Romney Wind Energy Centre
Natural Heritage Site Investigation Report

Prepared for:
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NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Romney Wind Energy Centre
Natural Heritage Site Investigation Report

Project Team:

Staff	Role
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Charlotte Teat	Project Manager/Biologist
Andrew Dean	Terrestrial and Wetland Biologist
Christy Humphrey	Terrestrial and Wetland Biologist
Erin Bannon	Terrestrial and Wetland Biologist
Kathryn Hoo	Terrestrial and Wetland Biologist
Ken Burrell	Terrestrial and Wetland Biologist
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Report submitted on June 30, 2017

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1.0 Project Description

Natural Resource Solutions Inc. (NRSI) was retained in April 2016 by DNV-GL, on behalf of Romney Energy Centre Limited Partnership (the "Proponent"), to conduct a Natural Heritage Assessment (NHA) in accordance with the Renewable Energy Approval (REA) Regulation, Ontario Regulation (O. Reg.) 359/09. This assessment includes a records review, site investigation, evaluation of significance, and environmental impact study of any potentially significant natural features or wildlife habitats at a proposed wind energy generating facility.

The Proponent is proposing to develop the Romney Wind Energy Centre (the "Project"). This Project, with a total nameplate capacity of up to 60 megawatts (MW), is considered to be a Class 4 wind facility. A total of 18 wind turbine locations are being permitted.

The Romney Wind Energy Centre is located in southwestern Ontario, Town of Lakeshore and the Municipality of Chatham Kent, Ontario. More specifically, the Project is located south of Highway 401, and extends along Richardson Side Road and Wheatley Road near the community of Wheatley, ON. The Project is located entirely within Ecoregion 7E (MNRF 2016a).

Project components will be installed primarily on privately-owned agricultural lots within this area. It is anticipated that the electrical collector lines will be partially located within public road allowances. It is planned to connect to the existing Hydro One Networks Inc. (HONI) 230 kV transmission line located within the Town of Lakeshore, close to Richardson Side Road. A small section of transmission line (less than 1km) is proposed for the Project, to be built by HONI from the Point of Common Coupling (PCC) to the Point of Interconnect (POI).

According to O. Reg. 359/09, as amended, and as per the Natural Heritage Assessment Guide for Renewable Energy Projects (OMNR 2012), the Project Location is defined as "...*a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project*". As described therein, the Project Location boundary is the outer limit of where site preparation and construction activities

will occur (i.e., disturbance areas described below) and where permanent infrastructure will be located, including the air space occupied by turbine blades.

In accordance with Section 26 of the REA Regulation, O. Reg. 359/09, NRSI has conducted a site investigation to identify any potentially significant natural features and wildlife habitats within 120m of the Project Location. This includes areas within 120m of proposed wind turbines, measured from blade tip, as well as within 120m of any areas that may be used as temporary lay-down areas, crane pads, access roads, Points of Common Coupling (PCC), Operations and Maintenance (O&M) building, meteorological tower, substation, and electrical collector lines. Junction boxes may also be installed below or above ground where more than one circuit must be connected together. See Map 1 for an illustration of the Project Location and natural features.

2.0 REA Requirements

Ontario Regulation 359/09 – *Renewable Energy Approvals* under *Part V.0.1 of the Act* (herein referred to as the REA Regulation), made under the *Environmental Protection Act*, identifies the requirements for the development of renewable energy projects in Ontario. In accordance with the REA Regulation, the Project is classified as a Class 4 wind facility and is required to complete a REA.

Section 26 of the REA Regulation requires proponents of Class 4 wind projects to undertake a natural heritage site investigation for the purpose of determining:

1. whether the results of the analysis summarized in the [Natural Heritage Records Review] report prepared under subsection 25 (3) are correct or require correction, and identifying any required corrections;
2. whether any additional natural features exist, other than those that were identified in the Natural Heritage Records Review Report prepared under subsection 25 (3);
3. the boundaries, located within 120m of the project location, of any natural feature that was identified in the records review or the site investigation; and,
4. the distance from the project location to the boundaries determined under clause (c).

Natural Features are defined in Section 1.1 of the REA Regulation to be all or part of:

- an area of natural and scientific interest (ANSI; life science or earth science),
- a coastal, northern, or southern wetland,
- a wildlife habitat, or
- a woodland.

Subsection 3 of Section 26 of the REA Regulation requires the proponent to prepare a report that includes the following:

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 investigations under subsection (1).
2. Information relating to each natural feature identified in the records review and in the site investigations, including the type, attributes, composition and function of the feature.
3. A map showing:
   a) the boundaries mentioned in clause (1) (c),
   b) the location and type of each natural feature identified in relation to the project location, and
   c) the distance mentioned in clause (1) (d).
4. The dates and times of the beginning and completion of the site investigation.

5. The duration of the site investigation.
6. The weather conditions during the site investigation.
7. A summary of methods used to make observations for the purposes of the site investigation.
8. The name and qualifications of any person conducting the site investigation.
9. Field notes kept by the person conducting the site investigation.

This *Natural Heritage Site Investigation Report* has been organized and prepared to satisfy the conditions of the requirements outlined above.

As part of this Project, NRSI has considered all aspects relating to provincially Threatened and Endangered species; however, since these species are addressed through a separate permitting process under the *Endangered Species Act* (2007), they have not been discussed within any of the NHA reports. These species will be addressed in full detail, including a description and results of field assessments, potential impacts, and recommended mitigation measures, as part of a separate reporting process to be addressed with the Ministry of Natural Resources and Forestry (MNRF), as required.

3.0 Staff Roles

The requirements of the REA process indicate that the name and qualifications of staff participating in the site investigation should be included. As a result, the qualifications and roles of key staff participating in the site investigation for the Project have been outlined below.

Andrew Ryckman, B.Sc.
Andrew is a Senior Terrestrial and Wetland Biologist with more than 11 years of experience working on a variety of environmental projects. He has considerable experience managing Environmental Assessments and NHAs for wind project developments across Canada, including experience with project management, report generation, data analysis, and considerable field monitoring. Andrew specializes in acoustic bat inventories and sonogram analysis, and has working experience with bat monitoring equipment and various bat analysis software. He routinely utilizes analysis software to identify bat species, and has helped create a reference call library using recorded bat calls.

Andrew's role in this project was to act as the project advisor, overseeing all aspects of the NHA, including all associated field work and reporting.

Charlotte Teat, M.E.S.
Charlotte is a Terrestrial and Wetland Biologist with more than 7 years of experience in biological monitoring and conducts environmental impact assessments on a variety of project types. Charlotte has completed her Bachelor of Environmental Studies and has a Master of Environmental Studies from the University of Waterloo. Charlotte has managed a variety of environmental projects, and has coordinated numerous types of surveys, including vegetation community delineations, bat surveys, mammal studies, breeding bird surveys and herpetofauna studies. She is certified in the Ontario Wetland Evaluation System (OWES) (2012) and in the Ecological Land Classification (ELC) system for southern Ontario (2013). Charlotte has managed the biological monitoring and reporting for numerous wind power projects throughout Ontario and Saskatchewan, and has extensive experience with client and agency liaison through her project management role on similar projects.

Charlotte's role in this project was to act as the project manager, overseeing all aspects of the NHA, including all associated field work and reporting. She was the main contact point for agency staff and assisted with the preparation of all corresponding reports.

Andrew Dean, B.E.S
Andrew is a Terrestrial and Wetland Biologist with more than 6 years of experience in the environmental industry, working in both the non-profit and private sectors. His areas of expertise include the coordination of, and participation in, a wide variety of biological field surveys including vegetation mapping and vascular plant inventories, acoustic bat monitoring, bat habitat

assessments and post-construction mortality monitoring at wind energy facilities. Andrew is trained and certified in both the ELC system for southern Ontario (2011) and OWES (2012), with considerable experience in tree identification, vegetation community classification, and botanical Species at Risk inventories. Andrew is also a certified Butternut Health Assessor (2014).

Andrew was a lead biologist during this site investigation, conducting ELC mapping, wetland assessments, and wildlife habitat assessment surveys within the Project.

Christy Humphrey, B.E.S.
Christy is a Terrestrial and Wetland Biologist with more than 8 years of environmental consulting experience, working on a variety of project tasks. Her areas of expertise are vegetation mapping and floral inventories, visual and acoustic bat monitoring, and post-construction mortality monitoring; however, she also has experience conducting bird assessments, amphibian studies, and other fauna assessments. Christy is experienced in conducting literature and background reviews, preparing NHAs, Environmental Effects Monitoring Plans, Environmental Impact Studies, and post-construction mortality monitoring reports. She is certified in the ELC system for southern (2010) and northeastern Ontario (2010), as well as in OWES (2012).

Christy assisted with the preparation of this report, specific to the description of wetland habitats.

Erin Bannon, B.E.S.
Erin is a Terrestrial and Wetland Biologist with more than 5 years of experience in the environmental field. She routinely completes natural resource inventories, surveys of amphibians, plants, and mammals, and research and impact studies. Her background in wind energy engineering has also allowed her to gain experience in natural heritage studies. Erin has worked on projects focusing on the identification of important natural features and the evaluation of the significance and sensitivity of these features. During her consulting experience, Erin has conducted bird and bat assessments, amphibian studies, and other flora and fauna assessments throughout Ontario. She is certified in the ELC system for southern Ontario (2013), and has participated in field investigations and reporting for wind power projects throughout Ontario.

Erin assisted with the preparation of this report.

Kathryn Hoo, B.Sc.
Kathryn is a Field Biologist with over five years of experience in the biological field. She has extensive experience conducting biological monitoring fieldwork, specifically bird and amphibian surveys. Kathryn is experienced in both visual and auditory amphibian identification, and has completed amphibian surveys at numerous locations within southern Ontario, including anuran call surveys, and amphibian egg mass and larval surveys. She also has experience conducting numerous avian studies utilizing a wide range of research techniques including point counts, transects and standardized area searches.

Kathryn was a lead field biologist, conducting wildlife habitat assessment surveys within the Project.

Ken Burrell, M.E.S.
Ken is a Terrestrial and Wetland Biologist with more than 8 years of experience in terrestrial ecology, with a strong background in avian research. Ken is regarded as one of the leading amateur ornithologists in Ontario, having developed his skills through a wide range of avian surveys and from his extensive background volunteering for numerous organizations and working as a field biologist. Ken has conducted spring and fall migration studies as well as breeding bird surveys in the form of point counts, transects, and inventories involving a wide range of species. He has extensive migration monitoring experience throughout Ontario, as well as in Canada and the United States and is well-versed in Species at Risk (SAR) in Ontario and Canada, specifically having published several papers on SAR. Ken is also certified in the ELC system for northeastern Ontario (2011).

Ken was a lead biologist during the site investigation, specifically completing the avian wildlife habitat assessments within the Project.

Pat Deacon, B.E.S.
Pat is a Terrestrial and Wetland Biologist with more than 6 years of environmental consulting experience. He regularly conducts vegetation inventories and community mapping, and specializes in ecological restoration with particular focus on Species at Risk, tallgrass prairie ecosystems, and invasive species management. Pat is certified in the ELC system for northeastern Ontario (2011) and is OWES certified (2012). He is also a certified Butternut Health Assessor (2014).

Pat was a lead biologist during the site investigation, conducting ELC mapping, wetland assessments, and wildlife habitat assessment surveys within the Project.

4.0 Summary of Records Review

In accordance with the REA Regulation, the Project Location and 120m setback area was examined for natural heritage features, including known Areas of Natural and Scientific Interest (ANSI), woodlands, wetlands, and wildlife habitat. Numerous agencies were contacted to compile the records review, including (but not limited to) the MNRF and the Lower Thames Valley Conservation Authority (LTVCA). NRSI also utilized numerous background review resources, such as the Natural Heritage Information Centre (NHIC), Ontario Breeding Bird Atlas (OBBA), Ontario Herpetofauna Atlas, Atlas of the Mammals of Ontario and the Ontario Butterfly Atlas. The results of the records review are summarized in Table 1.

Table 1. Summary of Records Review for the Project

Criteria	Result
1. In or within 120m of a Provincial Park or Conservation Reserve	The Project is not located in or within 120m of a Provincial Park or Conservation Reserve.
2. In a Natural Feature	The results of this records review indicate the Project Location (i.e. disturbance area, collector lines, access roads, etc.) overlaps with 8 woodlands. Species associations and distances of these habitats to the Project Location will be confirmed during the site investigation phase of this NHA. The intention of the proposed Project Location is to avoid overlap with natural features, including woodlands, wherever possible.
3. Within 50m of a Provincially Significant ANSI-Earth Science (ES)	No Provincially Significant ANSI-ES is located within 50m of the Project Location.
4. Within 120m of a Natural Feature	
Provincially Significant ANSI-Life Science (LS)	No Provincially Significant ANSI-LS is located in or within 120m of the Project Location.
Coastal Wetland	No coastal wetlands are located in or within 120m of the Project Location.
Northern Wetland	No northern wetlands are located in or within 120m of the Project Location.
Southern Wetland	No known southern wetlands are located in or within 120m of the Project Location. There are 23 woodlands in or within 120m of the Project Location, each of which has the potential to contain unevaluated wetland habitat. All of the potential wetland habitats in or within 120m of the Project Location will be further examined during the site investigation phase of this NHA.
Wildlife Habitat	One possible bald eagle nest record may be present within the vicinity of the Project. This record will be carried forward to the Site Investigation phase of the project. A total of 23 woodlands are located in or within 120m of the Project Location and could provide several types of Significant Wildlife Habitat (SWH). Other natural features such as naturalized drainage ditches, hedgerows and meadows have been identified in or within 120m of the Project Location and could also provide SWH. These features will be surveyed to determine if they are used for animal movement corridors or provide habitat for species of conservation concern.

Table 1. Summary of Records Review for the Project

Criteria	Result
	All of these wildlife habitats will be examined during the site investigation phase and, if applicable, the evaluation of significance phase of this project to confirm presence of candidate significant wildlife habitat and determine the significance of each candidate significant wildlife habitat.
Woodland	A total of 23 woodlands are located in or within 120m of the Project Location. Basemapping indicates these habitats range in size from 0.19-15.95ha. These woodlands are expected to be primarily dominated by mid-aged to mature deciduous tree species; however, young woodlands, treed plantations, or occasional coniferous woodlands may also be present in or within 120m of the Project Location.

The results of the records review of wildlife habitat are provided in Table 2. This table summarizes any known presence of the full range of potential wildlife habitats that may exist in or within 120m of the Project Location. The purpose of this table is to guide the site investigation to further refine the types of wildlife habitats that have the potential to occur within the Project Location and 120m setback. Any wildlife habitats that have already been confirmed to not be applicable to the Project Location or 120m setback or are known to be absent from the Project Location and 120m setback will not be discussed in this, or subsequent, NHA reports for the Project.

Table 2. Summary of Wildlife Habitat Records Review for the Project

Wildlife Habitat	Present Within 120m of the Project Location	Present Within Project Location	Carried Forward to Site Investigation (Y/N)
Seasonal Concentration Areas			
Waterfowl Stopover and Staging Areas (Terrestrial)	Unknown	Unknown	**Yes**
Waterfowl Stopover and Staging Areas (Aquatic)	Unknown	Unknown	**Yes**
Shorebird Migratory Stopover Area	Unknown	Unknown	**Yes**
Raptor Wintering Area	Unknown	Unknown	**Yes**
Bat Hibernacula	Unknown	Unknown	**Yes**
Bat Maternity Colonies	Unknown	Unknown	**Yes**
Bat Migratory Stopover Area	N/A	N/A	**No**
Turtle Wintering Areas	Unknown	Unknown	**Yes**
Reptile Hibernaculum	Unknown	Unknown	**Yes**
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	Unknown	Unknown	**Yes**
Colonially – Nesting Bird Breeding Habitat (Tree/Shrubs)	Unknown	Unknown	**Yes**
Colonially – Nesting Bird Breeding Habitat (Ground)	Unknown	Unknown	**Yes**
Migratory Butterfly Stopover Areas	Unknown	Unknown	**Yes**
Landbird Migratory Stopover Areas	Unknown	Unknown	**Yes**

Table 2. Summary of Wildlife Habitat Records Review for the Project

Wildlife Habitat	Present Within 120m of the Project Location	Present Within Project Location	Carried Forward to Site Investigation (Y/N)
Deer Winter Congregation Areas	Yes	No	**Yes**
Rare Vegetation Communities			
Cliffs and Talus Slopes	Unknown	Unknown	**Yes**
Sand Barren	Unknown	Unknown	**Yes**
Alvar	Unknown	Unknown	**Yes**
Old Growth Forest	Unknown	Unknown	**Yes**
Savannah	Unknown	Unknown	**Yes**
Tallgrass Prairie	Unknown	Unknown	**Yes**
Other Rare Vegetation Communities	Unknown	Unknown	**Yes**
Specialized Wildlife Habitats			
Waterfowl Nesting Area	Unknown	Unknown	**Yes**
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Possible*	Possible*	**Yes**
Woodland Raptor Nesting Habitat	Unknown	Unknown	**Yes**
Turtle Nesting Areas	Unknown	Unknown	**Yes**
Seeps and Springs	Unknown	Unknown	**Yes**
Amphibian Breeding Habitat (Woodland)	Unknown	Unknown	**Yes**
Amphibian Breeding Habitat (Wetlands)	Unknown	Unknown	**Yes**
Woodland Area-Sensitive Bird Breeding Habitat	Unknown	Unknown	**Yes**
Habitats for Species of Conservation Concern			
Marsh Bird Breeding Habitat	Unknown	Unknown	**Yes**
Open Country Bird Breeding Habitat	Unknown	Unknown	**Yes**
Shrub/Early Successional Bird Breeding Habitat	Unknown	Unknown	**Yes**
Terrestrial Crayfish	Unknown	Unknown	**Yes**
Special Concern and Rare Wildlife Species	Possible	Possible	**Yes**
Animal Movement Corridors			
Amphibian Movement Corridors	Unknown	Unknown	**Yes**

*The possible bald eagle nest record is located greater than 120m from the Project Location, but has the potential to overlap with Project Infrastructure if an up to 800m buffer is applied to the habitat, as determined in the Site Investigation and Evaluation of Significance phases of the Project.

Additional candidate habitats for species of conservation concern will be considered in the Site Investigation Report. These additional candidate habitats are identified in Table 7.

5.0 Site Investigation Methods

Comprehensive site investigations to document the environmental and biological characteristics of the Project were undertaken in accordance with the REA Regulation and the requirements of the MNRF. These site-specific field investigations focused on vegetation community mapping to support and build on the information collected during the records review phase of this Project. The results of these site investigations were used to identify and map the boundaries of the natural features in and within 120m of the Project Location, and to identify candidate Significant Wildlife Habitat (SWH) according to habitat criteria identified in the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a). Information collected at this stage will be used to evaluate the significance of features in a subsequent report.

5.1 Survey Dates

In accordance with the REA Regulation, NRSI recorded dates, times, duration, and weather conditions during each site investigation. This information has been summarized in Table 3. Detailed descriptions of staff roles and qualifications can be found in Section 3.0 of this report, and completed field forms have been appended to this report (Appendix I). The crew lead for each survey is indicated in bold font within the table.

Table 3. Site Investigation Survey Dates

Staff Name(s)	Purpose	Date	Start Time (hrs)	Duration (hrs)	Weather Conditions		
					Temp. (ºC)	Beaufort Wind	Cloud Cover (%)
Ken Burrell	Candidate Wildlife Habitat Assessment	March 10, 2016	0950	4.5	13	1	100
Ken Burrell	Candidate Wildlife Habitat Assessment	March 17, 2016	0920	4.25	9	4	0
Ken Burrell	Candidate Wildlife Habitat Assessment	March 25, 2016	0908	4.25	-1	3	100
Andrew Dean Carlene Perkin	ELC/Wetland Assessments and Candidate Wildlife Habitat Assessment	May 9, 2016	1320	4.25	13	2	75
Andrew Dean Carlene Perkin	ELC/Wetland Assessments and Candidate Wildlife Habitat Assessment	May 10, 2016	0815	5.0	9	4	100
Andrew Dean Carlene Perkin	ELC/Wetland Assessments and Candidate Wildlife Habitat Assessment	May 11, 2016	0820	7.25	11	4	100
Pat Deacon	ELC/Wetland Assessments and Candidate Wildlife Habitat Assessment	May 30, 2016	1219	3.25	25	2	10
Pat Deacon Nathan Miller	ELC/Wetland Assessments and Candidate Wildlife Habitat Assessment	September 21, 2016	1320	2.5	28	1	50
Kathryn Hoo Kayla MacLellan	Candidate Wildlife Habitat Assessment	April 28, 2017	16:30	0.5	17	4	100

5.2 Alternative Site Investigations

As identified in Part IV, Section 26 (1.1) of the REA Regulation, an alternative site investigation may be conducted if the applicant determines that it is not reasonable to access a property to conduct a site investigation. The denial of site access by adjacent landowners and unsafe site conditions, such as natural hazards or unstable soils, are examples of suitable situations where conducting a site investigation would not be reasonable (OMNR 2012).

All landowners with properties containing natural features in and within 120m of the Project Location were contacted, either by phone, in person, and/or by mail with a specific request to obtain site access. Where adjacent landowners were reached and site access was denied, or when adjacent landowners could not be reached after multiple attempts to contact the landowner, alternative site investigations were conducted. Where this alternative method had to be employed, it is clearly indicated in this report and also on the field data sheets found in Appendix I of this report. The specific methods used during the alternative site investigations are detailed in Sections 5.4, 5.5, and 5.6 of this report. In all other instances, site access was granted through verbal confirmation and site investigations were conducted, including all areas specifically proposed for project infrastructure.

5.3 Designated Natural Areas

Natural areas, including provincial parks, conservation reserves, and ANSIs are identified and confirmed by the MNRF. There are no designated natural areas in or within 120m of the Project Location, and as such, provincial parks, conservation reserves, and ANSIs (earth science and life science) are not discussed further in this report.

5.4 Woodlands

Woodlands, as identified by the NHA Guide for Renewable Energy Projects (OMNR 2012), are defined as being a *"treed area, woodlot or forested area, other than a cultivated fruit or nut orchard or a plantation established for the purpose of producing Christmas trees,that is located south and east of the Canadian Shield"*. The NHA Guide

suggests that the ELC definition for “forest” (>60% tree cover) can be used to help identify woodlands in addition to the definition in the Guide (OMNR 2012).

To identify woodlands in and within 120m of the Project Location, NRSI biologists have conducted detailed ELC mapping of all vegetation communities. The ELC mapping was completed using the modified ELC system for southern Ontario (Lee *et al*. 1998) and ELC code assignment was based on updates made to the system in 2008 (Lee 2008). ELC polygons were delineated during site investigations and were compared with available aerial photography to delineate woodland boundaries along the wooded dripline. No previous ELC mapping was available or used during these surveys.

ELC surveys included performing area searches within each polygon and the concurrent completion of detailed vegetation inventories for private properties where right-of-entry was obtained. During these area searches, NRSI biologists documented a wide range of applicable information as outlined in the ELC manual (Lee *et al*. 1998), including (but not limited to) vegetation layer cover codes and dominance, polygon descriptions, stand composition, size class analysis, and the completion of detailed plant inventory lists and wildlife habitat assessments. The completion of substrate sampling (soil augers) was determined unnecessary for the identification of woodlands, but was used for the identification of wetlands, and is discussed in more detail below. The complete suite of information collected within each polygon can be found on the completed field data sheets (Appendix I).

For properties where site-specific access could not be obtained, NRSI biologists conducted ELC mapping from the closest observable point (i.e. roadside, neighbouring property, etc.) and compared this to a detailed review of aerial photographs to characterize the polygon to the most detailed level possible. Where this alternative methodology had to be employed, it is clearly indicated on the ELC field data sheets found in Appendix I of this report.

For any potential woodlands identified in and within 120m of the Project Location, ecological characteristics were compared to the criteria for woodlands, as described in Table 11 of the NHA Guide for Renewable Energy Projects (OMNR 2012), to determine

woodland form and function. These criteria include 3 broad categories: woodland size, ecological functions, and uncommon characteristics.

The completed ELC mapping is provided on Maps 3-1 to 3-5 and field notes and field maps can be found in Appendix I.

5.5 Wetlands

Wetlands include habitats that are seasonally or permanently covered by shallow water and display the presence of specific soil types and vegetation communities (OMNR 2012). Preliminary wetland identifications were made through the implementation of ELC mapping to identify lowland forests, wetlands, or other habitat types that have the potential to function as wetlands.

In addition to the detailed ELC methods described above, soil sampling (augering) was conducted in any potential wetland to confirm the moisture regime. Vegetation inventories were also used to identify the presence and abundance of wetland indicator species. These habitats were then compared to the OWES manual to confirm their wetland status. Any communities identified as wetlands were delineated using site-specific field investigations combined with the use of detailed aerial photography. In accordance with OWES, wetland boundaries were delineated by OWES-certified staff once 50% (or more) of the plant community consisted of wetland species. Data collected included wetland type, site type, presence of inflows/outflows, vegetation community delineation, number and types of forms (>25% cover), dominant species, dominant form, and soil type.

In potential wetlands where site access or right-of-entry could not be obtained, NRSI biologists conducted ELC mapping to the most detailed level possible from the nearest observation point, such as roadside or property boundary and/or through air photo interpretation using detailed aerial photography. The limitations of this alternative method are that detailed habitat, and specifically substrate, information is not easily determined, and could not be properly assessed. In these instances where potential wetlands could not be ruled out, and assuming no direct overlap with the Project Location, NRSI has assumed these features to be wetlands in the absence of

appropriate habitat characteristics. Instances where site access could not be obtained are clearly identified on the ELC field data sheets found in Appendix I of this report.

5.6 Wildlife Habitat

The identification of wildlife habitat in and within 120m of the Project Location, followed the definitions provided in the NHA Guide for Renewable Energy Projects (OMNR 2012), SWH Technical Guide (OMNR 2000), and SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a), which generally include areas where plants and animals live with adequate food, water, shelter and space to sustain their populations (OMNR 2012).

NRSI has used Table 19 of the NHA Guide for Renewable Energy Projects (OMNR 2012) to determine whether candidate significant wildlife habitats are required to be individually identified and delineated within 50m or 120m of each proposed project component (marked with an "X" and/or "Y" in Table 19 of the Guide). In accordance with Appendix D of the NHA Guide for Renewable Energy Projects (OMNR 2012), some habitats are not required to be individually identified and delineated within 50m or 120m of a project component and have been grouped together as generalized candidate SWH.

Most candidate wildlife habitat assessments were conducted during ELC surveys so that as vegetation communities were delineated, surveys were conducted for wildlife habitat features that are associated with the identified vegetation communities. These surveys were undertaken using comprehensive area searches for habitat features and through recording wildlife observations (i.e. visual sightings, vocalizations, tracks, etc.) of specific species, which could indicate the potential presence of SWH. Habitat features for which area searches were performed included, but were not limited to: nests, snags, fallen logs, tree cavities, cliffs/banks, caves, burrows, dens, rock piles/stone walls, organics piles, karsts, old foundations, vernal pools/woodland ponds, sand, fine sandy gravel, and crayfish chimneys. All preliminary candidate wildlife habitat assessments were conducted between March 10, 2016 and April 28, 2017.

For properties where site-specific access could not be obtained, NRSI biologists conducted candidate wildlife habitat assessments from the closest observable point (i.e. roadside, neighbouring property, etc.), using binoculars, where appropriate, to observe any candidate wildlife habitat features. Where this alternative methodology had to be

employed, it is clearly indicated on the wildlife habitat assessment field data sheets found in Appendix I of this report.

For the purposes of the NHA reports, NRSI has separated the discussion on wildlife habitat into the 4 habitat categories, including seasonal concentration areas, rare vegetation communities and specialized wildlife habitats, habitats for species of conservation concern, and animal movement corridors, using the same general categories as the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a). Each of these broad habitat types is described in more detail in the following sections, and the field notes for each are provided in Appendix I.

5.6.1 Seasonal Concentration Areas

Wildlife seasonal concentration areas are defined as areas where animals occur in relatively high densities for all, or portions, of their life cycle (OMNR 2012), and are often relatively small in size, particularly when compared to areas used by these species during other times of the year. Habitats of seasonal concentrations of animals have been identified by using the habitat criteria found in the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a). The habitat criteria for each potential seasonal concentration area have been summarized in Table 4.

Table 4. Characteristics Used to Identify Candidate Seasonal Concentration Areas

Candidate Seasonal Concentration Areas	Criteria[1]	Methods
Habitat Characteristics		
Waterfowl Stopover and Staging Areas (Terrestrial)	• Fields with sheet water or annual spring melt water flooding found in any of the following Community Types: Meadow (ME), Thicket (TH), or fields utilized by tundra swans during Spring (mid-March to May). • Agricultural fields with seasonal flooding and waste grains are commonly used by waterfowl; these are not considered candidate SWH unless used by Tundra Swans in the Long Point, Rondeau, Lake St. Clair, Grand Bend or Point Pelee areas.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential waterfowl stopover and staging locations. • Surveys of field conditions were conducted in March 2016 to determine the presence of seasonal flooding and/or tundra swans.
Waterfowl Stopover and Staging Areas (Aquatic)	• The following Community Types: Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD). • Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches

Table 4. Characteristics Used to Identify Candidate Seasonal Concentration Areas

Candidate Seasonal Concentration Areas	Criteria[1]	Methods
	migration. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). • Sewage treatment ponds and storm water ponds do not qualify as candidate SWH; however, a reservoir managed as a large wetland or pond/lake does qualify.	associated with ELC mapping, NRSI biologists documented the presence of any potential waterfowl stopover and staging locations and recorded the presence of suitable permanent open water containing an abundant food supply for waterfowl.
Shorebird Migratory Stopover Area	• The following Community Types: Shoreline (BB), Sand Dune (SD), and Meadow Marsh (MAM). • Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as candidate SWH.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential shorebird stopover locations.
Raptor Wintering Area	• For hawks/owls: presence of fields and woodlands (i.e. at least one Forest (FO) Community Type, in addition to one of the following Community Types: Meadow (ME), Thicket (TH), Savannah (SV), Woodland (WO) (<60% cover) that are >20ha and provide roosting, foraging and resting habitats for wintering raptors). • Upland habitat (ME, TH, SV, WO) must represent at least 15ha of the 20ha minimum size. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • For bald eagle: any of the following Community Types: Forest (FO) or Treed Swamp (SWD, SWM, SWC) on shoreline areas adjacent to large rivers or adjacent to lakes with open water. • Eagle sites have open water and large trees and snags available for roosting.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential raptor wintering locations. • Habitat sizes were determined using GIS calculations based on site-specific ELC delineations.
Bat Hibernacula	• Caves, mine shafts, underground foundations, Karst or one of the following Community Types: Crevice (CCR), Cave (CCA). • Does not include buildings or active mine shafts.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential bat hibernacula locations.

Table 4. Characteristics Used to Identify Candidate Seasonal Concentration Areas

Candidate Seasonal Concentration Areas	Criteria[1]	Methods
Bat Maternity Colonies	• Any of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Deciduous Treed Swamp (SWD), Mixed Treed Swamp (SWM) that have >25cm diameter at breast height (dbh) trees. • Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be candidate SWH). • Maternity roosts are not found in caves and mines in Ontario. • If suitable snag/cavity trees >25 cm dbh are found in a density of ≥10 suitable snags per hectare, the site is a candidate for maternity colony roosts. • Female bats prefer wildlife trees (snags/cavity trees) in early stages of decay (i.e. Class 1-3).	• Habitat identification occurred during the leaf off period in conjunction with the detailed ELC mapping that was conducted throughout the Project. • Snag/cavity tree density was calculated by randomly selecting plots within a candidate natural feature. Ten plots were selected for natural features ≤10ha, with one plot being added for each hectare over 10ha to a maximum of 35 plots. These sampling plots were 12.6m radius (0.05ha) plots. The number of snag/cavity trees ≥25cm dbh were counted in each plot. The snag/cavity tree density of these plots was then extrapolated to the natural feature[2]. • Where candidate natural features were too narrow to conduct 12.6m radius plots, all snag/cavity trees within the natural feature were counted. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any cavity trees or potential bat maternity colony habitats.
Turtle Wintering Areas	• Over-wintering areas are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen, and are generally the same habitat as their core habitat. • Water has to be deep enough not to freeze and have soft mud substrates. • These habitats are found in the following Community Types: Swamp (SW), Marsh (MA), Open Water (OA), Shallow Water (SA), Open Fen (FEO), Open Bog (BOO). • Man-made ponds, such as sewage lagoons or storm water ponds, are not considered candidate SWH.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential turtle wintering locations.
Reptile Hibernaculum	• Hibernation occurs in sites located below frost lines in burrows, rock crevices, broken and fissured rock, wetlands such as conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. • For all snakes, habitat may be found in	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential reptile hibernation locations.

Table 4. Characteristics Used to Identify Candidate Seasonal Concentration Areas

Candidate Seasonal Concentration Areas	Criteria[1]	Methods
	any ecosite, other than very wet ones.	
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	• Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (ME), Thicket (TH), Savannah (SV), Bluff (BL), Cliff (CL). • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential colonial bird nesting locations.
Colonially – Nesting Bird Breeding Habitat (Tree/Shrubs)	• Any of the following Community Types: Mixed Swamp (SWM), Deciduous Swamp (SWD), Coniferous Treed Fen (FETC1). • Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15m from the ground, near the top of the tree.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any stick/bowl nests within potentially suitable habitats.
Colonially – Nesting Bird Breeding Habitat (Ground)	• Any rocky island or peninsula within a lake or large river, close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Meadow (ME), Thicket (TH), Savannah (SV). • Nesting colonies of gulls and terns on islands or peninsulas associated with open water or in marshy areas. • Brewer's Blackbird (*Euphagus cyanocephalus*) colonies are found loosely on the ground or in low bushes in close proximity to streams and irrigation ditches within farmlands.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential colonial bird nesting locations.
Migratory Butterfly Stopover Areas	• A combination of field (CUM, CUT, CUS) and forest (FOC, FOD, FOM, CUP) habitats of at least 10ha in size, and located within 5km of Lake Erie or Lake Ontario. • The habitat should be undisturbed fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists documented the presence of any potential migratory butterfly stopover habitats containing both forest and field habitat types.
Landbird Migratory Stopover Areas	• Any of the following Community Types: Coniferous Forest (FOC), Mixed Forest (FOM), Deciduous Forest (FOD), Coniferous Swamp (SWC), Mixed Swamp (SWM), Deciduous Swamp	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches

Table 4. Characteristics Used to Identify Candidate Seasonal Concentration Areas

Candidate Seasonal Concentration Areas	Criteria[1]	Methods
	(SWD); >5ha in size and within 5km of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2-5ha can be considered. • Sites should have a variety of habitats; forest, grassland and wetland complexes.	associated with ELC mapping, NRSI biologists documented the presence of any forest and swamp areas within 5km of the shoreline to identify potentially suitable habitats.
Deer Winter Congregation Areas	• Deer management is an MNRF responsibility, and deer winter congregation areas considered significant will be mapped by MNRF.	• Habitat identification occurred through the detailed review of background information, including basemapping layers from the MNRF, which outline the location of deer winter congregation areas.

[1] SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a)
[2] OMNR Bat and Bat Habitats: Guidelines for Wind Power Projects (OMNR 2011)

5.6.2 Rare Vegetation Communities and Specialized Wildlife Habitat

Rare vegetation communities are areas that contain a provincially rare vegetation community and/or areas that contain a vegetation community that is rare within the planning area (MNRF 2015a). Specialized wildlife habitats are considered to be areas that support wildlife species with highly specific habitat requirements, areas with exceptionally high species diversity or community diversity, and/or areas that provide habitat that greatly enhances a species' survival (MNRF 2015a).

Rare vegetation communities and specialized wildlife habitats have been identified in and within 120m of the Project Location by using the habitat criteria found in the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a). The habitat criteria for rare vegetation communities and specialized wildlife habitats have been summarized in Table 5.

Table 5. Characteristics Used to Identify Candidate Rare Vegetation Communities and Specialized Wildlife Habitats

Candidate Rare Vegetation Communities and Specialized Wildlife Habitats	Criteria[1]	Methods
Candidate Rare Vegetation Communities		
Cliffs and Talus Slopes	• Any of the following Community Types: CLO (Open Cliff), CLS (Shrub Cliff), CLT (Treed Cliff), TAO (Open Talus),	• Habitat identification occurred through the detailed ELC mapping that was conducted

Table 5. Characteristics Used to Identify Candidate Rare Vegetation Communities and Specialized Wildlife Habitats

Candidate Rare Vegetation Communities and Specialized Wildlife Habitats	Criteria[1]	Methods
	TAS (Shrub Talus), TAT (Treed Talus).	throughout the Project.
Sand Barren	• Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite) that are >0.5ha in size. • Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Habitat sizes were determined using GIS calculations based on site-specific ELC delineations.
Alvar	• Any of the following Community Types: ALO1 (Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry Pine Calcareous Shallow Coniferous Forest Ecosite), FOC2 (Dry Cedar Calcareous Shallow Coniferous Forest Ecosite), CUM2 (Bedrock Cultural Meadow Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite), CUT2-1 (Common Juniper Cultural Alvar Thicket Type), CUW2 (Bedrock Cultural Woodland Ecosite) that are >0.5ha in size.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Habitat sizes were determined using GIS calculations based on site-specific ELC delineations.
Old Growth Forest	• Any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest), SWD (Deciduous Swamp), SWM (Mixed Swamp), SWC (Coniferous Swamp) that are >0.5ha in size.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Tree age was estimated during ELC surveys and any tree stand estimated to be Old Growth will be carried forward as candidate significant wildlife habitat. • Habitat sizes were determined using GIS calculations based on site-specific ELC delineations.
Savannah	• Any of the following Community Types: TPS1 (Dry-Fresh Tallgrass Mixed Savanna Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savanna Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite). • These communities can be either restored or natural. • Remnant sites, such as railway right of ways, are not considered candidate SWH. • No minimum size requirements for a	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project.

Table 5. Characteristics Used to Identify Candidate Rare Vegetation Communities and Specialized Wildlife Habitats

Candidate Rare Vegetation Communities and Specialized Wildlife Habitats	Criteria[1]	Methods
	site to be considered candidate SWH.	
Tallgrass Prairie	• Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite). • These communities can be either restored or natural. • Remnant sites, such as railway right of ways, are not considered candidate SWH. • No minimum size requirements for a site to be considered candidate SWH.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project.
Other Rare Vegetation Communities	• Provincially Rare S1, S2 and S3 Communities Types are listed in Appendix M of the SWH Technical Guide (OMNR 2000). • Any ELC Ecosite Code that has an ELC Vegetation Type that is provincially rare is candidate SWH. • Rare vegetation communities may include beaches, fens, forests, marshes, barrens, dunes, and swamps.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project.
Candidate Specialized Wildlife Habitats		
Waterfowl Nesting Area	• Upland habitats of any kind located adjacent to (≤120m) any PSW or the following wetland Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Shallow Aquatic (SA), Mineral Thicket Swamp (SWT), or Mineral Deciduous Swamp (SWD). • Wetland is >0.5ha or cluster of 3 or more smaller wetlands within 120m of each other where waterfowl nesting occurs. • Upland areas should be at least 120m wide. • Wood Ducks (*Aix sponsa*) and Hooded Mergansers (*Lophodytes cucullatus*) utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches associated with ELC mapping, NRSI biologists identified potential waterfowl nesting area locations, recording the presence of suitable permanent open water, in addition to shrubland/grassland or suitable cavity trees for nesting in upland areas >40cm dbh. • Proximity of upland habitat to wetland habitat and determination of wetland size have been confirmed through GIS mapping.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	• Any of the following Community Types: Forest (FO) or Treed Swamp (SW) that is immediately adjacent to rivers, lakes, ponds, and wetlands. • Nests may be located in dead trees over water along forested shorelines, islands or structures. • Nests located on man-made objects (e.g. telephone poles and constructed	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During area searches of this habitat, NRSI biologists looked for large suitable trees, or the presence of stick nests within suitable treed habitats located

Table 5. Characteristics Used to Identify Candidate Rare Vegetation Communities and Specialized Wildlife Habitats

Candidate Rare Vegetation Communities and Specialized Wildlife Habitats	Criteria[1]	Methods
	nesting platforms) are not candidate SWH.	near water features.
Woodland Raptor Nesting Habitat	• Any of the following Community Types: Forest (FO), Treed Swamp (SW), Coniferous Plantation (TAGM1) that are >30ha in size or contain >4ha of interior habitat. • Interior habitat is determined by excluding a 200m buffer around the inside edge of the forest.	• Habitat identification occurred during the leaf off period in conjunction with the detailed ELC mapping that was conducted throughout the Project. • Habitat size and interior habitat were determined through GIS mapping.
Turtle Nesting Areas	• Exposed mineral soil (sand or gravel) areas <100m from or within the following Community Types: Shallow Marsh (MAS), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO). • For an area to function as a turtle nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. • Nesting areas on the sides of municipal or provincial road embankments and shoulders are not candidate SWH.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project.
Seeps and Springs	• Locations where groundwater comes to surface, often in forested headwater areas. • Any forested area (with <25% meadow, field, or pasture) within the headwaters of a stream or river system may have seeps or springs.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project.
Amphibian Breeding Habitat (Woodland)	• Forests (FO) and Treed Swamps (SW), in addition to wetlands/lakes/ponds/vernal pools that are >500m^2 in size (about 25m diameter) that are found within or adjacent (<120m) to the woodland.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Habitat size and proximity to other habitats were determined through GIS mapping. • Surveys of woodland conditions were generally conducted in April or May to determine the presence of seasonal flooding and/or vernal pools. A single woodland was surveyed outside of this preferred time period to determine the presence of seasonal flooding and/or vernal pools, but is not located within 120m of an access road and therefore has been considered generalized candidate SWH.
Amphibian Breeding Habitat (Wetlands)	• Any of the following Community Types:	• Habitat identification occurred

Table 5. Characteristics Used to Identify Candidate Rare Vegetation Communities and Specialized Wildlife Habitats

Candidate Rare Vegetation Communities and Specialized Wildlife Habitats	Criteria[1]	Methods
	Swamp (SW), Marsh (MA), Fen (FE), Bog (BO), Open Water (OA), Shallow Aquatic (SA) that are >500m^2 or 25m in diameter, and located >120m from woodlands.	through the detailed ELC mapping that was conducted throughout the Project. • Habitat size and proximity to other habitats were determined through GIS mapping. • Surveys of wetland conditions were conducted in May to determine the presence of seasonal flooding and/or vernal pools.
Woodland Area-Sensitive Bird Breeding Habitat	• These include any of the following Community Types: Forest (FO), Treed Swamp (SW) that are mature forest stands (>60 years old) or woodlots >30ha. • Interior habitat is total area of the feature that is present at a distance of at least 200m from the forested edge.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Woodland size and interior forest calculations were determined through GIS mapping.

[1] SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a)

5.6.3 Habitats for Species of Conservation Concern

Habitats of species of conservation concern are those habitats that have been identified as important in maintaining long-term, viable populations of these species (OMNR 2012). The habitat characteristics for species of conservation concern have been summarized in Table 6 and Table 7. The presence of these habitat characteristics was investigated during site investigations in order to determine whether candidate habitat for species of conservation concern are present in or within 120m of the Project Location.

Table 6. Characteristics Used to Identify Candidate Habitats for Species of Conservation Concern

Candidate Habitats for Species of Conservation Concern	Criteria[1]	Methods
Marsh Bird Breeding Habitat	• May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO) with emergent aquatic vegetation, or for Green Heron: SW (Swamp), MA (Marsh) and Meadow (ME) Community Types. • All wetland habitats with shallow water and emergent aquatic vegetation.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During ELC mapping and area searches, NRSI biologists documented the presence of any potential nesting locations, as well as the presence of shallow water and emergent aquatic vegetation.

Table 6. Characteristics Used to Identify Candidate Habitats for Species of Conservation Concern

Candidate Habitats for Species of Conservation Concern	Criteria[1]	Methods
		• Surveys of wetland and open aquatic conditions were conducted in May 2016 to determine the presence of shallow water and emergent aquatic vegetation.
Open Country Bird Breeding Habitat	• Large grassland areas (including natural and cultural fields and meadows) >30ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing within the last 5 years, in the following Community Type: Meadow (ME).	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Habitat size was determined through GIS mapping. • Previous land use was determined through discussions with the landowner.
Shrub/Early Successional Bird Breeding Habitat	• Large shrub and thicket habitats >10ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (TH), Savannahs (SV), Woodlands (WO).	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • Habitat size was determined through GIS mapping. • Previous land use was determined through discussions with the landowner.
Terrestrial Crayfish	• Any of the following Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Deciduous Swamp (SWD), Mixed Swamp (SWM), Thicket Swamp (SWT). • Meadows (ME) with inclusions of above meadow marsh Ecosites may also be used. • Wet meadows and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish.	• Habitat identification occurred through the detailed ELC mapping that was conducted throughout the Project. • During ELC mapping and area searches, NRSI biologists documented the presence of any chimneys in suitable habitats.
Special Concern and Rare Wildlife Species	• All Special Concern or provincial rare (S1-S3, SH) plant and animal species element occurrences within a 1 or 10km grid.	• Area searches were conducted during ELC mapping to determine candidate habitat, as outlined in the Ecoregion 7E Criteria (MNRF 2015a), for any identified species or communities. • See Table 7 below for specific criteria for each Special Concern or provincially rare plant and animal species that may be present within the Project.

[1] SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a)

Table 7. Criteria for Species of Conservation Concern Identified Near the Project

Species of Conservation Concern	S-Rank (MNRF 2016)	SARO Status (2016)	COSEWIC Status (2016)	Habitat Criteria	Methods
Birds					
Great Egret (*Ardea alba*)	S2B	-	-	• Prefers open swamp woods or willow thickets, offshore islands and mudflats for feeding[1]. • Nests in standing trees in open water, thickets, sometimes low vegetation on islands or in rookeries of other herons and egrets[1].	• Breeding habitat for this species is covered under Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs).
Redhead (*Aythya americana*)	S2B S4N	-	-	• Prefers shallow cattail and bulrush marshes with good interspersion of vegetation with open areas, often near lakes, ponds, and fens[1, 2]. • Typically nests close to shallow water (most within 2m)[1].	• Breeding habitat for this species was identified using area searches for suitable habitat in conjunction with ELC mapping (MAS adjacent to bodies of water).
Eastern Wood-Pewee (*Contopus virens*)	S4B	SC	SC	• Prefers open, deciduous, mixed or coniferous forests predominated by oak with little understory, forest clearings, edges, farm woodlots, and parks[1].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (WO, FO, TAGM2, TAGM3, SWC, SWM, SWD). • Migratory habitat for this species has been determined through the consideration of Landbird Migratory Stopover Areas.
Rusty Blackbird (*Euphagus carolinus*)	S4B	NAR	SC	• Prefers openings in coniferous woodlands bordering bodies of water; tree-bordered marshes, beaver ponds, muskegs, bogs, fens or wooded swamps; stream borders with alder and/or willow, and wooded islands on lakes[1].	• Breeding habitat for this species is not known to occur within this area of the province. • Although this species is not specifically protected under the *Migratory Birds Convention Act* (1994), this is a migratory songbird with preferred habitats similar to those protected by Landbird Migratory Stopover Area habitats. Therefore, migratory habitat for this species will be considered under Landbird Migratory

Table 7. Criteria for Species of Conservation Concern Identified Near the Project

Species of Conservation Concern	S-Rank (MNRF 2016)	SARO Status (2016)	COSEWIC Status (2016)	Habitat Criteria	Methods
					Stopover Areas.
Red-throated Loon (*Gavia stellata*)	S1N S3B	-	-	• Prefers sheltered, shallow marine waters, and occasionally large freshwater lakes and rivers[3]. • Breeds primarily in coastal tundra habitats, largely on remote ponds[3]. • During migration, stages on large lakes, including several of the Great Lakes[3]. • Winters primarily on marine coastal waters, and occasionally on inland lakes and rivers near the coast[3]. Very rarely winters on the lower Great Lakes or other large interior lakes and rivers[3].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (SH, OA, SA).
Bald Eagle (*Haliaeetus leucocephalus*)	S2N S4B	SC	NAR	• Requires large continuous areas of deciduous or mixed woods near large lakes or rivers[1]. • Require an area of 255ha for nesting, shelter, feeding and roosting[1]. • Prefers open woods with 30 to 50% canopy cover and will nest in trees 50 to 200m from the shore of a water body. The bald eagle requires tall, dead or partially dead trees within 400m of a nest for perching[1]. • According to the *Bald Eagle Habitat Management Guidelines* (OMNR 1987), a disturbance area of 400-800m should be included as essential habitat for bald eagles. Up to 800m should be included if topography and vegetation permit a direct line of sight from the nest to potential activities at that distance.	• Breeding habitat for this species is addressed under the consideration of Bald Eagle Nesting, Foraging and Perching Habitat. • Overwintering habitat for this species is addressed under the consideration of Raptor Wintering Areas.

Table 7. Criteria for Species of Conservation Concern Identified Near the Project

Species of Conservation Concern	S-Rank (MNRF 2016)	SARO Status (2016)	COSEWIC Status (2016)	Habitat Criteria	Methods
Little Gull (*Hydrocoloeus minutus*)	S1B	-	-	• Requires marsh habitat, occasionally found on islands[1]. • Prefers inland marshes and marshy borders on lakes[1]. • Nests on floating to semi-floating mats[1].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (MA).
Wood Thrush (*Hylocichla mustelina*)	S4B	SC	T	• Prefers undisturbed, moist, mature deciduous or mixed forest with deciduous sapling growth[1, 4]	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FOM, FOD, SWM, SWD). • Migratory habitat for this species has been determined through the consideration of Landbird Migratory Stopover Areas.
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	S4B	SC	T	• Lives in open woodlands and woodland edges, especially in oak savannahs and riparian forest[1]. • They can also be found in fields or pastures, orchards and small woodlots[1]. These habitats contain a higher density of dead trees, which they commonly use for nesting and perching[1]. • Requires trees with a diameter at breast height of at least 40cm for tree cavity nesting and require approximately 4ha for territory[1].	• Area searches within suitable habitat (ME, TH, SV, WO, FO, SW) for large (>40cm dbh) cavity trees were conducted in conjunction with ELC mapping, with snag size class analysis documented on ELC data sheets. • Based on the generalist nature of this species, specific breeding habitat is often difficult to identify. This species will be considered when development is proposed within woodland edges; otherwise it will be identified as generalized candidate SWH where the ELC codes above occur.
Black-crowned Night-heron (*Nycticorax nycticorax*)	S3B S3N	-	-	• Breeds in a wide variety of wetland habitats, including deciduous woodland swamps, cattail marshes, islands, wooded rivers and lake banks, and coastal wetlands[1, 5]. • Migratory habitat consists of wetlands associated with migratory routes, generally along coastal areas or the Mississippi River system[5].	• Area searches for suitable migratory habitat were conducted in conjunction with ELC mapping (SH, SWM, SWD, MAM, MAS, OA along coastal areas). • Breeding habitat for this species is addressed under the consideration of Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs).

