

# Myler Ecological Consulting

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19 May 2023

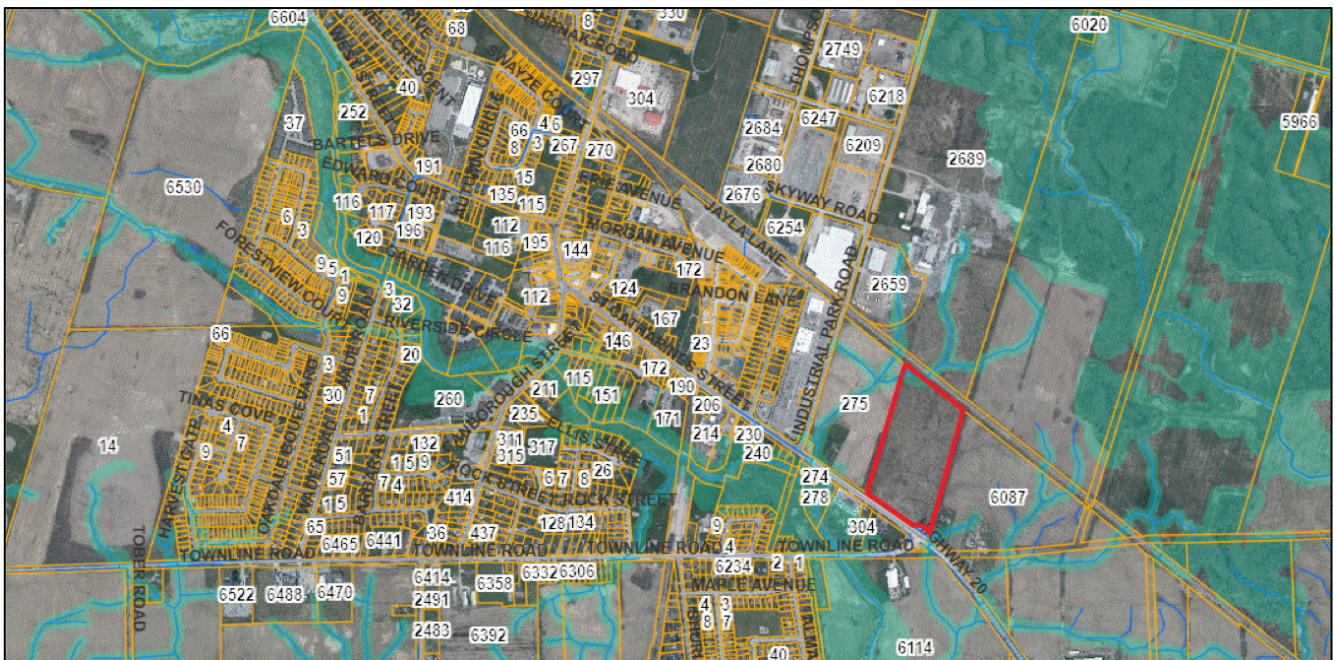
Kainthville Holdings Inc.  
c/o: Prato Developments Inc.  
102 Russ Road, Grimsby, ON L3M 4E7

Attention: Enzo Prato

**RE: Constraint Analysis and Scoped Environmental Impact Study – Zoning Bylaw Amendment for Proposed Development of South Grimsby Concession 9, Part Lot 5, in Smithville (Town of West Lincoln), Ontario.**

## INTRODUCTION

Myler Ecological Consulting (Myler) was retained by Kainthville Holdings Inc., c/o Prato Developments Inc., to conduct a Constraint Analysis and Scoped Environmental Impact Study (EIS) in support of the Zoning Bylaw Amendment (ZBA) for proposed development of the property at South Grimsby Road Concession 9, Part Lot 5, in the community of Smithville, Town of West Lincoln, Ontario (the site). The location and extent of the site is depicted on **Figure 1**, below.



**Figure 1:** The site (red outline) on an excerpt of NPCA Watershed Explorer mapping, showing its location within southeast Smithville and the segment of regulated watercourse that crosses through its northwest corner.

The Constraint Analysis and Scoped EIS was triggered by the occurrence of the watercourse segment, including its designation as fish habitat that requires a buffer/setback and agency interest in confirming the potential occurrence of wetland on its banks.

## PRE-CONSULTATION

Pre-consultation was held twice for this project:

- On 16 September 2021, at which Region comments noted that the East Smithville Secondary Plan was underway, rendering the proposal premature in the Region’s opinion, and requesting a subsequent pre-consultation. Region comments noted the occurrence of the watercourse, designated Type 2 (Important) Fish Habitat in the site’s northwest corner. Region comments confirmed that a small treed area on the site that had formerly been designated significant woodland had been shown not to meet significance criteria in Secondary Plan studies and was no longer designated. NPCA comments included identification of the regulated watercourse and a possible area of unevaluated wetland in the site’s northwest corner. NPCA identified the need for a technical evaluation or ground-truthing of the presence/absence of the potential wetland area in order to inform the need for an EIS and possibly for a wetland buffer.
- On 17 March 2022, at which Region staff noted that the proposed 10 metre watercourse buffer would need to be justified in an EIS. NPCA comments included support for the 10 metre watercourse buffer as consistent with NPCA policy for Type 2 (Important) Fish Habitat. NPCA requested a spring vegetation survey and Ecological Land Classification (ELC) vegetation community mapping to further assess the potential occurrence of wetland and indicated that, should wetland be present, it would need to be staked and surveyed as a development constraint.

The resulting approved Terms of Reference (ToR) for this Constraint Analysis and Scoped EIS are attached. They include vegetation inventory and ELC mapping to investigate wetland presence/absence to address NPCA requirements and observations and assessment of the watercourse fish habitat characteristics to address Region policy requirements in support of the proposed 10 metre watercourse buffer.

