Report

Natural Heritage Assessment Report

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2026-01-23	**0**	**Approved for Use**	**T. Simpanen**	**S. Thompson**	**C. Sehl**
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Table of Concordance

The following concordance table cross-references the contents of this Natural Heritage Assessment with requirements identified in O.Reg. 359/09 so that the information can be easily found within this report.

O.Reg. 359/09 Section Reference	O.Reg. 359/09 Requirement	Natural Heritage Report Section
Section 25	Conduct a Natural Heritage Records Review	Section 2
Section 26	Conduct a Natural Heritage Site Investigation	Section 3
Section 27	Determine if natural features are significant (Evaluation of Significance)	Section 4
Section 28	Confirmation letter from MNR	Forthcoming
Section 38(2)	Class 3 solar facility projects cannot be located within 50 m of a provincially significant wetland, an ANSI (earth science or life science), a significant woodland, significant wildlife habitat, provincial park, or conservation reserve, unless an Environmental Impact Study is prepared in accordance with the Natural Heritage Assessment Guide	Section 5

Glossary

ANSI	Area of Natural and Scientific Interest
APRD	Approvals and Permitting Requirements Document
CLUPA	Ontario Crown Land Use Policy Atlas
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
EC	Environment Canada
ELC	Ecological Land Classification
EIS	Environmental Impact Study
EoS	Evaluation of Significance
EPA	Environmental Protection Act
ESA	Endangered Species Act
FIT	Feed-in Tariff
HVA	Highly Vulnerable Aquifers
IBA	Important Bird Areas
IESO	Independent Electricity System Operator
kW	Kilowatt
LIO	Land Information Ontario
MBCA	Migratory Birds Convention Act
MNR	Ministry of Natural Resources and Forestry
MECP	Ministry of the Environment, Conservation and Parks
NHA	Natural Heritage Assessment
NHAG	Natural Heritage Assessment Guide
NHIC MaM	Natural Heritage Information Centre Make a Map
NHIC	Natural Heritage Information Center
NHRM	Natural Heritage Reference Manual
OBBA	Ontario Breeding Bird Atlas
OP	Official Plans
ORAA	Ontario Reptile and Amphibian Atlas
PSW	Provincially Significant Wetland
PV	Photovoltaic
REA	Renewable Energy Approval

SAR	Species at Risk
SARA	Species at Risk Act
SARO	Species at Risk in Ontario
SoCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
SWHTG	Significant Wildlife Habitat Technical Guide

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1. Introduction

CarbonFree Fort Frances Ltd (CarbonFree) is proposing to develop a 167-megawatt (MW) Class 3 solar photovoltaic (PV) project ("the Project") adjacent to Highway 611 in the unincorporated township of Miscampbell, approximately 7.5 km northwest of Fort Frances. The Project is located in Ecodistrict 5S within the Ministry of Natural Resources (MNR) Rainy River District.

The Project will require a Renewable Energy Approval (REA) under Ontario Regulation (O.Reg.) 359/09 (as amended in May 2016) – Renewable Energy Approvals under Part V.0.1 of the *Environmental Protection Act* (EPA) (herein referred to as the REA Regulation). Construction is anticipated to start in early 2027, pending receipt of requisite permits and approvals.

This Natural Heritage Assessment (NHA) report has been prepared in partial fulfillment of the REA requirements, specifically those outlined in Sections 24 through 28, 37 and 38 of the REA Regulation, and in accordance with the Natural Heritage Assessment Guide (NHAG) (MNR, 2012a). This NHA report will be submitted to the Ministry of Natural Resources (MNR) for review and comment and issuance of a confirmation letter. The NHA and MNR confirmation letter will be included as part of the overall REA application package to the Ministry of Environment, Conservation and Parks (MECP).

The following sections provide an overview of the REA Regulation related to the NHA, study approach, and report format.

1.1 REA Regulation – Natural Heritage Assessment

The REA Regulation prescribes the requirements for renewable energy projects based on the class of solar facility. As set out in the table of Section 4 of the REA Regulation, the Project meets the requirements of a Class 3 solar facility (i.e., nameplate capacity >10 kW).

The NHA requirements, as outlined in Section 24 of the REA Regulation, consists of a Records Review (Section 25), Site Investigation (Section 26), and where applicable, an Evaluation of Significance (EoS) (Section 27) to confirm the significance of features where the Project Location[1] is in or within 50 m of a provincial park, conservation reserve or natural feature. An Environmental Impact Study (EIS) (Subsections 37(2)(a) and 38(2)(b)) is required where a significant or provincial significant natural feature is identified. Written confirmation and any comments from MNR in respect of the NHA (Section 28, Subsections 37(2)(b)(c) and 38(2)(b)(c)) are also required as part of the application for the issuance of a REA.

[1] "Project Location" is defined in the REA Regulation 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*."

The REA Regulation defines Natural Features as all or part of the following:

- Area of Natural and Scientific Interest (ANSI) (earth science).
- ANSI (life science).
- Wetland (coastal wetland, northern wetland and southern wetland).
- Wildlife Habitat.
- Woodland. Note that as per the definition laid out within the REA, Woodland is defined as being located south and east of the Canadian Shield and is therefore not applicable to this Project location.

1.2 NHA Approach

The following sections include a description of the features that need to be confirmed in or within 50 m of the Project Location. An assessment of Species at Risk[2] (SAR) is not part of the NHA. Provincially protected SAR will be discussed in the Approvals and Permitting Requirements Document (APRD) and MECP *Endangered Species Act* permitting processes separately. Federally listed species on Schedule 1 of the *Species at Risk Act* (SARA) are not protected under the *Endangered Species Act* (ESA), 2007, and will be considered a species of conservation concern (SoCC) in this report. Consultation with Environment and Climate Change Canada (ECCC) may be required for species listed in Schedule 1, including aquatic species and migratory birds listed in the *Migratory Birds Convention Act* (MBCA), 1994 and that are also listed in Schedule 1.

1.2.1 Provincial Plan Areas

A Records Review was completed to determine whether the Project Location is in or within 50 m of a provincial plan area, i.e., Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan, Lake Simcoe Protection Plan.

1.2.2 Provincial Parks and Conservation Reserves

Provincial Parks and Conservation Reserves are protected under the *Provincial Parks and Conservation Reserves Act*, *2006*. Renewable energy projects are generally prohibited within these areas, unless they meet the exceptions listed in Section 19 of the Act. Projects that meet the requirements of the *Provincial Parks and Conservation Reserves Act* are subject to an NHA. The REA Regulation requires a determination, including a confirmation letter from MNR, on the presence/absence of provincial parks and conservation reserves on and within 50 m of the Project Location.

This NHA report reviews whether the Project Location is in or within 50 m of a provincial park or conservation reserve and a determination will be made in the Records Review (Section 2).

[2] SAR include species that are designated as Extirpated, Endangered or Threatened and listed on the SARO List (O.Reg. 230/08) made under the *Endangered Species Act* (ESA), 2007.

If there are no Provincial Parks or Conservation Reserves identified during the Records Review, no further consideration or verification of presence/absence is required.

1.2.3 Natural Features

The REA Regulation defines natural features to include all or part of an ANSI (Earth Science or Life Science), wetland (Coastal, Northern or Southern), woodland, and wildlife habitat. As part of the NHA, an assessment and determination on the presence/absence and significance (if applicable) of a natural feature in or within 50 m of the Project Location is required. Each of the natural features to be assessed is described in the subsequent sections.

1.2.3.1 Area of Natural and Scientific Interest

MNR recognizes two types of ANSIs based on natural heritage values related to protection, scientific study or education: earth science ANSI and life science ANSI. MNR is responsible for identifying and assessing whether they are provincially, regionally, or locally significant. Only provincially significant ANSIs are protected through the REA Regulation.

This NHA report will review whether the Project Location is in or within 50 m of an Earth Science or Life Science ANSI and a determination made in the Records Review (Section 2). As a general practice, all ANSIs regardless of designation will be identified as part of this NHA and MNR will be consulted for further guidance. If there are no ANSIs identified during the Records Review, no further consideration or verification of presence/absence is required.