Table 7. Criteria for Species of Conservation Concern Identified Near the Project

Species of Conservation Concern	S-Rank (MNRF 2016)	SARO Status (2016)	COSEWIC Status (2016)	Habitat Criteria	Methods
White-eyed Vireo (*Vireo griseus*)	S2B	-	-	• Prefers dense, swampy thickets and hillsides with blackberry and briar tangles, forest edges, and early successional fields[1]. • Territories are 1-2ha in size[1].	• Area searches for suitable breeding habitat were conducted in conjunction with ELC mapping (SWT, FO, ME). • Migratory habitat for this species has been determined through the consideration of Landbird Migratory Stopover Areas.
Herpetofauna					
Snapping Turtle (*Chelydra serpentina serpentina*)	S3	SC	SC	• Resides in habitat that consists of permanent or semi-permanent fresh water, marshes, swamps or bogs or rivers and streams with soft muddy banks or bottoms[1]. • Uses soft soil or clean dry sand on south-facing slopes for nest sites, which can be some distance from water. They will also take advantage of man-made structures for nest sites, including roads (especially with gravel shoulders), dams and aggregate pits[1]. • Often hibernate together in groups in mud under water[1].	• Habitat for this species is addressed under the consideration of Turtle Nesting Areas and Turtle Wintering Areas.
Mammals					
Eastern Mole (*Scalopus aquaticus*)	S2	SC	SC	• Prefers areas of deep, sandy or sandy-loam soils in pastures, meadows or lawn; is occasionally found in open woodlands and often found in moist bottomlands[1].	• Area searches for suitable breeding habitat were conducted in conjunction with ELC mapping (OAGM4, SAGM6, TAGM4, ME, WO).
Vegetation					
Slightly Hirsute Sedge (*Carex hirsutella*)	S3	-	-	• Prefers dry-mesic to wet-mesic hardwood forests, edge and old fields[1]. • Identification of sedges should be made during a time period when this species exhibits characteristics that allow for confident identification, preferably during the fruiting period of April and June.	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FOD, SW, WO, ME).

Table 7. Criteria for Species of Conservation Concern Identified Near the Project

Species of Conservation Concern	S-Rank (MNRF 2016)	SARO Status (2016)	COSEWIC Status (2016)	Habitat Criteria	Methods
Squarrose Sedge (*Carex squarrosa*)	S2	-	-	• Found in mesic to wet hardwood forests, often on floodplains[1]. • Identification of sedges should be made during a time period when this species exhibits characteristics that allow for confident identification, preferably during the fruiting period of April and September.	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FO, SW, WO).
Cattail Sedge (*Carex typhina*)	S2	-	-	• Resides in wet-mesic hardwood forests[1]. • Identification of sedges should be made during a time period when this species exhibits characteristics that allow for confident identification, preferably during the fruiting period of June and August.	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FO, SW, WO).
Pumpkin Ash (*Fraxinus profunda*)	S2?	-	-	• Prefers moist woods[1]. • Identification should be made during a time period when this species exhibits characteristics that allow for confident identification, preferably when fruit and leaves are present between August and mid-October.	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FO, SW, WO).
Black Gum (*Nyssa sylvatica*)	S3	-	-	• Found in dry to wet woods and savannahs[1].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FO, SW, WO).
Halberd-leaved Smartweed (*Persicaria arifolia*)	S3	-	-	• Found in marshes, swamps and wet meadows[6].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (FO, SW, WO, MA, ME).
Climbing Prairie Rose (*Rosa setigera*)	S3	SC	SC	• Typically found in open habitats with moist, heavy, clay to clay-loam soils such as old fields, abandoned agricultural land, as well as prairie remnants and shrub thickets[7]. • Identification should be made during a time period when this species exhibits characteristics that allow for confident identification, preferably during the leaf-on period of May to September.	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (ME, TH, SV, WO).

Table 7. Criteria for Species of Conservation Concern Identified Near the Project

Species of Conservation Concern	S-Rank (MNRF 2016)	SARO Status (2016)	COSEWIC Status (2016)	Habitat Criteria	Methods
Insects					
Hackberry Emperor (*Asterocampa celtis*)	S2	-	-	• Found along wooded streams, forest glades and river edges, wooded roadsides and towns[8].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping, including searches to identify the presence of host plants, such as hackberry (*Celtis occidentalis*) .
Monarch (*Danaus plexippus*)	S2N S4B	SC	E	• Utilizes a variety of open habitats including fields, meadows, weedy areas, marshes, and roadsides, where a variety of nectar-producing wildflowers can be found for feeding[8]. • Caterpillars rely on a variety of milkweed species including common milkweed (*Asclepias syriaca*) and swamp milkweed (*A. incarnate*) among others[8].	• Area searches for suitable breeding or foraging habitat were conducted in conjunction with ELC mapping, including searches to identify the presence of host plants, such as milkweeds (*Asclepias* spp.). • Migratory habitat for this species has been determined through the consideration of Migratory Butterfly Stopover Areas.
Duke's Skipper (*Euphyes dukesi*)	S2	-	-	• Resides in shaded black gum swamps, partially shaded marshes or ditches[8].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (SW, MA), including searches for the presence of black gum swamps or marshes and presence of host plants, such as lake-bank sedge (*Carex lacustris*) and hyaline-scaled sedge (*Carex hyalinolepis*).
Common Sootywing (*Pholisora catullus*)	S3	-	-	• Prefers open or disturbed areas such as landfills, vacant lots, gardens, roadsides, fields, and pastures[8].	• Area searches for suitable habitat were conducted in conjunction with ELC mapping (ME, OAGM4), including searches for the presence of host plants, such as Lamb's-quarters (*Chenopodium album* var. *album*) and members of the Amaranth family (Amaranthaceae).

1. OMNR Significant Wildlife Habitat Technical Guide (2000)
2. Woodin & Michot (2002)
3. Barr *et al*. (2000)
4. Cornell Lab of Ornithology (2016)

[5.] Hothem *et al*. (2010)
[6.] Gleason and Cronquist (1991)
[7.] MNRF (2015b)
[8.] Butterflies and Moths of North America (2014)

Provincial Rank (S-Rank)	**COSEWIC and SARO Status**
S1: Critically Imperiled	E: Endangered
S2: Imperiled	T: Threatened
S3: Vulnerable	SC: Special Concern
S4: Apparently Secure	NAR: Not at Risk

5.6.4 Animal Movement Corridors

Animal movement corridors are defined by the MNRF as *"distinct passageways or well defined natural features used by animals to move between habitats, which are required by the animals to complete their life cycles"* (MNRF 2015a). Animal movement corridors are represented by a diversity of landscape features such as riparian areas, woodlands, ravines, ridges and fencerows (MNRF 2015a). The only animal movement corridors considered in Ecoregion 7E are amphibian movement corridors (MNRF 2015a). Aerial photography and site-specific field investigations were used to identify potential amphibian movement corridor features in or within 120m of the Project Location. Movement corridors for amphibians traveling from their terrestrial habitat to breeding habitat can be extremely important for local amphibian populations. According to the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a), amphibian movement corridors, which are used between breeding and summer habitat, must be determined when wetland amphibian breeding habitat has been confirmed as SWH. NRSI has used the presence of any candidate wetland amphibian breeding habitats located in or within 120m of the Project Location, as outlined in Section 5.6.2 (Table 5), to identify potential amphibian movement corridors. In the event that significant wetland amphibian breeding habitat is present in or within 120m of the Project Location, further investigation of the presence of amphibian movement corridors will be completed. The habitat characteristics used to identify animal movement corridors are outlined in Table 8.

Table 8. Characteristics Used to Identify Candidate Animal Movement Corridors

Candidate Animal Movement Corridors	Criteria[1]	Methods
Amphibian Movement Corridors	• Movement corridors must be considered when Amphibian Breeding Habitat (Wetland) is confirmed as SWH. • Movement corridors are between breeding habitat and summer habitat. • Corridors should be at least 200m wide with gaps <20m and, if following riparian areas, with at least 15m of vegetation on both sides of waterway.	• Significant amphibian breeding habitat (wetland) to be examined for amphibian movement corridors. • The width and presence of gaps along potential corridors were determined using GIS mapping.

[1] SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a)

6.0 Site Investigation Results

6.1 Woodlands

Site investigations conducted in and within 120m of the Project Location have identified a total of 13 candidate significant woodlands. This is a change from the records review, as available basemapping initially indicated a total of 23 woodlands in or within 120m of the Project Location. Many of these woodlands were counted as individual woodlands during the records review; however, under the definition of a woodland in the NHA Guide (OMNR 2012), woodlands bisected by an opening of 20m or less from crown edges are considered to be single woodlands. As such, site investigations have confirmed that some of these individually identified woodlands should be considered larger woodlands based on the definition in the NHA Guide (OMNR 2012). The site investigation has also confirmed that some of the woodlands identified through the records review are hedgerows and fencerows, which do not meet the ELC definition of a "forest" (>60% tree cover). In addition, the site investigation has confirmed that some of the woodlands identified during the records review process no longer exist.

No candidate significant woodlands are located within the Project Location. There are 13 candidate significant woodlands (WOD-001, WOD-002, WOD-003, WOD-004, WOD-005, WOD-006, WOD-007, WOD-008, WOD-009, WOD-011, WOD-012, WOD-013 and WOD-014) located within 120m of the Project Location. All infrastructure will be placed outside of the features, in order to avoid impacts to the features themselves. Woodlands within 120m of the Project Location range in size from 0.74ha to 22.40ha, and are primarily dominated by deciduous tree associations. ELC mapping of these features can be seen on Maps 3-1 to 3-5, while detailed mapping of woodlands within 120m of the Project Location can be seen on Maps 4-1 to 4-5. Woodland size, composition, attributes, functions and distance to the Project Location are summarized in Table 9.

Table 9. Summary of Woodlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
WOD-001$_1$ Woodland	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp with an abundance of Freeman's Maple (*Acer* x *freemanii*), and occasional shagbark hickory (*Carya ovata* var. *ovata*), white elm (*Ulmus americana*) and bur oak (*Quercus macrocarpa*).	• Woodland diversity • Uncommon characteristics: occasionally occurring white trout lily (Coefficient of Conservation (CC) 8)	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-2 4-3	**Yes**
WOD-002$_3$ Woodland	3.27	FODM9-3 SWDM1-2**	Fresh-Moist Bur Oak Deciduous Forest with an abundance of bur oak and occasional shagbark hickory. Bur Oak Mineral Deciduous Swamp	• Provides some water protection • Woodland diversity	WT – >120 AR – >120 CL – >0.1* CA – >0.1* SI – >120	4-2 4-3	**Yes**
WOD-003$_3$ Woodland	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp with an abundance of bur oak and the occasional shagbark hickory and Freeman's maple.	• Provides some water protection • Woodland diversity	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	4-2 4-3	**Yes**
WOD-004$_1$ Woodland	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp with an abundance of Freeman's Maple and white elm, and occasional green ash (*Fraxinus pennsylvanica*), and shagbark hickory.	• Woodland diversity	WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	4-3 4-4	**Yes**
WOD-005$_3$ Woodland	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp with an abundance of Freeman's maple and white elm, with occasional American basswood (*Tilia americana*), green ash, shagbark hickory, Shumard oak (*Quercus shumardii*)***	• Provides some water protection • Woodland diversity	WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-4	**Yes**

Table 9. Summary of Woodlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
			and shellbark hickory (*Carya laciniosa*). Coniferous Plantation dominated by Norway spruce (*Picea abies*).				
WOD-006$_3$ Woodland	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp with an abundance of Freeman's maple, with occasional American basswood, white elm, shagbark hickory, sycamore (*Plantanus occidentalis*) and green ash.	• Woodland diversity • Uncommon characteristics: abundance of white trout lily (CC8)	WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-5	**Yes**
WOD-007$_2$ Woodland	10.01	SWDM3-3 TAGM1 TAGM3** FODM7	Swamp Maple Mineral Deciduous Swamp with an abundance of Freeman's maple, black walnut (*Juglans nigra*), and white elm, with occasional American basswood. Coniferous Plantation with an abundance of white pine (*Pinus strobus*) and Norway spruce. Deciduous Plantation with an abundance of black walnut. Fresh-Moist Lowland Deciduous Forest with an abundance of white elm, and occasional black walnut, shagbark hickory, green ash, bitternut hickory (*Carya cordiformis*), American basswood,	• Provides some water protection • Woodland diversity • Uncommon characteristics: Abundance of wild garlic (CC8) and occasional occurrence of white trout lily (CC8)	WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-5	**Yes**

Table 9. Summary of Woodlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
			sycamore and Manitoba maple (*Acer negundo*).				
WOD-008$_1$ Woodland	0.74	TAGM2	Mixed Plantation abundant with silver maple (*Acer saccharinum*) and occasional eastern cottonwood (*Populus deltoides ssp. deltoides*), white ash and white spruce (*PIcea glauca*).	• None	WT – >120 AR – >120 CL – >0.1* CA – >0.1* SI – >120	4-5	**Yes**
WOD-009$_2$ Woodland	1.02	FODM7-1 TAGM1** TAGM3**	White Elm Lowland Deciduous Forest with an abundance of white elm and green ash, with occasional American basswood. Coniferous Plantation Dominated by Norway Spruce. Deciduous Plantation with an abundance of red oak (*Quercus rubra*) and silver maple.	• Some woodland diversity • Uncommon characteristics: occasional occurrence of wild garlic (CC8) and of white trout lily (CC8)	WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	4-4 4-5	**Yes**
WOD-011$_1$ Woodland	22.40	SWDM3-3	Swamp Maple Mineral Deciduous Swamp with an abundance of Freeman's maple and white elm, with occasional shagbark hickory, American basswood and green ash.	• Provides some interior habitat • Provides some water protection • Provides some woodland diversity • Uncommon characteristics: occasional occurrence of spring cress (CC8) and wild garlic (CC8)	WT – >120 AR – >120 CL – >0.1* CA – >0.1* SI – >120	4-4	**Yes**
WOD-012$_3$ Woodland	1.22	SWDM3-2	Silver Maple Mineral Deciduous Swamp Type dominated by silver maple.	• Woodland diversity	WT – >120 AR – >120 CL – 65 CA – 65 SI – >120	4-4	**Yes**
WOD-013$_2$	9.52	SWDM4-2	White Elm Mineral	• Provides some water	WT – >120	4-5	**Yes**

Table 9. Summary of Woodlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
Woodland			Deciduous Swamp abundant with white elm with occasional green ash and Manitoba maple.	protection • Provides some woodland diversity	AR – >120 CL – >0.1* CA – >0.1* SI – >120		
		FODM6-5**	Fresh-Moist Sugar Maple-Hardwood Deciduous Forest with abundant sugar maple (*Acer saccharum* ssp. *saccharum*).				
		WODM5**	Fresh-Moist Woodland with Honey Locust (*Gleditsia triacanthos*)				
		FODM	Deciduous Forest				
WOD-014$_3$ Woodland	1.48	SWDM3-3	Swamp Maple Mineral Deciduous Swamp dominated by Freeman's maple with occasional white elm and American basswood.	• Provides some woodland diversity	WT – >120 AR – >120 CL – 68 CA – 68 SI – >120	4-5	**Yes**

** Mapping depicts this woodland being overlapped by the Project Location; however, all project components, including the construction disturbance area, will be located adjacent to the woodland (>0.1m).*
*** ELC codes have not been mapped as they have been identified as inclusions (<0.5ha in size).*
**** Species identification of Shumard oak to be confirmed during the appropriate season to identify this species, which is during a time period when this species exhibits characteristics that allow for confident identification, preferably during the period of October to December when leaves and fully-developed acorns are present.*

Subscripts:
1: Entire woodland delineated on site.
2: Woodland delineated via a combination of methods: on site and property line/aerial photograph, where portions were not accessible.
3: Entire woodland delineated from property line/ aerial photograph.

Legend
WT: Wind Turbine
AR: Access Road
CL: Collector Lines
CA: Construction Activity/Temporary Infrastructure/ Laydown Area
SI: Supporting Infrastructure - Building/Substation/Meteorological Tower/Point of Interconnect

6.2 Wetlands

During the site investigation, a total of 8 candidate provincially significant wetlands (WET-001, WET-002, WET-003, WET-004, WET-005, WET-006, WET-008 and WET-009) were identified within 120m of the Project Location. There are no wetlands within the Project Location. This is a change from the records review, as available basemapping indicated that no confirmed wetlands were located in or within 120m of the Project Location. No infrastructure will be placed within wetlands; however, infrastructure (construction disturbance area, access roads and cabling) will be placed adjacent to, and outside of, the features in order to avoid impacts to the features themselves. All wetlands were delineated during site-specific field visits, along with the aid of detailed aerial photography interpretation where site access was not available.

The 8 wetlands identified within 120m of the Project Location are mostly individual wetland communities, as well as two small wetland complexes (WET-006 and WET-008). They range in size from 1.48ha to 23.62ha. The Project is generally represented by flat land with heavy silty clay or silty clay loam soils. As a result, the wetlands within 120 of the Project Location typically represent remnant treed swamps with constructed drainage. They are largely dominated by trees such as Freeman's maple (*Acer* x *freemanii*), bur oak (*Quercus macrocarpa*), white elm (*Ulmus americana*), and hickory species (*Carya* spp.).

Vegetation mapping can be seen on Maps 3-1 to 3-5 and detailed mapping of wetlands and wetland complexes can be seen on Maps 4-1 to 4-5. Wetland size, composition, attributes, functions and distance to the Project Location are summarized in Table 10.

Table 10. Summary of Wetlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
WET-001$_2$ Wetland Big Creek Watershed	4.23	Individual Wetland SWDM3-3 Swamp Maple Mineral Deciduous Swamp	<u>Wetland Types</u> 100% Swamp <u>Vegetation Communities</u> **Three Forms:** **hS1** deciduous trees (*Acer x freemanii*), tall shrubs (*Ulmus americana*), herbaceous (*Sanicula* sp.) <u>Soils</u> 100% mineral (silty clay) <u>Site Type</u> 100% Palustrine	• Primary productivity • Flood attenuation • Short-term water quality improvement • Groundwater recharge • Habitat for locally significant plant species (Field Observation – *Geum vernum*[2])	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-2 4-3	**Yes**
WET-002$_3$ Wetland East Two Creeks Watershed	5.99	Individual Wetland SWDM1-2 Bur Oak Mineral Deciduous Swamp	<u>Wetland Types</u> 100% Swamp <u>Vegetation Communities</u> **One form:** **hS1** deciduous trees (*Quercus macrocarpa*) <u>Soils</u> 100% mineral (clay[1]) <u>Site Type</u> 100% Palustrine	• Primary productivity • Flood attenuation • Short-term water quality improvement • Groundwater recharge	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	4-2 4-3	**Yes**
WET-003$_1$ Wetland East Two Creeks Watershed	2.61	Individual Wetland SWDM3-3 Swamp Maple Mineral Deciduous Swamp	<u>Wetland Types</u> 100% Swamp <u>Vegetation Communities</u> **Three Forms:** **hS1** deciduous trees (*Acer x freemanii*), tall shrubs (*Ulmus americana*), herbaceous (*Sanicua sp., Claytonia virginica, Persicaria virginiana*) <u>Soils</u> 100% mineral (silty clay loam)	• Primary productivity • Flood attenuation • Short-term water quality improvement • Groundwater recharge • Habitat for locally significant plant species (Field Observation – *Geum vernum*[2])	WT – >120 AR – 3 CL – 3 CA – 3 SI – >120	4-3 4-4	**Yes**

Table 10. Summary of Wetlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
			Site Type 100% Palustrine				
WET-004$_3$ Wetland East Two Creeks Watershed	4.11	Individual Wetland SWDM3-3 Swamp Maple Mineral Deciduous Swamp	Wetland Types 100% Swamp Vegetation Communities **Three Forms:** **hS1** deciduous trees (*Acer x freemanii*), tall shrubs (*Ulmus americana*), herbaceous (*Claytonia virginica*) Soils 100% mineral (clay[2]) Site Type 100% Palustrine	• Primary productivity • Flood attenuation • Short-term water quality improvement • Groundwater recharge • Habitat for provincially significant plant species (Field Observation – *Carya laciniosa*)	WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-4	**Yes**
WET-005$_3$ Wetland East Two Creeks Watershed	2.84	Individual Wetland SWDM3-3 Swamp Maple Mineral Deciduous Swamp	Wetland Types 100% Swamp Vegetation Communities **Three Forms:** **hS1** deciduous trees (*Acer x freemanii*), tall shrubs (*Ulmus americana*), herbaceous (*Claytonia virginica*) Soils 100% mineral (clay[2]) Site Type 100% Palustrine	• Primary productivity • Flood attenuation • Short-term water quality improvement • Groundwater recharge • Habitat for provincially significant plant species (Field Observation – *Carya laciniosa*)	WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	4-5	**Yes**
WET-006$_2$ Wetland Yellow Creek Watershed	4.77	Wetland Complex SWDM4-2 White Elm Mineral Deciduous Swamp SWDM3-3 Swamp Maple	Wetland Types 100% Swamp Vegetation Communities **Two Forms:** **hS1** deciduous trees (*Ulmus americana*), narrow-leaved emergents (*Phleum pratense*)	• Primary productivity • Open water habitat • Short-term water quality improvement • Shoreline erosion control • Habitat for locally significant plant	WT – >120 AR – 28 CL – 13 CA – 13 SI – >120	4-5	**Yes**

Table 10. Summary of Wetlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
		Mineral Deciduous Swamp	**Three Forms:** **hS2** deciduous trees (*Acer* x *freemanii*), tall shrubs (*Ulmus americana, Juglans nigra*), herbaceous (*Geum vernum*) Soils 100% mineral (silty clay, silty clay loam) Site Type 100% Riverine	species (Field Observation – *Geum vernum*[2] in hS1 and hS2)			
WET-008$_2$ Yellow Creek Watershed	23.62	Wetland Complex SWDM3-3 Swamp Maple Mineral Deciduous Swamp	Wetland Types 100% Swamp Vegetation Communities **One Form:** **hS1** deciduous trees (*Acer saccharinum*) **Three Forms:** **hS2** deciduous trees (*Ulmus americana*), tall shrubs (*Ulmus americana, Cornus foemina* ssp. *racemosa*), herbaceous (*Persicaria virginiana*) Soils 100% mineral (silty clay, clay[1]) Site Type 94% Palustrine 6% Isolated	• Primary productivity • Flood attenuation • Short-term water quality improvement • Groundwater recharge • Habitat for provincially significant plant species (Field Observation – *Carya laciniosa* in hS2) • Habitat for locally significant plant species (Field Observation – *Carex bromoides*[2], *Galium asprellum*[2], *Geum vernum*[2] in hS2)	WT – >120 AR – >120 CL – >0.1* CA – >0.1* SI – >120	4-4	**Yes**
WET-009$_3$ Wharram Drain Watershed	1.48	Individual Wetland SWDM3-3 Swamp Maple Mineral Deciduous Swamp	Wetland Types 100% Swamp Vegetation Communities **One Form:** **hS1** deciduous trees (*Acer* x *freemanii*) Soils	• Primary productivity • Flood attenuation • Groundwater recharge	WT – >120 AR – >120 CL – 68 CA – 68 SI – >120	4-5	**Yes**

Table 10. Summary of Wetlands Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Closest Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
			100% mineral (clay[1]) <u>Site Type</u> 100% Isolated				

** Mapping depicts this wetland as being overlapped by the Project Location; however, all project components, including the construction disturbance area, will be located adjacent to the wetland (>0.1m).*

Subscripts:
1: Entire wetland delineated on site.
2: Wetland delineated via a combination of methods: on site and property line/aerial photograph.
3: Entire wetland delineated from property line/ aerial photograph.

Superscripts:
1: Ontario Agricultural College 1930
2: Oldham 1993

Legend
WT: Wind Turbine
AR: Access Road
CL: Collector Lines
CA: Construction Activity/Temporary Infrastructure/ Laydown Area
SI: Supporting Infrastructure - Building/Substation/Meteorological Tower/Point of Interconnect

6.3 Wildlife Habitat

Wildlife habitat as outlined by the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a) was examined during the site investigation and is categorized into the following four groups: seasonal concentration areas, rare vegetation communities and specialized wildlife habitat, habitat for species of conservation concern and animal movement corridors. These categories are outlined below and all candidate SWH are summarized in Table 15 and shown on Maps 5-1 through 7-6. Wildlife habitats that were determined to be generalized candidate SWH, according to Appendix D of the NHA Guide for Renewable Energy Projects (OMNR 2012), are included in Table 16 and are shown on Maps 8-1 to 8-5.

6.3.1 Seasonal Concentration Areas

The site investigation involved a thorough assessment of natural areas for seasonal concentration areas for wildlife habitat. Potential habitat for 13 types of seasonal concentration areas was examined during the site investigation phase of the Project. Seasonal concentration areas in or within 120m of the Project Location are described in further detail and assessed as to whether they will be carried forward to the evaluation of significance phase of this Project in Table 11 below. Candidate seasonal concentration areas are further described in Table 15 and locations are provided on Maps 5-1 to 5-5. Generalized candidate SWH within 120m of the Project Location can be found in Table 16 and locations are provided on Maps 8-1 to 8-5.

Table 11. Summary of Seasonal Concentration Areas for Wildlife Habitat Identified in or Within 120m of the Project Location

Seasonal Concentration Areas	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
Waterfowl Stopover and Staging Areas (Terrestrial)	No meadow (ME) or thicket (TH) communities with annual spring melt water flooding have been identified in or within 120m of the Project Location. Several agricultural fields with waste grains (soybeans and corn) located between the Lake St. Clair and Point Pelee areas were identified as containing annual spring melt water flooding in or within 120m of the Project Location. A total of 29 candidate significant terrestrial waterfowl stopover and staging areas habitats have been identified as overlapping the Project Location.	**Yes** **(29 habitats)**	**No**
Waterfowl Stopover and Staging Areas (Aquatic)	No suitable Shallow Marsh (MAS), Shallow Aquatic (SA), or Deciduous Swamp (SWD) Community Types containing suitable permanent open water with an abundant food supply for waterfowl were identified in or within 120m of the Project Location.	**No**	**No**
Shorebird Migratory Stopover Area	No suitable Shoreline (BB), Sand Dune (SD) or Meadow Marsh (MAM) Community Types were identified in or within 120m of the Project Location.	**No**	**No**
Raptor Wintering Area	Hawks/Owls: Forest (FODM6-5) and Swamp (SWDM4-2) Community Types, adjacent to Meadow (MEMM3, MEGM4) and Woodland (WODM5) Community Types that are >20ha in size have been identified within 120m of the southern extent of the Project Location. A single candidate Raptor Wintering Area is located within 120m of underground lines and in accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH. Bald Eagle: Forest (FODM6-5) and Treed Swamp (SWDM4-2) Community Types adjacent to Lake Erie have been identified within 120m of the Project Location. This candidate Raptor Wintering Area falls entirely within the candidate Raptor Wintering Area identified for hawks and owls above and will be considered generalized candidate SWH.	**No**	**Yes**
Bat Hibernacula	No mine shafts, underground foundations, Karst, Crevice (CCR), or Cave (CCA) Community Types were identified in or within 120m of the Project Location.	**No**	**No**
Bat Maternity Colonies	Several Deciduous Forest (FOD) and Deciduous Treed Swamp (SWD) Community Types containing >25cm dbh trees have been identified within120m of the Project	**Yes**	**Yes**

Table 11. Summary of Seasonal Concentration Areas for Wildlife Habitat Identified in or Within 120m of the Project Location

Seasonal Concentration Areas	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
	Location. There are no candidate significant bat maternity colonies within the Project Location. Where site access was obtained, NRSI biologists did not identify any woodlands containing ≥10 cavity trees per hectare, measured at ≥25cm dbh, within 120m of a wind turbine. Where site access could not be obtained, 3 woodlands within 120m of a wind turbine have been assumed to contain ≥10 wildlife trees per hectare, measured at ≥25cm dbh. These woodlands will be considered candidate bat maternity colonies. Four woodlands which could not be accessed, and therefore have been assumed to contain ≥10 cavity trees per hectare, measured at ≥25cm dbh, are located within 120m of underground or overhead lines and/or access roads. In accordance with Appendix D of the NHA guide (OMNR 2012), these 4 habitats will be considered generalized candidate SWH.	**(3 habitats)**	
Turtle Wintering Areas	Several Open Water (OA) Community Types have been identified within 120m of the Project Location. A total of 4 habitats are located within 120m of project components but outside of the Project Location boundaries. In accordance with Appendix D of the NHA guide (OMNR 2012), these 4 habitats will be considered generalized candidate SWH.	**No**	**Yes**
Reptile Hibernaculum	Several potentially suitable habitats for reptile hibernaculum have been identified within 120m of the Project Location, including rock and debris piles. These features appear to be the result of agricultural field clearing or dumping, and visual assessments confirmed that these features do not extend below the frost line. As such, these features do not provide suitable habitat for reptile hibernaculum.	**No**	**No**
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	No Meadow (ME), Thicket (TH), Savannah (SV), Bluff (BL) or Cliff (CL) Community Types contain eroding banks, sandy hills, borrow pits, steep slopes, or sand piles were identified in or within 120m of the Project Location.	**No**	**No**
Colonially – Nesting Bird Breeding Habitat (Tree/Shrubs)	Several Deciduous Swamp (SWD) Community Types have been identified within 120m of the Project Location. Where site access could not be obtained, three candidate colonial-nesting bird breeding habitats (tree/shrub) have been assumed to be present within 120m of a	**Yes** **(3 habitats)**	**Yes**

Table 11. Summary of Seasonal Concentration Areas for Wildlife Habitat Identified in or Within 120m of the Project Location

Seasonal Concentration Areas	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
	wind turbine or access road. Two additional habitats, where site access could not be obtained, are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these habitats will be considered generalized candidate SWH.		
Colonially – Nesting Bird Breeding Habitat (Ground)	Gulls/Terns: No suitable rocky islands or peninsulas located within large lakes or rivers identified in or within 120m of the Project Location. Brewer's blackbird: No Meadow Marsh (MAM), Shallow Marsh (MAS), Thicket (TH), or Savannah (SV) Community types located in close proximity to a watercourse were identified in or within 120m of the Project Location. A total of 2 Meadow (ME) Community Types located in close proximity to a watercourse were identified within 120m of the Project Location. These features are located within 120m of underground or overhead lines and in accordance with Appendix D of the NHA guide (OMNR 2012), these will be considered generalized candidate SWH.	**No**	**Yes**
Migratory Butterfly Stopover Areas	One Meadow (ME) Community Type has been identified in combination with a wooded area that is greater than 10ha in size within 120m of the Project Location. This habitat is located within 120m of underground lines and in accordance with Appendix D of the NHA guide (OMNR 2012), will be considered generalized candidate SWH. Monarchs were also observed within 120m of the Project Location, in habitats that are not suitable for migratory butterfly stopover areas. As these observations occurred in habitats that are not considered suitable for important life functions of this species, the observations in non-suitable habitats are considered to be incidental observations and those habitats will not be carried forward to the EOS as candidate significant wildlife habitat or generalized candidate significant wildlife habitat.	**No**	**Yes**
Landbird Migratory Stopover Areas	Areas of Deciduous Forest (FOD) and Deciduous Swamp (SWD) Community Types >2ha and within 5km of Lake Erie have been identified within 120m of the Project Location.	**Yes** **(2 habitats)**	**Yes**

Table 11. Summary of Seasonal Concentration Areas for Wildlife Habitat Identified in or Within 120m of the Project Location

Seasonal Concentration Areas	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
	A total of 2 suitable Landbird Migratory Stopover Areas have been identified within 120m of a wind turbine. A total of 3 habitats are located within 120m of underground or overhead lines and/or access roads. In accordance with Appendix D of the NHA guide (OMNR 2012), these 3 habitats will be considered generalized candidate SWH.		
Deer Winter Congregation Areas	MNRF has identified one deer winter congregation area (stratum 2) habitat within 120m of the Project Location. In accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH.	**No**	**Yes**

6.3.2 Rare Vegetation Communities and Specialized Wildlife Habitat

The site investigation involved a thorough assessment of natural areas for rare vegetation communities and specialized wildlife habitats. Potential habitat for 15 types of rare vegetation communities and specialized wildlife habitats were examined during the site investigation phase of the project. Rare vegetation communities and specialized wildlife habitat in or within 120m of the Project Location are described in further detail and assessed as to whether they will be carried forward to the evaluation of significance phase of this Project in Table 12 below. Candidate rare vegetation communities and specialized wildlife habitats are further described in Table 15 and locations are provided on Maps 6-1 to 6-5. Generalized candidate SWH within 120m of the Project Location can be found in Table 16 and is shown on Maps 8-1 to 8-5.

Table 12. Summary of Rare Vegetation Communities and Specialized Wildlife Habitat Identified in or Within 120m of the Project Location

Rare Vegetation Communities and Specialized Wildlife Habitats	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
Rare Vegetation Communities			
Cliffs and Talus Slopes	None of the Cliff or Talus Slope Community Types outlined in Table 5 have been identified in or within 120m of the Project Location.	**No**	**No**
Sand Barren	None of the Sand Barren Community Types outlined in Table 5 have been identified in or within 120m of the Project Location.	**No**	**No**
Alvar	None of the Alvar Community Types outlined in Table 5 have been identified in or within 120m of the Project Location.	**No**	**No**
Old Growth Forest	No FO/SW Community Types outlined in Table 5 are dominated by trees species that are >140 years old in or within 120m of the Project Location.	**No**	**No**
Savannah	None of the Savannah Community Types outlined in Table 5 have been identified in or within 120m of the Project Location.	**No**	**No**
Tallgrass Prairie	None of the Tall-grass Prairie Community Types outlined in Table 5 have been identified in or within 120m of the Project Location.	**No**	**No**
Other Rare Vegetation Communities	Two provincially rare vegetation communities have been identified within 120m of the Project Location. Both of these communities consist of Bur Oak Mineral Deciduous Swamp (SWDM1-2), which is a provincially rare (S3) vegetation community. One of these communities is located within WOD-003, which is located within 120m of an access road. The other community is located within 120m of underground or overhead lines and in accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH.	**Yes** **(1 habitat)**	**Yes**
Specialized Wildlife Habitats			
Waterfowl Nesting Area	One upland community that is greater than 120m wide has been identified adjacent (within 120m) to a wetland Community Type outlined in Table 5. This single candidate waterfowl nesting area is located within 120m of underground or overhead lines and an access road. In accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH.	**No**	**Yes**
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No stick nests in Forest (FO) or Treed Swamp (SW) communities that are immediately adjacent to rivers, lakes, ponds, or wetlands were identified in or within 120m of the Project Location. Despite no candidate habitat, a bald eagle nest was identified during the site investigation studies. Since this nest location does not meet the criteria for *Bald Eagle and Osprey Nesting, Foraging and Perching Habitat*, the significance of the nest will be addressed under Species of Conservation Concern.	**No**	**No**

Table 12. Summary of Rare Vegetation Communities and Specialized Wildlife Habitat Identified in or Within 120m of the Project Location

Rare Vegetation Communities and Specialized Wildlife Habitats	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
	A possible bald eagle nest record from within the vicinity of the Project was received from Bird Studies Canada (2017). As this possible record does not meet the criteria for *Bald Eagle and Osprey Nesting, Foraging and Perching Habitat*, the significance of the nest will be addressed under Species of Conservation Concern.		
Woodland Raptor Nesting Habitat	No Forest (FO) or Treed Swamp (SW) Community Types that are >30ha or contain >4ha of interior habitat have been identified in or within 120m of the Project Location.	**No**	**No**
Turtle Nesting Areas	No Mineral or Organic Shallow Marsh (MAS), Shallow Aquatic (SA), Open Bog (BOO), or Open Fen (FEO) Community Types have been identified in or within 120m of the Project Location.	**No**	**No**
Seeps and Springs	No seeps or springs were identified in or within 120m of the Project Location.	**No**	**No**
Amphibian Breeding Habitat (Woodland)	Several Forest (FO) and Treed Swamp (SW) Community Types with wetlands, ponds or vernal pools that are >500m^2 in size were identified within 120m of the Project Location. Where site access could not be obtained, one candidate habitat has been assumed as the presence of vernal pooling could not be verified. One additional candidate habitat for amphibian breeding habitats (woodland) is located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH.	**Yes** **(1 habitat)**	**Yes**
Amphibian Breeding Habitat (Wetlands)	No Swamp (SW), Marsh (MA), Fen (FE), Bog (BO), Open Water (OA), Shallow Aquatic (SA) Community Types that are greater than 500m^2 or 25m in diameter, and located more than 120m from woodlands, have been identified in or within 120m of the Project Location.	**No**	**No**
Woodland Area-sensitive Bird Breeding Habitat	No Forest (FO) or Treed Swamp (SW) Community Types that are mature forest stands (>60 years old) or woodlots >30ha in size containing interior forest habitat (at least 200m from the forest edge) have been identified in or within 120m of the Project Location.	**No**	**No**

6.3.3 Habitat for Species of Conservation Concern

The site investigation involved a thorough assessment of natural areas for habitat for species of conservation concern. A total of 5 types of candidate habitats for species of conservation concern were examined during the site investigation phase of the Project. Habitat for species of conservation concern in or within 120m of the Project Location are described in further detail and assessed as to whether they will be carried forward to the evaluation of significance phase of this Project in Table 13 below. Candidate habitats for species of conservation concern are further described in Table 15 and locations are provided on Maps 7-1 to 7-5. Generalized candidate SWH within 120m of the Project Location can be found in Table 16 and is shown on Maps 8-1 to 8-5.

NRSI biologists have also reviewed the specific habitat considerations of several individual species of conservation concern that are known to occur in or within the vicinity of the Project Location. Individual species of conservation concern include all species that have been designated as a species of Special Concern according to the Species At Risk in Ontario (SARO) list, or have been given a provincial S-Rank of S1-S3, but have not been designated as either Endangered or Threatened within Ontario. Species At Risk (provincially Threatened or Endangered) will be addressed as part of a separate reporting process with the MNRF in accordance with *Appendix B Requirements of the Endangered Species Act, 2007* of the *Approval and Permitting Requirements Document for Renewable Energy Projects* to address the *Endangered Species Act* (2007), as required. Many special concern and S1-S3 species and communities were identified during the records review as potentially being present in or within 120m of the Project Location. Habitat searches for these species were conducted as part of the site investigation for the Project. Habitat for these species of conservation concern in or within 120m of the Project Location are described in further detail and assessed as to whether they will be carried forward to the evaluation of significance phase of this project in Table 14 below. Candidate habitats for species of conservation concern are further described in Table 15 and locations are provided on Maps 7-1 to 7-5. Generalized candidate SWH within 120m of the Project Location can be found in Table 16 and is shown on Maps 8-1 to 8-5.

Table 13. Summary of Habitats of Species of Conservation Concern Identified in or Within 120m of the Project Location

Habitat for Species of Conservation Concern	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)	Generalized Candidate Significant Wildlife Habitat (Y/N)
Marsh Bird Breeding Habitat	No wetlands with shallow water and emergent vegetation have been identified in or within 120m of the Project Location.	**No**	**No**
Open Country Bird Breeding Habitat	One candidate open country bird breeding habitat is located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH.	**No**	**Yes**
Shrub/Early Successional Bird Breeding Habitat	No shrub or thicket habitats >10ha that are not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years have been identified in or within 120m of the Project Location.	**No**	**No**
Terrestrial Crayfish	Several Deciduous Treed Swamp (SWD) Community Types have been identified within 120m of the Project Location. Where site access was obtained, NRSI biologists confirmed that one of these Community Types within 120m of the Project Location contains crayfish chimneys. Where site access could not be obtained, 6 candidate terrestrial crayfish habitats have been assumed, which are located within 120m of project components but outside of the Project Location boundaries. In accordance with Appendix D of the NHA guide (OMNR 2012), these 7 habitats will be considered generalized candidate SWH.	**No**	**Yes**
Special Concern and Rare Wildlife Species	All Special Concern or provincially rare (S1-S3, SH) plant and animal species element occurrences within a 1km or 10km grid, not otherwise considered by other SWH, have been addressed in detail, and outlined in Table 14.	**Yes** **(see Table 14)**	**Yes**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
Birds			
Redhead (*Aythya Americana*)	No cattail or bulrush marshes have been identified in or within 120m of the Project Location.	**No**	**No**
Eastern Wood-Pewee (*Contopus virens*)	Several Forest (FO), Woodland (WO), Deciduous Treed Swamp (SWD), and Coniferous and Mixed Plantation (TAGM1; TAGM2) Community Types have been identified within 120m of the Project Location. A total of 5 candidate habitats for eastern wood-pewee have been identified within 120m of a wind turbine. An additional 7 candidate habitats for eastern wood-pewee are located within 120m of underground or overhead lines and/or access roads. In accordance with Appendix D of the NHA guide (OMNR 2012), these habitats will be considered generalized candidate SWH. Eastern wood-pewee was also observed within 120m of the Project Location in habitats that are not suitable for this species. As these observations occurred in unsuitable habitats, the observations will be treated as incidental and these unsuitable habitats will not be carried forward to the EOS as candidate significant wildlife habitat or generalized candidate significant wildlife habitat.	**Yes** **(5 habitats)**	**Yes**
Red-throated Loon (*Gavia stellata*)	No coastal tundra breeding habitat is present in or within 120m of the Project Location. No Great Lakes, marine coastal waters or inland lakes and rivers near the coast have been identified in or within 120m of the Project Location.	**No**	**No**
Bald Eagle (*Haliaeetus leucocephalus*)	No suitable habitat for Bald Eagle Nesting, Perching and Foraging habitats has been identified in or within 120m of the Project Location. Although no suitable habitat was identified, one bald eagle nest was observed outside the Project Location in habitat that is not considered candidate SWH. In accordance with the *Bald Eagle Habitat Management Guidelines* (OMNR 1987), an area of 800m from the nest has been included as essential habitat for bald eagles, and is included in the candidate significant wildlife habitat delineation. As this habitat is overlapped by project infrastructure, it will be carried forward as candidate significant wildlife habitat for Bald	**Yes** **(2 habitats)**	**No**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
	Eagle. A possible bald eagle nest record was received from Bird Studies Canada (2017). The presence and current status of this nest is unknown (active or inactive) and does not meet the suitable habitat criteria for Bald Eagle Nesting, Perching and Foraging habitat. This bald eagle nest record will be carried forward to the evaluation of significance phase and a site investigation will be completed as part of pre-construction commitments to determine if the nest is present and/or active.		
Little Gull (*Hydrocoloeus minutus*)	No marsh habitats have been identified in or within 120m of the Project Location.	**No**	**No**
Wood Thrush (*Hylocichla mustelina*)	Several mature Forest (FO) and Deciduous Treed Swamp (SWD) Community Types have been identified within 120m of the Project Location. One candidate habitat for wood thrush has been identified within 120m of a wind turbine. An additional 2 candidate habitats for wood thrush are located within 120m of underground or overhead lines and/or access roads. In accordance with Appendix D of the NHA guide (OMNR 2012), these 2 habitats will be considered generalized candidate SWH. Wood thrush was also observed within the Project in habitats that are not suitable for this species. As these observations occurred in unsuitable habitats, the observations will be treated as incidental and these unsuitable habitats will not be carried forward to the EOS as candidate significant wildlife habitat or generalized candidate significant wildlife habitat.	**Yes** **(1 habitat)**	**Yes**
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	Several Forest (FO) and Swamp (SW) Community Types containing trees >40cm dbh have been identified within 120m of the Project Location. No candidate habitats for red-headed woodpecker have been identified as overlapping the Project Location**. A total of 12 candidate habitats for red-headed woodpecker are located within 120m of project components but outside of the Project Location boundaries. In accordance with Appendix D of the NHA guide (OMNR 2012), these habitats will be considered generalized candidate SWH.	**No**	**Yes**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
White-eyed Vireo (*Vireo griseus*)	Several Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. No dense, swampy thickets, hillsides or forests with blackberry or briar tangles have been identified within 120m of the Project Location.	**No**	**No**
Mammals			
Eastern Mole (*Scalopus aquaticus*)	Soils in and within 120m of the Project Location are clay-based; there are no deep, sandy or sandy-loam soils that have been identified.	**No**	**No**
Vegetation			
Slightly Hirsute Sedge (*Carex hirsutella*)	Several dry-mesic and wet-mesic Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 7 candidate habitats for slightly hirsute sedge have been identified within 120m of an access road. An additional 5 candidate habitats for slightly hirsute sedge are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH.	**Yes** **(7 habitats)**	**Yes**
Squarrose Sedge (*Carex squarrosa*)	Several mesic to wet-mesic Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 7 candidate habitats for squarrose sedge have been identified within 120m of an access road. An additional 5 candidate habitats for squarrose sedge are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH.	**Yes** **(7 habitats)**	**Yes**
Cattail Sedge (*Carex typhina*)	Several wet-mesic Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 7 candidate habitats for cattail sedge have been identified within 120m of an access road. An additional 5 candidate habitats for cattail sedge are located within 120m of	**Yes** **(7 habitats)**	**Yes**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
	underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH.		
Shellbark Hickory*** (*Carya laciniosa*)	The records review phase of this project did not identify the presence of this species; however, site investigations conducted in 2016 confirmed the presence of this species within 120m of the Project Location. As such, habitat for this species has been considered in and within 120m of the Project Location. This species prefers wet or wet-mesic deciduous forests[1], and can also be found on riverbanks and in rich floodplain forests[2]. Identification of this species can be made year round using several distinct characteristics of the species (leaves, buds, twigs and/or nuts). Several wet Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 7 candidate habitats for Shellbark hickory have been identified within 120m of an access road. An additional 5 candidate habitats for Shellbark hickory are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH. Shellbark hickory was also observed within 120m of the Project Location in one habitat that is not suitable for this species, e.g. in a hedgerow. As this observation occurred in unsuitable habitat, the observation will be treated as incidental and the unsuitable habitat will not be carried forward to the EOS as candidate significant wildlife habitat or generalized candidate significant wildlife habitat.	**Yes** **(7 habitats)**	**Yes**
Pumpkin Ash (*Fraxinus profunda*)	Several wet Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 7 candidate habitats for pumpkin ash have been identified within 120m of an access road. An additional 5 candidate habitats for pumpkin ash are located within 120m of	**Yes** **(7 habitats)**	**Yes**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
	underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH.		
Black Gum (*Nyssa sylvatica*)	Several Forest (FO) and Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 7 candidate habitats for black gum have been identified within 120m of an access road. An additional 5 candidate habitats for black gum are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH.	**Yes** **(7 habitats)**	**Yes**
Halberd-leaved Smartweed (*Persicaria arifolia*)	Several Swamp (SW) Community Types have been identified within 120m of the Project Location. A total of 6 candidate habitats for halberd-leaved smartweed have been identified within 120m of an access road. An additional 3 candidate habitats for halberd-leaved smartweed are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 3 habitats will be considered generalized candidate SWH.	**Yes** **(6 habitats)**	**Yes**
Shumard Oak*** (*Quercus shumardii*)	The records review phase of this project did not identify the presence of this species; however, site investigations conducted in 2016 identified oak species that may be Shumard oak within 120m of the Project Location. Species identification of Shumard oak is to be confirmed during the appropriate season to identify this species, which is during a time period when this species exhibits characteristics that allow for confident identification, preferably during the period of October to December when leaves and fully-developed acorns are present. As such, habitat for this species has been considered as potentially being present within 120m of the Project Location. This species prefers moist, heavier soils and full sun, but is adaptable to loamy soils and partial shade in swamps[3]. A total of 7 candidate habitats for Shumard oak have been identified within 120m of an access road.	**Yes** **(7 habitats)**	**Yes**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
	An additional 5 candidate habitats for Shumard oak are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 5 habitats will be considered generalized candidate SWH.		
Climbing Prairie Rose (*Rosa setigera*)	Several meadow habitats and one Woodland (WO) Community Type were identified within 120m of the Project Location. One candidate habitat for climbing prairie rose has been identified within 120m of an access road. An additional 2 candidate habitats for climbing prairie rose are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 2 habitats will be considered generalized candidate SWH.	**Yes** **(1 habitat)**	**Yes**
Insects			
Hackberry Emperor (*Asterocampa celtis*)	One Forest (FO) Community Type that contains hackberry has been identified within 120m of the Project Location. No candidate habitats for hackberry emperor have been identified within 120m of a wind turbine. One candidate habitat for hackberry emperor is located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), this habitat will be considered generalized candidate SWH.	**No**	**Yes**
Monarch (*Danaus plexippus*)	Three Meadow (ME) Community Types that contain nectar-producing wildflowers and that may contain milkweed have been identified within 120m of the Project Location. No candidate habitats for monarch have been identified within 120m of a wind turbine. Three candidate habitats for monarch are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these habitats will be considered generalized candidate SWH. Monarchs were also observed within 120m of the Project Location in roadside habitats that are highly disturbed throughout the year. Due to the disturbed nature of these habitats, important life functions of this species cannot be carried out in these locations. The observations are considered to be incidental observations and these habitats will not	**No**	**Yes**

Table 14. Summary of Species of Conservation Concern Identified in or Within 120m of the Project Location

Species	Rationale	Individually Delineated Candidate Significant Wildlife Habitat (Y/N)*	Generalized Candidate Significant Wildlife Habitat (Y/N)*
	be carried forward to the EOS as candidate significant wildlife habitat or generalized candidate significant wildlife habitat.		
Duke's Skipper (*Euphyes dukesi*)	Several Swamp (SW) Community Types have been identified within 120m of the Project Location, but none containing black gum. No black gum swamps or host plants for Duke's skipper, lake-bank sedge or hyaline-scaled sedge, were identified within 120m of the Project Location.	**No**	**No**
Common Sootywing (*Pholisora catullus*)	Several Meadow (ME) Community Types have been identified within 120m of the Project Location. Two candidate habitats for common sootywing are located within 120m of underground or overhead lines. In accordance with Appendix D of the NHA guide (OMNR 2012), these 2 habitats will be considered generalized candidate SWH.	**No**	**Yes**

* *The presence of candidate or generalized habitats was identified when area searches conducted during the appropriate time of year confirmed the presence of this species within suitable habitat. Candidate or generalized habitats was assumed to be present when area searches were not conducted during the appropriate time of year or when site access was not granted, and therefore, the presence of this species could not be verified.*

** *On the mapping, several woodlands appear to be overlapped; however, all project components, including the construction disturbance area, will be located adjacent to the woodland (>0.1m).*

**** Species identified through site investigations and not identified through records review phase of the project.*

Superscripts:
1: OMNR Significant Wildlife Habitat Technical Guide (2000)
2: Reznicek *et al*. (2011)
3: MNRF (2015c)

6.3.4 Animal Movement Corridors

The detailed site investigation confirmed the presence of several linear features, including treed fencerows and naturalized drains, in or within 120m of the Project Location, which have the potential to act as animal movement corridors. These features were examined during the site investigation and compared with the other appropriate wildlife habitats that may suggest the presence of animal movement corridors. NRSI biologists used the presence of any candidate wetland amphibian breeding habitats located in or within 120m of the Project Location, as outlined in Table 5, to identify amphibian movement corridors as per the criteria outlined in the SWH Criteria Schedules for Ecoregion 7E (MNRF 2015a). Since no candidate significant wetland amphibian breeding habitats were identified, no associated candidate animal movement corridors are being considered as part of this site investigation.