## CONSTRAINT ANALYSIS – WETLAND PRESENCE/ABSENCE

Myler visited the site to investigate wetland presence/absence on 22 September 2021, several days after the first pre-consultation. Myler’s 24 September 2021 email to NPCA Watershed Planner Nikolas Wensing described the following findings:

“I visited the site on Wednesday to ground-truth the ELC mapping and found an upland vegetation community where **MAX** is mapped on site. The vegetation in that area is indistinguishable from surrounding areas on the site (i.e., post-agricultural cultural meadow with scattered small, young inclusions of Gray Dogwood shrub thicket) except that it contains more extensive Wild Black Raspberry, which is an upland species. The tiny watercourse is incised and the flanking area above its banks is high, dry and dominated by terrestrial vegetation. Additionally, due to watercourse gradient across the corner of the property and downstream on the adjacent property, and the upstream presence of the railbed and railway culvert, it doesn’t appear that the area mapped as **MAX** on the property is subject to seasonal or periodic flooding.

On this basis, would NPCA be willing to lift the wetland comments and requirements?”

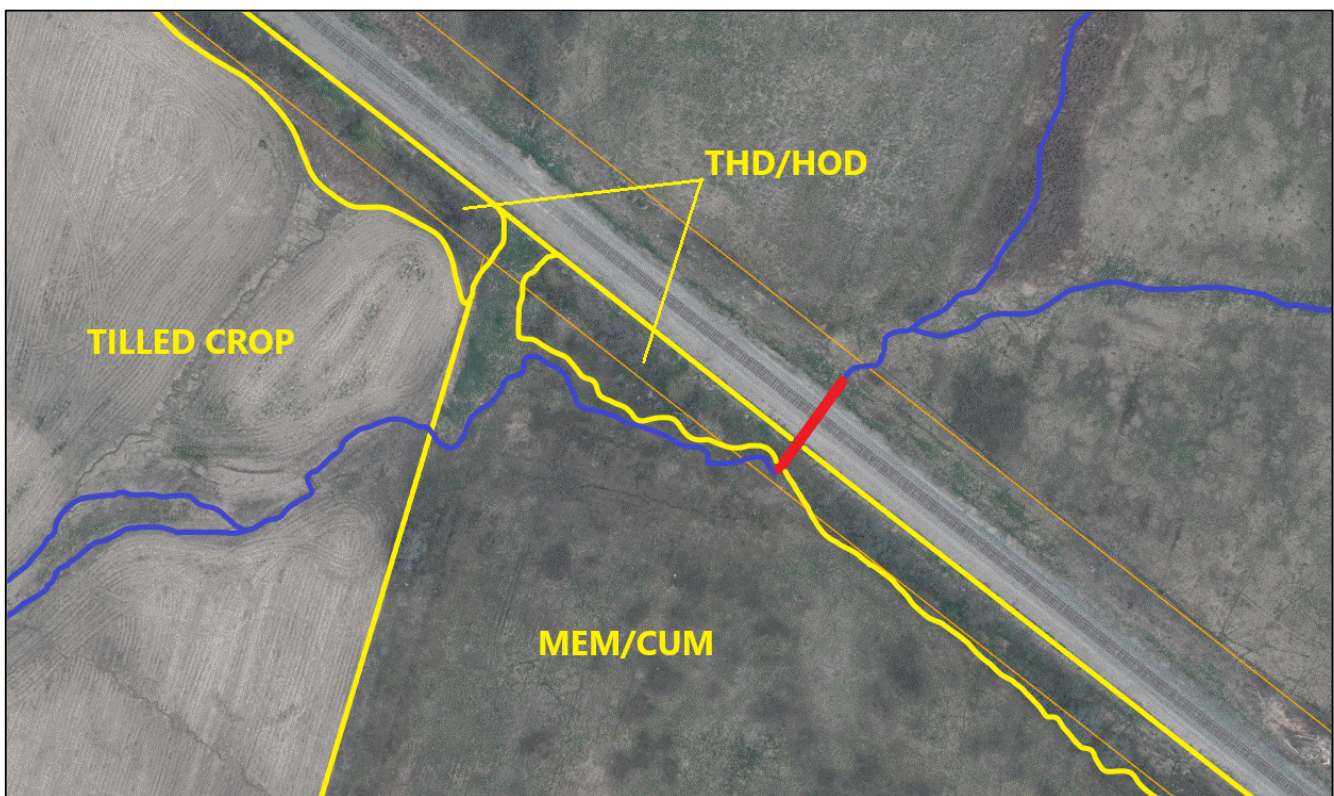
NPCA requested a site visit to be attended by their newly hired ecologist Theresa Bukovics, which Myler and Ms. Bukovics undertook on 17 December 2021. As NPCA hadn’t seen the site during the growing season, they requested after the site visit and subsequently in comments at the March 2022 pre-consultation that a supplementary spring vegetation survey and ELC mapping be completed.

Myler returned to the site on 15 May 2022 to conduct the vegetation survey and ELC mapping in the area tentatively mapped by NPCA as **MAX/MEM** or Marsh / Mixed Meadow, with follow-up visits on 10 June 2022 and 16 July 2022 to further confirm identification of some of the observed plants.

Thirty plant species were observed adjacent to the watercourse in the NPCA MAX/MEM polygon (plant species list attached), including 2 tree species (represented by single small specimen of each), 5 shrub species, and 23 species of herbaceous grasses, wildflowers, and weeds.

Except for a small clump of Reed Canary Grass in tractor ruts near the watercourse, the observed plant species are indicative of upland conditions consistent with the MEM or Mixed Meadow community designation but not satisfying criteria to be considered MAX wetland community.

The resulting confirmed ELC mapping of the site's northwest corner containing the watercourse is provided as **Figure 2**, below.



**Figure 2:** Confirmatory ELC mapping at the site's northwest corner showing the regulated watercourse (blue line), culvert crossing beneath the adjacent railway (red line), mixed meadow (MEM) or cultural meadow (CUM) on the site's agricultural field and on the artificial earthen ramp from the site up to the railbed, tilled crop on the westerly neighbour's field, and deciduous shrub thicket (THD) or hedgerow (HOD) along the boundary with the railway.

Representative photographs are provided below that depict the setting and character of the site's northwest corner.



**Photo 1:** A view across the site’s mixed/cultural meadow to the watercourse and suspected wetland location in the site’s northwest corner (10 June 2022).



**Photo 2:** Facing upstream on the watercourse segment, the tiny, incised channel of which is obscured by meadow plants. The riparian area’s single Elm and single Manitoba Maple are evident. A small drift of Reed Canary Grass is visible in tractor ruts. Upland mixed meadow vegetation is visible everywhere else except for the shrubby thicket/hedgerow in the background along the railway lands boundary (10 June 2022).

