zoning;
c) Identify the proposed land use designation and zoning to support proposed *development*.
d) List consultation undertaken as part of the project:
    - Agencies (e.g. MECP, MNRF, DFO, Conservation Authority);
    - Public or stakeholder groups (if any) (include record of consultation as an appendix to the EIA).

3.4 Methods

Describe the methodology through which information about the biophysical attributes of the study area was obtained. This should include:

a) Identify all relevant guidelines, and technical documents applicable and to be used to inform the EIA, including, but not limited to:
    - Natural Heritage Reference Manual Second Edition (OMNR 2010);
    - Significant Wildlife Habitat Technical Guide (OMNR 2000);
    - Significant Wildlife Habitat Decision Support System (OMNR 2002);
    - Significant Wildlife Habitat Ecoregion Criteria Schedules (MNRF 2015);

- Conservation Authority guidelines.

b) Background Review:
   - List relevant natural heritage information secondary sources (e.g., species atlases, databases) (see **Appendix F-1** for a list of potential background sources);
   - List relevant existing studies, plans, etc., (as applicable);
   - Identify data gaps.

c) Field Survey & Analyses:
   - Provide a detailed description of field methods used (e.g. survey protocols, classification systems, species checklists, etc.); and
   - List and describe analysis methods used (e.g., method of assessing woodland significance).

Methodology for field investigations should follow accepted standardized protocols. For a list of recommended methods and protocols, see **Appendix F-2**. It is noted that methods and practices may change over time and methods other than those presented in **Appendix F-2** may be recommended by an EIA practitioner with supporting rationale and justification; alternate methods must be approved through the TOR. The level of effort and extent of field surveys shall be determined through scoping with Regional staff and detailed in the approved Terms of Reference.

3.3 Biophysical Inventory

The biophysical inventory should include a thorough description of existing conditions in the study area based on background information and field surveys.

a) The existing conditions described should include, but not necessarily be limited to:
   - Summary of surveys conducted: Survey type, date(s), start / finish time, weather conditions (as applicable), surveyors (personnel involved in field work)[3];
   - Physiography (topography, soils, bedrock);
   - Surface water and groundwater features;
   - Fish and aquatic habitat;
   - Vegetation (vegetation communities, vegetation inventory, provincially, regionally and locally rare plant species);
   - Wildlife (e.g. breeding birds, amphibians, reptiles and other wildlife);
   - Significant Wildlife Habitat (to be screened for using the appropriate MNRF criteria schedules);
   - Species at Risk (SAR) and SAR habitat;
   - Wetlands; and
   - Any other NHS components (including Key Features, Buffers, Linkages, and Enhancement Areas).

a) The biophysical inventory should include all natural heritage areas, features and functions present on the subject property, adjacent lands and within areas as defined by the agreed upon boundary of the study area(s) as determined through the TOR. Data sources (i.e., data from agencies and previous studies vs data collected in the field) should be clearly indicated.

b) Clearly identify known existing designations (e.g., ESA, ANSI, etc.).

c) Integrate relevant information from other studies (e.g., geotechnical, geomorphological, etc.), as appropriate.

[3] This may be included as a table within the main document body or included as an appendix with general text and a reference to the appropriate appendix in the main document body.

d) Prepare report figures that clearly and accurately show the location of natural features and, where possible, natural functions, overlaid on recent aerial photography (orthoimagery) of the subject property. **Appendix E-1** lists sources for some of the natural heritage features and other information that should be illustrated on report figures.

Note: Data tables in excel format and ESRI compatible GIS files are to be submitted as part of the final EIA submission package. Refer to the **EIA Submission Checklist** (**Appendix E-5**) for submission requirements. Provision of this information may be a condition of approval.

3.3.4 Species at Risk (SAR)

The EIA forms a comprehensive impact assessment process and is to include SAR; survey methods, observations, habitat, impacts and any required mitigation and/or authorization associated with SAR are to be documented in the EIA.

Consultation with MECP may be required with respect to survey methods, species presence / absence determinations, habitat delineation, potential impacts and any resultant mitigation, registration, authorization or permitting under the ESA (2007). Any applicable correspondence should be appended to the EIA.

The Region defers to the MECP for decisions with respect to the ESA (2007). The Region's role is to ensure that *development* or *site alteration* is in compliance with Regional policy, which includes consideration of the habitat of Endangered and Threatened species. In this capacity, the Region is responsible to ensure that compliance with the ESA (2007) is demonstrated in the EIA (e.g., demonstration of no presence, outcome of consultation with MECP and / or up to permitting).

Note: Where project reports will become part of the public record, a separate report which removes or generalizes sensitive information with respect to SAR will be required. This may include complete removal of location references, generalization of locations to 1 km^2 open polygons, etc. Decisions with respect to data sensitivity will be made on a case-by-base basis in consultation with MECP.

3.4 Biophysical Analysis

The biophysical analysis should identify the significance of the natural heritage features and functions present on the subject site, identify linkages and enhancement opportunities. If applicable, this may include recommendations for the inclusion of features in the RNHS. The biophysical analysis should, at a minimum:

a) Assess the significance of all features found on the Subject Property and within the Study Area that may influence the proposed *development* or *site alteration*. Assessment of significance is to be done in accordance with applicable provincial guidance documents, in-force ROP policies, or other relevant policies, guidelines or guidance documents, as applicable;

b) Delineate the precise boundaries of *Key Features* of the RNHS, the GBNHS, and/or the GPNHS, as applicable (**Section 3.4.1**).

c) Apply a S*ystems Approach* that considers the form and function(s) of *Key Features*, the importance of protecting and enhancing ecological features, ecological functions and ecological interactions in the environment to delineate the RNHS (**Section 3.4.2**), including:
   - Assessment and identification of linkages (site / local, regional);
   - Identification of enhancement opportunities; and
   - Assessment and recommendation of appropriate buffers.

d) Prepare figure(s) showing constraints to *development* or *site alteration* based on the results of the Biophysical Inventory and Biophysical Analysis that establishes the boundary of the RNHS

and identifies other areas for protection and restoration which collectively provide long term protection of natural habitats and native biodiversity.

e) Outcomes from consultation(s) and/or processes with agencies (e.g., DFO, MECP, MNRF, Conservation Authority) should be discussed here. A record of consultation should be provided as an appendix to the EIA.

3.4.1 Delineation and Refinement of Key Features

Limits of *Key Feature* are to be confirmed in consultation with Halton Region and other regulatory agencies (e.g. Conservation Authority, MNRF, MECP), as applicable to the features being delineated. Features requiring delineation and/or review in-field with appropriate agencies may include:

- Woodland(s);
- Wetland(s);
- Stable or physical top of bank.

Features for which a site visit may be requested to review the staked feature limits may include:

- Significant Wildlife Habitat;
- Habitat for Endangered or Threatened Species.

Feature limits will generally be flagged or staked and confirmed in the field and surveyed with sub-meter accuracy. This accuracy requirement may be waived for small projects on a case-by-base basis (e.g., single detached dwelling), allowing for alternative methods of delineation, as appropriate; waiving of the requirement must be confirmed with the Region. Digital dataset(s) (i.e., georeferenced CAD or GIS dataset(s)) of the confirmed feature limits are to be provided to the Region and/or other agencies as appropriate as part of the final EIA submission package.

Delineation and refinement of *Key Features* is to be completed in consideration of applicable definitions, plans, policies and guidelines for the feature type to ensure the appropriate criteria are applied. Criteria may apply to defining the limit of a feature and/or definitions of significance. Significance criteria will vary based on planning context and site-specific conditions and should also be considered, as appropriate, through this analysis.

3.4.1.1 Key Features of the Regional Natural Heritage System

Delineation or refinement of *Key Features* will be based on accepted standard protocols and methodologies (e.g. *wetland* limit flagging and survey using OWES, *woodland* dripline, habitat descriptions or regulations for endangered or threatened species, etc.).

3.4.1.2 Key Features of the Greenbelt Natural Heritage System

Refinements to the boundaries of the *Key Features* within the GBNHS may be considered. Where such refinements are considered, they will be undertaken in accordance with the technical guidance provided in the *Greenbelt Plan Technical Paper 1: Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area*.

3.4.1.3 Key Features of the Growth Plan Natural Heritage System

Refinements to the boundaries of the *Key Features* within the GPNHS may be considered. Delineation or refinement of *Key Features* will be done using accepted standard protocols and methodologies (e.g. *wetland* limit flagging and survey using OWES, *woodland* dripline, habitat descriptions or regulations for endangered or threatened species, etc.), as appropriate.

3.4.2 Delineation and Refinement of Natural Heritage System Boundary

3.4.2.1 Regional Natural Heritage System Boundary

The Regional Natural Heritage System (RNHS) boundary shown on Map 1 of the ROP (**Appendix F**) is based on geospatial data available for the individual components of the RNHS at the time of plan preparation. As additional features are identified and/or mapping becomes available for previously unmapped features, refinements to the boundary may be possible. More precise delineation of the RNHS boundary for the Subject Property and/or Study Area of an EIA will be required based on field investigations. Delineation of the RNHS boundary includes:

- Linkages;
- *Enhancements to Key Features*;
- Buffers.

3.4.2.2 Greenbelt Natural Heritage System Boundary

Refinements to the boundaries of the Greenbelt Natural Heritage System (GBNHS) are not permitted unless as a result of amendments to the *Greenbelt Plan*.

3.4.2.3 Growth Plan Natural Heritage System Boundary

Refinements to the boundaries of the Growth Plan Natural Heritage System (GNHS) are not permitted unless as a result of a *Municipal Comprehensive Review*.

3.4.3 Developing Buffer, Linkage and Enhancement Recommendations

3.4.2.1 Regional Natural Heritage System

In all cases, the EIA must identify appropriate buffers to protect *key features* and their functions, linkages to maintain connectivity between *key features*, as appropriate, and consider opportunities to enhance the RNHS.

The Sustainable Halton Report 3.02 (Natural Heritage System Definition & Implementation; North-South Environmental Inc. 2009) provides direction regarding best practices with respect to linkages, enhancement areas and buffers. It includes recommended minimum widths for local and regional linkages and recommended size thresholds to guide delineation of *Enhancements to Key Features*. This report and/or current best practices and 'state-of-the-science' systems-based approach(es) are to be used to inform assessment and recommendation of buffers, linkages (e.g., target species or groups, width, design) and delineation of *Enhancements to Key Features*.

Buffer recommendations are to take into consideration the following:

- Sensitivity and significance of the *Key Feature*;
- Sensitivity and significance of species utilizing the *Key Feature* for important life cycle functions;
- Habitat requirements of species utilizing the *Key Feature*;
- Proposed land use(s) and risk(s) of potential impact(s) to the *Key Feature* and/or the RNHS;
- Land use context (i.e., surrounding land uses and existing form);
- Current best practices and science-based evidence to support recommended buffer widths.

3.4.2.2 Greenbelt Natural Heritage System

In all cases, the EIA must identify a V*egetation Protection Zone* (VPZ) to protect *Key Features* in accordance with policies 139.7(4) and 139.3.7(5) of the ROP. The Greenbelt Plan identifies minimum VPZ requirements that must be considered through the EIA.

Linkages between and enhancements to *key features* should be considered in the context of the mapped GBNHS and applicable policies of the Plan and the ROP.

3.4.2.3 Growth Plan Natural Heritage System

Municipalities are to '*apply appropriate policies to maintain, restore, or enhance the diversity and connectivity of the system and the long-term ecological or hydrological functions of the features and areas'* (S. 4.2.2[2]).

In all cases, the EIA must identify a *Vegetation Protection Zone* (VPZ) to protect *Key Features* in accordance with the policies of the Plan. The Growth Plan identifies minimum VPZ requirements that must be considered through the EIA.

Linkages between and enhancements to *key features* should be considered in the context of the mapped GPNHS and applicable policies of the Plan and the ROP.

3.5 Description of Proposed Development or Site Alteration

It is important to provide an adequate description of the proposed *development* or *site alteration* to facilitate review of the impact assessment (**Section 3.6**) and decision making on the outcomes of the EIA by approval and review agencies.

In the context of the study area, provide a description of the proposed *development* or *site alteration*, including:

a) Overview / summary of any iterative design process(s) up to and including alterative proposals considered that demonstrate efforts to avoid or minimize impacts. Rationale for the chosen option should be provided.

b) Provide the proposed site plan accurately overlaid (i.e. georeferenced) on recent aerial photography (orthoimagery) of the subject property. This should show (as applicable to the project):
    a. Subject lands boundary / property limit;
    b. Development footprint (limits of grading or other works);
    c. Lot lines / fabric;
    d. Roads (new or improvements to existing);
    e. Servicing (e.g., easements, alignments, etc.);
    f. Stormwater facilities and outlets;
    g. Land use(s) (e.g., low, medium, high density residential, commercial, etc.);
    h. Open space and parks;
    i. Proposed buffers, linkages and/or enhancement areas[4];
    j. Setbacks (e.g., from Top of Bank)
    k. Key Features and the RNHS;
    l. Other features to be retained, as applicable.

c) Phasing and timing of *development* or *site alteration* (if any / known);

d) Integrate relevant information from other studies in describing the proposed *development* or *site alteration*, as appropriate.

[4] Buffer and linkage widths (in meters) an area of Enhancement Areas (in hectares) should be indicated on the plan.

3.6 Impact Assessment, Mitigation and Residual Impacts

The impact assessment, identification of mitigation strategies and consideration of residual impacts are interrelated. As such, it is recommended that these be considered as linked components with descriptions and / or key outcomes presented in a cumulative table presenting all three components. The **Impact Assessment, Mitigation Measures and Residual Impacts Table** provided in **Appendix F-3** provides an example template. Note that detailed descriptions of some items that will be repeated through the table (e.g., mitigation measures) may be best described in text and listed in the table to reduce total length and improve readability.

3.6.1 Impact Assessment

The impact assessment section is intended to predict, based on best available information, the environmental consequences (positive or negative) that may result from the proposed *development* or *site alteration*. This is undertaken based on the understanding of the natural environment and the proposed *development* or *site alteration* developed through the preceding sections. The EIA must consider the impacts in the context of the significance and sensitivity of natural features and functions present.

Impacts are to be quantified wherever possible (e.g., area(s) of vegetation removed by vegetation type and / or feature; length of watercourse being realigned, etc.). This may include integration of data and analyses from other reports to inform the assessment of ecological / environmental impacts (e.g., pre- and post- water balance for the subject property, wetland(s), or watercourse(s)). All conclusions (impact or 'no impact') should be scientifically based and defensible and include evidence to support the conclusion (e.g., empirical evidence, references, etc.).

As noted, a table format is the preferred approach for the impact assessment and is to be paired with figure(s) that overlay the proposed *development* or *site alteration* on the outcomes of the biophysical inventory and analyses. The impact assessment is to address the following minimum requirements:

a) All significant features, functions and areas are listed and assessed for anticipated and potential impact(s);

b) Identify all anticipated and potential impacts considering, at a minimum, the following activities and aspects of *development* or *site alteration*, where applicable:
   - Earth works, grade alterations, stockpiling;
   - Equipment storage, maintenance and refueling;
   - Servicing (linear infrastructure alignments, features crossings, etc.);
   - Stormwater management, including pond locations, thermal impacts, and outlets;
   - Roads and transportation, including temporary construction access and watercourse crossings and permanent infrastructure;
   - Form, type and density of proposed *development* including lot limits and layouts, trails and recreation, parks, open space.