6.3.5 Summary of Wildlife Habitat

Based on the comprehensive site investigation conducted by NRSI biologists, a total of 103 individually delineated candidate SWH have been identified in and within 120m of the Project Location. In addition, several generalized candidate significant wildlife habitats have been identified within 120m of the Project Location, as per Appendix D of the NHA Guide for Renewable Energy Projects (OMNR 2012). A summary of the 103 individually delineated candidate SWH that will be carried forward to the evaluation of significance phase of this Project is provided in Table 15. This table includes the size, composition, attributes, functions, distances to Project Locations, and map references of each habitat. A summary of the generalized candidate SWH that are found within 120m of the Project Location is provided in Table 16.

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
Seasonal Concentration Areas								
WST-001 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	41.73	OAGM1	Annual Row Crop Communities	May provide foraging and resting habitat for migrating waterfowl	Annual spring melt water and suitable agricultural field with waste grains present	WT – >120 AR – 21 CL – Overlapping CA – Overlapping SI – >120	5-1	**Yes**
WST-002 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	80.29	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – Overlapping CL – Overlapping CA – Overlapping SI – Overlapping	5-1	**Yes**
WST-003 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	39.67	OAGM1	Annual Row Crop Communities (corn)			WT – >120 AR – 21 CL – Overlapping CA – Overlapping SI – >120	5-1	**Yes**
WST-004 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	49.68	OAGM1	Annual Row Crop Communities (corn)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-1	**Yes**
WST-005 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	54.00	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-1	**Yes**
WST-006 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	41.25	OAGM1	Annual Row Crop Communities (corn)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-1	**Yes**
WST-007 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	25.78	OAGM1	Annual Row Crop Communities			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-1 5-2	**Yes**
WST-008 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	60.41	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping	5-2	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
						SI – >120		
WST-009 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	19.70	OAGM1	Annual Row Crop Communities (corn)			WT –>120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-2	**Yes**
WST-010 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	37.03	OAGM1	Annual Row Crop Communities (soybeans)			WT – Overlapping (T17) AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-2 5-3	**Yes**
WST-011 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	33.30	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-2 5-3	**Yes**
WST-012 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	35.87	OAGM1	Annual Row Crop Communities (corn)			WT – Overlapping (T2) AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-3 5-4	**Yes**
WST-013 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	62.22	OAGM1	Annual Row Crop Communities (soybeans)			WT – Overlapping (T2) AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-3 5-4	**Yes**
WST-014 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	40.48	OAGM1	Annual Row Crop Communities (soybeans)			WT – 60 (T7) AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-3 5-4	**Yes**
WST-015 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	20.68	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-3 5-4 5-5	**Yes**
WST-016 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	19.68	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping	5-4 5-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
						SI – >120		
WST-017 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	9.69	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-018 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	20.56	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-019 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	20.86	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-020 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	26.69	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – 19 CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-021 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	20.59	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-022 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	20.35	OAGM1	Annual Row Crop Communities (soybeans)			WT – 45 (T15) AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-023 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	40.98	OAGM1	Annual Row Crop Communities (soybeans)			WT – Overlapping (T15) AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-4 5-5	**Yes**
WST-024 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	40.55	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping	5-4	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
						SI – >120		
WST-025 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	75.54	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – Overlapping CL – Overlapping CA – Overlapping SI – >120	5-4	**Yes**
WST-026 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	18.58	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – 24 CL – Overlapping CA – Overlapping SI – >120	5-5	**Yes**
WST-027 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	27.65	OAGM1	Annual Row Crop Communities (soybeans)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-5	**Yes**
WST-028 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	52.94	OAGM1	Annual Row Crop Communities (corn)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-5	**Yes**
WST-029 Waterfowl Stopover and Staging Area (Terrestrial)$_3$	33.21	OAGM1	Annual Row Crop Communities (corn)			WT – >120 AR – >120 CL – Overlapping CA – Overlapping SI – >120	5-5	**Yes**
BMA-001 Bat Maternity Colony$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp	May provide roosting habitat and shelter for raising young	No Site Access; Treated as Candidate SWH Potential for suitable number of snags/cavity trees (≥10snags/ha) to provide candidate habitat	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	5-2 5-3	**Yes**
BMA-002 Bat Maternity Colony$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	5-4	**Yes**
BMA-003 Bat Maternity Colony$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1*	5-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
						SI – >120		
CBT-001 Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) [3]	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp	May provide nesting and breeding habitat for colonial birds using trees or shrubs	No Site Access; Treated as Candidate SWH Candidate deciduous swamp habitat	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	5-2 5-3 5-4	**Yes**
CBT-002 Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) [3]	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	5-4	**Yes**
CBT-003 Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) [3]	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	5-5	**Yes**
LMS-001 Landbird Migratory Stopover Area [3]	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	May provide suitable stopover habitat for a significant abundance and diversity of migratory landbirds	Candidate woodland ≥2ha in size and within 5km of Lake Erie	WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	5-4	**Yes**
LMS-002 Landbird Migratory Stopover Area [3]	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	5-5	**Yes**
Rare Vegetation Communities and Specialized Wildlife Habitats								
ORV-001 Other Rare Vegetation Communities [3]	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp	May provide habitat for species of conservation concern and increase vegetation diversity	Presence of provincially rare (S3) Community Type	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	6-2 6-3	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
AWO-001 Amphibian Breeding Habitat (Woodland) $_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp	May be used for egg laying, breeding and feeding habitat	No Site Access; Treated as Candidate SWH Candidate deciduous forest habitat with the presence of seasonal flooding and/or vernal pools	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	6-2 6-3	**Yes**
Special Concern and Rare Wildlife Species								
EWP-001 Eastern Wood-Pewee Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	May be used for breeding, nesting or foraging habitat	Candidate deciduous forest and/or swamp habitat	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (1) 7-2 7-3	**Yes**
EWP-002 Eastern Wood-Pewee Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (1) 7-2 7-3	**Yes**
EWP-003 Eastern Wood-Pewee Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (1) 7-4	**Yes**
EWP-004 Eastern Wood-Pewee Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (1) 7-5	**Yes**
EWP-005 Eastern Wood-Pewee Habitat$_2$	10.01	TAGM1 TAGM3 SWDM3-3 FODM7	Coniferous Plantation Deciduous Plantation Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-H (1) 7-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
BAL-001 Bald Eagle Habitat$_3$	201.03	OAGM1 CVR	Annual Row Crop Communities Residential	May be used by bald eagles for nesting, foraging and perching habitat.	Presence of a bald eagle nest	WT – Overlapping [1](T10)** AR – Overlapping** CL – Overlapping** CA – Overlapping** SI – >120**	SCC-F (12) 7-4 7-5	**Yes**
BAL-002 Bald Eagle Habitat$_3$	Size, composition and attributes to be determined when the site investigation is completed as part of the pre-construction commitments for this feature.			May be used by bald eagles for nesting, foraging and perching habitat.	Record of a possible bald eagle nest	WT – >120[2] AR – >120[2] CL – >120[2] CA – >120[2] SI – >120[2]	7-4	**Yes**
WTH-001 Wood Thrush Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp	May be used for breeding, nesting or foraging habitat	Candidate moist, mature deciduous forest habitat	WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (3) 7-2 7-3	**Yes**
SHS-001 Slightly Hirsute Sedge Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (5) 7-2 7-3	**Yes**
SHS-002 Slightly Hirsute Sedge Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (5) 7-2 7-3	**Yes**
SHS-003 Slightly Hirsute Sedge Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (5) 7-3 7-4	**Yes**
SHS-004 Slightly Hirsute Sedge Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (5) 7-4	**Yes**
SHS-005 Slightly Hirsute Sedge Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (5) 7-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
SHS-006 Slightly Hirsute Sedge Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (5) 7-5	**Yes**
SHS-007 Slightly Hirsute Sedge Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (5) 7-4 7-5	**Yes**
SQS-001 Squarrose Sedge Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (6) 7-2 7-3	**Yes**
SQS-002 Squarrose Sedge Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (6) 7-2 7-3	**Yes**
SQS-003 Squarrose Sedge Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (6) 7-3 7-4	**Yes**
SQS-004 Squarrose Sedge Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (6) 7-4	**Yes**
SQS-005 Squarrose Sedge Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (6) 7-5	**Yes**
SQS-006 Squarrose Sedge Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (6) 7-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
SQS-007 Squarrose Sedge Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (6) 7-4 7-5	**Yes**
CSE-001 Cattail Sedge Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (7) 7-2 7-3	**Yes**
CSE-002 Cattail Sedge Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (7) 7-2 7-3	**Yes**
CSE-003 Cattail Sedge Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (7) 7-3 7-4	**Yes**
CSE-004 Cattail Sedge Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (7) 7-4	**Yes**
CSE-005 Cattail Sedge Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (7) 7-5	**Yes**
CSE-006 Cattail Sedge Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (7) 7-5	**Yes**
CSE-007 Cattail Sedge Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (7) 7-4 7-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
SHH-001 Shellbark Hickory Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (8) 7-2 7-3	**Yes**
SHH-002 Shellbark Hickory Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (8) 7-2 7-3	**Yes**
SHH-003 Shellbark Hickory Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (8) 7-3 7-4	**Yes**
SHH-004 Shellbark Hickory Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (8) 7-4	**Yes**
SHH-005 Shellbark Hickory Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (8) 7-5	**Yes**
SHH-006 Shellbark Hickory Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (8) 7-5	**Yes**
SHH-007 Shellbark Hickory Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (8) 7-4 7-5	**Yes**
PAS-001 Pumpkin Ash Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote	Candidate moist deciduous forest and swamp habitat.	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (9) 7-2 7-3	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
PAS-002 Pumpkin Ash Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp	optimal growth and fecundity of this species		WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (9) 7-2 7-3	**Yes**
PAS-003 Pumpkin Ash Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (9) 7-3 7-4	**Yes**
PAS-004 Pumpkin Ash Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (9) 7-4	**Yes**
PAS-005 Pumpkin Ash Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (9) 7-5	**Yes**
PAS-006 Pumpkin Ash Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (9) 7-5	**Yes**
PAS-007 Pumpkin Ash Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (9) 7-4 7-5	**Yes**
BGU-001 Black Gum Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat.	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (13) 7-2 7-3	**Yes**
BGU-002 Black Gum Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (13) 7-2 7-3	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
BGU-003 Black Gum Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (13) 7-3 7-4	**Yes**
BGU-004 Black Gum Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (13) 7-4	**Yes**
BGU-005 Black Gum Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (13) 7-5	**Yes**
BGU-006 Black Gum Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (13) 7-5	**Yes**
BGU-007 Black Gum Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (13) 7-4 7-5	**Yes**
HLS-001 Halberd-leaved Smartweed$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat.	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (14) 7-2 7-3	**Yes**
HLS-002 Halberd-leaved Smartweed$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (14) 7-2 7-3	**Yes**
HLS-003 Halberd-leaved Smartweed$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (14) 7-3 7-4	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
HLS-004 Halberd-leaved Smartweed$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (14) 7-4	**Yes**
HLS-005 Halberd-leaved Smartweed$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (14) 7-5	**Yes**
HLS-006 Halberd-leaved Smartweed$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (14) 7-5	**Yes**
SHO-001 Shumard Oak Habitat$_1$	4.23	SWDM3-3	Swamp Maple Mineral Deciduous Swamp	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate moist deciduous forest and swamp habitat	WT – 8 (T17) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-A (10) 7-2 7-3	**Yes**
SHO-002 Shumard Oak Habitat$_3$	5.99	SWDM1-2	Bur Oak Mineral Deciduous Swamp			WT – 79 (T1) AR – 70 CL – 70 CA – 70 SI – >120	SCC-B (10) 7-2 7-3	**Yes**
SHO-003 Shumard Oak Habitat$_1$	2.61	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – >120 AR – 1 CL – 1 CA – 1 SI – >120	SCC-C (10) 7-3 7-4	**Yes**
SHO-004 Shumard Oak Habitat$_3$	4.54	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T8) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-D (10) 7-4	**Yes**
SHO-005 Shumard Oak Habitat$_3$	2.84	SWDM3-3	Swamp Maple Mineral Deciduous Swamp			WT – 15 (T9) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-G (10) 7-5	**Yes**

Table 15. Summary of Individually Delineated Candidate Significant Wildlife Habitats in or Within 120m of the Project Location

Feature ID	Size (ha)	Composition	Attributes	Functions	Criteria Rationale	Distance to Project Location (m)	Map(s)	EOS Required (Y/N)
SHO-006 Shumard Oak Habitat$_2$	5.73	SWDM3-3 FODM7	Swamp Maple Mineral Deciduous Swamp Fresh – Moist Lowland Deciduous Forest			WT – 56 (T13) AR – >0.1* CL – >0.1* CA – >0.1* SI – >120	SCC-J (10) 7-5	**Yes**
SHO-007 Shumard Oak Habitat$_1$	1.02	FODM7-1	Fresh – Moist White Elm Lowland Deciduous Forest			WT – >120 AR – 109 CL – 109 CA – 109 SI – >120	SCC-E (10) 7-4 7-5	**Yes**
CPR-001 Climbing Prairie Rose Habitat$_3$	31.45	MEMM3	Dry - Fresh Mixed Meadow	Provides suitable moisture regime, light levels, and soil properties that promote optimal growth and fecundity of this species	Candidate open moist meadow habitat	WT – >120 AR – 25 CL – >0.1* CA – >0.1* SI – >120	SCC-L (11) 7-5	**Yes**

** On the mapping, this candidate SWH appears to be overlapped; however, all project components, including the construction disturbance area, will be located adjacent to the candidate SWH (>0.1m).*

*** This distance is measured from the edge of the 800m buffer surrounding the location of the bald eagle nest to infrastructure. The nest itself is located an additional 800m from infrastructure.*

[1] The 800m buffer surrounding the nest overlaps with the air space occupied by the turbine blades of T10 and does not overlap the proposed construction disturbance area of the turbine.

[2] The possible bald eagle nest record is located greater than 120m from the Project Location, but has the potential to overlap with Project Infrastructure if an up to 800m buffer is applied to the habitat, which will be determined by the site investigation completed as part of pre-construction commitments for this feature.

Subscripts:

1: Entire feature delineated on site.
2: Feature delineated via a combination of methods: on site and property line/aerial photograph, where portions were not accessible.
3: Entire feature delineated from property line/ aerial photograph.

Legend

WT: Wind Turbine
AR: Access Road
CL: Collector Lines
CA: Construction Activity/Temporary Infrastructure/Laydown Area
SI: Supporting Infrastructure - Building/Substation/Meteorological Tower/Point of Interconnect

Table 16. Summary of Generalized Candidate Significant Wildlife Habitat Identified Within 120m of the Project Location

Wildlife Habitat	Criteria Rationale
Seasonal Concentration Areas	
Raptor Wintering Areas	One meadow and forest/swamp habitat >20ha is located within 120m of underground lines. This habitat has been considered generalized candidate SWH.
Bat Maternity Colonies	Four Deciduous Forest (FOD) and Deciduous Treed Swamp (SWD) Community Types are located within 120m of underground or overhead lines and/or access roads. These communities have been considered generalized candidate SWH.
Turtle Wintering Areas	Four Open Water (OA) Community Types have been identified as candidate turtle wintering areas since they contain water that is deep enough not to freeze, and have soft mud substrates. As the Project Location does not overlap with these habitats, these communities have been considered generalized candidate SWH.
Colonially – Nesting Bird Breeding Habitat (Tree/Shrub)	Two Deciduous Treed Swamp (SWD) Community Types are located within 120m of underground or overhead lines. These communities have been considered generalized candidate SWH.
Colonially – Nesting Bird Breeding Habitat (Ground)	Two Meadow (ME) Community Types located in close proximity to a watercourse were identified within the Project. These features are located within 120m of underground or overhead lines and will be considered generalized SWH.
Migratory Butterfly Stopover Areas	One Meadow (ME) Community Type located adjacent to a forested habitat (FO, SW, WO) was identified within 120m of the Project Location. This feature is located within 120m of underground lines and will be considered generalized SWH.
Landbird Migratory Stopover Areas	Three Deciduous Forest (FOD) and Deciduous Swamp (SWD) Community Types >2ha and within 5km of Lake Erie are located within 120m of underground or overhead lines and/or access roads. These communities have been considered generalized candidate SWH.
Deer Winter Congregation Area	One deer winter congregation area (stratum 2) habitat has been identified within 120m of the Project Location. As the Project Location does not overlap with this habitat, it has been considered generalized candidate SWH.
Rare Vegetation Communities and Specialized Wildlife Habitats	
Other Rare Vegetation Communities	One provincially rare vegetation community, SWDM1-2, is located within 120m of underground or overhead lines. This community has been considered generalized candidate SWH.
Waterfowl Nesting Area	One meadow community wider than 120m and adjacent to a swamp is located within 120m of underground or overhead lines and an access road. This community has been considered generalized candidate SWH.
Amphibian Breeding Habitat (Woodland)	One Treed Swamp (SW) Community Type is located within 120m of underground or overhead lines. This habitat will be considered generalized candidate SWH.
Habitats for Species of Conservation Concern	
Open Country Bird Breeding Habitat	One meadow community greater than 30ha in is located within 120m of underground or overhead lines. This habitat will be considered generalized candidate SWH.
Terrestrial Crayfish	Seven Deciduous Treed Swamp (SWD) Community Types have been identified as candidate terrestrial crayfish habitats. As the Project Location does not overlap with these habitats, these communities have been considered as generalized candidate SWH.
Special Concern and Rare Wildlife Species	
Eastern Wood-Pewee	Seven Forest (FO), Deciduous Treed Swamp (SWD), and Plantation (TAGM) Community Types are located within 120m of underground or overhead lines and/or access roads. These habitats will be considered generalized candidate SWH.
Wood Thrush	Two mature Deciduous Forest (FOD) and Deciduous Treed Swamp (SWD) Community Types are located within 120m of underground or overhead lines

Table 16. Summary of Generalized Candidate Significant Wildlife Habitat Identified Within 120m of the Project Location

Wildlife Habitat	Criteria Rationale
	and/or access roads. These habitats will be considered generalized candidate SWH.
Red-headed Woodpecker	Twelve Forest (FO) and Swamp (SW) Community Types containing trees >40cm dbh have been identified where development is not proposed within woodland edges. These habitats will be considered generalized candidate SWH.
Slightly Hirsute Sedge	Five dry-mesic and wet-mesic Forest (FO) and Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Squarrose Sedge	Five mesic to wet-mesic Forest (FO) and Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Cattail Sedge	Five mesic to wet-mesic Forest (FO) and Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Shellbark Hickory	Five wet or wet-mesic deciduous Forest (FOD) and Swamp (SWD) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Pumpkin Ash	Five wet Forest (FO) and Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Black Gum	Five suitable Forest (FO) and Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Halberd-leaved Smartweed	Three suitable Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Shumard Oak	Five suitable Forest (FO) and Swamp (SW) Community Types are located within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Climbing Prairie Rose	One Meadow (ME) and one Woodland (WO) Community Type is located within 120m of underground or overhead lines. This habitat will be considered generalized candidate SWH.
Hackberry Emperor	One Forest (FO) Community Type that contains hackberry is within 120m of underground or overhead lines. This habitat will be considered generalized candidate SWH.
Monarch	Three Meadow (ME) Community Types are within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.
Common Sootywing	Two Meadow (ME) Community Types are within 120m of underground or overhead lines. These habitats will be considered generalized candidate SWH.

7.0 Summary of Site Investigation

In accordance with the REA Regulation, NRSI biologists have completed a comprehensive site investigation in and within 120m of the Project Location. The results of the investigation have been discussed in the preceding sections, and are summarized in Table 17. This summary includes woodlands, wetlands, and SWH, some of which will be carried forward to the evaluation of significance phase of this project, as noted in the table. Habitat composition, functions, and distances from each feature to project infrastructure can be found in Table 9 (woodlands), Table 10 (wetlands), and Table 15 (candidate significant wildlife habitat).

Table 18 outlines differences to the summary of the Records Review report, while Table 19 outlines differences to candidate SWH identified in the Records Review report.

Table 17. Summary of Natural Features and Candidate Wildlife Habitat Site Investigation for the Project

Feature ID	Feature Within Project Location (Y/N)	Feature Within 120m of Project Location (Y/N)	Feature Individually Delineated* (Y/N)	Evaluation of Significance Required (Y/N)
Woodlands				
WOD-001	No	Yes	Yes	**Yes**
WOD-002	No	Yes	Yes	**Yes**
WOD-003	No	Yes	Yes	**Yes**
WOD-004	No	Yes	Yes	**Yes**
WOD-005	No	Yes	Yes	**Yes**
WOD-006	No	Yes	Yes	**Yes**
WOD-007	No	Yes	Yes	**Yes**
WOD-008	No	Yes	Yes	**Yes**
WOD-009	No	Yes	Yes	**Yes**
WOD-011	No	Yes	Yes	**Yes**
WOD-012	No	Yes	Yes	**Yes**
WOD-013	No	Yes	Yes	**Yes**
WOD-014	No	Yes	Yes	**Yes**
Wetlands				
WET-001	No	Yes	Yes	**Yes**
WET-002	No	Yes	Yes	**Yes**
WET-003	No	Yes	Yes	**Yes**
WET-004	No	Yes	Yes	**Yes**
WET-005	No	Yes	Yes	**Yes**
WET-006	No	Yes	Yes	**Yes**
WET-008	No	Yes	Yes	**Yes**
WET-009	No	Yes	Yes	**Yes**
Individually Delineated Candidate Significant Wildlife Habitats				
WST-001	Yes	Yes	Yes	**Yes**
WST-002	Yes	Yes	Yes	**Yes**
WST-003	Yes	Yes	Yes	**Yes**

Table 17. Summary of Natural Features and Candidate Wildlife Habitat Site Investigation for the Project

Feature ID	Feature Within Project Location (Y/N)	Feature Within 120m of Project Location (Y/N)	Feature Individually Delineated* (Y/N)	Evaluation of Significance Required (Y/N)
WST-004	Yes	Yes	Yes	**Yes**
WST-005	Yes	Yes	Yes	**Yes**
WST-006	Yes	Yes	Yes	**Yes**
WST-007	Yes	Yes	Yes	**Yes**
WST-008	Yes	Yes	Yes	**Yes**
WST-009	Yes	Yes	Yes	**Yes**
WST-010	Yes	Yes	Yes	**Yes**
WST-011	Yes	Yes	Yes	**Yes**
WST-012	Yes	Yes	Yes	**Yes**
WST-013	Yes	Yes	Yes	**Yes**
WST-014	Yes	Yes	Yes	**Yes**
WST-015	Yes	Yes	Yes	**Yes**
WST-016	Yes	Yes	Yes	**Yes**
WST-017	Yes	Yes	Yes	**Yes**
WST-018	Yes	Yes	Yes	**Yes**
WST-019	Yes	Yes	Yes	**Yes**
WST-020	Yes	Yes	Yes	**Yes**
WST-021	Yes	Yes	Yes	**Yes**
WST-022	Yes	Yes	Yes	**Yes**
WST-023	Yes	Yes	Yes	**Yes**
WST-024	Yes	Yes	Yes	**Yes**
WST-025	Yes	Yes	Yes	**Yes**
WST-026	Yes	Yes	Yes	**Yes**
WST-027	Yes	Yes	Yes	**Yes**
WST-028	Yes	Yes	Yes	**Yes**
WST-029	Yes	Yes	Yes	**Yes**
BMA-001	No	Yes	Yes	**Yes**
BMA-002	No	Yes	Yes	**Yes**
BMA-003	No	Yes	Yes	**Yes**
CBT-001	No	Yes	Yes	**Yes**
CBT-002	No	Yes	Yes	**Yes**
CBT-003	No	Yes	Yes	**Yes**
LMS-001	No	Yes	Yes	**Yes**
LMS-002	No	Yes	Yes	**Yes**
ORV-001	No	Yes	Yes	**Yes**
AWO-001	No	Yes	Yes	**Yes**
EWP-001	No	Yes	Yes	**Yes**
EWP-002	No	Yes	Yes	**Yes**
EWP-003	No	Yes	Yes	**Yes**
EWP-004	No	Yes	Yes	**Yes**
EWP-005	No	Yes	Yes	**Yes**
BAL-001	Yes	Yes	Yes	**Yes**
BAL-002	Possible**	Possible**	Yes	**Yes**
WTH-001	No	Yes	Yes	**Yes**
SHS-001	No	Yes	Yes	**Yes**
SHS-002	No	Yes	Yes	**Yes**
SHS-003	No	Yes	Yes	**Yes**
SHS-004	No	Yes	Yes	**Yes**
SHS-005	No	Yes	Yes	**Yes**
SHS-006	No	Yes	Yes	**Yes**

Table 17. Summary of Natural Features and Candidate Wildlife Habitat Site Investigation for the Project

Feature ID	Feature Within Project Location (Y/N)	Feature Within 120m of Project Location (Y/N)	Feature Individually Delineated* (Y/N)	Evaluation of Significance Required (Y/N)
SHS-007	No	Yes	Yes	**Yes**
SQS-001	No	Yes	Yes	**Yes**
SQS-002	No	Yes	Yes	**Yes**
SQS-003	No	Yes	Yes	**Yes**
SQS-004	No	Yes	Yes	**Yes**
SQS-005	No	Yes	Yes	**Yes**
SQS-006	No	Yes	Yes	**Yes**
SQS-007	No	Yes	Yes	**Yes**
CSE-001	No	Yes	Yes	**Yes**
CSE-002	No	Yes	Yes	**Yes**
CSE-003	No	Yes	Yes	**Yes**
CSE-004	No	Yes	Yes	**Yes**
CSE-005	No	Yes	Yes	**Yes**
CSE-006	No	Yes	Yes	**Yes**
CSE-007	No	Yes	Yes	**Yes**
SHH-001	No	Yes	Yes	**Yes**
SHH-002	No	Yes	Yes	**Yes**
SHH-003	No	Yes	Yes	**Yes**
SHH-004	No	Yes	Yes	**Yes**
SHH-005	No	Yes	Yes	**Yes**
SHH-006	No	Yes	Yes	**Yes**
SHH-007	No	Yes	Yes	**Yes**
PAS-001	No	Yes	Yes	**Yes**
PAS-002	No	Yes	Yes	**Yes**
PAS-003	No	Yes	Yes	**Yes**
PAS-004	No	Yes	Yes	**Yes**
PAS-005	No	Yes	Yes	**Yes**
PAS-006	No	Yes	Yes	**Yes**
PAS-007	No	Yes	Yes	**Yes**
BGU-001	No	Yes	Yes	**Yes**
BGU-002	No	Yes	Yes	**Yes**
BGU-003	No	Yes	Yes	**Yes**
BGU-004	No	Yes	Yes	**Yes**
BGU-005	No	Yes	Yes	**Yes**
BGU-006	No	Yes	Yes	**Yes**
BGU-007	No	Yes	Yes	**Yes**
HLS-001	No	Yes	Yes	**Yes**
HLS-002	No	Yes	Yes	**Yes**
HLS-003	No	Yes	Yes	**Yes**
HLS-004	No	Yes	Yes	**Yes**
HLS-005	No	Yes	Yes	**Yes**
HLS-006	No	Yes	Yes	**Yes**
SHO-001	No	Yes	Yes	**Yes**
SHO-002	No	Yes	Yes	**Yes**
SHO-003	No	Yes	Yes	**Yes**
SHO-004	No	Yes	Yes	**Yes**
SHO-005	No	Yes	Yes	**Yes**
SHO-006	No	Yes	Yes	**Yes**
SHO-007	No	Yes	Yes	**Yes**
CPR-001	No	Yes	Yes	**Yes**

Table 17. Summary of Natural Features and Candidate Wildlife Habitat Site Investigation for the Project

Feature ID	Feature Within Project Location (Y/N)	Feature Within 120m of Project Location (Y/N)	Feature Individually Delineated* (Y/N)	Evaluation of Significance Required (Y/N)
Generalized Candidate Significant Wildlife Habitats				
Raptor Wintering Areas	No	Yes	No	**Yes**
Bat Maternity Colonies	No	Yes	No	**Yes**
Turtle Wintering Areas	No	Yes	No	**Yes**
Colonially – Nesting Bird Breeding Habitat (Tree/Shrub)	No	Yes	No	**Yes**
Colonially – Nesting Bird Breeding Habitat (Ground)	No	Yes	No	**Yes**
Migratory Butterfly Stopover Area	No	Yes	No	**Yes**
Landbird Migratory Stopover Areas	No	Yes	No	**Yes**
Deer Winter Congregation Area	No	Yes	No	**Yes**
Other Rare Vegetation Communities	No	Yes	No	**Yes**
Waterfowl Nesting Area	No	Yes	No	**Yes**
Amphibian Breeding Habitat (Woodland)	No	Yes	No	**Yes**
Open Country Bird Breeding Habitat	No	Yes	No	**Yes**
Terrestrial Crayfish	No	Yes	No	**Yes**
Eastern Wood-Pewee	No	Yes	No	**Yes**
Wood Thrush	No	Yes	No	**Yes**
Red-headed Woodpecker	No	Yes	No	**Yes**
Slightly Hirsute Sedge	No	Yes	No	**Yes**
Squarrose Sedge	No	Yes	No	**Yes**
Cattail Sedge	No	Yes	No	**Yes**
Shellbark Hickory	No	Yes	No	**Yes**
Pumpkin Ash	No	Yes	No	**Yes**
Black Gum	No	Yes	No	**Yes**
Halberd-leaved Smartweed	No	Yes	No	**Yes**
Shumard Oak	No	Yes	No	**Yes**
Climbing Prairie Rose	No	Yes	No	**Yes**
Hackberry Emperor	No	Yes	No	**Yes**
Monarch	No	Yes	No	**Yes**
Common Sootywing	No	Yes	No	**Yes**

*****All woodlands and wetlands were individually delineated. Candidate SWH was individually delineated as per Table 19 of the NHA Guide (OMNR 2012).

**The possible bald eagle nest record is located greater than 120m from the Project Location, but has the potential to overlap with Project Infrastructure if an up to 800m buffer is applied to the habitat, which will be determined by the site investigation completed as part of pre-construction commitments for this feature.

Table 18. Summary of Corrections to the Records Review for the Project

Criteria	Result	Corrections Based on Site Investigation
1. In or within 120m of a Provincial Park or Conservation Reserve	The Project is not located in or within 120m of a Provincial Park or Conservation Reserve.	**No changes.**
2. In a Natural Feature	The results of this records review indicate the Project Location (i.e. disturbance area, collector lines, access roads, etc.) overlaps with 8 woodlands. Species associations and distances of these habitats to the Project Location will be confirmed during the site investigation phase of this NHA. The intention of the proposed Project Location is to avoid overlap with natural features, including woodlands, wherever possible.	**The results of the site investigation have confirmed that the Project Location does not overlap with any woodlands or wetlands.**
3. Within 50m of a Provincially Significant ANSI-Earth Science (ES)	No Provincially Significant ANSI-ES is located within 50m of the Project Location.	**No changes.**
4. Within 120m of a Natural Feature		
Provincially Significant ANSI-Life Science (LS)	No Provincially Significant ANSI-LS is located in or within 120m of the Project Location.	**No changes.**
Coastal Wetland	No coastal wetlands are located in or within 120m of the Project Location.	**No changes.**
Northern Wetland	No northern wetlands are located in or within 120m of the Project Location.	**No changes.**
Southern Wetland	No known southern wetlands are located in or within 120m of the Project Location. There are 23 woodlands in or within 120m of the Project Location, each of which has the potential to contain unevaluated wetland habitat. All of the potential wetland habitats in or within 120m of the Project Location will be further examined during the site investigation phase of this NHA.	**A total of 8 wetlands are located within 120m of the Project Location.**
Wildlife Habitat	One possible bald eagle nest record may be present within the vicinity of the Project. This record will be carried forward to the Site Investigation phase of the project. A total of 23 woodlands are located in or within 120m of the Project Location and could provide several types of Significant Wildlife Habitat (SWH). Other natural features such as naturalized drainage ditches, hedgerows and meadows have been identified in or within 120m of the Project Location and could also provide SWH. These features will be surveyed to determine if they are used for animal movement corridors or provide habitat for species of conservation concern. All of these wildlife habitats will be examined during the site investigation phase and, if applicable, the evaluation of significance phase of this project to confirm presence of candidate significant wildlife habitat and determine the significance of each candidate significant wildlife habitat.	**A total of 103 candidate wildlife habitats have been identified in or within 120m of the Project Location. These wildlife habitats include seasonal concentration areas (37), rare vegetation communities and specialized wildlife habitats (2), and no habitats for species of conservation concern. A number of habitats for special concern and rare wildlife species have also been identified (64) in and within 120m of the Project Location.**

Table 18. Summary of Corrections to the Records Review for the Project

Criteria	Result	Corrections Based on Site Investigation
Woodland	A total of 23 woodlands are located in or within 120m of the Project Location. Basemapping indicates these habitats range in size from 0.19-15.95ha. These woodlands are expected to be primarily dominated by mid-aged to mature deciduous tree species; however, young woodlands, treed plantations, or occasional coniferous woodlands may also be present in or within 120m of the Project Location.	**A total of 13 woodlands are located within 120m of the Project Location.** **Woodlands range in size from 0.74ha to 22.4ha.**

Table 19. Summary of Corrections to the Wildlife Habitats Records Review for the Project

Wildlife Habitat	Present Within 120m of Project Location	Present Within Project Location	Carried Forward to Site Investigation (Y/N)	Carried Forward to Evaluation of Significance (Y/N)
Seasonal Concentration Areas				
Waterfowl Stopover and Staging Areas (Terrestrial)	Unknown	Unknown	Yes	**Yes**
Waterfowl Stopover and Staging Areas (Aquatic)	Unknown	Unknown	Yes	**No**
Shorebird Migratory Stopover Area	Unknown	Unknown	Yes	**No**
Raptor Wintering Area	Unknown	Unknown	Yes	**Generalized Candidate SWH only**
Bat Hibernacula	Unknown	Unknown	Yes	**No**
Bat Maternity Colonies	Unknown	Unknown	Yes	**Yes and generalized candidate SWH**
Bat Migratory Stopover Area	N/A	N/A	No	**N/A**
Turtle Wintering Areas	Unknown	Unknown	Yes	**Generalized candidate SWH only**
Reptile Hibernaculum	Unknown	Unknown	Yes	**No**
Colonially – Nesting Bird Breeding Habitat (Bank and Cliff)	Unknown	Unknown	Yes	**No**
Colonially – Nesting Bird Breeding Habitat (Tree/Shrubs)	Unknown	Unknown	Yes	**Yes and Generalized Candidate SWH**
Colonially – Nesting Bird Breeding Habitat (Ground)	Unknown	Unknown	Yes	**Generalized Candidate SWH only**
Migratory Butterfly Stopover Areas	Unknown	Unknown	Yes	**Generalized Candidate SWH only**
Landbird Migratory Stopover Areas	Unknown	Unknown	Yes	**Yes and Generalized Candidate SWH**
Deer Winter Congregation Areas	Yes	Yes	Yes	**Generalized Candidate SWH only**
Rare Vegetation Communities				
Cliffs and Talus Slopes	Unknown	Unknown	Yes	**No**
Sand Barren	Unknown	Unknown	Yes	**No**
Alvar	Unknown	Unknown	Yes	**No**
Old Growth Forest	Unknown	Unknown	Yes	**No**
Savannah	Unknown	Unknown	Yes	**No**
Tallgrass Prairie	Unknown	Unknown	Yes	**No**
Other Rare Vegetation Communities	Unknown	Unknown	Yes	**Yes and Generalized Candidate SWH**
Specialized Wildlife Habitats				
Waterfowl Nesting Area	Unknown	Unknown	Yes	**Generalized Candidate SWH only**
Bald Eagle Nesting, Foraging and Perching Habitat	Possible*	Possible*	Yes	**No**
Woodland Raptor Nesting Habitat	Unknown	Unknown	Yes	**No**
Turtle Nesting Areas	Unknown	Unknown	Yes	**No**
Seeps and Springs	Unknown	Unknown	Yes	**No**

Table 19. Summary of Corrections to the Wildlife Habitats Records Review for the Project

Wildlife Habitat	Present Within 120m of Project Location	Present Within Project Location	Carried Forward to Site Investigation (Y/N)	Carried Forward to Evaluation of Significance (Y/N)
Amphibian Breeding Habitat (Woodland)	Unknown	Unknown	Yes	**Yes and Generalized Candidate SWH**
Amphibian Breeding Habitat (Wetlands)	Unknown	Unknown	Yes	**No**
Woodland Area-Sensitive Bird Breeding Habitat	Unknown	Unknown	Yes	**No**
Habitat for Species of Conservation Concern				
Marsh Bird Breeding Habitat	Unknown	Unknown	Yes	**No**
Open Country Bird Breeding Habitat	Unknown	Unknown	Yes	**Generalized Candidate SWH only**
Shrub/Early Successional Bird Breeding Habitat	Unknown	Unknown	Yes	**No**
Terrestrial Crayfish	Unknown	Unknown	Yes	**Generalized Candidate SWH only**
Special Concern and Rare Wildlife Species	Possible	Possible	Yes	**Yes and Generalized Candidate SWH**
Animal Movement Corridors				
Amphibian Movement Corridors	Unknown	Unknown	Yes	**No**

*The possible bald eagle nest record is located greater than 120m from the Project Location, but has the potential to overlap with Project Infrastructure if an up to 800m buffer is applied to the habitat, as determined in the Site Investigation and Evaluation of Significance phases of the Project.

8.0 References

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Map 1
Project Location and Natural Features

Map 1

Romney WEC

Project Location and Natural Features

Legend

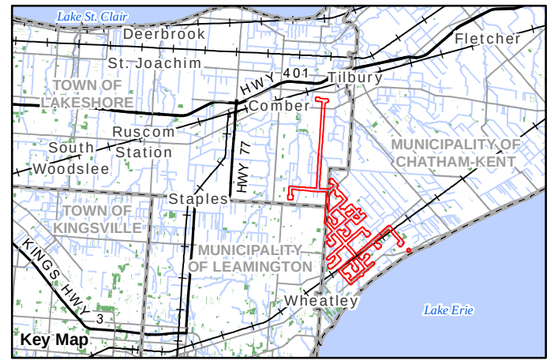
- Utility Line
- Railway
- Highway
- Primary Road
- Secondary Road

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

Natural Features

- Permanent Watercourse
- Intermittent Watercourse
- Open Water
- Wooded Area



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Aquatic, Terrestrial and Wetland Biologists

Project:1736C
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
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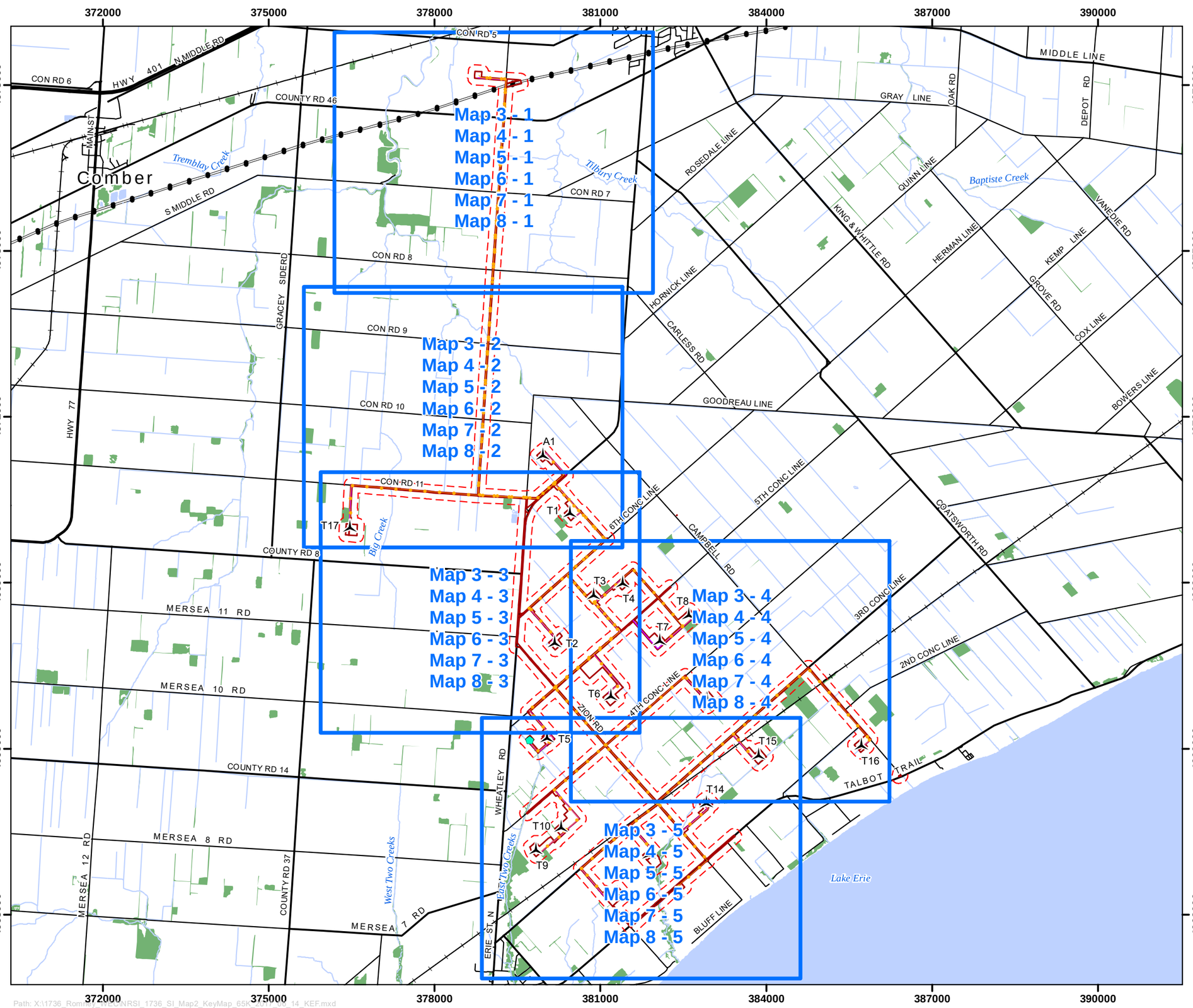
Map 2
Key Map



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Map 2

Romney WEC

Key Map

Legend

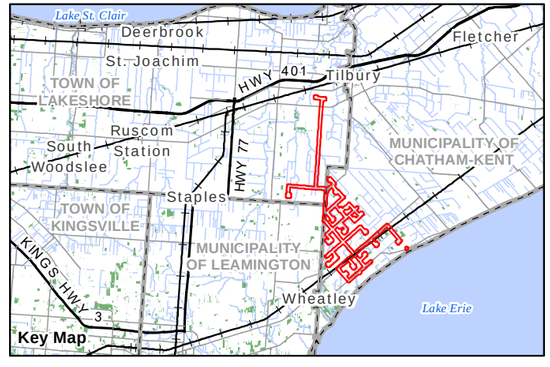
- Map Extent
- Utility Line
- Railway
- Highway
- Primary Road
- Secondary Road

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

Natural Features

- Permanent Watercourse
- Intermittent Watercourse
- Open Water
- Wooded Area



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Project:1736C
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
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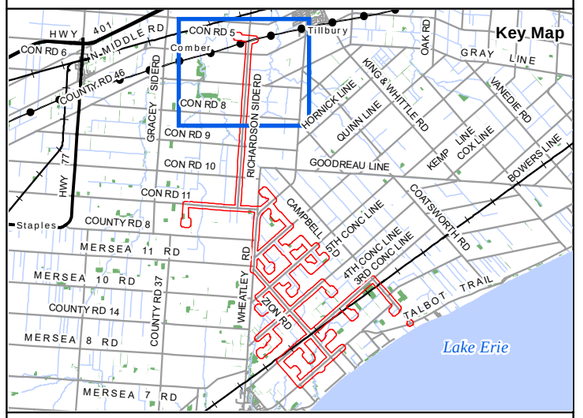
Maps 3-1 to 3-5
Vegetation Communities

Map 3 - 1

Romney WEC

Vegetation Communities



Legend

- Utility Line
- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Collection Line
- Proposed Access Road

- Ecological Land Classification (ELC)
- (CVR) Residential
- (OAGM1) Annual Row Crops

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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
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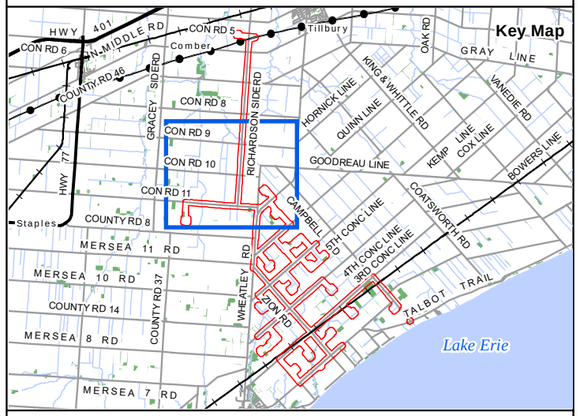
Map 3 - 2

Romney WEC

Vegetation Communities



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

- Ecological Land Classification (ELC)
- (CVR) Residential
- (FODM9-3) Fresh-Moist Bur Oak Deciduous Forest Type
- (OAGM1) Annual Row Crops
- (OAGM2) Perennial Cover Crops
- (SWDM1-2) Bur Oak Mineral Deciduous Swamp Type
- (SWDM3-3) Swamp Maple Mineral Deciduous Swamp Type

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Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

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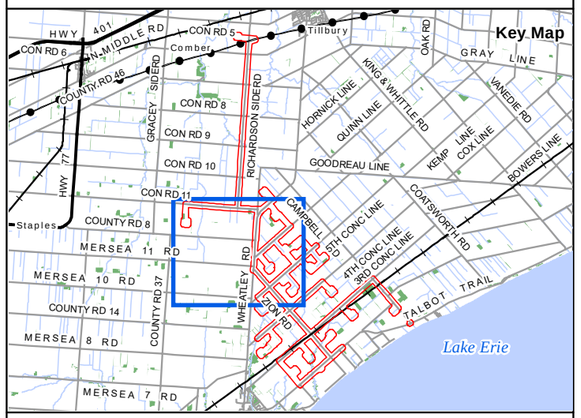
Map 3 - 3

Romney WEC

Vegetation Communities



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road
- Ecological Land Classification (ELC)

(CVR) Residential

(FODM9-3) Fresh-Moist Bur Oak Deciduous Forest Type

(OAGM1) Annual Row Crops

(OAGM2) Perennial Cover Crops

(OAGM3) Specialty Crops

(SWDM1-2) Bur Oak Mineral Deciduous Swamp Type

(SWDM3-3) Swamp Maple Mineral Deciduous Swamp Type

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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
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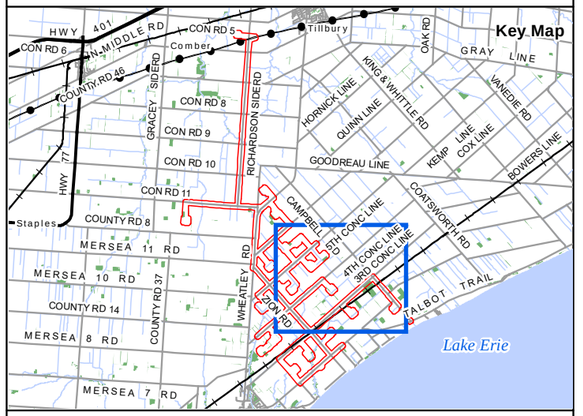
Map 3 - 4

Romney WEC

Vegetation Communities



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road
- Ecological Land Classification (ELC)
- (CVR) Residential
- (FODM7-1) Fresh-Moist White Elm Lowland Deciduous Forest Type
- (OAGM1) Annual Row Crops
- (OAGM2) Perennial Cover Crops
- (OAGM3) Specialty Crops
- (SWDM3-2) Silver Maple Mineral Deciduous Swamp Type
- (SWDM3-3) Swamp Maple Mineral Deciduous Swamp Type
- (TAGM1) Coniferous Plantation