1.2.3.2 Wetland

The REA Regulation defines wetland as "*land such as a swamp, marsh, bog or fen, other than land that is being used for agricultural purposes and no longer exhibits wetland characteristics, that, is seasonally or permanently covered by shallow water or has the water table close to or at the surface, and has hydric soils and vegetation dominated by hydrophytic or water-tolerant plants*." The REA Regulation further distinguishes a wetland as a

- **Coastal Wetland** – defined in the REA Regulation as "*a wetland that is located on Lake Ontario, Lake Erie, Lake Huron, Lake Superior, Lake St. Clair, St. Mary's River, St. Clair River, Detroit River, Niagara River or St. Lawrence River; or on a tributary to any of these waterbodies and, either in whole or in part, downstream of a line located two kilometers (km) upstream of the 1:100 year flood line*."
- **Northern Wetland** – defined in the REA Regulation as "*a wetland located north of the northern limit of Ecoregions 5E, 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under Section 3 of the Planning Act*".
- **Southern Wetland** – defined in the REA Regulation as "*a wetland located south of the northern limit of Ecoregions 5E, 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under Section 3 of the Planning Act".*

The Northern Wetland definition is applicable to this Project. This NHA report reviews whether the Project Location is in or within 50 m of a wetland. A determination will be made in

the Records Review (Section 2) and Site Investigation (Section 3) and whether an EoS and EIS are required.

1.2.3.3 Wildlife Habitat

The REA Regulation defines wildlife habitat as "*an area where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, water, shelter and space to sustain their population, including an area where a species concentrates at a vulnerable point in its annual or life cycle and an area that is important to a migratory or non-migratory species".*

The MNR provides specific guidance on identifying and assessing wildlife habitat in the Significant Wildlife Habitat (SWH) Criteria Schedules. No specific Ecoregion Schedule currently exists for Ecoregion 5S. To substitute this, Ecoregion 3E (MNR, 2015) has been adopted to assess the site for Candidate Significant Wildlife Habitats, with reference to the Natural Heritage Reference Manual (NHRM) (MNR, 2010) and Significant Wildlife Habitat Technical Guide (SWHTG) (MNR, 2000) where necessary. A brief overview of the wildlife habitats to be considered in the NHA is provided below, with more specific details provided in Section 3.3.7.2.

The MNR recognizes five main categories of wildlife habitat, each with several wildlife habitat types (further described in Section 3.3.7.2).

- **Seasonal Concentration Areas of Animals** – Defined as "*areas where animals occur in relatively high densities for the species at specific periods in their life cycles and/or in particular seasons" and areas that are "localized and relatively small in relation to the area of habitat used at other times of the year*" (MNR, 2010).
- **Rare Vegetation Communities** – Defined as "*areas that contain a provincially rare vegetation community and areas that contain a vegetation community that is rare within the planning area*" (MNR, 2010).
- **Specialized Habitat for Wildlife** – Defined as "*areas that support wildlife species that have highly specific habitat requirements, areas with high species and community diversity, and areas that provide habitat that greatly enhances species' survival*" (MNR, 2010).
- **Habitat for Species of Conservation Concern** – Defined as "*habitats of species that are designated at the national level as endangered or threatened by COSEWIC, which are not protected in regulation under Ontario's ESA; habitats of species listed as special concern under the ESA on the SARO List (formerly referred to as "Vulnerable" in the SWHTG); and habitats of species that are rare or substantially declining, or have a high percentage of their global population in Ontario*" (MNR, 2010). More specifically, species of conservation concern (SoCC) include the following:

- **Globally Rare Species** – These species are assessed by NatureServe and assigned a global conservation status rank (G-rank) of G1 to G3.
- **Nationally Rare Species** – These species are designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Endangered or Threatened and not protected in regulation under the *Ontario Endangered Species at Risk Act* (ESA).
- **Provincially Rare Species** – These species are designated by the MNR and assessed under two categories: species listed as Special Concern on the Species at Risk in Ontario (SARO) List; and species that are assigned a provincial (i.e., sub-national) conservation status rank of S1 to S3 and are not on the SARO List. There are species that can be found in both categories.
- **Regionally Rare Species** – These species are not assigned a formal designation; however, they have been recognized as declining within a planning jurisdiction by government and/or non-government authorities.
- **Conservation Priority Species** – These include priority species that are recognized in government and/or non-government conservation plans and assigned a conservation objective.

- **Animal Movement Corridors** – Defined as "*elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another*" (MNR, 2000).

1.2.3.4 Woodland

The REA Regulation defines woodland as "*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 in Ecoregions 6E and 7E as shown in Figure 1 in the Provincial Policy Statement issued under Section 3 of the *Planning Act (*King's Printer for Ontario, 2024).

As this Project location falls outside of the applicable definition for a woodland, this will not be considered throughout this NHA report.

1.3 Report Format

The report format is provided below, which includes a summary of the regulatory requirements for each section. A flowchart showing the NHA process, as reproduced from the NHAG (MNR, 2012a), is provided in Figure 1-1:

- **Records Review** – Section 2.
- **Site Investigation** – Section 3.
- **Evaluation of Significance (EoS)** – Section 4.
- **Environmental Impact Study (EIS)** – Section 5.

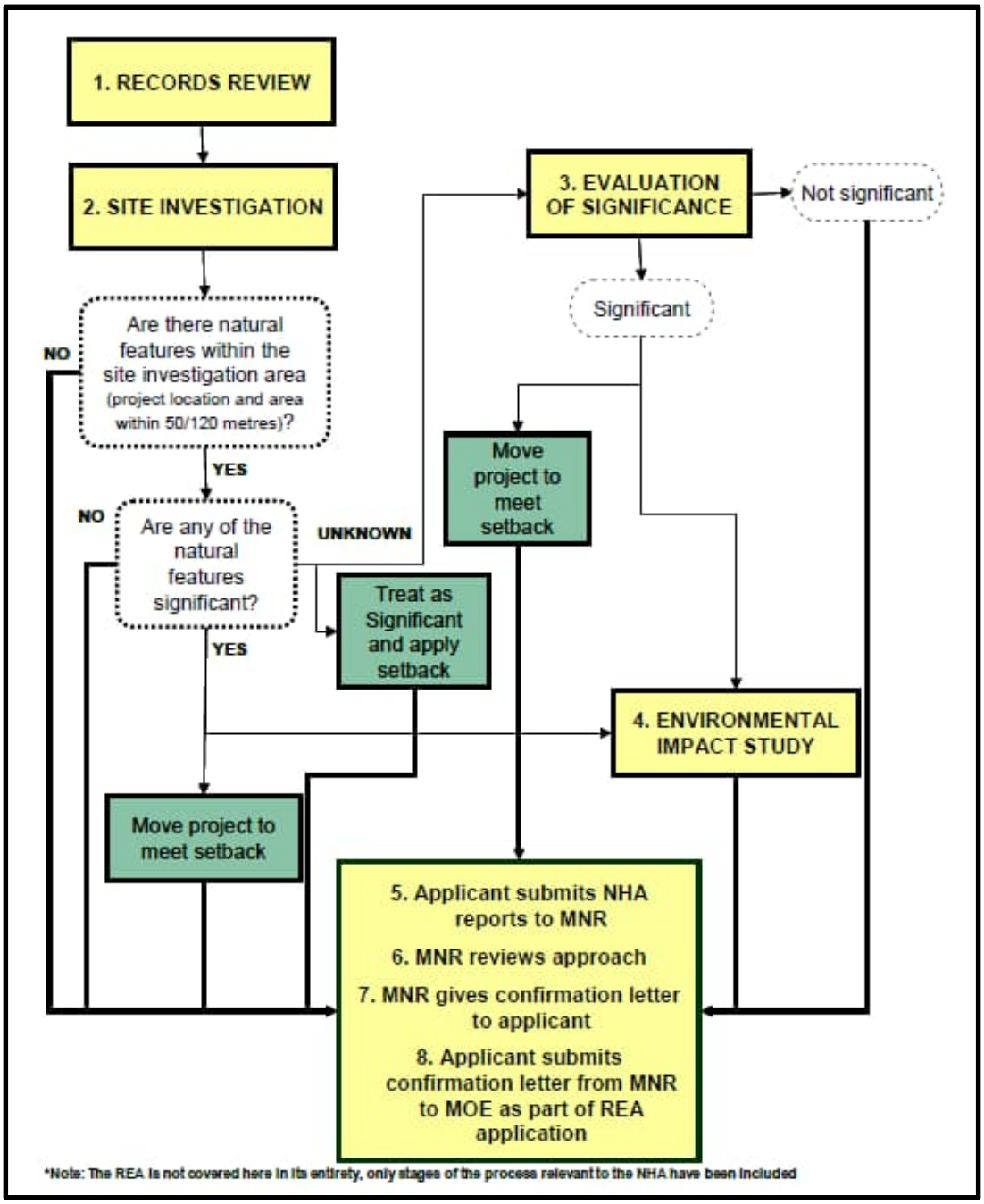


Figure 1-1: Flowchart of the NHA Process, Reproduced from the NHAG (MNR, 2012a)

2. Records Review

A Records Review is required as part of the NHA, as outlined in Subsection 25(1) of the REA Regulation. A search for records is required to determine if the Project Location is on or within 50 m of a Provincial Park, Conservation Reserve and Natural Feature (as defined in Section 1.2).