   A list of potential environmental impacts is provided in **Appendix F-4**.

c) Impacts are to be assessed in terms of:
   - Likelihood of occurrence;
   - Magnitude;
   - Geographic extent;
   - Timing (e.g., during sensitive biological periods / cycles); and
   - Duration.

d) Impacts are to be identified in the following categories:
    - Direct;
    - Indirect;
    - Induced; and
    - Cumulative.

3.6.2 Mitigation

It is anticipated that opportunities to avoid (preferred) or minimize impacts have been explored and integrated, where feasible, in the preferred / proposed design. The remaining impacts (i.e. those presented in the impact assessment section) will be addressed through mitigation (least preferred). Mitigation strategies are intended to address or minimize the anticipated and potential impacts such that there is 'no negative impact' resulting from the development. It is important to note that compensation for feature removal or anticipated negative impacts **is not** acceptable under the ROP.

The EIA should present the overall mitigation strategy (e.g. low impact development), as applicable, and describe each recommended mitigation measure. The anticipated efficacy of the mitigation strategy and individual mitigation measure(s) in maintaining the health, form and function of natural features and in reducing or eliminating potential impacts on the RNHS should be discussed. Where appropriate (e.g., for non-standard approaches), include figures and diagrams that illustrate proposed mitigation measures and detailed methods that provide direction for implementation. As new strategies and methods for the mitigation of *development* or *site alteration* impacts can be expected to continuously emerge, proponents should refer to and cite current and / or emerging approaches, best practices, etc. Efficacy and/or examples of successful use of proposed measures should be explored where not a currently accepted 'best practice'.

A list of potential mitigation measures is provided in **Appendix F-5**; however, the list is not to be considered exhaustive or prescriptive and mitigation measures other than those included in the table can be presented for consideration.

As noted in **Section 3.6** it is recommended that proposed mitigation measures be documented in table format with anticipated and potential impacts to facilitate review of how the proposed mitigation will address identified impacts. An example / template is provided in **Appendix F-3**.

3.6.3 Residual Impacts

Residual impacts represent those impacts that cannot be fully addressed through implementation of the proposed mitigation measures and strategy. Generally, these may include items such as some occupancy-related impacts, introduction of invasive species, etc. The scope, scale and magnitude of residual impacts should be discussed.

As noted in **Section 3.6** it is recommended that the residual impacts be documented in table format with anticipated and potential impacts to facilitate review of how the proposed mitigation will address identified impacts. An example / template is provided in **Appendix F-3**. The EIA must demonstrate that these residual impacts are not *negative impacts* per its definition.

3.7 Enhancement Opportunities

Enhancements are identified as opportunities that go beyond mitigating impacts, contributing to the long-term protection of the RNHS. Enhancement opportunities have the objective of increasing the ecological integrity and resilience of existing natural features and functions of the RNHS.

Enhancement opportunities can range in scope and scale and may include, for example:

- Enhanced buffer design(s) that support existing or increase habitat features and/or diversity;

- Areas for enhancement / restoration (from small to large) that:
    - Support of increase habitat features and/or diversity;
    - Link or join fragmented natural features to form larger core areas in order to create habitat for area sensitive species;
    - Reduce edge-to-interior ratio of natural features;
- Activities that assist in removal and management of invasive species;
- Protection and restoration of areas that will increase the width of ecological corridors; and
- Protection and restoration of water catchment areas for *wetlands*;
- Moving existing infrastructure, trails, etc. to reduce existing impacts and risks.

The Region may consider a "net environmental gain" approach to the preservation and enhancement of the RNHS, based on the principles outlined in ROP policy 110(7.2), for new or expanded Mineral Resource Extraction Areas outside the Niagara Escarpment Plan area, where the proponent has demonstrated "*no negative impact*" to the features and functions of the RNHS in accordance with Provincial and Regional policies.

3.8 Policy Assessment

Based on the preceding sections of the EIA (i.e., Biophysical Inventory, Analysis, Impact Assessment, Mitigation and Residual Impacts, Enhancement Opportunities), assess and provide an opinion as to the ability of the *development* or *site alteration* proposal to conform to the applicable legislation, plans, policies and guidelines identified in **Section 3.2**.

This section includes an assessment of the proposed *development* or *site alteration* against the 'no negative impact' test set out in the PPS (2014) and the ROP.

3.9 Monitoring Plan

A monitoring plan, where required is intended to assess the implementation and efficacy of mitigation measures. The requirement for and preliminary scope of a monitoring plan is established through **Step 2 – Scoping the EIA**. This preliminary scope may need to be revised to reflect the information presented in the EIA (i.e., feature sensitivity and significance, impact assessment, mitigation and residual impacts). The scope and extent of the monitoring plan should be prepared in consultation with Halton and other agencies, as appropriate.

Generally, the monitoring plan will include three phases for the project: pre-construction (i.e., pre-development), during-construction and post-construction[5]. It should include an environmental inspection plan to be conducted through all phases of *development* or *site alteration* outlining what is to be monitored, the frequency of monitoring, a reporting schedule and protocols that will ensure protection of natural features and functions, including invoking stop work orders, rectifying the causes of environmental damage, and restoring areas that have been impacted by construction activities.

The EIA should identify how the monitoring plan will be implemented (e.g. through site plan control, conditions of planning approval or regulations by the appropriate authority, etc.), in accordance with policy 118(4) of the ROP and detail any securities requirements or other measures needed to guarantee mitigation measures are successfully implemented.

3.10 Conclusions

Summarize the key findings of the report including biophysical inventory and analysis, assessment of impacts, impact avoidance measures, mitigation measures and opportunities for environmental

[5] Typically, post-construction monitoring is considered to be initiated at 90% build-out or 90% completion of the construction activities.

enhancements. A summary table documenting all mitigation measures, enhancement opportunities, and monitoring requirements to be implemented through the proposed *development* and detailing the timing for their implementation should be included. As applicable, recommended conditions of approval to ensure successful implementation should be identified.

The conclusions should include a final recommendation to approve/not approve the *development* proposal based on the results of the study and identify conditions of approval required to achieve 'no negative impact' in accordance with the ROP.

3.11 References

A list of all relevant references, background information sources, etc. used in the preparation of the EIA should be included in the report.

3.12 Appendices & Supporting Material Requirements

The EIA will include numerous appendices and some supporting materials will be required as part of the submission. Below is a list of the minimum requirements:

- All submissions (i.e., initial through to final):
    - Approved Terms of Reference (TOR)
    - Record of Consultation
    - Data Tables (field surveys / biophysical inventory)
    - Figures[6]
    - Supporting Materials (as appropriate)
- Final Submission
    - ESRI compatible GIS files of all relevant natural heritage data (e.g., Significant Wildlife Habitat, features boundaries, significant species locations, etc.);
    - Digital copies of data tables (i.e., inventory results) in .xls or .csv format.

Note that items other than those listed may be included as appendices to streamline the main body text, where appropriate. For example, an impact assessment, mitigation and residual impact table may be included in the body of the report, or as an appendix.

Appendices and supporting materials required as part of a submission package for draft submissions (initial and any re-submissions required) on the **EIA Submission Checklist** (**Appendix D-3**) and on the **Final EIA Data Package Submission Checklist** (**Appendix D-5**) for the submission of the approved and completed EIA.

[6] These may be provided as an appendix or nested in appropriate sections of the report.

Appendix A: Definitions

ACCESSORY BUILDING OR STRUCTURE[1] means a detached building or structure that is not used for human habitation, the use of which is naturally and normally incidental to, subordinate to, or exclusively devoted to a principal use or building and located on the same lot.

AGRICULTURAL BUILDING[1] is a building required for *agriculture, agricultural industry, agricultural operation or agricultural use or farming* and/or *agricultural-related uses* as defined below.

AGRICULTURE or AGRICULTURAL INDUSTRY or AGRICULTURAL OPERATION or AGRICULTURAL USE or FARMING[1] means the growth of crops, including nursery and horticultural crops (but not horticultural trade use); raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiaries; agro-forestry; maple syrup production; and associated on-farm buildings and structures, including accommodation for full-time farm labour when the size and nature of the operation requires additional employment.

AGRICULTURE-RELATED USES[1] means those farm-related commercial and farm-related industrial uses that are small scale and directly related to the farm operation and are required in close proximity to the farm operation.

AREAS OF NATURAL AND SCIENTIFIC INTEREST[2] means 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.

BUFFER[1] means an area of land located adjacent to Key Features or watercourses and usually bordering lands that are subject to *development* or *site alteration*. The purpose of the buffer is to protect the features and *ecological function*s of the Regional Natural Heritage System by mitigating impacts of the proposed *development* or *site alteration*. The extent of the buffer and activities that may be permitted within it shall be based on the sensitivity and significance of the Key Features and watercourses and their contribution to the long term *ecological function*s of the Regional Natural Heritage System as determined through a Sub-watershed Study, an Environmental Impact Assessment or similar studies that examine a sufficiently large area.

CENTRE FOR BIODIVERSITY[1] means an area identified through a Regional Official Plan Amendment that encompasses existing natural heritage features and associated enhancements to the Key Features and is of sufficient size, quality and diversity that it can support a wide range of native species and *ecological function*s, accommodate periodic local extinctions, natural patterns of disturbance and renewal and those species that are area sensitive, and provide sufficient habitat to support populations of native plants and animals in perpetuity. Any such amendment would be initiated after the day of adoption of this Plan (December 16, 2009) and shall include a detailed and precise justification supporting the identification of the area, based on current principles of conservation biology.

CONSERVATION AUTHORITY[1] means Conservation Halton (Halton Region Conservation Authority) or Credit Valley Conservation (Authority) or the Grand River Conservation Authority.

CUMULATIVE IMPACT[1] means the effect on the physical, natural, visual and Cultural Heritage Resources resulting from the incremental activities of development over a period of time and over an area. All past, present and foreseeable future activities are to be considered in assessing cumulative impact.

DEVELOPMENT[1] means the creation of a new lot, a change in land use, or the construction of buildings and structures, any of which requires approval under the Planning Act, or that are subject to the Environmental Assessment Act, but does not include:

(1) activities that create or maintain infrastructure authorized under an environmental assessment process,

(2) works subject to the Drainage Act, or

(3) within the Greenbelt Plan Area, the carrying out of agricultural practices on land that was being used for agricultural uses on the date the Greenbelt Plan 2005 came into effect.[1]

ECOLOGICAL FUNCTION[2] means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.

ECOLOGICAL INTEGRITY[4] Which includes hydrological integrity, means the condition of ecosystems in which:

a) the structure, composition and function of the ecosystems are unimpaired by the stresses from human activity,
b) natural ecological processes are intact and self-sustaining, and
c) the ecosystems evolve naturally. (A Place to Grow 2019)

ENDANGERED SPECIES[2] means a species that is listed or categorized as an "Endangered Species" on the Ontario Ministry of Natural Resources' official Species at Risk list, as updated and amended from time to time.

ENHANCEMENTS TO THE KEY FEATURES[1] means ecologically supporting areas adjacent to Key Features and/or measures internal to the Key Features that increase the ecological resilience and function of individual Key Features or groups of Key Features.

ESCARPMENT BROW[1] means the uppermost point of the Escarpment slope or face. It may be the top of a rock cliff, or where the bedrock is buried, the most obvious break in slope associated with the underlying bedrock.

EVALUATED WETLAND[5] means a *wetland* that has been evaluated using the criteria outlined in the Ontario Wetland Evaluation System Manual (2013), as updated from time to time.

FISH[2] means fish, which as defined in the Fisheries Act, includes fish, shellfish, crustaceans, and marine animals, at all stages of their life cycles.

FISH HABITAT[1] 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.

FLOOD PLAIN[1] means, for river, stream, and small inland lake systems, the area, usually lowlands adjoining a watercourse which has been or may be subject to flooding hazards.

GROUND WATER FEATURE[2] means water-related features in the earth's subsurface, including recharge/discharge areas, water tables, aquifers and unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations.

HAZARD LANDS[1] means properties or lands that could be unsafe for *development* due to naturally occurring processes. Along the shorelines of Lake Ontario and Burlington Bay, this means the land, including that covered by water, between a defined offshore distance or depth, and the furthest landward limit of the flooding, erosion or dynamic beach (areas of unstable accumulations of shoreline sediments) hazard limits. Along *river*, *stream and small inland lake systems*, this means the land, including that covered by water, to the furthest landward limit of the flooding or erosion hazard limits.

HIGHLY VULNERABLE AQUIFERS[3] means aquifers, including lands above the aquifers, on which external sources have or are likely to have a significant adverse effect.

HYDROLOGIC FUNCTION[2] means the functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

INFRASTRUCTURE[1] means physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes: sewage and water systems, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.

KEY FEATURES[1] in in the ROP means key natural heritage and hydrological features described in Sections 115.3(1) and 139.3.3 of the ROP, including:

(1) Regional Natural Heritage System (s. 115.3(1))
- a) significant habitat of endangered and threatened species,
- b) significant wetlands,
- c) significant coastal wetlands,
- d) significant woodlands,
- e) significant valleylands,
- f) significant wildlife habitat,
- g) significant areas of natural and scientific interest,
- h) fish habitat.

(2) Greenbelt Natural Heritage System (s. 139.3.3)
- a) sand barrens, savannahs and tall grass prairies,
- b permanent and intermittent streams,
- c) lakes,
- d) seepage areas and springs,
- e) alvars and,
- f) significant habitat of special concern species.

KEY HYDROLOGIC AREAS[3] within the Greenbelt Plan (2017) area include:
a) *Significant groundwater recharge areas*;
b) *Highly vulnerable aquifers*; and
c) *Significant surface water contribution areas*.

KEY HYDROLGOIC FEATURES[3] within the Greenbelt Plan (2017) area include:
a) Permanent and intermittent streams;
b) Lakes (and their littoral zones);
c) Seepage areas and springs; and
d) Wetlands.

KEY NATURAL HERITAGE FEATURES[3] within the Greenbelt Plan (2017) include:
a) Habitat of endangered species and threatened species;
b) Fish habitat;
c) Wetlands;
d) Life science areas of natural and scientific interest (ANSIs);
e) Significant valleylands;
f) Significant woodlands;
g) Significant wildlife habitat (including habitat of special concern species);
h) Sand barrens, savannahs and tallgrass prairies; and
i) Alvars.

LINKAGE[1] means an area intended to provide connectivity supporting a range of community and ecosystem processes enabling plants and animals to move between *Key Features* over multiple generations. *Linkages* are preferably associated with the presence of existing natural areas and functions and they are to be established where they will provide an important contribution to the long-term sustainability of the Regional Natural Heritage System. They are not meant to interfere with *normal farm practice*. The extent and location of the *linkages* can be assessed in the context of both the scale of the proposed *development* or *site alteration*, and the *ecological functions* they contribute to the Regional Natural Heritage System.

MAJOR CREEK OR CERTAIN HEADWATER CREEK[1] means, as it applies to Section 277(4) of Halton's Official Plan (the Plan) ROP, all *watercourses* within a *Conservation Authority* Regulation Limit as of the date of the adoption of the Plan and those portions of a *watercourse* that extend beyond the limit of the *Conservation Authority* Regulation Limit to connect a *woodland* considered *significant* based on criteria under Section 277(1), 277(2) or 277(3) of the Plan and/or *wetland* feature within the Regional Natural Heritage System. The extent and location of *major creeks or certain headwater creeks* will be updated from time to time by the appropriate *Conservation Authority* and as a result may lead to refinements to the boundaries of *significant woodlands*.

