

Path: P:\EIM\Projects\2011\TC121402\Samsung Solar REAGIS\NHA_Report\Map\FINAL_4\Pre_Post_Wildlife_Monitoring_Stations_2.mxd

- LEGEND**
- ✕ Amphibian Breeding Habitat (Woodland)
 - ✕ Amphibian Breeding Habitat (Wetland)
 - ✕ Breeding Bird
 - ✕ Significant Amphibian Breeding Habitat (Wetland)
 - ✕ Significant Amphibian Breeding Habitat (Woodland)
 - ✕ Candidate Amphibian Breeding Habitat (Wetland)
 - ✕ Candidate Amphibian Breeding Habitat (Woodland)

- Proposed Development Features**
- Development Area (Solar Panels)
 - Access Road
 - Collector Line (Overhead)
 - Collector Line (Underground)
 - Substation Location
 - Project Location, 120 m Setback Investigation Area *

NOTES:
 - Watercourse and Waterbody data extracted from Land Information Ontario, Ministry of Natural Resources, 2011
 * Investigation area includes the 120m buffer from the proposed fence line for development sites, overhead and underground collector lines and access roads (Site Plan April 20, 2012)

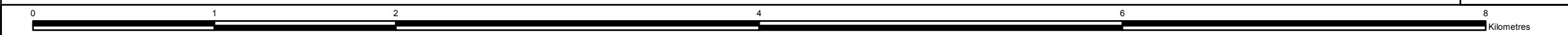
KINGSTON SOLAR LP

amec

SOL-LUCE KINGSTON SOLAR PV ENERGY PROJECT

Preconstruction and Post-construction Wildlife Monitoring Stations

Datum: NAD83
 Projection: UTM Zone 18N



PROJECT N^o: TC121402 **FIGURE: 5-3**

SCALE: 1:27,000 DATE: June 2012

APPENDIX B

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Table 1-1: Natural Heritage Assessment and Environmental Impact Study Report Requirements (as per O.Reg. 359/09)		
Requirements	Completed	Section Reference
24. (1) A person who proposes to engage in a renewable energy project shall conduct a natural heritage assessment, consisting of the following:		
1. A records review conducted in accordance with section 25.	✓	Section 2.0
2. A site investigation conducted in accordance with section 26.	✓	Section 3.0
3. Subject to subsection (3), an evaluation of the significance or provincial significance of each natural feature identified in the course of the records review and site investigation, conducted in accordance with section 27.	✓	Sections 4.2 to 4.3
(2) For the purposes of this section and sections 25 and 26, in conducting a records review or a site investigation, identifying natural features and determining the boundaries of any natural features, a person mentioned in subsection (1) shall use applicable evaluation criteria or procedures established or accepted by the Ministry of Natural Resources, as amended from time to time.	✓	Section 4.1
25. (1) In conducting a records review mentioned in paragraph 1 of subsection 24 (1), a person who proposes to engage in a renewable energy project shall ensure that a search for and analysis of the records set out in Column 1 of the Table to this section are conducted in respect of the project location for the purpose of making the determinations set out opposite the records in Column 2 of the Table.	✓	Sections 2.2.1 to 2.2.7
(3) The person mentioned in subsection (1) shall prepare a report setting out a summary of the records searched and the results of the analysis conducted under subsection (1).	✓	Section 2.1 Sections 2.2.1 to 2.2.7 Table 2-2 (Appendix B)
26. (1) Subject to subsection (1.1), for the purposes of conducting a site investigation mentioned in paragraph 2 of subsection 24 (1), a person who proposes to engage in a renewable energy project shall ensure that an investigation of the air, land and water within 120 metres of the project location is conducted, either by visiting the site or by an alternative investigation of the site, in order to determine,	✓	
(a) whether the results of the analysis summarized in the report prepared under subsection 25 (3) are correct or require correction, and identifying any required corrections;	✓	Section 3.2.9 Table 3-11 (Appendix B)
(b) whether any additional natural features exist, other than those that were identified in the report prepared under subsection 25 (3);	✓	Sections 3.2.1 to 3.2.4 Table 3-12 (Appendix B)
(c) the boundaries, located within 120 metres of the project location, of any natural feature that was identified in the records review or the site investigation; and	✓	Figure 2-1 (Appendix A) Figures 3-3 to 3-7 (Appendix A)
(d) the distance from the project location to the boundaries determined under clause (c). O.Reg. 359/09, s. 26 (1); O.Reg. 521/10, s. 15 (1).	✓	Tables 3-5 to 3-10 (Appendix A)
(3) The person mentioned in subsection (1) shall prepare a report setting out the following with respect to the air, land and water in respect of which any site investigation was conducted:		

Table 1-1: Natural Heritage Assessment and Environmental Impact Study Report Requirements (as per O.Reg. 359/09)		
Requirements	Completed	Section Reference
1. A summary of any corrections to the report prepared under subsection 25 (3) and the determinations made as a result of conducting the site investigation.	✓	Table 3-11 (Appendix B)
2. Information relating to each natural feature identified in the records review and in the site investigation, including the type, attributes, composition and function of the feature.	✓	Sections 2.2 and 3.2 Table 2-7, 3-5 to 3-10 (Appendix B)
3. A map showing, i. all boundaries mentioned in clause (1) (c), ii. the location and type of each natural feature identified in relation to the project location, and iii. all distances mentioned in clause (1) (d).	✓	Figure 2-1, 3-3 to 3-7 (Appendix A) Tables 3-5 to 3-10 (Appendix B)
4. A summary of methods used to make observations for the purposes of the site investigation.	✓	Sections 3.1.1 to 3.1.7
5. The name and qualifications of the person conducting the site investigation.	✓	Table 3-1 (Appendix B) Appendix G
6. If an investigation was conducted by visiting the site: i. The dates and times of the beginning and completion of the site investigation. ii. The duration of the site investigation. iii. The weather conditions during the site investigation. iv. Field notes kept by the person conducting the site investigation.	✓	Table 3-2 (Appendix B)
27. (1) In conducting the evaluation of the significance or provincial significance of a natural feature for the purposes of paragraph 3 of subsection 24 (1), a person who proposes to engage in a renewable energy project shall consider any information available to the person relating to natural features, including, (a) all information obtained during the records review conducted in accordance with section 25; (b) all information obtained during any site investigation conducted in accordance with section 26; and (c) all information received from the public, aboriginal communities, municipalities, local road boards and Local Services Boards until such time as the report mentioned in subsection 27 (4) has been prepared. O.Reg. 521/10, s. 16.	✓	Section 2.0 Tables 2-1 to 2-6 (Appendix B)
(2) For the purposes of the evaluation under subsection (1), a person shall determine that a natural feature is significant if it is a woodland, a valleyland or a wildlife habitat, (a) (a) that the Ministry of Natural Resources has identified as significant; or (b) (b) that is considered to be significant when evaluated using evaluation criteria or procedures established or accepted by the Ministry of Natural Resources, as amended from time to time, for significant natural features. O.Reg. 359/09, s. 27 (2).	✓	Section 4.2 Section 4.4 Table 4-2 Tables 4-4 to 4-18

Table 1-1: Natural Heritage Assessment and Environmental Impact Study Report Requirements (as per O.Reg. 359/09)		
Requirements	Completed	Section Reference
<p>(3) For the purposes of the evaluation under subsection (1), a person shall determine that a natural feature is provincially significant if it is a southern wetland, a northern wetland, a coastal wetland, an area of natural and scientific interest (earth science) or an area of natural and scientific interest (life science),</p> <p>(a) that the Ministry of Natural Resources has identified as provincially significant; or</p> <p>(b) that is considered to be provincially significant when evaluated using evaluation criteria or procedures established or accepted by the Ministry of Natural Resources, as amended from time to time, for provincially significant natural features. O.Reg. 359/09, s. 27 (3).</p>	✓	Section 4.3 Table 4-3
<p>(4) The person mentioned in subsection (1) shall prepare a report that sets out the following:</p> <ol style="list-style-type: none"> 1. For each natural feature shown on the map mentioned in paragraph 3 of subsection 26 (3), a determination of whether the natural feature is provincially significant, significant, not significant or not provincially significant. 2. A summary of the evaluation criteria or procedures used to make the determinations mentioned in paragraph 1. 3. The name and qualifications of any person who applied the evaluation criteria or procedures mentioned in paragraph 2. 4. The dates of the beginning and completion of the evaluation. O.Reg. 359/09, s. 27 (4). 	✓	Section 4.0 Tables 4-1 to 4-18
<p>37. No person shall construct, install or expand a renewable energy generation facility as part of a renewable energy project at a project location that is in any of the following locations:</p> <ol style="list-style-type: none"> 1. A provincially significant southern wetland. 2. A provincially significant coastal wetland. 3. A provincial park or a conservation reserve, unless the construction, installation or expansion of the facility is not prohibited by or under the <i>Provincial Parks and Conservation Reserves Act, 2006</i>. O.Reg. 359/09, s. 37. 	✓	Section 5.0
<p>38. (1) No person shall construct, install or expand a renewable energy generation facility as part of a renewable energy project at a project location that is in any of the following locations:</p> <ol style="list-style-type: none"> 1. A provincially significant northern wetland or within 120 metres of a provincially significant northern wetland. 2. Within 120 metres of a provincially significant southern wetland. 3. Within 120 metres of a provincially significant coastal wetland. 4. A provincially significant area of natural and scientific interest (earth science) or within 50 metres of a provincially significant area of natural and scientific interest (earth science). 5. A provincially significant area of natural and scientific interest (life science) or within 120 metres of a provincially significant area of natural and scientific interest (life science). 6. A significant valleyland or within 120 metres of a significant 	✓	Section 5.0 Table 5-1 (Appendix B) Table 5-2 (Appendix B) Table 5-3 (Appendix B)

Table 1-1: Natural Heritage Assessment and Environmental Impact Study Report Requirements (as per O.Reg. 359/09)		
Requirements	Completed	Section Reference
valleyland. 7. A significant woodland or within 120 metres of a significant woodland. 8. A significant wildlife habitat or within 120 metres of a significant wildlife habitat. 9. Within 120 metres of a provincial park. 10. Within 120 metres of a conservation reserve. O.Reg. 359/09, s. 38 (1).		
(2) Subsection (1) does not apply if, as part of the application for the issue of a renewable energy approval in respect of the renewable energy project, the applicant submits, (a) an environmental impact study report prepared in accordance with any procedures established by the Ministry of Natural Resources, as amended from time to time, that, (i.) identifies and assesses any negative environmental effects of the project on a natural feature, provincial park or conservation reserve referred to in paragraphs 1 to 10 of subsection (1),	✓	Section 5.0 Table 5-1 (Appendix B) Table 5-2 (Appendix B) Table 5-3 (Appendix B)
(ii.) identifies mitigation measures in respect of any negative environmental effects mentioned in subclause (i),	✓	Section 5.0 Table 5-1 (Appendix B) Table 5-2 (Appendix B) Table 5-3 (Appendix B)
(iii.) describes how the environmental effects monitoring plan set out in paragraph 4 of item 4 of Table 1 addresses any negative environmental effects mentioned in subclause (i), and	✓	Section 5.0
(iv.) describes how the construction plan report prepared in accordance with Table 1 addresses any negative environmental effects mentioned in subclause (i).	✓	Section 5.0 CPR under separate cover

Table 2-1: Summary of Natural Heritage Assessment Records Review and Primary Determinations

Records Review Based on Table from Section 25 of O.Reg. 350/09

Item	Review Requirements	Records Reviewed	Determination to be Made	Determination
1	Records that relate to provincial parks and conservation reserves and that are maintained by the Ministry of Natural Resources	<ul style="list-style-type: none"> • MNR Natural Heritage Information Centre (NHIC) website. (Accessed November 11, 2011) • City of Kingston, Loyalist Township Official Plans (Accessed October 27, 2011) 	Whether the Project Location is in a provincial park or conservation reserve or within 120 m of a provincial park or conservation reserve.	Project Location is not within a Provincial Park or Conservation Reserve or within 120 m of either of these feature types.
2	Records that relate to natural features and that are maintained by:		Whether the Project Location is: in a natural feature; within 50 m of	
	Ministry of Natural Resources	<ul style="list-style-type: none"> • MNR Natural Heritage Information Centre (NHIC) website. (Accessed November 11, 2011) • MNR Biodiversity Explorer website. (Accessed November 11, 2011) • LIO data layers • Consultation with MNR personnel to obtain additional information on species at risk, ANSI and any other applicable data. (Response letter received August 4, 2011) 	an area of natural and scientific interest (earth science); or, within 120 m of a natural feature that is not an area of natural and scientific interest (earth science).	Project Location is not in a natural feature or within 50 m of an ANSI (earth science) or within 120 m of a PSW; however, two woodlands deemed "significant" by the Cataraqui Region Conservation Authority are located within 120 m of the Project Location; none of these woodlands are designated as ANSI.
	Crown in Right of Canada	<ul style="list-style-type: none"> • Project Location not on, or within, 120 m of Crown Land. • Environment Canada SAR lists and associated range maps. 		Inconclusive relative to site-specific locations of several SAR and associated consideration of wildlife habitat.

Table 2-1: Summary of Natural Heritage Assessment Records Review and Primary Determinations

Records Review Based on Table from Section 25 of O.Reg. 350/09

<p>Conservation Authority</p>	<ul style="list-style-type: none"> Project Location within area of jurisdiction of the Cataraqui Region Conservation Authority (CRCA). CRCA was contacted to request information related to their knowledge of the presence of any ANSI, wetland, ESA, fish habitats, municipal drain classification, benthic data and water chemistry near or on the proposed development site. 		<p>Project Location is not within 50 m of an ANSI (Earth Science), or within 120 m of a PSW or ESA.</p> <p>The Millhaven Creek PSW is located immediate adjacent to the western portion of the Project Location (not within the 120 m setback).</p> <p>Project Location is not within 120 m of any defined valleyland.</p> <p>Project Location is not within 120 m of a CRCA regulated conservation area.</p>
<p>Local and Upper-Tier Municipality</p>	<ul style="list-style-type: none"> The Loyalist Township and City of Kingston are the municipalities in which the Project Location is situated and was contacted regarding determination needed to be made under Section 25 (3) of O.Reg. 359/09. 		<p>Project Location is not within 50 m of an ANSI, or within 120 m of an ESA or PSW.</p>

Table 2-1: Summary of Natural Heritage Assessment Records Review and Primary Determinations

Records Review Based on Table from Section 25 of O.Reg. 350/09

Planning Board	<ul style="list-style-type: none"> • N/A: Project Location in area of jurisdiction of the Loyalist Township and City of Kingston, Lennox & Addington and Frontenac Counties. • The Loyalist Township and City of Kingston Official Plans (2010 and 2011, respectively) were referred to in assessing candidate Significant Natural Features. 		<p>Project Location is within 120 m of 37 woodlands. These woodlands are not designated as an ANSI (Earth Science nor Life Science) or ESA.</p> <p>The Project Location is within 120 m of five woodlands that are classified as “significant” (CRCA, 2006).</p>
Municipal Planning Authority	<ul style="list-style-type: none"> • N/A: Project Location in area of jurisdiction of the Loyalist Township and City of Kingston. 		N/A
Local Roads Board	<ul style="list-style-type: none"> • N/A: Project Location not within area of jurisdiction of local roads board. 		N/A
Local Services Board	<ul style="list-style-type: none"> • N/A: Project Location not within area of jurisdiction of local services board. 		N/A
Niagara Escarpment Commission	<ul style="list-style-type: none"> • N/A: Project Location not within area of Niagara Escarpment Plan. 		N/A

Table 2-2: Summary of Records Review Sources

Organization	Data Type	Natural Features/Values
Environment Canada	<i>Species at Risk Act (SAR)</i> and wildlife and plant species.	SAR lists and associated range maps. http://www.sararegistry.gc.ca/default_e.cfm
Catarqui Region Conservation Authority	Aquatic and Terrestrial Species	Regional presence/absence data as well as lists and locations of Natural Heritage Features including Significant Woodlands, Provincially and Locally Significant Wetlands, areas of sensitive species, habitats of seasonal concentrations of avian species ANSI's, valleylands, and wildlife movement corridors.
Ontario Ministry of Natural Resources	<i>Species at Risk Act</i> wildlife and plant species.	Species lists http://www.mnr.gov.on.ca/en/business/species/
Ontario Ministry of Natural Resources	Natural Heritage Information Centre (NHIC)	Lists and locations of ANSI's, PSW's and ESA's as well as provincial ranks for species and plant communities found in Ontario. Locations and lists of SAR for a given area. http://nhic.mnr.gov.on.ca/nhic.cfm
Ontario Ministry of Natural Resources	LIO forest cover	Woodlands, wetlands other natural features.
Ontario Ministry of Natural Resources	Ontario Herpetofaunal Summary Atlas	Amphibian and reptile species conservation ranks and range maps. http://nhic.mnr.gov.on.ca/mnr/nhic/herps/ohs.html
Ontario Ministry of Natural Resources	Ontario Odonata Atlas	Species lists and maps for local survey squares; http://nhic.mnr.gov.on.ca/MNR/nhic/odonates/atlas.html
National Audubon Society	Christmas Bird Count	Data from Amherst Island CBC from 1999/2000 – 2009/2010 for winter raptor species. http://web4.audubon.org/bird/cbc/hr/index.html
Federation of Ontario Naturalists	Atlas of the Mammals of Ontario	Species lists, descriptions, maps and locations.
Bird Studies Canada, Nature Canada, Bird Life International	Important Bird Areas (IBA's)	Species lists, maps and locations. http://www.ibacanada.com/
Ontario Ministry of Natural Resources, Bird Studies Canada, Environment Canada, Ontario Nature, Ontario Field Ornithologists.	Atlas of Breeding Birds of Ontario	Species lists and maps for local survey squares; http://www.birdsontario.org/atlas/index.jsp

Table 2-2: Summary of Records Review Sources		
Organization	Data Type	Natural Features/Values
Ontario Parks	Parks Locator	List of parks located proximate to the Project Location; http://www.parkreports.com/locator/distance.php
Ontario Ministry of Natural Resources	Crown Land Use Policy Atlas	Review mapping data layer for Conservation Reserve locations: http://crownlanduseatlas.mnr.gov.on.ca/

Table 2-3: Records Review - Criteria Used to Classify Significant Woodlands by the Cataraqui Region Conservation Authority (CRCA)	
Criteria	Description
Size	>40 hectares (area with 15 – 30% forest cover) >4 hectares (area with 5 – 15% forest cover)
Interior Habitat	Habitat at least 100 m from edge with an interior core of 4 hectares
Hydrological Values	Any woodland or portion of woodland that is adjacent to a stream is significant (this includes headwater woodlands), 30 m adjacent forest classified as significant.
Connection to Significant Features	Forest patches located adjacent to (within 120 m) or overlapping with other significant features, including Provincially Significant Wetlands, ANSIs, Environmentally Significant Areas classified as significant.
Age	Woodland patches with old growth forest defined as communities of trees 100 years or older (determined using MNR FRI layer and age progression).