Publicly available records maintained by government and non-government sources were reviewed. Key information sources included: MNR Fort Frances District, and other non-government organizations.

The following sources were considered but not discussed further as they are not within the jurisdiction of the Project and do not apply to this Project: Municipal Planning Authority, Local Planning Board, Local Roads Board, Local Services Board, Niagara Escarpment Commission, Greenbelt Plan, and Oak Ridges Moraine Conservation Plan.

A compilation of all species identified in the Records Review is provided in Appendix A, and includes the source where the information was obtained for each species, scientific names, conservation rank (global, provincial, regional, and priority species) and at-risk status (national and provincial).

2.1 REA Regulation – NHA Records Review

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to conduct a Records Review and prepare a report summarizing the results and determinations made whether the Project Location is in or within 50 m of a

- Provincial Park or Conservation Reserve.
- Natural Feature.

The following sections have been prepared to meet these requirements and include

- The methodology used to complete the Records Review, including a summary of the information sources and data analyzed.
- Results of the Records Review.
- Summary of the determinations made.

2.2 Records Review Methodology

The following background documents and information sources were reviewed for records related to Provincial Parks, Conservation Reserves and Natural Features on and within 50 m of the Project Location.

2.2.1 Ministry of Natural Resources and Forestry Records

The following information sources from the MNR were reviewed for records related to Provincial Parks, Conservation Reserves, and Natural Features within 1 km^2 of the Project Location:

- **Land Information Ontario (LIO) Mapping** – LIO data is maintained by the MNR and provides key provincial geospatial data about Ontario. Shapefiles obtained from the LIO open datasets were obtained and used to prepare a map showing the presence/absence of Provincial Policy Plan areas, Provincial Parks, Conservation Reserves, and Natural Features on and within 50 m of the Project Location (Rainy River District map layer). The data layers reviewed are provided in Section 2.3.
- **Natural Heritage Information Centre Make a Map (NHIC MaM)** – The NHIC MaM is a web application that identifies
  - Provincial Parks.
  - Conservation Reserves.
  - Natural Features (i.e., ANSIs, wetlands, woodlands, natural heritage systems related to provincial policy plan areas, such as the Niagara Escarpment, Oak Ridges Moraine and Greenbelt Plans).
  - Occurrences of plant communities, wildlife concentration areas and natural areas, as well as species of conservation concern (i.e., rare species). As mentioned in Section 1.2, SAR are not discussed in this NHA and will be assessed separately in the APRD. The NHIC data is organized into 1 km^2 map squares. The map squares reviewed and that overlap the Project Location, include 15VP5890, 15VP5891, 15VP5892, 15VP5990, 15VP5991, 15VP5992. Species identified in these map squares (excluding SAR) are considered as part of the Records Review and listed in Appendix A.
- **Ontario Crown Land Use Policy Atlas** – The *Ontario Crown Land Use Policy Atlas* (CLUPA) is an interactive web browser that provides boundaries of crown land use areas and associated land use policies. This interactive map was used to determine the presence/absence of crown land within 1 km^2 of the Project Location.

2.2.2 Atlas of the Mammals of Ontario

A review of the Atlas of the Mammals of Ontario (Dobbyn, 1994) was completed in support of the wildlife habitat assessment. A search was completed for mammals whose ranges overlap with the Project and that are listed in the Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 3E (MNR, 2015) or that are considered to be a species of conservation concern. Species considered as part of the Records Review are listed in Appendix A.

2.2.3 *Ontario Reptile and Amphibian Atlas*

A review of the Ontario Reptile and Amphibian Atlas (Ontario Nature, 2015) and interactive range maps were completed. The Atlas provides known ranges of reptiles and amphibian species in Ontario based on historic and current species occurrences. The information is displayed in 10 x 10 km^2 map squares. The species documented within map squares 15VP59, 15VP68, 15VP58 which overlaps the Project Location, was included in the Records Review and considered in respect of the wildlife habitat assessment. Species documented on the map squares are listed in Appendix A.

2.2.4 *Important Bird Areas of Canada*

The Important Bird Areas (IBA) Canada website was reviewed to determine whether any IBAs are in or within 50 m of the Project Location. IBAs are discrete sites that support specific groups of birds such as threatened birds, large groups of birds, and birds restricted by range or by habitat. No IBAs were located within the Project footprint or within 50 m of the Project location.

2.2.5 *Ontario Breeding Bird Atlas*

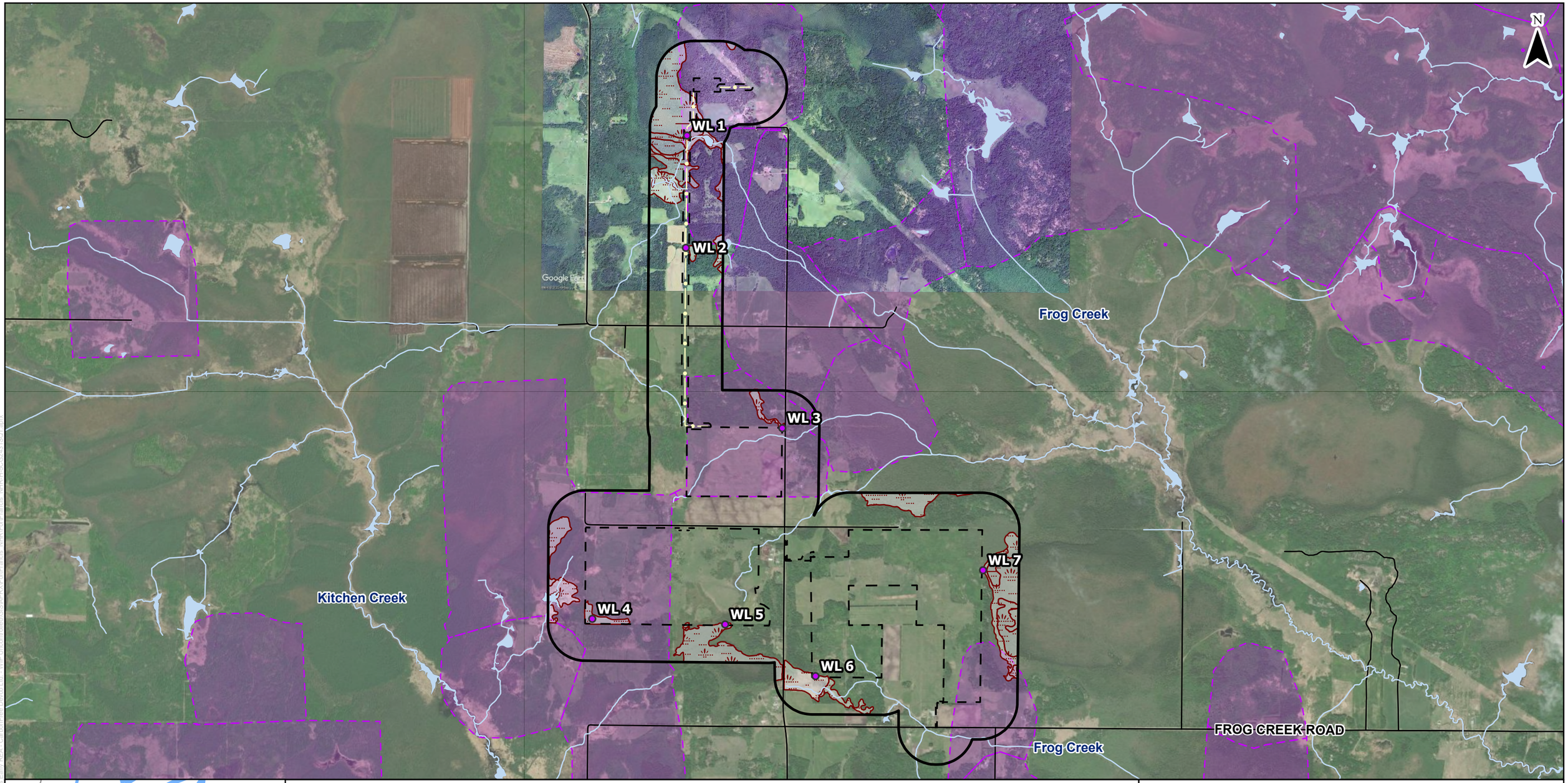
The Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada *et al*., 2006) was reviewed to determine which species have the potential to occur on or within 50 m of the Project Location. The OBBA provides a list of bird species that have been observed within a 10 x 10 km^2 area during surveys completed between 1981 to 1985 and 2001 to 2005. Species that were documented between 2001 and 2005 were considered as part of the Records Review. The OBBA map square that overlaps the Project Location are 15TVP58, 15TVP59, 15TVP68, and 15TVP69. The species observed within this map square (between 2001 and 2005) are considered as part of the wildlife habitat assessment and listed in Appendix A.