MUNICIPAL COMPREHENSIVE REVIEW[4] means a new official plan, or an official plan amendment, initiated by an upper- or single-tier municipality under section 26 of the Planning Act that comprehensively applies the policies and schedules of this Plan [the Growth Plan].

NATURAL ENVIRONMENT[1] means the air, land and water, or any combination or part thereof.

NATURAL FEATURES or NATURAL HERITAGE FEATURES or NATURAL HERITAGE FEATURES AND AREAS[1] means features and/or areas which are important for their environmental and social values as a legacy of the natural landscapes of an area.

NATURAL HERITAGE SYSTEM[2] means a system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. These systems can include natural heritage features and areas, federal and provincial parks and conservation reserves, other natural heritage features, lands that have been restored or have the potential to be restored to a natural state, areas that support hydrologic functions, and working landscapes that enable ecological functions to continue. The Province has a recommended approach for identifying natural heritage systems, but municipal approaches that achieve or exceed the same objective may also be used.

NEGATIVE IMPACTS[1] means:

(1) in regard to water, degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive *development* or *site alteration* activities;

(2) in regard to fish habitat, any permanent alteration to, or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act; and

(3) in regard to other components of the Regional Natural Heritage System, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive *development* or *site alteration* activities.

NORMAL FARM PRACTICE[1] means a practice that:

(1) is conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances, or

(2) makes use of innovative technology in a manner consistent with proper advanced farm management practices.

If required, the determination of whether a farm practice is a normal farm practice shall be in accordance with the provision of the Farming and Food Production Protection Act, including the final arbitration on normal farm practices by the Farm Practices Protection Board under the Act.

PROVINCIALLY SIGNIFICANT WETLANDS[1] means *wetlands* so classified by the Ministry of Natural Resources based on the Ontario *Wetland* Evaluation System 2013 Southern Manual, as amended from time to time.

REGULATORY FLOOD[1] means the approved standard(s), a regional flood or a one-in–one-hundred-year flood, used in a particular watershed to define the limit of the *flood plain* for regulatory purposes.

RIVER, STREAM AND SMALL INLAND LAKE SYSTEMS[1] means all watercourses, rivers, streams, and small inland lakes or waterbodies that have a measurable or predictable response to a single runoff event.

SENSITIVE[2] in regard to *surface water features* and *ground water features*, means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

SIGNIFICANT[1] under the ROP means:

(1) in regard to wetlands, an area as defined under Section 276.5 of this Plan;

(2) in regard to coastal wetlands and areas of natural and scientific interest, an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time;

(3) in regard to the habitat of endangered species and threatened species, the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of endangered species or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle;

(4) in regard to woodlands, an area as defined by Section 277 of this Plan; and,

(5) in regard to other components of the Regional Natural Heritage System, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system.

SIGNIFICANT GROUNDWATER RECHARGE AREA[3] in the Greenbelt Plan (2017) area means a significant groundwater recharge area identified:

a. as a significant groundwater recharge area by any public body for the purposes of implementing the PPS;
b. as a significant groundwater recharge area in the assessment report required under the Clean Water Act, 2006; or
c. as an ecologically significant groundwater recharge area delineated in a subwatershed plan or equivalent in accordance with provincial guidelines.

Ecologically significant groundwater recharge areas are areas of land that are responsible for replenishing groundwater systems that directly support sensitive areas like coldwater streams and wetlands.

SIGNIFICANT SURFACE WATER CONTRIBUTION AREAS[3] means areas, generally associated with headwater catchments, that contribute to baseflow volumes which are significant to the overall surface water flow volumes within a watershed.

SIGNIFICANT WETLANDS[1] means:

(1) for lands within the Niagara Escarpment Plan Area, Provincially Significant Wetlands and wetlands as defined in the Niagara Escarpment Plan that make an important ecological contribution to the Regional Natural Heritage System;
(2) for lands within the Greenbelt Plan Area but outside the Niagara Escarpment Area, Provincially Significant Wetlands and wetlands as defined in the Greenbelt Plan;
(3) for lands within the Regional Natural Heritage System but outside the Greenbelt Plan Area, Provincially Significant Wetlands and wetlands that make an important ecological contribution to the Regional Natural Heritage System; and,
(4) outside the Regional Natural Heritage System, Provincially Significant Wetlands.

SIGNIFICANT WOODLAND[1] means a *Woodland* 0.5 ha or larger determined through a Watershed Plan, a Sub-watershed Study or a site-specific Environmental Impact Assessment to meet one or more of the four following criteria:

(1) The *Woodland* contains forest patches over 99 years old,
(2) The patch size of the *Woodland* is 2 ha or larger if is located in the Urban Area, or 4 ha or larger if it is located outside the Urban Area but below the *Escarpment Brow*, or 10 ha or larger if it is located outside the Urban Area but above the *Escarpment Brow*,
(3) The *Woodland* has an interior core area of 4 ha or larger, measured 100m from the edge, or
(4) The *Woodland* is wholly or partially within 50m of a *major creek or certain headwater creek* or within 150m of the Escarpment Brow."

SINGLE DETACHED DWELLING[1] means a separate building containing not more than one dwelling unit and may include a chalet, cottage, or mobile home.

SITE ALTERATION[1] means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site but does not include *normal farm practices* unless such practices involve the removal of fill off the property or the introduction of fill from off-site locations.

SRANK[6]

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation, needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually. Natural Heritage Information Centre Website (2012)

> SX Presumed Extirpated—Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
>
> SH Possibly Extirpated (Historical)—Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate

occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

S1 Critically Imperilled—Critically imperilled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2 Imperilled—Imperilled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 Secure—Common, widespread, and abundant in the nation or state/province.

SNR Unranked—Nation or state/province conservation status not yet assessed.

SU Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S#S# Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

SURFACE WATER FEATURE[2] means water-related features on the earth's surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics.

SYSTEMS APPROACH[5] means a comprehensive approach to natural heritage system planning that considers the importance of maintaining and protecting ecological features in the environment (such as *woodlands*, *wetlands* and watercourses) *ecological functions* of the environment (such as water storage and water quality enhancement by wetlands, winter deer yards provided by cedar *woodlands*, amphibian breeding habitat in ephemeral forest ponds, etc.) and ecological interactions that occur over varying scales of time and space (such as animal predation and herbivory, the daily, seasonal and long term movement patterns of plants and animals, and the role of ecological disturbance mechanisms such as fire, wind, water and disease).

THREATENED SPECIES[2] means a species that is listed or categorized as a "Threatened Species" on the Ontario Ministry of Natural Resources official Species at Risk list, as updated and amended from time to time.

TREE[1] means any species of woody perennial plant, including its root system, which has reached or can reach a height of at least 4.5m above ground at physiological maturity.

UNEVALUATED WETLAND[5] means a wetland that has not been evaluated using the criteria outlined in the Ontario Wetland Evaluation System Manual (2013), as updated from time to time.

VEGETATION PROTECTION ZONE[1] means, as it applies within the Greenbelt Plan Area, a vegetated buffer area surrounding a *Key Feature* within which only those land uses permitted within the feature itself are permitted. The width of the *vegetation protection zone* is to be determined when new *development* or *site alteration* occurs within 120 metres of a *Key Feature*, and is to be of sufficient size to protect the feature and its functions from the impacts of the proposed change and associated activities that will occur before, during and after construction, and where possible, restore or enhance the feature and/or its function.

WATERCOURSE or WATER COURSE[1] means an identifiable depression in the ground in which a flow of water regularly or continuously occurs.

WATERSHED PLAN[1] means a plan used for managing human activities and natural resources in an area defined by watershed boundaries. Watershed Plans shall include, but are not limited to, the following components:

(1) a water budget and conservation plan;
(2) land and water use and management strategies;
(3) a framework for implementation;
(4) an environmental monitoring plan;
(5) requirements for the use of environmental management practices and programs;
(6) criteria for evaluating the protection of water quality and quantity, and key hydrologic features and functions; and
(7) targets on a watershed or sub-watershed basis for the protection and restoration of riparian areas and the establishment of natural self-sustaining vegetation.

WATERSHED MANAGEMENT[1] means the analysis, protection, development, operation and maintenance of water, water-related features, terrestrial resources and fisheries of a drainage basin.

WETLANDS[1] means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case, the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens. Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit *wetland* characteristics are not considered to be *wetlands* for the purposes of this definition. Within the Greenbelt Plan Area, wetlands include only those that have been identified by the Ministry of Natural Resources or by any other person, according to evaluation procedures established by the Ministry of Natural Resources, as amended from time to time.

WILDLIFE HABITAT[2] means areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species.

WOODLAND[1] means land with at least: 1000 *trees* of any size per ha, or 750 *trees* over 5 cm in diameter per ha, or 500 *trees* over 12 cm in diameter per ha, or 250 *trees* over 20 cm in diameter per ha but does not include an active cultivated fruit or nut orchard, a Christmas *tree* plantation, a plantation certified by the *Region*, a *tree* nursery, or a narrow linear strip of *trees* that defines a laneway or a boundary between fields. For the purpose of this definition, all measurements of the *trees* are to be taken at 1.37 m from the ground and *trees* in regenerating fields must have achieved that height to be counted.

Definition Sources:

[1] Region's Official Plan (June 19, 2018 Office Consolidation)
[2] Provincial Policy Statement (2014)
[3] Greenbelt Plan (2017)
[4] A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)
[5] Prepared for the purpose of this Guideline
[6] NatureServe http://explorer.natureserve.org/nsranks.htm

Appendix B: Contact Information for Planning Approval Authorities and Agencies

Halton Region
1151 Bronte Road
Oakville, Ontario
L6M 3L1
Tel: 905-825-6000

Town of Oakville
1255 Trafalgar Road
Oakville, Ontario
L6H 0H3
Tel: 905-845-6601

Town of Milton
150 Mary Street
Milton, Ontario
L9T 6Z5
Tel: 905-878-7252

City of Burlington
426 Brant Street
PO Box 5013
Burlington, Ontario
L7R 3Z6
Tel: 905-335-7600

Town of Halton Hills
1 Halton Hills Drive
Halton Hills, Ontario
L7G 5G2
Tel: 905-873-2601

Environment Canada (Ontario Office)
4905 Dufferin Street
Toronto, Ontario
M3H 5T4
Tel: 416-739-4826

Ministry of Environment, Conservation and Parks
SAROntario@ontario.ca
Tel: 416-325-4000 (general inquiries)

Grand River Conservation Authority
400 Clyde Road
PO Box 729
Cambridge, Ontario
N1R 5W6
Tel: 519-621-2761

Credit Valley Conservation
1255 Old Derry Road
Mississauga, Ontario
L5N 6R4
Tel: 905-670-1615

Conservation Halton
2596 Britannia Road West
Burlington, Ontario
L7P 0G3
Tel: 905-336-1158

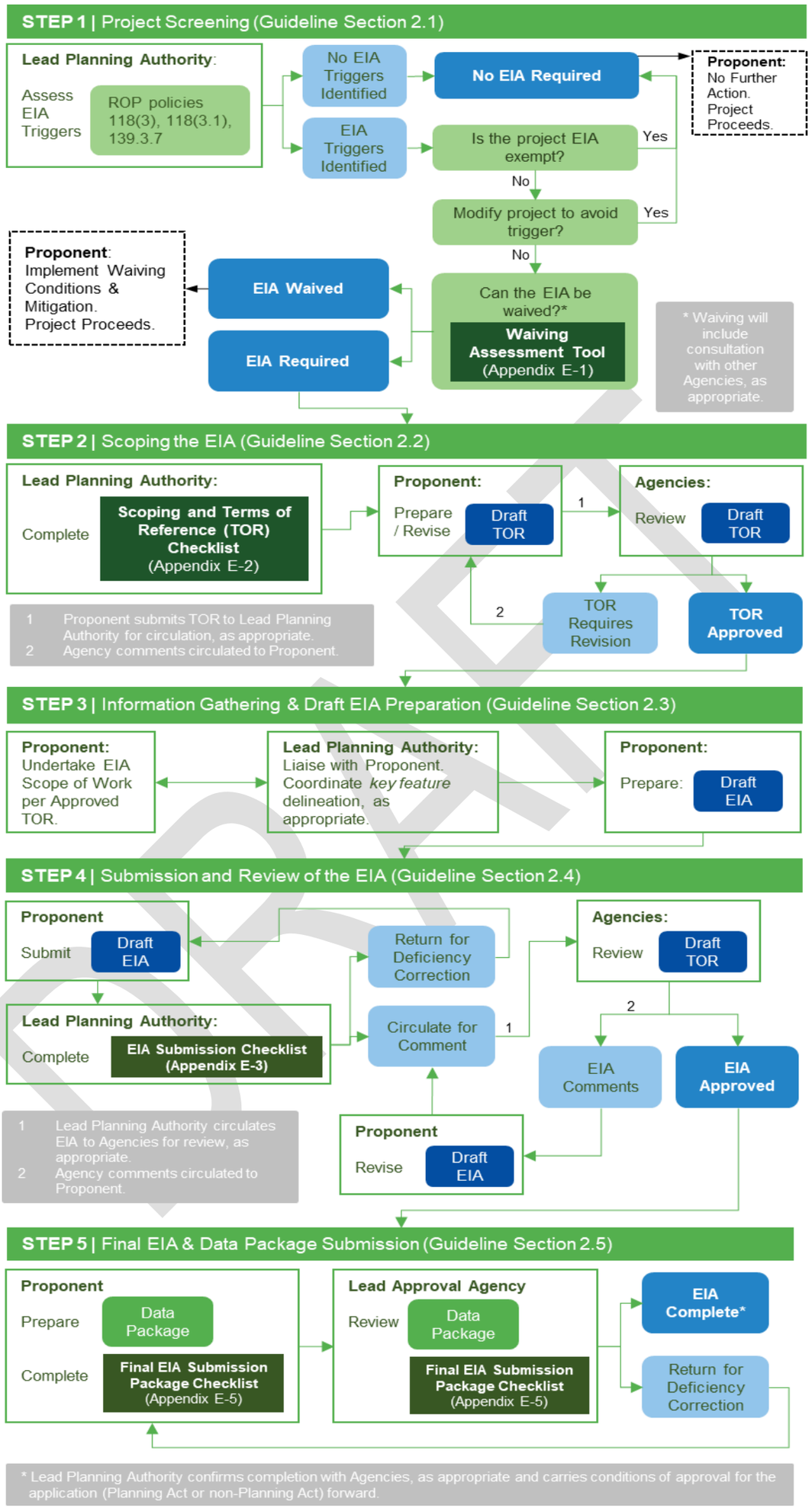
Ministry of Natural Resources (Aurora Office)
50 Bloomington Road
Aurora, Ontario
L4G 0L8
Tel: 905-713-7400

Department of Fisheries and Oceans (Regional Office Central and Arctic)
520 Exmouth St
Sarnia ON N7T 8B1
Toll-free: 1-866-290-3731
Telephone: 519-383-1809

Niagara Escarpment Commission
232 Guelph Street
Georgetown, Ontario
L7G 4B1
Tel: 905-877-5191

Appendix C: EIA Process Diagram

EIA Process Diagram



Appendix D: EIA Process Checklists and Tools

Appendix D-1

Waiving Assessment Tool

The **Waiving Assessment Tool** facilitates review of eligible *site alteration* and *development* projects by the Lead Planning Authority (or their delegate or assign) to determine if the EIA requirement may be waived. Technical matters may be addressed through the waiving process to facilitate the assessment process or assist a project in having the EIA requirement waived (e.g., Site Plan modification).