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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
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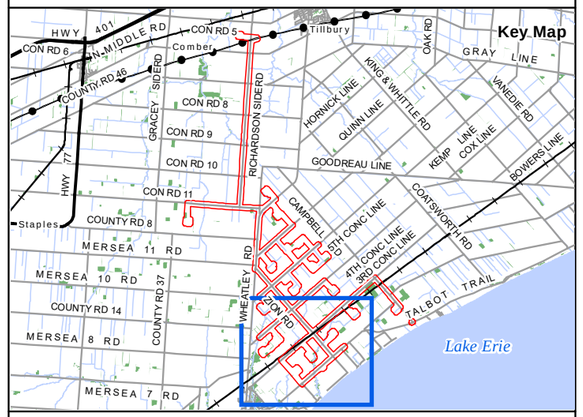
Map 3 - 5

Romney WEC

Vegetation Communities



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

- Ecological Land Classification (ELC)

(CVR) Residential

(FODM) Deciduous Forest Ecosite

(FODM6-5) Fresh-Moist Sugar Maple-Hardwood Deciduous Forest Type

(FODM7) Fresh-Moist Lowland Deciduous Forest Ecosite

(FODM7-1) Fresh-Moist White Elm Lowland Deciduous Forest Type

(MEGM3-5) Smooth Brome Graminoid Meadow Type

(MEGM4) Fresh-Moist Graminoid Meadow Ecosite

(MEMM3) Dry-Fresh Mixed Meadow Ecosite

(OAGM1) Annual Row Crops

(OAGM2) Perennial Cover Crops

(OAGM3) Specialty Crops

(SWDM3-3) Swamp Maple Mineral Deciduous Swamp Type

(SWDM4-2) White Elm Mineral Deciduous Swamp Type

(TAGM1) Coniferous Plantation

(TAGM2) Mixed Plantation

(TAGM3) Deciduous Plantation

(THD) Deciduous Thicket

(WODM5) Fresh-Moist Deciduous Woodland Ecosite

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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
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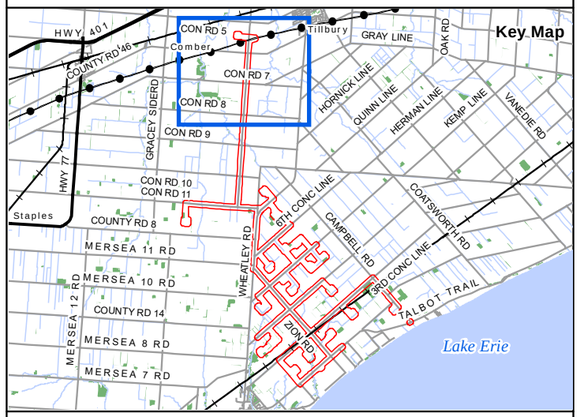
Maps 4-1 to 4-5
Woodlands and Wetlands

Map 4 - 1

Romney WEC

Woodlands and Wetlands



Legend

- Utility Line
- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Collection Line
- Proposed Access Road

**The distances from the project location to woodlands and wetlands are outlined within the body of the report in Tables 9 and 10.*

NATURAL RESOURCE SOLUTIONS INC.
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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
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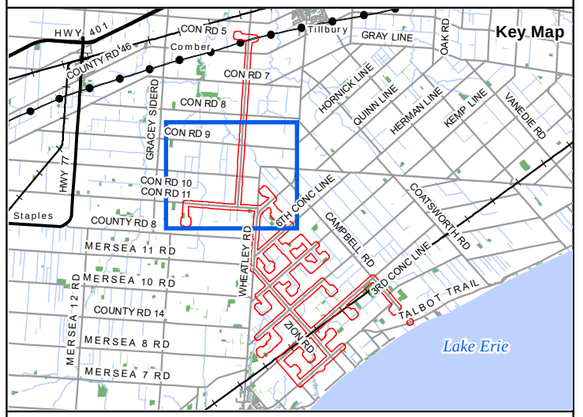
Map 4 - 2

Romney WEC

Woodlands and Wetlands



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Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Natural Features

- Woodland
- Wetland

**The distances from the project location to woodlands and wetlands are outlined within the body of the report in Tables 9 and 10.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

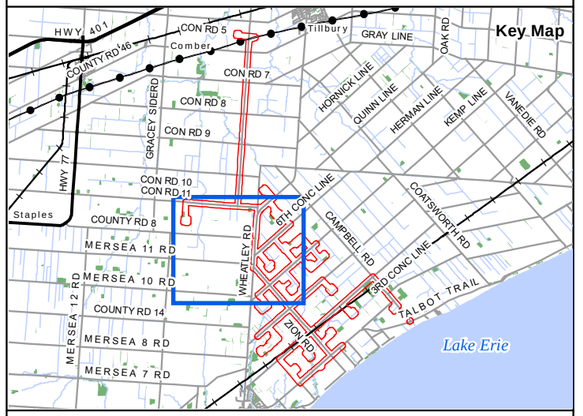
N

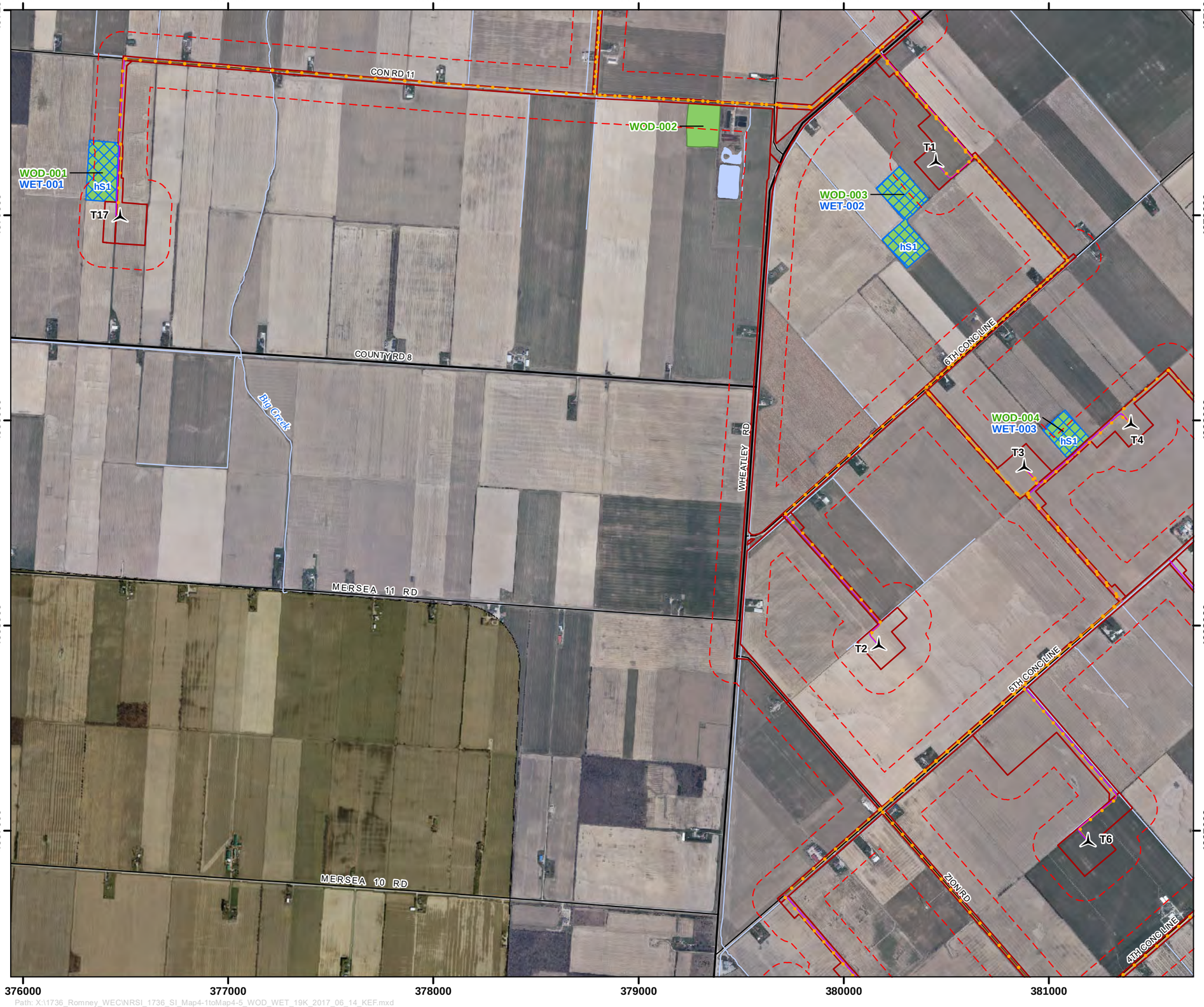
0 400 800 1,200 Meters

Map 4 - 3

Romney WEC

Woodlands and Wetlands





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Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Natural Features

- Woodland
- Wetland

**The distances from the project location to woodlands and wetlands are outlined within the body of the report in Tables 9 and 10.*

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Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

0 400 800 1,200 Meters

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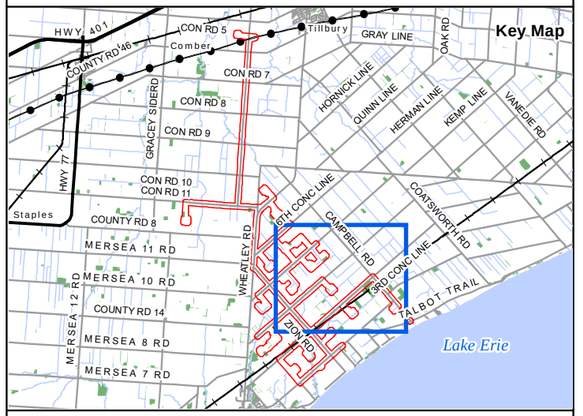
Map 4 - 4

Romney WEC

Woodlands and Wetlands



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Natural Features

- Woodland
- Wetland

**The distances from the project location to woodlands and wetlands are outlined within the body of the report in Tables 9 and 10.*

NATURAL RESOURCE SOLUTIONS INC.
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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

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0 400 800 1,200 Meters

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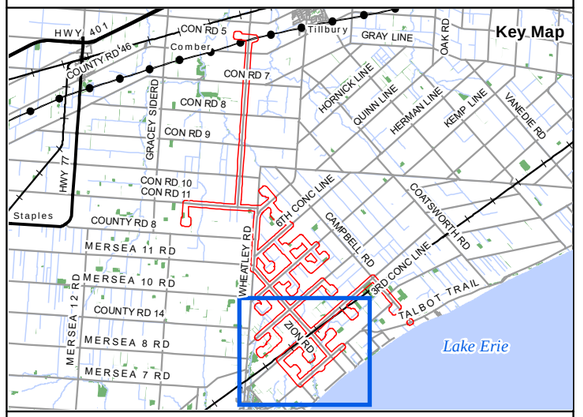
Map 4 - 5

Romney WEC

Woodlands and Wetlands



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

Natural Features

- Woodland
- Wetland

**The distances from the project location to woodlands and wetlands are outlined within the body of the report in Tables 9 and 10.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

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T5 T15 T14 T10 T9 T13 T12

WOD-009 WOD-008 WOD-007 WOD-014 WET-009 hS1 WOD-006 WET-005 hS1 WET-006 hS2 WOD-013 WET-006 hS1

COUNTY RD 14 WHEATLEY RD 4TH CONC LINE ZION RD 2ND CONC LINE WHARRAM PVT RD HODOVICK PVT RD 3RD CONC LINE TALBOT TRAIL BLUFF LINE CAMPERS COVE RD CEMETERY RD DROVERS RD ERIE ST N HILLSIDE AVE LYNN DR KLONDYKE RD

Yellow Creek East Two Creeks Lake Erie

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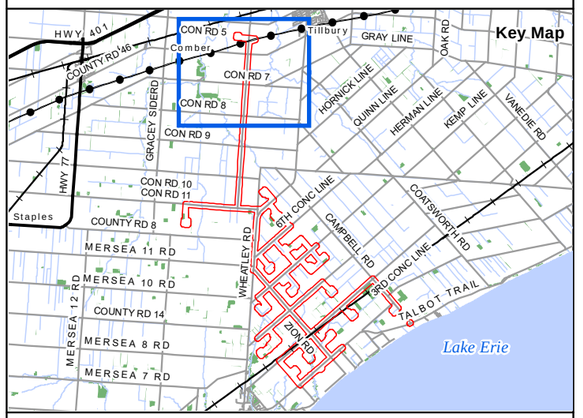
Maps 5-1 to 5-5
Candidate Seasonal Concentration Areas

Map 5 - 1

Romney WEC

Candidate Seasonal Concentration Areas



Legend

- Utility Line
- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Collection Line
- Proposed Access Road

Candidate Seasonal Concentration

- Waterfowl Stopover and Staging Area (Terrestrial) (WST)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

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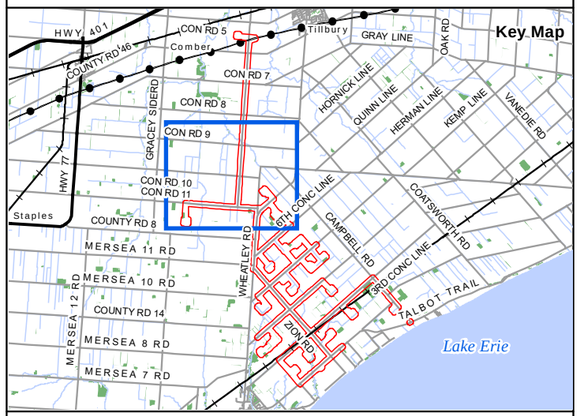
Map 5 - 2

Romney WEC

Candidate Seasonal Concentration Areas



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Seasonal Concentration

- Waterfowl Stopover and Staging Area (Terrestrial) (WST)
- Bat Maternity Colony (BMA)
- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) (CBT)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

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Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

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376000 377000 378000 379000 380000 381000

4674000 4673000 4672000 4671000 4670000

WST-007 WST-008 WST-009 WST-010 WST-011

CON RD 9 CON RD 10 CON RD 11

RICHARDSON SIDERD

GOODREAU LINE

CAMPBELL RD

TILBURY W & ROMNEY RD

WHEATLEY RD

6TH CONC LINE

Big Creek

A1 T1 T17

BMA-001 CBT-001

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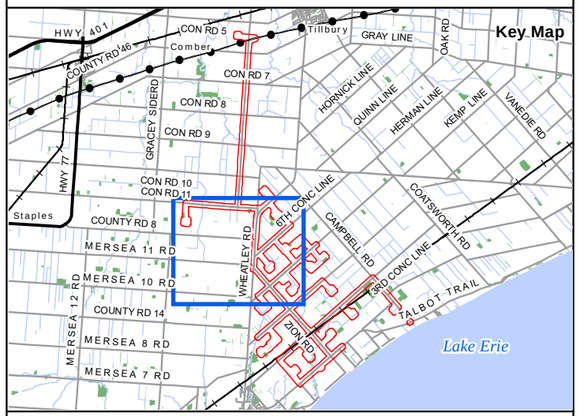
Map 5 - 3

Romney WEC

Candidate Seasonal Concentration Areas



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Seasonal Concentration Areas

- Waterfowl Stopover and Staging Area (Terrestrial) (WST)
- Bat Maternity Colony (BMA)
- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) (CBT)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

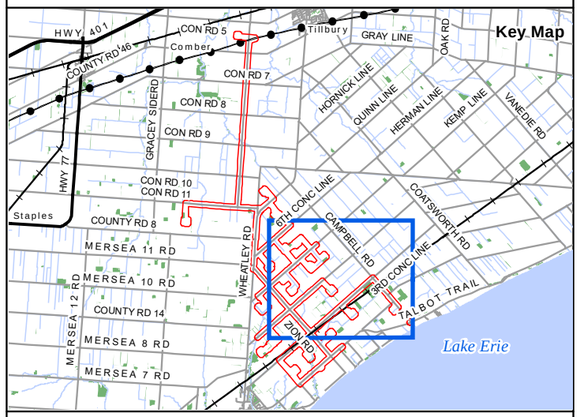
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map5-1toMap5-5_CandidateSCA_19K_2017_06_15_KEF.mxd

Map 5 - 4

Romney WEC

Candidate Seasonal Concentration Areas



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Seasonal Concentration Areas

- Waterfowl Stopover and Staging Area (Terrestrial) (WST)
- Bat Maternity Colony (BMA)
- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) (CBT)
- Landbird Migratory Stopover Area (LMS)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:20,500

0 400 800 1,200 Meters

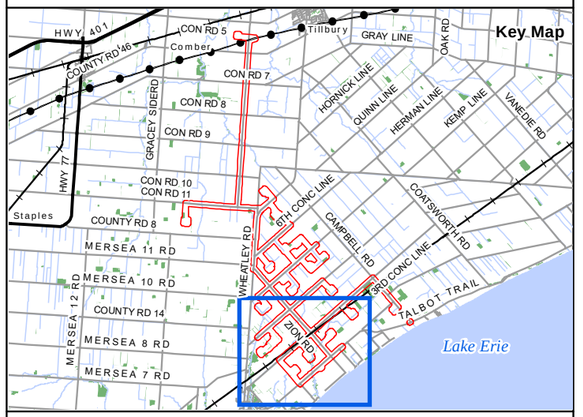
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map5-1toMap5-5_CandidateSCA_19K_2017_06_15_KEF.mxd

Map 5 - 5

Romney WEC

Candidate Seasonal Concentration Areas



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

Candidate Seasonal Concentration

- Waterfowl Stopover and Staging Area (Terrestrial) (WST)
- Bat Maternity Colony (BMA)
- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) (CBT)
- Landbird Migratory Stopover Area (LMS)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

N

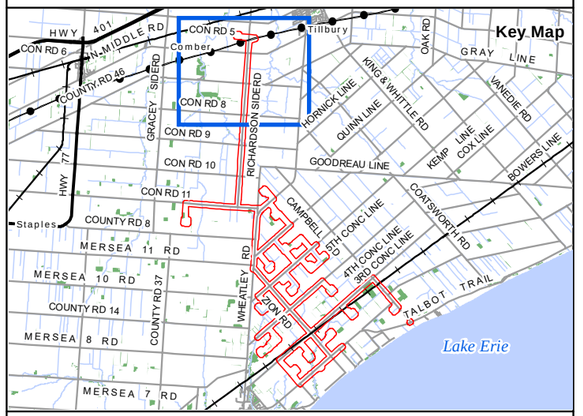
Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map5-1toMap5-5_CandidateSCA_19K_2017_06_15_KEF.mxd

Maps 6-1 to 6-5
Candidate Rare Vegetation Communities and Specialized Wildlife Habitats

Map 6 - 1

Romney WEC

Candidate Rare Vegetation Communities & Specialized Wildlife Habitats



Legend

- Utility Line
- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Collection Line
- Proposed Access Road

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

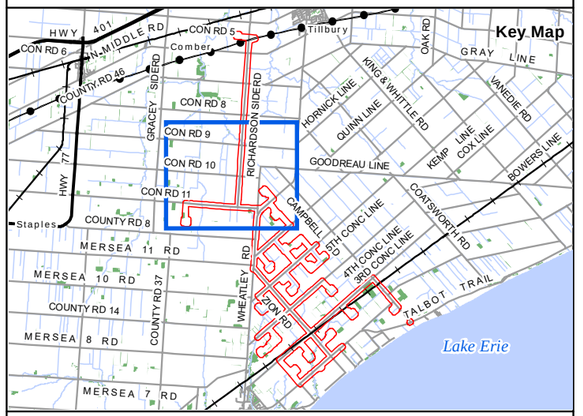
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map6-1toMap6-5_CandidateSpecializedWH_19K_2017_06_15_KEF.mxd

Map 6 - 2

Romney WEC

Candidate Rare Vegetation Communities & Specialized Wildlife Habitats



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Rare Vegetation Communities

- Other Rare Vegetation Communities (ORV)

Candidate Specialized Wildlife Habitats

- Amphibian Breeding Habitat (Woodland) (AWO)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

0 400 800 1,200 Meters

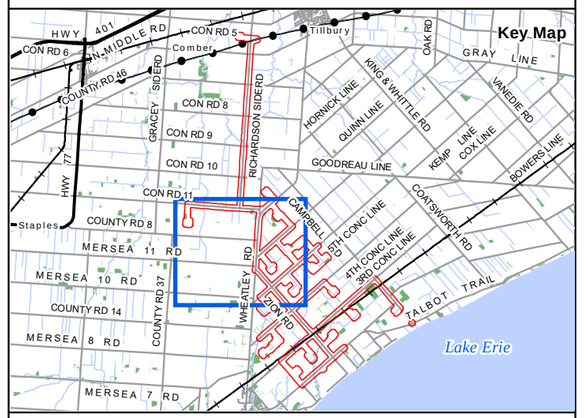
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map6-1toMap6-5_CandidateSpecializedWH_19K_2017_06_15_KEF.mxd

Map 6 - 3

Romney WEC

Candidate Rare Vegetation Communities & Specialized Wildlife Habitats



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Rare Vegetation Communities

- Other Rare Vegetation Communities (ORV)

Candidate Specialized Wildlife Habitats

- Amphibian Breeding Habitat (Woodland) (AWO)

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

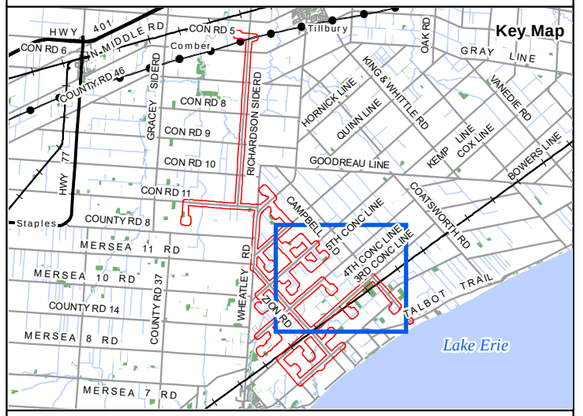
0 400 800 1,200 Meters

N

Map 6 - 4

Romney WEC

Candidate Rare Vegetation Communities & Specialized Wildlife Habitats



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

N

0 400 800 1,200 Meters

381000 382000 383000 384000 385000 386000

4669000 4668000 4667000 4666000

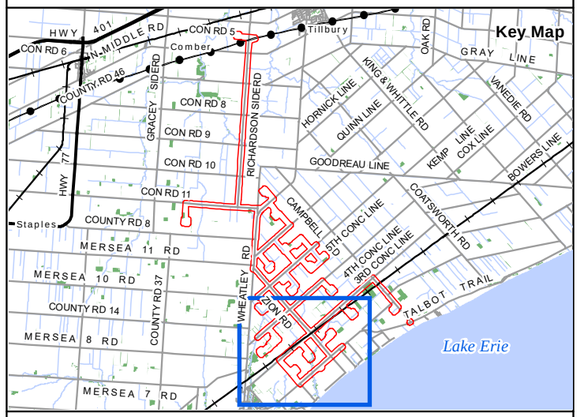
6TH CONC LINE
T4
T3
5TH CONC LINE
T8
CAMPBELL RD
T7
4TH CONC LINE
T6
T11
3RD CONC LINE
T15
T16
2ND CONC LINE
ZION RD
Yellow Creek
TALBOT TRAIL

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map6-1toMap6-5_CandidateSpecializedWH_19K_2017_06_15_KEF.mxd

Map 6 - 5

Romney WEC

Candidate Rare Vegetation Communities & Specialized Wildlife Habitats



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

0 400 800 1,200 Meters

N

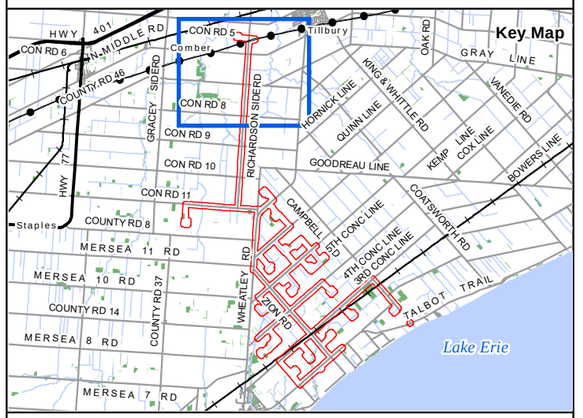
Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map6-1toMap6-5_CandidateSpecializedWH_19K_2017_06_15_KEF.mxd

Maps 7-1 to 7-6
Candidate Habitats for Species of Conservation Concern

Map 7 - 1

Romney WEC

Candidate Habitats for Species of Conservation Concern



Legend

- Utility Line
- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Collection Line
- Proposed Access Road

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 29, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

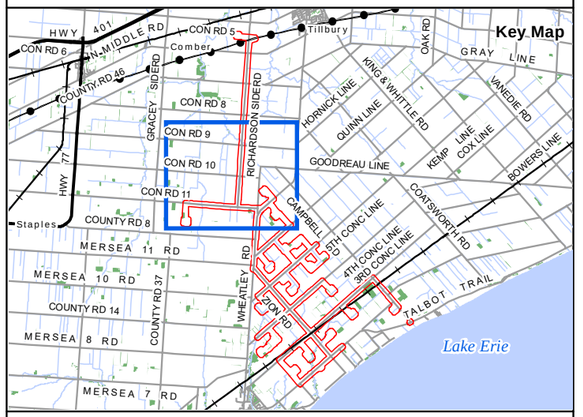
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map7-1toMap7-5_Candidate_SCC_19K_2017_06_29_KEF.mxd

Map 7 - 2

Romney WEC

Candidate Habitats for Species of Conservation Concern



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Habitats for Species of Conservation Concern

- Species of Conservation Concern Habitat (SCC)

1 - Eastern Wood-Pewee
3 - Wood Thrush
5 - Slightly Hirsute Sedge
6 - Squarrose Sedge
7 - Cattail Sedge
8 - Shellbark Hickory
9 - Pumpkin Ash
10 - Shumard Oak
13 - Black Gum
14 - Halberd-leaved Smartweed

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 29, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

N

376000 377000 378000 379000 380000 381000

4674000 4673000 4672000 4671000 4670000

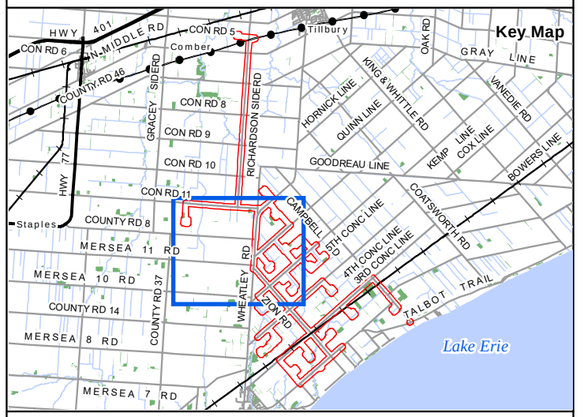
CON RD 9
CON RD 10
CON RD 11
RICHARDSON SIDERD
GOODREAU LINE
CAMPBELL RD
TILBURY W & ROMNEY RD
WHEATLEY RD
6TH CONC LINE
Big Creek
SCC-A (1,5, 6, 7, 8, 9, 10, 13, 14)
SCC-B (1, 3, 5, 6, 7, 8, 9, 10, 13, 14)
T17
T1
A1

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map7-1toMap7-5_Candidate_SCC_19K_2017_06_29_KEF.mxd

Map 7 - 3

Romney WEC

Candidate Habitats for Species of Conservation Concern



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Habitats for Species of Conservation Concern

- Species of Conservation Concern Habitat (SCC)
  - 1 - Eastern Wood-Pewee
  - 3 - Wood Thrush
  - 5 - Slightly Hirsute Sedge
  - 6 - Squarrose Sedge
  - 7 - Cattail Sedge
  - 8 - Shellbark Hickory
  - 9 - Pumpkin Ash
  - 10 - Shumard Oak
  - 13 - Black Gum
  - 14 - Halberd-leaved Smartweed

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 29, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

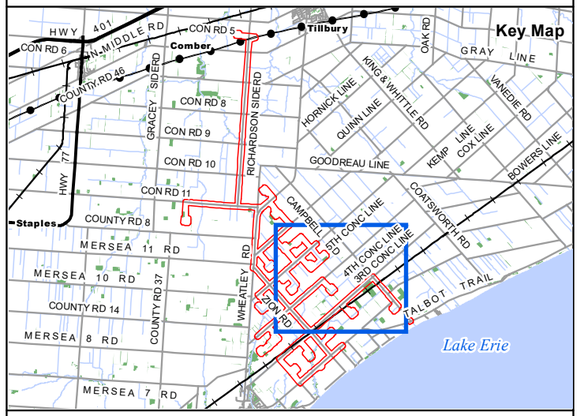
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map7-1toMap7-5_Candidate_SCC_19K_2017_06_29_KEF.mxd

Map 7 - 4

Romney WEC

Candidate Habitats for Species of Conservation Concern



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road

Candidate Habitats for Species of Conservation Concern

- Bald Eagle Nest Record (BAL-002)
- Species of Conservation Concern Habitat (SCC)

1 - Eastern Wood-Pewee
5 - Slightly Hirsute Sedge
6 - Squarrose Sedge
7 - Cattail Sedge
8 - Shellbark Hickory
9 - Pumpkin Ash
10 - Shumard Oak
12 - Bald Eagle
13 - Black Gum
14 - Halberd-leaved Smartweed

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 29, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

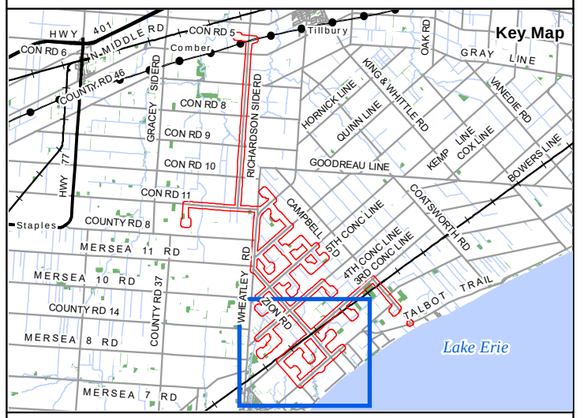
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map7-1toMap7-5_Candidate_SCC_19K_2017_06_29_KEF.mxd

Map 7 - 5

Romney WEC

Candidate Habitats for Species of Conservation Concern



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building

Candidate Habitats for Species of Conservation Concern

- Species of Conservation Concern Habitat (SCC)

1 - Eastern Wood-Pewee
5 - Slightly Hirsute Sedge
6 - Squarrose Sedge
7 - Cattail Sedge
8 - Shellbark Hickory
9 - Pumpkin Ash
10 - Shumard Oak
11 - Climbing Prairie Rose
12 - Bald Eagle
13 - Black Gum
14 - Halberd-leaved Smartweed

**The distances from the project location to candidate significant wildlife habitats are outlined within the body of the report in Table 15.*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 29, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map7-1toMap7-5_Candidate_SCC_19K_2017_06_29_KEF.mxd

Map 7 - 6

Romney WEC

Species of Conservation Concern Habitat

Project: 1736	Date: June 23, 2017

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

SCC-A
Eastern Wood Pewee: EWP-001
Slightly Hirsute Sedge: SHS-001
Squarrose Sedge: SQS-001
Cattail Sedge: CSE-001
Shellbark Hickory: SHH-001
Pumpkin Ash: PAS-001
Shumard Oak: SHO-001
Black Gum: BGU-001
Halberd-leaved Smartweed: HLS-001

SCC-B
Eastern Wood Pewee: EWP-002
Wood Thursh: WTH-001
Slightly Hirsute Sedge: SHS-002
Squarrose Sedge: SQS-002
Cattail Sedge: CSE-002
Shellbark Hickory: SHH-002
Pumpkin Ash: PAS-002
Shumard Oak: SHO-002
Black Gum: BGU-002
Halberd-leaved Smartweed: HLS-002

SCC-C
Slightly Hirsute Sedge: SHS-003
Squarrose Sedge: SQS-003
Cattail Sedge: CSE-003
Shellbark Hickory: SHH-003
Pumpkin Ash: PAS-003
Shumard Oak: SHO-003
Black Gum: BGU-003
Halberd-leaved Smartweed: HLS-003

SCC-D
Eastern Wood Pewee: EWP-003
Slightly Hirsute Sedge: SHS-004
Squarrose Sedge: SQS-004
Cattail Sedge: CSE-004
Shellbark Hickory: SHH-004
Pumpkin Ash: PAS-004
Shumard Oak: SHO-004
Black Gum: BGU-004
Halberd-leaved Smartweed: HLS-004

SCC-E
Slightly Hirsute Sedge: SHS-007
Squarrose Sedge: SQS-007
Cattail Sedge: CSE-007
Shellbark Hickory: SHH-007
Pumpkin Ash: PAS-007
Shumard Oak: SHO-007
Black Gum: BGU-007

SCC-F
Bald Eagle: BAL-001

SCC-G
Eastern Wood Pewee: EWP-004
Slightly Hirsute Sedge: SHS-005
Squarrose Sedge: SQS-005
Cattail Sedge: CSE-005
Shellbark Hickory: SHH-005
Pumpkin Ash: PAS-005
Shumard Oak: SHO-005
Black Gum: BGU-005
Halberd-leaved Smartweed: HLS-005

SCC-H
Eastern Wood Pewee: EWP-005

SCC-J
Slightly Hirsute Sedge: SHS-006
Squarrose Sedge: SQS-006
Cattail Sedge: CSE-006
Shellbark Hickory: SHH-006
Pumpkin Ash: PAS-006
Shumard Oak: SHO-006
Black Gum: BGU-006
Halberd-leaved Smartweed: HLS-006

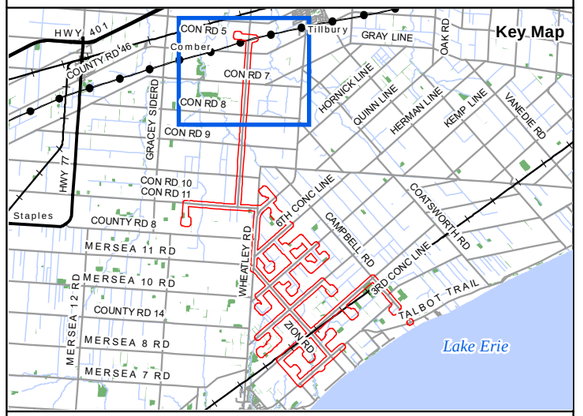
SCC-L
Climbing Prairie Rose: CPR-001

Maps 8-1 to 8-5
Generalized Candidate Significant Wildlife Habitat

Map 8 - 1

Romney WEC

Generalized Candidate Significant Wildlife Habitat



Legend

- Utility Line
- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Collection Line
- Proposed Access Road

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

N

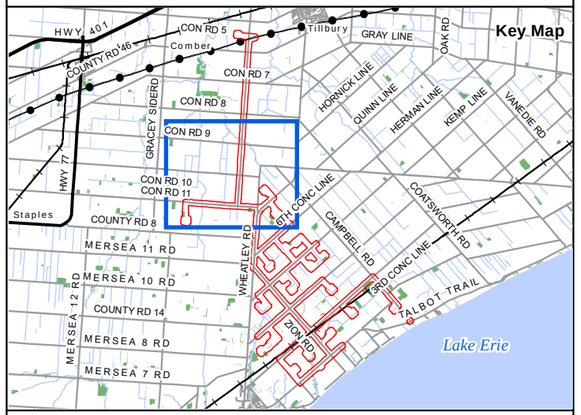
0 400 800 1,200 Meters

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map8-1toMap8-5_GeneralizedHabitat_19K_2017_06_15_KEF.mxd

Map 8 - 2

Romney WEC

Generalized Candidate Significant Wildlife Habitat



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road
- Generalized Candidate Significant Wildlife Habitat

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

N

376000 377000 378000 379000 380000 381000

4674000 4673000 4672000 4671000 4670000

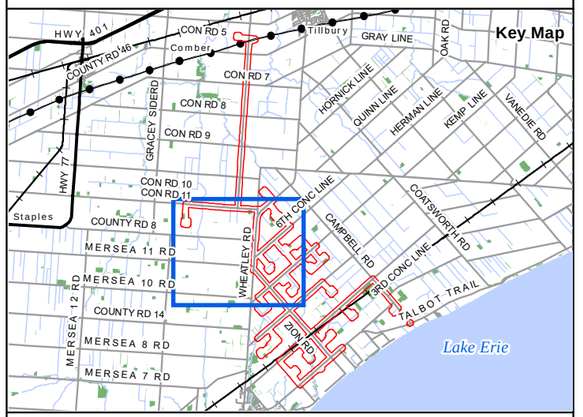
CON RD 9
CON RD 10
CON RD 11
RICHARDSON SIDERD
GOODREAU LINE
CAMPBELL RD
TILBURY W & ROMNEY RD
WHEATLEY RD
6TH CONC LINE
Big Creek
A1
T1
T17

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map8-1toMap8-5_GeneralizedHabitat_19K_2017_06_15_KEF.mxd

Map 8 - 3

Romney WEC

Generalized Candidate Significant Wildlife Habitat



Legend

- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road
- Generalized Candidate Significant Wildlife Habitat

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736 Date: June 15, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:18,500**

0 400 800 1,200 Meters

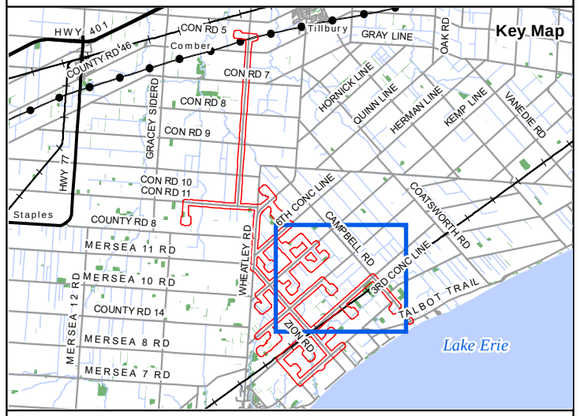
N

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map8-1toMap8-5_GeneralizedHabitat_19K_2017_06_15_KEF.mxd

Map 8 - 4

Romney WEC

Generalized Candidate Significant Wildlife Habitat



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Collection Line
- Proposed Access Road
- Generalized Candidate Significant Wildlife Habitat

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

N

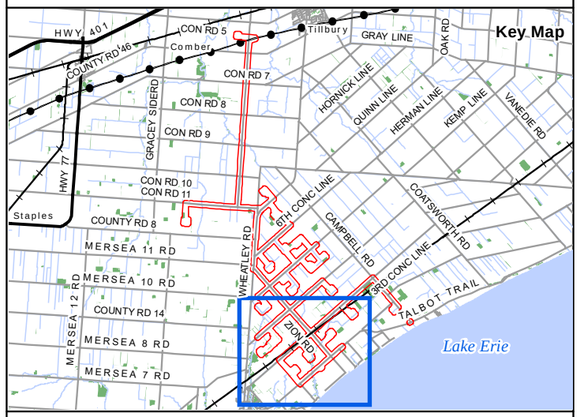
0 400 800 1,200 Meters

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map8-1toMap8-5_GeneralizedHabitat_19K_2017_06_15_KEF.mxd

Map 8 - 5

Romney WEC

Generalized Candidate Significant Wildlife Habitat



Legend

- Railway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Open Water

Project Components

- 120m Setback
- Project Location
- Proposed Turbine
- Proposed Meteorological Tower
- Proposed Collection Line
- Proposed Access Road
- Proposed O&M Building
- Generalized Candidate Significant Wildlife Habitat

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project:1736
Date: June 15, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:18,500

0 400 800 1,200 Meters

N

379000 380000 381000 382000 383000 384000

4666000 4665000 4664000 4663000 4662000

T5 T9 T10 T12 T13 T14 T15

COUNTY RD 14 WHEATLEY RD 4TH CONC LINE ZION RD 2ND CONC LINE WHARRAM PVT RD HODOVICK PVT RD 3RD CONC LINE TALBOT TRAIL BLUFF LINE CAMPERS COVE RD CEMETERY RD DROVERS RD ERIE ST N HILLSIDE AVE LYNN DR KLONDYKE RD

East Two Creeks Yellow Creek Lake Erie

Path: X:\1736_Romney_WEC\NRSI_1736_SI_Map8-1toMap8-5_GeneralizedHabitat_19K_2017_06_15_KEF.mxd

Appendix I
Site Investigation Field Notes

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Romney WEC

WOD-001 / WET-001

Notes:

[redacted]

Parcel #750810055

Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.7 km

- - -> int. flows

——> perm flows

Projection: Web Mercator

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WF (#1756C)
Polygon:	PIN 750810055
UTM:	
Date:	May 11/16
Time:	0820 - 0935
Surveyor(s):	AMD, CEP
Weather:	12°C, wind 3-4/E, 100% CC

Community Classification

Vegetation Type:	Swamp Maple Mineral Deciduous Swamp SWDM3-3
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	~~Super-Canopy~~			
1	Canopy	2	4	freemans maple > bur oak > wh. elm > shag. hickory
2	Sub-canopy	3	4	basswood > wh. elm > shag. hickory > green ash
3	Understorey	4-5	4	choke cherry > gray dogwood > green ash
4	Groundcover	6-7	4	Sanicula sp. > spring avens > woodbine

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis								
	O	< 10	A	10 - 24	A	25 - 50	O	> 50
Snags	R	< 10	O	10 - 24	O	25 - 50	R	> 50
Deadfall/Logs	O	< 10	O	10 - 24	O	25 - 50	R	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

P. quinquefolius

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page ___of___

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
basswood	R	O	O		
shag. hickory	O	O	O		
wh. elm	O	A	O		
bur oak	O	R			
choke cherry			A	O	
freemans maple	A	D	O		
green ash	R	O	O		
poison ivy (vine)				O	
gray dogwood			A	O	
nannyberry			R	R	
woodbine				A	
Ribes cynosbati				O	
Vine creeper			O		
multiflora rose		O	O		
prickly ash			O	R	
Ribes amer.			O	O	
red raspberry				O	
bl. raspberry				O	
* shumard oak	R	R			

Species	Layer 1	2	3	4	Sample
Carex radiata				A	
Spring beauty (vine)				A	
jack pulpit				O	
trout lily				O	
Common violet				O	
Carex blanda				O	
Spring avens				A	
Sanicula sp.				A	
downy yel. violet				R	
carrion flower				R	
wild strawberry				O	
Galium aparine				R	
Ranunculus arbort.				R	
enchant. nightshade				O	
wild geranium				O	
Glyceria striata				O	
curly dock				O	
Carex crinita				R	
bitter nightshade				O	
~~Carex radiata~~					

Locally Rare

Wildlife and Other Notes

- photos 1050 - 1054
- feature used for hunting
- good amount of dead fallen ash, especially @ SE corner

*exists throughout feature, ID to be confirmed

BLJA, HOWR, SOSP, TRSW, cottontail, NOFL, HAWO

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WF (#1736C)
Polygon:	
UTM:	
Date:	May 11/16
Time:	
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
	Open Water	Plankton	Forb	Coniferous
Open	Shallow Water	Submerged	Lichen	Mixed
Shrub	Surficial Dep	Floating-Lvd	Bryophyte	
Treed	Bedrock	Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			
2	Sub-canopy			
3	Understorey			
4	Groundcover			

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	< 10	10 - 24	25 - 50	> 50
Snags	< 10	10 - 24	25 - 50	> 50
Deadfall/Logs	< 10	10 - 24	25 - 50	> 50

Abundance Codes N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	Young	Mid-age	Mature	Old Growth

Modified ELC Community Description

Page __ of __

Soils	1	2	3
Position:	S		
Aspect:	N/A		
%	0		
Type:	S		
Class:	A		

Strata:	Texture	CL		
	Depth	0-13		
Strata:	Texture	S;C		
	Depth	14-44		
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture		S;C		
Surface Stoniness				
Surface Rockiness				
Depth to:				
	Mottles	14		
	Gley	—		
	Bedrock	—		
	Water table	—		
	Carbonates	—		
Depth of Organics		1		
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime		6		

Polygon: PIN 750810055

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

NOTES:

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-001

S1

Wetland Vegetation Communities

Project Name: Romney WF **Project #:** 1736C **Parcel #:** 750810055

Observer(s): AMD, CEP **ELC Code:** SWDM3-3

Date: May 11/16 **Time (24h):** 820-935

Wetland #: WET-001 **Weather:** Precipitation: None Temp (° C): 12

Veg Community #: S1 Wind Speed & Direction: 3-4 / E Cloud %: 100

Wetland Type: Swamp **Site Type:** P **Dominant Form:** h

Permanent Open Water: None % **Check one:** ○ central area ○ spread out in ponds

Photos: 1050 - 1054

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 70)	freeman's maple (40%) > white elm (30%) > shag. hickory (15%) > bur oak (15%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%: 40)	wh. elm (40%) > basswood (20%) > shag. hickory (20%) > green ash (20%)
ls (%:)	
gc (%: 50)	Sanicula sp. (40%) > Virg. Spring beauty (30%) > spring avens (30%)
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: SiC Mineral ☒ Organic ☐ Depth of organics: (cm Organic Type: F (M) H Depth to bedrock: N/A cm

Soil type: C-clay, L-loam, S-sand, Si-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

- Shumard oak (to confirm ID) - exists throughout

Locally Significant Species

Spring trees (PS)
Oldham 1993

Wildlife Notes:

refer to incidental wildlife observations

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; **f**=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

Features to look for in the field:

- ○ active beaver lodges/dams None
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  shumard oak (to confirm ID) - exists throughout feature
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  refer to incidental wildlife observations
- ○ plant species (wild rice, cranberries)
  None
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  refer to field map
- ○ human related disturbances (fill, docks, houses, etc)
  None
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  Yes - hunting
- ○ locations of seeps or springs, lagg
  None
- ○ iron precipitates, marl deposits
  None
- ○ winter cover for wildlife
  None
- ○ ungulate summer habitat, moose aquatic feeding habitat
  yes No
- ○ suitability for waterfowl breeding, staging, moulting
  limited - no permanent water
- ○ surrounding topography (flat, rolling, hilly, steep)
  flat
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; O utility corridor; Ø dec. forest; O recent cutover or clearcut (<5yr); O conif. forest; O mixed forest; Ø crops; Ø row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; Ø fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; Ø creek floodplain; O rock outcrop
- ○ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ○ vernal pools
  yes - although likely not suitable for amphibian breeding
- ○ invasive species (plant, aquatic)
  None

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney C	**Project #:** 1736C	**Area and/or Polygon ID:** 7508110055	
Date: May 11/16	**Start Time:** 8:24	**End Time:** 9:50	**Observers:** MWD, EP
Weather Conditions: 12°C, wind 3/E, 100% CC			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:** Draw extent of all water if not indicated through ELC. Dimensions (length, width, and depth). Vegetation species, woody debris/basking logs within water. Presence of fish. Longevity of site (if known, or estimate). Sources of disturbance, current use, origin (natural or anthropogenic). Evidence of wildlife use including waterfowl, turtles, amphibians. **All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Spring Flooded Field		X	
Vernal Pool	✓		
Pond		X	
Shallow Marsh (MAS) or Open Water		X	
Swamp	✓		
Fields			**Applicable to All:** Height of vegetation. Evidence of small mammals. Size of site. Frequency and source of disturbance. Location and abundance of raptor perches (scattered trees, snags, fenceposts). Abundance of nectar-producing plants (e.g. goldenrods and asters). Adjacency to forest and forest size.
Non-rotational Hay or Weakly Grazed Pasture		✓	
Meadow		X	
Thicket, Woodland, Hydro Corridor		X	
Substrate and Topography			
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:** Age. Rock size. Evidence of Use. Depth into the ground. Vegetation present. Amount of sun exposure (or direction the slope faces). Substrate composition (or bedrock type). Proximity to water and estimated subterranean influence or potential for winter water fluctuation. **Abandoned Wells Only:** Presence and type of capping. **Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Abandoned Mine Shaft		X	
Old Rock or Debris Pile, Old Stone Fence		X	
Abandoned Road or Rail Bed		X	
Abandoned Well		X	
Old Foundation		X	
Burrows or Dens			**Applicable to Mammal Burrows or Dens:** Diameter of entrance. Ecosite of location. Soil Type. Proximity to water and type of water. Availability of aquatic vegetation or fish. Evidence of use, or tracks or digging marks.
Small - Rodent or Snake		X	
Medium		X	
Large		X	
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species			
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	✓		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: 11/05/2016

Project Name: Romney NC | Project #: 1736 | Area and/or Polygon ID: 750810055

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
(1)	vernal pool	1	refer to field map	1054	- will likely dry up in May/June - probably not suitable for amph. breeding - refer to map for extent - lots of downed trees - many ash sp. - no fish observed	N/A
(2)	swamp	1	N/A - entire feature	1050 - 1054	- no evidence of heron nesting - no fish observed	refer to incidental wildlife observations
(3)	rare spp (non-SAR)	1	exists throughout feature	1052	- Shumard oak, ID to be confirmed	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	Woodpecker sp. (Hairy)		1	flyover		E. cottontail		1	
	Jay sp.					White-tailed deer	TK		
	Towhee					~~Red-shouldered hawk~~			
	Common Yellowthroat					Great blue heron			
	Goldfinch sp.					Common yellowthroat			
	blue jay	S	1			Hermit thrush			
	American Goldfinch	S	1			Song Sparrow			
	Spotted Towhee					Tree Swallow			
	Brown Creeper					N. Flicker			

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE- Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Candidate Bat Maternity Roost Data Form

Use this form in FOD, FOM

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Manager Use Only:
Woodland Number :

Project Name: Romeyn(?) Project #: 1730(?)

Start Time 8:24 End Time 9:50 Date: 11/05/2016 Observer(s): AWD/CEP

Polygon or Area ID (750840056) Weather Conditions: T: 11°C W: 3E CC:100% Prec: NA(?)