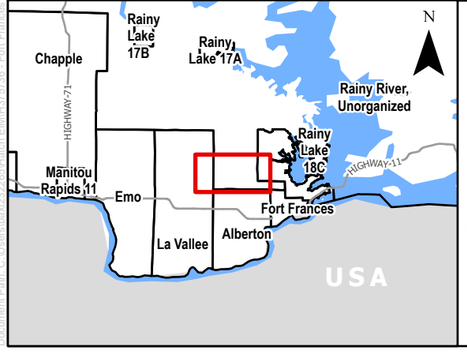
2.2.6 *Ontario Butterfly Atlas*

The Ontario Butterfly Atlas was reviewed to determine which species have the potential to occur on or within 50 m of the Project Location. The Ontario Butterfly Atlas provides a list of butterfly species that have been observed within a 10 x 10 km^2 map square. The map squares that overlap the Project Location are 15TVP58, 15TVP59, 15TVP68, and 15TVP69. The species observed within this map square are considered as part of the wildlife habitat assessment and listed in Appendix A.

2.3 Records Review Results

A Records Review was conducted in order to determine the presence/absence of Provincial Parks, Conservation Reserves and Natural Features in or within 50 m of the Project Location. The results of the Records Review and determinations made are provided in the subsequent sections and illustrated in Figure 2-1.





LEGEND

- Wetland
- Road
- Proposed Transmission Line
- Watercourse
- Project Location
- Study Area (300m Buffer)
- Waterbody
- Unevaluated Wetland (MNR)
- White-tailed Deer Yard (Stratum 1)

NOTES:
1. Produced by Hatch, contains information licensed under the Open Government Licence – Ontario
2. Spatial referencing: NAD 1983 UTM Zone 17N
3. GoogleEarth 2025 Imagery added for clarity due to cloud cover.

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PROJECT:	CarbonFree Fort Frances Project - Natural Heritage Assessment
FIGURE TITLE:	Records Review Results
CLIENT:	CarbonFree Fort Frances LTD

DWG BY:	CHK BY:	FIG NO.:	REV NO.:
V. BAXTER	C. SEHL	2-1	1
DATE: 09/01/26	**PAGE:** 1		

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2.3.1 *Provincial Plan Areas*

The Project Location is not in or within a Provincial Plan area (i.e., NEP, Greenbelt Plan, ORMCP), as shown in Table 2-1 and Figure 2-1. Verifying the results of the Records Review as it relates to policy plan areas is not required as the Project is outside of these plan areas. Therefore, no further consideration or assessment is required in this NHA as it relates to the NEP, Greenbelt Plan, ORMCP and associated Natural Features.

Table 2-1: Summary of Data Reviewed for Provincial Plan Areas

Information Source	Provincial Plan Areas (NEP, Greenbelt Plan, ORMCP)			
	In Project Location (Y/N)	Within 50 m of the Project Location (Y/N)	Description	Data Reviewed
Ministry of Natural Resources and Forestry (MNR)				
LIO Mapping	N	N	N/A	Environmental Features
Crown Land Use Policy Atlas	N	N	N/A	Crown Land Use Data layer

2.3.2 *Provincial Parks and Conservation Reserves*

The REA Regulation requires a determination, including a confirmation letter from MNR, on the presence/absence of provincial parks and conservation reserves on and within 50 m of the Project Location. The information sources and data reviewed to make the determinations are provided in Table 2-2.

As shown in Table 2-2, there are no Provincial Parks or Conservation Reserves in or within 50 m of the Project Location. Verifying the results of the Records Review as it relates to Provincial Parks and Conservation Reserves is not required. As these features are not present, they are not subject to a Site Investigation. Therefore, no further consideration or assessment is required in this NHA.

Table 2-2: Summary of Data Reviewed for Provincial Parks and Conservation Reserves

Information Source	Provincial Parks and Conservation Reserves			
	In Project Location (Y/N)	Within 50 m of the Project Location (Y/N)	Description	Data Reviewed
Ministry of Natural Resources and Forestry (MNR)				
LIO Mapping	N	N	N/A	CLUPA datasets, Provincial Parks Regulated dataset, Conservation Reserve dataset, Natural Heritage Area dataset
NHIC MaM	N	N	N/A	Provincial Park and Conservation Reserve layers
Crown Land Use Policy Atlas	N	N	N/A	Crown Land Use Data layer

2.3.3 Natural Features

A Records Review was completed to determine presence/absence of Natural Features (as described in Section 1.2.3) in or within 50 m of the Project Location. Confirmed[3] provincially significant (i.e., ANSIs, wetlands) or significant natural features (i.e., woodlands, wildlife habitat) are also identified, where found.

2.3.3.1 Earth Science and Life Science ANSI

As shown in Table 2-3, there are no Earth Science or Life Science ANSIs in or within 50 m of the Project Location. As the MNR is responsible for identifying and evaluating the significance of ANSIs, confirmation of presence/absence and field verification is not required. Therefore, no further consideration or assessment is required in this NHA.

Table 2-3: Summary of Data Reviewed for Earth Science and Life Science ANSIs

Information Source	Earth Science and Life Science ANSIs			
	In Project Location (Y/N)	Within 50 m of the Project Location (Y/N)	Description	Data Reviewed
Ministry of Natural Resources and Forestry (MNR)				
LIO Mapping	N	N	N/A	ANSI dataset
Fort Frances District Data	N	N	N/A	ANSI layer
NHIC MaM	N	N	N/A	ANSI layer

2.3.3.2 Wetlands

As shown in Table 2-4 below and Figure 2-1, there are wetlands in and within 50 m of the Project Location. Site Investigations as described in Section 3 were completed to verify the information obtained during the Records Review and determine the presence of wetlands not previously mapped.

Table 2-4: Summary of Data Reviewed for Wetlands

Information Source	Wetlands			
	In Project Location (Y/N)	Within 50 m of the Project Location (Y/N)	Description	Data Reviewed
Ministry of Natural Resources and Forestry (MNR)				
LIO Mapping	Y	Y	Unevaluated mapped wetlands	Wetland dataset
Fort Frances District Data	Y	Y	N/A	Wetland layer
NHIC MaM	Y	Y	Unevaluated and evaluated mapped wetlands	Wetland layer

[3] Confirmed provincially significant ANSIs and wetlands and significant wildlife habitat are identified by MNR.

2.3.3.3 Wildlife Habitat

The results of the Records Review are shown in Table 2-5 below and Figure 2-1. Wildlife habitat is present in and within 50 m of the Project Location based on the broad definition in the REA Regulation. While most records searched do not provide specific wildlife habitat information (as defined in Section 1.2.3.3), the broadly defined term provided in the REA Regulation suggests that all lands meet the definition. As such, it is not possible to scope out wildlife habitat at the Records Review stage. Therefore, site Investigations were completed to determine presence/absence of wildlife habitat (as described in Section 1.2.3.3) and more specifically the wildlife habitat types listed in the Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 3E (MNR, 2015). Species identified in the Records Review (Appendix A) were considered in respect of potential wildlife habitat to assist in focusing Site Investigation surveys.