Table 2-4: Ten-year History of Wintering Raptor Species Counts for the Amherst Island Christmas Bird Count

Species	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	Average Count per Year
Snowy Owl	No Data	11	11	3	3	2	9	5	0	11	3	5.8
Short-eared Owl	No Data	20	3	1	0	0	5	12	1	0	7	4.9
Northern Harrier	No Data	4	2	24	14	1	7	22	2	10	13	9.9
Red-tailed Hawk	No Data	23	67	18	35	7	20	22	25	27	15	25.9
Rough-legged Hawk	No Data	50	31	29	77	3	8	43	18	39	16	31.4
American Kestrel	No Data	7	14	8	3	0	1	4	3	7	3	5.0

Data retrieved from <http://birds.audubon.org/historical-results> in January 2012.

Table 2-5: Records Review - Known Rare Vegetation Communities

ELC Community Name	Provincial Status (SRANK)	Global Status (GRANK)	Source	Community Description/Limiting Factors	Existence in Relation to Project Location
Dry Annual Open Alvar Pavement Type (ALO1-2)	S1	G2	OMNR	Tree and shrub cover is less than 25%. Vegetation cover is variable between patchy and barren to continuous herbaceous meadow. The presence of a patchy mosaic of bare rock pavement (level, unfractured limestone bedrock) and shallow substrates (<15 cm). Seasonal alternation between inundation and drought exists in open alvars where bare rock dominates. Dry (O) moisture regime. Located in Ecoregions 6E and 7E (Lee <i>et al.</i> , 1998).	Frontenac, Lennox & Addington Counties. Community considered absent from occurring within 120 m of the Project Location.
Northern Dropseed - Little Bluestem - Scirpus-like Sedge Alvar Grassland Type (ALO1-3)	S2S3	G2G3?	OMNR	Tree and shrub cover is less than 25%. Vegetation cover is variable between patchy and barren to continuous herbaceous meadow. More continuous meadow exists compared to ALO1-2. The presence of a patchy mosaic of bare rock pavement (level, unfractured limestone bedrock) and shallow substrates (<15 cm). Seasonal alternation between inundation and drought exists in open alvars where bare rock dominates. Dry (O) to fresh (1, 2, 3) moisture regime. ALO1-3 occurs only in Ecoregion 6E (Lee <i>et al.</i> , 1998).	Frontenac, Lennox & Addington Counties. Community considered absent from occurring within 120 m of the Project Location.
White Cedar - White Spruce - Philadelphia Panic Grass Treed Alvar Grassland Type (ALO1-4)	S3	G3?	OMNR	Tree and shrub cover is less than 25%. Vegetation cover is variable between patchy and barren to continuous herbaceous meadow. More continuous meadow exists compared to ALO1-2. The presence of a patchy mosaic of bare rock pavement (level, unfractured limestone bedrock) and shallow substrates (<15 cm). Seasonal alternation between inundation and drought exists in open alvars where bare rock dominates. Dry (O) to fresh (1, 2, 3) moisture regime. ALO1-4 occurs only in Ecoregion 6E (Lee <i>et al.</i> , 1998).	Frontenac, Lennox & Addington Counties. Community considered absent from occurring within 120 m of the Project Location.

Table 2-5: Records Review - Known Rare Vegetation Communities

ELC Community Name	Provincial Status (SRANK)	Global Status (GRANK)	Source	Community Description/Limiting Factors	Existence in Relation to Project Location
Tufted Hairgrass - Canada Bluegrass - Philadelphia Panic Grass Alvar Grassland Type (ALO1-5)	S2S3	G2G3?	OMNR NHIC	Tree and shrub cover is less than 25%. Vegetation cover is variable between patchy and barren to continuous herbaceous meadow. More continuous meadow exists compared to ALO1-2. The presence of a patchy mosaic of bare rock pavement (level, unfractured limestone bedrock) and shallow substrates (<15 cm). Seasonal alternation between inundation and drought exists in open alvars where bare rock dominates. Moist (4, 5) to fresh (1, 2, 3) moisture regime. ALO1-5 occurs only in Ecoregion 6E (Lee <i>et al.</i> , 1998).	Frontenac, Lennox & Addington Counties. Located within 120 m of Project Location.
Red Cedar – Early Buttercup Treed Alvar Grassland Type (ALT1-5)	S2	G2?	OMNR	Tree cover varies between 25% and 60%. Vegetation cover varies from patchy and barren to more closed in nature (i.e. woodland). The presence of a patchy mosaic of bare rock pavement (limestone bedrock) and shallow substrates (<15 cm). Bedrock is more fractured or there is greater accumulation of substrate. Seasonal alternation between inundation and drought exists in open alvars where bare rock dominates (Lee <i>et al.</i> , 1998).	Lennox & Addington Counties. Community considered absent from occurring within 120 m of the Project Location.
Graminoid Coastal Meadow Marsh Type (MAM4-1)	S2	G2?	OMNR	Tree and shrub cover is less than 25%. Dominant vegetation consists of emergent hydrophytic macrophytes, such as rushes and reeds. Substrates consist of calcareous coarse-textured material (i.e., sand), or shallow substrates over calcareous (limestone) bedrock. There are variable flooding regimes, and less than 2 m water depth. There is a high incidence of uncommon or rare species. This community type is restricted to the near shore areas of the Great Lakes (Lee <i>et al.</i> , 1998).	Frontenac County. Community considered absent from occurring within 120 m of the Project Location.

Provincial Status Definitions	Global Status Definitions
S1 - Critically Impaired	G2 - Very Rare
S2 - Imperilled	G3 - Rare to Uncommon
S3 - Vulnerable	G2G2 - Very Rare to Uncommon
S4 - Apparently Secure	G#? - Rank tentatively assigned
S2S3 - Imperilled to Uncommon.	

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
PLANTS							
Brainerd's Hawthorn	<i>Crataegus brainerdii</i>	--	--	S2	NHIC	Open savannas, riverbanks, fields, pastures, thickets and woodland borders (Riznicek <i>et al.</i> , 2011). Grows best in well-drained, loamy soil types (Lorenzo, 2006).	High Abundance of habitat and soil types suitable for growth.
Stiff Gentian	<i>Gentianella quinquefolia</i>	--	--	S2	NHIC	Along stream and river banks, marshy meadows, bluffs, and forested hillsides, usually associated with calcareous sites (Riznicek <i>et al.</i> , 2011). Flowers August – October (CBS, 2005).	Moderate Moderate availability of marshy meadows and riparian habitats.
Carolina Whitlow-grass	<i>Draba reptans</i>	--	--	S3	NHIC	Dry, sandy, open areas and alvar pavements (NHIC, 2011). Flowers in the spring (Muma, 2011).	Moderate Moderate availability of alvar habitats.
Smith's Bulrush	<i>Schoenoplectus smithii</i>	--	--	S3	NHIC	Moist, sandy, or muddy shorelines (NHIC, 2011). Ontario populations are restricted to wet shores and beaches along the Great Lakes system (Argus <i>et al.</i> , 1987).	Very Low Absence of shorelines and beaches. May exist along edges of wetlands and ponds.
Bowman's-root	<i>Gillenia trifoliata</i>	--	--	SX	NHIC	Open sandy woods and edges (NHIC, 2011). Flowers April to June (LBJWC, 2011).	Very Low Minimal availability of sandy woods and edges.
Branching Burreed	<i>Sparganium androcladum</i>	--	--	SH	NHIC	Shallow or muddy water of ponds and swamps (Favorite, 2003). Flowers April to July (LBJWC, 2011).	Moderate Moderate availability of ponds, swamps.

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
MAMMALS							
Small-footed Myotis	<i>Myotis leibii</i>	--	--	S2S3	Dobbyn, 1994	Require suitable winter hibernation sites in the forms of caves and rock crevices. Caves must possess substantial roosting areas (complex tunnels and chambers), restrictions in tunnels to moderate microhabitat conditions, and protective forest cover up to 200 m from the caves entrance to allow movement to and from (OMNR, 2000).	Low Minimal availability of suitable maternity roost sites. No known potential hibernacula locations.
Small Brown Myotis	<i>Myotis lucifugus</i>	END	--	S4	Dobbyn, 1994	Require suitable winter hibernation sites in the forms of caves and rock crevices. Caves must possess substantial roosting areas (complex tunnels and chambers), restrictions in tunnels to moderate microhabitat conditions, and protective forest cover up to 200 m from the caves entrance to allow movement to and from (OMNR, 2000).	High Minimal availability of suitable natural maternity roost sites. No known potential hibernacula locations. This species will roost and hibernate in attic and other man-made structures and likely forages near barns, wetlands, and forest edges within the Project Location.
Northern Myotis	<i>Myotis septentrionalis</i>	END	--	S3	Dobbyn, 1994	Require suitable winter hibernation sites in the form of caves and rock crevices. Caves must possess substantial roosting areas (complex tunnels and chambers), restrictions in tunnels to moderate microhabitat conditions, and protective forest cover up to 200 m from the caves entrance to allow movement to and from (OMNR, 2000).	Low Minimal availability of suitable maternity roost sites. No known potential hibernacula locations.

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
Eastern Pipistrelle	<i>Pipistrellus subflavus</i>	--	--	S3?	Dobbyn, 1994	Require suitable winter hibernation sites in the form of caves and rock crevices. Caves must possess substantial roosting areas (complex tunnels and chambers), restrictions in tunnels to moderate microhabitat conditions, and protective forest cover up to 200 m from the caves entrance to allow movement to and from (OMNR, 2000).	Low No known potential hibernacula locations. Minimal availability of suitable maternity roost sites. No potential hibernacula locations observed.
BIRDS							
Rough-legged Hawk	<i>Buteo lagopus</i>	--	--	S1B, S5N	Amherst Island Christmas Bird Count	Species only winters in southern Ontario. Requires large, undisturbed areas of grassland habitat with suitable perches and an abundance of rodent prey.	Moderate – High Relatively common wintering hawk species in the Kingston region.
Wilson's Phalarope	<i>Phalaropus tricolor</i>	--	--	S3B	Cadman <i>et al</i> , 2007	Nests among grasses, 30 cm tall and <15 m away from water. Most frequently observed in small wetlands, where they forage in shallow water or on mudflats (OMNR, 2000).	Moderate Moderate availability of small, shallow wetlands throughout Project Location.
Black Tern	<i>Chlidonias niger</i>	SC	SC	S3	OMNR Cadman <i>et al</i> . 2007	They are area-sensitive, rarely occurring in marshes <20 ha. Nests in cattail, bulrush, sedge, or burred dominated marshes where water depths are 1.0 m (rarely nest where depths <0.5 m). They prefer marshes with a 50:50 ratio of emergent vegetation to open water (OMNR, 2000).	Low Lack of availability of marshes of appropriate size (20 ha).

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
Short-eared Owl	<i>Asio flammeus</i>	SC	SC	S3S4	OMNR Stantec, 2011	Critical winter roosting areas consist of hayfields, pastures, and open meadows, >20 ha, in close proximity to hunting areas, and providing adequate cover and camouflage (provided by light-coloured grasses such as Timothy, Brome-grasses). Nests in grass 30 - 50 cm tall. A single pair requires 75 to 100 ha of contiguous open habitat. Colonies are associated with >500 ha (OMNR, 2000).	Moderate Moderate availability of suitable winter roosting areas and hunting.
Common Nighthawk	<i>Chordeiles minor</i>	THR	SC	S4B	Cadman <i>et al.</i> , 2007	Require the presence of suitable nesting and hunting habitat. This species nests on the ground in a wide variety of natural open country habitats including sand, rocky outcrops, short-grass prairies, open forests, rock barrens, forest clearings and marshes and gravel roads,	Moderate Few areas of open woodland with bare ground are present in the Project Location. Suitable hunting habitat appears to be present.
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	THR	SC	S4B	Cadman <i>et al.</i> , 2007	Inhabit landscapes containing mosaic of abandoned and marginal farmland, rock barrens, wetlands, and forest (southern edge of the Canadian Shield and the Frontenac Axis north of Kingston). Breeding occurs in successional scrub habitats surrounded by forests. (Cadman <i>et al.</i> , 2007).	High Abundance of farmland, rock barren, wetlands, and forest habitats.

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
REPTILES							
Five-lined Skink (Great Lakes/St. Lawrence Pop.)	<i>Eumeces fasciatus</i>	SC	SC	S3	OHS Atlas	Show preference towards habitats with large rocky outcrops found within fields or mixed conifer and deciduous forests. The availability of permanent water bodies and suitable microhabitat is critical, seeking shelter from extreme temperatures and dehydration under rocks, logs, etc. Nests built under rocks, for hibernation (COSEWIC, 2007).	Low - Moderate Presence of mixed forests and bedrock substrates, though few loose rocks to provide suitable microhabitat.
Snapping Turtle	<i>Chelydra serpentina</i>	SC	SC	S5	OMNR	Habitat characterized by slow-moving water with a soft bottom and dense vegetation (ponds, sloughs, shallow bays, river edges, slow streams). Females nest on gravel/sand banks along waterways. Hibernate underwater beneath logs, sticks, or overhanging banks in small streams and require continuous flow, or bury selves in deep mud in marshy areas (COSEWIC, 2008).	Low Minimal availability of ponds/ areas of continuous water flow, suitable nesting habitat.
Northern Map Turtle	<i>Graptemys geographica</i>	SC	SC	S3	OMNR	Inhabit lakes and rivers with slow moving currents, soft/muddy bottoms, and dense vegetation. Require suitable basking sites such as rocks and logs. Hibernate in areas of deep water with slow continuous current (COSEWIC, 2002).	Low Minimal availability of ponds/ areas of continuous flow and deep water for hibernation. Few deep manmade ponds located in Area.

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
Eastern Ribbon Snake (Great Lakes population)	<i>Thamnophis sauritus</i>	SC	SC	S3	OHS Atlas	Inhabit the edges of shallow ponds, streams, marshes, swamps, or bogs. Require dense riparian vegetation for cover, and adjacent upland areas for nesting (COSEWIC, 2002).	Moderate Moderate availability of shallow ponds, marshes, swamps, and upland habitats.
Eastern Milksnake	<i>Lampropeltis triangulum</i>	SC	SC	S3	OHS Atlas	Inhabit a variety of landscapes including prairies, pastures, hayfields, hillsides, and forests. Move to wooded areas (preferably >30 ha with interior mature forest) in the autumn, where they require abundance of dead/decaying organic materials (logs, stumps) for hibernacula. Require close proximity to water (COSEWIC, 2002).	Moderate Abundance of pastures, hayfields, and forests. However, lack of mature interior forest may limit the availability of fallen and decaying woody debris utilized as hibernacula.
AMPHIBIANS							
Western Chorus Frog (Great-Lakes/St. Lawrence – Canadian Shield population)	<i>Pseudacris triseriata</i>	THR	NAR	S4	OHS Atlas	Utilize many temporary shallow aquatic habitats including ditches, ephemeral woodland ponds, marshes, and meadows (COSEWIC, 2008c). Breed in shallow temporary, open-canopied ponds (COSEWIC, 2008c).	High Abundant swamps, temporary shallow woodland pools, drainage ditches and meadow marshes
ODONATA							
Vernal (Spring) Bluet	<i>Enallagma vernale</i>	--	--	S3	OMNR	Utilizes areas of still water, though may prefer lakes and rivers (Jones <i>et al.</i> , 2008)	Low No sizeable lakes or river occur in the Project Location. Extremely difficult to distinguish from Northern Bluet.

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
Halloween Pennant	<i>Celithemis eponina</i>	--	--	S3	OMNR	Habitat consists of ponds, streams and lakes. Utilize the tip of twigs and other vegetation for perching (Jones <i>et al.</i> , 2008). Frequently observed in fields (Dunkle, 2000).	Moderate – High Many fields are present in the Project Location containing tall, old field habitat. Several wetlands around the Project Location.
LEPIDOPTERA							
Giant Swallowtail	<i>Papilio cresphontes</i>	--	--	S3		Larval host plants for this species include Hop Tree and Northern Prickly-ash (Layberry <i>et al.</i> , 1998). In central Ontario, this species occurs in shrub habitats where larval food sources and nectaring plants are abundant	Moderate The landscape that includes the Project Location includes patches of shrub habitat which likely harbour Northern Prickly-Ash. Abundant old field habitat will provide nectaring plants for adults.
Juniper Hairstreak	<i>Callophrys gryneus</i>	--	--	S2	OMNR	In Ontario, this species is restricted to Point Pelee and areas near Prince Edward County (Layberry <i>et al.</i> , 1998). Depends on the presence of Eastern Red Cedar which acts as the exclusive host plant in Ontario. Prefers mid-sized food plants and will vacate over-grown habitat (Layberry <i>et al.</i> , 1998).	Moderate Eastern Red Cedar is common in the Project Location. Red Cedar size is generally limited due to the shallow soil depth onsite. Few Red Cedar woodlands found onsite remain undisturbed.

Table 2-6: Records Review - Species of Conservation Concern Potentially Occurring in the Project Location

Common Name	Scientific Name	SARA	SARO	NHIC S-Rank	Source	Species Requirements/Limiting Factors	Potential to Exist Within the Project Location
Hickory Hairstreak	<i>Satyrium caryaevorum</i>	--	--	S3		In Ontario, this species is associated with deciduous woodlands and Bitternut Hickory, Butternut, White Ash, Red Oak, and Hawthorn spp. in particular (Layberry <i>et al.</i> , 1998).	Moderate/High The landscape that includes the Project Location consists largely of deciduous woodlands and old field habitat which provides abundant habitat for this generalist species.