**WATERCOURSE / FISH HABITAT ASSESSMENT**

Representative photographs taken on 15 May 2022 are provided below to depict conditions of the watercourse, its character and context.



**Photo 3:** The iron pipe railway culvert at the head of the watercourse segment at the site and its little scour pool. The downstream channel is in the photo background, perpendicular to the culvert orientation.



**Photo 4:** Facing downstream along the watercourse channel in May, showing its narrow and incised profile prior to it being obscured by later growth of meadow plants.



**Photo 5:** Facing upstream on the dry watercourse channel at the base of the artificial earthen ramp to the railway, near where it exits the site. Note the miniscule channel dimensions.



**Photo 6:** Looking downstream on the westerly neighbour's lands, showing the watercourse channel's miniscule dimensions, lack of sorted substrates, lack of flow, tiny shallow standing pools, and lack of potential cover for fish.

The watercourse is designated Type 2 (Important) Fish Habitat by the Ontario Ministry of Natural Resources and Forestry (MNR). A search of online Provincial Aquatic Resource Area (ARA) mapping revealed no records of fish community data collection except in the downstream Twenty Mile Creek

receiving water. As such, it appears that the character and fish habitat function of the watercourse had been designated, but not fully ground-truthed.

Baseline fisheries characterization as part of the Crozier Consulting Engineers Natural Heritage Constraints Analysis for the East Smithville Secondary Plan was conducted by Azimuth Environmental Consulting's Fisheries Biologist, Mike Gillespie. Mr. Gillespie referred to the watercourse as a Headwater Drainage Feature (HDF) and applied the HDF Protocol to assess the watercourse. He noted that no fish were observed in the shallow waters of the HDF and noted the clay substrates and the lack of sorted and specialized substrates. He speculated that the watercourse flow regime could be intermittent, and concluded that although the watercourse is connected to Twenty Mile Creek it appeared likely that only about an 80 metre length of channel north of St. Catharines Street would be usable by any fish that might make their way up into the watercourse and that "areas available to fish are very limited, and habitat is of low quality". He further noted that Department of Fisheries and Oceans (DFO) online Aquatic Species at Risk mapping includes the HDF, as a tributary of Twenty Mile Creek, in the possible distribution of Grass Pickerel, a Special Concern fish species that inhabits Twenty Mile Creek but has not been confirmed in the HDF and, given the Azimuth assessment, would only be expected to occur in at most the lowermost 80 metres of channel.

Accordingly, the segment of the HDF or watercourse on the site was not identified as direct fish habitat, being upstream of the area determined by Azimuth and Crozier to be accessible to and usable by fish. The lack of observed fish or potentially usable fish habitat, the intermittent and miniscule flow conditions, and the low quality and unspecialized habitat conditions are consistent with only a marginal HDF conveyance function, and not with Type 2 (Important) Fish Habitat designation. Given these observations and conclusions by the fisheries biologist, it is puzzling why Crozier nevertheless subsequently recommended 15 metre buffers on Secondary Plan HDFs.

Myler observed the watercourse on the following dates:

- 22 September 2021 – initial reconnaissance.
- 20 October 2021 – visit with surveyor to more accurately flag and survey the watercourse segment and the railway culvert location.
- 17 December 2021 – visit with NPCA Ecologist Theresa Bukovics.
- 15 May 2022 – spring watercourse observations and wetland vegetation investigation.
- 10 June 2022 – spring watercourse observations and wetland vegetation follow-up observations.
- 16 July 2022 – summer watercourse observations and wetland vegetation follow-up observations.

Myler's observations of the watercourse in 2021 and 2022 confirmed its intermittent flow character, as there was no flow and only small, shallow pools during 15 May 2022 and 10 June 2022 site visits, and by 16 July 2022 the entire on-site segment of the watercourse was completely dry.

Myler saw no fish in the watercourse's clear pools during any of the site visits and likewise observed no specialized substrates or habitat. Myler's observations of the channel confirmed tiny dimensions (i.e., 1-1.5 metres total width and at most approximately 0.5 metres wetted width except for the scour pool), shallow water depth (i.e., <10 centimetres in pools, except for the ~20 centimetre deep scour pool) and a lack of instream cover. Myler's observations agree with the Azimuth conclusions regarding the unlikely occurrence of fish in any but the lowermost reach of the watercourse and with the conclusion that the habitat is of low quality and provides only a conveyance function.

As such, the segment of watercourse at the site is not of a quality or function consistent with Type 2 (Important) Fish Habitat. As a fishless segment of diminutive HDF, a 15 metre buffer is excessive and a 10 metre vegetated buffer is more than sufficient to protect against erosion and degradation of water quality

and to produce unfortunate invertebrates that may sometimes be washed downstream where they may be consumed by fish in Twenty Mile Creek or in that potentially accessible lower 80 metres of HDF.

In terms of policy compliance of a 10 metre watercourse buffer, with the March 2022 pre-consultation the natural heritage transition provisions of the new Niagara ROP apply, so the buffer must be in compliance with 2018 Regional Official Plan (ROP) natural heritage policies. The 2018 ROP applies a 15 metre buffer and adjacent lands distance to “Other Fish Habitat” (i.e., Type 2 and 3), but 7.B.1.15 allows for a buffer reduction if it can be demonstrated via EIS that there will be no harm to fish and fish habitat. On that basis, the Region indicated the need for this scoped EIS.

The NPCA 2018 Policy Doc was in force at the time of the March 2022 pre-consultation and NPCA staff expressed support for the proposed 10 metre watercourse buffer in their pre-consultation comments. The 2018 NPCA policies apply a 10 meter buffer to watercourses with Type 2 and Type 3 Fish Habitat, with scope for reduction down to 5 metres. The current 2022 NPCA policies apply a 15m buffer to watercourses with Type 2 and Type 3 Fish Habitat, but still provide scope for justified reduction. Interestingly, the 2022 policies do not specify a minimum reduced buffer width.