Plot Number	# live or dead cavity trees ≥ 25cm dbh	Plot Center UTM (Zone: 17T)	*not many trees >25cm DBH - young forest Comments
Plot 1	0	±6m 0376356 4670338	
Plot 2	0	±5m 0376356 4670274	
Plot 3	0	±8m 0376367 4670234	
Plot 4	0	±6m 0376353 4670196	
Plot 5	0	±6m 0376301 4670144	
Plot 6	0	±5m 0376359 4670105	
Plot 7	0	±5m 0376392 4670136	
Plot 8	0	±6m 0376385 4670216	
Plot 9	0	±13m 0376403 4670298	
Plot 10	0	±7m 0376410 4670333	
Plot 11			
Plot 12			
Plot 13			
Plot 14			
Plot 15			
Plot 16			
Plot 17			
Plot 18			
Plot 19			
Plot 20			
Plot 21			
Plot 22			
Plot 23			
Plot 24			
Plot 25			
Plot 26			
Plot 27			
Plot 28			
Plot 29			
Plot 30			
Plot 31			
Plot 32			
Plot 33			
Plot 34			
Plot 35			

Number of Plots: Sites ≤10ha: 10 plots (minimum); each extra ha: 1 plot (up to max 35 plots) Plots = 0.05ha or 12.6m radius Select plots randomly

Preparation for EOS Bat Monitoring: Identification of High Quality Potential Roost Trees

Identify the best potential roost trees in the applicable woodland/polygon: <10ha in size = up to 10 >10ha in size = 1 additional for each ha up to 30

Tree #	Species	# of Cavities	DBH (cm)	UTM	Photo Number(s)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

This Section Project Manager Use Only Formula: Total # Cavity Trees / (# Plots x 0.05ha)

If >10/ha:

Final Woodland Tally = ____________ **> or = 10/ha? Yes / No** BMA-____________

KMH

Romney 1736C Observers: KLHM

Date: 28/04/2017

Tim

Egg Mass Surveys AWO-001

Time Start: 1630
Time End: 1700

Temp: 17°C CC: 100% ppt: None
Wind: 4 Direction: SW
Cloud Height: High Visibility: High.

* No vernal pools observed during 2017 surveys *

May 30, 2016
DWD

Ontario MINISTRY OF NATURAL RESOURCES AND FORESTRY
Make a Topographic Map

Romney WEC

WOD-002

Notes: Woodlot on adjacent parcel to T-Alt1

NO access, roadside.

Legend

Building as Symbol
Building to Scale
Airport
Heliport / Hospital Heliport
Seaplane Base
Ferry Route
Trail Head
Trail
Railway / Train Station
Railway with Bridge
Railway with Tunnel
Road (Major — Minor)
Winter Road
Road with Bridge
Road with Tunnel
Primary, Kings or 400 Series Highway
Secondary Highway
Tertiary Highway
District, County, Regional or Municipal Road
Toll Highway
One Way Road
Road with Permanent Blocked Passage
Road with Address Ranges
Hydro Line, Communication Line or Unknown Transmission Line
Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
Spot Height
Index Contour
Contour
Wooded Area
Wetland
Waterbody
Waterbody Elevation
Watercourse
Falls
Rapids
Rapids / Falls
Rapids
Rocks
Lock, Gate
Dam / Hydro Weir
Dam / Hydro Wall
Provincial / State Boundary
International Boundary
Upper Tier / District Municipal Boundary
Lower Tier / Single Tier Municipal Boundary
Lot Line
Indian Reserve
Provincial Park
National Park
Conservation Reserve
Military Lands

0 0.3 km

Projection: Web Mercator

N

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NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	1756C Romney WEC
Polygon:	(Conc. Road 11, at bend in Wheatley Rd) Woodlot on adj. parcel to T-NH 1
UTM:	
Date:	May 30, 2016 Time: 14:54
Surveyor(s):	PND
Weather:	25°C, wind 2/SW, cloud 10%, no precip.

Community Classification

Vegetation Type:		FODM9-3 F-M Bur Oak Dec. Forest Type.
X	Inclusion:	SWDM1-2 Bur Oak Min Dec. Swamp (likely present)
	Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
X Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	X Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	X Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy	–	–	–
1	Canopy	2	4	Bur Oak > Shagbark Hickory > Am Beechwood
2	Sub-canopy	3	2	Bur Oak = Shagbark Hickory = Am Elm
3	Understorey	4	2	Am Beechwood = Am. Elm = Green Ash
4	Groundcover	?	?	Unable to see groundcover

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis		< 10		10 - 24		25 - 50	> 50
Snags		< 10		10 - 24	N	25 - 50	N > 50
Deadfall/Logs		< 10		10 - 24	N	25 - 50	N > 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young		Mid-age	X	Mature	Old Growth

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample	Species	Layer 1	2	3	4	Sample
Bur Oak	A	O	O								
Shagbark Hickory	O	O	O								
Green Ash		O	O								
Am. Elm	R	O									
Staghorn Sumac			R								
Am Beechwood	R	O	O								

Wildlife and Other Notes

E. Wood-pewee - SM
Am. Robin - SM
Red-winged Blackbird - SM
Red-eyed Vireo - SM

Photos 145415, 145421, 145919
150740

Wildlife Habitat Field Data Collection

As assessed from roadside

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WEC **Project #:** 1736C **Area and/or Polygon ID:** Cone Rd. W. at bend in Wheatley Rd.

Date: May 30, 2016 **Start Time:** 1454 **End Time:** 1512 **Observers:** PWD

Weather Conditions: 25°C, wind 2/SW, cloud 10%, no precip.

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		✓	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		✓	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		✓	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		✓	Presence of fish
Swamp		✓	**All Swamps**: Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields	**Yes**	**No**	**Applicable to All:**
Non-rotational Hay or Weakly Grazed Pasture		✓	Height of vegetation; Size of site; Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		✓	Evidence of small mammals; Frequency and source of disturbance; Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		✓	Location and abundance of raptor perches (scattered trees, snags, fenceposts)
Substrate and Topography	**Yes**	**No**	
Sand or Fine/Loose Gravel		✓	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		✓	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		✓	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		✓	Depth of crevices
Cave		✓	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		✓	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		✓	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		✓	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		✓	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features	**Yes**	**No**	**Applicable to All:**
Abandoned Mine Shaft		✓	Age; Depth into the ground; Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		✓	Rock size; Vegetation present; Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		✓	Evidence of Use; Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		✓	**Abandoned Wells Only:** Presence and type of capping
Old Foundation		✓	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Burrows or Dens	**Yes**	**No**	**Applicable to Mammal Burrows or Dens:**
Small - Rodent or Snake		✓	Diameter of entrance; Soil Type; Availability of aquatic vegetation or fish
Medium		✓	Ecosite of location; Proximity to water and type of water; Evidence of use, or tracks or digging marks
Large		✓	
Log Jams, Old Beaver Lodges		✓	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		✓	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence	**Yes**	**No**	
Extensive Browse and/or Ungulate Scat		✓	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		✓	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees	**Yes**	**No**	
Large DBH, Outstanding Tall Snag		✓	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		✓	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species	**Yes**	**No**	
Old-Growth Forest		✓	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		✓	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		✓	Soil type and depths.
Red Spruce or White Oak Forest		✓	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		✓	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		✓	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		✓	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		✓	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	✓		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		✓	Sources of disturbance (includes presence of exotics).

* Note E Wood-pewee calling in woodlot.

Characteristics of Identified Wildlife Habitat

Project Name:	Project #:	Area and/or Polygon ID:	Date:
Romney WEC	1736C	See over.	May 30. 2016

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
Rare Species (E. Wood-pewee)	1 calling	Entire wooded feature	N/A.	Bur Oak dec forest ☆ Bur Oak dec Swamp inclusion (likely)	N/A.

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
B	E. Wood-pewee	SM	1						

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

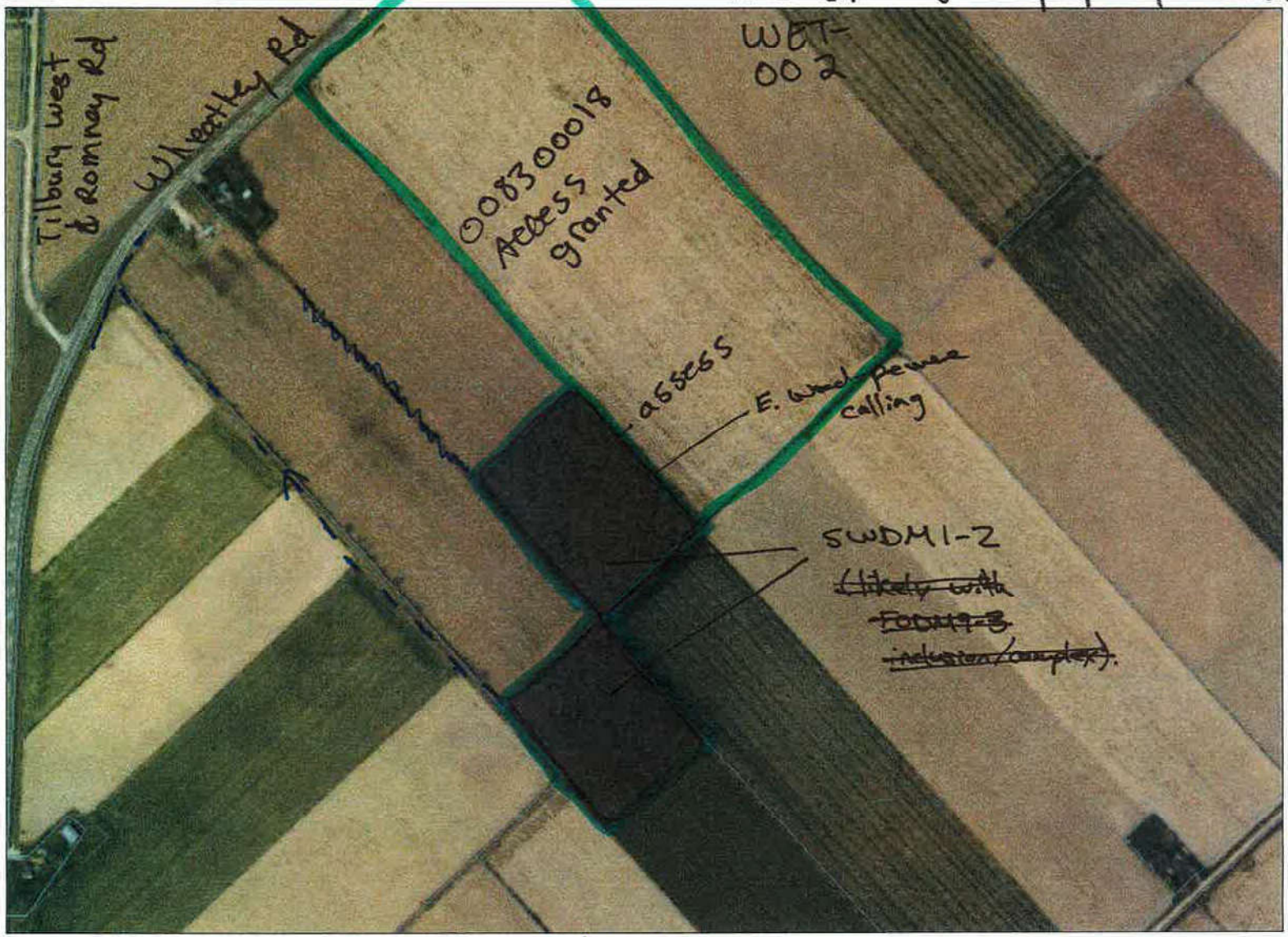
Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

May 30, 2018
PWD

MINISTRY OF NATURAL RESOURCES AND FORESTRY
Ontario
Make a Topographic Map

WOD-003 Romney WEC
Adjacent property access

Notes:
Parcel 008300018



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major → Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
- Road with Permanent Blocked Passage
- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.3 km

---→ intermittent flow
↳ air photo interp. + background data.

Projection: Web Mercator

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NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	1736C Romney WEC
Polygon:	00830018
UTM:	
Date:	May 30, 2016
Time:	1520
Surveyor(s):	PWD
Weather:	25°C, wind 2/SW, 10% cc, no precip

Community Classification

Vegetation Type:	SWDM1-2 Bur Oak Mineral Dec. Swamp Type.
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	X Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	X Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll, Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy	-	-	-
1	Canopy	2	4	Bur Oak > Shagbark Hickory > Freeman Maple
2	Sub-canopy	3	2	Shagbark Hickory > Bur Oak = Freeman Maple
3	Understorey	4	2	Shagbark Hickory = Green Ash
4	Groundcover	?	?	Cannot assess from property edge.

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O	< 10	O	10 - 24	O	25 - 50	X	> 50
Snags	O	< 10	?	10 - 24	?	25 - 50	?	> 50
Deadfall/Logs	O	< 10	?	10 - 24	?	25 - 50	?	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young		Mid-age	X	Mature	Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample	Species	Layer 1	2	3	4	Sample
Bur Oak	A	O	O								
Shagbark Hickory	O	O	O								
Freeman Maple	O	O									
Multiflora Rose			R								
Red-lvd Dogwood			R								
Am. Basswood	R	O	O								
Green Ash	R	R	O								

Wildlife and Other Notes

Red eyed Vireo - SM
E. Wood-pewee - SM
N. Cardinal - SM
Am Robin : SM
Mourning Dove - SM
Red-winged Blackbird : SM, A

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WEC	**Project #:** 1736C	**Area and/or Polygon ID:** 00830001B	
Date: May 30, 2016	**Start Time:** 1520	**End Time:** 1542	**Observers:** PWD
Weather Conditions: 25°C, wind 2/SW, 10% cc, no precip.			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		✓	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		✓	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		✓	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		✓	Presence of fish
Swamp	✓		**All Swamps**: Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.

Fields	Yes	No	Applicable to All:		
Non-rotational Hay or Weakly Grazed Pasture		✓	Height of vegetation	Size of site	Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		✓	Evidence of small mammals	Frequency and source of disturbance	Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		✓		Location and abundance of raptor perches (scattered trees, snags, fenceposts)	

Substrate and Topography	Yes	No	
Sand or Fine/Loose Gravel		✓	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		✓	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		✓	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		✓	Depth of crevices
Cave		✓	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		✓	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		✓	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		✓	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		✓	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.

Anthropogenic Features	Yes	No	Applicable to All:		
Abandoned Mine Shaft		✓	Age	Depth into the ground	Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		✓	Rock size	Vegetation present	Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		✓	Evidence of Use		Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		✓	**Abandoned Wells Only:** Presence and type of capping		
Old Foundation		✓	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.		

Burrows or Dens	Yes	No	Applicable to Mammal Burrows or Dens:		
Small - Rodent or Snake		✓	Diameter of entrance	Soil Type	Availability of aquatic vegetation or fish
Medium		✓	Ecosite of location	Proximity to water and type of water	Evidence of use, or tracks or digging marks
Large		✓			
Log Jams, Old Beaver Lodges		✓	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).		
Crayfish Chimney (7E only)		✓	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).		

Evidence	Yes	No	
Extensive Browse and/or Ungulate Scat		✓	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		✓	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.

Outstanding Trees	Yes	No	
Large DBH, Outstanding Tall Snag			Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)			Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.

Rare Communities or Species	Yes	No	
Old-Growth Forest		✓	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		✓	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		✓	Soil type and depths.
Red Spruce or White Oak Forest		✓	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		✓	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		✓	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		✓	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		✓	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)			Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		✓	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: May 30, 2016

Project Name: Romney WEC Project #: 1736C Area and/or Polygon ID: 608300018

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
No candidate SWH identified from property line.					

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
B	E. Wood-pewee	SM	1						

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-002

S1

Wetland Vegetation Communities

Project Name: Romney WEC	**Project #:** 1736C	**Parcel #:** West of 00830018
Observer(s): PWD		**ELC Code:** SWDM1-2
Date: May 30, 2016	**Time (24h):** 1520	
Wetland #: WET-002	**Weather:** Precipitation: None	Temp (° C): 25
Veg Community #: S1	Wind Speed & Direction: 2/SW	Cloud %: 10
Wetland Type: S	**Site Type:** P	**Dominant Form:** h
Permanent Open Water: 0 %	**Check one:** ○ central area ○ spread out in ponds	
Photos: N/A (Property line / no access to feature)		

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 60)	Bur Oak (50%) Shagbark Hickory (20%) Freeman Maple (20%) Am. Basswood (10%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%:)	
ls (%:)	
gc (%:)	
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: Mineral ☒ Organic ☐ Depth of organics: ? cm Organic Type: F M H Depth to bedrock: ? cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

LF, Wood-pewee (SM) in NE woodland block.

Wildlife Notes:

See ELC Sheet

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; **f**=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

Features to look for in the field:

- ○ active beaver lodges/dams None
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  E. Wood-pewee (throughout NE woodland (swamp) feature 1 singing male
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  None obs. (property line).
- ○ plant species (wild rice, cranberries)
  None obs.
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent → or intermittent ⇢)
  See field map (drainage ditch to west flows int. toward Wheatley Road
- ○ human related disturbances (fill, docks, houses, etc)
  None obs.
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  None
- ○ locations of seeps or springs, lagg
  None obs. (property line)
- ○ iron precipitates, marl deposits
  None obs. (property line)
- ○ winter cover for wildlife
  No
- ○ ungulate summer habitat, moose aquatic feeding habitat
  No
- ○ suitability for waterfowl breeding, staging, moulting
  No
- ○ surrounding topography (flat, rolling, hilly, steep)
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; O utility corridor; ☑ dec. forest; O recent cutover or clearcut (<5yr); O conif. forest; O mixed forest; O crops; ☑ row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; ☑ fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; O creek floodplain; O rock outcrop
- ○ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ○ vernal pools
  None obs.
- ○ invasive species (plant, aquatic)
  European Buckthorn at edges of feature

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

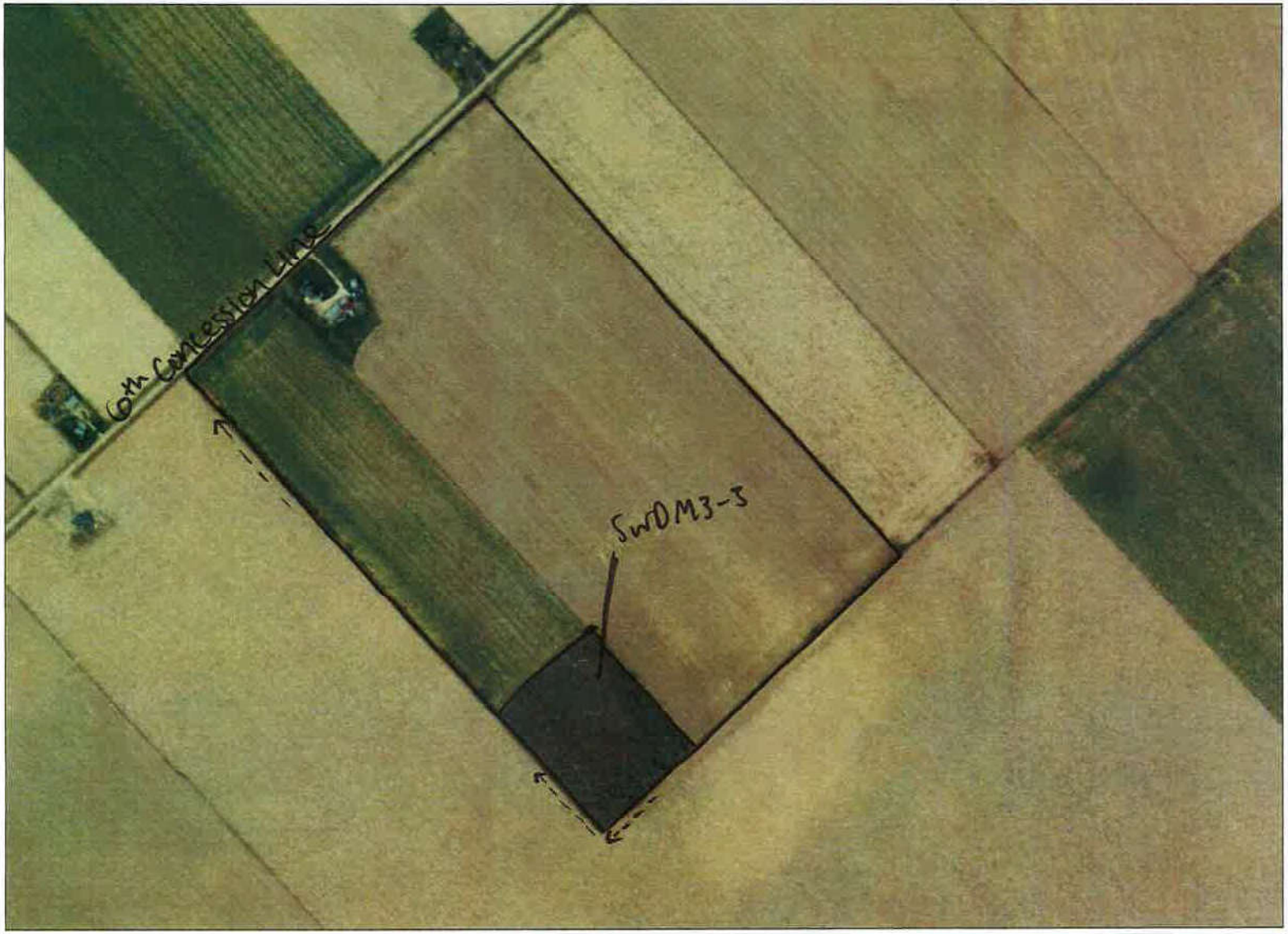
Romney WEC

WOD-004/WET-003

Notes:

~~Enter map notes~~

Parcel # 00831 0010



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.3 km

--→ int. flow

→ perm flow

Projection: Web Mercator

The Ontario Ministry of Natural Resources and Forestry shall not be liable in any way for the use of, or reliance upon, this map or any information on this map. This map should not be used for: navigation, a plan of survey, routes, nor locations.

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NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WF (#1736C)
Polygon:	PIN 8510010
UTM:	
Date:	May 10/16 — Time: 1600 – 1720
Surveyor(s):	AMD, CEP
Weather:	11°C, wind 4/E, 100% CC, light intermittent rain

Community Classification

Vegetation Type:	Swamp Maple Mineral Deciduous Swamp (SWDM3-3)
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	✓ Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

P. quinquefolius

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy	1/2	4	freeman's maple > wh. elm > green ash
2	Sub-canopy	3	4	freeman's maple > wh. elm > Shag. hickory
3	Understorey	4	4	gray dogwood > Choke cherry > green ash
4	Groundcover	5/7	4	Spring beauty (virg.) > Sanicula sp. > jumpseed

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	R	< 10	A	10 - 24	A	25 - 50	R	> 50
Snags	R	< 10	R	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	R	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page ___ of ___

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

	Species	Layer 1	2	3	4	Sample
-	freemans maple	A	A	O		
-	wh elm	A	A	O		
	prickly ash			O	O	
-	choke cherry			A	O	
	hopwood	R	R			
-	green ash	O	O	O		
-	gray dogwood			A	O	
-	poison ivy (ryd)				A	
-	shag. hickory	O	O	O		
	virg. creeper				R	
	poison ivy (rad)				O	
	bl. raspberry			O	O	
	bitter hickory		R			
	Ribes cynosbati				R	
-	woodbine				A	
	bl. cherry		R	R		
*	Shumard oak	R	R			
	Viburnum opulus			R	R	
	Manitoba maple		R			

	Species	Layer 1	2	3	4	Sample
-	spring beauty (Virg)				A	
-	Sanicula sp.				A	
	Michigan lily				R	
	com. blue violet				O	
	wild geranium				O	
	Carex radiata				O	
	enchant. nightshade				O	
	wild strawberry				O	
	wild leek				R	
	star-false sol. seal				A	
	jack pulpit				O	
*	Virg. waterleaf				O	
	downy yel. violet				R	
	calico aster				R	
	purple cress				R	check ✓
-	jumpseed				A	
	spring avens				A	— locally rare
	Galium aparine				O	
	Phragmites				R	
	catnip				R	
	Carex blanda				R	
	Glyceria striata				R	

- not fruiting, sp. unkn.

Wildlife and Other Notes

- photos 1047 – 1049
- feature used for hunting

* exists throughout south portion of feature, to be confirmed (ID)

- BLJA, NOCA, AMRO, deer

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
Treed	Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			
2	Sub-canopy			
3	Understorey			
4	Groundcover			

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	< 10	10 - 24	25 - 50	> 50
Snags	< 10	10 - 24	25 - 50	> 50
Deadfall/Logs	< 10	10 - 24	25 - 50	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	Young	Mid-age	Mature	Old Growth

Modified ELC Community Description

Page __ of __

Soils	1	2	3
Position	5		
Aspect:	N/A		
%	0		
Type:	S		
Class:	A		

Strata:	Texture	CL		
	Depth	0-19		
Strata:	Texture	SiCL		
	Depth	20-48		
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture		SiCL		
Surface Stoniness				
Surface Rockiness				
Depth to:				
	Mottles	20		
	Gley	-		
	Bedrock	-		
	Water table	-		
	Carbonates	-		
Depth of Organics		2		
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime		6		

Polygon: PIN 8310010

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

NOTES:

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-003

S1

Wetland Vegetation Communities

Project Name: Romney WF	**Project #:** 1736C	**Parcel #:** 8310010
Observer(s): AMD, CEP		**ELC Code:** SWDM3-3
Date: May 10/16	**Time (24h):** 1600	
Wetland #: WET-003	**Weather:** Precipitation: light rain	Temp (° C): 11
Veg Community #: S1	Wind Speed & Direction: 4/E	Cloud %: 100
Wetland Type: swamp	**Site Type:** P	**Dominant Form:** h
Permanent Open Water: None %	**Check one:** ○ central area ○ spread out in ponds	
Photos: 1047-1049		

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
(h) (%: 80)	freeman's maple (50%) > white elm (20%) > green ash (15%) > shagbark hickory (15%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
(ts) (%: 30)	white elm (40%) > green ash (30%) > shagbark hickory (20%) > freeman's maple (10%)
ls (%:)	
(gc) (%: 60)	spring beauty (30%) = Sanicula sp. (30%) = jumpseed (30%) > spring avens (10%)
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: SiCL Mineral [X] Organic [ ] Depth of organics: 2 cm Organic Type: F (M) H Depth to bedrock: N/A cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

Shumard oak
↳ ID to be confirmed.

Wildlife Notes:

refer to incidental wildlife observations

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; **f**=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

N/O ; not observed

Features to look for in the field:

- ○ active beaver lodges/dams N/O
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  yes - refer to SwH assessment form
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  refer to incidental wildlife observations
- ○ plant species (wild rice, cranberries)
  N/O
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  refer to ELC map
- ○ human related disturbances (fill, docks, houses, etc)
  N/O
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  yes - hunting (tree stand)
- ○ locations of seeps or springs, lagg
  N/O
- ○ iron precipitates, marl deposits
  N/O
- ○ winter cover for wildlife
  None
- ○ ungulate summer habitat, moose aquatic feeding habitat
  yes None
- ○ suitability for waterfowl breeding, staging, moulting
  None
- ○ surrounding topography (flat, rolling, hilly, steep)
  flat
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; O utility corridor; ☒ dec. forest; O recent cutover or clearcut (<5yr); ☒ conif. forest; O mixed forest; ☒ crops; ☒ row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; ☒ fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; O creek floodplain; O rock outcrop
- ○ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ○ vernal pools
  N/O
- ○ invasive species (plant, aquatic)
  Phragmites

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic Terrestrial and Wetland Biologists

Project Name: Romney WC **Project #:** 17366 **Area and/or Polygon ID:** 331000

Date: 10/05/2016 **Start Time:** 16:10 **End Time:** 17:32 **Observers:** AWD WEP

Weather Conditions: 10°C, wind: 4E, cloud: Partly Sunny

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		X	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		X	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		X	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		X	Presence of fish
Swamp	✓		**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields			**Applicable to All:**
Non-rotational Hay or Weakly Grazed Pasture		X	Height of vegetation; Size of site; Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		X	Evidence of small mammals; Frequency and source of disturbance; Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		X	Location and abundance of raptor perches (scattered trees, snags, fenceposts)
Substrate and Topography			
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:**
Abandoned Mine Shaft		X	Age; Depth into the ground; Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		X	Rock size; Vegetation present; Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		X	Evidence of Use; Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		X	**Abandoned Wells Only:** Presence and type of capping
Old Foundation		X	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Burrows or Dens			**Applicable to Mammal Burrows or Dens:**
Small - Rodent or Snake		X	Diameter of entrance; Soil Type; Availability of aquatic vegetation or fish
Medium		X	Ecosite of location; Proximity to water and type of water; Evidence of use, or tracks or digging marks
Large		X	
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species			
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		✓	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	✓		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: 10/05/2016

Project Name: Romney WC **Project #:** 17360 **Area and/or Polygon ID:** 8310010

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Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
(1)	Swamp	1	N/A - entire feature	1047-1049	- no evidence of Heron resting observed, limited standing water - not suitable for amphib. breeding, no fish habitat or fish observed	N/A
(2)	rare species (non-SAR) (Shumard oak, to confirm ID)	1	N/A - exists throughout southern portion of polygon	None.	- several trees observed close to south boundary of feature, within SWDM3-3 - ID to be confirmed.	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	Blue jay	H	1			wh. tailed deer			
	Northern cardinal	S	1						
	White-throated sparrow								
	Wild geranium								
	Common burdock								
	Spring peeper								
	Dark-eyed junco								
	Chickadee sp.								
	Am. robin								

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)
Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Candidate Bat Maternity Roost Data Form

Use this form in FOD, FOM

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Manager Use Only:
Woodland Number :

Project Name: Runnymede Project #: 1736C

Start Time 16:10 End Time 17 38 Date: 10/05/2016 Observer(s): AWD CEP

Polygon or Area ID (9210010) Weather Conditions: 7°C Wind 4E CC 100% Precip: None

Plot Number	# live or dead cavity trees ≥ 25cm dbh	Plot Center UTM (Zone: 17T)	Comments
Plot 1	0	±6m 0381004 4668976	
Plot 2	0	±6m 0381008 4668935	
Plot 3	0	±6m 0381036 4668908	
Plot 4	0	±5m 0381082 4668881	
Plot 5	0	±6m 0381109 4668869	
Plot 6	0	±6m 0381090 4668908	
Plot 7	0	±5m 0381109 4668949	
Plot 8	0	±6m 0381092 4668972	
Plot 9	0	±6m 0381077 4669007	
Plot 10	0	±6m 0381044 4668970	
Plot 11			
Plot 12			
Plot 13			
Plot 14			
Plot 15			
Plot 16			
Plot 17			
Plot 18			
Plot 19			
Plot 20			
Plot 21			
Plot 22			
Plot 23			
Plot 24			
Plot 25			
Plot 26			
Plot 27			
Plot 28			
Plot 29			
Plot 30			
Plot 31			
Plot 32			
Plot 33			
Plot 34			
Plot 35			

Number of Plots: Sites ≤10ha: 10 plots (minimum); each extra ha: 1 plot (up to max 35 plots) Plots = 0.05ha or 12.6m radius Select plots randomly

Preparation for EOS Bat Monitoring: Identification of High Quality Potential Roost Trees

Identify the best potential roost trees in the applicable woodland/polygon: <10ha in size = up to 10 >10ha in size = 1 additional for each ha up to 30

Tree #	Species	# of Cavities	DBH (cm)	UTM	Photo Number(s)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

This Section Project Manager Use Only **Formula:** Total # Cavity Trees / (# Plots x 0.05ha)

If >10/ha:

Final Woodland Tally = _____ **> or = 10/ha? Yes / No** BMA- _____

Ontario

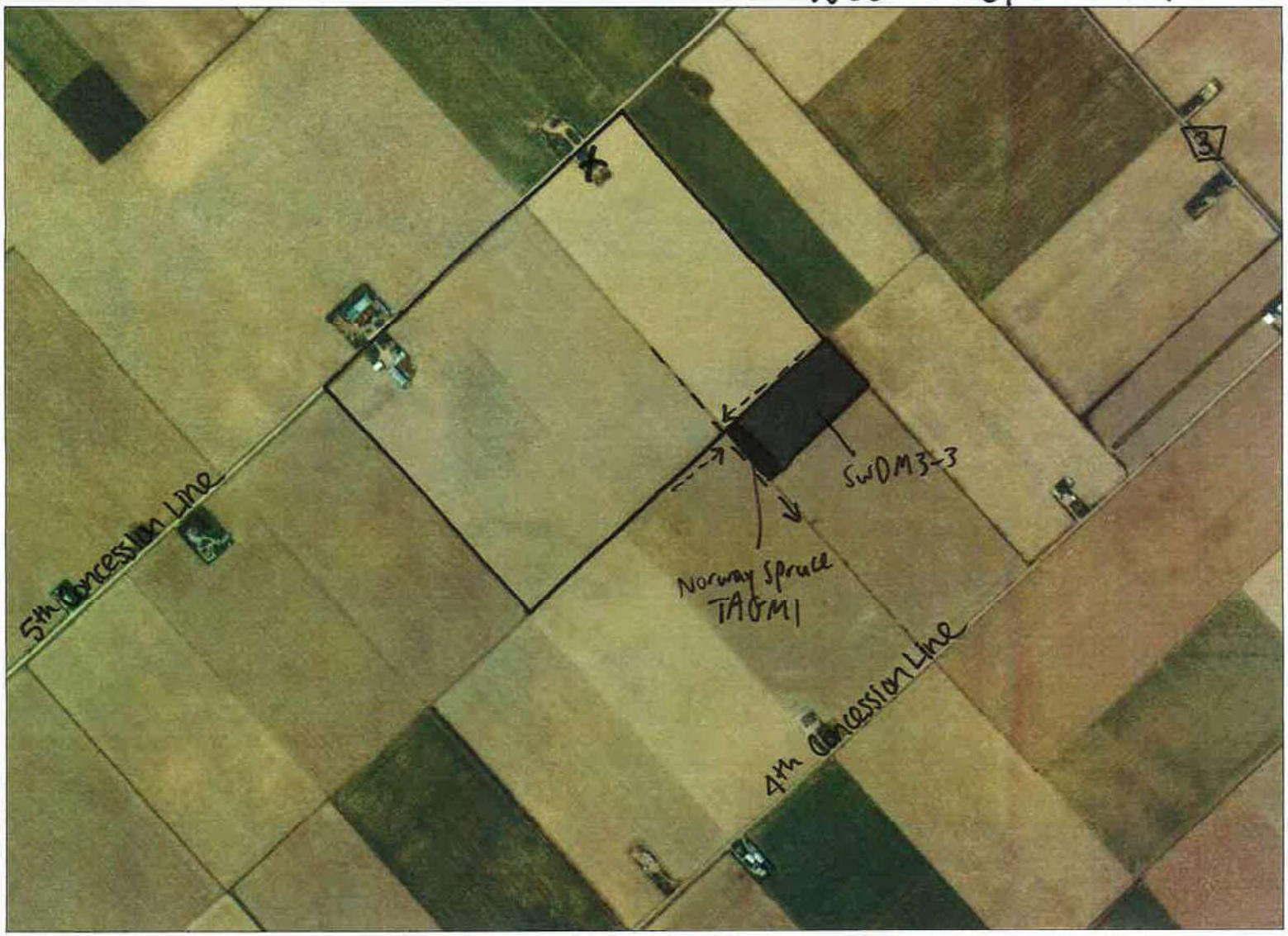
Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Romney WEC

WOD-005/WET-004 Parcel # 008310058

Notes: [redacted]



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.7 km

--> int. flows

→ perm. flows

Projection: Web Mercator

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page __ of __

* assessed from property line *

Site:	Romney WF (#1736C)
Polygon:	PIN 8310058
UTM:	
Date:	May 10/16 — Time: 0815-0845
Surveyor(s):	AMD, CEP
Weather:	9°C, light intermittent rain, wind 4/E, 100% CC.

Community Classification

	Vegetation Type:	Swamp Maple Mineral Deciduous Swamp (SWDM3-3)
X	Inclusion:	Coniferous Plantation (TAGM1)
	Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Mtn	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	2	4	freeman's maple > w. elm > shag. hickory
2	Sub-canopy	3	4	freeman's maple > w. elm > shellbark hickory
3	Understorey	4	4	Choke cherry > Ribes americanum > green ash
4	Groundcover	5-7	4	virg. spring beauty > Virg. waterleaf > starry false sol. seal

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	A	< 10	A	10 - 24	A	25 - 50	R	> 50
Snags	R	< 10	R	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	R	25 - 50	N	> 50

Abundance Codes N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page ___of___

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
basswood	O	O			
- w. elm	A	A	O		
woodbine				O	
- * shellbark hickory	R	O	O		
- freemans maple	A	A	O		
green ash	O	O	O		
hawthorn sp.		O	O		
- poison ivy (ryd)				A	
poison ivy (rad)				O	
choke cherry			A	O	
wh. elm	A	A	O		
- Shag. hickory	O	O	O		
- Ribes americanum			O	A	
bl. raspberry				O	
shumard oak	O				

Species	Layer 1	2	3	4	Sample
tall goldenrod				R	
virg. waterleaf				A	
spring beauty (virg)				A	
wood strawberry				O	
starry false sol. seal				A	
com. blue violet				O	
garlic mustard				O	

Wildlife and Other Notes

- photo 082943
- drainage ditch/swale along North boundary of feature
- possible shumard oak throughout, but unconfirmed

* individual observed on edge, confirmed (several individuals) (north edge)

*assessed from property line *

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-004

S1

Wetland Vegetation Communities

Project Name: Romney WF **Project #:** 17366 **Parcel #:** 8310058

Observer(s): AMD, CEP **ELC Code:** SwD M3-3

Date: May 10/16 **Time (24h):** 815

Wetland #: WET-004 **Weather:** Precipitation: light rain Temp (° C): 9

Veg Community #: S1 Wind Speed & Direction: 4/E Cloud %: 100

Wetland Type: Swamp **Site Type:** P **Dominant Form:** h

Permanent Open Water: None % **Check one:** ○ central area ○ spread out in ponds

Photos: 082943

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 80)	freeman's maple (50%) > white elm (30%) > shagbark hickory (10%) > shellbark hickory (10%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%: 30)	white elm (40%) > shagbark hickory (30%) > green ash (20%) > basswood (10%)
ls (%:)	
gc (%: 50)	Virg. spring beauty (50%) > Virg. waterleaf (30%) > starry false sol. seal (20%)
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: unkn. Mineral ☐ Organic ☐ Depth of organics: cm Organic Type: F M H Depth to bedrock: cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

- Shellbark hickory (confirmed)
- Shumard oak (ID to be confirmed)

Wildlife Notes:

- refer to incidental wildlife observations

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; f=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

N/O: not observed

Features to look for in the field:

- ○ active beaver lodges/dams N/O
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  refer to Swift assessment form
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  refer to incidental wildlife observations
- ○ plant species (wild rice, cranberries)
  N/O
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  refer to ELC map
- ○ human related disturbances (fill, docks, houses, etc)
  None
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  None
- ○ locations of seeps or springs, lagg
  N/O
- ○ iron precipitates, marl deposits
  N/O
- ○ winter cover for wildlife
  yes - limited to TAGMI community
- ○ ungulate summer habitat, moose aquatic feeding habitat
  yes None
- ○ suitability for waterfowl breeding, staging, moulting
  None
- ○ surrounding topography (flat, rolling, hilly, steep)
  flat
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; O utility corridor; Ø dec. forest; O recent cutover or clearcut (<5yr); Ø conif. forest; O mixed forest; Ø crops; Ø row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; Ø fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; O creek floodplain; O rock outcrop
- ○ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ○ vernal pools
  N/O
- ○ invasive species (plant, aquatic)
  garlic mustard

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

assessed from property line

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WF **Project #:** 1736C **Area and/or Polygon ID:** PIN 831058

Date: May 10/16 **Start Time:** 815 **End Time:** 895 **Observers:** AMD, CEP

Weather Conditions: 9°C, light rain, wind N/E, 100% CC

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:** Draw extent of all water if not indicated through ELC. Dimensions (length, width, and depth). Vegetation species, woody debris/basking logs within water. Presence of fish. Longevity of site (if known, or estimate). Sources of disturbance, current use, origin (natural or anthropogenic). Evidence of wildlife use including waterfowl, turtles, amphibians
Spring Flooded Field		X	
Vernal Pool		X	
Pond		X	
Shallow Marsh (MAS) or Open Water		X	
Swamp	✓		**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields			**Applicable to All:** Height of vegetation. Evidence of small mammals. Size of site. Frequency and source of disturbance. Location and abundance of raptor perches (scattered trees, snags, fenceposts). Abundance of nectar-producing plants (e.g. goldenrods and asters). Adjacency to forest and forest size
Non-rotational Hay or Weakly Grazed Pasture		X	
Meadow		X	
Thicket, Woodland, Hydro Corridor		X	
Substrate and Topography			
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:** Age. Rock size. Evidence of Use. Depth into the ground. Vegetation present. Amount of sun exposure (or direction the slope faces). Substrate composition (or bedrock type). Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Mine Shaft		X	
Old Rock or Debris Pile, Old Stone Fence		X	
Abandoned Road or Rail Bed		X	
Abandoned Well		X	**Abandoned Wells Only:** Presence and type of capping
Old Foundation		X	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Burrows or Dens			**Applicable to Mammal Burrows or Dens:** Diameter of entrance. Ecosite of location. Soil Type. Proximity to water and type of water. Availability of aquatic vegetation or fish. Evidence of use, or tracks or digging marks
Small - Rodent or Snake		X	
Medium		X	
Large		X	
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species			
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	✓		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Project Name:	Project #:	Date:	Area and/or Polygon ID:

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
(1)	swamp	1	N/A - entire feature	082943	- no evidence of heron nesting, no standing water observed, no fish or fish habitat observed,	N/A
(2)	rare species (non-SAR) ↳ shellbark hickory - confirmed ↳ shumard oak - ID to be confirmed	2 spp.	N/A - several individuals observed along north edge of feature	None	- SWDM3-3 community	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
B	killdeer								
B	house [redacted]								
B	song sparrow								
B	N. flicker								
M	wh. tailed deer								
B	blue jay								
[redacted]									

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Romney WEC

WOD-006/WET-005

Notes:

[redacted]

Parcel #00830041

Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non-Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.3 km

Projection: Web Mercator

[redacted]

Ontario

Ministry of Natural Resources and Forestry

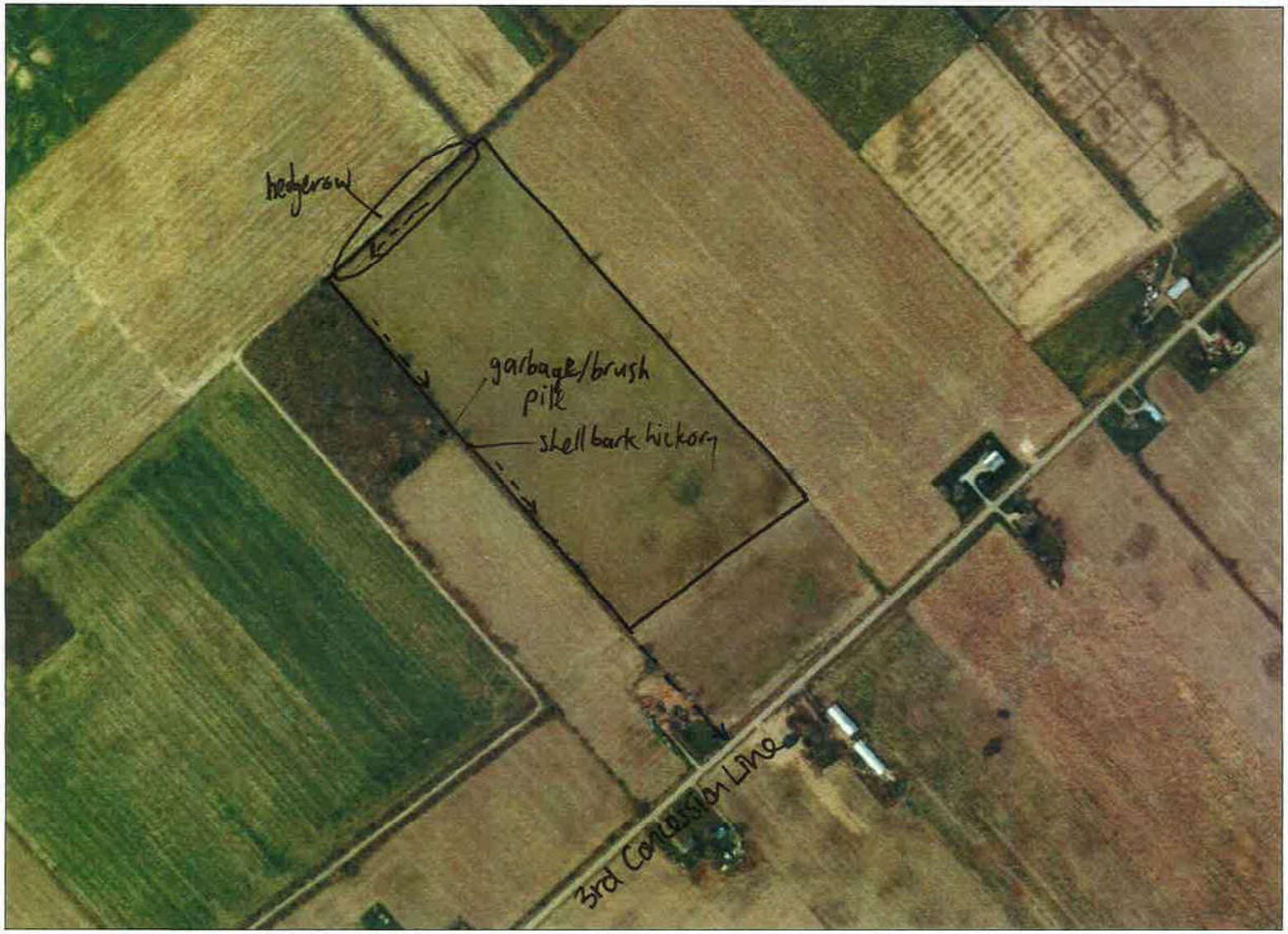
Make-a-Map: Natural Heritage Areas

Romney WEC

Notes:

[redacted]

Parcel #00B33004|



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
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Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.3 km

Projection: Web Mercator

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page __ of __

assessed from property line

Site:	Rumney WF (*1736 C)
Polygon:	PIN 8330041
UTM:	
Date:	May 11/16 — Time: 1000 - 1050
Surveyor(s):	AMD, CEP
Weather:	12°C, wind 3-4/E, 100% CC

Community Classification

Vegetation Type:	Swamp Maple Mineral Deciduous Swamp SWDM3-3
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	2	4	freeman's maple > shagbark hickory > wh. elm
2	Sub-canopy	3	4	bassw. > wh. elm > shagbark hickory
3	Understorey	4-5	3	choke cherry > bl. raspberry > green ash
4	Groundcover	6-7	4	virg. waterleaf > trout lily > spring beauty

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	A	< 10	A	10 - 24	A	25 - 50	O	> 50
Snags	R	< 10	R	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	R	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature	Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page ___of___

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

	Species	Layer 1	2	3	4	Sample
-	bassw.	O	A			
-	wh. elm	O	A			
-	freemans maple	A	D	O		
	choke cherry			A	O	
-	shag. hickory	O	O			
- *	shellbark hickory	R	R	R		
	multiflora rose		O	O		
	bl. raspberry			O	O	
	Am. sycamore	O				
	Am. beech	R				
	wh. pine	R	R			
	E. cottonwood	R	R			
	green ash	O	O	O		

	Species	Layer 1	2	3	4	Sample
	garlic mustard				O	
	Carex radiata				O	x (some) ✓
	Sanicula sp.				O	
	wild strawberry				O	
	downy yel. violet				O	
-	trout lily				A	
-	spring beauty (virg.)				A	
-	virg. waterleaf				A	

Wildlife and Other Notes

- photos 1059 - 1061
- garbage/brush dumping @ SE corner
- *refer to map for locations - observed only in adjoining hedgerows

notes on hedgerow →

hedgerow @ north boundary of parcel

- narrow feature, ≤10m width
- drainage swale in centre
- dominant spp: green ash, shag-bark hickory, white elm, hawthorn, red cedar, bl. raspberry, bur oak, choke cherry
- photos 1055-1058
- shellbark hickory observed: (3)
  - ↳ 17T 0380105 4664282 ±4m, 10 cm dbh.
  - ↳ 17T 0380058 4664236 ±4m, 15-20 cm dbh
  - ↳ 17T 0380015 4664207 ±5m, 15 cm dbh
  - ↳ shellbark hickory throughout hedgerow
- surveyed trees for cavities (bats), looking @ trees from south side
  - ↳ no suitable cavity trees observed

assessed from property line

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-005

S1

Wetland Vegetation Communities

Project Name: Romney WF	**Project #:** 1736 C	**Parcel #:** 8330041
Observer(s): AMD, CEP		**ELC Code:** SWDM3-3
Date: May 11/16	**Time (24h):** 1000-1050	
Wetland #: WET-005	**Weather:** Precipitation: None	Temp (° C): 12
Veg Community #: S1	Wind Speed & Direction: 3-4/E	Cloud %: 100
Wetland Type: Swamp	**Site Type:** P	**Dominant Form:** h
Permanent Open Water: None %	**Check one:** ○ central area ○ spread out in ponds	
Photos: 1059-1061		

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 75)	freeman's maple (35%) > shag hickory (30%) > wl elm (20%) > basswood (15%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%: 30)	wh elm (35%) > basswood (30%) > choke cherry (20%) > green ash (15%)
ls (%:)	
gc (%: 40)	virg waterleaf (40%) > fruit lily (30%) > virg. spring beauty (30%)
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: Sic Mineral [X] Organic [ ] Depth of organics: N/A cm Organic Type: F M H N/A Depth to bedrock: N/A cm

Soil type: **C**-clay, **L**-loam, **S**-sand, **SI**-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

- shellbark hickory
  - refer to map for locations - adjoining hedgerows only, did not observe in swamp feature.