COSEWIC		SARO		NHIC	
NAR	Not At Risk	NAR	Not At Risk	S2	Imperilled
SC	Special Concern	SC	Special Concern	S3	Vulnerable
THR	Threatened	THR	Threatened	S4	Apparently Secure
				S5	Secure
				S2B	Imperilled Breeding Migrants
				S2N	Imperilled Secure Non-breeding Migrants
				S3B	Vulnerable Breeding Migrants
				S3N	Vulnerable Non-breeding Migrants
				S4B	Apparently Secure Breeding Migrants
				S4N	Apparently Secure Non-breeding Migrants
				S5B	Secure Breeding Migrants
				S5N	Secure Non-breeding Migrants
				S3?	Rank Uncertain
				SNA	Exotic – Non-native

Table 2-7: Summary of Natural Features Carried Forward to the Site Investigation

Feature ID	Feature Type	Evaluation Status	Carried Forward to Site Investigation (Yes/No)	Rationale (required if not carried forward)
1	Woodland	CRCA Significant Woodland	Yes	--
2	Woodland	CRCA Contributory Woodland	Yes	--
3	Woodland	CRCA Contributory Woodland	Yes	--
4	Woodland	CRCA Contributory Woodland	Yes	--
5	Woodland	CRCA Contributory Woodland	Yes	--
6	Woodland	CRCA Contributory Woodland	Yes	--
7	Woodland	CRCA Contributory Woodland	Yes	--
8	Woodland	CRCA Contributory Woodland	Yes	--
9	Woodland	CRCA Significant Woodland	Yes	--
10	Woodland	CRCA Contributory Woodland	Yes	--
11	Woodland	CRCA Contributory Woodland	Yes	--
12	Woodland	CRCA Significant Woodland	Yes	--
13	Woodland	CRCA Significant Woodland	Yes	--
14	Woodland	CRCA Significant Woodland	Yes	--
15	Woodland	CRCA Contributory Woodland	Yes	--
16	Woodland	CRCA Contributory Woodland	Yes	--
17	Woodland	CRCA Contributory Woodland	Yes	--
18	Woodland	CRCA Significant Woodland	Yes	--
19	Woodland	CRCA Significant Woodland	Yes	--
20	Woodland	CRCA Contributory Woodland	Yes	--
21	Woodland	CRCA Contributory Woodland	Yes	--
22	Woodland	CRCA Contributory Woodland	Yes	--
23	Woodland	CRCA Contributory Woodland	Yes	--

Table 2-7: Summary of Natural Features Carried Forward to the Site Investigation

Feature ID	Feature Type	Evaluation Status	Carried Forward to Site Investigation (Yes/No)	Rationale (required if not carried forward)
24	Woodland	CRCA Contributory Woodland	Yes	--
25	Woodland	CRCA Contributory Woodland	Yes	--
26	Woodland	CRCA Contributory Woodland	Yes	--
27	Woodland	CRCA Contributory Woodland	Yes	--
28	Woodland	CRCA Contributory Woodland	Yes	--
29	Woodland	CRCA Contributory Woodland	Yes	--
30	Woodland	CRCA Contributory Woodland	Yes	--
31	Woodland	CRCA Contributory Woodland	Yes	--
32	Woodland	CRCA Contributory Woodland	Yes	--
33	Woodland	CRCA Contributory Woodland	Yes	--
34	Woodland	CRCA Contributory Woodland	Yes	--
35	Woodland	CRCA Significant Woodland	Yes	--
1	Wetland	Evaluated – Not provincially or locally significant	Yes	--
2	Wetland	Unevaluated	Yes	--
3	Wetland	Unevaluated	Yes	--
4	Wetland	Unevaluated	Yes	--
5	Wetland	Unevaluated	Yes	--
6	Wetland	Unevaluated	Yes	--
7	Wetland	Unevaluated	Yes	--
8	Wetland	Unevaluated	Yes	--
9	Wetland	Unevaluated	Yes	--
10	Wetland	Unevaluated	Yes	--

Table 2-7: Summary of Natural Features Carried Forward to the Site Investigation

Feature ID	Feature Type	Evaluation Status	Carried Forward to Site Investigation (Yes/No)	Rationale (required if not carried forward)
11	Wetland	Unevaluated	Yes	--
12	Wetland	Unevaluated	Yes	--
13	Wetland	Unevaluated	Yes	--
14	Wetland	Unevaluated	Yes	--
15	Wetland	Unevaluated	Yes	--
MNR Alvar 1	Rare Vegetation community	Significant Habitat	Yes	--
MNR Alvar 2	Rare Vegetation community	Significant Habitat	Yes	--
Odessa Lake Swamp	Life Science Site/ International Biological Program Site	Provincially Significant Wetland	Yes	Not within 120 m of the Project Location, though any hydrological connections must be investigated
Howes Road Alvar Life Science Site	Life Science Site	Significant Habitat	No	More than 120 m from Project Location
Habitat Linkage	Animal Movement Corridor	Locally Significant	Yes	--

Table 3-1: Personnel Conducting Site Investigations		
Personnel	Title	Participation
Matt Evans	Senior Biologist	<ul style="list-style-type: none"> • wildlife surveys • vegetation surveys
Jeff Balsdon	Terrestrial Ecologist	<ul style="list-style-type: none"> • wildlife surveys • vegetation surveys
Jon Pleizier	Terrestrial Biologist	<ul style="list-style-type: none"> • wildlife surveys • vegetation surveys • air photograph interpretation
Izabela Kalkowski	Botanist	<ul style="list-style-type: none"> • vegetation surveys • air photograph interpretation
Erin Donkers	Botanist	<ul style="list-style-type: none"> • vegetation surveys • air photograph interpretation
Said Mohammed	Biologist	<ul style="list-style-type: none"> • vegetation surveys • wetland delineation
Tracy Wolowidnek	Environmental Scientist	<ul style="list-style-type: none"> • wildlife surveys • vegetation surveys

Table 3-2: Site Investigations Log

Survey Date/ Time	Purpose of Site Investigation	Field Personnel	Duration (Person-Hours)	Air* Temperature (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
May 17, 2011 07:30 – 17:30	Site Reconnaissance	Matt Evans, Jeff Balsdon	20	7.3 – 11.3	70	None	22 – 32
May 18, 2011 08:00 – 14:00	Site Reconnaissance	Jeff Balsdon	6	6.6 – 9.0	100	Intermittent Rain	24 – 32
August 2, 2011 07:00 – 17:30	ELC and Wildlife Habitat Assessment, Soil Assessment,	Matt Evans, Jeff Balsdon, Jon Pleizier	30	20.4 – 27.4	40	None	13 – 20
August 3, 2011 07:00 – 17:00	ELC and Wildlife Habitat and Soil Assessment	Matt Evans, Jeff Balsdon, Jon Pleizier	30	19.8 – 21.5	100	Light Rain	7 – 13
August 4, 2011 07:00 – 17:00	ELC and Wildlife Habitat Assessment and Soil Assessment,	Matt Evans, Jeff Balsdon, Jon Pleizier	30	19.3 – 26.3	10	None	6 – 17
August 17, 2011 09:00 – 18:00	ELC and Wildlife Habitat Assessment, Agricultural Field Assessment	Jeff Balsdon, Jon Pleizier	18	17.9 – 23.8	10	None	6 – 17
August 18, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment Agricultural Field Assessment	Jeff Balsdon, Jon Pleizier	20	22.1 – 26.6	10	None	13 – 26
August 19, 2011 07:30 – 16:30	ELC and Wildlife Habitat Assessment, Agricultural Field Assessment	Jeff Balsdon, Jon Pleizier	18	19.6 – 24.6	30	None	9 – 24
September 12, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (12-A1 to 12-A3)	Jeff Balsdon, Izabela Kalkowski	20	19.8 – 23.2	10	None	9 – 24
September 13, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (12-A4; 12-B1, 12-B3, 12-C2, 12-D1)	Jeff Balsdon, Izabela Kalkowski	20	23.1 – 25.7	30	None	24 – 37
September 14, 2011 07:30 – 17:00	ELC and Wildlife Habitat Assessment (12-E1 to 12-E2, 12-C2)	Jeff Balsdon, Izabela Kalkowski	20	14.2 – 19.3	20	None	7 – 26
September 21, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (Polygon 24)	Matt Evans, Izabela Kalkowski	20	16.4 – 21.2	30	None	7 – 20
September 22, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (1-C to 1-F; 24-1, 24-2)	Matt Evans, Izabela Kalkowski	20	18.7 – 23.6	100	None	13 – 24

Table 3-2: Site Investigations Log

Survey Date/ Time	Purpose of Site Investigation	Field Personnel	Duration (Person-Hours)	Air* Temperature (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
September 23, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (19-A to 19-E)	Matt Evans, Izabela Kalkowski	20	15.0 – 22.6	100	None	15 – 26
September 27, 2011 07:30– 17:30	ELC and Wildlife Habitat Assessment (20-A, 20-B, 20-C; 19-F)	Jon Pleizier, Izabela Kalkowski	20	14.5 – 18.9	90	Rain	9 – 13
September 28, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (17-A, 17-C; 6B-1 to 6B-5)	Jon Pleizier, Izabela Kalkowski	20	18.6 – 22.5	100	Rain	11 – 20
September 29, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (17-D to 17-K; 6B-6; 2-A to 2-I)	Jon Pleizier, Izabela Kalkowski, Jeff Balsdon, Matt Evans	40	18.2 – 19.0	100	Rain	6 – 15
September 30, 2011 07:30– 17:30	ELC and Wildlife Habitat Assessment (17-L to -P; 15-A, 15-B; 6B-7 to 6B-11; 3-A to 3-B2)	Jon Pleizier, Izabela Kalkowski, Jeff Balsdon, Matt Evans	40	15.0 – 17.4	90	None	15 – 30
October 5, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (Polygons 21, 22 and 23)	Jeff Balsdon, Tracy Wolowidnek (Shute)	20	11.2 – 16.3	0	None	15 – 32
October 6, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (Polygons 7, 9 and 23)	Jeff Balsdon, Tracy Wolowidnek (Shute)	20	6.8 – 14.1	0	None	4 – 15
October 7, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (Polygon 6A)	Jeff Balsdon, Tracy Wolowidnek (Shute)	20	13.6 – 16.3	0	None	17 – 20
October 18, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (6B-12 to -16)	Jon Pleizier, Erin Donkers	20	11.1 – 13.3	90	None	19 – 28
October 19, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (14B-G; 1-A, -B)	Jon Pleizier, Erin Donkers	20	9.2 – 12.5	100	Rain	19 – 35
October 20, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (5-A to 5-E; 9-1 to 9-5; 18-1, 18-2)	Jon Pleizier, Erin Donkers	20	11.3 – 14.0	100	Rain	17 – 28
October 31, 2011 07:30 – 17:30	Soil Assessment (Polygon 6B)	Jon Pleizier, Izabela Kalkowski, Erin Donkers	30	7.4 – 9.9	80	None	19 – 24

Table 3-2: Site Investigations Log

Survey Date/ Time	Purpose of Site Investigation	Field Personnel	Duration (Person-Hours)	Air* Temperature (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
November 1, 2011 07:30 – 17:30	ELC, Wildlife Habitat Assessment, and Soil Assessment (1-B, 1-C, 1-H, 1-I; 4-A to 4-E); Wetland Delineation (Polygons 19, 20 and 23)	Jon Pleizier, Izabela Kalkowski, Erin Donkers, Said Mohamed	40	8.8 – 10.4	70	None	9 – 17
November 2, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (17-D, 18-9); Soil Assessment (18-1, -3; 20-B, 20-C, 20 -F, 20-G; 19A); Wetland Evaluation (Polygons 2, 3 and 12)	Izabela Kalkowski, Erin Donkers, Said Mohamed	30	10.3 – 13.2	50	None	11 – 26
November 3, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (Polygons 14A, 14B and 14C); Soil Assessment (17-D, 17-L to 17-M; 6B-1 to 6B-3, 6B-6, 6B-13, 6B-19); Wetland Evaluation (Polygons 4, 5 and 6A)	Jon Pleizier, Izabela Kalkowski, Erin Donkers, Said Mohamed	40	6.6 – 14.0	100	None	11 – 26
November 4, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment, and Soil Assessment (Polygons 14B, 21, 22, 23, 24); Wetland Evaluation (Polygons 1, 7 and 8)	Jon Pleizier, Izabela Kalkowski, Erin Donkers, Said Mohamed	40	0.1 – 7.3	50	None	13 – 30
November 8, 2011 07:30 – 17:30	Soil Assessment (Polygons 12, 13)	Izabela Kalkowski, Erin Donkers	20	8.3 – 12.3	60	None	2 – 9
November 9, 2011 07:30 – 17:30	Soil Assessment (Polygons 2, 3, 6A); Wetland Evaluation (Polygons 11A, 11B, 10 and 9)	Izabela Kalkowski, Erin Donkers, Said Mohamed	30	9.9 – 14.0	10	None	9 – 19
November 10, 2011 07:30 – 17:30	ELC and Wildlife Habitat Assessment (Polygon 14A); Wetland Evaluation (Polygons 14A, 14C, 6B and 17)	Said Mohamed	10	6.5 – 9.0	80	Light Rain	11 – 30
December 23, 2011	Wetland Evaluation (Polygons 4 and 13)	Said Mohamed	4	-11.6 – 5.1	80	None	35
December 24, 2011	Wetland Evaluation (Polygons 13, 14A and 19)	Said Mohamed	8	-13.4 – 7.1	40	None	<31

Table 3-2: Site Investigations Log

Survey Date/ Time	Purpose of Site Investigation	Field Personnel	Duration (Person-Hours)	Air* Temperature (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
December 26, 2011	Wetland Evaluation (Polygons 21, 22, 23, and 24)	Said Mohamed	8	-2.6 – 3.6	60	None	44

Data retrieved February 2012 from Environment Canada weather station KINGSTON CLIMATE. (44°13'24.000" N, 76°35'58.000" W)

Table 3-3: Properties Requiring Alternative Site Investigations

Study Type	Properties/ ELC Polygon	Rational for Alternative Investigation	Requests for Access, Correspondence and Responses	Access Granted (Yes or No)
Evening Amphibian Survey	All	Safety Hazard: Conducted in darkness	None	No
Crepuscular Bird Survey	All	Safety Hazard: Conducted in darkness	None	No
ELC and Wildlife Habitat Assessment	1G	Commercial Land: No natural features as identified in Records Review	Mail Returned	No response
ELC and Wildlife Habitat Assessment	1P	Residential Land: No natural features as identified in the Records Review	None	Yes and No
ELC and Wildlife Habitat Assessment	2C, 2E	Access not granted by non-participating landowner	None	No
ELC and Wildlife Habitat Assessment	2D	Access not granted by non-participating landowner	Called Oct 27 & 31	No response
ELC and Wildlife Habitat Assessment	2M, 2S, 3B, 4M	Access not granted	None	No
ELC and Wildlife Habitat Assessment	2O	Access not granted by non-participating landowner	Called Oct 31, Nov 1	No response
ELC and Wildlife Habitat Assessment	2O	Access not granted by non-participating landowner	Called Oct 31, Nov 1st	No response
ELC and Wildlife Habitat Assessment	3C	Residential Land: No natural features as identified in the Records Review	None	No
ELC and Wildlife Habitat Assessment	5G	Access not granted by non-participating landowner	Phone call	No
ELC and Wildlife Habitat Assessment	5O, 5P	Access not granted by non-participating landowner	House visit Oct 26th	No
ELC and Wildlife Habitat Assessment	11A-7	Access not granted by non-participating landowner	Not listed	No response
ELC and Wildlife Habitat Assessment	11A-7	Access not granted by non-participating landowner	House visit Oct 26th	No
ELC and Wildlife Habitat Assessment	11A-8	Access not granted by non-participating landowner	Phone call	No
ELC and Wildlife Habitat Assessment	11A-9	Access not granted by non-participating landowner	Not listed	No response
ELC and Wildlife Habitat Assessment	11A-10	Access not granted by non-participating landowner	House visit Oct 26th	No
ELC and Wildlife Habitat Assessment	11A-10	Access not granted by non-participating landowner	Phone call	No
ELC and Wildlife Habitat Assessment	12A-1	Access not granted by non-participating landowner	Mail returned. House visit Oct 26th	No response
ELC and Wildlife Habitat Assessment	12A-6 12A-7	Safety Hazard: Currently grazed pastureland	--	Yes (must call in advance)
ELC and Wildlife Habitat Assessment	14A-F	Access not granted by non-participating landowner	Phone call	No
ELC and Wildlife Habitat Assessment	14A-G 14A-H	Access not granted by non-participating landowner	None	No

Table 3-3: Properties Requiring Alternative Site Investigations

Study Type	Properties/ ELC Polygon	Rational for Alternative Investigation	Requests for Access, Correspondence and Responses	Access Granted (Yes or No)
ELC and Wildlife Habitat Assessment	14A-J 14A-M	Access not granted by non-participating landowner	Phone call	No
ELC and Wildlife Habitat Assessment	14A-P	Access not granted by non-participating landowner	Email received	No
ELC and Wildlife Habitat Assessment	19N	Safety Hazard: Currently grazed pastureland	None	No
ELC and Wildlife Habitat Assessment	19O	Residential Land: No natural features as identified in the Records Review	None	No
ELC and Wildlife Habitat Assessment	19R, 19S, 19T	<ul style="list-style-type: none"> • Residential Land: No natural features as identified in the Records Review • Safety Hazard: Currently grazed pastureland • Access not granted by non-participating landowner 	House visit Oct 26th, phone call Oct. 29th.	No
ELC and Wildlife Habitat Assessment	19V	Transmission line layout drafted following conclusion of Site Investigations: No negative impacts anticipated	None	No
ELC and Wildlife Habitat Assessment	23A	Residential Land: No natural features as identified in the Records Review	Concerned about project	Yes
ELC and Wildlife Habitat Assessment	23I, 23J, 23K	<ul style="list-style-type: none"> • Residential Land – No natural features as identified in the Records Review • Safety Hazard: Currently grazed pastureland 	Phone call Oct. 29th	No
ELC and Wildlife Habitat Assessment	23/22/21-A	Residential Land: No natural features as identified in the Records Review	None	No
ELC Assessment	T1-T64	Transmission line layout drafted following conclusion of Site Investigations: No negative impacts anticipated	None	No

Table 3-4: Site Investigation - ELC Vegetation Community Descriptions

ELC Vegetation Community Code	Vegetation Characteristics	Description
CGL-2	Open, highly manicured.	Constructed parkland
CUM1-1	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$.	Dry- moist old field meadow type
CUM2	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$.	Bedrock cultural meadow ecosite
CUS	Often has large proportion of exotic plant species. $25\% \leq$ tree cover $\leq 35\%$.	Cultural savannah
CUS1-2	Often has large proportion of exotic plant species. $25\% \leq$ tree cover $\leq 35\%$. Dominated by White Cedar and Green Ash.	White Cedar-Green Ash cultural savannah type
CUS2	Often has large proportion of exotic plant species. $25\% \leq$ tree cover $\leq 35\%$.	Bedrock cultural savannah ecosite
CUT	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$.	
CUT1-1	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$. Dominated by Staghorn Sumac.	Sumac cultural thicket type
CUT1-4	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$. Dominated by Gray Dogwood.	Gray Dogwood cultural thicket type
CUT1-7	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$. Dominated by Red-osier Dogwood.	Red-osier Dogwood cultural thicket
CUT2-1	Often has large proportion of exotic plant species. Tree cover $\leq 25\%$, shrub cover $\leq 25\%$.	Common Juniper cultural alvar thicket type
CUW	Often has large proportion of exotic plant species. $35\% \leq$ tree cover $\leq 60\%$.	Cultural woodland
CUW1	Often has large proportion of exotic plant species. $35\% \leq$ tree cover $\leq 60\%$.	Mineral cultural woodland ecosite
CUW1-1	Often has large proportion of exotic plant species. $35\% \leq$ tree cover $\leq 60\%$.	Red Cedar cultural woodland type
CUW2-1	Often has large proportion of exotic plant species. $35\% \leq$ tree cover $\leq 60\%$.	Red Cedar cultural alvar woodland type
CVC_1*	Constructed	Commercial and institutional- business sector
CVR_4*	Constructed	Residential-rural property
FOC	Tree cover $>60\%$. Conifer tree species $>75\%$ of canopy cover.	Coniferous forest