Rationale for the proposed buffer reduction from 15 metres to 10 metres is based on Myler’s 2021 and 2022 observations which include:

- Intermittent flow condition.
- Miniscule channel dimensions, wetted width, and water depth.
- Lack of cover for fish within the miniscule channel.
- Poor connectivity to lower reaches of the tributary and to Twenty Mile Creek due to very poor channel structure and lack of cover and water depth where the tributary crosses the tilled farm field on the westerly neighbouring property.
- Lack of potential specialized or sensitive fish habitats (e.g., spawning and nursery areas).
- No fish observed.

These observations are consistent with those of the Azimuth fisheries biologist who assessed the reach of the watercourse downstream of the site as an HDF.

In conclusion, the on-site watercourse segment is not direct fish habitat and is only “contributing” or “indirect” fish habitat as a conveyance feature (i.e., flow and “nutrients”). That is not consistent with Type 2 (Important) Fish Habitat. It is not as sensitive even as Type 3 (Marginal) Fish Habitat or as a Headwater Drainage Feature as to require a 15 metre buffer to maintain that indirect or contributing function. A 10 metre buffer, consistent with the 2018 NPCA Policy Document, is more than sufficient.

## **CONCLUSIONS AND RECOMMENDATIONS**

Myler’s investigation of the vegetation in the site’s northwest corner confirmed the absence of wetland. As such, there is no need to stake wetland limits or apply a wetland buffer to the limit of development.

Myler’s observations of the watercourse, supplemented by review of the assessment and observations completed by Azimuth in support of the East Smithville Secondary Plan, confirmed that a 10 metre watercourse buffer will be more than sufficient to protect the quality and function of the feature in consideration of the absence of fish, its intermittent flow regime, and its diminutive channel dimensions.

The mixed meadow riparian area adjacent to the watercourse, particularly along its southern bank, includes many exotic weed species, the most noxious of which is the numerous Wild Parsnip, which is a



hazard to people and not particularly beneficial to wildlife. Further the proposed buffer area currently possesses only two small trees, an American Elm and a Manitoba Maple and only a few native shrub species. Accordingly, it is recommended that the buffer be enhanced via introduction of a greater number and diversity of native trees, shrubs, and herbaceous plants, and that mechanical and/or chemical measures be employed to suppress the occurrence and abundance of the Wild Parsnip and to mechanically remove specimens of Buckthorn and Honeysuckle in favour of native species. Monitoring of the success of the buffer plantings and of the noted exotic species measures is recommended for a period of three years. Details of the buffer planting plan and monitoring requirements are expected to be confirmed at the Site Plan stage.

Please contact me with any questions.

Sincerely,



**Barry Myler**  
**Biologist**

**Botanical Inventory - Kainthville Holdings Inc. - South Grimsby, Conc 9, Pt Lot 5 - Town of Smithville**

Scientific Name	Common Name	Niagara Status NAI (2010)	SRANK
<b>Trees</b>			
<i>Acer negundo</i>	Manitoba Maple	Common (Native)	S5
<i>Ulmus americana</i>	American Elm	Common (Native)	S5
<b>Shrubs &amp; Vines</b>			
<i>Cornus foemina</i>	Gray Dogwood	Common (Native)	S5
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	Introduced (Common)	SE5
<i>Rhamnus cathartica</i>	Common Buckthorn	Introduced (Common)	SE5
<i>Rubus idaeus</i> ssp. <i>melanolasius</i>	Wild Red Raspberry	Common (Native)	S5
<i>Rubus occidentalis</i>	Black Raspberry	Common (Native)	S5
<b>Herbaceous Plants</b>			
<i>Arctium minus</i>	Common Burdock	Introduced (Common)	SE5
<i>Asclepias syriaca</i>	Common Milkweed	Common (Native)	S5
<i>Barbarea vulgaris</i>	Winter Cress	Introduced (Common)	SE5
<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	Spotted Knapweed	Introduced (Uncommon)	SE5
<i>Cirsium arvense</i>	Canada Thistle	Introduced (Common)	SE5
<i>Cirsium vulgare</i>	Bull Thistle	Introduced (Common)	SE5
<i>Cyperus esculentus</i>	Yellow Nut Sedge	Uncommon (Native)	S5
<i>Daucus carota</i>	Wild Carrot	Introduced (Common)	SE5
<i>Dipsacus fullonum</i>	Common Teasel	Introduced (Common)	SE5
<i>Geum canadense</i>	White Avens	Common (Native)	S5
<i>Hesperis matronalis</i>	Dame's Rocket	Introduced (Common)	SE5
<i>Pastinaca sativa</i>	Wild Parsnip	Introduced (Uncommon)	SE5
<i>Phalaris arundinacea</i>	Reed Canary Grass	Introduced (Common)	SE5
<i>Phleum pratense</i>	Timothy	Introduced (Common)	SE5
<i>Poa pratensis</i> ssp. <i>pratensis</i>	Kentucky Blue Grass	Introduced (Common)	SE5
<i>Solidago altissima</i>	Late Goldenrod	Common (Native)	S5
<i>Solidago canadensis</i>	Canada Goldenrod	Common (Native)	S5
<i>Sonchus arvensis</i>	Perennial Sow-thistle	Introduced (Common)	SE5
<i>Symphyotrichum ericoides</i>	Heath Aster	Common (Native)	S5
<i>Symphyotrichum lanceolatum</i>	Panicled Aster	Common (Native)	S5
<i>Symphyotrichum novae-angliae</i>	New England Aster	Common (Native)	S5
<i>Trifolium pratense</i>	Red Clover	Introduced (Common)	SE5
<i>Vicia cracca</i>	Cow Vetch	Introduced (Common)	SE5

**Environmental Impact Study (EIS) Requirements**

Proponent: Kainthville Holdings Inc.	Date: 18 May 2022	File #:
Property Address: South Grimsby, Conc. 9, Pt Lot 5	Municipality: West Lincoln	
Type of Application: ZBA	Completed By: Barry Myler	

Is the subject site **located within an Urban or Rural area?**

<input checked="" type="checkbox"/> Urban Area	<input type="checkbox"/> Rural Area	<input type="checkbox"/> Hamlet
Details: East Smithville Secondary Plan Area		

Is the subject site **identified in the Provincial Natural Heritage System?**

<input checked="" type="checkbox"/> No	<input type="checkbox"/> Places to Grow Act	<input type="checkbox"/> Greenbelt Plan	<input type="checkbox"/> NEC
Details ( <i>Designations</i> ):			

Is the subject site **located within an identified Agricultural Area?**

<input checked="" type="checkbox"/> No	<input type="checkbox"/> Good General Agricultural Area	<input type="checkbox"/> Unique Agriculture Area
Details: Within urban boundary in the East Smithville Secondary Plan Area		

Is the subject site **regulated by another agency?**

<input type="checkbox"/> No	<input checked="" type="checkbox"/> NPCA	<input type="checkbox"/> MECP	<input type="checkbox"/> MNRF	<input type="checkbox"/> NEC	<input type="checkbox"/> Other (Please Specify)
Details: Regulated watercourse segment and suspected “MAX” unevaluated wetland in NW corner.					