Table 2-5: Summary of Data Reviewed for Wildlife Habitat

Information Source	Wildlife Habitat			
	In Project Location (Y/N)	Within 50 m of the Project Location (Y/N)	Description	Data Reviewed
Ministry of Natural Resources and Forestry (MNR)				
LIO Mapping	Y	Y	White-tailed Deer Yard (Stratum 1) – Overwintering Yards were identified in and within 50 m of the Project Location.	The following datasets were reviewed: Wetland, Wooded Area, Nesting Site, Breeding Area, Den Site, Feeding Area Wildlife, FRI Wetland, Mast Producing Area, Natural Heritage Area, NHS Area, Nursery Area Wildlife, Resting Area, Significant Ecological Area, Staging Area Wildlife, Travel Corridor Wildlife, Wilderness Area, Wintering Area.
NHIC MaM	Y (possible NHIC species)	Y (possible NHIC species)	No specific wildlife habitat information is available.	NHIC MaM
Non-Government Species-Related Documents				
Atlas of the Mammals of Ontario	Possible	Possible	No wildlife habitat information available. However, mammals whose ranges overlap the Project are considered in respect of potential wildlife habitat.	Species range maps

Information Source	Wildlife Habitat			
	In Project Location (Y/N)	Within 50 m of the Project Location (Y/N)	Description	Data Reviewed
Ontario Reptile and Amphibian Atlas (ORAA)	Possible	Possible	No wildlife habitat information available. However, species recorded within the ORAA map square that overlaps the Project Location are considered in respect of potential wildlife habitat.	ORAA map square 17MH53 (and associated species)
IBA of Canada	N	N	There are no IBAs within a 50 km radius of the Project Location. The closest IBA (ON144 - Lake of the Woods Sand Spit Archipelago) is located 81 km Northwest of the Project Location.	IBA web viewer
OBBA	Possible	Possible	No wildlife habitat information available. However, species recorded within the OBBA map square that overlaps the Project Location are considered in respect of potential wildlife habitat.	OBBA map squares 15TVP58, 15TVP59, and 15TVP68, 15TVP69 (and associated species)

2.4 Summary of Records Review

A summary of the results of the Records Review and determinations made is provided in Table 2-6. A Site Investigation is required to confirm the findings of the Records Review and determine if any corrections are required or if there are additional features not previously identified. As shown in Table 2-6, there are no Provincial Parks, Conservation Reserves or ANSIs (earth science or life science) in or within 50 m of the Project Location. These features do not need to be verified as their locations are determined and mapped by the provincial government.

Table 2-6: Summary of the Records Review Determinations for the Fort Frances Solar Project

Determination to be Made	Yes/No	Description	Site Investigation Required to Verify Records Review Findings?
Is the Project Location in or within 50 m of a Provincial Park or Conservation Reserve?	No	N/A	[1] Provincial Park: No [1] Conservation Reserve: No
Is the Project Location in a Natural Feature?	Yes (possible)	Wildlife Habitat (possible)	[1] Earth Science ANSI: No [1] Life Science ANSI: No Wetland: Yes [2] Wildlife Habitat: Yes
Is the Project Location within 50 m of a Natural Feature	Yes (possible)	Wildlife Habitat (possible)	[1] Earth Science ANSI: No [1] Life Science ANSI: No Wetland: Yes [2] Wildlife Habitat: Yes

Notes:
1. Provincial Parks, Conservation Reserves and ANSIs do not need to be field verified if the Records Review confirmed they are not present.
2. No specific wildlife habitats have been identified. However, based on the definition of wildlife habitat in the REA Regulation, all lands in and within 50 m of the Project Location have the potential to support wildlife habitat. Further studies are required to verify presence/absence and types of wildlife habitats present.

3. Site Investigation and Targeted Studies

3.1 REA Regulatory Requirements

Part IV, Subsection 26 (1) of the REA Regulation requires proponents of Class 3 solar projects to conduct an investigation of the air, land and water within 50 m of the Project Location either by visiting the site or by an alternative investigation of the site. Determinations to be made include

- Whether the results of the analysis summarized in the Records Review are correct or require correction, and identifying any required corrections.
- Whether any additional natural features exist, other than those that were identified in the Records Review.
- The boundaries, located within 50 m of the Project Location, of any natural feature that was identified in the Records Review or the Site Investigation.
- The distance from the Project Location to the boundaries of any natural feature that was identified in the Records Review or the site investigation.

A checklist of the report requirements, as prescribed in Subsection 26 (3) of the REA Regulation, are provided below, in Table 3-1.

Table 3-1: Site Investigation Requirements under the REA Regulation

Site Investigation Report Requirements	Report Section
A summary of any corrections to the Records Review and the determinations made as a result of conducting the Site Investigation and Baseline Studies.	Section 3.4.2
Information establishing the type of each natural feature identified in the Records Review and in the Site Investigation and Baseline Studies.	Section 3.3
A map showing: 1. All boundaries located within 50 m of the Project Location of any natural feature that was identified in the Records Review, Site Investigation or Baseline Studies. 2. The location and type of each natural feature identified in relation to the Project Location. 3. All distances required to be determined for any natural feature that was identified in the Records Review, the Site Investigation or Baseline Studies.	Figure 3-1
A summary of the methods used to make observations for the purposes of the Site Investigation and Baseline Studies.	Section 3.2
The name and qualifications of the person conducting the Site Investigation and Baseline Studies.	Appendix B
If an investigation was conducted by visiting the site: 1. The dates and times of the beginning and completion of the Site Investigation and Baseline Studies. 2. The duration of the Site Investigation and Baseline Studies. 3. The weather conditions during the Site Investigation and Baseline Studies. 4. Field notes kept by the person conducting the Site Investigation.	Sections 3.2.1.1 and 3.3.1

Site Investigation Report Requirements	Report Section
If an alternative investigation of the site was conducted: 1. The dates of the collection of the data used in the Site Investigation and Baseline Studies. 2. An explanation of why the person who conducted the alternative investigation determined that it was not reasonable to conduct the Site Investigation by visiting the site.	Section 3.2.1.2

3.2 Site Investigation Methodology

3.2.1 Site Investigation Type

The REA Regulation distinguishes between two different site investigation types: a physical site investigation and an alternative site investigation. The details of the type of site investigation completed for the Project are outlined below.

3.2.1.1 Physical Site Investigation

A physical site investigation was completed for the Project Location, on privately-owned lands subject to purchase for the Project. This included walking throughout the Project Location to investigate the site conditions (air, land and water) and verify the presence/absence of Natural Features. Dates and details of the Site Investigation and targeted studies are provided in Section 3.3.1.

3.2.1.2 Alternative Site Investigation

An alternative site investigation was completed for privately-owned lands within 50 m of the Project Location where abutting lands are active agricultural fields or where candidate Significant Wildlife habitat (cSWH) was identified. The air, land, water and verification of natural features were assessed from within the Project Location through observations made via binoculars and verification via ground truthing within the Project footprint. Information from the Records Review as well as a review of Google Earth imagery (dated June 10, 2025) was also used in making determinations regarding Natural Features.

3.2.2 Field Study Methodologies

The methodologies and field studies completed to determine the presence/absence of Natural Features on and within 50 m of the Project Location are provided in the subsequent sections below.

3.2.2.1 Ecological Land Classification

Ecological Land Classification (ELC) is the recommended approach for identifying Natural Features, delineating boundaries and informing the types of field studies that may be required and in order to determine sensitive features present for Species of Conservation Concern (SoCC), Species at Risk (SAR), and Significant Wildlife Habitat (SWH).

As the Project sits within the Northwestern portion of the province, the Forest Ecosystem Classification for Northwestern Ontario was adopted.

Google Earth imagery was reviewed prior to the site visit to map out vegetation communities for field verification. The minimum size for mapping polygons is 0.5 ha based on the ELC protocol. All vegetation communities within 50 m of the Project Location were mapped using ArcGIS and uploaded to a tablet for use in the field. A mobile application called Field Maps for ArcGIS, was used in the field to verify and refine pre-mapped boundaries, as required. Vegetation communities were characterized based on dominant species observed and appropriate ELC codes were assigned to each polygon and habitat based on these criteria.

3.2.2.2 *Wetlands*

A determination of the presence/absence of wetlands in and within 50 m of the Project Location is required. Wetlands identified through the Records Review and any additional wetlands not previously recorded were verified and their boundaries were delineated.

Similar to what was described for ELC, a review of Google Earth imagery was completed to map out any wetlands not identified through the Records Review. All wetlands in and within 50 m of the Project Location were characterized following the protocols established in the Ontario Wetland Evaluation System (OWES) Northern Manual (MNR, 2022).

The size requirement for evaluating wetlands is typically $\geq$2.0 ha[4] (OWES protocol); however, wetlands as small as 0.5 ha can be evaluated if there is some ecological significance for doing so (e.g., presence/habitat of species at risk). Site investigations completed for this Project considered wetlands above 0.5 ha for targeted surveys associated with potential SWH. Where no candidate Significant Wildlife Habitat has identified only wetlands $\geq$2.0 ha was carried forward to an evaluation of significance. Wetlands $\geq$2.0 ha within 50 m of the Project Location will be treated as significant and assessed in the Environmental Impact Study (EIS) following the procedures in Appendix C of the Natural Heritage Assessment Guide (NHAG) (MNR, 2012a).

The mobile application (Field Maps for ArcGIS) was used in the field to verify and refine pre-mapped boundaries and any additional wetlands not previously identified. Wetland indicator species and the 50-50 rule (i.e., 50% wetland species and 50% upland vegetation) were used to determine the wetland boundaries. All flora and fauna observed within the wetland were documented. Wetlands were classified based on the dominant vegetation form. Photographs of all wetlands identified were also taken. All wetland units were mapped for consideration of wildlife habitat regardless of size. Corrections to the Records Review will only apply to wetlands $\geq$2 ha.