Project Name: _____

Proponent: _____

Primary Contact: _____

Contact Information: E: _____

P: _____

Project Location: (*Street Address or Lot and Concession*)

Part 1 – Project Information & Site Context

1-A | Project Type

Refer to **Table 1** for examples of projects eligible and not eligible for waiving consideration.

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

1-B | Planning Context

Regional Official Plan

Land Use Designations (as shown on Map 1 of ROP)

- ☐ RNHS
- ☐ Agricultural Area
- ☐ Urban Area
- ☐ Hamlet

Other

- ☐ Mineral Resource Extraction Area
- ☐ North Aldershot Policy Area
- ☐ Regional Waterfront Parks

Constraints (as shown on Map 1G of the ROP)

- ☐ Mapped Key Features in the RNHS or GBNHS Overlay
- ☐ Unmapped Key Features

Overlay

- ☐ GBNHS Overlay (shown on Map 1)

Greenbelt Plan

- ☐ Protected Countryside
- ☐ Greenbelt Plan NHS
- ☐ Agricultural System
- ☐ Settlement Area

Niagara Escarpment Plan

- ☐ Escarpment Natural Area
- ☐ Escarpment Recreation Area

☐ Escarpment Protection Area
☐ Urban Area

Growth Plan

☐ Growth Plan NHS
☐ Water Resource System
☐ Settlement Area

1-C | Existing Land Use(s) On Site

☐ Agricultural
☐ Urban Residential
☐ Rural Residential
☐ Commercial
☐ Industrial
☐ Park or Open Space
☐ Golf Course
☐ Building / Structure
☐ Paved / Impermeable Surface
☐ Manicured Lawn / Garden
☐ Fallow Field / Meadow
☐ Natural Feature or Area
☐ Other:

1-D | Adjacent Land Use(s) and Condition(s)

☐ Agricultural
☐ Urban Residential
☐ Rural Residential
☐ Commercial
☐ Industrial
☐ Park or Open Space
☐ Golf Course
☐ Building / Structure
☐ Paved / Impermeable Surface
☐ Manicured Lawn / Garden
☐ Fallow Field / Meadow
☐ Natural Feature or Area
☐ Other:

1-E | Buffers to Key Features – Existing

What buffers are in place on adjacent lands separating development from the NHS?

☐ <10 m
☐ 10-15 m
☐ 15-30 m
☐ 30+ m

Notes / Comments:

Part 2 – Environmental Features

RNHS

Key Features**:**

☐ *Significant Woodland*(s)
☐ Significant Wetland(s)
☐ Significant Valleyland(s)
☐ Candidate or Confirmed SWH[7]
☐ Significant ANSI[8]
☐ Fish Habitat
☐ Significant Habitat for Endangered or Threatened Species

Other RNHS Components**:**

☐ Buffer
☐ Linkage
☐ Enhancement Area

Greenbelt Plan

Key Natural Heritage Features in Greenbelt Plan NHS:

[7] Significant Wildlife Habitat
[8] Area of Natural and Scientific Interest

☐ Significant Woodland(s)
☐ Wetland(s)
☐ Significant Valleyland(s)
☐ Confirmed SWH[1]
☐ Life Science ANSI[2]
☐ Fish Habitat
☐ Habitat for Endangered or Threatened Species
☐ Sand Barren(s)
☐ Savannahs
☐ Tallgrass Prairie(s)
☐ Alvar(s)

Key Hydrologic Features (Protected Countryside):

☐ Permanent and intermittent stream(s)
☐ Lake(s) (and their littoral zones)
☐ Seepage areas and springs
☐ Wetland(s)

Growth Plan

Key Natural Heritage Features in Growth Plan NHS outside settlement areas:

☐ Significant Woodland(s)
☐ Wetland(s)
☐ Significant Valleyland(s)
☐ Confirmed SWH[1]
☐ Life Science ANSI[2]
☐ Fish Habitat
☐ Habitat for Endangered or Threatened Species
☐ Sand Barren(s)
☐ Savannahs
☐ Tallgrass Prairie(s)
☐ Alvar(s)

Key Hydrologic Features throughout Growth Plan outside settlement areas:

☐ Permanent stream(s)
☐ Intermittent stream(s)
☐ Inland lakes and their littoral zone(s)
☐ Seepage areas and springs
☐ Wetland(s)

Other Environmental Features and Designations

☐ Unevaluated wetland(s)
☐ Non-Provincially Significant wetland(s)
☐ Headwater Drainage Feature(s)
☐ Species at Risk (and their Habitat)
☐ Regulated Area(s)[9]
Feature Type(s):
☐ Other:

Part 3: Waiving Assessment

3-A | No-Risk and Low-Risk Projects

Projects that meet the criteria below are generally those that pose no new risk or very low risk of impact to the Region's NHS. The conditions of both the **primary** and **secondary** criteria must be met. A field visit is not required for projects that meet the criteria below.

Primary Criteria

The *development* or *site alteration* meets all the following:

- ☐ Minimum Vegetation Protection Zone (VPZ) requirements of the Greenbelt Plan and Growth Plan do not apply;
- ☐ Adjacent features are one or more of the following: *significant woodland, Provincially Significant Wetland, wetland* or *watercourse;*
- ☐ Adjacent features are not *key features* of the Greenbelt Plan NHS.
- ☐ Does not occur within or directly encroach into the NHS;
- ☐ There is no known confirmed or candidate *significant wildlife habitat* within the development footprint;
- ☐ There are no *Species at Risk*[10] or their habitat known to occur or with a high potential of occurring within the

[9] Areas regulated by a Conservation Authority (CA) under the Conservation Authorities Act and pursuant to the Ontario Regulation for the CA in which the project occurs.

footprint of the proposed *development* or *site alteration*.

Secondary Criteria

The *development* or *site alteration* meets at least one of the following:

- ☐ Is separated from the feature(s) by an intervening land use that effectively separates the project from the feature(s):
  - ☐ Road
  - ☐ Existing development
  - ☐ Other[11]:
- ☐ Is wholly contained within an existing building footprint (e.g., adding a second storey, re-development within existing footprint).
- ☐ Footprint of the proposed building expansion extends away from the feature(s).
- ☐ Proposed buffer(s) are a minimum of:
  - ☐ 10 m from the dripline of a *significant woodland*
  - ☐ 30 m from a *Provincially Significant Wetland* (PSW)
  - ☐ 10 m from other wetlands
  - ☐ 30 m from a watercourse

Note: Waiving of the EIA requirement does not waive, exempt or otherwise remove requirements for compliance with other applicable plans, policies, or legislation. It is the proponents responsibility to ensure that their project meets the requirements for the site and/or project.

OUTCOME

- ☐ **The project meets the primary and secondary criteria set out above**.
  Complete the "Potential New Impact Identification & Recommended Mitigation Measures(s)" Table (**3-C**) and set waiving conditions, as appropriate. Project Proceeds.

- ☐ **The project does not meet the criteria set out above**. Proceed through *Waiving Process* to determine if project can be waived.

3-B | Other Eligible Projects

If an eligible project (**Table 1**) does not meet the criteria in the preceding section (3-A), proceed through the sections below. Individual(s) with an appropriate level of knowledge of natural heritage features, functions and potential impacts associated with *development* or *site alteration* will be required to complete the waiving assessment. The Lead Planning Authority's can consult the Region (or the delegates or assigns) to provide an appropriate individual to complete the assessment.

Site Visit

[10] In the context of this assessment 'Species at Risk' includes species listed as Endangered or Threatened in Ontario and receiving protection under Sections 9 and/or 10 of the Endangered Species Act (2007).

[11] 'Other' land uses may include other forms of development that would act as a barrier to movement (plants, wildlife) and / or are a primary impactor at the interface with the natural heritage feature(s) and their functions. Natural, open space, agricultural lands (e.g., fields, grazing land, etc.) and other similar land uses do not qualify as land uses that act as an effective barrier.

A site visit may be requested to inform the waiving assessment. This may include general review of the site, reconnaissance review of the feature(s) and/or confirmation of feature boundaries, if / as appropriate. A site visit may be requested by the Lead Planning Authority or other approval agency for the site.

A site visit was:

☐ Completed ☐ Not requested

During the Site Visit:

☐ General site condition ☐ Feature review ☐ Feature delineation

---

Feature Sensitivity to Development

At the screening level, feature sensitivity to development is based on proxy indicators. Features with higher sensitivity may require additional consideration (e.g., site visit) to more accurately assess the feature, and / or may require increased buffers, enhanced mitigation, etc.

Based on current land use on-site (2-B) and on adjacent lands (2-C), it is anticipated that the feature(s) experience the following level of impact / disturbance:

☐ High ☐ Moderate ☐ Low

Based on feature type(s) (2-D) and information in A, above; it is anticipated that the feature(s) would be:

☐ Highly sensitive to the proposed development.
☐ Moderately sensitive to the proposed development.
☐ Less sensitive to the proposed development.

Proposed Buffers (Site-Plan)

Are buffers identified on the site plan?

☐ **Yes** – record the proposed buffer(s) width(s) below.
☐ **No** – record the shortest distance between the extent of disturbance and the feature(s) below.

Do the minimum Vegetation Protection Zone (VPZ) requirements of the Greenbelt Plan or Growth Plan Apply? Complete the column*, as applicable.

☐ **Yes**
☐ **No**

Feature #	Feature Type	Buffer / VPZ or Distance from Development / Site Alteration (m)	*Is the minimum VPZ distance met?

3-C | Potential New Impact Identification & Recommended Mitigation Measures(s)

Identify all new or exacerbated existing impacts anticipated, or with a high potential to occur. Identify recommended mitigation measure(s) that should be implemented to address the impacts.

Feature #	Potential Impact	Recommended Mitigation
	☐ Increased risk of noise and/or light ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement plantings ☐ Directional lighting ☐ Fencing ☐ Other:
	☐ Soil compaction, root damage ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Soil scarification ☐ Fencing ☐ Other:
	☐ Vegetation damage from construction equipment and migration of construction debris ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Fencing ☐ Other:
	☐ Risk to slope stability ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Risk of spread of invasive species ☐ New ☐ Exacerbated	☐ Invasive species removal ☐ Increased buffer ☐ Enhancement Plantings

		☐ Fencing ☐ Other:
	☐ Increased risk of dumping of garden refuse ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Fencing ☐ Other:
	☐ Removal of uncommon/rare plant species ☐ New ☐ Exacerbated	☐ Plant salvage ☐ Enhancement plantings ☐ Other:
	☐ Removal of vegetation ☐ New ☐ Exacerbated	☐ Timing restrictions ☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Creation of edge ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Removal of, or disturbance to wildlife habitat ☐ New ☐ Exacerbated	☐ Timing restrictions ☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Fragmentation of natural area ☐ New ☐ Exacerbated	☐ Enhancement plantings ☐ Other:
	☐ Removal of corridor/linkage to natural area ☐ New ☐ Exacerbated	☐ Other:
	☐ Potential for increased access to natural area ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Fencing ☐ Other:
	☐ Change to hydrological function ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Other:
	☐ Increase in water temperature ☐ New ☐ Exacerbated	☐ In-stream habitat enhancement to increase stream shading ☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Degradation of water quality ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Increased risk of erosion, sedimentation and turbidity ☐ New ☐ Exacerbated	☐ Implementation of ESC measures ☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Increased inputs of nutrients/contaminants to waterbodies or wetlands ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Enhancement Plantings ☐ Other:
	☐ Changes to natural drainage area	☐ Increased buffer

	☐ New ☐ Exacerbated	☐ Other:
	☐ Reduction of stream baseflows/upwellings ☐ New ☐ Exacerbated	☐ Increased buffer ☐ Other:
	☐ Aggravation of existing impacts/cumulative Impacts	☐ Increased buffer ☐ Enhancement Plantings ☐ Fencing ☐ Other:
	☐ Other:	
	☐ Other:	
☐ **No additional impacts anticipated beyond what is considered existing**		
Notes:		

3-F | Assessment Results

OUTCOMES:

☐ Project is **waived**.
- ☐ Implement Site Plan, as submitted.
- ☐ Implement mitigation measures (3-C) and proceed.

☐ Modification and re-submission of the Site Plan requested:
- ☐ Change location / limits.
- ☐ Minimum buffer requested: _____ m.
- ☐ Demonstrate how mitigation measures (3-C) will be implemented.

Waiving assessment pending re-submission.

☐ Fish habitat has been identified on site; applicant to confirm that the project meets the DFO requirements under the self-assessment process. **Waiving assessment pending confirmation.**

☐ Endangered or Threatened species and/or their habitat has been identified as occurring or with a high potential to occur on site; applicant to confirm that the project does not contravene the Endangered Species Act (2007) (e.g., record of consultation with MECP). **Waiving assessment pending confirmation.**

☐ Project is **not waived.**
- ☐ An EIA is required. Proceed to **EIA Step 2: Scoping**.
- ☐ Project is not supported based on environmental constraints on site.

Notes:

Table 1: Examples of project eligible for consideration of waiving the EIA requirement.

Waiving Assessment Eligibility[1]	Examples
Eligible	• Lot Severance for single family dwelling • New house on an existing lot • New accessory structure (garage, shed, etc.) • New accessory development (e.g., swimming pool, driveway) • Re-build – same footprint • Re-build – larger or altered footprint • Addition to existing house / structure • Accessory re-development or modification (e.g., swimming pool, driveway) • Septic system or other servicing • Site alteration (small-moderate scale) • Residential development (small-scale) • Commercial development (small-scale) • Recreational development (small-scale)
Not Eligible	• Residential development (medium-large scale) • Aggregate resource or other extractive industries • Recreational development (medium-large scale [e.g., golf course/ski hill])

[1] Eligibility does not indicate or guarantee that the requirement for an EIA will be waived; it simply indicates that the project may be considered for waiving.

Appendix D-2

Scoping and Terms of Reference Checklist

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

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

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

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

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

Part 1 – Project Information

1-A | General Information

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

1-B | Project Type

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

Part 2 – Scoping of Inventories and Delineations

Project Area
Adjacent Lands
☐ ☐

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

☐ ☐ Species at Risk
- ☐ ☐ Screening Assessment[12]
- ☐ ☐ Requirement for targeted surveys to be determined through Screening Assessment.

☐ ☐ Significant Wildlife Habitat
- ☐ ☐ Field program to address assessment of Significant Wildlife Habitat

☐ ☐ Terrestrial
- ☐ ☐ Ecological Land Classification (ELC)
- ☐ ☐ Botanical Inventory
- ☐ ☐ Avifauna (Birds)
  - ☐ ☐ Habitat Assessment
  - ☐ ☐ Incidental / General Observations[13]
  - ☐ ☐ Detailed or Targeted Survey(s)
- ☐ ☐ Herpetofauna (Amphibians and Reptiles)
  - ☐ ☐ Habitat Assessment
  - ☐ ☐ Incidental / General Observations[2]
  - ☐ ☐ Detailed or Targeted Survey(s)
- ☐ ☐ Mammals
  - ☐ ☐ Habitat Assessment
  - ☐ ☐ Incidental / General Observations
  - ☐ ☐ Detailed or Targeted Survey(s)
- ☐ ☐ Terrestrial Crustaceans (e.g., chimney crawfish)

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

[13] This survey approach should be limited to only those projects with no to very low risk of impact to this species group and where the potential presence of Species at Risk or Significant Wildlife Habitat is very low.