Was a Site Visit Conducted?

- Yes      Date: 17 December 2021
  - No      Staff Member: NPCA biologist Theresa Bukovics
- Details: NPCA requested a site visit to view the watercourse and vegetation.

Ecological Land Classification (ELC) Vegetation Communities identified on Mapping:

NPCA ELC mapping showed MAX/MEM adjacent to watercourse, MEM on balance of site, THD and HOD on site boundaries.
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**Natural Heritage features identified or likely to exist:**

*Environmental Protection Area (EPA)*

	Feature	Located <b>On</b> and/or <b>Adjacent</b> Subject Property	Details
<input type="checkbox"/>	Provincially Significant Wetland (PSW)	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Name:
<input type="checkbox"/>	Provincially Significant Life Science Area of Natural and Scientific Interest (ANSI)	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Name:
<input type="checkbox"/>	Significant Habitat of Threatened or Endangered Species	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Species:
<input type="checkbox"/>	Key Natural Heritage features within the Greenbelt Natural Heritage System	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Feature:

*Environmental Conservation Area (ECA)*

	Feature	Located <b>On</b> and/or <b>Adjacent</b> Subject Property	Details
<input type="checkbox"/>	Significant Woodlands	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Criteria: <input type="checkbox"/> Significant Wildlife Habitat <input type="checkbox"/> ANSI <input type="checkbox"/> Other <input type="checkbox"/> Environmentally Sensitive Area <input type="checkbox"/> Interior Habitat <input type="checkbox"/> Old Growth <input type="checkbox"/> Rare Species <input type="checkbox"/> Size: <input type="checkbox"/> Water <input type="checkbox"/> Wetland
<input type="checkbox"/>	Significant Wildlife Habitat	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Details:
<input type="checkbox"/>	Significant Habitat of Species of Concern	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Species:
<input type="checkbox"/>	Significant Valleylands	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Details:
<input type="checkbox"/>	Other Evaluated Wetland ( <i>Non-Provincially Significant</i> )	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Name:

<input type="checkbox"/>	Regionally Significant Life Science ANSI	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Name:
<input type="checkbox"/>	Publicly Owned Conservation Lands	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Details:
<input type="checkbox"/>	<input type="checkbox"/> Savannah <input type="checkbox"/> Tallgrass Prairie <input type="checkbox"/> Alvar <input type="checkbox"/> Dune	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Details:
<input type="checkbox"/>	Regional Local Amendment	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input type="checkbox"/> Both	Details:

**Fish Habitat**

	Feature	Located <b>On</b> and/or <b>Adjacent</b> Subject Property	Details
<input checked="" type="checkbox"/>	Fish Habitat <input checked="" type="checkbox"/> Reach (Watercourse) <input type="checkbox"/> Area (Pond/Lake)	<input type="checkbox"/> On <input type="checkbox"/> Adjacent <input checked="" type="checkbox"/> Both	Fish Habitat Classification: (identified by MNRF) <input type="checkbox"/> 1: Critical <input checked="" type="checkbox"/> 2: Important <input type="checkbox"/> 3: Marginal Details:

**Candidate Significant Wildlife Habitat (Study must determine presence/absence):**

Seasonal Concentration Areas of Animals:

<input type="checkbox"/> Waterfowl Stopover and Staging Areas (Terrestrial and Aquatic)	<input type="checkbox"/> Colonially Nesting Bird Breeding Habitat (Bank and Cliff/ Tree/ Shrub/ Ground)	<input type="checkbox"/> Reptile Hibernacula
<input type="checkbox"/> Shorebird Migratory Stopover Area	<input type="checkbox"/> Turtle Wintering Area	<input type="checkbox"/> Deer Winter Congregation Area
<input type="checkbox"/> Raptor Wintering Area	<input type="checkbox"/> Bat Hibernacula	<input type="checkbox"/> Deer Yarding Area
<input type="checkbox"/> Landbird Migratory Stopover Area	<input type="checkbox"/> Bat Maternity Colonies	
<input type="checkbox"/> Migratory Butterfly Stopover Area	<input type="checkbox"/> Bat Migratory Stopover Area	

Rare Vegetation Communities:

<input type="checkbox"/> Cliff and Talus Slope	<input type="checkbox"/> Old Growth Forest	<input type="checkbox"/> Other
<input type="checkbox"/> Sand Barren	<input type="checkbox"/> Savannah	
<input type="checkbox"/> Alvar	<input type="checkbox"/> Tallgrass Prairie	

Specialized Habitat for Wildlife:

<input type="checkbox"/> Waterfowl Nesting Area	<input type="checkbox"/> Woodland Raptor Nesting Habitat	<input type="checkbox"/> Seeps and Springs
<input type="checkbox"/> Bald Eagle and Osprey Nesting, Foraging, Perching Habitat	<input type="checkbox"/> Turtle Nesting Areas	<input type="checkbox"/> Amphibian Breeding Habitat – Woodland and Wetland

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

<input type="checkbox"/> Marsh Bird Breeding Habitat	<input type="checkbox"/> Shrub/Early Successional Bird Breeding Habitat	<input type="checkbox"/> Special Concern and Rare Wildlife Species
<input type="checkbox"/> Open Country Bird Breeding Habitat	<input type="checkbox"/> Terrestrial Crayfish	

Animal Movement Corridors

<input type="checkbox"/> Amphibian Movement Corridors	<input type="checkbox"/> Bat Migratory Stopover Area	<input type="checkbox"/> Deer Movement Corridors
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Has the property been identified as a Groundwater Protection Area (HVA)?