Table 3-4: Site Investigation - ELC Vegetation Community Descriptions

ELC Vegetation Community Code	Vegetation Characteristics	Description
FOC1-2	White Pine or Red Pine separately dominant or in variable mixtures. Conifer tree species >75% of canopy cover.	Dry- fresh White Pine- Red Pine coniferous forest type
FOC2	Tree cover >60%. Conifer tree species >75% of canopy cover. Red Cedar or White Cedar separately dominant. Canopy cover varies from patchy to closed conditions. Often represents second growth arising on heavily managed, grazed or disturbed sites.	Dry-fresh cedar coniferous forest ecosite
FOC2-1	Tree cover >60%. Conifer tree species >75% of canopy cover. Red Cedar dominant. Typically invading cleared areas, such as abandoned fields and pastures, or on sites with shallow or no soil over bedrock.	Dry-fresh Red Cedar coniferous forest type
FOC2-2	Tree cover >60%. Conifer tree species >75% of canopy cover. White Cedar dominant or shares dominance with White Spruce or Balsam Fir.	Dry-fresh White Cedar coniferous forest type
FOC4-1	Tree cover >60%. Conifer tree species >75% of canopy cover. Dominated entirely of White Cedar.	Fresh-moist White Cedar coniferous forest type
FOD2-4	Tree cover >60%. Deciduous tree species >75% of canopy cover. Oak dominant with Sugar maple, White Ash, Beech, Basswood, Ironwood and Black Cherry associates. Sugar Maple ≤25% of canopy cover. Represents a transition from dry to fresher sites.	Dry-fresh oak-hardwood deciduous forest type
FOD5-1	Tree cover >60%. Deciduous tree species >75% of canopy cover. Almost entirely dominated by Sugar Maple. When occurring on heavily managed, grazed or disturbed sites, tend to be lacking in shrub and understory vegetation.	Dry-fresh Sugar Maple deciduous forest type
FOD5-8	Tree cover >60%. Deciduous tree species >75% of canopy cover. Sugar Maple with Beech, Red and White Oak, Basswood, Black Cherry, Trembling Aspen, among other associates. When occurring on heavily managed, grazed or disturbed sites, tend to be lacking in shrub and understory vegetation.	Dry-fresh Sugar Maple – White Ash deciduous forest type
FOD5-9	Tree cover >60%. Deciduous tree species >75% of canopy cover. Sugar Maple with Beech, Red and White Oak, Basswood, Black Cherry, Trembling Aspen, among other associates. When occurring on heavily managed, grazed or disturbed sites, tend to be lacking in shrub and understory vegetation.	Dry-fresh Sugar Maple- Red Maple deciduous forest type

Table 3-4: Site Investigation - ELC Vegetation Community Descriptions

ELC Vegetation Community Code	Vegetation Characteristics	Description
FOD6-4	Tree cover >60%. Deciduous tree species >75% of canopy cover. Sugar Maple with Green Ash, Black Ash, White and Yellow Birch, Spicebush, among other associates. Mixture of terrestrial and wetland species.	Fresh-moist Sugar Maple- White Elm deciduous forest type
FOD7-1	Tree cover may be <60%. Deciduous tree species >75% of canopy cover. White Elm, Willows, Basswood, Black Walnut and Maple, Green and Black Ash dominate separately or in variable mixtures. Greater presence of vines, and mixture of herbaceous species common to wet sites.	Fresh-moist White Elm lowland deciduous forest
FOD7-2	Tree cover may be <60%. Deciduous tree species >75% of canopy cover. Green and Black Ash dominated. Greater presence of vines, and mixture of herbaceous species common to wet sites.	Fresh-moist Ash lowland deciduous forest type
FOD9-3	Tree cover >60%. Deciduous tree species >75% of canopy cover. Bur Oak dominated, with White Elm, Green Ash and Basswood. Mixture of terrestrial and wetland species, and represents the forest-swamp interface. Higher abundance and diversity of sedges and ferns.	Fresh-moist Bur Oak deciduous forest type
FOM	Tree cover >60%. Conifer tree species >25% and deciduous tree species >25% of canopy cover.	Mixed forest
FOM2-1	Tree cover >60%. Conifer tree species >25% and deciduous tree species >25% of canopy cover. White Pine with Red Oak >>White Oak.	Dry-fresh White Pine- Oak mixed forest type
FOM2-2	Tree cover >60%. Conifer tree species >25% and deciduous tree species >25% of canopy cover. White Pine with Sugar Maple dominated.	Dry-fresh White Pine- Sugar Maple mixed forest type
FOM4-1	Tree cover >60%. Conifer tree species >25% and deciduous tree species >25% of canopy cover. White Cedar and Birch dominated. Often represents second growth arising on heavily managed, grazed or disturbed sites. Low shrub and herb cover.	Dry-fresh White Cedar- White Birch mixed forest type
FOM8-1	Tree cover >60%. Conifer tree species >25% and deciduous tree species >25% of canopy cover. Typically an early successional forest following a disturbance.	Fresh-moist Poplar mixed forest type
MAM1-1	Tree and shrub cover ≤25%. Dominated by emergent hydrophytic macrophytes, but species less tolerant of prolonged flooding than a marsh (MA).	Reed-canary Grass bedrock meadow marsh type

Table 3-4: Site Investigation - ELC Vegetation Community Descriptions

ELC Vegetation Community Code	Vegetation Characteristics	Description
MAM2-2	Tree and shrub cover $\leq 25\%$. Grasses or sedges usually dominant. Richer areas dominated by clonal species, wave swept, ice scoured areas are sparsely vegetated.	Reed-canary Grass mineral meadow marsh type
MAM2-5	Tree and shrub cover $\leq 25\%$. Grasses or sedges usually dominant. Richer areas dominated by clonal species, wave swept, ice scoured areas are sparsely vegetated. Sedges with leaf width < 5 mm dominant.	Narrow-leaved Sedge mineral meadow marsh type
MAM2-6	Tree and shrub cover $\leq 25\%$. Grasses or sedges usually dominant. Richer areas dominated by clonal species, wave swept, ice scoured areas are sparsely vegetated. Sedges with leaf width > 5 mm dominant.	Broad-leaved Sedge mineral meadow marsh type.
MAS2-1	Tree and shrub cover $\leq 25\%$. Hydrophytic emergent macrophyte cover $\geq 25\%$. Cattail dominated.	Cattail mineral shallow marsh type
MAS2-6	Tree and shrub cover $\leq 25\%$. Grasses, sedges and rushes usually dominant. Hydrophytic emergent macrophyte cover $\geq 25\%$.	Three-square mineral shallow marsh type.
OAGM*	Open, managed agricultural fields.	Open agricultural crops
OAGM1*	Open managed agricultural fields. Annual row crops dominate.	Annual row crops
OAGM2*	Open managed agricultural fields. Perennial cover crops dominate.	Perennial cover crops
OAGM3*	Open managed agricultural fields. Specialty crops dominate.	Specialty crops
OAGM4*	Open managed, pastureland dominates.	Open pasture
OAW*	No canopy cover. Emergent, submergent, and riparian vegetation may be present.	Open water
SWD	Tree cover $> 25\%$. Deciduous tree species $> 75\%$ of canopy cover. Trees > 5 m in height. Dominated by hydrophytic shrub and tree species. Typically fern and sedge rich.	Bur Oak mineral deciduous swamp type
SWD2-2	Tree cover $> 25\%$. Deciduous tree species $> 75\%$ of canopy cover. Trees > 5 m in height. Dominated by hydrophytic shrub and tree species. Typically fern and sedge rich. Green Ash dominated.	Deciduous swamp

Table 3-4: Site Investigation - ELC Vegetation Community Descriptions

ELC Vegetation Community Code	Vegetation Characteristics	Description
SWD3	Tree cover >25%. Deciduous tree species >75% of canopy cover. Trees >5 m in height. Dominated by hydrophytic shrub and tree species. Typically fern and sedge rich. Red, Silver, Swamp, and Manitoba Maples dominate.	Maple mineral deciduous swamp ecosite
SWD3-3	Tree cover >25%. Deciduous tree species >75% of canopy cover. Trees >5 m in height. Dominated by hydrophytic shrub and tree species. Typically fern and sedge rich. Swamp Maple dominated.	Swamp Maple mineral deciduous swamp type
SWT2	Tree cover ≤25%; hydrophytic shrubs >25%. Typically in areas where flooding duration is short.	Mineral thicket swamp ecosite
SWT2-2	Tree cover ≤25%; hydrophytic shrubs >25%. Typically in areas where flooding duration is short. Dominated by willow species.	Willow mineral thicket swamp type
SWT2-5	Tree cover ≤25%; hydrophytic shrubs >25%. Typically in areas where flooding duration is short. Dominated by Red-osier Dogwood.	Red-osier mineral thicket swamp type
SWT2-6	Tree cover ≤25%; hydrophytic shrubs >25%. Typically in areas where flooding duration is short. Dominated by Meadowsweet.	Meadowsweet mineral thicket swamp type
SWT2-9	Tree cover ≤25%; hydrophytic shrubs >25%. Typically in areas where flooding duration is short. Dominated by Gray Dogwood.	Gray Dogwood mineral thicket swamp type
TAGM4*	Agricultural pasture land with planted tree species.	Treed pasture
THDR1*	Deciduous shrub species dominate. Deciduous cover >75%.	Dry - fresh calcareous bedrock deciduous thicket ecosite
WODM4-2*	5%< tree cover <60%. Deciduous tree species dominate, comprising >75% of the canopy cover. Semi-closed treed communities. Represents natural areas typically having unique floras (e.g., Tallgrass Woodland), areas with a cultural legacy. Typically dominated by more invasive herbaceous, shrub, and tree species.	White Ash deciduous woodland type
WODM5-2*	5%< tree cover <60%. Deciduous tree species dominate, comprising >75% of the canopy cover. Semi-closed treed communities. Represents natural areas typically having unique floras (e.g., Tallgrass Woodland), areas with a cultural legacy. Typically dominated by more invasive herbaceous, shrub, and tree species.	Fresh-moist Elm deciduous woodland type

Table 3-4: Site Investigation - ELC Vegetation Community Descriptions

ELC Vegetation Community Code	Vegetation Characteristics	Description
WOMR1	Both coniferous and deciduous tree species cover >25%.	Dry-fresh calcareous bedrock mixed woodland ecosite

* ELC type not included in 1st publication of ELC for Southern Ontario
 None of the communities listed above are considered rare in the province of Ontario.

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
1	Figure 3-3 (Appendix A)	51.3	CUT1-4 CUW1-1 SWD2-2 FOD2-4 FOM7-2 FOM2-1 FOC1-2	This feature is a mix of cultural and forest ecosites. One mixed forest ecosite is consistent with Eastern White Cedar-hardwood dominated forest, with Eastern White Cedar, Trembling Aspen, White Elm and Bur Oak abundant in the sub-canopy and understory. A smaller isolated mixed forest ecosite is dominated by white pine in the canopy and sub-canopy, with raspberry and European Buckthorn in the understory. The deciduous ecosite is small and sloped with a high ridge area. It is comprised primarily of White Ash, white oak, Sugar Maple and Red Oak. The coniferous ecosite is small and narrow, and is dominated by White Pine. The understory is co-dominated by Choke Cherry and Dogwood, while the ground layer is sparse with <i>Potentilla</i> species. A large Green Ash mineral deciduous swamp is included in this feature. A large rectangular area within the feature is comprised of a complex of cultural thicket and cultural woodland.	<ul style="list-style-type: none"> The feature is large and supports forest interior habitat. This feature functions to provide habitat for forest dependent and migrating birds. Snags were occasional, no cavities observed; minor woodpecker evidence in mixed forest. Downed woody debris abundant in FOM2-1 ecosite, occasional within areas of the feature. Exposed rock on the ridge and cracks potentially provides hibernacula habitat. Eastern Gartersnake was abundant within the FOD2-4 ecosite. 	0 m	Access roads Fence lines Collector lines (underground)
2	Figure 3-3 (Appendix A)	7.9	FOC	Comprised of a coniferous forest, adjacent to cultural meadow.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. The feature borders the Odessa Lake Swamp Complex. 	15 m	Collector lines (overhead)
4	Figure 3-3 (Appendix A)	0.5	FOD7-2	This feature is dominated by green and white ash in the sub-canopy, with Red-osier Dogwood, European Buckthorn and White Elm in the understory. Abundant ground layer plants include grass species, aster species, goldenrod and strawberry.	<ul style="list-style-type: none"> The feature is isolated and small with no forest interior habitat. Vernal pools were identified. 	9 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
5	Figure 3-3 (Appendix A)	9.3	SWD2-2 FOM2-1 SWD3-3 FOC2	This feature contains a mixture of deciduous swamp, mixed forest and coniferous forest. One deciduous swamp ecosite is dominated by swamp maple and ash in the canopy and sub-canopy with Blue-beech as an associate in the sub-canopy. Herbaceous species comprise the ground layer, including raspberry, aster species and Enchanter's Nightshade. Extensive pooling and a man-made reservoir associated with a drain were identified within the SWD3-3 ecosite. The other swamp ecosite is ash dominated in the canopy, with white oak, Trembling Aspen and Shagbark Hickory abundant in the canopy and sub-canopy. Freeman's Maple is abundant in the sub-canopy, understory. The middle aged mixed forest is dominated by white pine and Eastern White Cedar in the canopy and sub-canopy. The understory is comprised of white oak, European Buckthorn and Gray Dogwood, while the ground layer is comprised of grass species, strawberry, raspberry, and mosses. A small moist Eastern White Cedar dominated coniferous forest is located adjacent to the mixed forest.	<ul style="list-style-type: none"> The feature is moderately small with no forest interior habitat. Standing snags were occasional and DWD was abundant. Potential habitat for reptiles and amphibians. A large open water area and vernal pools were identified within the feature, and DWD was abundant and Chorus Frog, Gray Treefrog, and American Toad were heard calling in the feature, indicating habitat for amphibians. 	22 m	Access roads Fence lines Collector lines (underground)
7	Figure 3-3 (Appendix A)	2.7	FOM2-1	This feature is dominated by white pine and white oak in the canopy and sub-canopy, with red oak as an associate. Grass species and strawberry are abundant in the ground layer.	<ul style="list-style-type: none"> The feature is moderately small with no forest interior habitat. Snags, downed woody debris, tree cavities and vernal pools were abundant throughout the feature, suggesting the feature potentially provides habitat for birds, bats, and amphibians; Chorus frog was heard calling within the feature. 	10 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
10	Figure 3-3 (Appendix A)	5.3	FOC2-2	This feature is a middle-aged Eastern White Cedar dominated forest. White Spruce is dominant in the canopy, with White Elm associate. Eastern White Cedar, White Spruce and Balsam Fir comprise the sub-canopy, while Eastern White Cedar dominates the understory. Ground layer species include Herb-Robert, feather moss and grasses.	<ul style="list-style-type: none"> The feature is moderately small with no forest interior habitat. No standing snags were identified. Small (<10 cm in diameter) DWD was abundant; larger sized was occasional too rare within the feature. This feature is likely influenced by anthropogenic activities associated with agriculture and nearby residential properties. 	39 m	Access roads Fence lines
12	Figure 3-3 (Appendix A)	1.8	FOD5-9	The deciduous ecosite is dominated by Sugar Maple in the canopy and Ironwood in the sub-canopy, with oak, White Elm and Sugar Maple associates. Wild Strawberry and raspberry in the ground layer are sparse and create little cover.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat; however area sensitive species were identified. Standing snags were occasional within the feature; deadfall/logs abundant (0 – 24 cm in diameter). Existing disturbance in the form of well marked local trails and moderate dumping. 	8 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
13	Figure 3-3 (Appendix A)	79.0	FOM2-2 SWD2-2 SWD3-3 FOD5-8 FOD5-9 FOD7-2	This feature is a mixture of deciduous ecosites. The majority of the feature is comprised of young ash dominated lowland deciduous forest. White Elm, European Buckthorn and Red-osier Dogwood are abundant in the sub-canopy and understory. At the west side of the feature, Sugar Maple dominates the FOD5-9 ecosite, with an ash dominated inclusion. A small strip of mature Green Ash deciduous swamp is represented at the south-east end of the feature, and is associated with a watercourse. Green Ash dominates the ecosite, with White Elm and Black Ash co-dominants. Adjacent to the Green Ash swamp, a fragment of mature mixed forest was identified. The forest is dominated by white pine, with very little vegetation in the ground layer. The maple deciduous swamp is represented by a young canopy of Freeman's Maple, and comprises three open water ponds.	<ul style="list-style-type: none"> The feature functions to provide wildlife habitat. Standing snags and downed woody debris were present. Evidence of woodpecker activity. Areas of permanent standing water and temporary pooling were identified in both the swamp and forest ecosites, indicating potential amphibian habitat. The feature is moderate in size, with little (0.4 ha) forest interior habitat. The feature functions to provide some habitat for area sensitive birds and species adapted to edge habitat. The feature experiences disturbance in the form of local livestock grazing, local trails, and selective logging. 	11 m	Access roads Fence lines Collector lines (underground)
14	Figure 3-3 (Appendix A)	34.7	SWD2-2 SWD3-3 FOD7-2 FOD9-3	The majority of this feature is deciduous swamp. The canopy is co-dominated by Freeman's Maple and Green Ash, the sub-canopy comprised of maple species, Green Ash, and in the SWD2-2 ecosite, Bur Oak. Ground layer species included moss species, Swamp Blue Grass and sedges. The feature is associated with an adjacent farm field which drains into the swamp ecosite. The deciduous forest is dominated by ash, with some areas highly populated with Shagbark Hickory.	<ul style="list-style-type: none"> The feature is moderately sized with 5.9 ha of forest interior habitat. Standing water was observed and pooling was widespread within the SWD3-3 ecosite. A large, open water pond was identified within the swamp. Large, mature trees (DBH up to 50 cm) are abundant. Standing snags were occasional. Light recreational use and trails were observed. 	8 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
15	Figure 3-3 (Appendix A)	1.2	FOM8-1 FOC2-2	The coniferous woodland section of this feature is dominated by ash in the sub-canopy and understory, with Eastern White Cedar as an associate. The mixed forest section is comprised of Trembling Aspen and White Spruce in the canopy, and White Spruce, Balsam Fir, and Eastern White Cedar in the sub-canopy. This feature is in close proximity to feature WO25 and has similar characteristics.	<ul style="list-style-type: none"> The feature is small and has no forest interior habitat. No significant wildlife habitat features noted 	0 m	Access roads Fence lines Collector lines (underground)
16	Figure 3-3 (Appendix A)	0.3	FOC4-1	This feature is a small Eastern White Cedar woodland surrounded by a large cultural meadow. Eastern White Cedar and White Elm dominate the canopy and sub-canopy, with Common Juniper as an understory associate. Ground layer is sparse with mosses and a few grasses, creating 0 – 10% cover.	<ul style="list-style-type: none"> The feature is small and has no forest interior habitat. Standing snags and fallen woody debris were occasional too rare. 	0 m	Access roads Fence lines Collector lines (underground)
18	Figure 3-3 (Appendix A)	120.8	FOC2-2 FOM2-1 SWD2-2	This feature is a mixture of woodland (mixed and coniferous) ecosites with mixed swamp. The coniferous woodland is consistent with a FOC2-2 forest type. Eastern White Cedar shares dominance with White Spruce in the canopy, while Eastern White Cedar dominates the sub-canopy and understory with White Spruce as an associate. The mixed forest is comprised of White Pine and oak. The swamp ecosite is dominated by Green Ash, with sparse willow species in the understory; bulrush and sedges comprise the ground layer.	<ul style="list-style-type: none"> The woodland is large and provides abundant forest interior habitat. The feature functions to provide habitat for forest dependent and migrating birds. Swampland and a large rectangular man-made pond are within the natural feature. Amphibian woodland breeding habitat present during spring flooding. 	9 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
19	Figure 3-3 (Appendix A)	22.8	SWD3-3 FOC4-1	This feature is a mix of coniferous forest and deciduous swamp ecosite. The deciduous swamp ecosite is dominated by Freeman's Maple in the canopy and sub-canopy, with ash and White Elm as understory associates. Stinging nettle, Jack-in-the-pulpit, Sensitive Fern, and <i>Viola</i> species were abundant in the ground layer. The coniferous ecosite is dominated by Eastern White Cedar and White Elm in the canopy and sub-canopy, with Eastern White Cedar and Green Ash in the understory.	<ul style="list-style-type: none"> This feature is moderately sized with minimal forest interior due to its shape. Snags and fallen logs were rare; woodpecker evidence was observed within the swamp and forest ecosites. No pooling was observed within the cedar forest, however vernal pools were abundant in the deciduous swamp indicating potential for amphibian breeding sites; spring peeper and Gray Treefrog were heard calling. 	0 m	Access roads Fence lines Collector lines (underground)
22	Figure 3-3 (Appendix A)	0.9	FOC2-2	Small Eastern White Cedar forest adjacent to a rural road and cultural meadow communities.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. 	89 m	Access roads Fence lines Collector lines (underground) Collector lines (overhead)
23	Figure 3-3 (Appendix A)	3.7	FOD5-8 FOD5-1 FOC2-2	This site is a mixture of Sugar Maple dominated deciduous forest and a coniferous forest ecosite. The feature is consistent with dry-fresh deciduous forest, dominated by Sugar Maple, with white ash associate in the canopy and sub-canopy. The south-western section of the feature is a strip of Eastern White Cedar dominated woodland. Sub-canopy and understory consisted of Eastern White Cedar, Eastern Red Cedar, and White Elm. Herbaceous species in the ground layer included grass, goldenrod and aster species, as well as Wild Carrot.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. Snags were rare; rock piles were observed within the Eastern White Cedar ecosite. Large mast trees (oak) were identified within the deciduous forest area. Disturbance in the form of well marked trails and local fuel wood logging were evident in the Sugar Maple dominated forest area. 	34 m	Access roads Fence lines