☐ ☐ Habitat Assessment
☐ ☐ Incidental / General Observations
☐ ☐ Detailed or Targeted Survey(s)

☐ ☐ Insects
☐ ☐ Habitat Assessment
☐ ☐ Incidental / General Observations
☐ ☐ Detailed or Targeted Survey(s)

☐ ☐ Aquatic
☐ ☐ Habitat Assessment / General Assessment
☐ ☐ Detailed / Targeted Survey(s)

☐ ☐ Delineation of Features[14]
☐ ☐ Woodland (If determined to be a *significant woodland*)
☐ ☐ Wetland
☐ ☐ Valleyland (Top of Bank / Slope)
☐ ☐ Other: _____

Part 3 – Other Studies[15]

☐ ☐ Geotechnical
☐ ☐ Secondary Source
☐ ☐ Study Required

☐ ☐ Hydrogeological
☐ ☐ Secondary Source
☐ ☐ Study Required

☐ ☐ Geomorphological
☐ ☐ Secondary Source
☐ ☐ Study Required

☐ ☐ Surface Water
☐ ☐ Secondary Source
☐ ☐ Study Required

☐ ☐ Natural Hazard(s)[16]
☐ ☐ Secondary Source
☐ ☐ Study Required

☐ ☐ Wetland Water Balance

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

Part 4 – Terms of Reference Requirements

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

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

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

☐ Biophysical Inventory
- ☐ Define and provide rationale for study area.
- ☐ Detailed study approach and methods for all identified inventories and delineations identified in **Part 2.** Where there is rationale to exclude a specific feature or area from assessment, provide rationale for consideration.
- ☐ **Map**: location of proposed surveys, subject property, proposed study area, orthophotography base.

☐ Biophysical Analysis

Describe the general approach and anticipated approach and/or method(s) of analyses for the following:
- ☐ Species at Risk:
  - ☐ Preliminary screening assessment to be provided as part of the TOR. This will inform the field program.
- ☐ Significant Wildlife Habitat:
  - ☐ Preliminary screening assessment to be provided as part of the TOR. This will inform the field program.
- ☐ Evaluation of significance for natural heritage species, features and/or areas within the study area against appropriate policies and guidelines[17];
- ☐ Linkage Assessment;
- ☐ Enhancement Area(s);
- ☐ Natural Hazards within the study area;
- ☐ Buffer assessment;

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

☐ Alternative Assessment
Outline approach to identifying or assessing alternatives to avoid or minimize impacts.

☐ Impact Assessment
Confirm scope includes an impact assessment that will consider direct, indirect, induced and cumulative impacts and provide general approach to impact assessment.

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

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

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

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

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

Appendix D-3

EIA Submission Checklist

The EIA should be submitted as part of a complete application. The proponent's consultant will use the **EIA Submission Checklist** to confirm that the EIA meets submission requirements and has been prepared in accordance with an approved TOR. The Lead Planning Authority will review the submission and checklist to confirm it satisfactorily meets submission requirements. If the submitted EIA does not meet the submission standards or was not prepared in accordance with the approved TOR, the Lead Planning Authority may reject the submission. The identified deficiencies must be addressed, and the EIA re-submitted prior to the initiation of the review process.

Applicant: _____ Consultant: _____

Phone: _____ Phone: _____

Email: _____ Email: _____

Address: _____ Address: _____

_____ _____

Development Application Address:

_____

Complete Application Verification Checklist for Lead Planning Authority

(Internal Use Only)

- ☐ 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size
- ☐ A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed
- ☐ Copy of approved Terms of Reference appended to EIA
- ☐ Digital copy of report, data and shapefiles
- ☐ Complete Application/Initial Submission Checklist completed and signed
- ☐ The submission meets the reporting standards and content requirements below

EIA Submission:

- ☐ Accept
- ☐ Reject (if submission rejected, please provide justification to proponent under separate cover and request resubmission)

Signature: _____ Date: _____

Reporting Standard

- ☐ 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size
- ☐ A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed
- ☐ Provide contact information for the consulting company/ principle author of the report
- ☐ Digital copy of report, data and shapefiles

Content

The following is a checklist of all the potential sections that may need to be addressed as part of and EIS. This checklist should be used in the context of the approved EIS Terms of Reference. In the notes section below to describe why a piece wasn't included, such as it not being required in the Terms of Reference.

Date of approved Terms of Reference: _____

Introduction

- ☐ Descriptions of the subject property (natural features and areas, land cover, existing hard surfaces or buildings)
- ☐ Descriptions of the type and scale of the development proposal (including any required servicing, infrastructure upgrades or stormwater facilities, existing or proposed trails)
- ☐ Description of the historical and present use of the subject property:
    - Grading and filling activities
    - Brownfield contamination
- ☐ Description of the site context/study area and the subject property's relationship to the surrounding landscape
- ☐ Map(s) of the development location, subject property and study area
    - Orthographic map with known natural heritage features/ areas overlaid

Planning Context

- ☐ Identify the current land use designations and zoning for the subject property and for the adjacent lands
- ☐ Identify the type of required development applications
- ☐ Map(s) of the development location and extent of area to be studied including current zoning/land use
- ☐ Identify environmental legislative, regulatory and policy requirements that may affect the development proposal, including clauses relevant to the proposal

Background Review

(may be included in Characterization of the Natural Environment)

- ☐ Identify relevant information from existing studies, plans, databases and other sources to be analyzed as part of the EIS
- ☐ Identify and incorporate important information from additional technical studies such as: geotechnical, hydrogeologic and hydrologic studies

Characterization of the Natural Environment

- ☐ Describe the study methods for natural heritage features and areas, wildlife, wildlife habitat and Species at Risk in detail (including time of year, level of search effort, etc.) as well as for delineating feature boundaries.
- ☐ Identify and describe all known or candidate natural heritage features and areas within the study area and specify their boundaries.
- ☐ Characterize the existing conditions of the following based on the accumulated data:
    - Geology and soils
    - Hydrology and hydrogeology
    - Aquatic and fish habitat
    - Terrestrial and wetland vegetation
    - Wildlife
    - Natural hazards
    - Connectivity and ecological linkages

- Include map(s) showing locations for field studies (study area boundary, plots, stations, transect(s)), natural heritage features and areas (including their limits), etc.
- Include completed SAR Screening Table as an appendix.
- Include completed SWH Screening Table as an appendix.

Data Analysis

Evaluation of significant and natural hazards

- Assess the various natural heritage features and areas against the appropriate policies and guidelines to determine significance.
- Assess the various natural heritage features and areas against the appropriate policies and guidelines related to natural hazards.
- Include an assessment of appropriate buffers and/or setbacks.

Opportunities and Constraints

- Discuss and depict Natural Heritage and Natural Hazard Opportunities and Constraints
- Identify all of the constraints to potential development related to natural heritage features and areas identified for protection, as well as natural hazards, including their respective buffers and setbacks
- Identify opportunities for development on the subject property that work within the limitations of the site-specific constraints
- Identify opportunities for restoration, enhancement and/or stewardship opportunities
- Depict constraints and opportunities in a Figure
- Environmental Policy Analysis
- Include an environmental policy analysis confirming how the proposal meets (or doesn't meet) the applicable policies and legislation as described in the Planning Context section (see above)

Impact Analysis

- Detailed description of the proposed development as it relates to potential impacts to the natural heritage features and areas identified for protection, and/or their ecological functions. Consider elements such as: built form, grading, stormwater management, servicing, trails and post-development use of the land.
- Include a water balance (or appended/cross reference to a supporting study) with a supporting impact analysis in the EIS when addressing hydrological impacts.
- Include an impact assessment that considers both short-term and long-term impacts, including:
    - Direct Impacts
    - Indirect Impacts
    - Induced Impacts
    - Cumulative Impacts

  *It is recommended to use a table format to summarize the impact analysis section.
- The Evaluation of Alternative Options/Measures describes how impacts can be mitigated through use of Best Management Practices, and innovative measures. The iterative process undertaken by the design team is included in this section.
- Where trails are part of the development, identify and describe the opportunities for alternative trail alignments and approaches
- Summarize preferred alternative(s) for the proposal
- Recommend Mitigation Measures (including avoidance, enhancement, restoration, compensation, outreach, education and stewardship)

Monitoring

- Include a Monitoring Plan for performance and effectiveness of mitigation measures. Consider whether adequate baseline information has been collected and provide recommended time frame

for monitoring program. Where an EIR is being recommended the monitoring plan will form a starting point for the EIR.

Recommendations and Conclusion

- Recommendations and Concluding Statement

Appendices and attachments

- EIA Terms of Reference and City approval thereof
- Mapping and figures
- Species lists
- Additional technical studies, as applicable

Files and Permissions

- Digital copy of EIS and appendices are provided in PDF or Word format
- Species data is provided as an excel file
- GIS shapefiles are provided**

**Permission is given to Halton Region and Conservation Halton to utilize data collected from this study.

I _____, agent for _____, confirm that the attached Draft Environmental Impact Assessment (EIA) addresses the scope of work outlined in the approved Terms of Reference, contains the above study requirements and has been completed in accordance with the Region's EIA Guidelines.

Signature: _____ Date: _____

Appendix D-4

EIA Comment Response Matrix Template

ENVIRONMENTAL IMAPCT ASSESSMENT (EIA) - CONSOLIDATED COMMENTING & RESPONSE TABLE

PROJECT NAME:
PROJECT NUMBER / REFERENCE:
PROPONENT:
PROJECT TYPE: [Development / Site Alteration / Agricultural]

SUBMISSION INFORMATION	REVIEW AGENCY INFORMATION
EIA PREPARED BY:	[AGENCY] [commenting / lead staff member]
1ST SUBMISSION DATE:	[AGENCY] [commenting / lead staff member]
2ND SUBMISSION DATE:	[AGENCY] [commenting / lead staff member]
3RD SUBMISSION DATE:	

COMMENT #	SUB-SECTION 1	SUB-SECTION 2	ADDITIONAL REFERENCE	COMMENTING AGENCY	COMMENT	RESPONSE / ACTION TAKEN	RESOLUTION / OUTSTANDING CONCERN	RESPONSE / ACTION TAKEN	RESOLUTION / OUTSTANDING CONCERN
SECTION [#, TITLE]									

Appendix D-5

Final Submission Checklist

Applicant: _____ Consultant: _____

Phone: _____ Phone: _____

Email: _____ Email: _____

Address: _____ Address: _____

_____ _____

Development Application Address:

_____

_____

Submission of the final EIA Package will include the following:

Reporting Standard

- ☐ The approved EIA report with any associated addenda; A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed
- ☐ 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size
- ☐ Provide contact information for the consulting company/ principle author of the report
- ☐ A revised *development* or *site alteration* proposal (if required); and/or
- ☐ Appropriate conditions of approval which incorporate the final EIA recommendations;
- ☐ GIS data package;
- ☐ Digital copy of report, data and shapefiles
- ☐ Species data is provided as an excel file
- ☐ Survey results tables;
- ☐ Datasheets.

Ensure that the document contains the following sections/headings:

- ☐ Introduction
- ☐ Planning Context
- ☐ Background Review
- ☐ Characterization of the Natural Environment
- ☐ Data Analysis
- ☐ Opportunities and Constraints
- ☐ Impact Analysis
- ☐ Monitoring
- ☐ Recommendations and Conclusion

Appendices and attachments

- ☐ Approved Terms of Reference signed by all agencies
- ☐ Mapping and Figures
- ☐ Species List
- ☐ Additional studies, applicable
- ☐ Addendums to the EIA, as applicable

- Correspondence and review comments/responses, as applicable

Files and Permissions

- Digital copy of EIS and appendices are provided in PDF or Word format
- Species data is provided as an excel file
- GIS shapefiles are provided**

**Permission is given to Halton Region and Conservation Halton to utilize data collected from this study.

I _____, agent for _____, confirm that the attached Draft Environmental Impact Assessment (EIA) addresses the scope of work outlined in the approved Terms of Reference, contains the above study requirements and has been completed in accordance with the Region's EIA Guidelines.

Signature: _____ Date: _____

Appendix E: EIA Content Tools

Appendix E-1

List of Background Information Sources

The following references provide important information and guidance for species, habitats and other features that may be present and can inform field data collection requirements and analysis necessary for the completion of an EIA. This list is not exhaustive and represents only the most commonly used resources. Other site-specific resources may be available, such as EIAs completed for nearby projects, Environmental Study Reports for nearby Class Environmental Assessments (EAs), conservation authority subwatershed studies and other documents. Site-specific background materials may be identified in consultation with Regional planners, conservation authority staff, management biologists at the Ministry of Natural Resources and Forestry (MNRF) and/or other agency staff.

General References for all EIA studies:

- Data from the Natural Heritage Information Centre (NHIC): https://www.ontario.ca/page/get-natural-heritage-information
- Halton Region. 2005. *Environmentally Sensitive Area* Consolidation Report.
- Conservation Authority Environmental Impact Study (EIS) Guidelines
- Conservation Authority Landscaping Guidelines
- Environment Canada. 2013. *How Much Habitat is Enough? Third Edition.* Environment Canada, Toronto, Ontario.
- Toronto and Region Conservation Authority (TRCA) and Credit Valley Conservation (CVC). 2014. Evaluation, Classification and Management of Headwater Drainage Features Guidelines. Available from http://www.trca.on.ca/dotAsset/180724.pdf
- Land Information Ontario (LIO) geospatial data: https://www.ontario.ca/search/data-catalogue
- Ontario Ministry of Transportation (MTO) Habitat Mapping protocols

Earth Sciences

- Chapman, L.J. and D.F. Putnam. 1984. *The Physiography of Southern Ontario, Fourth Edition*. Geological Survey, Special Volume 2, 270 p. Accompanied by Map P.2715 (coloured), scale 1:600 000.
- University of Guelph Department of Land Resource Studies. 2003. Field Manual for Describing Soils in Ontario. University of Guelph, Guelph, Ontario.
- Gillespie, J.E., R.E. Wicklund and M.H. Miller. 1971. The Soils of Halton County: Report No. 43 of the Ontario Soil Survey. Ontario Department of Agriculture and Food, Toronto, Ontario and Canada Department of Agriculture, Ottawa, Ontario.

Fish and Aquatic Habitat

- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk (SAR) mapping: https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html
- LIO Aquatic Resources Areas and watercourse data: https://www.ontario.ca/search/data-catalogue

Plants and Plant Communities

- NHIC provincial conservation status ranks for plant species and communities
- Oldham, M.J. and S.R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. MNRF, Peterborough, Ontario.
- Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario. MNR, Peterborough, Ontario.
- Distribution and Status of the Vascular Plants of the Greater Toronto Area (Varga et. al. Draft 2005)
- Halton Natural Areas Inventory (NAI) Volumes 1 and 2 (2006) should be considered the primary sources of information for local species status

Wildlife and Wildlife Habitat

- NHIC provincial conservation status ranks for wildlife species
  Cadman, M., D. Sutherland and G. Beck. 2009. Atlas of the Breeding Birds of Ontario. Bird Studies Canada. Available from http://www.birdsontario.org/atlas/index.jsp
- Ontario Nature. 2019. Ontario Reptile and Amphibian Atlas. Available from https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/
- Toronto Entomologists' Association. 2019. Ontario Butterfly Atlas. Available from http://www.ontarioinsects.org/atlas_online.htm
- Dobbyn, J.S. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Toronto, Ontario.
- Citizen science data from publicly available platforms such as eBird (https://ebird.org/home) and iNaturalist (https://www.inaturalist.org/home)
- Halton NAI Volumes 1 and 2 (2006) should be considered the primary sources of information for local species status
- Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregions 6E and 7E (MNRF, 2015)
- Ontario Ministry of Natural Resources (MNR). 2000. *Significant Wildlife Habitat Technical Guide*. MNR, Peterborough, Ontario.
- MNR. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. MNR, Peterborough, Ontario.