3.2.2.3 *Wildlife Habitat*

An assessment of wildlife habitat was completed following the Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E (MNR, 2015). The MNR recognizes five main categories

[4] In general, wetlands smaller than 2 ha are not evaluated unless they provide important ecological benefit (e.g., SARs, rare species, specialized wildlife habitat). Where an unevaluated wetland is identified and development is not proposed within the wetland itself, the wetland can be treated as provincially significant and conduct an EIS. In this case, the procedures for assessing the wetland are found in Appendix C (Wetland Characteristics and Ecological Functions Assessment for Renewable Energy Projects) of the NHAG (MNR, 2012a).

of wildlife habitat (seasonal concentration areas of animals, rare vegetation communities, specialized habitat for wildlife, habitats for SoCC, and animal movement corridors), each with several wildlife habitat types. Indicator species, ELC requisite ecosites and habitat criteria were used to assess the presence/absence of candidate Significant Wildlife Habitat (cSWH) (i.e., habitat use studies required) or generalized cSWH (i.e., habitat use studies not required). While habitat use, studies are required for cSWH in the Project Location, Appendix D of the NHAG provides additional guidance for habitat use studies within 50 m (or 120 m) of an associated Project Location component. Accordingly, based on the requirements for solar projects, habitat use studies are required for any of the following habitat types found within 50 m of the Project Location:

- Colonially – Nesting Bird Breeding Habitat (Ground) – Terns.
- Colonially – Nesting Bird Breeding Habitat (Trees and Shrubs) – Herons.
- Reptile Hibernaculum.
- SoCC.
- Amphibian Movement Corridors.

To assist in the identification of cSWH and generalized cSWH, all incidental wildlife species encountered during the Site Investigation were recorded, as well as any features associated with the provision of wildlife habitat. Wildlife habitat features (e.g., tree cavities, crevices, rock piles, basking sites) were documented throughout the Site Investigation. Observations were also made where disturbance (such as, trail disturbance invasive species, etc.) was noted.

3.2.3 Wildlife Habitat Studies

Formal and targeted surveys (e.g., breeding bird surveys, anuran call surveys, grassland bird surveys) were conducted as part of the Site Investigation, all data was collected via Field Maps. Any incidental observations or evidence of wildlife use outside of structured surveys (e.g., scat, tracks, depredated turtle nests) and their locations were recorded using a handheld GPS. Targeted survey types and methodologies were informed by Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E (MNR, 2015).

3.2.3.1 Anuran Call Surveys

Anuran Call Surveys were conducted in accordance with the Marsh Monitoring Program (MMP) (Bird Studies Canada, 2000). Surveys began one half hour after sunset and ended near midnight. The locations of the amphibian call stations were selected based on available potential habitat such as wetlands, lakes, ponds, rivers, streams, and vernal pools, while trying to maintain a minimum of 500 m apart to reduce individuals or choruses being recorded twice.

The three temperature thresholds outlined by the MMP designed to cover the calling initiation period of most Great Lakes frogs and toads were utilized, and are described below.

Where possible, the first visit should coincide with minimum night-time air temperatures of at least 5°C (41°F) and the first or second warm spring shower. The second survey visit should occur with night-time air temperatures of at least 10°C (50°F) and the third visit should coincide with night-time air temperatures of at least 17°C (63°F). Due to late winter conditions and rapidly increasing temperatures conditions, only two surveys are able to be completed within the minimum nighttime temperatures suggested. Surveys began as soon as feasible following snow melt at the end of May with nighttime temperatures reaching 15°C and concluded at the end of June with nighttime temperatures exceeding 17°C.

In total, seven amphibian surveys stations were completed on the dates presented in Table 3-5.

Each amphibian station was surveyed for 3 minutes, and one of three Call Level Codes was recorded to categorize the intensity of calling activity for each species. The Call Level Codes are adapted from the Ontario Amphibian Road Call Count (Bishop, Pettit, Gartshore, & MacLeod, 1997).

- **Code 1:** Calling individuals can be counted and calls are not simultaneous. In this instance, exact counts can be made of the number of calling individuals and surveyors are asked to record both the code and their count.
- **Code 2:** Calls of individuals can be distinguished but some calling is simultaneous. Under these conditions, an exact count is not possible or expected but the surveyor should be able to make a reliable estimate of the number of individuals calling. Surveyors are asked to record both the code and their count estimate.
- **Code 3:** A full calling chorus with calls continuous and overlapping. Reliable counts and even estimates are unrealistic at this level of calling intensity. No counts are requested.

3.2.3.2 Bat Snag Assessment and Acoustic Monitoring

Snag surveys were conducted following the methodology outlined in the MNR's Bat and Bat Habitat Guidelines (MNR, 2024). Ecological Land Classification (ELC) is used to determine presence of mixedwood forests or deciduous forests that may contain suitable roosting features. Surveys were conducted during the leaf-off period (winter and spring 2025) in order to provide adequate viewing of target roost features and are not obstructed by foliage.

The following criteria were used to assess potential maternity colony roost features within the Project boundaries:

- Tallest snag/cavity tree.
- Exhibits cavities/crevices originating from cracks, scars, knot holes or woodpecker cavities.
- Has the largest diameter breast height (dbh).

- Species that provide good cavity characteristics/habitat (i.e., white pine, maple, aspen, ash, oak).
- Exhibits early stages of decay (decay Class 1-3).

Acoustic monitors were deployed during the maternal roosting season (June). A total of two Acoustic Recording Units were utilized to collect ultrasonic bat data within the Project Location (Figure 3-1). Recording began at sunset and stopped half an hour after sunrise during the month of June. A biologist experienced in bat acoustic analysis and identification reviewed and analyzed the data, as required by the MECP.

3.2.3.3 Breeding Bird Surveys

Breeding Bird Surveys (BBS) were conducted following the Ontario Breeding Bird Atlas methodology (Ontario Breeding Bird Atlas, 2021). All surveys were conducted between sunrise and five hours after sunrise, within a 150-m circular station, with the surveyor identifying all birds by sight and/or sound. A total of 27 BBS stations were surveyed twice across the Project Location (Figure 3-1) during late June and again in early July.

The methodology requires certain weather conditions to ensure the highest probability of detecting variety and presence/absence of avian species. As a result, surveys were not conducted in thick fog or when winds were >3 on the Beaufort scale (over 19 km/h). The following information was recorded on the data sheets:

- All species names in tabular format with the total number of individuals observed.
- Relative distance to the observer (within 0 to 50 m, 50 to 100 m or greater than 100 m).
- Breeding evidence recorded.
- Any SAR species, location, breeding evidence, and general behaviour.
- Sampling details (date, surveyor, location, mapping, etc.).

3.2.3.4 Grassland Bird Surveys

Both Eastern Meadowlark (*Sturnella magna*) and Bobolink (*Dolichonyx oryzivorus*) are grassland avian SAR that inhabit similar open grass dominated terrestrial habitats primarily in the form of abandoned or fallow fields as well as active agricultural hayfields. However, due to the location of the Project, Eastern Meadowlark are not expected to be present as their range extent does not exceed past the Eastern Lake Superior shoreline. Western Meadowlark (*Sturnella neglecta*), however, do overlap with the Project Location. This species is not a listed SAR and, therefore, focus was placed on Bobolink presence and suitable habitat within the Project Location.

A map of the survey station locations is shown in Figure 3-1. For the purposes of these surveys, any area greater than 2 ha in size with <25% tree cover and the presence of terrestrial grass or herbaceous vegetation, as informed by the Eastern Meadowlark General Habitat Description document (MECP, 2025) was considered potential habitat. Furthermore,

a Habitat Suitability Index (HSI) was developed and outlined within the Recovery strategy for the Eastern Meadowlark in Canada (Environment and Climate Change Canada, 2022). For Eastern Meadowlark, the HSI indicates optimal breeding habitat consisted of dense grasses of moderate height (12.5 to 35 cm), low shrub cover (<5% preferred, >35% not generally used) and low forb cover with adequate perches present. Ideal vegetation height for nesting was found to be 25 to 50 cm while heights of 10 to 30 cm were found to be ideal for resting within breeding habitat. Accordingly, the Project used the below to inform survey locations:

- Eastern Meadowlark were listed as 'Threatened' on the SARO List on January 13, 2012. Eastern Meadowlark habitat preferences include moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas with small trees, shrubs or fence posts are used as elevated song perches (MNR, 2019a).
- Bobolink were listed as 'Threatened' on the SARO List on September 28, 2010. Bobolink habitat preferences include tallgrass prairies, open meadows, and hayfields, building their small nests on the ground in dense grasses and forbs (MNR, 2019b).