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
24	Figure 3-3 (Appendix A)	0.3	FOD6-4	Middle-aged woodland dominated by Sugar Maple, in the canopy, sub-canopy, and understory, with White Elm as an associate in the canopy and sub-canopy. European Buckthorn was observed in the understory. The woodland is associated with a watercourse (drainage ditch).	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. No uncommon species composition or structures were noted. Small (<10 cm) standing snags and downed woody debris were abundant; 10-24 cm were occasional within the feature. 	27 m	Access roads Fence lines Collector lines (underground)
25	Figure 3-3 (Appendix A)	1.1	FOC	Small coniferous woodland abutting Unity Road. This woodlands occurs west of wetland 26.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. 	10 m	Collector lines (overhead)
26	Figure 3-3 (Appendix A)	0.4	FOC2-1	This coniferous forest community is dominated by Eastern White Cedar. The feature was likely historically a larger woodlot which has been divided by an access road, as it is of similar composition and structure as woodlot fragment on opposite of road (woodland 27).	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. This feature is likely influenced by anthropogenic activities associated with the nearby road, buildings and adjacent agricultural field. 	0 m	Access roads Fence lines Collector lines (underground)
27	Figure 3-3 (Appendix A)	0.3	FOC2-1	This coniferous forest community is dominated by Eastern White Cedar. The feature was likely historically a larger woodlot which has been divided by an access road, as it is of similar composition and structure as woodlot fragment on opposite of road (woodland 26).	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. This feature is likely influenced by anthropogenic activities associated with the nearby road, buildings and adjacent agricultural field. 	0 m	Access roads Fence lines Collector lines (underground)
29	Figure 3-3 (Appendix A)	9	FOC2-2	This feature is a Eastern White Cedar Coniferous Forest Type.	<ul style="list-style-type: none"> The feature has no forest interior habitat. This feature is likely influenced by anthropogenic activities associated with nearby road, adjacent pasture lands, and constructed commercial area at south-west corner of forest. 	2 m	Access roads Fence lines Collector lines (underground) Collector lines (overhead)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
30	Figure 3-3 (Appendix A)	16.2	FOD5-8 FOC2-2 FOM4-1 SWD2-1	This feature is a mixture of forested ecosites with deciduous swamp on the north-west side of the feature. The deciduous forest is predominantly comprised of white ash, Eastern White Cedar, Sugar Maple, White Elm, Shagbark Hickory, and bitternut hickory. Canada bluegrass and sedges are abundant in the ground layer. The coniferous forest is dominated by Eastern White Cedar, with White Spruce, Green Ash, Eastern Red Cedar and White Elm associates in the canopy and sub-canopy. Herbaceous species in the ground layer include grass species, enchanter's nightshade and lance-leaved aster. The Eastern White Cedar ecosite is sloped towards the deciduous swamp wetland which is dominated by Black and Green Ash. The deciduous swamp lands are associated with large wetland adjacent to feature.	<ul style="list-style-type: none"> The feature is moderately sized, with no forest interior habitat. Large snag identified within FOC2-2; occasional snags within feature. No evidence of bat use. Exposed bedrock with cracks and loose rocks potentially provides snake hibernacula habitat in the FOD5-8 ecosite. 	13 m	Access roads Fence lines Collector lines (underground) Collector lines (overhead)
31	Figure 3-3 (Appendix A)	3.4	SWD	Small woodland bordering a large meadow marsh (WE15).	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. The feature borders a large meadow marsh. 	19 m	Collector lines (overhead)
33	Figure 3-3 (Appendix A)	2.8	FOC	Small coniferous woodland sandwiched between Westbrook Road and Highway 71.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. 		Collector lines (overhead)
34	Figure 3-3 (Appendix A)	2.0	FOC	Small coniferous woodland sandwiched between Westbrook Road and Highway 71.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. 	12 m	Collector lines (overhead)
35	Figure 3-3 (Appendix A)	8.0	FOM7-1	Mixed forest occurring opposite from accessible lands across Highway 38.	<ul style="list-style-type: none"> The woodland is moderately sized, with no forest interior habitat. 	28 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
36	Fig 3-4 (Appendix A)	0.8	SWD2-2 FOC1-2	This feature is a Green Ash deciduous swamp with a fragment of white pine coniferous forest. The canopy and sub-canopy is comprised of Green Ash, White Elm and Freeman's Maple. Red-panicked Dogwood is abundant in the understory with Green Ash and White Elm associates. Grass species dominate the ground layer. White Pine dominated the canopy and sub-canopy of the FOC1-2 ecosite, with occasional Eastern White Cedar. Chokecherry and red dogwood equally dominated the understory. The ground layer vegetation was sparse, <i>Potentilla</i> species comprised the majority of the ground layer.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. Standing snags and downed woody debris were rare in the feature. One large pool was identified and pooling was present in the feature. Chorus Frog was heard calling and Northern Leopard Frog was observed within the feature, indicating amphibian habitat. 	0 m	Access roads Fence lines Collector lines (underground)
37	Fig 3-4 (Appendix A)	0.9	FOD7-1	This lowland deciduous feature is dominated by White Elm in the sub-canopy and understory, with Sugar Maple and Bitternut Hickory as associated in the sub-canopy and Red-osier Dogwood in the understory. Virginia strawberry, heart-leaved aster and poison ivy abundant in the ground layer.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. No snags were observed and deadfall/logs were rare within the feature. 	0 m	Access roads Fence lines Collector lines (underground)
38	Figure 3-3 (Appendix A)	0.7	FOC2-2	Comprised of a dry-fresh Eastern White Cedar coniferous forest, adjacent to cultural meadow, active agricultural fields, and residential properties.	<ul style="list-style-type: none"> The feature is small with no forest interior habitat. 	54 m	Access roads Fence lines Collector lines (overhead)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
39	Figure 3-3 (Appendix A)	0.7	FOD7-2	This lowland deciduous feature is dominated by ash, with Gray Dogwood and in the understory, creating <25% cover. Strawberry is abundant in the ground layer, creating >60% cover.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. No uncommon species or features were identified. Standing snags and deadfall were rare. Brush and rock piles outside of the feature, across adjacent field provide potential nearby hibernacula habitat. The lowland feature experiences light, local pooling. Vernal pools and a small pool with duckweed was observed in adjacent cultural meadow. This feature is likely influenced by anthropogenic activities associated with nearby roads and adjacent agricultural field. 	0 m	Access roads Fence lines Collector lines (underground) Collector lines (overhead)
40	Figure 3-3 (Appendix A)	1.1	FOC2-2	This feature is a middle-aged coniferous woodland dominated by ash in the sub-canopy and understory, with Eastern White Cedar as an associate. Herbaceous plants in the understory include grasses, goldenrod, asters and Wild Carrot. This feature is in close proximity to feature WO24 and has similar characteristics.	<ul style="list-style-type: none"> The feature is small and has no forest interior habitat. No significant wildlife habitat features noted. 	0 m	Access roads Fence lines Collector lines (underground)
41	Figure 3-3 (Appendix A)	1.1	FOC2-2	This feature is a middle-aged coniferous woodland dominated by ash in the sub-canopy and understory, with Eastern White Cedar as an associate. Herbaceous plants in the understory include grasses, goldenrod, asters and Wild Carrot. The feature is surrounded by cultural ecosites.	<ul style="list-style-type: none"> The feature is small and has no forest interior habitat. 	0 m	Access roads Fence lines Collector lines (underground)
42	Figure 3-3 (Appendix A)	0.2	FOC2-2	Small Eastern White Cedar stand existing as an inclusion within a cultural meadow community.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. 	0 m	Access roads Fence lines Collector lines (underground)

Table 3-5: Site Investigation - Woodland Descriptions

Woodland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	Feature Description	Feature Attributes and Functions	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
43	Figure 3-3 (Appendix A)	0.1	FOC2-2	Small Eastern White Cedar stand existing as an inclusion within a cultural meadow community.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. 	63 m	Access roads Fence lines
44	Figure 3-3 (Appendix A)	0.3	FOC2-2	Small Eastern White Cedar stand existing as an inclusion within a cultural meadow community.	<ul style="list-style-type: none"> The woodland is small, with no forest interior habitat. 	0 m	Access roads Fence lines Collector lines (underground)

*ELC type not included in 1st publication of ELC for Southern Ontario
 None of these ELC communities are rare in Ontario.

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
2	Figure 3-4 (Appendix A)	12.3	SWD2-2 MAS	hS	This wetland is located north of highway 401 (Figure 3-5, Appendix A). Nearly one third of northern portion of this feature is located within 120 m setback of the project location. This feature is predominantly Swamp Maple and Green Ash mineral deciduous swamp but the southern portion is dominated by cattail marsh. Tall and low shrubs occasionally found on its outer limits and rarely within the swamp. These shrubs include willow, Red-osier Dogwood, Gray Dogwood and Narrow-leaved Meadow-sweet. This wetland was classified as <i>Palustrine</i> following Site Investigation. This feature receives inflow from an intermittent stream and has a permanent outflow (Figure 3-7, Appendix A).	25 m	Fence line
3	Figure 3-4 (Appendix A)	1.0	SWT2	hS	This wetland is located adjacent to predominantly agricultural lands in the southeastern portion of the Project Location (Figure 3-5, Appendix A). This wetland is predominantly mineral thicket swamp and is dominated by tall shrubs such as Red-osier Dogwood, Slender Willow, Gray Dogwood and Narrow-leaved Meadow-sweet. This wetland was classified as <i>Palustrine</i> following Site Investigation as there was evidence of hydrological connections to a drain that provides inflow and outflow around this wetland. It was concluded that surface flow is the primary water supply to this wetland. The interior habitat of this feature contains scattered seasonal pools which are candidate significant amphibian breeding habitat. A <i>Vermivora</i> warbler (Blue-winged or Golden-winged Warbler) was heard singing west of this wetland during summer breeding bird surveys.	24 m	Access road Fence line

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
7	Figure 3-4 (Appendix A)	3.0	SWD5-2	hS	This wetland is surrounded by predominantly upland forest and is located along the northwestern portion of the Project Location (Figure 3-5, Appendix A). This wetland is predominantly deciduous swamp with Freeman Maple, Green Ash and an array of tall shrub species which includes Red-osier Dogwood, Gray Dogwood and Narrow-leaved Meadow-sweet. The western portion of this wetland is dominated by a mix of conifer and deciduous trees. The ground layer is covered by moss and various sedge species. This wetland was classified as <i>Palustrine</i> following Site Investigation. A small drain to the east of the wetland connects this feature to a stream that flows through adjacent lands on the east. The interior habitat of this feature contains scattered pools which are candidate significant amphibian breeding habitat. No rare species were identified during Site Investigations.	86 m	Fence line
11	Figure 3-4 (Appendix A)	32.1	SWD2-2	hS	This wetland is located adjacent to agricultural lands at the centre of the Project Location, south of Unity Road (Figure 3-5, Appendix A). Predominantly deciduous swamp, this wetland is dominated by Swamp Maple, Green Ash and Silver Maple. Tall shrubs such as Red-osier Dogwood, willows (Slender, Pussy, and Black), Gray Dogwood and Narrow-leaved Meadow-sweet dominate the swamp peripheries. Isolated marsh areas consisting of Reed Canary Grass, Cattail and sedges occur within wetland 11. This wetland was classified as <i>Riverine</i> following Site Investigation as a stream bisects it. This stream merges with Glenvale Creek south of the wetland. A review of the base flow map, prepared through AMEC's hydrogeology work (presented under separate cover), shows the wetland receives contribution from the stream but also surface run-off contributions from adjacent agricultural lands. The interior habitat of this feature contains scattered pools with 25 - 40 cm of water; these pools are potentially significant wildlife habitat. There were no rare species identified during site investigations.	12 m	Fence line Access road Collector lines (underground)

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
13	Figure 3-4 (Appendix A)	0.05	SWD3-3 SWD2-2	hS	This wetland is located on the eastern side of the Project Location and is predominantly surrounded by agricultural lands on the east and close feature Wetland 11 on the west (Figure 3-5, Appendix A). This deciduous swamp is dominated by Swamp Maple and Green Ash. Tall shrubs such as Red-osier and Narrow-leaved Meadow-sweet are occasional on the peripheries of the feature. Reed Canary Grass occurred at the western side with various sedges. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connection to a stream or river was observed. Surface flow is the main source of water to this wetland. The interior habitat of this feature contains seasonal pools. No rare species were identified during site investigations.	0 m	Fence Line
17	Figure 3-4 (Appendix A)	7.9	SWD3	hS	This wetland is located on the south western side of the Project Location and is predominantly surrounded by agricultural lands on the east and feature Wetland 18 on the west (Figure 3-5, Appendix A). This deciduous swamp is dominated by Swamp Maple and tall shrubs such as Red-osier and Gray Dogwood with occasional Narrow-leaved Meadow-sweet. Reed Canary Grass occurred along the edges with various sedges. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connection to a stream or river was observed. Surface flow is the main source of water to this wetland. The interior habitat of this feature contains seasonal pools which are candidate significant amphibian breeding habitat. No rare species were identified during site investigations.	24 m	Collector lines (overhead) Collector lines (underground)

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
18	Figure 3-4 (Appendix A)	70	MAM2-2	sM	This wetland is the largest feature within the Project Location and occurs within the southeastern portion of the Project Location (Figure 3-5, Appendix A). Due to limited access to this wetland, the evaluation was mainly based on desktop and field information collected from accessible areas on participating properties. This wetland is dominated by Green Ash swamp in the south and graduates northwards into a Reed Canary Grass mineral meadow marsh (Figure 3-5, Appendix A). This wetland was classified as <i>Riverine</i> due to presence of permanent stream flowing through this feature. The wetland is a floodplain of this stream. No rare species were identified during Site Investigations; however, this feature represents the only potential breeding habitat for Northern Harrier or Short-eared Owl in the Project Location.	29 m	Access road Collector lines (overhead) Collector lines (underground) Fence line
25	Figure 3-4 (Appendix A)	0.1	SWD3-2	hS	This small wetland is an inclusion within a deciduous forest in the northeastern portion of the subject lands (Figure 3-5, Appendix A). This wetland is predominantly Swamp Maple mineral deciduous swamp with tall shrubs such as Red Osier Dogwood, Gray Dogwood and occasional Narrow-leaved Meadow-sweet. Additionally, it contains marsh areas dominated by Reed Canary Grass, Cattail and sedges. This wetland was classified as <i>Palustrine</i> following Site Investigation. It has not inflow, yet outflow occurs through a drain that connects this feature to two adjacent wetlands (wetland 3 and a wetland greater than 120 m from the Project Location) south of the property. This drain is approximately 1 m wide and 0.5 m deep. The interior habitat of this feature contains 20 - 30 cm of water with narrow emergents such as Fowl Bluegrass, Manna Grass and sedges. This wetland is potentially significant wildlife habitat. There were no rare species identified during site investigations.	19 m	Access road Collector lines (underground) Fence line

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
26	Figure 3-4 (Appendix A)	0.29	MAM2	mM	This wetland is located adjacent to agricultural lands in the northwestern portion of the Project Location (Figure 3-5, Appendix A). This wetland is predominantly meadow marsh comprised of sedge and grass species and occasional Red-osier Dogwood and Narrow-leaved Meadow-sweet. A few stands of Swamp Maple and White Elm are scattered within the wetland. Soils are predominantly medium sandy loam overlaying coarse sand. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connections to a stream or river was observed. Surface flow is the main source of water supply to this wetland. The interior habitat of this feature contains pools which are candidate significant amphibian breeding habitat. No rare species identified during Site Investigations.	0 m	Access road Collector lines (overhead) Fence line
27	Figure 3-4 (Appendix A)	0.05	OAW	hS	This wetland is predominantly surrounded by upland forest and is located in the western portion of the Project Location (Figure 3-5, Appendix A). This wetland is predominantly open water with Swamp Maple, Green Ash, Trembling Aspen and Red Oak along its edges. Tall shrubs such as Red-osier Dogwood, Gray Dogwood, and Narrow-leaved Meadow-sweet dominate the understory layer while narrow emergent species including Fringed Sedge, Common Rush and Fowl Bluegrass grow among ground cover species such as Field Horsetail and Sweet Coltsfoot. Open water areas measured approximately 30 cm at the edges and were possibly deeper their centre. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connection to a stream or river was observed. A review of the base flow map, prepared through AMEC's hydrogeology work (presented under separate cover), shows southward flow towards the Project Location. It was concluded that surface flow is the main source of water supply to this wetland. No rare species were identified during site investigations.	51 m	Access road Collector lines (underground) Fence line

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
28	Figure 3-4 (Appendix A)	0.33	SWD3-3	M	This wetland is located on the northwestern side of the Project Location and is predominantly surrounded by upland forest (Figure 3-5, Appendix A). This deciduous swamp is dominated by Swamp Maple and tall shrubs such as Red-osier and Gray Dogwood with occasional Narrow-leaved Meadow-sweet. Reed Canary Grass occurred along the edges with various sedges. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connection to a stream or river was observed. Surface flow is the main source of water to this wetland. The interior habitat of this feature contains seasonal pools which are candidate significant amphibian breeding habitat. No rare species were identified during site investigations.	102 m	Fence line
29	Figure 3-4 (Appendix A)	0.13	SWD2-2	hS	This wetland is a small inclusion within an upland forest on the northern aspect of the Project Location (Figure 3-5, Appendix A). This wetland consists of deciduous swamp with a Green Ash and Red Oak canopy and a ground layer covered by narrow emergent Fowl Bluegrass, moss and a few sedges. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connection to other wetlands was observed. No other details of this feature could be obtained during the Site Investigation as access to this property was denied.	82 m	Fence line