Significant Species Regulations and Legislation

- *Species at Risk Act* (SARA), 2002, Regulations and Rankings (available from the SARA public registry: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html)
- Ontario *Endangered Species Act* (ESA), 2007, Regulations and Rankings (available from http://cossaroagency.ca/species/)
- Species at Risk (SAR) Assessment Reports, Management Plans, Recovery Strategies, Government Response Statements, General Habitat Descriptions and other documentation
- *Fisheries Act*, 1985
- *Migratory Birds Convention Act*, 1994

Guideline Documents

- MNRF. 2014. Significant Wildlife Habitat Mitigation Support Tool. MNRF, Peterborough, Ontario.
  MNRF. 2016. Guidance for Development Activities in Redside Dace Protected Habitat. MNRF, Peterborough, Ontario.

Appendix E-2

Common Methods

The following data sources, survey protocols and reference manuals provide important direction and detailed methods for field data collection and data analysis necessary for the completion of an EIA. Table 1 outlines optimal periods for field surveys and the preferred field survey methods to be used when completing an EIA.

Note that data collection requirements and protocols may be updated periodically and the list provided below may not represent the most recent versions/editions. The proponent is encouraged to contact Halton Region to ascertain the most current versions.

TABLE: Optimal Periods for Field Surveys and Preferred Field Survey Methods to be used when Collecting Natural Heritage Information

Notes:
For some taxa, repeated sampling may be required to accurately determine species presence and abundance.
Please refer to preferred field inventory method to determine the optimal period for field inventory, including the appropriate hours during the day or night to conduct field work. Regulations for Endangered Species may require sampling over a period of more than one year to accurately determine species presence and abundance (see for example the Jefferson Salamander *Recovery Strategy* 2010). For all fieldwork undertaken, the EIA should describe the methods used and include date, time, location, weather conditions, staff, and other incidental information.

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
Water Temperature	• July 1 to Sept 10, provided air temperature does not exceed 24.5°C and has not exceeded 24.5°C for previous 48 hours (daily maximum temperature) • Any date, provided sampling date is preceded by three days without rainfall that could affect baseflow (spot temperature measurements)	• Data loggers	References: • Jones, N.E. and L. Allin. 2009. Measuring Stream Temperature Using Data Loggers: Laboratory and Field Techniques. MNR River and Stream Ecology Lab, Peterborough, Ontario.
Fish	• April to June (most fish) • Various seasons for specific taxa	• Ontario Stream Assessment Protocol • MTO Fish Habitat	References: • Stanfield, L. 2010. Ontario Stream Assessment Protocol, Version 8. MNRF Fisheries Policy Section,

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
		Assessment Protocol	Peterborough, Ontario. • MTO. 2009. Environmental Guide for Fish and Fish Habitat. MTO, Toronto, Ontario.
Benthos	• Spring or Fall	• Ontario Benthos Biomonitoring Network protocols	References: • Jones, C., K.M. Somers, B. Craig and T.B. Reynoldson. 2007. Ontario Benthos Biomonitoring Network: Protocol Manual. Ontario Ministry of the Environment, Dorset, Ontario.
Molluscs	• June 1 to September 30, providing water temperature is warmer than 16°C	• Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario-Great Lakes Area	• Mackie, G., T.J. Morris and D. Ming. 2008. Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario-Great Lakes Area (OGLA). DFO, Burlington, Ontario.
Vegetation	• Late April to mid-June (spring ephemerals) • mid-June to late August (summer flora) • late August to late September (late summer/fall flora)	• ELC System for Southern Ontario (1998, with updates)	• Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario. MNR, Peterborough, Ontario. • NHIC provincial conservation status ranks for plants and plant communities • Oldham, M.J. and S.R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. MNRF, Peterborough, Ontario. • University of Guelph Department of Land Resource Studies. 2003. Field Manual for Describing Soils in Ontario. University of Guelph, Guelph, Ontario. • Gillespie, J.E., R.E. Wicklund and M.H. Miller. 1971. The Soils of Halton County: Report No. 43 of the Ontario Soil Survey. Ontario Department of Agriculture and Food, Toronto, Ontario and Canada Department of Agriculture, Ottawa, Ontario.
Wetlands	• Various components require study at	• Ontario Wetland Evaluation System (OWES),	Notes: • *wetland* evaluation requires inventories of plants and wildlife –

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
	different times of year	Southern Manual	follow protocols for taxa as outlined in this table References: • MNRF. 2014. Ontario Wetland Evaluation System, Southern Manual, Third Edition.
Birds	• May 24 to July 10 (most breeding birds); other dates for birds with different life histories (e.g. owls, waterfowl) • March to April (migratory waterfowl); April to May (spring migrants); December to March (overwintering birds, such as raptors)	• Ontario Breeding Bird Atlas protocol • Forest Bird Monitoring Program • Marsh Monitoring Program • Taxon-specific protocols developed by MNRF (e.g. winter raptors, migratory waterfowl, SAR birds)	References: • Marsh Monitoring Protocol (Canadian Wildlife Service and Bird Studies Canada) • Forest Bird Monitoring Program protocol (Canadian Wildlife Service) • Ontario Breeding Bird Atlas protocols and conventions (Cadman et al. 2007 and on-line summaries at http://www.birdsontario.org/atlas/index.jsp) • Migratory Birds Convention Act (1994) • City of Toronto Bird Friendly Design Guidelines
Mammals	• Mid-May to mid-July (Bats) • Various seasons for other taxa	• Bat survey protocols (MNRF) • most accurate methods highly labour intensive	• MNRF. 2017. Survey Protocol for Species at Risk Bats within Treed Habitats: Little Brown Myotis, Northern Myotis and Tricolored Bats. • MNRF. 2014. Use of Buildings and Isolated Trees by Species at Risk Bats: Survey Methodology.
Amphibians	• March to early April (salamanders) April, May and June (amphibian call count surveys)	• Marsh Monitoring Program (MMP) Call Count Survey Protocol	• Bird Studies Canada, Environment Canada and United States Environmental Protection Agency. 2008. Marsh Monitoring Program: Participant's Handbook for Surveying Amphibians.
Turtles	• May to August	• basking, nesting, road mortality surveys from late spring to late summer	
Snakes	• Spring and Fall (hibernacula) • April to October (most snakes)	• Survey Protocol for Ontario's Species at Risk Snakes	• MNRF. 2016. Survey Protocol for Ontario's Species at Risk Snakes.

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
Butterflies	• May to September (depending on species)	• active searching • sweep net capture and release	• Commission for Environmental Cooperation. 2009. Monarch Butterfly Monitoring in North America: Overview of Initiatives and Protocols
Dragonflies and Damselflies	• May to September (depending on species)	• active searching • sweep net capture and release	
SAR and SAR Habitat	• Taxon-dependent	• Survey protocols for specific SAR prepared by MNRF (e.g., Butternut Health Assessment protocol)	• MNRF. 2014. Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the *Endangered Species Act*, 2007.
Significant Wildlife Habitat	• Taxon-dependent	• Study guidelines from SWH Criteria Schedules for Ecoregion 6E or 7E	• MNRF. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. • MNRF. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E.

Appendix E-3

Impact Assessment, Mitigation Measures and Residual Impacts Table Example Template

The **Impact Assessment, Mitigation Measures and Residual Impacts Table** provides a composite table of impacts, mitigation and outcomes after implementation (i.e., residual impacts). Providing this information in table format facilitates review and clearly presents these key components of the EIA in supporting and assessment conclusions of 'no negative impact'. Detailed descriptions of some components that will be repeated throughout the table (e.g., mitigation measures) should be provided in text so that lists can be used in the table to reduce overall table length and improve readability.

Impact	***Development / Site alteration* Activity or Condition Creating the Impact**	**Description of Impacts by Feature and/or Function**	**Mitigation Measures**	**Efficacy and / or Residual Impacts**
List each impact type / category in a separate row. e.g., vegetation removal, changes to surface drainage, etc.	*List the activities, conditions or components of the development that will or have potential to result in the impact identified in the first column.* e.g., clearing, grading, creation of impermeable surfaces, etc.	*Describe the feature(s) and / or function(s) that may be impacted using the following categories:* • Direct • Indirect • Induced • Cumulative	*List recommended mitigation strategies to address impacts.*	*Assess efficacy of the mitigation measures / strategy in addressing the impact(s) described in the third column. Conclude whether there are any residual impact and the magnitude and severity of any residual impacts.*

Appendix E-4

Potential Environmental Impacts

Environmental impacts associated with *development* or *site alteration* may be characterised as irreversible, short-term, construction related, long-term and cumulative. Impact analysis is to be based on the scientific literature available and should build on successful approaches that ensure long term protection of Halton's NHS based on a *systems approach* to EIA in environments undergoing *development* or *site alteration*. The second edition of the MNRF's Natural Heritage Reference Manual (Chapter 13: Addressing Impacts of *Development* and *Site alteration* and Table C.1 of Appendix C) should also be consulted when considering environmental impacts.

Examples of impacts that may be considered include, but are not limited to, the following:

1. Fragmentation or reduction in the size of the NHS;
2. Increase in the perimeter-to-area ratio of features within the NHS;
3. Loss of ecological features and supporting functions of agricultural lands adjacent to the NHS;
4. Alteration of natural disturbance cycles important to the ecological health and renewal of the NHS, such as flooding, erosion, deposition, disease, and fire, etc.;
5. Loss or reduction in functional ecological linkage of the NHS among natural features important for daily, seasonal and/or long term movement patterns of plants and animals;
6. Alteration of natural topography that results in impacts to the NHS;
7. Ongoing or increased potential for human or domestic animal impacts on the NHS, especially area-sensitive species, ground-nesting birds, small mammals, reptiles and amphibians;
8. Alteration of the quantity, quality, timing (hydroperiod) or direction of flow, of surface or groundwater resulting in impacts to the NHS;
9. Alteration of the structure, functions or ecological interrelationships of natural habitat that sustains representative community associations or species populations;
10. Reductions in the size and diversity of species populations, or the health and reproductive capacity of species;
11. Removal of vegetation communities which are structural and/or functional element of the NHS;
12. Erosion or compaction of soils, slope failure, or deposition of sediment;
13. Increased potential for the introduction of non-native species;
14. Occupancy of lands adjacent to the NHS resulting in increased access, pets, night lighting, escape of horticultural plants, noise, dumping of waste, air pollution, water pollution, encroachment, increased presence of humans, etc.;
15. Serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fisherypursuant to the Canada Fisheries Act; and,
16. Environmental impacts associated with aquatic environments:
    - disruption or prevention of natural sediment transport regime
    - severing the connection of a watercourse from its floodplain
    - impairment or loss of fish passage through a watercourse
    - negative changes to the health, composition, density or type of riparian vegetation
    - negative changes to in-stream structure (e.g. overhanging banks, dynamic banks, hydraulic habitats that have formed over time, sand, gravel, and organic substrates)
    - enclosure of watercourses in underground pipes
    - excavation of on-line ponds
    - excavation of off-line pond that could be a source of thermal or water quality pollution with respect to surface and/or groundwater resources
    - the lining of the banks or channel of any watercourse with hard materials

Appendix E-5

Potential Mitigation Measures

Mitigation measures are intended to maintain the health, form and function of the NHS and contribute to reducing or eliminating potential short or long-term impacts from *development* or *site alteration* on the NHS. New strategies and methods for the mitigation of *development* or *site alteration* impacts can be expected to continuously emerge, and as such, proponents should refer to and cite recent scientific literature. Examples of mitigation measures may include, but are not limited to, the following:

1. Avoidance of natural features and functions;
2. Modifying or redesigning the proposal to reduce or eliminate impacts;
3. Dedication or transfer of natural areas to a public body;
4. Buffers and/or setbacks adequate to reduce impacts and preserve *ecological functions* along edges of natural features;
5. Consider use of 'living fences' to deter access into sensitive features or areas;
6. Measures to restore or enhance natural areas, features or functions onsite;
7. Installation of functional ecopassages for roads that cross natural areas to allow movement of resident plants and animals;
8. Construction timing restrictions to avoid critical periods such as fish spawning, herpetofauna breeding and hibernation periods, bird breeding and nesting (May 1st to July 31st), and animal migrations and/or seasons when heavy construction equipment operating on exposed soils is most likely to cause soil erosion and siltation;
9. Effective temporary stormwater management and sediment control during construction;
10. Ministry of the Environment and Climate Change Enhanced permanent stormwater management facilities;
11. Innovative infiltration measures suitable for the site such as infiltration trenches, porous pavements, catchment cisterns, etc.;
12. Proper collection of groundwater elevation data that will allow proponents to design *development* or *site alteration* in a way that will mitigate impacts to groundwater;
13. For waterways currently impacted by past human alteration wherever possible make every effort to:
    - "daylight" and restore waterways that currently exist in underground pipes;
    - remove human created impoundments that currently exist within watercourses; and
    - Rehabilitate hardened creek channels using natural channel design principles and techniques.
14. Institute strategies to reduce salt application to roads that cross or are located adjacent to waterways;
15. Consider adoption of on-site stormwater management including green roofs;
16. Low impact *development* techniques;
17. Urban design guidelines that consider factors such as window treatments to prevent bird strikes, lighting that does not impact adjacent natural areas, street and lot orientation that provides additional separation from natural features;
18. Salvaging strategies for plants and animals that will be directly impacted by *development* or *site alteration*;
19. Comprehensive ecological restoration plans;
20. Trail siting and design that considers ecological sensitivities and principles;
21. Promotion of stewardship initiatives;
22. Detailed tree saving plans developed to maximize tree saving through careful adjustment of final *development* or *site alteration* plans;
23. Installation of temporary and permanent fencing;
24. Posting securities for environmental damage repair; and
25. Promotion of public awareness through the *development* of homeowners' guides and the creation and installation of information signage.

Appendix E-6

Significant Wildlife Habitat Assessment Table Template

Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan	CUM1 CUT1 Plus evidence of annual spring flooding from meltwater or run-off within these Ecosites. Fields with seasonal flooding and waste grains in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee areas may be important to Tundra Swans.	•Fields with sheet water during Spring (mid-March to May) •Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl •Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available <u>Information Sources</u> •Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. •Reports and other information available from Conservation Authorities •Sites documented through waterfowl planning processes (eg. EHJV implementation plan) •Field Naturalist Clubs •Ducks Unlimited Canada •Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •Any mixed species aggregations of 100 or more individuals required •The flooded field ecosite habitat plus a 100-300m radius, dependent on local site conditions and adjacent land use is the significant wildlife habitat •Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates) •SWH MIST Index #7 provides development effects and mitigation measures.	
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	•Ponds, marshes, lakes, bays, coastal inlets and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify •These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). <u>Information Sources</u> •Environment Canada •Naturalist clubs often are aware of staging/stopover areas. •OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. •Sites documented through waterfowl planning processes (e.g., EHJV implementation plan) •Ducks Unlimited projects •Element occurrence specification by Nature Serve: http://www.natureserve.org •Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of: •Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days •Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH •The combined area of the ELC ecosites and a 100m radius area is the SWH •Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). •SWH MIST Index #7 provides development effects and mitigation measures.	