Yes

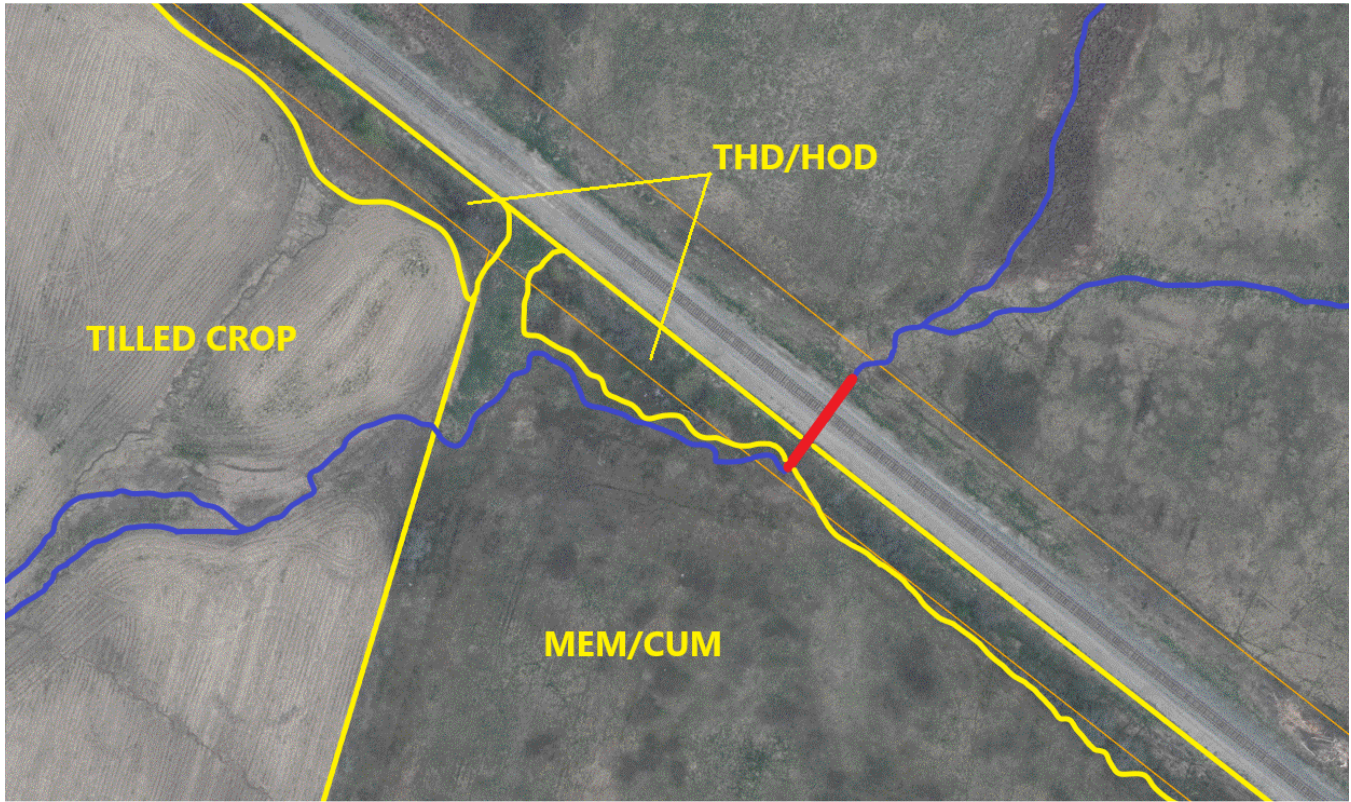
No

Details: \_\_\_\_\_

**Additional Comments/Details:**

Per the 17 March 2022 Pre-Consultation Notes, the scoped EIS is required to assess and justify the proposed 10 metre watercourse buffer.

**Aerial Map:**



**NW corner of site showing the segment of watercourse that crosses onto the site beneath the adjacent railway in a small iron pipe culvert. When flow is present, it flows westward across the site's mixed/cultural meadow where it is deflected briefly southward by a historical earthen ramp that connects to the railway, before crossing into the westerly neighbour's tilled crop field.**

## Required Field Surveys

(Any relevant information gathered from existing studies conducted within the last 5 years should be discussed to determine whether they are suitable to replace some of the requirements below)

	Field Surveys	General Timing Window	Protocol	Notes
<input checked="" type="checkbox"/>	<b>Ecological Land Classification (ELC) mapping, including soils (to support wetland presence/absence constraints analysis for NPCA)</b>	Spring to Fall (i.e., generally May to October)	Ecological Land Classification for Southern Ontario (Lee et al., 1998)	Undertake ecological land classification down to eco-element (vegetation type).
<input checked="" type="checkbox"/>	<b>Botanical Inventory (floral species list) (to support wetland presence/absence constraints analysis for NPCA)</b>	<input type="checkbox"/> Single Season <input type="checkbox"/> Two Season (Spring/Summer & Fall) <input checked="" type="checkbox"/> <b>Three Season (Spring/Summer/Fall)</b> <input type="checkbox"/> Other	Systematic searches	Must be completed for each ELC community, with particular attention to presence/absence and habitat for rare (local and S1-S3) species and SAR.
<input type="checkbox"/>	Breeding Birds	<ul style="list-style-type: none"> <li>• Between May 24<sup>th</sup> and July 10<sup>th</sup>;</li> <li>• Two surveys spaced 10 days apart;</li> <li>• Anytime between dawn and 5 hours after dawn.</li> </ul>	Ontario Breeding Bird Atlas – Guide for Participants (2001)	<ul style="list-style-type: none"> <li>• Counts should <i>not</i> be done if it is raining, there is thick fog, or if winds are greater than 19km/hr;</li> <li>• If unseasonably warm or cold conditions are encountered in the spring, survey dates may need to be adjusted.</li> </ul>