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
30	Figure 3-4 (Appendix A)	0.81	MAM2	mM	This feature is located adjacent to predominantly agricultural lands on the northeastern side of the Project Location. The southern edge of this wetland is located 24 m from the Project Location. It is a mineral meadow marsh dominated by sedges, Dark-green Bulrush and Red-osier Dogwood. Young Swamp Maple and Eastern White Cedar stands are sporadic within this natural feature as are numerous seasonal pools scattered within the marsh area. Water levels in the pools measured approximately 20 - 30 cm in depth during the Site Investigation. Soils predominantly consisted of very fine sandy clays with shallow mottles occurring at 8 cm. This wetland was classified as <i>Isolated</i> type following Site Investigation as there was no evidence of hydrological connections to nearby streams or rivers. Surface flow is the main source of water to this wetland. The interior habitat of this feature contained scattered pools which are potentially significant amphibians breeding habitat. No rare species were identified during Site Investigations.	27 m	Access road Fence line
31	Figure 3-4 (Appendix A)	13.3	SWT2 MAS2-1 MAM2-2	tS	This wetland is located adjacent to predominantly agricultural lands on the northeastern portion of the Project Location. This wetland is predominantly thicket swamp, dominated by tall shrubs such as Red-osier Dogwood, willows (Slender, Pussy, and Black), Gray Dogwood and Narrow-leaved Meadow-sweet. There are marsh areas present, which are dominated by Reed Canary Grass, Cattails and sedges. This wetland was classified as <i>Isolated</i> following Site Investigation as no evidence of hydrological connections to a stream or river was observed. Surface flow is the main source of water supply to this wetland. A review of the base flow map, prepared through AMEC's hydrogeology work (presented under separate cover), shows southward flow towards the Project Location (Figure 3-5, Appendix A). All project components extend from north to south of the agricultural field (Figure 3-5, Appendix A). The interior habitat of this feature contains scattered pools which are candidate significant turtle nesting habitat. No rare species identified during site investigation.	26 m	Access road Collector lines (underground) Fence line

Table 3-6: Site Investigation - Wetland Descriptions

Wetland Feature ID	Figure Reference	Size (ha)	ELC Vegetation Community Code(s)	OWES Codes	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
32	Figure 3-4 (Appendix A)	76.8	MAM2-2	sM	This feature consists of Reed Canary Grass mineral meadow marsh with Cattails. Belted Kingfisher was observed along the road to the north of this feature. This feature represents the only potential breeding habitat for Northern Harrier or Short-eared Owl in the Project Location.	0 m	Collector lines (overhead)
33	Figure 3-4 (Appendix A)	2.12	MAS2-1	sM	This feature was not accessible as no permission was received by the landowner. Vegetation appeared to be dominated by cattails. This feature was delineated using aerial photography.	m	Fence line

Table 3-7: Site Investigation – ELC Descriptions for Habitats of Seasonal Concentrations of Animals

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
Raptor Wintering Areas (WR)					
WR1	Field surveys Aerial photograph interpretation	CUM1-1 CUT-1-4 CUT1-7* CUW2-1 CVR-4 FOC1-2 FOD7-1 FOM2-1 OAGM2* SWD2-2	ELC vegetation communities consist primarily of dry – moist old field meadow, open agricultural perennial cover crops, and open pasture. Additional communities mainly within the southern portion of the potential raptor habitat include dry – fresh White Pine – oak mixed forest, dry – fresh White Pine – Red Cedar coniferous forest, Gray Dogwood cultural thicket, Green Ash mineral deciduous swamp, and a Red Cedar cultural alvar woodland type. A number of hedgerows are situated between fields.	0 m	Access roads Fence lines Collector lines (underground)
WR2	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-4 CUT2-1 CUW1-1 CVR-4 FOC2 FOD7-2 FOM2-1 MAM2-6 OAGM2* SWD2-2 SWD3-3 WODM5-2*	ELC vegetation communities consist primarily of dry – moist old field meadow, open agricultural perennial cover crops, and open pasture. A dry- fresh White Pine- oak mixed forest covers a large area within the southern end of the candidate raptor habitat, along with a smaller proportion of graminoid mineral meadow marsh, Green Ash mineral deciduous swamp and Red Cedar cultural woodland community types. A number of hedgerows are situated between fields. An American Kestrel and Short-Eared Owl were observed. (Short-Eared Owl observation described by Stantec [2011]).	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-7: Site Investigation – ELC Descriptions for Habitats of Seasonal Concentrations of Animals

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
WR3	Field surveys Aerial photograph interpretation	CUM1-1 CUM2 CUT1-7* CUT2-1 CUW2-1 CVR-4 FOC2-2FOC4-1 FOD5-4 FOD8-1 FOD9-3 FOM4-3 FOM5-2 FOM8-1 FOMM10-2* MAM1-1 MAM2-6 OAGM2* OAGM4* OAW* SWD1-2 SWT2-2 WODMS-2*	This area of potential habitat is composed of a mosaic of open country and woodland community types. The largest and most predominant of these communities is low-intensity agricultural such as hay field and pasturelands while old-field and bedrock cultural meadow is also present. Mixed forests (dry- fresh White Cedar-white birch, fresh - moist white spruce- hardwood, and dry- fresh poplar) and deciduous forests (fresh- moist poplar and fresh- moist Bur Oak) are common communities located within the potential habitat. Less abundant communities include Red Cedar cultural alvar woodland, Reed Canary Grass bedrock meadow marsh, broad-leaved sedge mineral meadow marsh, Red-osier Dogwood cultural thicket, fresh- moist elm deciduous woodland, and a rural property. A large open water dug-out pond (manmade) is present. A number of hedgerows are situated between fields.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-7: Site Investigation – ELC Descriptions for Habitats of Seasonal Concentrations of Animals

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
WR4	Field surveys Aerial photograph interpretation	CUM1-1 CUM2 CUS1-2 CUT1-4 FOC2-2 FOC4-1 FOD7-2 FOM8-1 MAM2-2 MAM2-5 MAS2-6 OAW* SWD2-2 SWD2-6 SWD3-3 SWD3-6	This area of potential habitat consists of a mixture of several vegetation community types. The largest and most predominant of these communities are dry – moist old field meadow and open agricultural (specialty crops). A large proportion of the habitat consists of treed communities such as deciduous swamps (Green Ash mineral and Swamp Maple mineral), Meadow-sweet mineral thicket swamp, fresh- moist ash lowland deciduous forest, and a dry- fresh White Cedar coniferous forest type. Narrow-leaved sedge and Reed Canary Grass mineral meadow marshes are also present. A large open water dug-out pond (manmade) is present in the lower south-west corner of the habitat. A number of hedgerows are situated between fields.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
WR5	Field surveys Aerial photograph interpretation	CUM1-1 CUT4 FOC2-2 FOC4-1 MAM2-2 OAGM2* SWD1-2 SWD2-2 SWD3 THDR1* WOMR1*	The majority of this habitat is comprised of fields of open cultural perennial cover crops. Along the northern edge of the habitat is a portion of a Reed Canary Grass mineral meadow marsh community. Communities present in much smaller proportions include coniferous forest types (dry- fresh White Cedar and fresh- moist White Cedar), deciduous swamp types (Green Ash mineral and maple mineral), dry- fresh calcareous bedrock deciduous thicket, and dry – moist old field meadow. An American Kestrel was observed.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-7: Site Investigation – ELC Descriptions for Habitats of Seasonal Concentrations of Animals

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
WR6	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-7 CUT2-1 CUW1-1 CVR-4 FOC2-2 FOD5-8 FOD7-2 FOM2-2 FOM2-1 MAM2-6 OAGM2* OAGM-4* SWD2-2 SWT2-5 WODM4-2*	This large area consists of a variety of cultural open country community types. Dry – moist old field meadow and open pasture are both present and hay fields dominate. Broad-leaved sedge mineral meadow marsh was also identified within this habitat. Rural properties occur in the southern portion and a large open dug-out pond (man-made) is located at the centre of the habitat. A number of hedgerows are situated between fields. Forested lands border the east and west boundaries of this winter raptor area. Forest communities dry- fresh White Cedar coniferous forest, dry- fresh White Pine- Sugar Maple mixed forest Green Ash mineral deciduous swamp, Common Juniper cultural alvar thicket, Red-osier Dogwood cultural thicket, and Red Cedar cultural woodland.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
Reptile Over-wintering Areas – Snake (SH)					
SH1	Field surveys – Area search	CUM1-1	Abandoned farmhouse in old field cultural meadow.	19 m	Access roads Fence lines Collector lines (underground)
SH3	Field surveys – Area search	CUW2-1	Area of exposed bedrock with many rock fissures located in Red Cedar cultural alvar woodland.	0 m	Access roads Fence lines Collector lines (underground)
SH4	Field surveys – Area search	CUM1-1	Fissures in bedrock in Gray Dogwood cultural thicket (CUT1-4) and dry-moist old field meadow.	0 m	Access roads Fence lines Collector lines (underground)

Table 3-7: Site Investigation – ELC Descriptions for Habitats of Seasonal Concentrations of Animals

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
SH7	Field surveys – Area search	OAGM2	Debris from fallen building and large rocks located within a hay field.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
SH26	Field surveys – Area search	CUS2	Crack in bedrock in Red Cedar shrub habitat	29 m	Collector lines (overhead)
SH27	Field surveys – Area search	WOMR1*	Ridge with many boulders and rocky outcrops.	59 m	Fence lines
SH28	Field surveys – Area search	WOMR1*	Ridge with many boulders and rocky outcrops.	32 m	Access roads Fence lines
SH30	Field surveys – Area search	THDR1*	Bedrock with crevices, fissures and holes, and long extended cracks within a dry-fresh calcareous bedrock deciduous thicket, dominated by Common Lilac.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
SH33	Field surveys – Area search	CUM2	Exposed bedrock in alvar with fissures located in a bedrock cultural meadow.	0 m	Access roads Fence lines Collector lines (underground)
SH43	Field surveys – Area search	OAGM*	Small mammal burrow occurring within a hedgerow separating hay fields.	37 m	Access roads Fence lines
Reptile Over-wintering Areas – Turtle(TOW)					
TOW6	Field surveys – Area search	OAW*	This open water pond is a man-made dug-out within a sheep pasture. It is relatively large with a width over 60 m and a length of 100 m.	98 m	Access roads Collector lines (overhead)

Table 3-7: Site Investigation – ELC Descriptions for Habitats of Seasonal Concentrations of Animals

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Components Within 120 m
TOW8	Field surveys – Area search	OAW*	This open water pond is a man-made dug-out within a Swamp Maple mineral deciduous swamp type. It is relatively large at over 30 m wide and 60 m long.	72 m	Access roads Fence lines
TOW11	Field surveys – Area search	OAW*	This open water pond is a man-made dug-out within an active hayfield and bordered by a residential property. It is connected by a drain to a Reed Canary Grass mineral meadow marsh. No emergent vegetation.	76 m	Access roads Fence lines Collector lines (underground)
TOW14	Field surveys – Area search	OAW*	This open water pond is a man-made dug-out surrounded by disturbed land. It is bordered on one side by a swamp with standing water and vernal pools. This pond is relatively large, measuring approximately 80 m wide and 150 m long.	51 m	Access roads Fence lines Collector lines (underground)

*ELC type not included in 1st publication of ELC for Southern Ontario
 None of these ELC vegetation communities considered rare in Ontario

Table 3-8: Site Investigation - ELC Descriptions for Specialized Habitat for Wildlife

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Type(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
<i>Habitat for Area-sensitive Species - Interior Forest Breeding Birds (IF)</i>					
IF4	Field surveys Aerial photograph interpretation	FOC2-1 FOM2-1 SWD2-2	This feature is 120.8 ha in size (40.4 ha interior area). Mixture of forest (dry-fresh White Cedar coniferous and dry-fresh White Pine - oak mixed) ecosites with Green Ash mineral deciduous swamp.	9 m	Access roads Fence lines Collector lines (underground)
<i>Habitat for Area-sensitive Species - Open Country Breeding Birds (OCBB)</i>					
OCBB2	Field surveys Aerial photograph interpretation	CUM1-1 OAGM3	Currently farmed hay fields and cultural meadow (CUM1). Hay was cut in the summer. Habitat is bordered by cultural thicket and cultural woodland. Aerial photography indicated pooling of water during wet seasons. Vegetation community is largely cultural and no rare vegetation species are present. This habitat area is greater than 30 ha (34.9 ha)	0 m	Access roads Fence lines Collector lines (underground)
OCBB3	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-4 OAGM2	Habitat consists of currently farmed hay fields, and cultural meadow separated by hedgerows. Hay was cut during the summer of 2011. This habitat area is greater than 30 ha (33.9 ha). Vegetation community is largely cultural and no rare vegetation species are present. Aerial photography indicated pooling of water during wet seasons.	0 m	Access roads Fence lines Collector lines (underground)
OCBB4	Field surveys Aerial photograph interpretation	CUM1-1 CUM2 CVR4 MAM1-1 MAM2-6 OAGM2 OAGM4	This habitat area consists of a wide variety of open habitats. Old hay fields and pasturelands dominate the habitat, though the eastern half of this habitat is largely bedrock meadow with patches of limestone pavement and sporadic small meadow marshes. Areas of bedrock meadow, in particular, provide specialized habitat for open country birds. Vegetation community is largely cultural and no rare vegetation species are present. This habitat area is greater than 30 ha (77.9 ha)	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-8: Site Investigation - ELC Descriptions for Specialized Habitat for Wildlife

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Type(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
OCBB7	Field surveys Aerial photograph interpretation	CUM1-1 CUM2	Habitat consists of old hay fields or unused pastureland. Vegetation community is largely cultural and no rare vegetation species are present. This habitat area is greater than 30 ha (58.4 ha)	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
OCBB9	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-4 CVR-4 MAM2-6 OAGM2 OAGM4	A large (291.5 ha) open country habitat consisting of active pasture, used agricultural land and active hayfields. This habitat area extends well north of Unity Road and away from rural building and regular human activity.	0 m	Access roads Fence lines Collector lines (underground) Collector lines (overhead)
Amphibian Breeding Habitat – Woodland (ABF)					
ABF1	Field surveys Aerial photograph interpretation	SWD2-2	Comprised of a middle-aged Green Ash mineral deciduous swamp with White Elm and Swamp Maple associates. Gray Dogwood is abundant in the understory and a variety of grasses dominate the ground cover. One Leopard Frog was observed and a Chorus Frog was heard. Vernal pools are present within this feature including one 15 m x 10 m oval-shaped pool.	0 m	None
ABF2	Field surveys Aerial photograph interpretation	SWD2-2	Comprised of a middle-aged Green Ash mineral deciduous swamp with oak, Trembling Aspen, and Shagbark Hickory associates. Swamp Maple and White Elm are found in the sub-canopy and understory, and the ground cover is comprised of grasses, ferns and asters. A Gray Treefrog and Chorus Frog were heard.	21 m	Access roads Fence lines

Table 3-8: Site Investigation - ELC Descriptions for Specialized Habitat for Wildlife

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Type(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
ABF4	Field surveys Aerial photograph interpretation	FOD7-2	Comprised of fresh-moist ash lowland deciduous forest community dominated by Green Ash in the canopy and White Elm, Common Buckthorn, Red-osier Dogwood, grass and aster plant associates. Numerous vernal pools were observed within the forest community. A hedgerow with an open canopy and dense Red-osier Dogwood and viburnum patches also comprises this feature. A wet depression within the hedgerow was identified as potential amphibian breeding habitat. A Leopard Frog was observed and a Chorus frog was heard.	4 m	Access roads Fence lines Collector lines (underground)
ABF5	Field surveys Aerial photograph interpretation	FOM2-1 MAM2-6	Comprised of a middle-aged dry-fresh White Pine – Red Oak mixed forest community with, Shagbark Hickory, Sugar Maple, Blue Beech, Red-osier Dogwood, and Balsam Fir associates. Grass species, Wild Strawberry, Heart-leaved Aster, and mosses comprise the ground cover. There is a broad-leaved sedge mineral meadow marsh inclusion which leads into a potential amphibian movement corridor. Vernal pools were observed throughout the mixed forest. A Chorus Frog was heard.	10 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
ABF9	Field surveys Aerial photograph interpretation	FOD7-2 OAW* SWD2-2 SWD3-3 SWT2-2	A mature fresh-moist ash lowland deciduous forest dominated by Green Ash and Shagbark Hickory, with Bur Oak, White Ash, Ironwood as associates in the canopy; Blue Beech in the understory; and Virginia Creeper and Black Raspberry comprising the ground cover. A man-made open water pond is present within this feature, as well as two Green Ash mineral deciduous swamp communities. One of these swamps has Bur Oak, Red-osier Dogwood, grass, and sedge associates. A willow mineral thicket swamp is present within the swamp community as an inclusion. A Gray Treefrog was observed in the second Green Ash-dominated swamp. A Swamp Maple mineral deciduous swamp also exists within this feature. Green Ash, Sugar and Red Maple are abundant in the canopy, while White Elm and White Meadowsweet comprise the understory. The ground cover is dominated by grasses. The depth of standing water within the Swamp Maple swamp community is 10 cm, with some pools reaching depths up to 20 cm.	10 m	Access roads Fence lines Collector lines (underground)

Table 3-8: Site Investigation - ELC Descriptions for Specialized Habitat for Wildlife

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Type(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
ABF10	Field surveys Aerial photograph interpretation	SWD3-3	Comprised of a Swamp Maple mineral deciduous swamp community with Green Ash, White Elm associates. <i>Rubus</i> species is abundant in the understory, and the ground cover is comprised of a variety of species including Sensitive Fern, Jack-in-the-pulpit, and Stinging Nettle. Abundant vernal pools were observed. One Gray Treefrog was heard.	22 m	Access roads Fence lines Collector lines (underground)
ABF14	Field surveys Aerial photograph interpretation	SWD3-3	Comprised of a Swamp Maple mineral deciduous swamp community with White Elm, Blue Beech and Common Buckthorn associates. Wild Strawberry, <i>Rubus</i> species and grasses comprise the ground cover.	96 m	Fence lines
ABF15	Field surveys Aerial photograph interpretation	n/a	A Green Ash dominated hedgerow comprises this feature. Bitternut Hickory is present in the understory. The ground cover is comprised of violets, Sensitive Fern, Bedstraw, Hairy-stem Gooseberry and Jack-in-the-pulpit. There is a small vernal pool and wetland area present within this hedgerow.	30 m	None
ABF-16	Field surveys Aerial photograph interpretation	SWD2-2	A large Green Ash mineral deciduous swamp is included in this feature containing occasional snags and downed woody debris. Occurs adjacent to a mixture of cultural and forest ecosites.	25 m	Access roads Fence lines Collector lines (underground)
Amphibian Breeding Habitat – Wetland (ABW)					
ABW6	Field surveys Aerial photograph interpretation	OAGM4* OAW*	This relatively large open water pond is a manmade dugout located within an open agricultural pasture.	98 m	Access roads Fence lines Collector lines (overhead)
ABW7	Field surveys Aerial photograph interpretation	MAS2-1	Comprised of a Cattail mineral shallow marsh community.	58 m	Access roads Fence lines

Table 3-8: Site Investigation - ELC Descriptions for Specialized Habitat for Wildlife