Wildlife Notes:

- refer to incidental wildlife observations

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; **f**=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

Features to look for in the field:

- ○ active beaver lodges/dams None
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  refer to field map
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  refer to incidental wildlife observations
- ○ plant species (wild rice, cranberries)
  None
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  refer to field map
- ○ human related disturbances (fill, docks, houses, etc)
  garbage dumping
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  None observed
- ○ locations of seeps or springs, lagg
  None
- ○ iron precipitates, marl deposits
  None
- ○ winter cover for wildlife
  None
- ○ ungulate summer habitat, moose aquatic feeding habitat
  yes no
- ○ suitability for waterfowl breeding, staging, moulting
  limited - no permanent water
- ○ surrounding topography (flat, rolling, hilly, steep)
  flat
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); ☒ abandoned ag. field; O utility corridor; ☒ dec. forest; O recent cutover or clearcut (<5yr); ☒ conif. forest; ☒ mixed forest; ☒ crops; ☒ row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; ☒ fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; O creek floodplain; O rock outcrop
- ○ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ○ vernal pools
  None
- ○ invasive species (plant, aquatic)
  None

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WC **Project #:** 1736C **Area and/or Polygon ID:** 8330041

Date: 11/05/2016 **Start Time:** 10:05 **End Time:** 10:51 **Observers:** AW DUFP

Weather Conditions: T: 12C Wind: 4E CC: 100% Precip: None

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		X	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		X	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		X	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		X	Presence of fish
Swamp	✓		**All Swamps**: Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields	**Yes**	**No**	**Applicable to All:**
Non-rotational Hay or Weakly Grazed Pasture		X	Height of vegetation; Size of site; Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		X	Evidence of small mammals; Frequency and source of disturbance; Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		X	Location and abundance of raptor perches (scattered trees, snags, fenceposts)
Substrate and Topography	**Yes**	**No**	
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features	**Yes**	**No**	**Applicable to All:**
Abandoned Mine Shaft		X	Age; Depth into the ground; Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence	✓		Rock size; Vegetation present; Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		X	Evidence of Use; Proximity to water and estimated subterranean influence or potential for winter water fluctuation
Abandoned Well		X	**Abandoned Wells Only:** Presence and type of capping
Old Foundation		X	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Burrows or Dens	**Yes**	**No**	**Applicable to Mammal Burrows or Dens:**
Small - Rodent or Snake		X	Diameter of entrance; Soil Type; Availability of aquatic vegetation or fish
Medium		X	Ecosite of location; Proximity to water and type of water; Evidence of use, or tracks or digging marks
Large		X	
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence	**Yes**	**No**	
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees	**Yes**	**No**	
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species	**Yes**	**No**	
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	✓		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: 11/05/2016

Project Name: Romney **Project #:** 1736C **Area and/or Polygon ID:** 8330041

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
1	swamp	1	N/A, entire feature	1059-1061	- no evidence of heron nesting - some human disturbance - garbage dumping - no open water, - no fish observed.	refer to incidental wildlife list
2	debris pile	1	refer to map	1061	- age unknown, appears not very old. - some vegetation present - doesn't extend into ground, - partial/full canopy coverage - silt/clay soils - close to water table	N/A
3	rare sp. (non-SAR)	1	refer to map	None	- shellbark hickory observed along hedgerows extending from feature - hedgerows to NE and SE of feature. - 1 individual observed along SE hedgerow, several young individuals observed along NE hedgerow	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	raccoon	TK		Spring beauty					
	tree swallow			[illegible]					
	killdeer			Am beech					
	white-tailed deer	TK		Fr maple					
	[illegible]			coyote TK					
	shagbark hickory			wild turkey, TK					
	shellbark hickory								
	garlic mustard								
	common crackle								

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)
Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

(refer to attached zoomed in maps for ELC)

Ontario

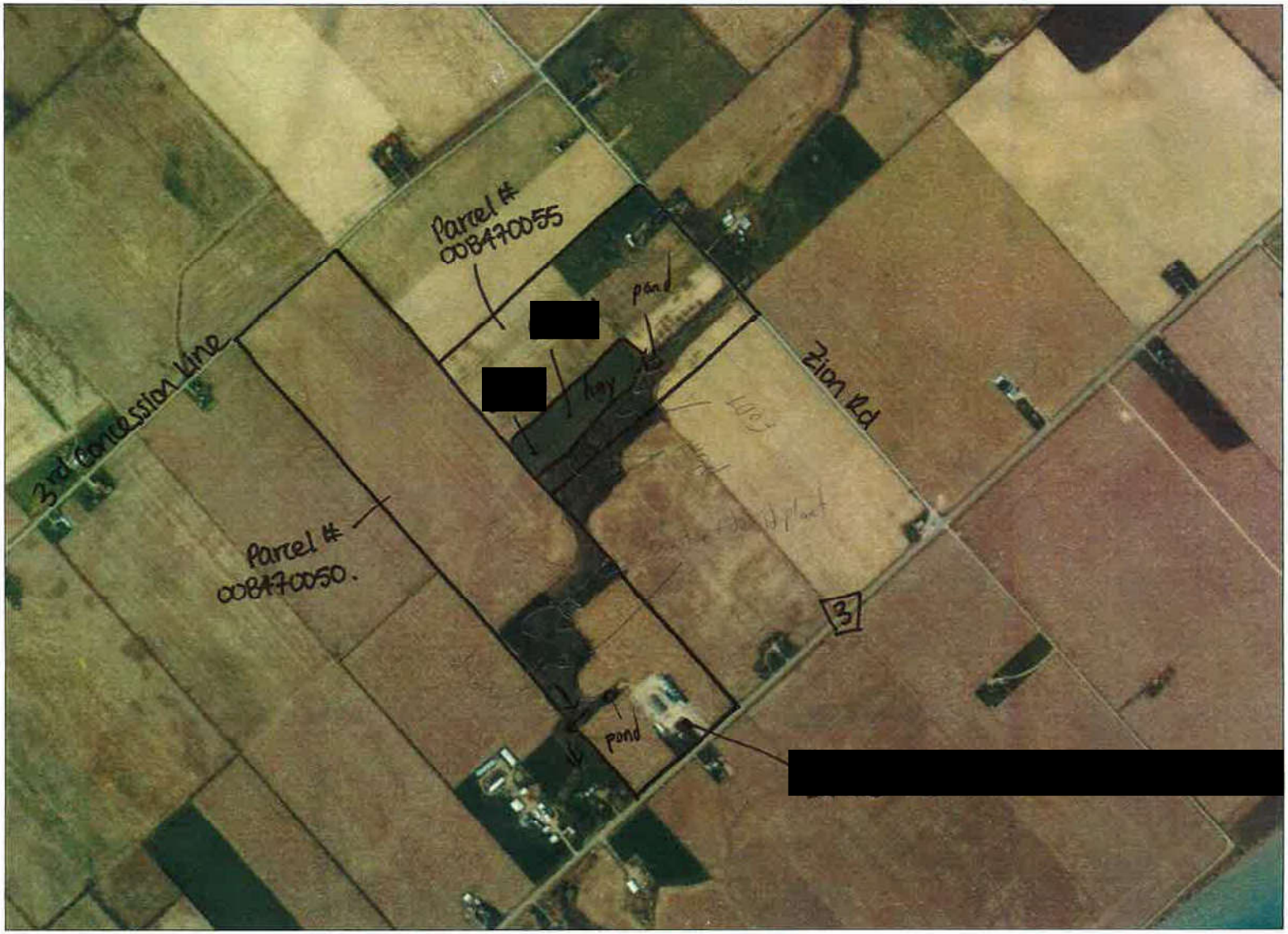
Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Romney WEC

WOD-007

Notes: [redacted] Parcel # [redacted] 008470050, 008470055.



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.7 km

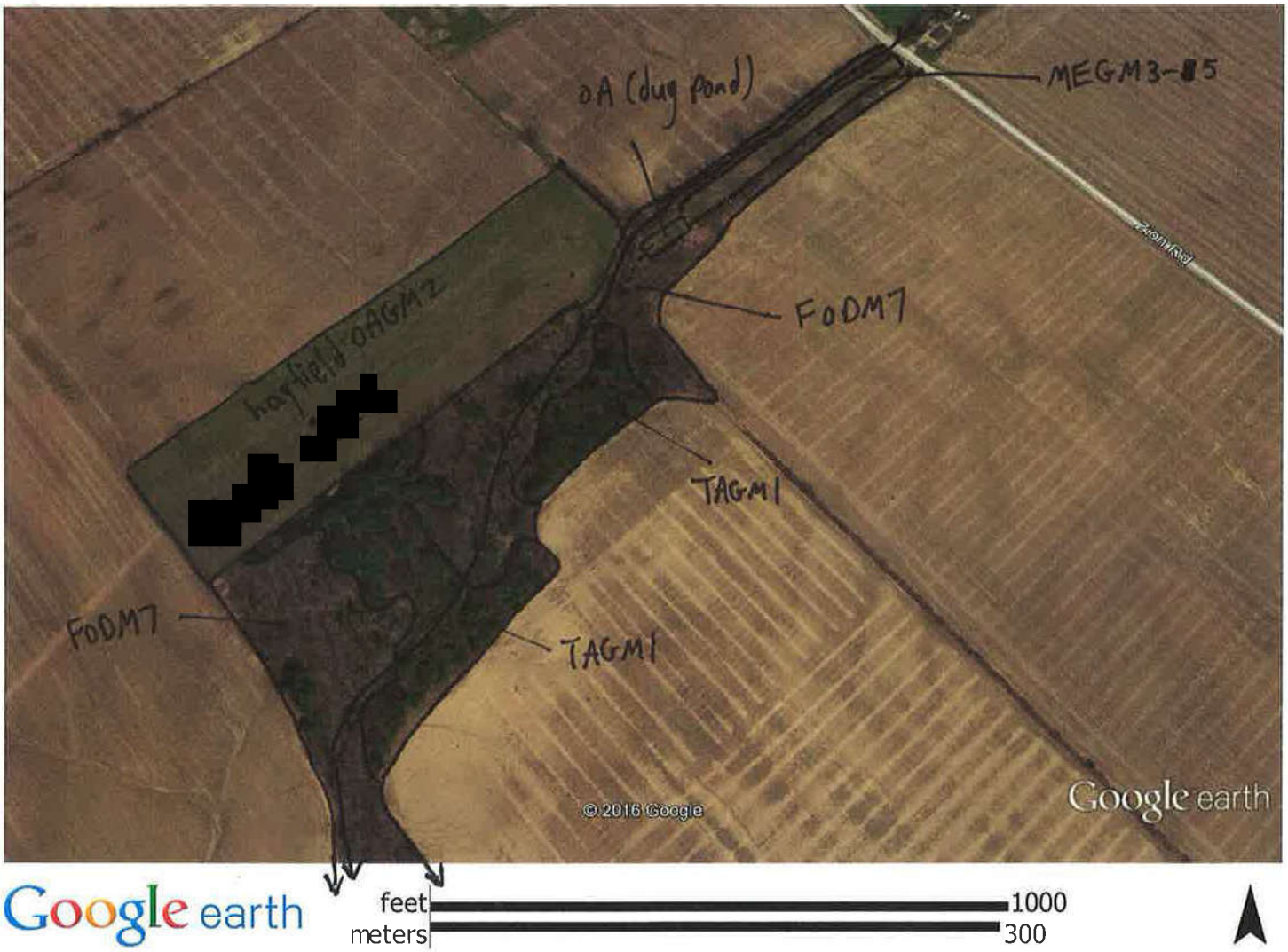
Projection: Web Mercator

Google earth

feet 1000
meters 300

→ perm. flows

- - -→ int. flows



→ perm. flows

- - - → int. flows

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page 1 of 1

Site:	Romney WF (#1736C)
Polygon:	PIN 84700050, 84700055 WOD-007
UTM:	
Date:	May 11/16 Time: 1315-1400
Surveyor(s):	AMD, CEP
Weather:	12°C wind 3 E, 100% CC

Community Classification

Vegetation Type:	Swamp Maple Mineral Deciduous Swamp SWDM3-3
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	X Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	X Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	1-2	4	freeman's maple > bl. walnut > wh. elm
2	Sub-canopy	3	4	freeman's maple > wh. elm > bl. walnut
3	Understorey	4	3	gray dogwood > Ribes americanum > multiflora rose
4	Groundcover	5-7	4	Spring avens > dame's rocket > Canada wild onion

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0: none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O	< 10	A	10 - 24	A	25 - 50	R	> 50
Snags	N	< 10	R	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	R	25 - 50	R	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page 1 of 1

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
freemans maple	A	A			
bl. walnut	A	A			
wh pine	R	R			
bl. raspberry			O	O	
multiflora rose			O	O	
poison ivy (rad)				O	
hawthorn sp.		O	O		
wh. elm	A	A			
basswood	O	O	O		
prickly ash			O	O	
rough leaf dogwood			O	O	
gray dogwood			A	O	
Ribes americanum			O	O	

Species	Layer 1	2	3	4	Sample
Sanicula sp.				A	
garlic mustard				A	
giant ragweed				O	
Allium canadense				A	
dandelion				O	
sp. goldenrod				A	
Cow parsnip				R	
dame's rocket				A	
downy yel violet				R	
Com. blue violet				O	
Carex granularis				O	
Spring avens				A	locally Rare
false sol'seal				R	
Carex radiata				O	X ✓
Swamp agrimony				R	
Lamium purpureum				R	check ✓
Virginia stickseed				R	
Mayapple				R	
Glyceria striata				O	
fringed loosestrife				O	
Carex blanda				R	

Wildlife and Other Notes

- photos 1085-87
- feature used for hunting
- small areas of bl. walnut plantation = in feature and naturalizing along watercourse - bl. walnut throughout floodplain, mixed = freeman's maple
- staghorn throughout

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	Romney WF (#1736)
Polygon:	PIN 8470050, 8470055 WOD-007
UTM:	
Date:	May 11/16 Time: 1245-1315
Surveyor(s):	AMD CEP
Weather:	12°C, wind 3-4/E, 100% CC

Community Classification

Vegetation Type:		Coniferous Plantation TAGM1
X	Inclusion: (1)	Open Water (OA)
X	~~Complex:~~ (2)	Deciduous Plantation TAGM3

incl.

Polygon Description

System		Substrate		Topo Feature		Community			
X	Terrestrial		Organic		Lacustrine		Talus		Lake		Barren
	Wetland	X	Mineral Soil		Riverine		Crevice/Cave		Pond		Meadow
	Aquatic		Parent Min.		Bottomland		Alvar		River		Prairie
History			Acidic Bedrock		Terrace		Rockland		Stream		Thicket
	Natural		Basic Bedrock	X	Valley Slope		Beach/Bar		Marsh		Savannah
X	Cultural		Carb. Bedrock	X	Tableland		Sand Dune		Swamp		Woodland
		Site			Roll. Upland		Bluff		Fen		Forest
					Cliff				Bog	X	Plantation

Cover			Plant Form				
	Open		Open Water		Plankton		Forb	X	Coniferous
	Shrub	X	Shallow Water		Submerged		Lichen		Mixed
X	Treed		Surficial Dep.		Floating-Lvd.		Bryophyte		
			Bedrock		Graminoid		Deciduous		

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	2	4	wh. pine > Norway spruce
2	Sub-canopy	3	4	wh. pine > Norway spruce > common apple
3	Understorey	4	3	bl. raspberry > choke cherry > multiflora rose
4	Groundcover	5-7	3	Orchard grass > wild strawberry > spring avens

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	R	< 10	A	10 - 24	R	25 - 50	N	> 50
Snags	N	< 10	O	10 - 24	N	25 - 50	N	> 50
Deadfall/Logs	R	< 10	O	10 - 24	N	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
wh. pine	A	A			
gray dogwood			D	O	
choke cherry			A	O	
freemans maple	R	R			
bl. raspberry			O	A	
Norway spruce	A	O			
bl. raspberry			O	A	
bl. cherry	R	O	O		
wh. ash	R	O	O		
bl. locust	R	R			
Com. apple		O	R		
bl. walnut	R	R	R		
multiflora rose			A	O	
gray dogwood			O	O	
wh. elm	R	R	R		
hawthorn sp.		R	R		

Species	Layer 1	2	3	4	Sample
garlic mustard				O	
dandelion				O	
orchard grass				A	
spring avens				A	
wild strawberry				A	
dandelion				O	
reed canary				R	
sp. jewelweed				R	
curly dock				O	
yellow rocket				O	
timothy				R	
annual fleabane				O	
cleavers				O	
wood agrimony				R	
trout lily				O	

Wildlife and Other Notes

- photos 1084-1097
- tile draining into feature @ multiple locations
- naturalizing w adjacent natural communities

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page 1 of 1

Site:	Romney WF (#1736C)
Polygon:	PIN 8470050 & 8470055 WOD-007
UTM:	
Date:	May 11/16 Time: 1400-1520
Surveyor(s):	AMD, CEP
Weather:	14°C, wind 3/E, 60% CC

Community Classification

Vegetation Type:		Fresh-Moist Lowland Deciduous Forest
	Inclusion:	Open water (OA)
	Complex:	

FODM7

Polygon Description

System	Substrate	Topo Feature		Community	
X Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	X Mineral Soil	X Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	X Forest
	Site	Cliff		Bog	Plantation

Cover		Site	Plant Form		
Open	Open Water	Shallow Water	Plankton	Forb	Coniferous
Shrub	X Surficial Dep.	Submerged	Lichen	Mixed	
X Treed	Bedrock	Floating-Lvd.	Bryophyte		
		Graminoid	X Deciduous		

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	1-2	4	wh. elm > bl. walnut > green ash > E. cottonwood
2	Sub-canopy	3	4	bl. walnut > wh. elm > basswood = green ash
3	Understorey	4	4	gray dogwood > Choke cherry > multiflora rose
4	Groundcover	5-7	4	Sanicula sp. > spring avens > garlic mustard

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O	< 10	A	10 - 24	A	25 - 50	R	> 50
Snags	O	< 10	O	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	R	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	Young	X Mid-age	Mature	Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page 1 of 1

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
bl. walnut	O	A			
whelm	A	A			
gray dogwood			A	O	
multiflora rose			A	O	
Shag bickory	O	O			
bitter hickory	R	O			
green ash	O	O	O		
poison ivy (ryd)				O	
choke cherry			A	O	
basswood	R	O	O		
Am. Sycamore	R	R			
ironwood		R	R		
Stag. Sumac		O	O		
round leaf dogwood		R	R		
Manitoba maple	R	O	O		
E. cottonwood	R				
bur oak	R	R			

Species	Layer 1	2	3	4	Sample
downy yel. violet				R	
garlic mustard				A	
giant ragweed				A	
Allium cornutense				O	
cow parsnip				O	
Sp. jewelweed				O	
Sanicula sp.				A	
enchant. nightshade				O	
Spring avens				A	
dames rocket				O	
reed canary				O	
wild garlic				O	
mayapple				R	
toad flax				O	
Spiraea beauty (via)				O	
Carex granularis				O	
rugel's plantain				R	
running strawberry				R	

- not in fruit, sp. unknown

Wildlife and Other Notes

- photos 1089, 1090
- bl. walnut plantations nearby - naturalizing in floodplain - not rare veg. community type
- tile drains directed into feature
- Some swampy depressional areas in feature, but all very small, too small to map

NATURAL RESOURCE SOLUTIONS INC
Modified ELC Community Description

Site:	Romney WF (#1736 C)
Polygon:	PIN 8470050, 8470055 WOD 007
UTM:	
Date:	May 11/16
Time:	1520 - 1540
Surveyor(s):	AMD, CEP
Weather:	15°C, wind 3/E, 40% CC

Community Classification

Vegetation Type:	Smooth Brome Graminoid Meadow
Inclusion:	
Complex:	

MEGM3-5

Polygon Description

System	Substrate	Topo Feature		Community	
[X] Terrestrial	[ ] Organic	[ ] Lacustrine	[ ] Talus	[ ] Lake	[ ] Barren
[ ] Wetland	[X] Mineral Soil	[ ] Riverine	[ ] Crevice/Cave	[ ] Pond	[X] Meadow
[ ] Aquatic	[ ] Parent Min	[X] Bottomland	[ ] Alvar	[ ] River	[ ] Prairie
	[ ] Acidic Bedrock	[ ] Terrace	[ ] Rockland	[ ] Stream	[ ] Thicket
History	[ ] Basic Bedrock	[ ] Valley Slope	[ ] Beach/Bar	[ ] Marsh	[ ] Savannah
[ ] Natural	[ ] Carb. Bedrock	[ ] Tableland	[ ] Sand Dune	[ ] Swamp	[ ] Woodland
[X] Cultural		[ ] Roll. Upland	[ ] Bluff	[ ] Fen	[ ] Forest
	Site	[ ] Cliff		[ ] Bog	[ ] Plantation

Cover	Site	Plant Form		
	[ ] Open Water			
[X] Open	[ ] Shallow Water	[ ] Plankton	[ ] Forb	[ ] Coniferous
[ ] Shrub	[X] Surficial Dep.	[ ] Submerged	[ ] Lichen	[ ] Mixed
[ ] Treed	[ ] Bedrock	[ ] Floating-Lvd.	[ ] Bryophyte	
		[X] Graminoid	[ ] Deciduous	

Stand Description

	Layer	HT	Cover	Species
•	~~Super-canopy~~	–		
1	~~Canopy~~			
2	~~Sub-canopy~~			
3	~~Understorey~~			
4	Groundcover	6-7	4	Smooth brome > wild strawberry > tall goldenrod

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	R	< 10	N	10 - 24	N	25 - 50	N	> 50
Snags	N	< 10	N	10 - 24	N	25 - 50	N	> 50
Deadfall/Logs	N	< 10	N	10 - 24	N	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age	[ ] Pioneer	[X] Young	[ ] Mid-age	[ ] Mature	[ ] Old Growth

NATURAL RESOURCE SOLUTIONS INC
Modified ELC Community Description

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	
Time:	
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	Layer 2	Layer 3	Layer 4	Sample
autumn olive				R	
Carex granularis				O	
dandelion				O	
sulphur cinquefoil				R	
reed canary grass				R	
wild strawberry				A	
annual fleabane				R	
calico aster				R	
smooth brome				A	
wild carrot				O	
sowthistle				O	
timothy				O	
tall goldenrod				O	
Can. thistle				O	
garlic mustard				R	

Wildlife and Other Notes

- photos 1097
- no woody species - wh. elm lowland forest on edges (more of a hedgerow)
- not a wetland, despite soils (i.e. MR=6)

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	WOD-007
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Mtn	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
Treed	Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			
2	Sub-canopy			
3	Understorey			
4	Groundcover			

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	< 10	10 - 24	25 - 50	> 50
Snags	< 10	10 - 24	25 - 50	> 50
Deadfall/Logs	< 10	10 - 24	25 - 50	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	Young	Mid-age	Mature	Old Growth

Modified ELC Community Description

Soils

	1	2	3
Position:	4	6	4
Aspect:	315	85	320
%	2	1	2
Type:	S	S	S
Class:	B	B	B

		1	2	3
	Strata: Texture	SL	CL	SiCL
	Depth	0-15	0-14	0-36
	Strata: Texture	SiL	SCL	SiC
	Depth	15-45	15-37	37-51
	Strata: Texture			
	Depth			
	Strata: Texture			
	Depth			
	Effective Texture	SiCL	SiCL	SiC
	Surface Stoniness			
	Surface Rockiness			
	Depth to:			
	Mottles	28	15	37
	Gley	/	/	-
	Bedrock	/	/	-
	Water table	/	/	-
	Carbonates	/	/	-
	Depth of Organics	/	/	-
	Pore Size Disc #1			
	Pore Size Disc #2			
	Pore Size Disc #3			
	Moisture Regime	6	6	5

Polygon: PIN 8470050, 8470055

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

NOTES:

- Soil sample 1 taken in conifer plantation
  - ↳ feature 5 not structural hospic soils
- Soil sample 2 taken in mixed swamp
- Soil sample 3 taken in lowland forest
- Soil sample 4 taken in Smooth brome meadow
  - ↳ feature 5 not wetland despite soils

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-006

Wetland Vegetation Communities

Project Name: Romney WF	**Project #:** 1736 C	**Parcel #:** 8470090
Observer(s): AMD, CEP		**ELC Code:** SwDM3-3
Date: May 11/16	**Time (24h):** 1315	
Wetland #: WET-006	**Weather:** Precipitation: None	Temp (° C): 12
Veg Community #:	Wind Speed & Direction: 3/E	Cloud %: 100
Wetland Type: Swamp	**Site Type:** R	**Dominant Form:** h
Permanent Open Water: ≤5 %	**Check one:** ⊗ central area ○ spread out in ponds	associated w watercourse
Photos: 1085 - 1087		

Forms (>25% absolute cover)	**Dominant Species (give % relative cover)**
h (%: 70)	freeman's maple (50%) > black walnut (30%) > white elm (20%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%: 30)	white elm (40%) > black walnut (40%) > basswood (20%)
ls (%:)	
gc (%: 60)	spring avens (40%) > dame's rocket (30%) > Canada wild onion (20%) > sp. jewelweed (10%)
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: SiCL Mineral [X] Organic [ ] Depth of organics: N/A cm Organic Type: F M H N/A Depth to bedrock: N/A cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

locally rare:
Geum vernum (125)
Oldham 1993.

Wildlife Notes:

refer to incidental observations list

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; **f**=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

N/O : none observed

Features to look for in the field:

- ○ active beaver lodges/dams N/O
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  N/O
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  rfer to incidental obs. list
- ○ plant species (wild rice, cranberries)
  N/O
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  rfer to ELC map
- ○ human related disturbances (fill, docks, houses, etc)
  N/O
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  yes - hunting
- ○ locations of seeps or springs, lagg
  N/O
- ○ iron precipitates, marl deposits
  N/O
- ○ winter cover for wildlife
  yes - deer, turkeys
- ○ ungulate summer habitat, moose aquatic feeding habitat
  yes NONE
- ○ suitability for waterfowl breeding, staging, moulting
  None
- ○ surrounding topography (flat, rolling, hilly, steep)
  flat
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); ☒ abandoned ag. field; O utility corridor; ☒ dec. forest; O recent cutover or clearcut (<5yr); ☒ conif. forest; O mixed forest; ☒ crops; ☒ row crop; O abandoned pit/quarry; O pasture; ☒ ravine; O terrain appreciatbly undulating, hilly or with ravines; O fence rows; O fence row with deep cover or shelterbelt; ☒ open lake or deep river; ☒ creek floodplain; O rock outcrop
- ○ fish habitat present: (Yes) No (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
  seasonal swamp - watercourse may flood in spring, little (if any) suitable fish habitat in swamp, restricted to watercourse only, no fish observed
- ○ vernal pools
  N/O
- ○ invasive species (plant, aquatic)
  multiflora rose, garlic mustard, dame's rocket.

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WC	**Project #:** 17360	**Area and/or Polygon ID:** 84T0050/84T0055	
Date: 11/05/16	**Start Time:** 12:44	**End Time:** 15:40	**Observers:** AWD LEP
Weather Conditions: T: 11°C Wind: 4E CC: 100%			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		X	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		X	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond	✓		Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water	✓		Presence of fish
Swamp	✓		**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.

Fields	Yes	No	Applicable to All:		
Non-rotational Hay or Weakly Grazed Pasture	X		Height of vegetation	Size of site	Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow	X		Evidence of small mammals	Frequency and source of disturbance	Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		X		Location and abundance of raptor perches (scattered trees, snags, fenceposts)	

Substrate and Topography	Yes	No	
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.

Anthropogenic Features	Yes	No	Applicable to All:		
Abandoned Mine Shaft		X	Age	Depth into the ground	Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		X	Rock size	Vegetation present	Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		X	Evidence of Use		Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		X	**Abandoned Wells Only:** Presence and type of capping		
Old Foundation		X	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.		

Burrows or Dens	Yes	No	Applicable to Mammal Burrows or Dens:		
Small - Rodent or Snake		X	Diameter of entrance	Soil Type	Availability of aquatic vegetation or fish
Medium		X	Ecosite of location	Proximity to water and type of water	Evidence of use, or tracks or digging marks
Large		X			
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).		
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).		

Evidence	Yes	No	
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.

Outstanding Trees	Yes	No	
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.

Rare Communities or Species	Yes	No	
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)		X	Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: 11/05/16

Project Name: Kennaylee **Project #:** 1736C **Area and/or Polygon ID:** 847 WSG 847005 55

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
(1)	pond	1	N/A TAGM1 community - OA inclusion	1084	depth unknown, water too turbid, anth. feature (dug-out pond), no veg, no fish or basking features, rubble dump E of feature, suitable amphib. breeding	Am toad, appears to be suitable for amphibians, 2 ducks flushed (not mallards)
(1)	pond	1	N/A FODM7 community - OA inclusion	1096	depth unknown, water too turbid, no veg, no fish or basking features, anth. feature (dug-out pond), suitable amphibian breeding	small fish, tadpoles
(2)	open water	1	N/A watercourse flowing throughout	1087	-depth <1m, width ~2-3m, limited woody debris and vegetation within, fish habitat present, no fish observed,	N/A
(3)	swamp	1	N/A SWDM3-3 community	1085-87	-no evidence of heron nesting, no fish habitat, no fish observed, used for hunting	N/A
(4)	non-rotational hay	1	N/A OAGM2 community	1093	-vegetation <30 cm height, no evidence of small mammals, no raptor perches but woods adjacent to south side, clover, dandelion, alfalfa for nectaring, adjacent to forest	[redacted]
(5)	meadow	1	N/A MEGM3-5 community	1097	-vegetation ≤30 cm height, no evidence of small mammals, raptor perches in adjacent treed areas, may be occasionally mown by landowner, adjacent to forest, limited nectar producing plants	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	Song Sparrow					white-tailed deer	TK		
	cabbage white					baltimore oriole			
	Am toad	OB				raccoon	TK		
	Mourning dove	S				Am. robin			
	tree swallow					wild turkey	TK		
	red-winged blackbird	S				gray squirrel	OB		
	Am goldfinch					[redacted]			
	N cardinal	S							
	killdeer	S				blue jay			
						BCCH			
						gray catbird			

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Candidate Bat Maternity Roost Data Form

Use this form in FOD, FOM

Project Name: Romney WC Project #: 17366

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Manager Use Only:
Woodland Number :

Start Time 12:44 End Time 15:40 Date: 11/05/16 Observer(s): AWD, EP

Polygon or Area ID (0084700SO / 0084700SS Weather Conditions: T: 11 °C Wind: 4E CC: 100%

Plot Number	# live or dead cavity trees ≥ 25cm dbh	Plot Center UTM (Zone: 17T)	Comments
Plot 1	0	±5m 0382052 4663590	few trees >25cm DBH
Plot 2 *	0	±5m 0382052 4663784	
Plot 3	1	±5m 0382113 4663915	Steep upwards, difficult to see inside
Plot 4	0	±7m 0382063 4664107	
Plot 5	0	±7m 0382107 4664119	
Plot 6	0	±5m 0382164 4664085	
Plot 7	0	±7m 0382251 4664202	
Plot 8			
Plot 9			
Plot 10			
Plot 11			
Plot 12			
Plot 13			
Plot 14			
Plot 15			
Plot 16			
Plot 17			
Plot 18			
Plot 19			
Plot 20			
Plot 21			
Plot 22			
Plot 23			
Plot 24			
Plot 25			
Plot 26			
Plot 27			
Plot 28			
Plot 29			
Plot 30			
Plot 31			
Plot 32			
Plot 33			
Plot 34			
Plot 35			

Number of Plots: Sites ≤10ha: 10 plots (minimum); each extra ha: 1 plot (up to max 35 plots) Plots = 0.05ha or 12.6m radius Select plots randomly

Preparation for EOS Bat Monitoring: Identification of High Quality Potential Roost Trees

Identify the best potential roost trees in the applicable woodland/polygon: <10ha in size = up to 10 >10ha in size = 1 additional for each ha up to 30

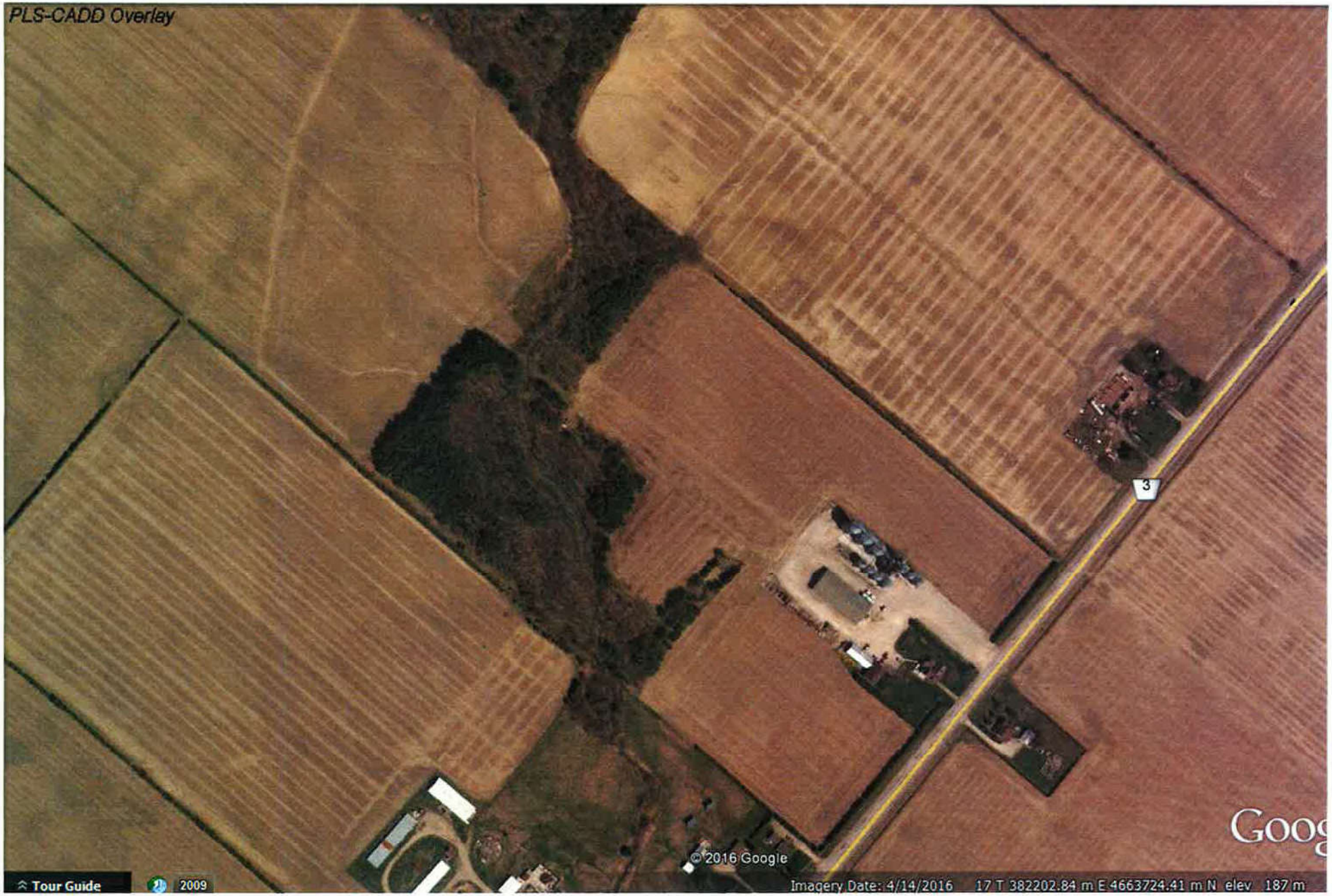
Tree #	Species	# of Cavities	DBH (cm)	UTM	Photo Number(s)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

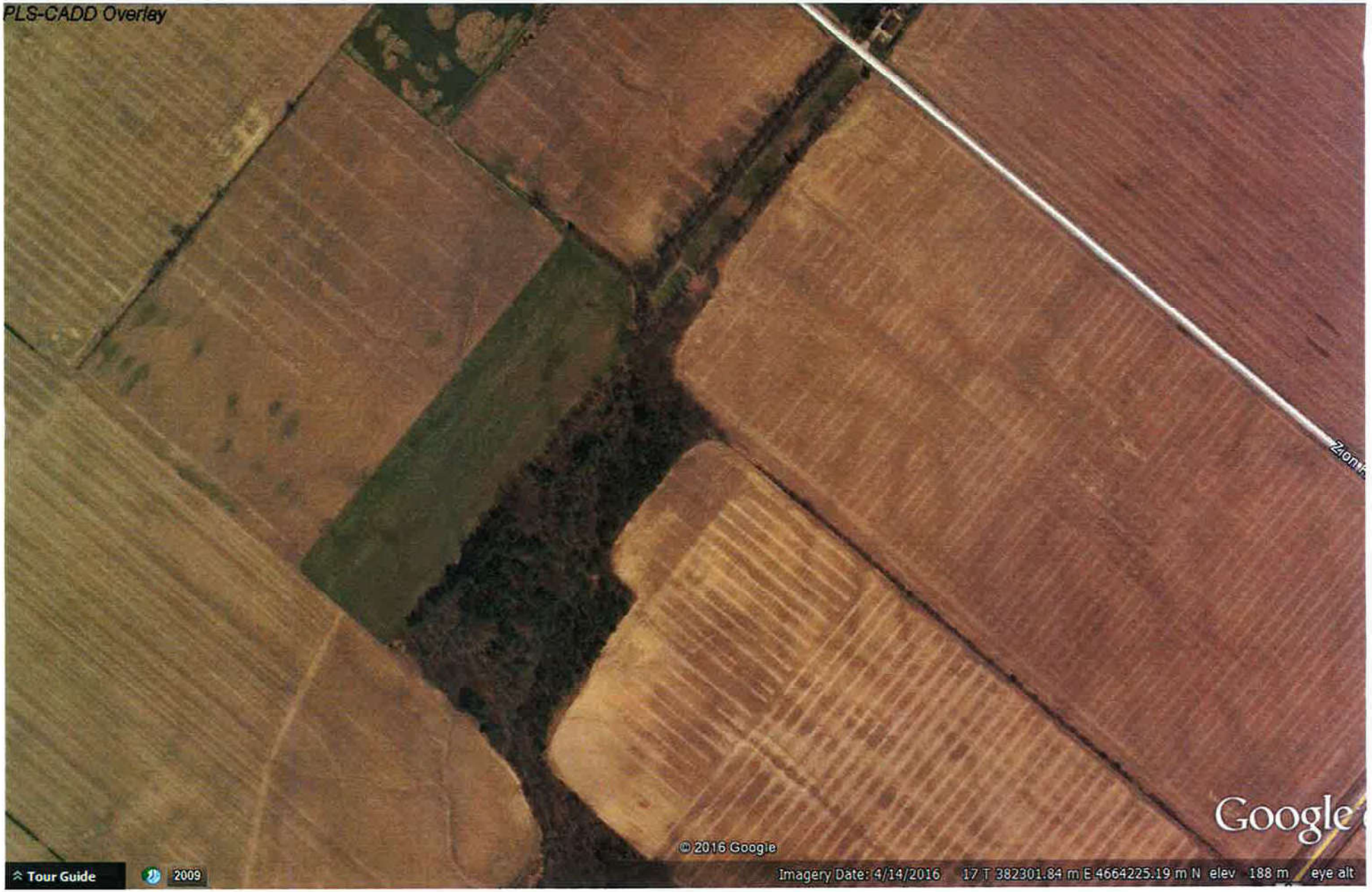
This Section Project Manager Use Only

Formula: Total # Cavity Trees / (# Plots x 0.05ha)

Final Woodland Tally = _____ **> or = 10/ha? Yes / No**

If >10/ha: BMA-_____


PLS-CADD Overlay
3
©2016 Google
Tour Guide
2009
Imagery Date: 4/14/2016 17 T 382202.84 m E 4663724.41 m N elev 187 m


PLS-CADD Overlay
© 2016 Google
Google
Tour Guide
2009
Imagery Date: 4/14/2016 17 T 382301.84 m E 4664225.19 m N elev 188 m eye alt

WOD-004

Google earth

feet 700
meters 200

(see map for PINs 8340028, 8340034, 8340062)

Google earth

feet 700
meters 200

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WF (#1736C)
Polygon:	PIN 834028 WOD-009
UTM:	
Date:	May 10/16
Time:	1430-1530
Surveyor(s):	AMD CEP
Weather:	10°C, wind 4/E, 100% CC, rain

Community Classification

Vegetation Type:	Wh. Elm Lowland Deciduous Forest (FODM7-1)
Inclusion:	Deciduous Plantation (TAGM3)
Complex:	Coniferous Plantation (TAGM1)

Polygon Description

System	Substrate	Topo Feature		Community	
X Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	X Forest
	Site	Cliff		Bog	Plantation

Cover	Site	Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	2	4	wh. elm > green ash > basswood
2	Sub-canopy	3	4	green ash > wh. elm > hawthorn sp.
3	Understorey	4	4	gray dogwood > bl. raspberry > multiflora rose
4	Groundcover	5-7	4	Sanicula sp. > garlic mustard > Cow parsnip

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	A	< 10	A	10 - 24	O	25 - 50	N	> 50
Snags	O	< 10	R	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	R	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer	X	Young	X	Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page ___of___

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
wh. elm	A	A	O		
green ash	A	A	O		
multiflora rose			A	O	
Chokecherry			A	O	
fall honeysuckle		O	O		
basswood	O	O			
bl. raspberry			A	O	
nannyberry		R	R		
red oak		O	R		
poison ivy (vvd)				A	
poison ivy (rad)				O	
gray dogwood		R	A	O	
freemans maple	R	R			
cherry sweet		R	R		
wh. mulberry		O	R		
tamarack		R			
autumn olive			R		
red cedar		R			
silver maple	R	O			
hawthorn sp.		O	R		
staghorn sumac		R	R		
TAGM1 → spruce,	D				

Species	Layer 1	2	3	4	Sample
reed canary				A	
Cow parsnip				A	
Am. stinging nettle				O	
garlic mustard				A	
sp. jewelweed				O	
calico aster				O	
trout lily (white)				O	
Carex blanda				R	
wild geranium				R	
Ranunculus arbort.				R	
Galium aparine				O	
Allium canadense				O	
Sanicula sp.				A	
wood agrimony				R	
curly dock				R	
motherwort				R	
Common plantain				O	
giant ragweed				O	

- not fruiting, sp. unkn.

Wildlife and Other Notes

- photos 1038-1046
- drainage ditch flowing through feature @ SW corner
- disturbed due to edge effects, humans
- decid. plantation w/ red oak and silver maple
- apiary on field edge

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WF (# 1736 C)
Polygon:	PIN 8340028 WOD-004
UTM:	
Date:	May 10/16
Time:	1400-1430
Surveyor(s):	
Weather:	11°C, wind 4/E, 100% CC, light rain

Community Classification

Vegetation Type:	Mixed Plantation (TAGM2)
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
X Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Mtn	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
X Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	X Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	X Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
~~•~~	~~Super-canopy~~			
1	~~Canopy~~			
2	Sub-canopy	3	4	Silver maple > E. cottonwood > wh. ash = wh. spruce
3	Understorey	4	3	rough leaf dogwood > wh. ash > red-osier dogwood
4	Groundcover	5-7	4	wild strawberry > tall goldenrod > garlic mustard

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	A	< 10	A	10 - 24	R	25 - 50	N	> 50
Snags	R	< 10	R	10 - 24	N	25 - 50	N	> 50
Deadfall/Logs	R	< 10	N	10 - 24	N	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	X Young	Mid-age	Mature	Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page ____of____

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
silver maple		A	O		
red cedar		R	R		
wh. cedar		R	R		
E. cottonwood		O	O		
rough leaf dogwood			D		
autumn olive			R		
red osier dogwood			O	O	
E. cottonwood		O	O		
wh. pine		R	R		
Shag. hickory		R			
multiflora rose			O		
Carolina poplar		R			
wh. ash		O	O		
wh. spruce		O			
Manitoba maple		R			

Species	Layer 1	2	3	4	Sample
dandelion				A	
wild carrot				O	
Poa pratensis				A	
tall goldenrod				A	
Carex blanda				R	
avens spp.				O	
Erigeron sp.				O	
red clover				O	
wild strawberry				A	
garlic mustard				A	
all over the ground				R	
day lily				O	

Wildlife and Other Notes

- photos 1034-1037
- naturalizing plantation - mostly deciduous spp.
  - ↳some in rows, some planted scattered, evenly aged

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
Treed	Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			
2	Sub-canopy			
3	Understorey			
4	Groundcover			

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	< 10	10 - 24	25 - 50	> 50
Snags	< 10	10 - 24	25 - 50	> 50
Deadfall/Logs	<10	10 - 24	25 - 50	> 50

Abundance Codes N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	Young	Mid-age	Mature	Old Growth

Modified ELC Community Description

Page __ of __

Soils	1	2	3
Position:	5	4	
Aspect:	220	115	
%	6.5	2	
Type:	S	S	
Class:	A	B	

Strata:	Texture	SiCL	CL	
	Depth	0-31	0-64	
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture		SiCL	CL	
Surface Stoniness		/	/	
Surface Rockiness		/	/	
Depth to:				
	Mottles	29	37	
	Gley	/	/	
	Bedrock	/	/	
	Water table	/	/	
	Carbonates	/	/	
Depth of Organics				
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime		6	5	

Polygon: PIN 834 0028

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total			
Basal Area			
Snags			

NOTES:

- sample 1 @ decid. plantation near road/house, TAGM3 WOD-008
- sample 2 @ natural feature along water course, FODM7-1 WOD-009

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WC	**Project #:** 13760	**Area and/or Polygon ID:** 834 0025	
Date: 10/05/2016	**Start Time:** 13:57	**End Time:** 15:42	**Observers:** AWD/LEP
Weather Conditions:			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		X	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		X	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		X	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		X	Presence of fish
Swamp		X	**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.

Fields	Yes	No	Applicable to All:		
Non-rotational Hay or Weakly Grazed Pasture	X		Height of vegetation	Size of site	Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		X	Evidence of small mammals	Frequency and source of disturbance	Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		X		Location and abundance of raptor perches (scattered trees, snags, fenceposts)	

Substrate and Topography	Yes	No	
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.

Anthropogenic Features	Yes	No	Applicable to All:		
Abandoned Mine Shaft		X	Age	Depth into the ground	Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		X	Rock size	Vegetation present	Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		X	Evidence of Use		Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		X	**Abandoned Wells Only:** Presence and type of capping		
Old Foundation	✓		**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.		

Burrows or Dens	Yes	No	Applicable to Mammal Burrows or Dens:		
Small - Rodent or Snake		X	Diameter of entrance	Soil Type	Availability of aquatic vegetation or fish
Medium		X	Ecosite of location	Proximity to water and type of water	Evidence of use, or tracks or digging marks
Large		X			
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).		
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).		

Evidence	Yes	No	
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.

Outstanding Trees	Yes	No	
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.

Rare Communities or Species	Yes	No	
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)		X	Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: 10/5/2016

Project Name: Ramsey WC | Project #: 1736C | Area and/or Polygon ID: 5340058

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
	~~[illegible]~~	~~1~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	
(1)	non-rotational hay/ weakly grazed pasture	1	N/A - refer to ELC map	None	- veg. ~30 cm height, raptor perches present - scattered trees and fence posts, nearby but not adjacent to forest, limited nectar producing plants	N/A
(2)	old foundation	1	0382802 4665308	1044, 1045	- rip rap size rocks, ~ old bridge foundation, may extend below ground, limited veg. present, SW facing, good sun exposure, local soils silt-clay, nearby water-features are @ watercourse crossing of farm lane CSP.	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	Common Grackle					Downy Woodpecker		1	Drumming
	Red-winged Blackbird	S				American Goldfinch		1	
	Robin								
	Mourning Dove								
	Song Sparrow								
	White-tailed deer	TK							
	Red cedar								
	Tamarack								
	[redacted]		[redacted]	[redacted]					

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)
Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
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FS- Food/Fecal Sac
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NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
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DP- Distinctive Parts
TK- Tracks
VO- Vocalization
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CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Candidate Bat Maternity Roost Data Form

Use this form in FOD, FOM

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Manager Use Only:
Woodland Number :

Project Name: Rosemount Project #: 13160

Start Time 13:57 End Time 15:42 Date: 10/05/2016 Observer(s): AVD, CEP

Polygon or Area ID (324 0328) Weather Conditions: T 10°C Wind 4E CC 100% Rain Moderate rain

Plot Number	# live or dead cavity trees ≥ 25cm dbh	Plot Center UTM (Zone: 17T)	Comments
Plot 1			4 young forest, did not do plots but look at cavity trees > 25 DBH within plot
Plot 2			
Plot 3			
Plot 4			
Plot 5			
Plot 6			
Plot 7			
Plot 8			
Plot 9			
Plot 10			
Plot 11			
Plot 12			
Plot 13			
Plot 14			
Plot 15			
Plot 16			
Plot 17			
Plot 18			
Plot 19			
Plot 20			
Plot 21			
Plot 22			
Plot 23			
Plot 24			
Plot 25			
Plot 26			
Plot 27			
Plot 28			
Plot 29			
Plot 30			
Plot 31			
Plot 32			
Plot 33			
Plot 34			
Plot 35			

Number of Plots: Sites ≤10ha: 10 plots (minimum); each extra ha: 1 plot (up to max 35 plots) Plots = 0.05ha or 12.6m radius Select plots randomly

Preparation for EOS Bat Monitoring: Identification of High Quality Potential Roost Trees

Identify the best potential roost trees in the applicable woodland/polygon: <10ha in size = up to 10 >10ha in size = 1 additional for each ha up to 30

Tree #	Species	# of Cavities	DBH (cm)	UTM	Photo Number(s)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

This Section Project Manager Use Only Formula: Total # Cavity Trees / (# Plots x 0.05ha)

Final Woodland Tally = _____ **> or = 10/ha? Yes / No** If >10/ha: BMA- _____

Ontario

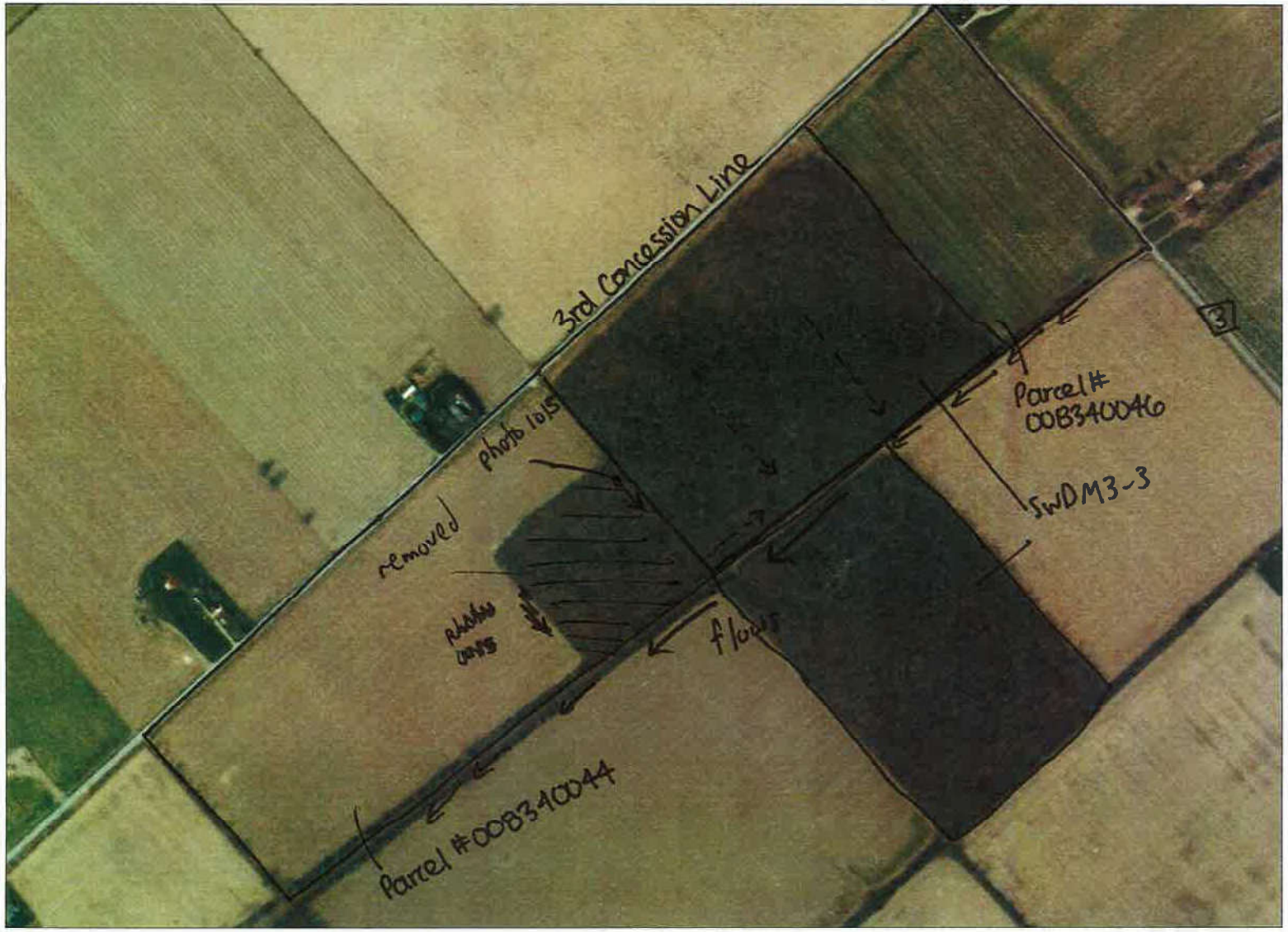
Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

Romney WEC

WOD-011 / WET-008

Notes: [redacted] Parcel # 008340044, 008340046.