<input type="checkbox"/>	<p>Amphibians: Frogs and Toads</p>	<p>Three rounds of surveys between the following dates at least 15 days apart:</p> <ul style="list-style-type: none"> <li>➤ April 15<sup>th</sup> – April 30<sup>th</sup> (when night-time air temp exceeds 5°C)</li> <li>➤ May 15<sup>th</sup> – May 30<sup>th</sup> (when night-time air temp exceeds 10°C)</li> <li>➤ June 15<sup>th</sup> – June 30<sup>th</sup> (when night-time air temp exceeds 17°C)</li> </ul>	<p>Marsh Monitoring Program Participant’s Handbook for Surveying Amphibians (Environment Canada, 2008)</p>	<ul style="list-style-type: none"> <li>• Dates provided as a guideline, as air temperature and lack of wind are the most important variables;</li> <li>• If unseasonably warm or cold conditions are encountered in the spring, survey dates may need to be adjusted;</li> <li>• Favourable conditions consist of nights that are damp, foggy or have light rain falling. Persistent or heavy rainfall and nights with strong winds are to be avoided;</li> <li>• Surveys can begin half hour after sunset and end before midnight;</li> <li>• Each station is surveyed for three minutes;</li> <li>• Additional amphibian breeding habitat surveys may be required based on the results of the calling surveys.</li> </ul>
<input type="checkbox"/>	<p>Bats</p>	<p>Spring, Fall or Winter (i.e., both leaf-off and leaf-on periods)</p>	<p>Criteria from the <i>Significant Wildlife Technical Guide (MNRF 2000)</i> in conjunction with methods outlined by MNRF Guelph District (<i>Recommended Approach for Surveying Buildings and Survey method for SAR Bats within Treed Habitats – Please contact MECP for protocols and field data sheets</i>)</p>	<ul style="list-style-type: none"> <li>• Surveys to identify potentially suitable habitat should be completed prior to June;</li> <li>• If suitable maternity roost habitat is identified, separate acoustic surveys in the month of June may be recommended by MECP;</li> <li>• Please contact the MECP for protocols, field data sheets, and guidance.</li> </ul>

<input type="checkbox"/>	Deer	Variable depending on survey effort	<ul style="list-style-type: none"> <li>• Some information pertaining to the habitat specification of winter deer yards is available in the <i>Forest Management Guidelines for the Provisions of White-tailed Deer Habitat</i>;</li> <li>• More information pertaining to protocols that can be used to monitor deer populations is available in the <i>Wildlife Monitoring Programs and Inventory Techniques for Ontario</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Correspondence with the MNRF is required in order to confirm survey protocols and details on the evaluation of winter deer yards;</li> <li>• To confirm the presence of deer migration corridors, transects can be completed in order to evaluate the use of habitat in relation to a study area.</li> </ul>
<input type="checkbox"/>	Meander Belt Study	Variable	Meander Belt Width Delineation Protocol (Toronto and Region Conservation Authority, Revised 2004)	
<input type="checkbox"/>	Migratory Bird Survey	Spring Surveys (March to May) and Fall Surveys (August to October)	Bird and Bird Habitats: Guidelines for Wind Power Projects (MNRF, 2011)	

<input checked="" type="checkbox"/>	<b>Fisheries Assessment</b>	<input type="checkbox"/> Headwater Drainage Features Assessment	Evaluation, Classification and Management of Headwater Drainage Features Guidelines (CVC & TRCA, 2013)	<ul style="list-style-type: none"> <li>• Habitat assessments follow the methods outlines in the OSAP Protocol;</li> <li>• Aquatic habitat characterization should identify potential baseflow sources, barriers to fish migration and general habitat quality;</li> <li>• Physical stream measurements should be identified (width, height, length);</li> <li>• Identify any evidence of upwelling or groundwater concentration (may require a late fall/early winter site visit);</li> <li>• Fisheries inventories should be completed in the spring to ensure any fish usage of intermittent or ephemeral systems is identified. Inventories of permanent features may occur throughout the spring and summer. Habitat assessments and detailed habitat mapping should be completed during snow/ice free conditions;</li> <li>• Surveys should be completed within spring and fall, as these seasons capture the most diverse community assemblages.</li> </ul>
		<input checked="" type="checkbox"/> <b>Habitat Characterization</b>	Ontario Stream Assessment Protocol – <i>Version 10.0</i> (Ontario, 2017); Environmental Guide for Fish and Fish Habitat (MTO, 2009)	
		<input type="checkbox"/> Fisheries Assessment	Ontario Stream Assessment Protocol – <i>Version 10.0</i> (Ontario, 2017)	
<input type="checkbox"/>	Raptor Nests	Between March 23 <sup>rd</sup> and April 23 <sup>rd</sup> , prior to “leaf out”	Forest Raptors & Their Nests in Central Ontario: A guide to Stick Nests & Their Users (Ontario, 1998)	<ul style="list-style-type: none"> <li>• Surveys should consist of a thorough investigation of potentially suitable habitat searching for active or inactive stick nests and evidence of raptor activity.</li> </ul>
<input type="checkbox"/>	Species at Risk Screening	Variable	<input type="checkbox"/> DFO <input type="checkbox"/> MECP	<ul style="list-style-type: none"> <li>• Contact applicable agencies for survey requirements. All agency correspondence must be included in the EIS.</li> </ul>

<input type="checkbox"/>	Marsh Birds	<ul style="list-style-type: none"> <li>• Between May 20<sup>th</sup> and July 5<sup>th</sup>;</li> <li>• Two surveys spaced 10 days apart;</li> <li>• Morning or Evening, must remain consistent for both visits;</li> <li>• Morning surveys can begin 30 min before sunrise and end no later than 10 am; Evening surveys can begin no earlier than 4 hours before sunset and must be completed by dark.</li> </ul>	Marsh Monitoring Participant's Handbook for Surveying Marsh Birds (Environment Canada, 2008)	<ul style="list-style-type: none"> <li>• Each station is surveyed for 15 minutes;</li> <li>• Surveys should be undertaken in weather that is favourable for surveying birds: <i>good visibility, warm temperatures (at least 16°C), no precipitation and little or no wind.</i></li> </ul>
<input type="checkbox"/>	Water Balance	Variable	Wetland Water Balance Monitoring Protocol (Toronto and Region Conservation Authority, 2016)	
<input type="checkbox"/>	Wetland Evaluation	Variable	Ontario Wetland Evaluation System - Southern Manual (Ontario, 2013)	Any proposed refinements to Provincially Significant Wetland boundaries require approval from the MNRF. Please include all correspondence as an appendix in the EIS.
<input type="checkbox"/>	Wildlife Movement Survey (e.g. Road Mortality)	Variable	Environmental Guide for Mitigating Road Impacts to Wildlife (MTO, 2017)	