The survey methodology followed the MNR Survey Protocol for Eastern Meadowlark (MNR, 2013). The protocol utilizes a point count survey methodology at locations with appropriate HSI breeding habitat. Desktop research and on-site investigations identified suitable habitat for survey locations, which included the following ELC polygon types:

- OAGM1: Open Agriculture – Medium-Mineral Annual Row Crops.
- OAGM2: Open Agriculture – Medium Mineral Perennial Cover Type.
- MASM1-1: Marsh – Cattail Mineral Shallow Marsh Type.
- MEFM4: Fresh – Moist Forb Meadow Ecosite, Open Graminoid Meadow Type.

Surveys were conducted during the appropriate breeding season (summer) when birds were singing and expected to defend their territories. Surveys were repeated three times at evenly spaced intervals throughout the survey period. Due to the potential presence of both SAR species, the ideal timing window for targeted surveys according to the Ontario protocol is between May 15 and July 3 (MNR, 2013). Thus, surveys were completed during this timeframe to account for both species:

- Surveys were conducted in conditions with good visibility, little to no precipitation, and during wind conditions of a maximum of three on the Beaufort wind scale (wind speed not exceeding 12 km/h).
- The protocol requires one-point count (200 m fixed radius) to cover a potential area of 12.6 ha of suitable habitat. For the purposes of this project, point count radii and transect widths were reduced to 150 m to align with the OBBA.

- Surveys were conducted between sunrise and concluded 4 hours after sunrise, as per the protocol guidelines.
- Surveys were repeated three times during the determined survey period to provide sufficient data for determining presence/absence of these species.

3.3 Site Investigation Results

The results of the Site Investigation are discussed in the following sections and are intended to fulfill the requirements of the REA Regulation. A map showing the vegetation communities and natural features documented during the Site Investigation are provided in Figure 3-1 and Figure 3-2 and summarized in the following sections.

3.3.1 Site Investigation Details

The details of the site investigation related to the dates, times and weather conditions are provided in Table 3-2 and are intended to satisfy the requirements under Subsection 26 (3) of the REA Regulation. Weather conditions are based on the weather network results for Fort Frances, Ontario.

Table 3-2: Site Investigation Details – Dates, Times and Weather Conditions

Date	Survey Type	Site Investigator	Start Time (24 hr)	End Time (24 hr)	Duration (hr)	Weather Conditions			
						Temp (°C)	Wind Speed (Beaufort Scale)	Cloud Cover (%)	Precipitation (mm)
May 27, 2025	Physical Site Investigation (Project Location)	C. Lewis, A. Nerino	6:35	13:30	5	9	1	5	0
May 28, 2025	Physical Site Investigation (Project Location)	C. Lewis, A. Nerino	20:30	22:40	2	10	0	10	0
May 29, 2025	Physical Site Investigation (Project Location)	C. Lewis, A. Nerino	7:00	11:30	3.5	11	1	5	0
June 5, 2025	Physical Site Investigation (Project Location)	C. Lewis, A. Nerino	7:00	11:00	3	13	0	10	0
June 6, 2025	Physical Site Investigation (Project Location)	C. Lewis, A. Nerino	6:30	9:30	3	15	1	15	0

Date	Survey Type	Site Investigator	Start Time (24 hr)	End Time (24 hr)	Duration (hr)	Weather Conditions			
						Temp (°C)	Wind Speed (Beaufort Scale)	Cloud Cover (%)	Precipitation (mm)
June 25, 2025	Physical Site Investigation (Project Location) Alternative Site Investigation (50 m of Project Location)	T. Simpanen, A. Nerino	6:27	14:00	6.5	14	1	35	0
June 26, 2025	Physical Site Investigation (Project Location) Alternative Site Investigation (50 m of Project Location)	T. Simpanen, A. Nerino	6:30	13:30	6.5	19	1	20	0
July 9, 2025	Physical Site Investigation (Project Location) Alternative Site Investigation (50 m of Project Location)	T. Simpanen, A. Nerino	6:45	14:15	8	17	0	0	0
July 10, 2025	Physical Site Investigation (Project Location) Alternative Site Investigation (50 m of Project Location)	T. Simpanen, A. Nerino	7:00	13:30	6.5	19	1	100	0

Microsoft, Vantor, Vantor

N

GSWH: Bat Maternity

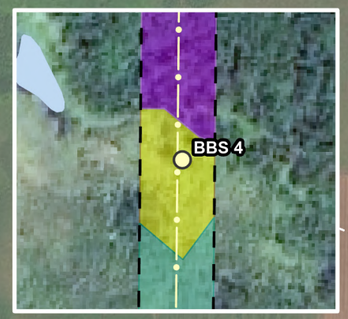
BBS 2
AMPHIB 1
GLB 19
BBS 1
BBS 4
BBS 5
AMPHIB 2
BBS 6
BBS 3
BBS 7
GLB 1
GLB 2
GLB 3
BBS 9
BBS 8
BBS 10
GLB 6
GLB 5
AMPHIB 7
BBS 11
GLB 4

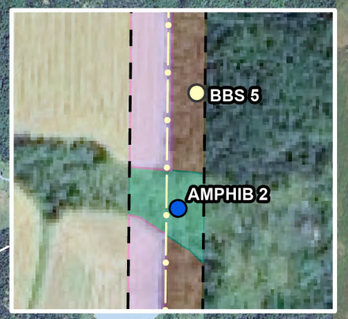
HIGHWAY 611

Frog Creek

Kitchen Creek

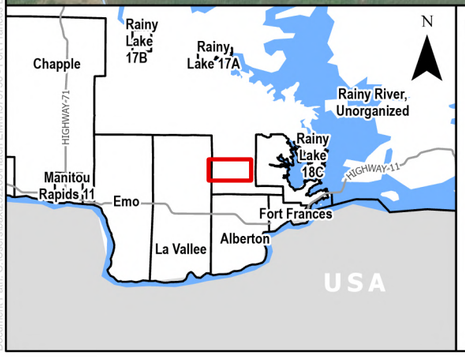
Google Earth





ECOLOGICAL LAND CLASSIFICATION

- Dry, Sandy: Spruce - Fir Conifer (B037Tt)
- Fresh - Moist Graminoid Meadow Ecosite (MEGM4)
- Meadow Marsh (MAM)
- Mineral Thicket Swamp (B134S)
- Moist, Fine: Mixedwood (B125Tt)
- Open Graminoid Meadow Type (MEGM4-1)
- Residential (CVR)
- Treed Bog (B126Tl)



LEGEND

- BBS Desktop
- Grassland Bird Station
- GSWH: Bat Maternity
- Amphibian Station
- Road
- Proposed Transmission Line
- Unnamed Watercourse
- Watercourse
- Project Location
- Study Area (300m Buffer)
- Waterbody

NOTES:
1. Produced by Hatch, contains information licensed under the Open Government Licence – Ontario
2. Spatial referencing: NAD 1983 UTM Zone 17N
3. Google Earth 2025 Imagery added for clarity due to cloud cover.

0 250 500 1,000 m

1:17,000

PROJECT:	CarbonFree Fort Frances Project - Natural Heritage Assessment
FIGURE TITLE:	Site Investigation Results
CLIENT:	CarbonFree Fort Frances LTD

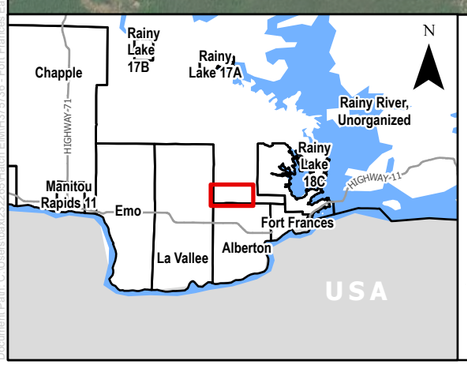
DWG BY:	CHK BY:	FIG NO.:	REV NO.:
V. BAXTER	C. SEHL	3-1	1
DATE: 09/01/26	**PAGE:** 1		

HATCH

BBS 9
BBS 8
BBS 10
GLB 6
GLB 5
AMPHIB 7
BBS 11
GLB 4
GLB 7
BBS 12
GLB 8
HIGHWAY 611
BBS 15
BBS 14
GLB 10
BBS 13
AMPHIB 5
GLB 9
BBS 16
BBS 19
GLB 11
BBS 18
GLB 13
AMPHIB 3
AMPHIB 4
GLB 12
BBS 17
BBS 20
BBS 21
BBS 23
GLB 14
BBS 24
BBS 26
GLB 16
GLB 15
BBS 22
GLB 17
BBS 25
GSWH: Bat Maternity
BBS 27
GLB 18
AMPHIB 6
FROG CREEK ROAD
HILL ROAD
Frog Creek
Kitchen Creek
Frog Creek
N