Shorebird Migratory Stopover Area **Rationale:** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	•Shorelines of lakes, rivers and wetlands, including beach area, bars and seasonally flooded, muddy and un-vegetated shoreline habitats •Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October •Sewage treatment ponds and storm water ponds do not qualify as SWH. <u>Information Sources</u> •Western hemisphere shorebird reserve network •Canadian Wildlife Service (CWS) Ontario Shorebird Survey •Bird Studies Canada •Ontario Nature •Local birders and naturalist clubs •Natural Heritage Information Centre (NHIC) Shorebird Migratory Concentration Area	Studies confirming: •Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #8 provides development effects and mitigation measures.	
Raptor Wintering Area **Rationale:** Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:** Short-eared Owl Bald Eagle	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM, CUT, CUS, CUW. Bald Eagle: Forest Community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	•The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors •Raptor wintering (hawk/owl) sites need to be >20 ha with a combination of forest and upland •Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands •Field area of the habitat is to be wind swept with limited snow depth or accumulation. •Eagle sites have open water and large trees and snags available for roosting <u>Information Sources</u> •OMNRF Ecologist or Biologist •Naturalist clubs •Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area •Data from Bird Studies Canada •Results of Christmas Bird Counts •Reports and other information available from Conservation Authorities	Studies confirming: •Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #8 provides development effects and mitigation measures. Studies confirm the sue of these habitats by: •One or more Short-eared Owls or; one of more Bald Eagles or; at least 10 individuals and two of the listed hawk/owl species •To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. •The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area□ •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #10 and #11 provides development effects and mitigation measures.	
Bat Hibernacula **Rationale**: Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR3 CCA1 CCA2 (Note: buildings are not considered SWH)	•Hibernacula may be found in caves, mine shafts, underground foundations and Karsts •Active mine sites should not be considered as SWH •The locations of Bat Hibernacula are relatively poorly known. <u>Information Sources</u> •OMNRF for possible locations and contact for local experts •Natural Heritage Information Centre (NHIC) Bat Hibernaculum •Ministry of Northern Development and Mines for location of mine shafts. •Clubs that explore caves (eg. Sierra Club) •University Biology Departments with bat experts.	•All sites with confirmed hibernating bats are SWH •The area includes 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms •Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #1 provides development effects and mitigation measures.	

Bat Maternity Colonies **Rationale:** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD, FOM, SWD, SWM	•Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). •Maternity roosts are not found in caves and mines in Ontario •Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees •Female bats prefer wildlife trees (snags) in early stages if decay, class 1-3 or class 1 or 2 •Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred <u>Information Sources</u> •OMNRF for possible locations and contact for local experts •University Biology Departments with bat experts.	•Maternity colonies with confirmed use by: o>10 Big Brown Bats o>5 adult female Silver-haired Bats •The area of habitat includes the entire woodland or a forest stand ELC Ecosite or an Eco-element containing the maternity colonies •Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #12 provides the development effects and mitigation measures.	
Turtle Wintering Areas **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant	**Special Concern:** Midland Painted Turtle Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles: SW, MA, OA and SA; FEO and BOO. Northern Map Turtle: Open water areas such as deeper rivers or streams and lakes with current can also be used as overwintering habitat.	•For most turtles, wintering areas are in the same general areas as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. •Overwintering sites are permanent water bodies, large wetlands and bots or fens with adequate dissolved oxygen. •Manmade ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources</u> •EIS studies carried out by conservation authorities. •Field naturalists clubs. •OMNRF ecologist or biologist •NHIC	•Presence of five overwintering Midland Painted Turtles is significant. •One or more Northern Map Turtle or Snapping Turtle overwintering within a wetland is significant. •The mapped ELC ecosite area with the overwintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are overwintering is the SWH. •Overwintering areas may be identified by searching for congregations (basking areas) of turtles on warm, sunny days during the fall (September to October) or spring (March to May). Congregation of turtles is more common where wintering areas are limited and therefore significant. •SWH MIST Index #28 provides development effects and mitigation measures for turtle wintering habitat	
Reptile Hibernaculum **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are	Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **Special Concern:** Milksnake Eastern Ribbonsnake	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.	•For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. •Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line •Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. <u>Information Sources</u> •I In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). •Reports and other information available from Conservation Authorities. •Field Naturalist Clubs •University herpetologists •Natural Heritage Information Centre (NHIC)	Studies confirming: •Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. •Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) •NOTE: If there are Special Concern Species present, then site is SWH •NOTE: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. •The feature in which the hibernacula is located plus a 30 m radius area is the SWH •SWH MIS Index #13 provides development effects and mitigation measures for snake hibernacula.	

Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) **Rationale:** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	•Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. •Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. •Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> •Reports and other information available from Conservation Authorities •Ontario Breeding Bird Atlas •Bird Studies Canada NatureCounts http://www.birdscanada.org/birdmon •Field Naturalist Clubs	Studies confirming: •Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. •A□ colony identified as SWH will include a 50m radius habitat area from the peripheral nests •Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #4 provides development effects and mitigation measures.	
Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	•Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. •Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> •Ontario Breeding Bird Atlas colonial nest records. •Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). •Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony •Aerial photographs can help identify large heronries. •Reports and other information available from Conservation Authorities. •MNRF District Offices •Field Naturalist Clubs.	Studies confirming: •Presence of 2 or more active nests of Great Blue Heron or other listed species. •The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15 ha with a colony is the SWH •Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells •SWH MIST Index #5 provides development effects and mitigation measures.	
Colonially -Nesting Bird Breeding Habitat (Ground) **Rationale:** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6 MAS1 – 3 CUM CUT CUS	•Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. •Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> •Ontario Breeding Bird Atlas, rare/colonial species records. •Canadian Wildlife Service •Reports and other information available from Conservation Authorities. •Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area •MNRF District Offices. •Field Naturalist Clubs	Studies confirming: •Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern •Presence of 5 or more pairs for Brewer's Blackbird •Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant •The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3 ha with a colony is the SWH •Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #6 provides development effects and mitigation measures.	

Migratory Butterfly Stopover Areas **Rationale:** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral **Special Concern:** Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: FIELD: CUM, CUT, CUS FOREST: FOC, FOD, FOM, CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	•A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Erie or Lake Ontario •The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south •The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat •Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes <u>Information Sources</u> •MNRF District Offices •Natural Heritage Information Centre (NHIC) •Agriculture Canada in Ottawa may have list of butterfly experts. •Field Naturalist Clubs •Toronto Entomologists Association	Studies confirm: •The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days the site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur •Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. •MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. •SWH MIST Index #16 provides development effects and mitigation measures.	
Landbird Migratory Stopover Areas **Rationale:** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptor species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD	•Woodlots >5 ha in size and within 5 km of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat •If multiple woodlands are located along the shoreline those woodlands <2 km from Lake Erie and Lake Ontario are more significant •Sites have a variety of habitats: forest, grassland and wetland complexes •The largest sites are more significant •Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and within 5 km of Lake Erie and Lake Ontario are Candidate SWH. <u>Information Sources</u> •Bird Studies Canada •Ontario Nature •Local birders and field naturalist clubs •Ontario Important Bird Areas (IBA) Program	Studies confirm: •Use of the habitat by >200 birds/day and with >35 species and with at least 10 bird species recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant •Studies should be completed during spring (Mar.-May) and fall (Aug.-Oct.) migration using standardized assessment techniques. Evaluation to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #9 provides development effects and mitigation measures.	
Deer Winter Congregation Areas **Rationale:** Deer movement during winter in the southern areas of Eco-region 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions	White-tailed Deer	All forested Ecosites with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD Conifer plantations much smaller than 50 ha may also be used.	•Woodlots >100 ha in size or if large woodlots are rare in a planning area, woodlots >50 ha •Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands •Large woodlots >100 ha and up to 1,500 ha are known to be used annually by densities of deer that range from 0.1-0.5 deer/ha •Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> •MNRF District Offices •LIO/NRVIS	Studies confirm: •Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF •Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF •Studies should be complete4d during winter (Jan./Feb.) when >20 cm of snow is on the ground using aerial survey techniques, ground road surveys, or a pellet count deer survey •SWH MIST Index #2 provides development effects and mitigation measures	

Rare Vegetation Communities

Rare Vegetation Community	ELC Ecosite Codes	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		Habitat Description	Detailed Information and Sources	Defining Criteria	
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	•Most cliff and talus slopes occur along the Niagara Escarpment <u>Information Sources</u> •The Niagara Escarpment Commission has detailed information on location of these habitats •OMNRF Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities	•Confirm any ELC Vegetation Type for Cliffs or Talus Slopes •SWH MIST Index #21 provides development effects and mitigation measures	

Sand Barren **Rationale:** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always <60%	Sand barrens typically are exposed sand, generally sparsely vegetated and caused by a lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.	•A sand barren area >0.5 ha in size <u>Information Sources</u> •The Niagara Escarpment Commission has detailed information on location of these habitats •OMNRF Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities	•Confirm any ELC Vegetation Type for Sand Barrens •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •SWH MIST Index #20 provides development effects and mitigation measures	
Alvar **Rationale:** Alvars are extremely rare habitats in Ecoregion 7E.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** Carex crawei Panicum philadelphicum Eleocharis compressa Scutellaria parvula Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 7E	An Alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover	•An Alvar site >0.5 ha in size •Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie <u>Information Sources</u> •Alvars of Ontario (Federation of Ontario Naturalists, 2000) •Conserving Great Lakes Alvars (Ontario Nature) •OMNRF Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities	•Field studies identify that four of the five **Alvar Indicator Species** at a Candidate Alvar Site is significant •Site must not be dominated by exotic of introduced species (<50% vegetative cover are exotic spp.) •The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses •SWH MIST Index #17 provides development effects and mitigation measures	
Old Growth Forest **Rationale:** Due to historic logging practices and land clearance for agriculture, old growth forest is rare in Ecoregion 7E.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth Forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	•Woodland area is >0.5 ha <u>Information Sources</u> •OMNRF Forest Resource Inventory mapping •OMNRF Districts •Field Naturalist Clubs •Conservation Authorities •Sustainable Forestry License (SFL) companies will possibly know locations through field operations •Municipal forestry departments	Field studies will determine: •If dominant tree species of the forest are >140 years old, then the area containing these trees is SWH •The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) •The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH •Determine ELC vegetation types for the forest area containing the old growth characteristics •SWH MIST Index #23 provides development effects and mitigation measures	

Savannah **Rationale:** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25-60% In Ecoregion 7E, known tallgrass prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	•No minimum size to site •Site must be restored or a natural site. Remnant sites such as railway right-of-ways are not considered SWH <u>Information Sources</u> •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities	Field studies confirm: •One or more of the Savannah indicator species listed in Appendix N should be present. Note: savannah plant spp. List from Ecoregion 7E should be used. •Area of the ELC Ecosite is the SWH •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •SWH MIST Index #18 provides development effects and mitigation measures.	
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A tallgrass prairie has ground cover dominated by prairie grasses. An open tallgrass prairie habitat has <25% tree cover. In Ecoregion 7E, known tallgrass prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).	•No minimum size to site •Site must be restored or a natural site. Remnant sites such as railway right-of-ways are not considered SWH <u>Information Sources</u> •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities	Field studies confirm: •One or more of the Prairie indicator species listed in Appendix N should be present. Note: savannah plant spp. List from Ecoregion 7E should be used. •Area of the ELC Ecosite is the SWH •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •SWH MIST Index #19 provides development effects and mitigation measures.	
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare specieswhich depend on the habitat for survival.		Provincially rare (S1, S2, S3) vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide (MNRF, 2000). Any ELC Ecosite Code that has a possible ELC Vegetation Type that is provincially rare is candidate SWH. Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	•ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M of the Significant Wildlife Habitat Technical Guide (MNRF, 2000). •MNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities	•Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of the Significant Wildlife Habitat Technical Guide (MNRF, 2000). •Area of the ELC Vegetation Type polygon is the SWH. •SWH MIST Index #37 provides development effects and mitigation measures.	

Specialized Habitat for Wildlife					
Habitat Type	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Assessment of Habitat in EIA Study Area**
		ELC Ecosite Codes	**Habitat Criteria and Information Sources**	**Defining Criteria**	

Waterfowl Nesting Area **Rationale:** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4 NOTE Includes adjacency to Provincially Significant Wetlands	•A waterfowl nesting area extends 120 m from a wetland (>0.5 ha) or a wetland (>0.5 ha) and any small wetlands (0.5 ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur •Upland areas should be at least 120 m wide so that predators such as raccoons, skunks and foxes have difficulty finding nests •Wood Ducks and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites. <u>Information Sources</u> •Ducks Unlimited staff may know the locations of particularly productive nesting sites •MNRF Wetland Evaluations for indication of significant waterfowl nesting habitat •Reports and other information available from Conservation Authorities	Studies confirmed: •Presence of 3 or more nesting pairs for listed species excluding Mallards, or; •Presence of 10 or more nesting pairs for listed species including Mallards. •Any active nesting site of an American Black Duck is considered significant. •Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •A field study confirming waterfowl nesting habitat will determine boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest •SWH MIST Index #25 provides development effects and mitigation measures.	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **Rationale**: Nest sites are fairly uncommon in Eco - region 7E and are used annually by the se species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey SPECIAL CONCERN Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	•Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. •Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. •Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms) <u>Information Sources</u> •NHIC compiles all known nesting sites for Bald Eagles in Ontario •MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat •Nature Counts, Ontario Nest Records Scheme data. •OMNRF District. •Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented •Reports and other information available from Conservation Authorities. •Field Naturalists clubs	Studies confirm the use of these nests by: •One or more active Osprey or Bald Eagle nests in an area •Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important •For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on sight lines from the nest to the development and inclusion of perching and foraging habitat •To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid-August. •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •SWH MIST Index #26 provides development effects and mitigation measures	
Woodland Raptor Nesting Habitat **Rationale:** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper’s Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	•All natural or conifer plantation woodland/forest stands >30 ha with > 4 ha of interior habitat. Interior habitat determined with a 200 m buffer. •Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests, within tops or crotches of trees. Species such as Cooper’s Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. •In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest <u>Information Sources</u> •OMNRF Districts. •Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. •Check data from Bird Studies Canada. •Reports and other information available from Conservation Authorities.	Studies confirm: •Presence of one or more active nests from species list is considered significant •Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha areaof habitat is the SWH. The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest. •Barred Owl – A 200m radius around the nest is the SWH •Broad-winged Hawk and Coopers Hawk, – A 100m radius around the nest is the SWH •Sharp-Shinned Hawk – A 50m radius around the nest is the SWH •Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. •SWH MIST Index #27 provides development effects and mitigation measures	