<input type="checkbox"/>	Salamanders	Early Spring – between late-March to mid-April, immediately following snow melt and/or the first spring rains	Wildlife Monitoring Programs and Inventory Techniques for Ontario	<p>Surveys can consist of one or more of the following three techniques:</p> <ul style="list-style-type: none"> <li>• Visual Surveys completed in the evenings during the period specified. A visual inspection of the habitat, including carefully overturning and replacing potential cover can be included as part of this survey. Egg mass surveys can also be completed during daylight hours;</li> <li>• Fine mesh dipnets can be used to catch amphibians. Capture occurs by sweeping or churning the water. <i>Correspondence with the MNRF/MECP prior to survey commencement recommended as permits may be required;</i></li> <li>• Pitfall or funnel traps, often in association with drift fences, are the most common way of trapping terrestrial amphibians. Traps should be checked daily, before noon to minimize mortality. <i>Correspondence with the MNRF/MECP prior to survey commencement recommended as permits may be required.</i></li> </ul>
<input type="checkbox"/>	Tree Saving Plan	Variable	Section 1.36 of the Niagara Region’s Tree and Forest Conservation By-law (By-law No. 30-2008)	<ul style="list-style-type: none"> <li>• All requirements listed in the identified protocol must be included for a Tree Saving Plan to be deemed complete.</li> </ul>

<input type="checkbox"/>	Snakes	<ul style="list-style-type: none"> <li>• Spring, Summer and Fall;</li> <li>• most likely to be observed under cover objects in the morning after cool evenings when they seek out their area and try and maintain their body temperatures.</li> </ul>	<ul style="list-style-type: none"> <li>• Survey Protocol for Ontario’s Species at Risk Snakes (MNRF, 2016) and/or Milksnake Protocol (MNRF, 2013) is recommended for species that are not at risk;</li> <li>• Wildlife Monitoring Programs and Inventory Techniques for Ontario.</li> </ul>	<ul style="list-style-type: none"> <li>• Visual surveys should be completed by overturning all objects that provide cover (i.e., large branches, logs, rocks, etc.). Objects should be returned, to the extent possible, to their original positions;</li> <li>• Roadside surveys can also be used;</li> <li>• Artificial cover boards can be installed recognizing that it takes time for the boards to be used as habitat;</li> <li>• Contact the MECP for protocols related to SAR snakes.</li> </ul>
<input type="checkbox"/>	Turtles	<ul style="list-style-type: none"> <li>• Early Spring</li> <li>• Between 8 am and 5 pm on sunny days when the air temperature is at least 10 °C;</li> <li>• Between 8 am and 5 pm on partially cloudy or overcast days when air temperatures are greater than 15 °C, and greater than water temperatures</li> </ul>	<ul style="list-style-type: none"> <li>• Wildlife Monitoring Programs and Inventory Techniques for Ontario (MNRF, 1997)</li> <li>• Occurrence Survey Protocol for Blanding’s Turtle in Ontario (MNRF, 2013)</li> </ul>	<ul style="list-style-type: none"> <li>• Visual surveys of ponds or wetlands;</li> <li>• Searching for basking turtles is the most effective method of confirming presence of turtles within suitable habitat;</li> <li>• In open water wetlands, surveys can be completed from the shoreline using binoculars to scan the perimeter of the shoreline and potential basking sites;</li> <li>• Basking surveys should be surveyed from the sunlit side as this is the side that turtles are most likely to be located;</li> <li>• In wetlands that lack large pools of open water, surveys should consist of using evenly spaced transects or aerial surveys to cover all areas of the wetland; and</li> <li>• Surveying roads with sandy and gravelly shoulders near wetlands during the late May to early July nesting season may also be undertaken.</li> </ul>

## What must be included in an EIS?

The EIS should focus on the significant natural heritage features and/or hydrological features and functions for which the area was designated, and any additional natural heritage or hydrological features identified on site. It should identify, describe and delineate these features and their ecological and hydrological functions in order to avoid impacts to them. However, it should also address the site's setting in the broader landscape and its role in, and linkages to, broader natural heritage and hydrologic systems. It should assess any unavoidable impacts of the proposed development, indicating the magnitude and implications of those impacts, recommend mitigation measures to reduce negative impacts, identify opportunities for restoration or enhancement of natural heritage features which may also help offset negative impacts, recommend further study, monitoring, and provide recommendations on proceeding with the proposed development, including conditions to be attached to any approvals.

The key components of an EIS include:

- A biophysical and/or hydrologic inventory and analysis, including a description and analysis of the aquatic and terrestrial settings, as well as hydrological conditions such as surface and groundwater features and functions;
- A description of the ecological and hydrological functions served and required by the natural heritage features and/or hydrologic features;
- A description of the linkages between and among natural features and areas, surface water features and ground water features both on the site and in the surrounding area;
- A description of the proposed undertaking;
- Identification of constraints and opportunities;
- Mapping;
- Identification and analysis of potential direct, indirect and cumulative impacts from the proposed activities on the ecological and/or hydrological functions identified;
- The development of appropriate development modifications, recommendations, mitigation measures and enhancement opportunities;
- An assessment of the significance of the cumulative net environmental impacts expected over the long term after these measures have been implemented;
- The recommendation and description of monitoring needs and programs; and
- Recommendations regarding possible residual impacts, including recommendations for proceeding with the development as proposed or modified.

## Steps involved in the environmental impact study process:

Step 1: Determining EIS Requirements

1.1 Initial Screening to Determine if an EIS is Required, or if EIS Requirement can be Waived

1.2 Pre-consultation and Scoping (This EIS Scoping Checklist satisfies this step)

Step 2: Terms of Reference (Next Step!)

Step 3: Constraints Analysis

Step 4: Ecological Impact Assessment

Step 5: Recommendations and Conclusion

Please refer to the Niagara Region's Environmental Impact Study Guidelines for a detailed description of each step.