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.3 km

---→ int. flows

→ perm. flows

Projection: Web Mercator

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page __ of __

Site:	Romney WF
Polygon:	PIN 8340044, 8340046
UTM:	
Date:	May 9/16 — Time: 1320 - 1740
Surveyor(s):	AMD, CEP
Weather:	30C, wind 2/SE, 75% CC

Community Classification

Vegetation Type:	Swamp Maple Mineral Deciduous Swamp — SWDM3-3
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
~~*~~	~~Super-canopy~~			
1	Canopy	V2	4	freeman's maple > wh. elm > green ash
2	Sub-canopy	3	4	freeman's maple > wh elm > shag. hickory
3	Understorey	4	3	spicebush > gray dogwood > green ash
4	Groundcover	5-7	4	Virg spring beauty > wild geranium > fowl manna grass

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	R	< 10	R	10 - 24	R	25 - 50	O	> 50
Snags	O	< 10	O	10 - 24	R	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	O	25 - 50	R	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age	X	Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page ____of____

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
shagbark hickory	O	O			
freemans maple	A	A			
wh. elm	A	A			
basswood	O	O			
poison ivy (ryd)				A	
spicebush			A	O	
Ribes cynosbati				R	
Ribes americanum				O	
green ash	O	O	O		
dwarf raspberry				O	
choke cherry			O	O	
red oak	R	R			
Rosa rubignosa			O	O	
gray dogwood			A	O	
blue beech		O			
bitter hickory	R	R			
woodbine				O	
poison ivy (rad)				O	
Virg. creeper				R	
fringed hawkweed				O	
sp. jewelweed				O	
~~Carex sp.~~					
Carex gracillima				O	x ✓
burOak	R	R			

Species	Layer 1	2	3	4	Sample
Spring beauty (virg.)				A	
jack pulpit				O	
wild geranium				A	
starry false sol. seal				A	
avens spring				A	
mayapple				R	
Virg. waterleaf				A	
moneywort				A	
spring cress				O	check ✓
com blue violet				O	
can. blue joint				R	
calico aster				O	
Solidago rugosa				O	
Ranunculus arborivirus				R	
Allium canadense				O	
wood nettle				O	
can. mayflower				O	
cratium arguellum				R	x ✓
Glyceria striata				A	
sensitive fern				A	
Carex bromoides				O	x ✓
Viola pubescens				O	
Polygonatum pubescens				R	
dutchmans breeches				R	

P. vitacea

P. quinquefolius

fowl manna grass

- locally low

- locally R

- locally R

Wildlife and Other Notes

- photos 1008 - 1015
- hummocky topography - standing water present in most low-lying areas between hummocks - likely not suitable for amphib. breeding
- excellent habitat, little disturbance - trees selectively harvested
- shellbark occuring rarely throughout

* - Shumard oak occuring rarely throughout (species ID to be confirmed)

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
Treed	Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			
2	Sub-canopy			
3	Understorey			
4	Groundcover			

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	< 10	10 - 24	25 - 50	> 50
Snags	< 10	10 - 24	25 - 50	> 50
Deadfall/Logs	< 10	10 - 24	25 - 50	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age	Pioneer	Young	Mid-age	Mature	Old Growth

Modified ELC Community Description

Soils	1	2	3
Position:	S		
Aspect:	NA		
%	0		
Type:	S		
Class:	A		

Strata:	Texture	SiCL		
	Depth	0-11		
Strata:	Texture	SiC		
	Depth	11-45		
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture		SiC		
Surface Stoniness		/		
Surface Rockiness		/		
Depth to:				
	Mottles	12		
	Gley	/		
	Bedrock	/		
	Water table	/		
	Carbonates	/		
Depth of Organics		20cm		
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime		5		

Polygon: PIN 8340044, 8340046

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

NOTES:

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Site:	Romney WF
Polygon:	PIN 8340044, 8340046
UTM:	
Date:	May 9/16
Time:	
Surveyor(s):	AMD, CEP
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
Canada elder			R		
red raspberry				O	
bl. raspberry				O	
* shellbark hickory	R	R			
nannyberry		R	R		
cottonwood	R				
* Shumard oak	R	R			check

Species	Layer 1	2	3	4	Sample
~~Rubus sp.~~					
enchant. nightshade				O	
false solomonseal				R	
Sanicula sp.				O	
Carex sp. (lacustris?)				R	
Galium aparine				R	
running strawberry				R	
sp. water hemlock				R	
wood strawberry				O	
Rugells plantain				R	
swamp agrimony				R	
water parsnip				R	
Dryopt. carthusiana				R	
Ranunculus recurv.				R	
wild sarsaparilla				R	
Cardamine diphylla				R	
garlic mustard				R	

* see notes on coversheet

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-008

S2

Wetland Vegetation Communities

Project Name: Romney WF **Project #:** 17366 **Parcel #:** 834 0044 834 0046
Observer(s): AMD, CEP **ELC Code:** SwDM3-3
Date: May 9/16 **Time (24h):** 1320
Wetland #: WET-008 **Weather:** Precipitation: None Temp (° C): 13
Veg Community #: S2 Wind Speed & Direction: 2/SE Cloud %: 75
Wetland Type: Swamp **Site Type:** P **Dominant Form:** h
Permanent Open Water: None % **Check one:** ○ central area ○ spread out in ponds
Photos: 1008-1015

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
(h) (%:80)	freeman's maple (60%) > w. elm (20%) > green ash (10%) > shagbark hickory (10%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%:)	
ls (%:)	
(gc) (%:35)	Virg. spring beauty (40%) > wild geranium (30%) > mayflower (20%) > spring avens (10%)
(ne) (%25)	fowl manna grass (55%) > Carex spp. (45%) (several Carex, refer to ELC forms)
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: SiC Mineral [X] Organic [ ] Depth of organics: 2 cm Organic Type: F (M) H Depth to bedrock: N/A cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

- shellbark hickory (confirmed)
- shumard oak (ID to be confirmed)

Locally Rare:
Galium aspellum (R2) Oldham 1993
Carex bromoides (R2)

Wildlife Notes:

- refer to incidental wildlife observations

Locally Rare:
Geum vernum (R3)

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; **f**=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

N/O: Not observed

Features to look for in the field:
○ active beaver lodges/dams N/O
○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc) refer to SWH assessment form
○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles) refer to incidental wildlife observations
○ plant species (wild rice, cranberries) N/O
○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢) refer to ELC map
○ human related disturbances (fill, docks, houses, etc) None
○ evidence of recreational activities (nature appreciation, fishing, hunting) None
○ locations of seeps or springs, lagg N/O
○ iron precipitates, marl deposits N/O
○ winter cover for wildlife None
○ ungulate summer habitat, moose aquatic feeding habitat Yes None
○ suitability for waterfowl breeding, staging, moulting None
○ surrounding topography (flat, rolling, hilly, steep) flat
○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; O utility corridor; ☒ dec. forest; O recent cutover or clearcut (<5yr); ☒ conif. forest; O mixed forest; ☒ crops; ☒ row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; ☒ fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; O creek floodplain; O rock outcrop
○ fish habitat present: Yes (No) (circle) If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
○ vernal pools N/O
○ invasive species (plant, aquatic) garlic mustard

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WF **Project #:** 1736C **Area and/or Polygon ID:** PIN 00834044, 00834046

Date: May 9/16 **Start Time:** 1320 **End Time:** 1740 **Observers:** AMD, CEP

Weather Conditions: 13°C, wind 2/SE, 75% CC

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		X	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		X	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		X	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		X	Presence of fish
Swamp	✓		**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.

Fields	Yes	No	Applicable to All:		
Non-rotational Hay or Weakly Grazed Pasture		X	Height of vegetation	Size of site	Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		X	Evidence of small mammals	Frequency and source of disturbance	Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		X		Location and abundance of raptor perches (scattered trees, snags, fenceposts)	

Substrate and Topography	Yes	No	
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.

Anthropogenic Features	Yes	No	Applicable to All:		
Abandoned Mine Shaft		X	Age	Depth into the ground	Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		X	Rock size	Vegetation present	Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		X	Evidence of Use		Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		X	**Abandoned Wells Only:** Presence and type of capping		
Old Foundation		X	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.		

Burrows or Dens	Yes	No	Applicable to Mammal Burrows or Dens:		
Small - Rodent or Snake		X	Diameter of entrance	Soil Type	Availability of aquatic vegetation or fish
Medium		X	Ecosite of location	Proximity to water and type of water	Evidence of use, or tracks or digging marks
Large		X			
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).		
Crayfish Chimney (7E only)	X		Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).		

Evidence	Yes	No	
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		X	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.

Outstanding Trees	Yes	No	
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.

Rare Communities or Species	Yes	No	
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	X		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Project Name:	Project #:	Area and/or Polygon ID: PIN 8340044, 8340046	Date:

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
1	crayfish chimney	Several	N/A - throughout SWDM3-3 feature	None	- SWDM3-3, silty clay soils, moisture source from swamp	N/A
2	Swamp	1	N/A - entire feature	1008 - 1015	- no evidence of Heron nesting, no fish or fish habitat observed, standing water abundantly throughout but likely not deep enough to support amphib. breeding	N/A
3	rare species (non-SAR)	2 spp.	N/A - both spp. occur rarely throughout polygon	1014 (Shumard oak)	- SWDM3-3 polygon	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
B	RWBB	OB	multiple		B	N. cardinal	VO		
M	wt. tail deer	TK	multiple			wood duck	OB	2	pair
B	house wren	VO							
M	gray squirrel	OB							
B	BDCH	VO							
B	red bellied woodpecker	VO							
H	Am. toad	OB	1						
B	Am. robin	VO							
* B	Wood thrush	VO	1						

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Candidate Bat Maternity Roost Data Form

Use this form in FOD, FOM

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Manager Use Only:
Woodland Number :

Project Name: Rumney WF Project #: 1736 B

Start Time 1320 End Time 1740 Date: May 9/16 Observer(s): AMD, CEP

Polygon or Area ID (8340044 / 8340046) Weather Conditions: 13°C, wind 2/SE, 75% cc

Plot Number	# live or dead cavity trees ≥ 25cm dbh	Plot Center UTM (Zone: 17T)	Comments
Plot 1	0	0384601 4667255 ±10m	
Plot 2	0	0384617 4667239 ±12m	
Plot 3	0	0384644 4667201 ±5m	
Plot 4	1	0384686 4667212 ±6m	tree w 2 suitable cavities (not high quality)
Plot 5	0	0384685 4667155 ±5m	
Plot 6	0	0384711 4667097 ±6m	
Plot 7	0	0384666 4667136 ±5m	
Plot 8	0	0384656 4667163 ±7m	
Plot 9	1	0384603 4667218 ±4m	tree w suitable cavity (not high quality)
Plot 10	0	0384535 4667201 ±6m	
Plot 11	0	0384549 4667168 ±5m	
Plot 12	0	0384570 4667108 ±5m	
Plot 13	1	0384604 4667077 ±6m	dead ash w suitable cavity (not high quality)
Plot 14	0	0384651 4667042 ±7m	
Plot 15	0	0384618 4667021 ±6m	
Plot 16	0	0384671 4667004 ±6	
Plot 17	0	0384707 4667008 ±7m	
Plot 18	0	0384666 4666972 ±8m	
Plot 19	0	0384628 4666983 ±7m	
Plot 20	0	0384551 4667054 ±7m	
Plot 21	1	0384486 4667086 ±8m	tree w suitable cavity (dead ash, not high quality)
Plot 22	0	0384429 4667064 ±7m	
Plot 23	0	0384400 4667064 ±6m	
Plot 24	1	0384428 4666948 ±8m	tree w suitable cavity (freeman maple, but being used by mammal sp.)
Plot 25	0	0384441 4666913 ±5m	
Plot 26	0	0384508 4666918 ±5m	
Plot 27			
Plot 28			
Plot 29			
Plot 30			
Plot 31			
Plot 32			
Plot 33			
Plot 34			
Plot 35			

Number of Plots: Sites ≤10ha: 10 plots (minimum); each extra ha: 1 plot (up to max 35 plots) Plots = 0.05ha or 12.6m radius Select plots randomly

Preparation for EOS Bat Monitoring: Identification of High Quality Potential Roost Trees

Identify the best potential roost trees in the applicable woodland/polygon: <10ha in size = up to 10 >10ha in size = 1 additional for each ha up to 30

Tree #	Species	# of Cavities	DBH (cm)	UTM	Photo Number(s)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

This Section Project Manager Use Only Formula: Total # Cavity Trees / (# Plots x 0.05ha)

Final Woodland Tally = _____ **> or = 10/ha? Yes / No** If >10/ha: BMA- _____

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC

WOD-012/WET-008 feature 9

Notes:

Hedgerow north of T16

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major → Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
- Road with Permanent Blocked Passage
- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.3 km

Projection: Web Mercator

WOD-012 / WET-008 feature 9

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	1736C Romney
Polygon:	H9
UTM:	
Date:	Sept. 21. 2016
Time:	1355
Surveyor(s):	PWD, NGM
Weather:	

Community Classification

Vegetation Type:	SWDM3-2 Silver Maple Mineral Dec. Swamp Type
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	X Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy	–	–	–
1	Canopy	2	4	Silver Maple >> E. Cottonwood = Black Walnut
2	Sub-canopy	3	2	Silver Maple >> Black Walnut.
3	Understorey	4	3	Silver Maple
4	Groundcover	–	–	–

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O	< 10		10 - 24		25 - 50	> 50
Snags	R	< 10	N	10 - 24	N	25 - 50	N > 50
Deadfall/Logs	?	< 10	?	10 - 24	?	25 - 50	? > 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature	Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
Silver Maple	D	O	O		
Black Walnut	R	R			
E. Cottonwood	R				

Species	Layer 1	2	3	4	Sample

Wildlife and Other Notes

Photo: 7356, 7357
Swamp likely adventive in ditches on each side of railline.

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-008

S1

Wetland Vegetation Communities

Project Name: Romney WEC **Project #:** 1736C **Parcel #:**

Observer(s): PWD, NGM **ELC Code:** SWDM3-2

Date: Sept 21, 2016 **Time (24h):** 1355

Wetland #: WET-008 **Weather:** Precipitation: None Temp (° C): 28

Veg Community #: S1 Wind Speed & Direction: 15 Cloud %: 50

Wetland Type: S **Site Type:** I **Dominant Form:** h

Permanent Open Water: 0 % **Check one:** ○ central area ○ spread out in ponds

Photos: 7356, 7357

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 70)	Silver Maple (95%) F. Cottonwood (5%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%:)	
ls (%:)	
gc (%:)	
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: Mineral ☒ Organic ☐ Depth of organics: ? cm Organic Type: F M H Depth to bedrock: ? cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

None obs.

Wildlife Notes:

None obs.

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; f=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

Features to look for in the field:

- ○ active beaver lodges/dams
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  None obs. (roadside assessment)
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  None obs.
- ○ plant species (wild rice, cranberries)
  None
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  See field map, minimal ditch inflow - from NE likely.
- ○ human related disturbances (fill, docks, houses, etc)
  Historically a rail line.
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  Rail line may be used for ATVs, etc (old rail ballast remains).
- ○ locations of seeps or springs, lagg
  None obs.
- ○ iron precipitates, marl deposits
  None obs
- ○ winter cover for wildlife
  No
- ○ ungulate summer habitat, moose aquatic feeding habitat
  No
- ○ suitability for waterfowl breeding, staging, moulting
  No
- ○ surrounding topography (flat, rolling, hilly, steep)
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; Ø utility corridor; Ø dec. forest; O recent cutover or clearcut (<5yr); O conif. forest; O mixed forest; O crops; O row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; O fence rows; O fence row with deep cover or shelterbelt; O open lake or deep river; O creek floodplain; O rock outcrop
- ○ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ○ vernal pools
  None obs.
- ○ invasive species (plant, aquatic)
  None

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic Terrestrial and Wetland Biologists

Project Name:	Romney WEC.	**Project #:**	1736C	**Area and/or Polygon ID:**	H9 feature
Date:	Sept. 21, 2016	**Start Time:**	1355	**End Time:**	1410
Observers:	PWD, NGM				
Weather Conditions:					

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All**: Draw extent of all water if not indicated through ELC. Dimensions (length, width, and depth). Vegetation species, woody debris/basking logs within water. Presence of fish. Longevity of site (if known, or estimate). Sources of disturbance, current use, origin (natural or anthropogenic). Evidence of wildlife use including waterfowl, turtles, amphibians
Spring Flooded Field		✓	
Vernal Pool		✓	
Pond		✓	
Shallow Marsh (MAS) or Open Water		✓	
Swamp	✓		**All Swamps**: Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields			**Applicable to All:** Height of vegetation. Evidence of small mammals. Size of site. Frequency and source of disturbance. Location and abundance of raptor perches (scattered trees, snags, fenceposts). Abundance of nectar-producing plants (e.g. goldenrods and asters). Adjacency to forest and forest size
Non-rotational Hay or Weakly Grazed Pasture		✓	
Meadow		✓	
Thicket, Woodland, Hydro Corridor		✓	
Substrate and Topography			
Sand or Fine/Loose Gravel		✓	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		✓	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		✓	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		✓	Depth of crevices
Cave		✓	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		✓	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		✓	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		✓	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		✓	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:** Age. Rock size. Evidence of Use. **Abandoned Wells Only:** Presence and type of capping. **Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover. Depth into the ground. Vegetation present. Amount of sun exposure (or direction the slope faces). Substrate composition (or bedrock type). Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Mine Shaft		✓	
Old Rock or Debris Pile, Old Stone Fence		✓	
Abandoned Road or Rail Bed		✓	
Abandoned Well		✓	
Old Foundation		✓	
Burrows or Dens			**Applicable to Mammal Burrows or Dens:** Diameter of entrance. Ecosite of location. Soil Type. Proximity to water and type of water. Availability of aquatic vegetation or fish. Evidence of use, or tracks or digging marks
Small - Rodent or Snake		✓	
Medium		✓	
Large		✓	
Log Jams, Old Beaver Lodges		✓	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		✓	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat		✓	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		✓	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag		✓	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		✓	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species			
Old-Growth Forest		✓	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		✓	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		✓	Soil type and depths.
Red Spruce or White Oak Forest		✓	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		✓	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		✓	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		✓	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		✓	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)		✓	Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		✓	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: Sept 21. 2016

Project Name: Romney WEC **Project #:** 1736C **Area and/or Polygon ID:** H9

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
Swamp ↳ Adventive swamp in ditches of old rail line	1	See map.	7356, 7357	No heron nests. Could not determine snag presence (suitable for bat roosting) from roadside.	None

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	None.								

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)
Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

honey locust

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

new house

Romney WEC

WOD- 013 / WET- 006

Notes:

[redacted]

Parcel # 008470072

Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

Greenbelt Plan

- Boundary
- River Valley Connections

Land Use Designations

- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System

Land Use Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre

Oak Ridges Moraine Conservation Plan (ORM)

- Boundary

Land Use Designations

- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

0 0.3 km

--→ int. flows

→ perm flows

Projection: Web Mercator

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WF (#1736C)
Polygon:	PIN 8470072 WOD-013
UTM:	
Date:	May 11/16 Time: 1110 - 1200
Surveyor(s):	AMD, CEP
Weather:	12°C, wind 4/E, 100% CC

Community Classification

Vegetation Type:		Wh. Elm Mineral Deciduous Swamp (SWDM4-2)
X	Inclusion: (1)	Fresh-Moist Sugar Maple-Hardwood Decid. Forest (FODM6-5)
X	~~Complex~~: (2)	Fresh-Moist Woodland (WODM5)

incl. w thorns

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	X Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	X Surficial Dep.	Submerged	Lichen	Mixed
X Treed	Bedrock	Floating-Lvd.	Bryophyte	
		Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
~~·~~	~~Super-canopy~~			
1	Canopy	2	3	wh. elm > green ash > Manitoba maple
2	Sub-canopy	3	3	Manitoba maple > shag. hickory > green ash
3	Understorey	4-5	3	multiflora rose > rough-leaved dogwood
4	Groundcover	6-7	4	timothy > red canary grass > sp. jewelweed

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	D	< 10	A	10 - 24	A	25 - 50	O	> 50
Snags	R	< 10	D	10 - 24	O	25 - 50	N	> 50
Deadfall/Logs	R	< 10	R	10 - 24	R	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page ____of____

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
honey locust		R			
green ash	O	O	O		
timothy					
bl. walnut	R	O	O		
wt. mulberry		R	R		
Man. maple	D	A			
stag. sumac		O	O		
wh. elm	A	O	O		
sugar maple	R	R			
shag hickory	R	O			
multiflora rose		O	A		
rough leaf dogwood		O	O		
red oak	R	R			
autumn olive			R		
bl. cherry	R	O			
Am. beech	R	R			
com. pear		R			
ironwood		R			
tart. honeysuckle			O	O	
hackberry		R			

Species	Layer 1	2	3	4	Sample
garlic mustard				O	
dames rocket				O	
tall goldenrod				O	
bitter nightshade				A	
cow parsnip				O	
red canary				A	
teasel				O	
dandelion				O	
yellow rocket				R	
sp. jewelweed				A	
spiny bedstraw (Vir.)				O	
wood agrimony				R	
bull thistle				R	
spring avens				O	
common burdock				O	
timothy				A	

locally rare

Wildlife and Other Notes

- photos 1062 - 1078
- watercourse flowing through feature
- used recreationally - walking trail + picnic area, hunting
- wood duck nesting box @ creek edge

- feature consists of riparian/floodplain swamp, w narrow fringes of upland woods @ top of valley slopes - swamp is open, minimal tree cover

see over →

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Site:	Romney WEC (#1736C)
Polygon:	PIN 8470072
UTM:	
Date:	May 11/16
Time:	1200 - 1225
Surveyor(s):	AMD, CEP
Weather:	11°C, wind 4/E, 100% CC, no precip.

Community Classification

Vegetation Type:	Fresh - Moist Graminoid Meadow (MEGM4)
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
X Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	X Meadow
Aquatic	Parent Mtn	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	X Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
X Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
X Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
Treed	X Surficial Dep	Floating-Lvd	Bryophyte	
	Bedrock	X Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	~~Super-canopy~~			
1	Canopy	2	1	basswood > bitternut hickory
2	Sub-canopy	3	1	red cedar
3	Understorey	4	1	stag Sumac
4	Groundcover	5-7	4	reed canary grass > timothy > tall goldenrod

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	R	< 10	R	10 - 24	R	25 - 50	N	> 50
Snags	N	< 10	N	10 - 24	N	25 - 50	N	> 50
Deadfall/Logs	N	< 10	N	10 - 24	N	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer	X	Young		Mid-age		Mature		Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
- red cedar		R	R		
Shag-bark hickory	R				
- stag Sumac			R		
white mulberry			R		
- bassswood	R				
bitter hickory	R				

Species	Layer 1	2	3	4	Sample
- reed canary				A	
- timothy				A	
dandelion				O	
common				R	
Common burdock				O	
garlic mustard				O	
mullein wort				R	
- tall goldenrod				A	
catnip				R	
- Can. thistle				A	
yellow rocket				O	

Wildlife and Other Notes

- photos 1079 - 1083
- feature consists of grass meadow along valley slope, w few scattered trees

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	Romney WEC
Polygon:	PIN 84700 72
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Mtn	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
Treed	Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			
2	Sub-canopy			
3	Understorey			
4	Groundcover			

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	< 10	10 - 24	25 - 50	> 50
Snags	< 10	10 - 24	25 - 50	> 50
Deadfall/Logs	< 10	10 - 24	25 - 50	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young		Mid-age		Mature		Old Growth

Modified ELC Community Description

Page __ of __

Soils	1	2	3
Position:	G	G	
Aspect:	95	255	
%	3	1	
Type:	S	S	
Class	C	B	

Strata:	Texture	CL	CL	
	Depth	0-12	0-47	
Strata:	Texture	SiC		
	Depth	13-45		
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture		SiC	CL	
Surface Stoniness				
Surface Rockiness				
Depth to:				
	Mottles	13	31	
	Gley	—	/	
	Bedrock	—	/	
	Water table	—	/	
	Carbonates	—	/	
Depth of Organics		—	/	
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime		6	5	

Polygon:	PIN 84700 72

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

NOTES:

- Soil sample 1 taken in in slough @ toe of valley slope
- Soil sample 2 taken in in meadow

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID:

Wetland Vegetation Communities

Project Name: Romney WEC **Project #:** 1736C **Parcel #:** 008470072

Observer(s): AMO, CEP **ELC Code:**

Date: May 11/16 **Time (24h):** 1110 - 1200

Wetland #: **Weather:** Precipitation: None Temp (° C): 12

Veg Community #: Wind Speed & Direction: N/E Cloud %: 100

Wetland Type: Swamp **Site Type:** R **Dominant Form:** h

Permanent Open Water: 5 % **Check one:** ⊗ central area ○ spread out in ponds associated w watercourse

Photos: 1062 - 1078

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 40)	wh. elm (40%) > gr ash (30%) > Manitoba maple (25%) > shag. hickory (5%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%:)	
ls (%:)	
gc (%:)	
ne (%: 60)	timothy (60%) > reed canary grass (40%)
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: SiC Mineral ☒ Organic ☐ Depth of organics: 0 cm Organic Type: F M H N/A Depth to bedrock: N/A cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

Locally Rare
Geum vernum (reg)
Oldham 1993

Wildlife Notes:

- refer to incidental observation list

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; f=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

N/O : not observed

Features to look for in the field:

- ○ active beaver lodges/dams N/O
- ○ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  N/O
- ○ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  refer to incidental observation list
- ○ plant species (wild rice, cranberries)
  N/O
- ○ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  refer to field map
- ○ human related disturbances (fill, docks, houses, etc)
  walking trail, bush hogging, tree cutting
- ○ evidence of recreational activities (nature appreciation, fishing, hunting)
  yes - evidence of hunting observed
- ○ locations of seeps or springs, lagg
  N/O
- ○ iron precipitates, marl deposits
  N/O
- ○ winter cover for wildlife
  none
- ○ ungulate summer habitat, moose aquatic feeding habitat
  yes no
- ○ suitability for waterfowl breeding, staging, moulting
  very limited habitat availability in watercourse
- ○ surrounding topography (flat, rolling, hilly, steep)
  flat (although swamp is in valley)
- ○ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; ☒ utility corridor; ☒ dec. forest; O recent cutover or clearcut (<5yr); O conif. forest; O mixed forest; ☒ crops; ☒ row crop; O abandoned pit/quarry; O pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; ☒ fence rows; O fence row with deep cover or shelterbelt; ☒ open lake or deep river; ☒ creek floodplain; O rock outcrop
- ○ fish habitat present: (Yes) No (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed (seasonal swamp)
  watercourse only, appears to be a permanent drainage feature, no fish observed, fish habitat present
- ○ vernal pools
  N/O
- ○ invasive species (plant, aquatic)
  N/O

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

Candidate Bat Maternity Roost Data Form

Use this form in FOD, FOM

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Manager Use Only:
Woodland Number :

Project Name: Romaine Project #: 17206

Start Time 11:16 End Time 12:27 Date: 11/03/16 Observer(s): AWD, CEP

Polygon or Area ID (84700128) Weather Conditions: T 1/2 WHF CLOUDY Precip: None

*not enough area for 10BTA, therefore noted all trees with cavities, see EOS section

Plot Number	# live or dead cavity trees ≥ 25cm dbh	Plot Center UTM (Zone: ____)	Comments
Plot 1			
Plot 2			
Plot 3			
Plot 4			
Plot 5			
Plot 6			
Plot 7			
Plot 8			
Plot 9			
Plot 10			
Plot 11			
Plot 12			
Plot 13			
Plot 14			
Plot 15			
Plot 16			
Plot 17			
Plot 18			
Plot 19			
Plot 20			
Plot 21			
Plot 22			
Plot 23			
Plot 24			
Plot 25			
Plot 26			
Plot 27			
Plot 28			
Plot 29			
Plot 30			
Plot 31			
Plot 32			
Plot 33			
Plot 34			
Plot 35			

Number of Plots: Sites ≤10ha: 10 plots (minimum); each extra ha: 1 plot (up to max 35 plots) Plots = 0.05ha or 12.6m radius Select plots randomly

Preparation for EOS Bat Monitoring: Identification of High Quality Potential Roost Trees

Identify the best potential roost trees in the applicable woodland/polygon: <10ha in size = up to 10 >10ha in size = 1 additional for each ha up to 30

Tree #	Species	# of Cavities	DBH (cm)	UTM 17T	Photo Number(s)
1	Am. beech	1	120	E4[illegible] 0382021 4166312	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

This Section Project Manager Use Only Formula: Total # Cavity Trees / (# Plots x 0.05ha)

Final Woodland Tally = _____ **> or = 10/ha? Yes / No** If >10/ha: BMA- _____

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney INC	**Project #:** 1936	**Area and/or Polygon ID:** 84700 72	
Date: 11/05/16	**Start Time:** 11:10	**End Time:** 12:37	**Observers:** AWD, KSP
Weather Conditions: 7. 11°C Wind 4E 10-10% Rain			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:** Draw extent of all water if not indicated through ELC. Dimensions (length, width, and depth). Vegetation species, woody debris/basking logs within water. Presence of fish. Longevity of site (if known, or estimate). Sources of disturbance, current use, origin (natural or anthropogenic). Evidence of wildlife use including waterfowl, turtles, amphibians. **All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Spring Flooded Field		X	
Vernal Pool		X	
Pond		X	
Shallow Marsh (MAS) or Open Water	X		
Swamp	X		
Fields			**Applicable to All:** Height of vegetation. Evidence of small mammals. Size of site. Frequency and source of disturbance. Location and abundance of raptor perches (scattered trees, snags, fenceposts). Abundance of nectar-producing plants (e.g. goldenrods and asters). Adjacency to forest and forest size
Non-rotational Hay or Weakly Grazed Pasture		X	
Meadow	X		
Thicket, Woodland, Hydro Corridor	X		
Substrate and Topography			
Sand or Fine/Loose Gravel		X	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		X	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		X	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		X	Depth of crevices
Cave		X	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		X	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		X	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		X	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		X	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:** Age. Rock size. Evidence of Use. Depth into the ground. Vegetation present. Amount of sun exposure (or direction the slope faces). Substrate composition (or bedrock type). Proximity to water and estimated subterranean influence or potential for winter water fluctuation. **Abandoned Wells Only:** Presence and type of capping. **Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Abandoned Mine Shaft		X	
Old Rock or Debris Pile, Old Stone Fence	✓		
Abandoned Road or Rail Bed		X	
Abandoned Well		X	
Old Foundation		X	
Burrows or Dens			**Applicable to Mammal Burrows or Dens:** Diameter of entrance. Ecosite of location. Soil Type. Proximity to water and type of water. Availability of aquatic vegetation or fish. Evidence of use, or tracks or digging marks
Small - Rodent or Snake		X	
Medium		X	
Large		X	
Log Jams, Old Beaver Lodges		X	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		X	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat		X	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)	✓		Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag		X	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		X	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species			
Old-Growth Forest		X	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		X	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		X	Soil type and depths.
Red Spruce or White Oak Forest		X	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		X	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		X	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		X	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		X	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)	✓		Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		X	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: 11/05/16

Project Name: Ramey WC | Project #: 1736C | Area and/or Polygon ID: 8470782

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s) 17T	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
	Stick nest debris pile (wood) debris pile (cement+wood) rare species (not at risk)		± 5m 0382062 4663111 ± 5m 0382062 4663192 ± 4m 0382221 4663122		doesn't appear to be active, in a young Am. beech pile of dead branches, full sun pile of old cement blocks, some wood debris, full sun honey locust	
(1)	stick nest	1	0382062 4663111	1074, 1075	- in FODM6-5 - no evidence of current use - Am. beech tree, nest ~15m up, tree ~20 cm dbh	no raptors observed
(2)	debris pile (woody material)	1	0382062 4663192	1077	- wood debris pile (slash) - not suitable as hibernacula - does not extend below ground - starting to grow over in weedy veg. - adjacent to watercourse - clay/loam soils - good sun exposure	none observed
(3)	debris pile (concrete and wood)	1	0382221 4663122	1081	- concrete + wood pile - does not appear to extend below frost line - just a pile - growing over in weedy veg. - ~100-150m to closest water source - concrete up to 1m across - full sun exposure	none observed
(4)	rare spp. (non-SAR)	1	refer to map for location	None	- 1 honey locust observed in woDMS community	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	Mammals: Deer					Cardinal			
	Red-winged Blackbird					Spotted Jewelweed			
	Killdeer					Eastern Phoebe		1	Flushed from nest
	Songsparrow					American Robin			
	Grasshopper Sparrow					[illegible]			
	Am Beech					Blue Jay			
	Red cedar					honey locust			
	Am Goldfinch								
	turkey vulture	OB	1	flying overhead					

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)
Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name:	Project #:	Area and/or Polygon ID:	
Date:	Start Time:	End Time:	Observers:
Weather Conditions:			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:** Draw extent of all water if not indicated through ELC. Dimensions (length, width, and depth). Vegetation species, woody debris/basking logs within water. Presence of fish. Longevity of site (if known, or estimate). Sources of disturbance, current use, origin (natural or anthropogenic). Evidence of wildlife use including waterfowl, turtles, amphibians
Spring Flooded Field			
Vernal Pool			
Pond			
Shallow Marsh (MAS) or Open Water			
Swamp			**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields			**Applicable to All:** Height of vegetation. Evidence of small mammals. Size of site. Frequency and source of disturbance. Location and abundance of raptor perches (scattered trees, snags, fenceposts). Abundance of nectar-producing plants (e.g. goldenrods and asters). Adjacency to forest and forest size
Non-rotational Hay or Weakly Grazed Pasture			
Meadow			
Thicket, Woodland, Hydro Corridor			
Substrate and Topography			
Sand or Fine/Loose Gravel			Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles			Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs			Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst			Depth of crevices
Cave			Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes			Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge			Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs			Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water			Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:** Age. Rock size. Evidence of Use. Depth into the ground. Vegetation present. Amount of sun exposure (or direction the slope faces). Substrate composition (or bedrock type). Proximity to water and estimated subterranean influence or potential for winter water fluctuation. **Abandoned Wells Only:** Presence and type of capping. **Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Abandoned Mine Shaft			
Old Rock or Debris Pile, Old Stone Fence			
Abandoned Road or Rail Bed			
Abandoned Well			
Old Foundation			
Burrows or Dens			**Applicable to Mammal Burrows or Dens:** Diameter of entrance. Ecosite of location. Soil Type. Proximity to water and type of water. Availability of aquatic vegetation or fish. Evidence of use, or tracks or digging marks
Small - Rodent or Snake			
Medium			
Large			
Log Jams, Old Beaver Lodges			Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)			Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat			Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)			Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag			Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)			Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species			
Old-Growth Forest			Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah			Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog			Soil type and depths.
Red Spruce or White Oak Forest			Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)			Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges			Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren			Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar			Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk)			Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community			Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date:	
Project Name:	**Project #:** / **Area and/or Polygon ID:**

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

	Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
(5)	open water	1	N/A - watercourse feature	1072	- ~2-3m width, depth unkn. - limited vegetation and woody debris - fish habitat present, fish not observed	N/A
(6)	Swamp	1	N/A - SWDM4-2 Community	1069	- no evidence of heron nesting - limited standing water in depressional areas - does not appear suitable for amphib. breeding - no fish habitat in swamp - watercourse only, no fish observed - disturbance due to recreational use of property, sedimentation due to crops close to watercourse	N/A
(7)	meadow + woodland	1 of each	N/A - MEGM4 + WODM5 Communities	1078 (WODM5) 1082 (MEGM4)	- height of veg. >30cm (grasses) - scattered trees present for raptor perch - good nectar sources - goldenrods + asters - forest habitat nearby	N/A

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

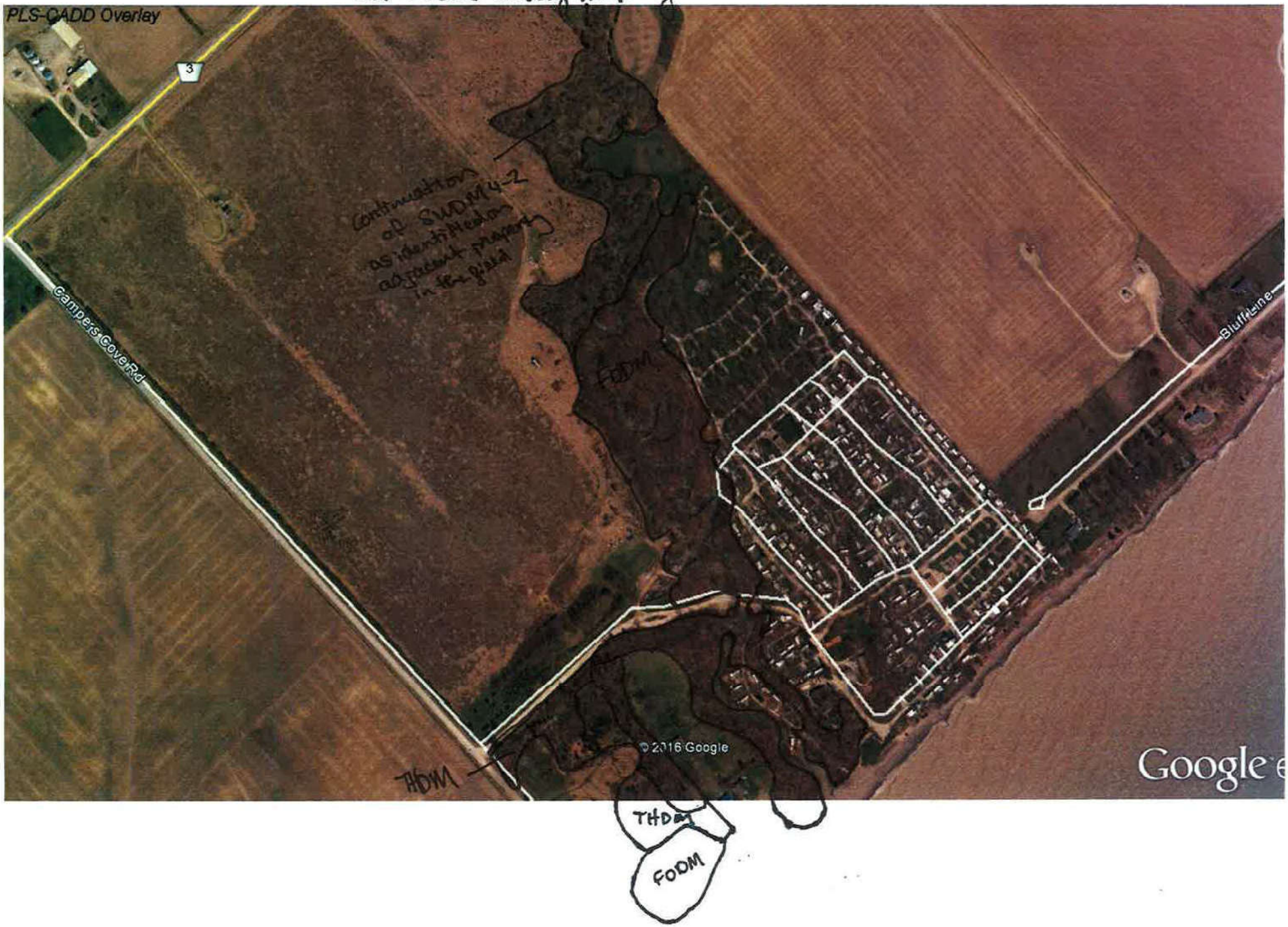
Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

Air photo Interpretation

Oct 4 2016 Christy Humphrey

WOD-013



May 30 2016 PWD

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC

WOD-014 / WET-009

Notes:

Parcel 008480105

Adjacent property access

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major — Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
- Road with Permanent Blocked Passage
- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.7 km

Projection: Web Mercator

N

The Ontario Ministry of Natural Resources and Forestry shall not be liable in any way for the use of, or reliance upon, this map or any information on this map. This map should not be used for: navigation, a plan of survey, routes, nor locations.

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NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description Page 1 of 2

Site:	1736 C Romney WEC
Polygon:	008480105 WDO-014
UTM:	
Date:	May 30, 2016 **Time:** 1219
Surveyor(s):	PWD
Weather:	25°C. wind 2/5W, 10% cc, no precip.

Community Classification

Vegetation Type:	SWDM3-3 Swamp Maple Min. Dec. Swamp Type.
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
X Wetland	X Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
X Natural	Carb. Bedrock	X Tableland	Sand Dune	X Swamp	Woodland
Cultural		Roll. Upland	Bluff	Fen	Forest
	Site	Cliff		Bog	Plantation

Cover		Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
X Treed	X Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	X Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy	-	-	-
1	Canopy	2	4	Freeman Maple >> Am. Basswood = Am. Elm > Bur Oak
2	Sub-canopy	3	2	Freeman Maple > Am. Basswood = Am. Elm = Bur Oak.
3	Understorey	4	2	Multiflora Rose > Freeman Maple = Rough-leaved Dogwood
4	Groundcover	6?	3	Core area not visible

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O	< 10	O	10 - 24	O	25 - 50	N	> 50
Snags		< 10	O	10 - 24	O	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	N	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature	Old Growth

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page 2 of 2

PLANT SPECIES LIST

Site:	
Polygon:	
UTM:	
Date:	**Time:**
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample
Bur Oak	R	O			
Am. Elm	O	O			
Freeman Maple	D	A	O		
Staghorn Sumac	~~D~~	~~O~~	R		
Am. Basswood	O	O			
E. Cottonwood		R	R		
Green Ash	R	R			
Shagbark Hickory		R			
Multiflora Rose			O		
Parthenocissus sp.				O	
Rough-leaved Dogwood			O		

Species	Layer 1	2	3	4	Sample
Wild Geranium				O	
Phragmites				R	
Virginia Waterleaf				O	
Lance-leaved Aster				O	

Wildlife and Other Notes

Great Crested Flycatcher • SH
Red-winged Blackbird ☒ A
Cedar Waxwing • SH
Song Sparrow • SH
Common Yellowthroat • SH
Mourning Dove • SH
White-tailed Deer •

Photo 120004

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Romney WEC	**Project #:** 17366	**Area and/or Polygon ID:** 008480105 (As observed from E. boundary)	
Date: May 30, 2016	**Start Time:** 1219	**End Time:** 1236	**Observers:** PWD
Weather Conditions: 25°C, wind 2 km/h SW, 10% CC, no precip			

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:**
Spring Flooded Field		✓	Draw extent of all water if not indicated through ELC. Longevity of site (if known, or estimate).
Vernal Pool		✓	Dimensions (length, width, and depth). Sources of disturbance, current use, origin (natural or anthropogenic).
Pond		✓	Vegetation species, woody debris/basking logs within water. Evidence of wildlife use including waterfowl, turtles, amphibians
Shallow Marsh (MAS) or Open Water		✓	Presence of fish
Swamp	✓		**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields			**Applicable to All:**
Non-rotational Hay or Weakly Grazed Pasture		✓	Height of vegetation; Size of site; Abundance of nectar-producing plants (e.g. goldenrods and asters)
Meadow		✓	Evidence of small mammals; Frequency and source of disturbance; Adjacency to forest and forest size
Thicket, Woodland, Hydro Corridor		✓	Location and abundance of raptor perches (scattered trees, snags, fenceposts)
Substrate and Topography			
Sand or Fine/Loose Gravel		✓	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		✓	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		✓	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		✓	Depth of crevices
Cave		✓	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		✓	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		✓	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		✓	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		✓	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features			**Applicable to All:**
Abandoned Mine Shaft		✓	Age; Depth into the ground; Amount of sun exposure (or direction the slope faces)
Old Rock or Debris Pile, Old Stone Fence		✓	Rock size; Vegetation present; Substrate composition (or bedrock type)
Abandoned Road or Rail Bed		✓	Evidence of Use; Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Well		✓	**Abandoned Wells Only:** Presence and type of capping
Old Foundation		✓	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Burrows or Dens			**Applicable to Mammal Burrows or Dens:**
Small - Rodent or Snake		✓	Diameter of entrance; Soil Type; Availability of aquatic vegetation or fish
Medium		✓	Ecosite of location; Proximity to water and type of water; Evidence of use, or tracks or digging marks
Large		✓	
Log Jams, Old Beaver Lodges		✓	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		✓	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence			
Extensive Browse and/or Ungulate Scat		✓	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		✓	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees			
Large DBH, Outstanding Tall Snag		✓	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)		✓	Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
→ 5-10 dead trees but cavities not apparent. (All dead trees Ash 20-40 DBH, intact).			
Rare Communities or Species			
Old-Growth Forest		✓	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics).
Tallgrass Prairie or Savannah		✓	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		✓	Soil type and depths.
Red Spruce or White Oak Forest		✓	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		✓	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		✓	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		✓	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		✓	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (Not Species At Risk) Unknown			Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		✓	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: May 30, 2016

Project Name: Romney WFC | Project #: 1736c | Area and/or Polygon ID: 008480105

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
No habitats (SWH) identified.					

TY	Species	EV	#	Notes	TY	Species	EV	#	Notes
	See ELC cover sheet.								

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young

FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

(Office use only) Community ID: WET-009

S1

Wetland Vegetation Communities

Project Name: Romney/WEC **Project #:** 1736c **Parcel #:** West of 00848005

Observer(s): PWD **ELC Code:** SWDM3-3

Date: May 30, 2016 **Time (24h):** 1219

Wetland #: WET-009 **Weather:** Precipitation: None Temp (° C): 25

Veg Community #: S1 Wind Speed & Direction: 2/SW Cloud %: 10

Wetland Type: S **Site Type:** I **Dominant Form:** h

Permanent Open Water: 0 % **Check one:** ○ central area ○ spread out in ponds

Photos: 120004

Forms (>25% absolute cover)	Dominant Species (give % relative cover)
h (%: 100)	Freeman Maple (80%), American Basswood (10%) American Elm (6%) Bur Oak (4%)
c (%:)	
≥10% dc (%:)	
≥10% dh (%:)	
ds (%:)	
ts (%:)	
ls (%:)	
gc (%:)	
ne (%:)	
be (%:)	
re (%:)	
≥10% ff (%:)	
≥10% f (%:)	
≥10% su (%:)	
m (%:)	
u (%:)	

Soil type: Mineral ☒ Organic ☐ Depth of organics: ? cm Organic Type: F M H Depth to bedrock: ? cm

Soil type: C-clay, L-loam, S-sand, SI-silt (or any combination)

Organic= ≥40cm humic or mesic over mineral; ≥60cm fibric over mineral; ≥10cm organic over bedrock

Rare Species (Local, Regional, Provincial):

None observed

Wildlife Notes:

See ELC cover sheet

SAR observations must also include a specific UTM location.