Turtle Nesting Areas **Rationale:** These habitats are rare and when identified will often be the only breeding site for local populations of turtles	**Special Concern:** Midland Painted Turtle Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1, FEO1	•Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. •For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and is located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. •Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes and rivers are most frequently used. <u>Information Sources</u> •Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). •Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. •Natural Heritage Information Centre (NHIC). •Field naturalist clubs.	Studies confirm: •Presence of 5 or more nesting Midland Painted Turtles. •One ore more Northern Map Turtles or Snapping Turtles nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 to 100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. •Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 to 100 m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. •SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	
Seeps and Springs **Rationale:** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamanders	Seeps/springs are areas where groundwater comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	•Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system •Seeps and springs are important feeding and drinking areas. Especially in the winter will support a variety of plant and animal species. <u>Information Sources</u> •Topographical Map. •Thermography. •Hydrological surveys conducted by Conservation Authorities and MOECC. •Field Naturalists Clubs and landowners. •Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped	Studies confirm: •Presence of 5 or more nesting Midland Painted Turtles. •One ore more Northern Map Turtles or Snapping Turtles nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 to 100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. •Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 to 100 m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. •SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat. Field studies confirm: •Presence of a site with 2 or more seeps/springs should be considered SWH. •The area of an ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat •SWH MIST Index #30 provides development effects and mitigation measures	
Amphibian Breeding Habitat (Woodland). **Rationale:** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	•Presence of a wetland, pond or woodland pool (including vernal pools) >500 m2 (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. •Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <u>Information Sources</u> •Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records •Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. •OMNRF Districts and wetland evaluations •Field Naturalist clubs •Canadian Wildlife Service Amphibian Road Call Survey •Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm: •Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or egg masses) or 2 or more of the listed frog species with Call Level Codes of 3. •A combination of observational study and call count surveys will be required during the spring (Mar.-Jun.) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands •The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. •SWH MIST Index #14 provides development effects and mitigation measures	

Amphibian Breeding Habitat (Wetlands) **Rationale:** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bullfrog) may be adjacent to woodlands.	•Wetlands >500m2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats •Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators •Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> •Ontario Herpetofaunal Summary Atlas (or other similar atlases) •Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. •OMNRF Districts and wetland evaluations. •Reports and other information available from Conservation Authorities	Studies confirm: •Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant •The ELC ecosite wetland area and the shoreline are the SWH •A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. •If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. •SWH MIST Index #15 provides development effects and mitigation measures.	
Woodland Area -Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive inte rior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Pileated Woodpecker **Special Concern:** Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD	•Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha •Interior forest habitat is at least 200 m from forest edge habitat Information Sources: •Local birder clubs. •Canadian Wildlife Service (CWS) for the location of forest bird monitoring. •Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species •Reports and other information available from Conservation Authorities.	Studies confirm: •Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. •Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH •Conduct field investigations in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •SWH MIST Index #34 provides development effects and mitigation measures HABITATS OF SPECIES OF CONSERVATION CONCERN	

Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Habitat Type	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Marsh Breeding Bird Habitat **Rationale:** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Gallinule American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: all SW, MA and CUM1 sites	•Nesting occurs in wetlands. •All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present •For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water <u>Information Sources</u> •OMNRF District and wetland evaluations. •Field Naturalist clubs •Natural Heritage Information Centre (NHIC) Records. •Reports and other information available from Conservation Authorities. •Ontario Breeding Bird Atlas	Studies confirm: •Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 or more of the listed species •Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH •Area of the ELC ecosite is the SWH. •Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •SWH MIST Index #35 provides development effects and mitigation measures	

Open Country Bird Breeding Habitat **Rationale;** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern:** Short-eared Owl	CUM1 CUM2	•Large grassland areas (includes natural and cultural fields and meadows) >30 ha •Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years) •Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. •The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species <u>Information Sources</u> •Agricultural land classification maps, Ministry of Agriculture. •Local bird clubs. •Ontario Breeding Bird Atlas •EIS Reports and other information available from Conservation Authorities	Field studies confirm: •Presence of nesting or breeding of 2 or more of the listed species •A field with 1 or more breeding Short-eared Owls is to be considered SWH •The area of SWH is the contiguous ELC ecosite field areas •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •SWH MIST Index #32 provides development effects and mitigation measures	
Shrub/Early Successional Bird Breeding Habitat **Rationale;** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Species: Brown Thrasher Clay-coloured Sparrow Common Species: Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Chat Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	•Large field areas succeeding to shrub and thicket habitats >10 ha in size •Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years) •Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species •Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands <u>Information Sources</u> •Agricultural land classification maps, Ministry of Agriculture. •Local bird clubs. •Ontario Breeding Bird Atlas •Reports and other information available from Conservation Authorities	Field studies confirm: •Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species •A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat •The area of the SWH is the contiguous ELC ecosite field/thicket area. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” •SWH MIST Index #33 provides development effects and mitigation measures	
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus diogenes*)	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SWD, SWT, SWM CUM1 with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish	•Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish •Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water •Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well-formed. <u>Information Sources</u> •Information sources from “Conservation Status of Freshwater Crayfishes” by Dr. Premek Hamr for the WWF and CNF, March, 1998	Studies confirm: •Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites •Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH •Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult •SWH MIST Index #36 provides development effects and mitigation measures	
Special Concern and Rare Wildlife Species **Rationale:** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1, S2, S3, SH) plant and animal species. Lists of these species are tracked by the NHIC	All plant and animal element occurrences (EOs) within a 1 km or 10 km grid. Older EOs were recorded prior to GPS being available, therefore location information may lack accuracy.	•When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> •Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. •NHIC Website “Get Information”: http://nhic.mnr.gov.on.ca •Ontario Breeding Bird Atlas •Expert advice should be sought as many of the rare spp. Have little information available about their requirements	Studies confirm: •Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. •The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. •SWH MIST Index #37 provides development effects and mitigation measures	

Animal Movement Corridors					
Habitat Type	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Assessment of Habitat in EIA Study Area**
		ELC Ecosite Codes	**Habitat Criteria and Information Sources**	**Defining Criteria**	
Amphibian Movement Corridors **Rationale:** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	•Movement corridors between breeding habitat and summer habitat •Movement corridors must be determined when amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat, Wetland) <u>Information Sources</u> •MNRF District Office. •Natural Heritage Information Centre (NHIC). •Reports and other information available from Conservation Authorities. •Field Naturalist Clubs	•Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites •Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant •Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m •Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat •SWH MIST Index #40 provides development effects and mitigation measures	

Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 7E					
EcoDistrict, Habitat Type and Rationale	**Wildlife Species**	**Candidate SWH**		**Confirmed SWH**	**Assessment of Habitat in EIA Study Area**
		ELC Ecosite Codes	**Habitat Criteria and Information Sources**	**Defining Criteria**	
7E-2 **Bat Migratory Stopover Area** **Rationale:** Stopover areas for long distance migrant bats are important during fall migration	Hoary Bat Eastern Red Bat Silver-haired Bat	No specific ELC types.	• Long distance migratory bats typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. • This is the only known bat migratory stopover habitats based on current information. <u>Information Sources</u> • OMNRF for possible locations and contact for local experts • University of Waterloo, Biology Department	• Long Point (42°35'N, 80°30'E, to 42°33'N, 80°03'E) has been identified as a significant stop- over habitat for fall migrating Silver-haired Bats, due to significant increases in abundance, activity and feeding that was documented during fall migration. • The confirmation criteria and habitat areas for this SWH are still being determined. • SWH MIST Index #38 provides development effects and mitigation measures	

Appendix E-7

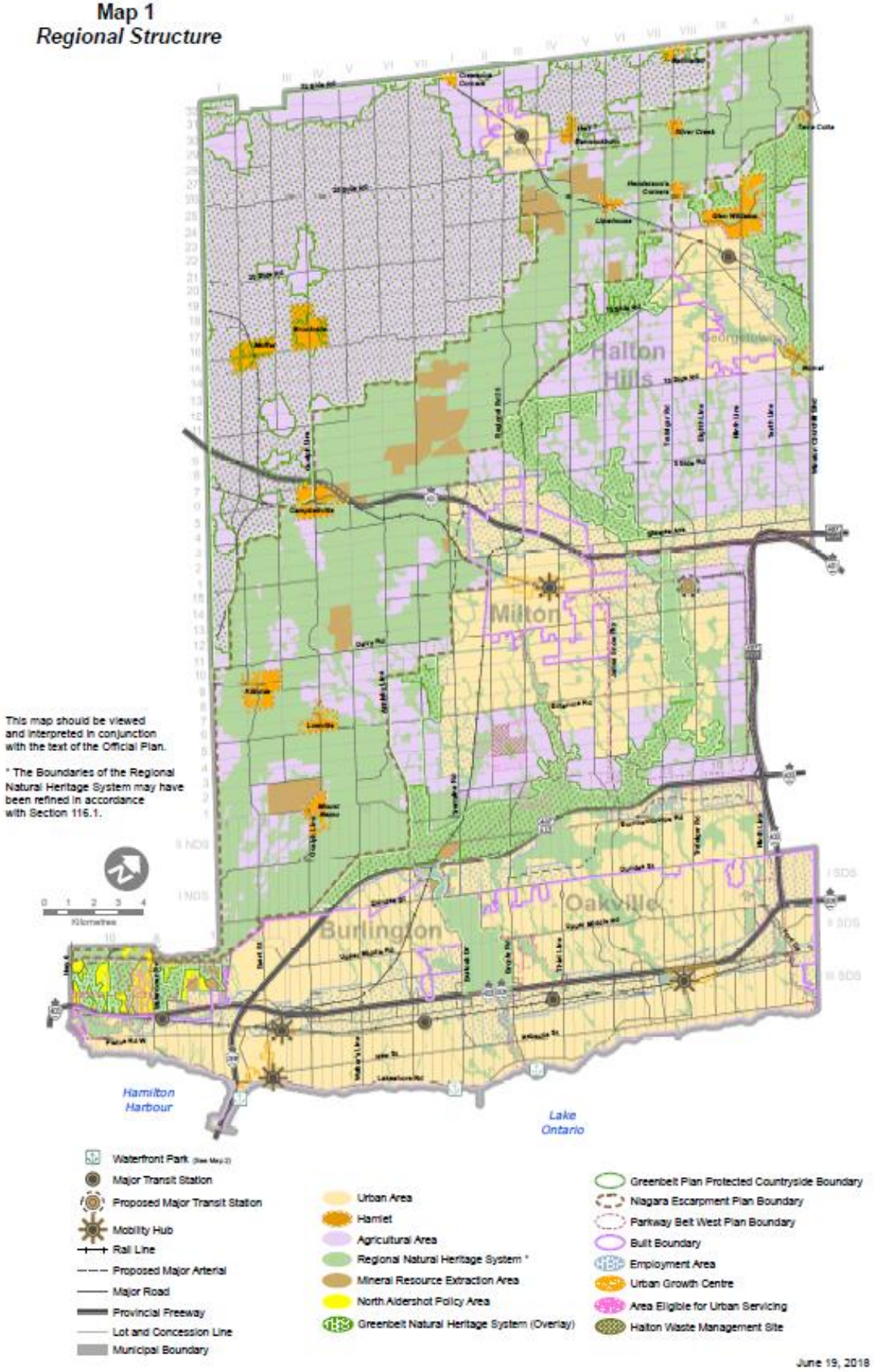
Species at Risk Screening Assessment Table

Endangered and Threatened Species									
Species	Source	Status	Habitat Description	Habitat Present on Site	Surveys Conducted	Likelihood of Occurrence and Rationale	Potential to be Impacted by Proposed Activities	Anticipated / Confirmed Compliance Requirements	Authorizing Agency Consultation / Status
Plants									
		SARA- ESA-							
Insects									
		SARA- ESA-							
Amphibians									
		SARA- ESA-							
Reptiles									
		SARA- ESA-							
Birds									
		SARA- ESA-							
Mammals									
		SARA- ESA-							

Special Concern Species							
Species	Source	Status	Habitat Description	Habitat Present on Site	Surveys Conducted	Likelihood of Occurrence and Rationale	Potential to be Impacted by Proposed Activities
Plants							
		SARA- ESA-					
Insects							
		SARA- ESA-					
Amphibians							
		SARA- ESA-					
Reptiles							
		SARA- ESA-					
Birds							
		SARA- ESA-					
Mammals							
		SARA- ESA-					

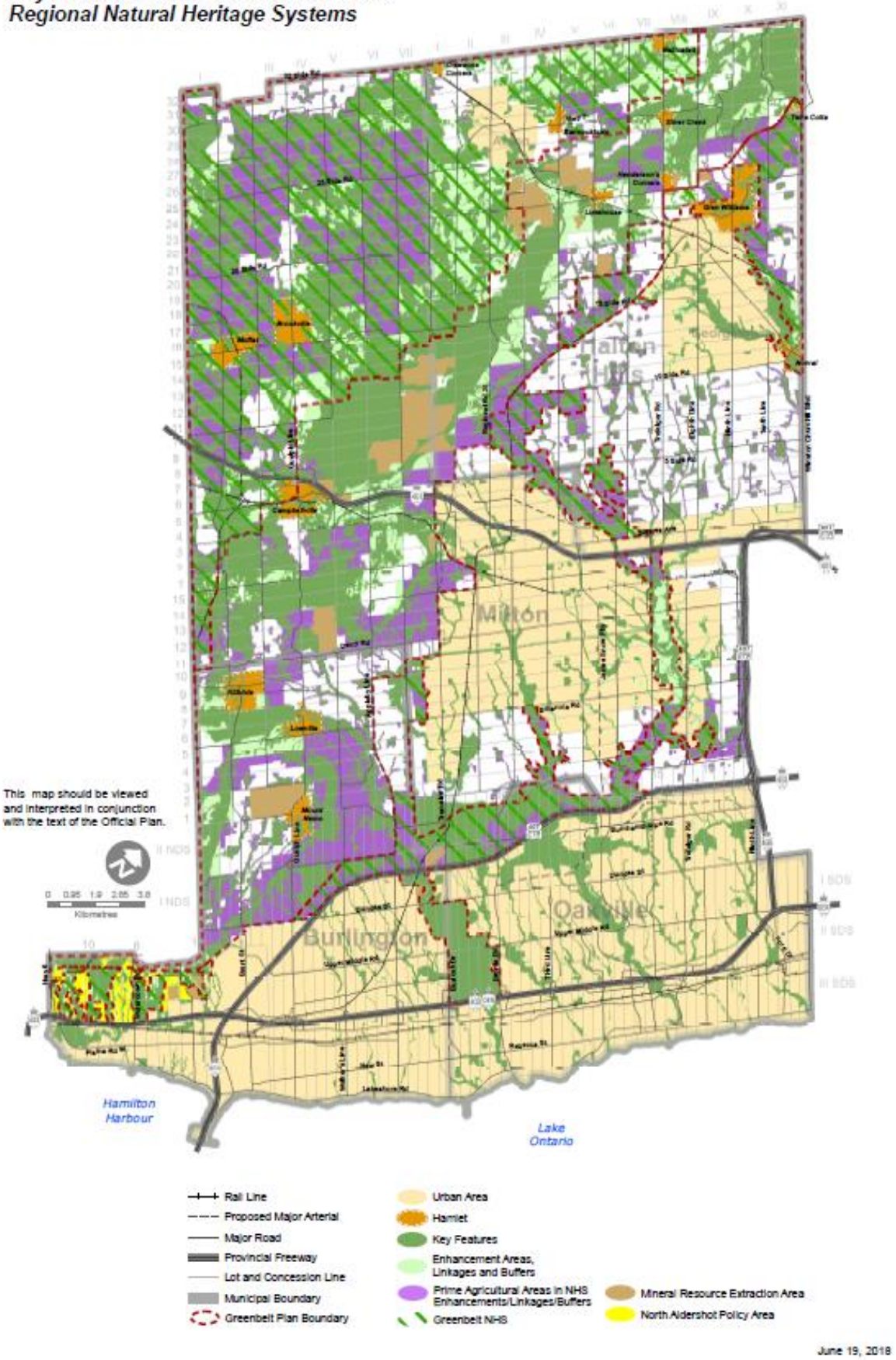
Appendix F: Maps from the Region's Official Plan

Map 1
Regional Structure



June 19, 2018

Map 1G
Key Features within the Greenbelt and Regional Natural Heritage Systems



June 19, 2018