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Type(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
ABW8	Field surveys Aerial photograph interpretation	SWD2-2	Comprised of a Green Ash mineral deciduous swamp community that exists as an inclusion within a fresh-moist poplar mixed forest (FOM8-1).	0 m	None
ABW-9	Field surveys Aerial photograph interpretation	MAM2-2	Comprised of a Reed-canary grass mineral meadow marsh community with Black and Green Ash, Swamp Maple, and willow associates.	18 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
ABW10	Field surveys Aerial photograph interpretation	MAM2-2 MAS2-1	Comprised of a Reed-canary Grass mineral meadow marsh with White Elm, Red-osier Dogwood and willow species associates, as well as a Cattail mineral shallow marsh community.	21 m	Access roads Fence lines Collector lines (underground)
ABW11	Field surveys Aerial photograph interpretation	OAW*	This open water pond is a man-made dug out. It occurs within a disturbed area. Wet habitat species occur here such as Reed-canary Grass, willows, Cottonwood, Swamp Maple, and bulrushes. A Spring Peeper was heard in the adjacent community.	74 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
ABW12	Field surveys Aerial photograph interpretation	SWD2-2	Comprised of a Green Ash mineral deciduous swamp community with Eastern White Cedar and willow associates. Red-osier Dogwood is present in the understory and bulrush and sedge species comprise the ground cover.	9 m	Access roads Fence lines Collector lines (underground)

Table 3-8: Site Investigation - ELC Descriptions for Specialized Habitat for Wildlife

Natural Feature ID	Methods Used to Identify Natural Feature	ELC Vegetation Community Type(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
ABW16	Field surveys Aerial photograph interpretation	OAW*	This open water pond is a man-made dug out. It occurs within a disturbed area. Wet habitat species occur here such as Reed-canary Grass, willows, Cottonwood, Swamp Maple, and bulrushes.	51 m	Access roads Fence lines Collector lines (overhead)
ABW17	Field surveys Aerial photograph interpretation	MAM2-6	Comprised of a broad-leaved sedge mineral meadow marsh community dominated by Green Bulrush.	0 m	Access roads Fence lines Collector lines (overhead)
Woodland Raptor Nesting Habitat (RN)					
RN1	Field surveys Aerial photograph interpretation	FOC2-1 FOM2-1 SWD2-2	This feature is 120.8 ha in size (40.4 ha interior area). Mixture of forest (dry-fresh White Cedar coniferous and dry-fresh White Pine - oak mixed) ecosites with Green Ash mineral deciduous swamp.	9 m	Access roads Fence lines Collector lines (underground)
Marsh Breeding Bird Habitat (MB)					
MB1	Field surveys Aerial photograph interpretation	MAM2-2	This large Reed Canary Grass mineral meadow marsh covers >100 ha is the largest of its kind in proximity to the Project Location. The wetland is a floodplain a stream that passess through it. The meadow marsh transitions to Green Ash swamp in the south.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
MB2	Field surveys Aerial photograph interpretation	MAS2-1	This organic cattail marsh covers an area of 2.1 ha. Not accessible because property access was denied.	50 m	Access roads Fence lines Collector lines (underground)

*ELC type not included in 1st publication of ELC for Southern Ontario
 None of these ELC vegetation communities considered rare in Ontario

Table 3-9: Site Investigation - ELC Descriptions for Amphibian Movement Corridors

Natural Feature ID	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
AMC-1	CUM1-1	Comprised of a dry-moist old field meadow community dominated by typical meadow species including Wild Carrot, Timothy and asters. There is a drain which runs through this community and may act as an amphibian movement corridor.	15 m	Access roads Fence lines
AMC-4	CUM1-1	Comprised of a hedgerow dominated by White Elm, Eastern Red Cedar, Common Buckthorn, honeysuckles, and Red-osier Dogwood. A small ephemeral pool was located within the hedgerow. This feature is also comprised of a dry-moist old field meadow dominated by common meadow species such as Wild Carrot, Timothy, and asters. A drain extends through the meadow which may serve to support amphibian movement.	32 m	Access roads Fence lines Collector lines (underground)
AMC-5	OAGM4*CUM1-1	Comprised of a very wet old field meadow is dominated by common species such as Wild Carrot, Timothy and asters. There is a drain which runs through this community and an open agricultural pasture and may potentially serve as an amphibian movement corridor.	0 m	Access roads Fence lines Collector lines (underground)
AMC-6	MAS2-1	This feature is entirely comprised of a Cattail mineral shallow marsh.	41 m	Access roads Fence lines
AMC-8	OAGM2*	This drain runs between two active agricultural hay fields	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

*ELC type not included in 1st publication of ELC for Southern Ontario
 None of these ELC vegetation communities considered rare in Ontario

Table 3-10: Site Investigation – ELC Descriptions for Habitat of Species of Conservation Concern

Natural Feature ID	Methods Used to Identify Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
<i>Declining Species Habitat – Shrub/Successional PIF Breeding Bird Habitat (SBB)</i>					
SBB1	Field surveys Aerial photograph interpretation	CUT1-4 CUW1-1	The total area of this feature is 13.2 ha. It consists primarily of Red Cedar cultural woodland. At the northern-most region of this feature is a Gray Dogwood cultural thicket community.	0 m	Access roads Fence lines Collector lines (underground)
SBB2	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-4 CUW2-1 FOC1-2 OAGM2 SWD2-2	The total area of this feature is 51.9 ha. It consists primarily of Gray Dogwood cultural thicket. The southern portion of the feature is comprised of a mixture of dry-moist old field meadow, Red Cedar cultural alvar woodland, dry-fresh White Pine-Red Pine coniferous forest, and Green Ash mineral deciduous swamp communities. Small areas of open agricultural perennial crops are located within the cultural thicket community.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
SBB3	Field surveys Aerial photograph interpretation	CUT1-4/ CUW1-1/ FOD7-2 Complex	This feature has a total area greater than 36.5 ha. It is comprised of a complex of Gray Dogwood cultural thicket, Red Cedar cultural alvar woodland, and fresh- moist ash lowland deciduous forest communities.	22 m	Access roads Fence lines Collector lines (underground)
SBB4	Field surveys Aerial photograph interpretation	CUM1-1 CUM2 CUW1-1 CUT1-1 CUT1-7* CUT2-1	This feature is 97.7 ha in size. It consists primarily of dry-moist old field meadow. Small areas of Red-osier Dogwood cultural thicket occur within the central portion of the meadow, and along the eastern edge. Communities of bedrock cultural meadow and Red Cedar cultural woodland are also present. This area has not been farmed in the past five years.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-10: Site Investigation – ELC Descriptions for Habitat of Species of Conservation Concern

Natural Feature ID	Methods Used to Identify Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
SBB5	Field surveys Aerial photograph interpretation	CUS2	This feature is 24.5 ha in size. It consists primarily of cultural savannah local underneath the Hydro One corridor. Eastern Red Cedar and grasses dominate the vegetation composition of the feature. Few small areas of exposed bedrock occur. This area has not been farmed in the last five years, though livestock is kept in pasture occurring adjacent to this feature.	0 m	Collector lines (overhead)
<i>Special Concern Species Habitat – Short-eared Owl Habitat</i>					
SO1	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-4 CUW1-1 FOC2 FOD7-2 OAGM2* OAGM4*	Hunting area is comprised of several communities of dry-moist old field meadow, and open agricultural perennial cover crops and pasture. Associated with the hunting area is dry-fresh cedar coniferous forest which is suitable roosting habitat. The western portion of the feature is identified as being Red Cedar cultural alvar. Smaller communities exist within the feature including Gray Dogwood cultural thicket in the north-west corner, and fresh-moist ash lowland deciduous forest associated with a hedgerow within the centre of the feature. A number of hedgerows are situated between fields. A Short-eared Owl was observed here during 2011 winter raptor surveys (Stantec, 2011).	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-10: Site Investigation – ELC Descriptions for Habitat of Species of Conservation Concern

Natural Feature ID	Methods Used to Identify Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
SO3	Field surveys Aerial photograph interpretation	CUM1-1 CUM2 CUT1-7* CUW2-1 FOC2-2 FOC4-1 FOM5-2 FOD5-4 FOM4-2 FOM8-1 FOMM4-3* FOMM10-2* MAM1-1 MAM2-6 OAGM2* OAGM4* OAW* SAGM6* SWT2-2	This feature consists of large areas of foraging habitat consisting of bedrock cultural and dry-moist old field meadows. Additional open communities identified within this feature are open agricultural perennial cover crops and pasture. A number of wet areas are present within this feature including Reed- canary Grass bedrock and broad-leaved sedge mineral meadow marshes, a willow mineral thicket swamp, and a large manmade open water pond. Several mixed forests are present at the edges of this feature (dry-fresh White Cedar - White Birch, dry-fresh White Cedar-poplar, fresh - moist poplar, and fresh - moist White Spruce - hardwood). A number of hedgerows are situated between fields. Associated roosting habitat consists of a series of four coniferous forest communities located along the western edge and within the hunting areas.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
SO4	Field surveys Aerial photograph interpretation	CUM1-1 CUM2 CUS1-2 FOC2-2 FOC4-1 FOM8-1 MAM2-5 OAGM3	An area of hunting habitat consisting of old pasture and hayfields is set back to the south of Unity Road by active sod fields. This open habitat is bordered to the south by Canary Reed Grass and Narrow-leaved sedge mineral meadow marsh as well as Green Ash mineral deciduous swamp. East of the open hunting area are four coniferous stands consisting of White Cedar coniferous forest joined by Gray Dogwood thicket which may act as roosting sites.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-10: Site Investigation – ELC Descriptions for Habitat of Species of Conservation Concern

Natural Feature ID	Methods Used to Identify Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
SO5	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-7* CUT2-1 CUW1-1 SWD2-2 SWT2-5 FOC2-2	Comprised primarily of dry-moist old field meadow hunting habitat. A variety of smaller community types are encompassed within this feature including Common Juniper cultural alvar thicket and Green Ash mineral deciduous swamp along the northern edge. Adjacent roosting areas include Red Cedar cultural woodland, while the other is dry-fresh White Cedar coniferous forest. A Red-osier Dogwood cultural thicket and Red-osier mineral thicket swamp are observed in the north-east portion of the feature.	0 m	Access roads Fence lines Collector lines (underground)
SO6	Field surveys Aerial photograph interpretation	CUT1-4 FOC2-2 OAGM2 OAGM4	A large habitat area of moderate quality. Consists of breeding, hunting and roosting habitats consisting primarily of large fields of open agricultural perennial crops and pasture. Breeding habitat consists of Reed-canary Grass mineral meadow marsh stretching southwest from Unity Road. Hunting habitat includes marsh and two smaller active hayfields. Three patches of dry-fresh White Cedar coniferous forest border the eastern edge of the hunting habitat and provide densely-forested roosting habitat.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)
Special Concern Species Habitat – Common Nighthawk Habitat (CN)					
CN1	Field surveys Aerial photograph interpretation	CUT1-4/ CUW1-1/ FOD7-2 Complex	This feature is comprised of a complex of Gray Dogwood cultural thicket, Red Cedar cultural alvar woodland, and fresh- moist ash lowland deciduous forest communities. A Golden-winged Warbler was observed here during breeding bird surveys.	0 m	Access roads Fence lines Collector lines (underground)
CN2	Field surveys Aerial photograph interpretation	CUM1-1 CUT1-1 CUT1-7* CUW2-1 FOD7-1 FOM2-2	Comprised primarily of a Red Cedar cultural alvar community. The southern portion of this feature is comprised of an assortment of dry-moist old field meadow, sumac and Red-osier Dogwood cultural thickets, fresh – moist White Elm lowland deciduous forest, and dry-fresh White Pine–Sugar Maple mixed forest communities.	0 m	Access roads Fence lines Collector lines (overhead) Collector lines (underground)

Table 3-10: Site Investigation – ELC Descriptions for Habitat of Species of Conservation Concern

Natural Feature ID	Methods Used to Identify Feature	ELC Vegetation Community Code(s)	Community Description	Minimum Distance Between Feature and Project Location	Project Component Within 120 m
CN3	Field surveys Aerial photograph interpretation	CUW1-1	Entire feature consists of a Red Cedar cultural woodland community. A <i>Vermivora</i> Warbler was observed here during breeding bird surveys.	0 m	Access roads Fence lines Collector lines (underground)
Special Concern Species Habitat – Giant Swallowtail (GS)					
GS1	Field surveys Aerial photograph interpretation	CUT1	This feature is comprised of a cultural thicket consisting of patches of open meadow and shrub species. Patches of dense Northern Prickly-ash were noted, which may provide a food source for Giant Swallowtail caterpillars.	7 m	Access roads Fence lines Collector lines (underground)
GS2	Field surveys Aerial photograph interpretation	CUM1-1 CUW1-1	This feature is comprised of cultural meadow and Red Cedar cultural woodland bordered by small forests. Patches of dense Northern Prickly-ash were noted, which may provide a food source for Giant Swallowtail caterpillars.	0 m	Access roads Fence lines Collector lines (underground)

*ELC type not included in 1st publication of ELC for Southern Ontario
 None of these ELC vegetation communities considered rare in Ontario

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
Woodlands				
11, 20	LIO data layer 2011 (OMNR)	Exclusion of woodland 11 from woodland SI results.	SI revealed feature identified as woodlands in the Record Review were hedgerow features.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)
6	LIO data layer 2011 (OMNR)	Exclusion of woodland 6 from woodland SI results.	SI revealed that feature size was too small to be considered a woodland.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)
3, 9	LIO data layer 2011 (OMNR)	Exclusion of woodlands 3 and 9 from woodland SI results.	SI revealed that canopy cover not considered sufficient to be designated a woodland.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)
1	LIO data layer 2011 (OMNR)	Woodland was divided into two woodlands: 1 and 36.	Breaks were found in the woodland canopy which divided it into two.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)
10	LIO data layer 2011 (OMNR)	Woodland was divided into three woodlands which included. Only woodland 10 remained within 120 m of the Project Location.	Breaks were found in the woodland canopy which divided it into three.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)
15	LIO data layer 2011 (OMNR)	Woodland was divided into three woodlands: 15, 40, and 41.	Breaks were found in the woodland canopy which divided it into three.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
36, 37, 38, 39	--	Woodland features added.	Natural features were not previously identified as woodlands in the Records Review were identified during the Site Investigation. These may not have been previously identified due to minimum size criteria.	Section 3.1.2 Section 3.2.3 Table 3-5 (Appendix B)
Wetlands				
1, 4, 5, 8, 9, 12, 14, 15, 16, 19, 20, 21, 22, and 24	LIO data layer 2011 (OMNR)	Exclusion of OMNR wetlands from wetland SI results.	SI revealed these areas did not meet the criteria for designation as wetlands	Section 3.1.3 Section 3.2.4 Table 3-6 (Appendix B)
6 and 10	LIO data layer 2011 (OMNR)	Exclusion of OMNR wetlands from wetland SI results and feature boundary correction.	SI revealed the boundaries of these wetlands did not extend within 120 m of the Project Location.	Section 3.1.3 Section 3.2.4 Table 3-6 (Appendix B)
7	LIO data layer 2011 (OMNR)	Wetland divided into three wetlands: Wetland 7, 28, and 29.	SI revealed that OMNR wetland 7 is in fact 3 distinct wetland features,	Section 3.1.3 Section 3.2.4 Table 3-6 (Appendix B)
18 and 23	LIO data layer 2011 (OMNR)	Wetlands merged into one large wetland feature, Wetland 18.	SI revealed that these wetlands 18 and 19 are actually part of one large meadow marsh.	Section 3.1.3 Section 3.2.4 Table 3-6 (Appendix B)
30 and 31	n/a	Wetland features added.	The boundaries of these wetlands were not shown to extend within 120 m of the Project Location by OMNR/LIO mapping. The boundaries of these features were re-evaluated and mapped in Figure 3-4.	Section 3.1.3 Section 3.2.4 Table 3-6 (Appendix B)

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
25, 26, and 32	n/a	Wetland features added.	These wetland features were not identified in the Records Review. The boundaries of these features were identified and mapped in Figure 3-4.	Section 3.1.3 Section 3.2.4 Table 3-6 (Appendix B)
Habitat of Seasonal Concentrations of Animals				
WR1, WR2, WR3, WR4, WR5, and WR6	OMNR did not identify any raptor wintering areas within 120 m of the Project Location	Six raptor wintering areas noted m within 120 m of the Project Location.	MNR did not identify any raptor wintering areas. Six candidate raptor wintering areas were identified during the SI. See Figure 3-7d (Appendix A).	Section 3.2.7.1 Table 3-7 (Appendix B)
SH1, SH3, SH4, SH7, SH26, SH27, SH28, SH30, SH33, and SH43	OMNR did not identify any snake hibernacula within 120 m of the Project Location	Ten snake hibernacula features noted within 120 m of the Project Location.	MNR did not identify any Snake Hibernacula. Ten potential Snake Hibernacula were identified during Site Investigations (SH1 to SH49). See Figure 3-5 (Appendix A).	Section 3.1.5.3 Section 3.3.3.1 Table 3-7 (Appendix B)
TOW6, TOW8, TOW11, and TOW14	OMNR did not identify any turtle overwintering features within 120 m of the Project Location	Six turtle overwintering areas noted within 120 m of the Project Location.	MNR did not identify any Turtle Overwintering Habitat Thirteen Seven potential Turtle Over-Wintering sites were identified during Site Investigations (TOW1 to TOW13). See Figure 3-7b (Appendix A).	Section 3.1.5.3 Section 3.3.3.1 Table 3-7 (Appendix B)

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
Rare Vegetation Communities				
Six rare vegetation communities identified in Lennox & Addington County and/or Frontenac County: ALO1-2, ALO1-3, ALO1-4, ALO1-5, MAM4-1, and ALT1-5	SWHTG	Rare vegetation communities were not encountered during SI.	Vegetation inventory and soil survey components of ELC surveys did not identify any of these rare vegetation communities within 120 m of the Project Location.	Section 3.1.1 Section 3.2.7.2
Alvars A and B	OMNR	Alvar communities were not encountered during SI within 120 m of the Project Location.	Vegetation inventory and soil survey components of ELC surveys indicated that Alvar 1 consisted of bedrock meadow (CUM2). Small areas of limestone pavement were present and soil depth ranged between 15 cm and 35 cm. No rare or alvar indicating plant species were present. Ground cover consisted largely of cultural species.	Sections 3.1.1 Section 3.2.7.2
Specialized Habitat for Wildlife				
IF1	OMNR did not identify any area-sensitive habitat (interior forest breeding bird) areas within 120 m of the Project Location	One area-sensitive habitat (interior forest breeding bird) areas noted within 120 m of the Project Location.	Five woodland features containing interior forest habitat were identified within 120 m of the Project Location during the SI.	Section 3.1.5 Section 3.2.7.2 Table 3-8 (Appendix B)