Forms: **h**=deciduous trees (>6m); **c**=coniferous trees (>6m); **dh, dc, ds**=dead trees/shrubs; **ts**=tall shrubs (1-6m); **ls**=low shrubs (<1m); **gc**=ground cover; **ne**=narrow emergents; **be**=broad emergents; **re**=robust emergents; **ff**=free-floating plants; f=floating plants; **su**=submerged plants; **m**=mosses; **u**=unvegetated water <2m deep on the outer edge of a wetland or completely surrounded by wetland

Wetland Type: **S**=swamp; **M**=marsh; **W**=open water marsh; **B**=bog; **F**=fen

Site Type: **L**=lacustrine (lake at least 8ha); **P**=palustrine; **R**=riverine; **IS**=isolated

Features to look for in the field:

- ◯ active beaver lodges/dams
- ◯ locations of rare species (UTM needed; note habitat, abundance, behaviour, etc)
  None obs. (property line)
- ◯ wildlife observations (furbearers, waterfowl, baitfish, bullfrogs, snapping turtles)
  None obs.
- ◯ plant species (wild rice, cranberries)
  None
- ◯ location of and directions of water flow at all inflows and outflows (mark whether permanent ⟶ or intermittent ⇢)
  No inflows or outflows apparent (on site or aerial).
- ◯ human related disturbances (fill, docks, houses, etc)
  No
- ◯ evidence of recreational activities (nature appreciation, fishing, hunting)
  None obs.
- ◯ locations of seeps or springs, lagg
  None obs.
- ◯ iron precipitates, marl deposits
  None obs.
- ◯ winter cover for wildlife
  No
- ◯ ungulate summer habitat, moose aquatic feeding habitat
  No
- ◯ suitability for waterfowl breeding, staging, moulting
  Not suitable
- ◯ surrounding topography (flat, rolling, hilly, steep)
- ◯ surrounding habitat diversity (≥0.5ha large, within 1.5km): O recent burn (<5yr); O abandoned ag. field; O utility corridor; ☑ dec. forest; O recent cutover or clearcut (<5yr); O conif. forest; O mixed forest; O crops; ☑ row crop; O abandoned pit/quarry; ☑ pasture; O ravine; O terrain appreciatbly undulating, hilly or with ravines; ☑ fence rows; O fence row with deep cover or shelterbelt; ☑ open lake or deep river; ☑ creek floodplain; O rock outcrop
- ◯ fish habitat present: Yes (No) (circle)
  If yes, describe: low or high marsh, seasonal or permanent swamp, fish or habitat observed
- ◯ vernal pools
  None obs.
- ☑ invasive species (plant, aquatic)
  Small amount of Phragmites along East edge, European Buckthorn edges.

Definitions:

Flow = flow in a defined channel

High marsh = the area from the water line to the inland boundary of marsh wetland type (i.e. wet meadow - insufficient standing water to provide fisheries habitat except during high water conditions)

Lagg = the depressed zone or moat that develops at the periphery of some bogs and fens which is generally wetter than the surrounding area and often contains water

Low marsh = the marsh area from the existing water line out to the outer boundary of the wetland

Marl = white, loose, crumbling deposit consisting of a mixture of clay, calcite, dolomite or invertebrate shells under water or under a layer of peat or vegetation

Open water marsh (W) = dominated by su, f, ff, u, or wild rice or soft or hard-stemmed bulrush

Swamp = ≥25% live trees or tall shrubs; ≥70% dead trees; ≥50% low shrubs

Attach full species list and wetland map.

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging

Notes: ↗ = Route

Map #1

Map #2

Map #3

Map #4

Map #5

Map #6

Map #7

Tilbury

Port Alma

Coatsworth

Leamington

Wheatley

WHEATLEY

County Rd 42

County Rd 46

County Rd 8

County Rd 14

S Middle Rd

N Middle Rd

Dover Rd

Mersea 5 Rd

Lake Erie (lac Erie)

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major → Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
- Road with Permanent Blocked Passage
- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
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- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

---- = Project Area boundary.

0 5.4 km

Projection: Web Mercator

N

March 10/16

Romney WEC #1736A

K. Burrell

0950-1420

Waterfowl Stopover + Staging

13°C, mist, SW-1
100% CC

- driving transect

Notes/Obs.

① [redacted]

- most fields are well drained, w/ little standing water
- fields are roughly 60% Soy, 25% corn, + 15% winter wheat

② Bald Eagle nest; 2 adults obs. on nest; 1 ad. appears to be incubating
- nest is highly visible; directly south of 1293 4th Con. Line ~ 600m.

③ Rusty Blackbird (see map)
↳ obs. in soy field w/ mixed blackbirds. At least 3 ind.

(4) - small marsh feature; calling Chorus Frogs; good location for amphibian survey

(5) - small man-made pond; suitable for amphibian survey

(6) - extensive fallow field (~500 x 500m)
↳ ask Ken re: site
→ well known to birders for grassland breeding birds

~~***~~

* - entire site is situated in excellent area during spring migration for shorebirds. CWS runs a survey in spring through study area.

K6B March 10/16

(5)

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #7

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Helipad
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major → Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
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- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

KGB Spring Waterfowl March 10/16 ① Romney WEC

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #1

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Tram Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major — Minor)
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- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

KGB March 10/16 (2)

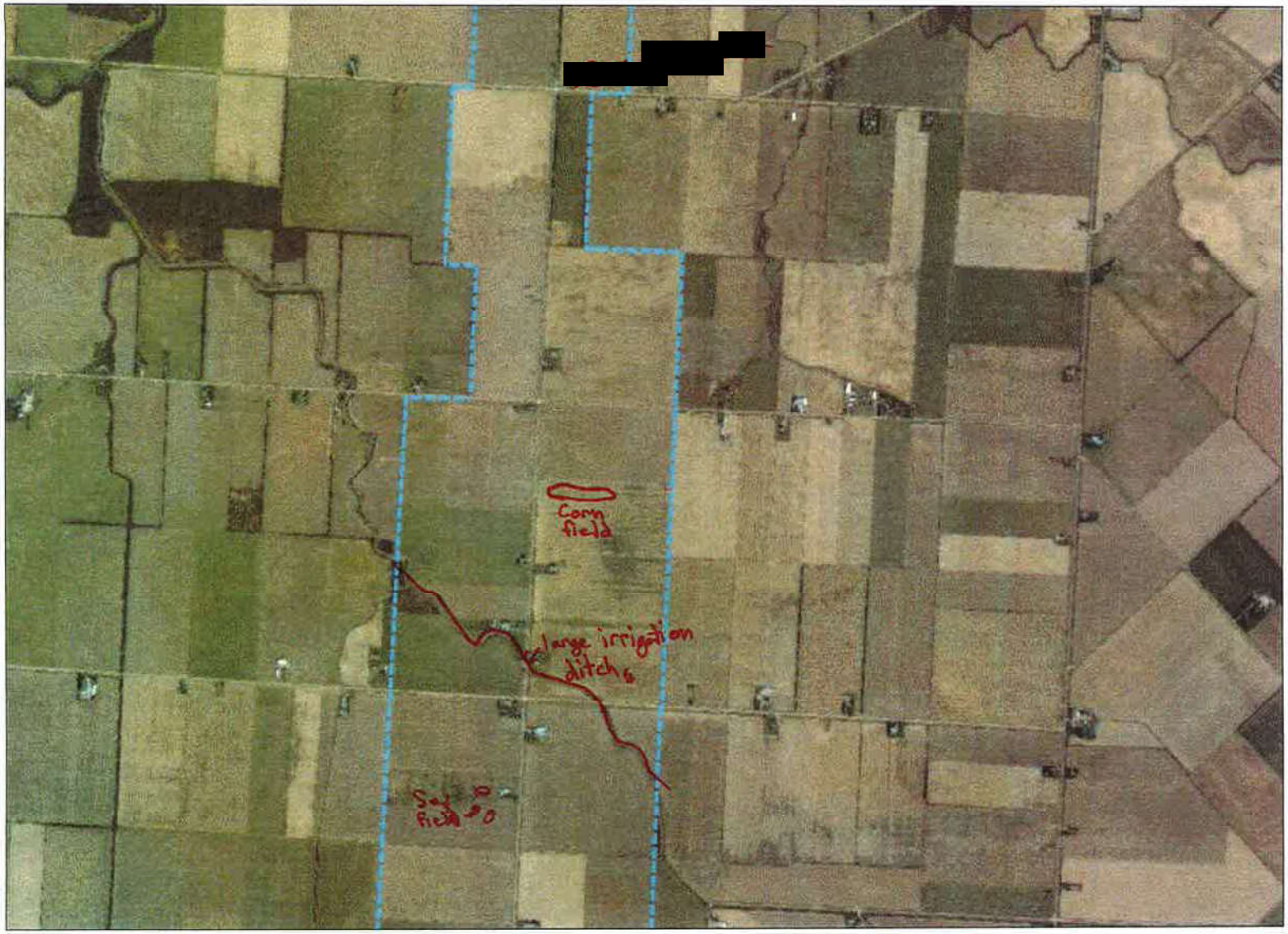
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #2



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major — Minor)
- Winter Road
- Roads with Bridge
- Road with Tunnel
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- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
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- Lot Line
- Indian Reserve
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- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

March 10/16 K6B (3)

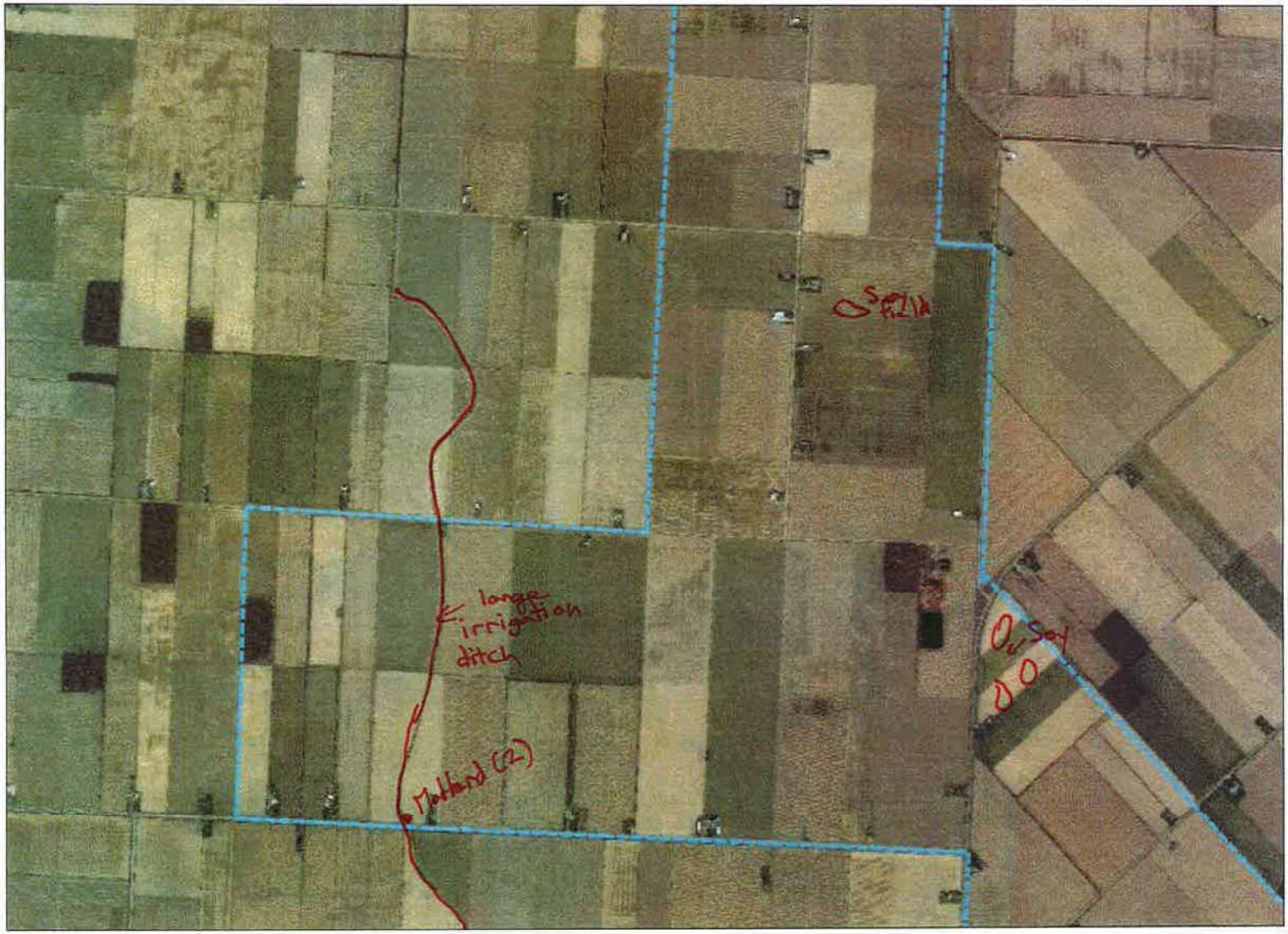
MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 3



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- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

K6B March 10/16 (4)

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #4

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
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- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

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KGB March 10/16 (6)

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 6

Legend

Building as Symbol
Building to Scale
Airport
Heliport / Hospital Heliport
Seaplane Base
Ferry Route
Trail Head / Trail
Railway / Train Station
Railway with Bridge
Railway with Tunnel
Road (Major — Minor)
Winter Road
Road with Bridge
Road with Tunnel
Primary Kings or 400 Series Highway
Secondary Highway
Tertiary Highway
District, County, Regional or Municipal Road
Toll Highway
One Way Road
Road with Permanent Blocked Passage
Road with Address Ranges
Hydro Line, Communication Line or Unknown Transmission Line
Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
Spot Height
Index Contour
Contour
Wooded Area
Wetland
Waterbody
Waterbody Elevation
Watercourse
Falls
Rapids
Rapids / Falls
Rapids
Rocks
Lock Gate
Dam / Hydro Wall
Dam / Hydro Wall
Provincial / State Boundary
International Boundary
Upper Tier / District Municipal Boundary
Lower Tier / Single Tier Municipal Boundary
Lot Line
Indian Reserve
Provincial Park
National Park
Conservation Reserve
Military Lands

0 1.4 km

Projection: Web Mercator

N

(7) KGB March 10/16

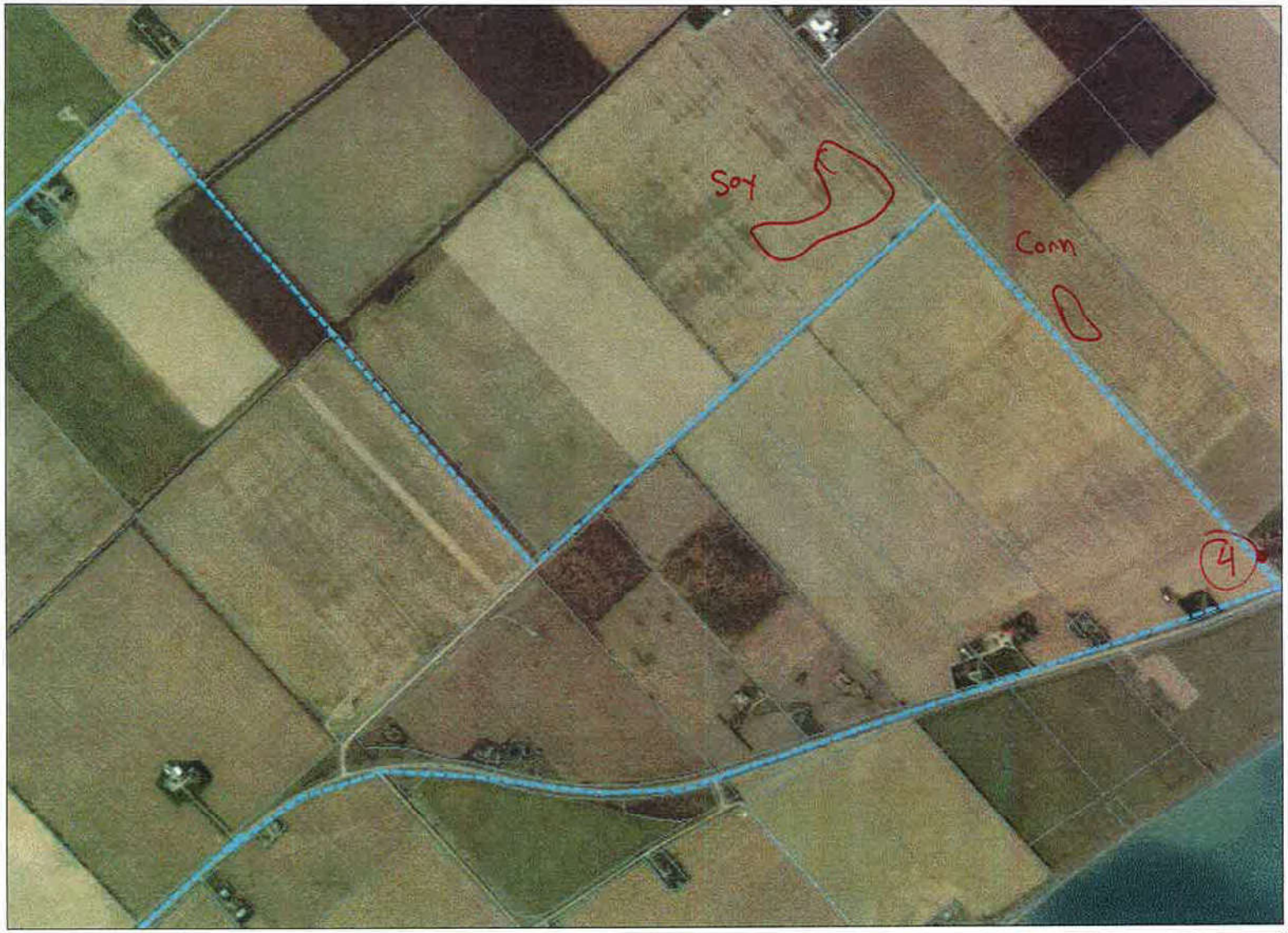
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 5



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
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- Winter Road
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- Contour
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- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
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- Dam \ Hydro Weir
- Provincial \ State Boundary
- International Boundary
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- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.7 km

Projection: Web Mercator

N

Romney WEC #1736A — March 17/16
Waterfowl survey — K6B
0920- 1340
9°C, 0%CC,
SW-4,
- overall condition quite dry

(1) fresh beaver signs on trees

(2) suitable Barn Swallow nest site (bridge)

(3) Amphibian monitoring stations
↳ (suitable)

(4) Pond beside woodlot
↳ old farm pit?
→ suitable for anurans

(5) Bald Eagle nest
↳ see last weeks notes
→ no adults present

(6) Suitable Red-headed Woodpecker habitat
↳ open forest

March 17/16 K6B (1)

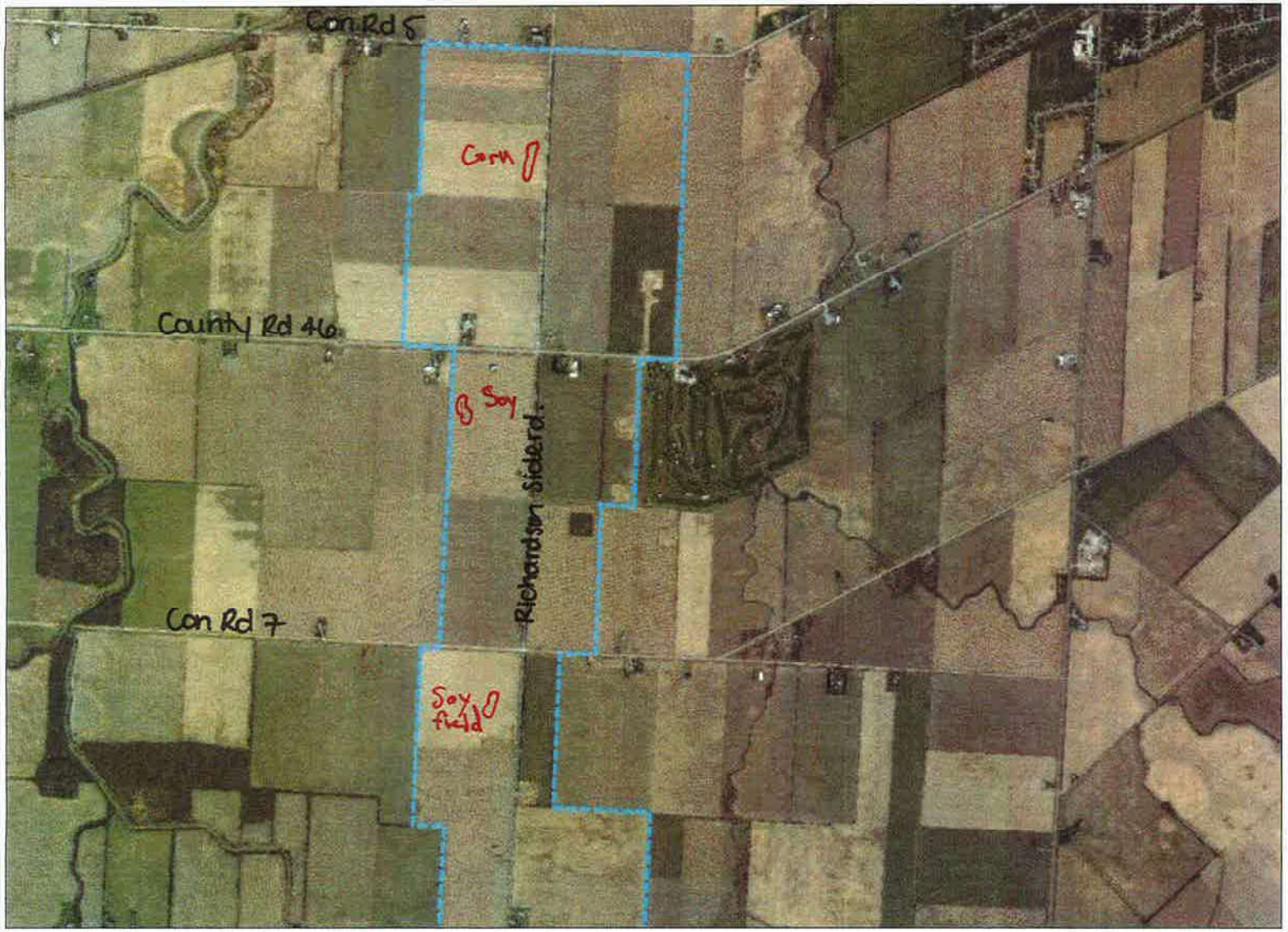
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #1



Legend

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- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

March 17/16 K6B (2)

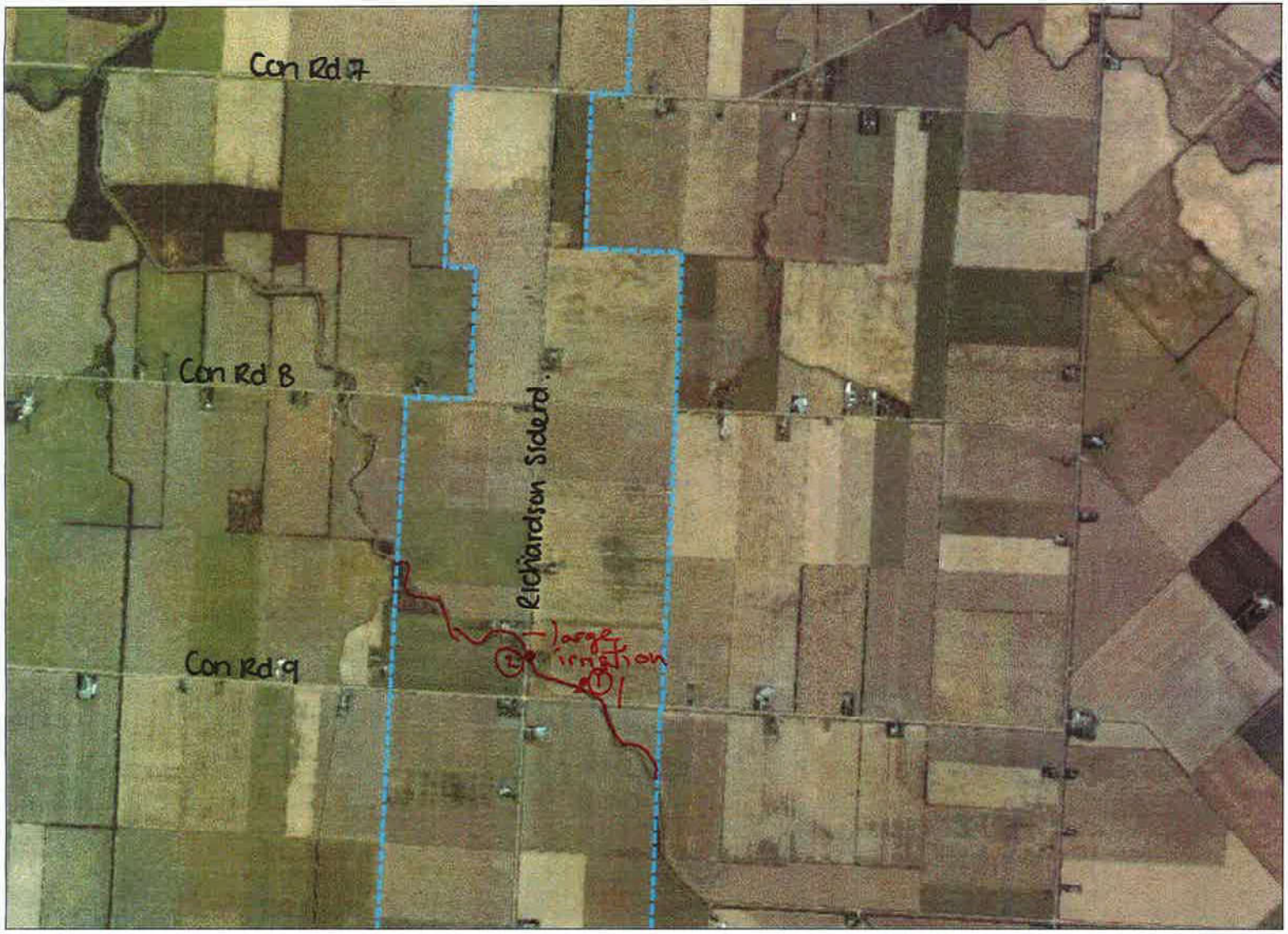
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #2



Legend

Building as Symbol
Building to Scale
Airport
Heliport \ Hospital Helipad
Seaplane Base
Ferry Route
Trail Head \ Trail
Railway \ Train Station
Railway with Bridge
Railway with Tunnel
Road (Major → Minor)
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Road with Tunnel
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Rapids
Rapids \ Falls
Rapids
Rocks
Lock Gate
Dam \ Hydro Wall
Dam \ Hydro Wall
Provincial \ State Boundary
International Boundary
Upper Tier \ District Municipal Boundary
Lower Tier \ Single Tier Municipal Boundary
Lot Line
Indian Reserve
Provincial Park
National Park
Conservation Reserve
Military Lands

0 1.4 km

Projection: Web Mercator

March 17/16 KGB (3)

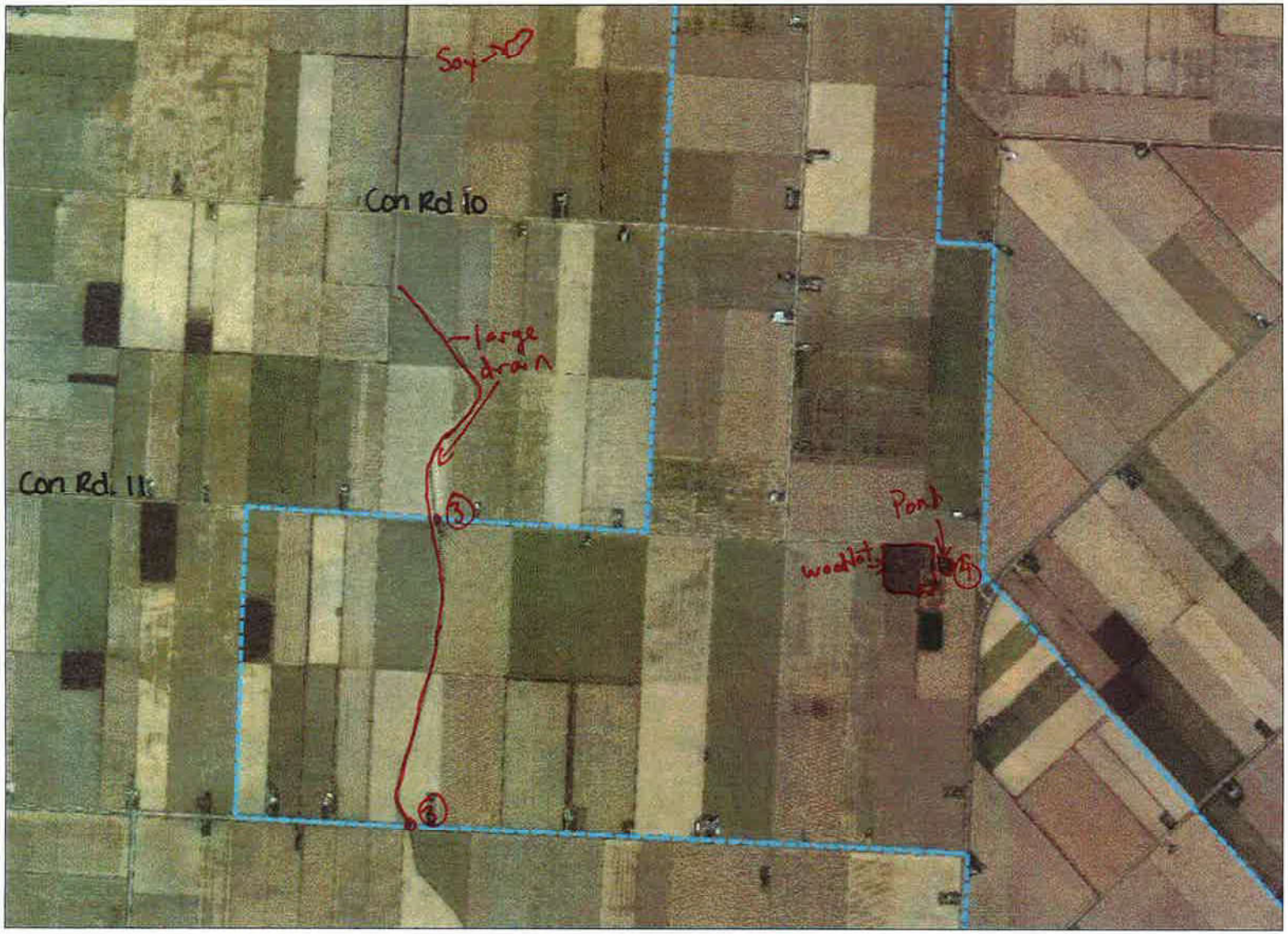
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 3



Legend

Building (w. Symbol)
Building to Scale
Airport
Heliport \ Hospital Helipon
Seaplane Base
Ferry Route
Trail Head \ Trail
Railway \ Train Station
Railway with Bridge
Railway with Tunnel
Road (Major → Minor)
Winter Road
Road with Bridge
Road with Tunnel
Primary, Kings or 400 Series Highway
Secondary Highway
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District, County, Regional or Municipal Road
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Contour
Wooded Area
Wetland
Waterbody
Waterbody Elevation
Watercourse
Falls
Rapids
Rapids \ Falls
Rapids
Rocks
Lock Gate
Dam \ Hydro Wall
Dam \ Hydro Wall
Provincial \ State Boundary
International Boundary
Upper Tier \ District Municipal Boundary
Lower Tier \ Single Tier Municipal Boundary
Lot Line
Indian Reserve
Provincial Park
National Park
Conservation Reserve
Military Lands

0 1.4 km

Projection: Web Mercator

N

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March 17/16 (4)

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #4

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport / Hospital Helipad
- Seaplane Base
- Ferry Route
- Trail Head / Trail
- Railway / Train Station
- Railway with Bridge
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- Lower Tier / Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

Mora 17/16 K6B (5)

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 6

Legend

Building as Symbol
Building to Scale
Airport
Heliport \ Hospital Heliport
Seaplane Base
Ferry Route
Trail Head \ Trail
Railway \ Tram Station
Railway with Bridge
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Dam \ Hydro Wall
Provincial \ State Boundary
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Upper Tier \ District Municipal Boundary
Lower Tier \ Single Tier Municipal Boundary
Lot Line
Indian Reserve
Provincial Park
National Park
Conservation Reserve
Military Lands

0 1.4 km

Projection: Web Mercator

N

March 17/16 K6B (6)

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 5

Legend

- Building (all Symbol)
- Building to Scale
- Airport
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0 0.7 km

Projection: Web Mercator

N

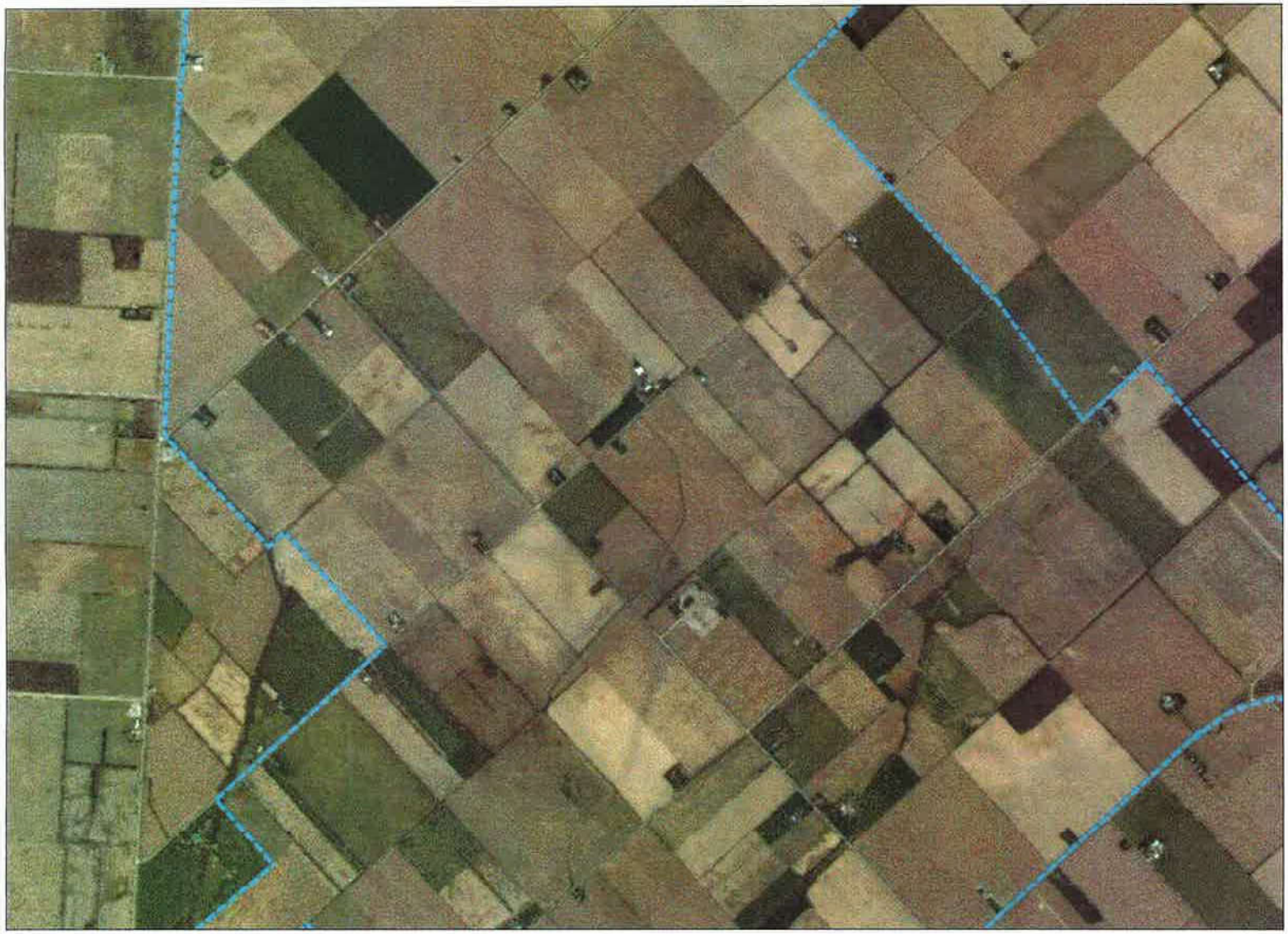
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map #7



Legend

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0 1.4 km

Projection: Web Mercator

N

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Romney WEC #1736A — K6B — 3/25/16

0908-1317

-1°C, W-3, 100% CC, No precip.

Waterfowl surveys!

(#1) Am. Kestrel ♂
↳ suitable habitat, perched on wire

(#2) Red-tailed Hawk
↳ adult perched

(#3) Ring-necked Duck (3♂, 2♀)
↳ ~~perched~~ foraging on pond

(#4) Am. Kestrel ♂
↳ adult perched along road

(#5) Bald Eagle nest (exact location)
↳ 1 adult sitting very low down on nest
→ nest appears to be in an Ash tree
↳ not confirmed (tree species)

(#6) Am. Kestrel ♂ + ♀ (pair)
↳ poss. nest site

(#7) Mallard 2 pair in drainage ditch

(#8) Wilson's Snipe (1) ♂
↳ foraging in ditch

(#9) A. Kestrel perched

(#10) Am. Kestrel perched (2) pair

(#11) Wood Duck ♂
♂ A. Kestrel 100m. NW

3/25/16 K6B #1

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Ontario

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:

Map 1

Legend

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- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

KGB 3/25/16 #2

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:

Map 2

Legend

- Building as Symbol
- Building to Scale
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- Seaplane Base
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- Provincial \ State Boundary
- International Boundary
- Upper Tier \ Distinct Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

K6B 3/23/16 #3

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 3

Map 3

Legend

- Building as Symbol
- Building to Scale
- Airport
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- Watercourse
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- Lot Line
- Indian Reserve
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- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

3/25/16 KGB #4

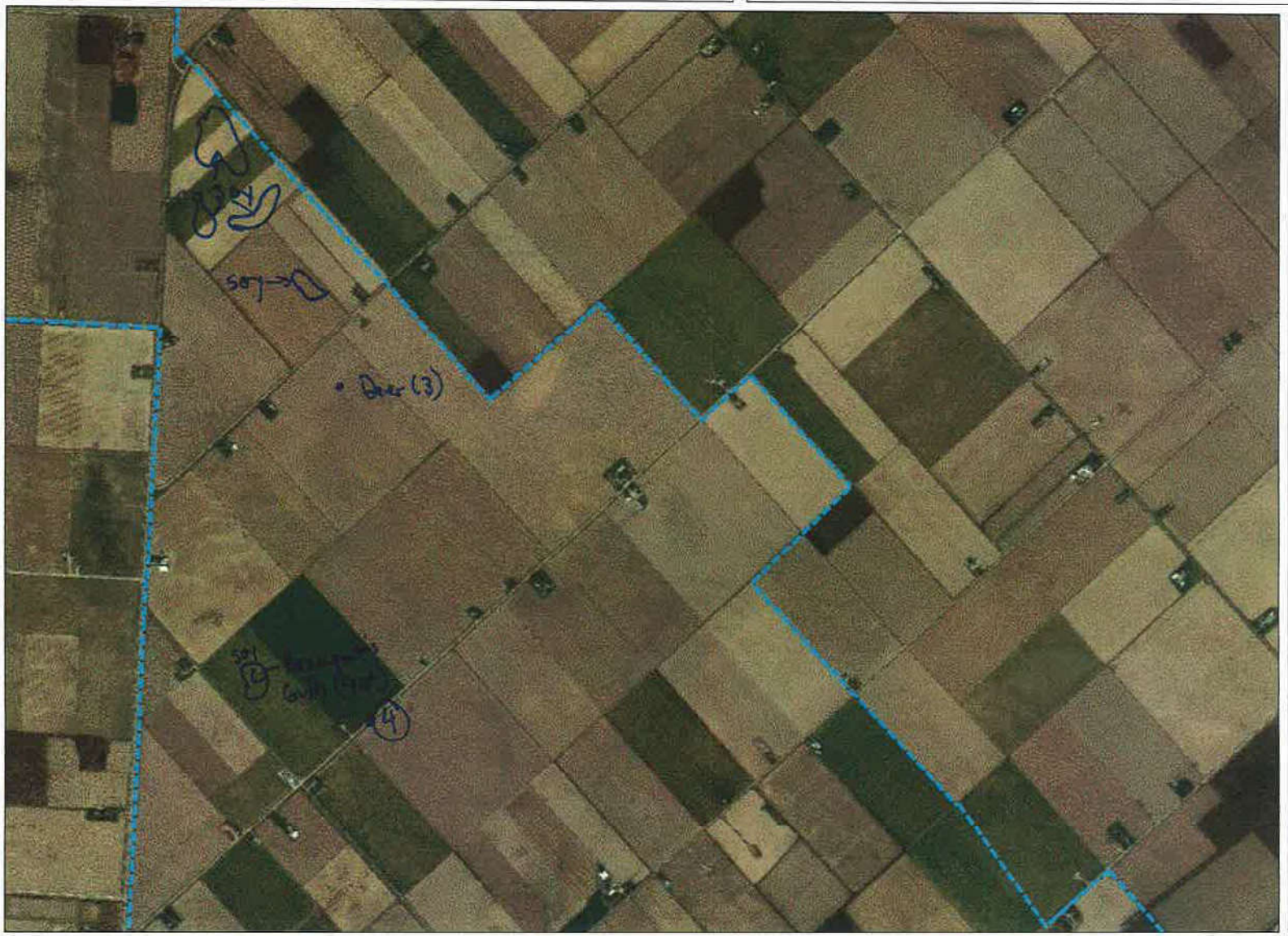
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map 4



Legend

- Building as Symbol
- Building to Scale
- Airport
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- Seaplane Base
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- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major — Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
- Road with Permanent Blocked Passage
- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

3/25/16 KGB #5

Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 6

Map 6

Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major → Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
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- Lock Gate
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- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

3/25/16 KOB #6

MINISTRY OF NATURAL RESOURCES AND FORESTRY

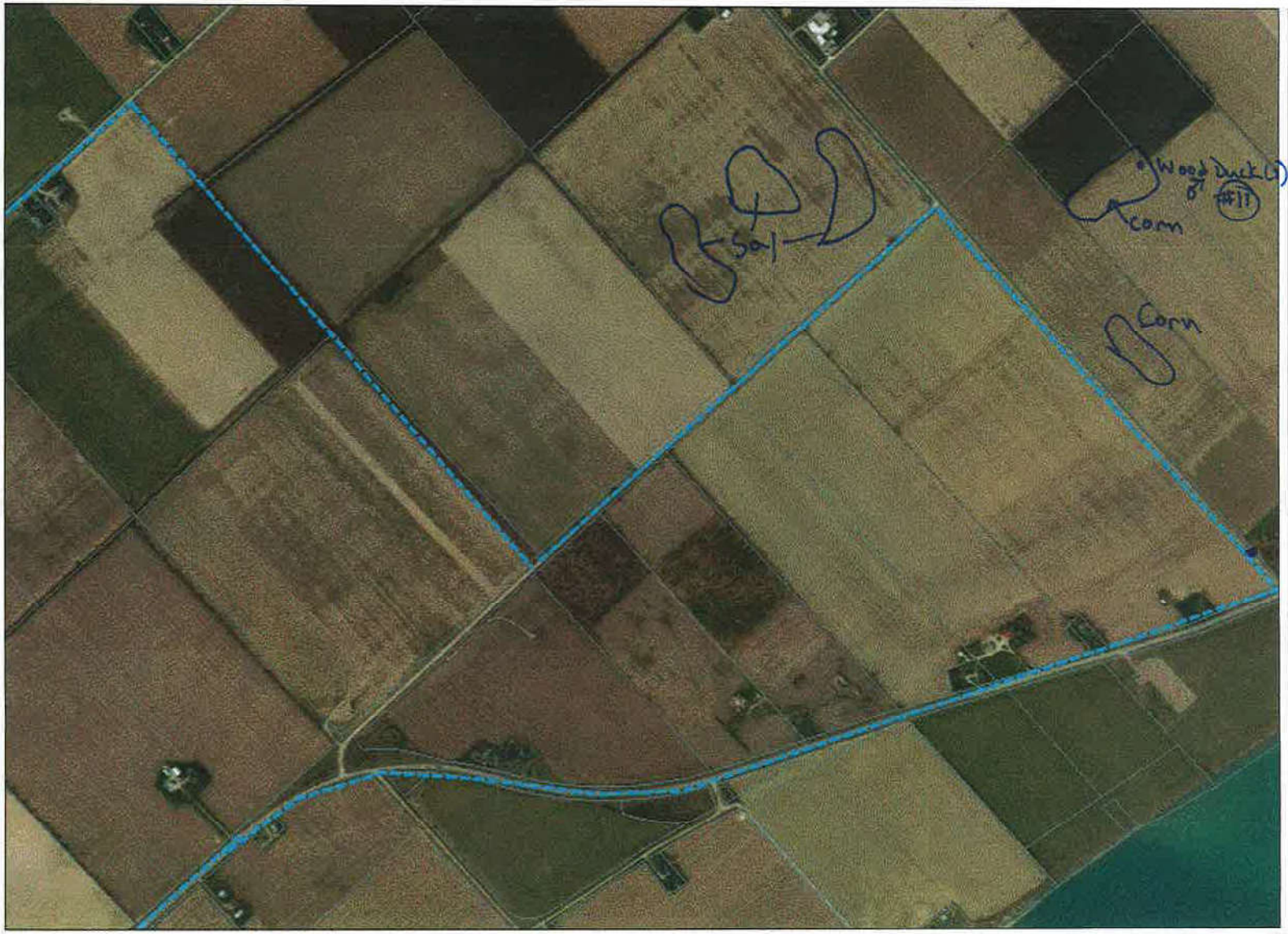
Ontario

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes:
Map 5

Map 5



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
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- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.7 km

Projection: Web Mercator

N

3/25/16 KBB #7

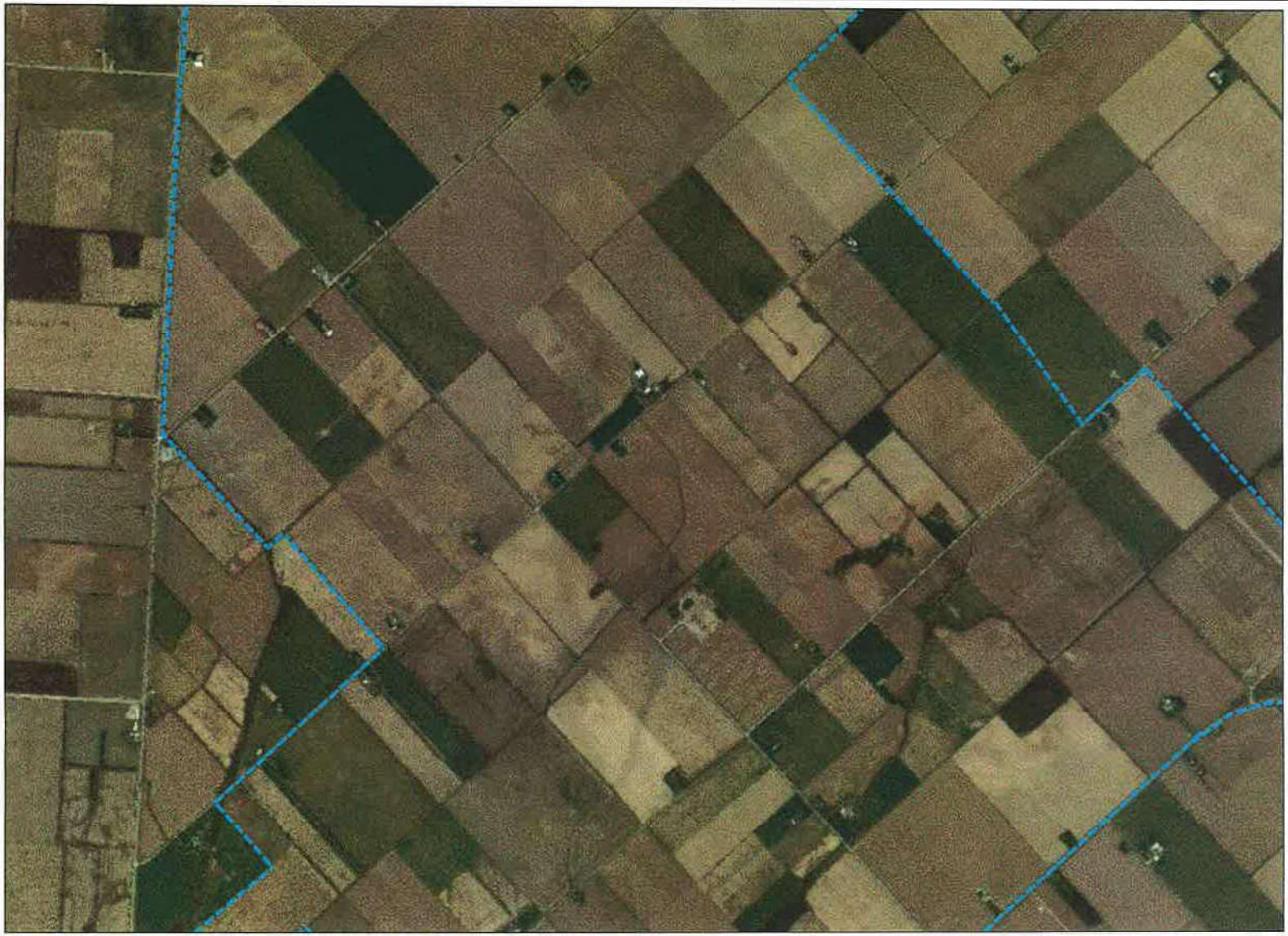
Ontario

MINISTRY OF NATURAL RESOURCES AND FORESTRY

Make a Topographic Map

Romney WEC - Waterfowl Stopover and Staging Area

Notes: Map 7



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail Head \ Trail
- Railway \ Train Station
- Railway with Bridge
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- Waterbody
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- Dam \ Hydro Wall
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- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 1.4 km

Projection: Web Mercator

N

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