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
OCBB2, OCBB3, OCBB4, OCBB7, and OCBB9	OMNR did not identify any area-sensitive habitat (open country breeding bird) areas within 120 m of the Project Location	Five area-sensitive habitat (open country breeding bird) areas noted within 120 m of the Project Location.	Five open country features greater than 30 ha were identified within 120 m of the Project Location during the SI.	Section 3.2.7.2 Table 3-8 (Appendix B)
ABF1, ABF2, ABF4, ABF5, ABF9, ABF10, ABF14, ABF15 and ABF16	OMNR did not identify any amphibian woodland breeding habitat within 120 m of the Project Location	Nine amphibian woodland breeding habitat features areas noted within 120 m of the Project Location.	Nine woodland features containing seasonal flooding areas or vernal pools beneath closed forest canopy were identified within 120 m of the Project Location during the SI.	Section 3.1.5 Section 3.2.7.2 Table 3-8 (Appendix B)
ABW1, ABW6, ABW7, ABW8, ABW9, ABW10, ABW11, ABW12, ABW16 and ABW17	OMNR did not identify any amphibian wetland breeding habitat within 120 m of the Project Location	Ten amphibian wetland breeding habitat features noted within 120 m of the Project Location.	Ten wetland features suitable for amphibian breeding were identified within 120 m of the Project Location during the SI.	Section 3.1.5 Section 3.2.7.2 Table 3-8 (Appendix B)
RN1	OMNR did not identify any specialized woodland raptor nesting habitat within 120 m of the Project Location	One specialized raptor nesting habitat areas noted within 120 m of the Project Location.	Nine mid-aged woodland features greater than 5 ha were identified within 120 m of the Project Location during the SI.	Section 3.2.7.2 Table 3-8 (Appendix B)

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
MB1, MB2	OMNR did not identify any marsh breeding bird habitat within 120 m of the Project Location	One marsh bird breeding bird habitat feature noted within 120 m of the Project Location.	The SI identified one large meadow marsh with permanent water within 120 m of the Project Location.	Section 3.2.7.2 Table 3-8 (Appendix B)
Animal Movement Corridors				
Animal Movement Corridor	Central Cataraqui Region Natural Heritage Study, Loyalist Township, 2010	No linkage meeting the criteria for animal movement corridor was observed.	Figure 9a of study reports a linkage east of WO48 that connects Odessa Lake and woodlands south of Highway 401. Due to the presence of Unity Road and Highway 401 crossings, no complete linkage is present due to the risks associated with road crossings.	Section 3.2.7.3
AMC1, AMC4, AMC5, AMC6, and AMC8	OMNR did not identify any Amphibian Movement Corridors	Five amphibian movement corridors were noted within 120 m of the Project Location	Seven moist tracts naturalized land connected amphibian breeding woodland or wetland habitats.	Section 3.1.5 Section 3.2.7.3 Table 3-9 (Appendix B)
Habitat of Species of Conservation Concern				
Presence of Species of Special Concern which included Black Tern and Northern Map Turtle in the Project Location	OMNR	No Black Tern habitat was identified within 120 m of the Project Location. No Northern Map Turtle habitat was found within 120 m of the Project Location.	The SI revealed that no large marshes consisting of open water and dense emergent vegetation were present within 120 m of the Project Location. The Si revealed that no large bodies of water were present within 120 m of the Project Location.	Section 3.1.5.4 Section 3.2.7.4

Table 3-11: Site Investigation - Summary of Corrections to Records Review Findings

Natural Feature ID	Information Source Corrected from Records Review	Nature of Correction	Rational for Correction	Report Section Providing Criteria Used to Determine Correction
SO1, SO3, SO4, SO5, and SO6	OMNR did not identify any Short-eared Owl habitat.	Six Short-eared Owl habitat areas noted within Project Location	The SI revealed that six grassland habitat areas with associated coniferous stands and a large meadow marsh suitable for Short-eared Owl nesting and foraging habitat area were present within 120 m of the Project Location.	Section 3.1.5.4 Section 3.2.7.4 Table 2-6 (Appendix B) Table 3-10 (Appendix B)
CN1, CN2, and CN3	OMNR did not identify any Common Nighthawk habitat.	Three Common Nighthawk habitat features noted within 120 m, of the Project Location.	The SI revealed that three suitable Common Nighthawk nesting and foraging habitat area were present within 120 m of the Project Location.	Section 3.1.5.4 Section 3.2.7.4 Table 2-6 (Appendix B) Table 3-10 (Appendix B)
GS1 and GS2	OMNR did not identify any Giant Swallowtail habitat.	Two Giant Swallowtail habitat areas noted within 120 m, of the Project Location.	The SI revealed that two shrubland habitat areas containing a high density of Prickly-ash and which experienced relatively low human disturbance were present within 120 m of the Project Location.	Section 3.1.5.4 Section 3.2.7.4 Table 2-6 (Appendix B) Table 3-10 (Appendix B)

Table 3-12: Site Investigation - Additional Natural Features Identified Through Site Investigation

Natural Feature Type/ID	Methods Used to Identify Feature	Minimum Distance Between Feature and Project Location
Woodland 39	ELC survey	0 m
Woodland 38	ELC survey	54 m
Woodland 36	ELC survey	0 m
Woodland 37	ELC survey	0 m
Wetland 25	ELC survey and OWES	19 m
Wetland 26	ELC survey and OWES	0 m
Wetland 29	ELC survey and OWES	82 m
Wetland 30	ELC survey and OWES	27 m
Wetland 31	ELC survey and OWES	31 m
Wetland 32	ELC survey and OWES	0 m
Wildlife Concentration Area - WR1	Field surveys and Aerial photograph interpretation	0 m
Wildlife Concentration Area - WR2	Field surveys and Aerial photograph interpretation	0 m
Wildlife Concentration Area - WR3	Field surveys and Aerial photograph interpretation	0 m
Wildlife Concentration Area - WR4	Field surveys and Aerial photograph interpretation	0 m
Wildlife Concentration Area - WR5	Field surveys and Aerial photograph interpretation	0 m
Wildlife Concentration Area - WR6	Field surveys and Aerial photograph interpretation	0 m
Wildlife Concentration Area - SH1	Field surveys	19 m
Wildlife Concentration Area - SH3	Field surveys	0 m
Wildlife Concentration Area - SH4	Field surveys	0 m
Wildlife Concentration Area - SH7	Field surveys	0 m
Wildlife Concentration Area - SH26	Field surveys	29 m
Wildlife Concentration Area - SH27	Field surveys	59 m
Wildlife Concentration Area - SH28	Field surveys	32 m
Wildlife Concentration Area - SH30	Field surveys	0 m
Wildlife Concentration Area - SH33	Field surveys	0 m
Wildlife Concentration Area - SH43	Field surveys	37 m
Wildlife Concentration Area - TOW6	Field surveys	98 m

Table 3-12: Site Investigation - Additional Natural Features Identified Through Site Investigation

Natural Feature Type/ID	Methods Used to Identify Feature	Minimum Distance Between Feature and Project Location
Wildlife Concentration Area - TOW8	Field surveys	72 m
Wildlife Concentration Area - TOW11	Field surveys	76 m
Wildlife Concentration Area - TOW14	Field surveys	51 m
Specialized Wildlife Habitat – IF1	ELC survey and Aerial photography interpretation	9 m
Specialized Wildlife Habitat - OCBB2	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - OCBB3	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - OCBB4	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - OCBB7	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - OCBB9	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - ABF1	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - ABF2	ELC survey and Aerial photography interpretation	21 m
Specialized Wildlife Habitat - ABF4	ELC survey and Aerial photography interpretation	4 m
Specialized Wildlife Habitat - ABF5	ELC survey and Aerial photography interpretation	10 m
Specialized Wildlife Habitat - ABF9	ELC survey and Aerial photography interpretation	10 m
Specialized Wildlife Habitat - ABF10	ELC survey and Aerial photography interpretation	22 m
Specialized Wildlife Habitat - ABF14	ELC survey and Aerial photography interpretation	96 m
Specialized Wildlife Habitat - ABF15	ELC survey and Aerial photography interpretation	30 m
Specialized Wildlife Habitat - ABF16	ELC survey and Aerial photography interpretation	25 m
Specialized Wildlife Habitat - ABW1	ELC survey and Aerial photography interpretation	94 m

Table 3-12: Site Investigation - Additional Natural Features Identified Through Site Investigation

Natural Feature Type/ID	Methods Used to Identify Feature	Minimum Distance Between Feature and Project Location
Specialized Wildlife Habitat - ABW6	ELC survey and Aerial photography interpretation	98 m
Specialized Wildlife Habitat - ABW7	ELC survey and Aerial photography interpretation	58 m
Specialized Wildlife Habitat - ABW8	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat - ABW9	ELC survey and Aerial photography interpretation	18 m
Specialized Wildlife Habitat - ABW10	ELC survey and Aerial photography interpretation	21 m
Specialized Wildlife Habitat - ABW11	ELC survey and Aerial photography interpretation	74 m
Specialized Wildlife Habitat - ABW12	ELC survey and Aerial photography interpretation	9 m
Specialized Wildlife Habitat - ABW16	ELC survey and Aerial photography interpretation	51 m
Specialized Wildlife Habitat - ABW17	ELC survey and Aerial photography interpretation	0 m
Specialized Wildlife Habitat – RN1	ELC survey and Aerial photography interpretation	9 m
Specialized Wildlife Habitat - MB1	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern - SO1	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern - SO3	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern - SO4	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern - SO5	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern - SO6	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – CN1	Aerial photography interpretation	0 m

Table 3-12: Site Investigation - Additional Natural Features Identified Through Site Investigation

Natural Feature Type/ID	Methods Used to Identify Feature	Minimum Distance Between Feature and Project Location
Habitat of Species of Conservation Concern – CN2	Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – CN3	Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – GW1	Aerial photography interpretation	20 m
Habitat of Species of Conservation Concern – GW2	Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – GW3	Aerial photography interpretation	57 m
Habitat of Species of Conservation Concern – ST1	Field Survey	98 m
Habitat of Species of Conservation Concern – ST2	Field Survey	51 m
Habitat of Species of Conservation Concern – GS1	ELC survey and Aerial photography interpretation	7 m
Habitat of Species of Conservation Concern – GS2	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – SBB1	ELC survey and Aerial photography interpretation	22 m
Habitat of Species of Conservation Concern – SBB2	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – SBB3	ELC survey and Aerial photography interpretation	0 m
Habitat of Species of Conservation Concern – SBB4	ELC survey and Aerial photography interpretation	0 m

Table 4-1: Evaluation of Significance Studies

Natural Feature ID	Evaluation Methods	Survey Date/ Time	Field Personnel	Duration (Person-Hours)	Air Temperature* (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
Woodland 1, OCBB1, OCBB2, SBB1, SBB2	Breeding Bird Surveys (BB1-4, BB3-4, BB6-8, BB10-19)	June 15, 2011 05:00 - 10:50	Jeff Balsdon, Tracy Wolowidnek (Shute)	12	13.0 - 20.1	0	None	9 - 13
CN1, CN2, CN3	Amphibian and Crepuscular Bird Survey	June 15, 2011 21:15 - 00:00	Jeff Balsdon, Tracy Wolowidnek (Shute)	5	15.4 - 17.5	0	None	6 - 7
Woodlands 5 and 13, OCBB3, SBB3	Breeding Bird Surveys (BB20-36, BB41, BB108)	June 16, 2011 05:00 - 11:00	Jeff Balsdon, Tracy Wolowidnek (Shute)	12	13.8 - 18.3	0	None	6 - 13
CN1, CN2, CN3	Amphibian and Crepuscular Bird Survey	June 16, 2011 21:15 - 23:30	Jeff Balsdon, Tracy Wolowidnek (Shute)	4	16.7 - 19.0	50	None	2 - 4
OCBB4, OCBB5, OCBB6,	Breeding Bird Surveys (BB42-47, BB49-60)	June 17, 2011 05:00 - 10:00	Jeff Balsdon, Tracy Wolowidnek (Shute)	10	16.7 - 17.8	80	None	2 - 11
Woodland 14, OCBB7, OCBB9	Breeding bird surveys (BB61-79)	June 18, 2011 04:45 - 10:45	Jeff Balsdon, Tracy Wolowidnek (Shute)	12	15.0 - 19.6	0	None	0 - 11
Woodlands 18, 30, and 19, OCBB9, MB1, SBB4, SBB5	Breeding Bird Surveys (BB37-39, BB80-85, BB86-93, BB94-102, BB104-107)	June 21, 2011 05:00 - 10:45	Jeff Balsdon, Jon Pleizier	12	15.7 - 25.0	10	None	7 - 17
Woodland 1, SBB1, SBB2	Breeding Bird Surveys (1-4, 6-19, BB20-22, BB24-36, BB40, BB108)	July 4, 2011 05:15 - 10:45	Jeff Balsdon, Jon Pleizier	12	17.0 - 23.0	40	None	4 - 13

Table 4-1: Evaluation of Significance Studies

Natural Feature ID	Evaluation Methods	Survey Date/ Time	Field Personnel	Duration (Person- Hours)	Air Temperature* (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
ABF3, ABF5, ABF6, ABF10, ABF17, ABW1, ABW6, CN1, CN2, CN3	Amphibian and Crepuscular Bird Survey	July 4, 2011 21:30 - 23:30	Jeff Balsdon, Jon Pleizier	4	21.6 - 22.2	--	Scattered Light Rain	9
OCBB4, OCBB5, OCBB6, Woodland 14, OCBB7, OCBB9	Breeding Bird Surveys (BB42-47, 49-60, 61-78)	July 5, 2011 05:00 - 10:30	Jeff Balsdon, Jon Pleizier	11	17.5 - 22.5	10	None	6 - 15
Woodlands 18, 30, and 19, OCBB9, MB1, SBB4, SBB5	Breeding Bird Surveys (37-39, 68, 79-102, 104-107)	July 6, 2011 04:45 - 10:00	Jeff Balsdon, Jon Pleizier	10	19.6 - 23.8	70	None	11 - 19
Woodland 13, ABF14, ABW16, GS1	ELC and Wildlife Habitat Assessment, Soil Assessment	August 2, 2011 07:00 - 17:30	Matt Evans, Jeff Balsdon, Jon Pleizier	30	20.4 - 27.4	40	None	13 - 20
Woodland 13, HE-A to HE- AE	ELC and Wildlife Habitat and Soil Assessment	August 3, 2011 07:00 - 17:00	Matt Evans, Jeff Balsdon, Jon Pleizier	30	19.8 - 21.5	100	Light Rain	7 - 13
Woodland 30, ABF10, ABW9	ELC and Wildlife Habitat Assessment	September 12, 2011 07:30 - 17:30	Jeff Balsdon, Izabela Kalkowski	20	19.8 - 23.2	10	None	9 - 24
ABF16	ELC and Wildlife Habitat Assessment	September 21, 2011 07:30 - 17:30	Matt Evans, Izabela Kalkowski	20	16.4 - 21.2	30	None	7 - 20
ABF16	ELC and Wildlife Habitat Assessment (1-C to 1-F; 24-1, 24-2)	September 22, 2011 07:30 - 17:30	Matt Evans, Izabela Kalkowski	20	18.7 - 23.6	100	None	13 - 24
ABF5, AMC2	ELC and Wildlife Habitat Assessment (19-A to 19-E)	September 23, 2011 07:30 - 17:30	Matt Evans, Izabela Kalkowski	20	15.0 - 22.6	100	None	15 - 26

Table 4-1: Evaluation of Significance Studies

Natural Feature ID	Evaluation Methods	Survey Date/ Time	Field Personnel	Duration (Person- Hours)	Air Temperature* (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
Woodland 5, ABF2, ABF3, AMC1	ELC and Wildlife Habitat Assessment (20-A, 20-B, 20-C; 19-F)	September 27, 2011 07:30 - 17:30	Jon Pleizier, Izabela Kalkowski	20	14.5 - 18.9	90	Rain	9 - 13
SH33, TOW11, ABW10, ABW11, AMC8	ELC and Wildlife Habitat Assessment	September 29, 2011 07:30 - 17:30	Jon Pleizier, Izabela Kalkowski, Jeff Balsdon, Matt Evans	40	18.2 - 19.0	100	Rain	6 - 15
SH33	ELC and Wildlife Habitat Assessment	September 30, 2011 07:30- 17:30	Jeff Balsdon, Matt Evans	20	15.0 - 17.4	90	None	15 - 30
SH3	ELC and Wildlife Habitat Assessment	October 5, 2011 07:30 - 17:30	Jeff Balsdon, Tracy Wolowidnek (Shute)	20	11.2 - 16.3	0	None	15 - 32
Woodland 13	ELC and Wildlife Habitat Assessment	October 7, 2011 07:30 - 17:30	Jeff Balsdon, Tracy Wolowidnek (Shute)	20	13.6 - 16.3	0	None	17 - 20
ABW1, ABW5, AMC4,	ELC and Wildlife Habitat Assessment	October 18, 2011 07:30 - 17:30	Jon Pleizier, Erin Donkers	20	11.1 - 13.3	90	None	19 - 28
Woodland 14, ABF9	ELC and Wildlife Habitat Assessment	October 19, 2011 07:30 - 17:30	Jon Pleizier, Erin Donkers	20	9.2 - 12.5	100	Rain	19 - 35
Woodland 18, ABW12, Wetland 2	ELC, Wildlife Habitat Assessment, and Soil Assessment Wetland Delineation	November 1, 2011 07:30 - 17:30	Jon Pleizier, Izabela Kalkowski, Erin Donkers, Said Mohamed	40	8.8 - 10.4	70	None	9 - 17
Wetlands 18, 30, and 31	Wetland Evaluation	November 2, 2011 07:30 - 17:30	Said Mohamed	10	10.3 - 13.2	50	None	11 - 26
Wetland 24	Wetland Evaluation	November 3, 2011 07:30 - 17:30	Said Mohamed	10	6.6 - 14.0	100	None	11 - 26

Table 4-1: Evaluation of Significance Studies

Natural Feature ID	Evaluation Methods	Survey Date/ Time	Field Personnel	Duration (Person- Hours)	Air Temperature* (°C)	Cloud Cover (%)	Precipitation	Wind* (km/hr)
WR4, TOW8, TOW10, ABF9, ABW7, AMC6, Wetlands 26, 27, 28, 29	ELC and Wildlife Habitat Assessment, and Soil Assessment Wetland Evaluation	November 4, 2011 07:30 - 17:30	Jon Pleizier, Izabela Kalkowski, Erin Donkers, Said Mohamed	40	0.1 - 7.3	50	None	13 - 30
Wetlands 13, 18, and 26	Wetland Evaluation (Polygons 13, 14A and 19)	December 24, 2011	Said Mohamed	8	-13.4 - 7.1	40	None	<31
Wetland 2	Wetland Evaluation (Polygons 21, 22, 23, and 24)	December 26, 2011	Said Mohamed	8	-2.6 - 3.6	60	None	44
WR1, WR2, WR3, WR4, WR5, WR6	Winter Raptor and Short-eared Owl Surveys	February 8, 2012 12:00 - 18:00	Jon Pleizier	5	-2.5 - -0.9	20	None	15 - 24
WR1, WR2, WR3, WR4, WR5, WR6	Winter Raptor and Short-eared Owl Surveys	February 9, 2012 11:00 - 18:00	Jon Pleizier	7	-4.0 - -2.4	50	None	20 - 30
WR1, WR2, WR3, WR4, WR5, WR6	Winter Raptor and Short-eared Owl Surveys	February 17, 2012 13:45 - 18:00	Jon Pleizier	4.25	-3.6 - -1.8	0 - 10	Short period of snow	15 - 24
WR1, WR2, WR3, WR4, WR5, WR6	Winter Raptor and Short-eared Owl Surveys	February 18, 2012 11:00 - 18:00	Jon Pleizier	7	-4.0 - -1.0	90 - 100	Light snow	15 - 24
WR1, WR2, WR3, WR4, WR5, WR6	Winter Raptor and Short-eared Owl Surveys	February 27, 2012 13:00 - 18:30	Jon Pleizier	5.5	-4.0 - -0.3	10 - 80	None	22 - 37