ECOLOGICAL LAND CLASSIFICATION

- Dry, Sandy: Aspen-Birch Hardwood (B040Tt)
- Dry, Sandy: Spruce - Fir Conifer (B037Tt)
- Fresh - Moist Graminoid Meadow Ecosite (MEGM4)
- Meadow Marsh (MAM)
- Mineral Thicket Swamp (B134S)
- Moist, Fine: Mixedwood (B125Tt)
- Open Graminoid Meadow Type (MEGM4-1)
- Open Pasture (OAGM4)
- Poverty Oat Grass Graminoid Meadow Type (MEGM3-1)
- Residential (CVR)
- Treed Bog (B126Tl)



LEGEND

- BBS Desktop
- Grassland Bird Station
- GSWH: Bat Maternity
- Amphibian Station
- Proposed Transmission Line
- Road
- Unnamed Watercourse
- Watercourse
- Project Location
- Study Area (300m Buffer)
- Waterbody

NOTES:
1. Produced by Hatch, contains information licensed under the Open Government Licence – Ontario
2. Spatial referencing: NAD 1983 UTM Zone 17N

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1:17,000

PROJECT:	CarbonFree Fort Frances Project - Natural Heritage Assessment
FIGURE TITLE:	Site Investigation Results
CLIENT:	CarbonFree Fort Frances LTD

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DATE: 09/01/26	**PAGE:** 2		

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3.3.2 Breeding Bird Survey Results

Surveys were conducted during the breeding season (May 24 to July 10) and took place on June 25-26 and July 9-10 to capture breeding evidence and species composition of birds utilizing the Project Location. As depicted in Figure 3-1, a total of 27-point count stations were placed strategically throughout the Project Location in various habitat types to capture as many species as possible. As a result, a total of 60 species were detected during the survey period. Table 3-3 outlines the species detected during breeding bird surveys.

Although species such as Savannah Sparrow (*Passerculus sandwichensis)* were detected throughout the Project Location; however, these observations were largely made in areas that do not meet the criteria for Open Country Bird Breeding Habitat such as agricultural lands being used for hay or livestock pasture.

In addition to species detected during standardized breeding bird survey point counts, a single observation of a Red-headed Woodpecker (*Melanerpes erythrocephalus*) was detected outside of these surveys, which is considered an incidental and is included in Table 3-3.

Table 3-3: Breeding Bird Survey Results

Common Name	Scientific Name	SARA	SARO
Alder Flycatcher	*Empidonax alnorum*	-	-
American Crow	*Corvus brachyrhynchos*	-	-
American Goldfinch	*Spinus tristis*	-	-
American Kestrel	*Falco sparverius*	-	-
American Robin	*Turdus migratorius*	-	-
Barn Swallow	*Hirundo rustica*	THR	SC
Black-and-white Warbler	*Mniotilta varia*	-	-
Black-billed Cuckoo	*Coccyzus erythropthalmus*	-	-
Black-billed Magpie	*Pica hudsonia*	-	-
Black-capped Chickadee	*Poecile atricapillus*	-	-
Black-throated Green Warbler	*Setophaga virens*	-	-
Blue Jay	*Cyanocitta cristata*	-	-
Bobolink	*Dolichonyx oryzivorus*	-	-
Boreal Chickadee	*Poecile hudsonicus*	-	-
Brewer’s Blackbird	*Euphagus cyanocephalus*	-	-
Broad-winged Hawk	*Buteo platypterus*	-	-
Brown Creeper	*Certhia americana*	-	-
Brown-headed Cowbird	*Molothrus ater*	-	-
Cedar Waxwing	*Bombycilla cedrorum*	-	-
Chestnut-sided Warbler	*Setophaga pensylvanica*	-	-
Chipping Sparrow	*Spizella passerina*	-	-

Common Name	Scientific Name	SARA	SARO
Common Grackle	*Quiscalus quiscula*	-	-
Common Raven	*Corvus corax*	-	-
Common Yellowthroat	*Geothlypis trichas*	-	-
Downy Woodpecker	*Dryobates pubescens*	-	-
Eastern Bluebird	*Sialia sialis*	-	-
Eastern Phoebe	*Sayornis phoebe*	-	-
Eastern Wood-Pewee	*Contopus virens*	-	SC
European Starling	*Sturnus vulgaris*	-	-
Hairy Woodpecker	*Dryobates villosus*	-	-
Hermit Thrush	*Catharus guttatus*	-	-
Indigo Bunting	*Passerina cyanea*	-	-
Killdeer	*Charadrius vociferus*	-	-
Least Flycatcher	*Empidonax minimus*	-	-
Merlin	*Falco columbarius*	-	-
Mourning Warbler	*Geothlypis philadelphia*	-	-
Nashville Warbler	*Leiothlypis ruficapilla*	-	-
Northern Flicker	*Colaptes auratus*	-	-
Northern Parula	*Setophaga americana*	-	-
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	-	-
Ovenbird	*Seiurus aurocapilla*	-	-
Pileated Woodpecker	*Dryocopus pileatus*	-	-
Red-breasted Nuthatch	*Sitta canadensis*	-	-
Red-eyed Vireo	*Vireo olivaceus*	-	-
Red-winged Blackbird	*Agelaius phoeniceus*	-	-
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	-	-
Ruby-throated Hummingbird	*Archilochus colubris*	-	-
Sandhill Crane	*Antigone canadensis*	-	-
Savannah Sparrow	*Passerculus sandwichensis*	-	-
Sedge Wren	*Cistothorus stellaris*	-	-
Song Sparrow	*Melospiza melodia*	-	-
Swainson’s Thrush	*Catharus ustulatus*	-	-
Tree Swallow	*Tachycineta bicolor*	-	-
Turkey Vulture	*Cathartes aura*	-	-
Veery	*Catharus fuscescens*	-	-
White-throated Sparrow	*Zonotrichia albicollis*	-	-
Winter Wren	*Troglodytes hiemalis*	-	-
Wilson’s Snipe	*Gallinago delicata*	-	-

Common Name	Scientific Name	SARA	SARO
Wood Thrush	*Hylocichla mustelina*	-	-
Yellow-bellied Sapsucker	*Sphyrapicus varius*	-	-
Yellow Warbler	*Setophaga petechia*	-	-
Incidental			
Red-headed Woodpecker	*Melanerpes erythrocephalus*	THR (COSEWIC)	END

3.3.3 Grassland Bird Survey Results

Surveys were conducted as outlined in Table 3-4 during May and June 2025 to capture various potential grassland bird species within the Project Location. As depicted in Figure 3-1, a total of 19 survey locations were placed in areas thought to provide suitable habitat. All 19 stations were surveyed three times during the survey window (May 15 to July 3); with one target grassland bird species identified.

Table 3-4: Grassland Bird Survey Results Summary

Date	Site Investigators	Point	Observations	Time (24 hr)	Temp (°C)	Wind Speed (km/h)	Precipitation (mm)
Survey 1							
May 27, 2025	A. Nerino, C. Lewis	2	Bobolink observed/heard flying throughout area.	6:18	12	6	0
		16	Site moved due to cattle at original site location. No target grassland bird species observed.	9:00	17	6	0
		19	No target grassland bird species observed. Not suitable grassland bird habitat due to lack of long grass, exposed soil, no forbs.	5:55	12	6	0
		1	No target grassland bird species observed.	6:22	12	6	0
		3		6:10	12	6	0
		4		6:32	12	6	0
		5		6:43	12	6	0
		6		6:47	13	6	0
		7		6:58	13	6	0
		8		7:19	13	6	0
		9		7:45	13	6	0
		10		7:36	13	6	0
		11		7:56	15	6	0

Date	Site Investigators	Point	Observations	Time (24 hr)	Temp (°C)	Wind Speed (km/h)	Precipitation (mm)
		12		8:04	15	6	0
		14		8:23	15	6	0
		15		8:40	17	6	0
		17		9:06	17	6	0
		18		9:20	17	6	0
May 30, 2025		13		6:01	14	11	0
Survey 2							
		2	3 Bobolink observed flying/landing throughout area, additional birds heard singing at adjacent tree line.	7:14	12	12	0
		3	2 male Bobolink observed flying/landing throughout area.	6:50	12	12	0
		1	No target grassland bird species observed.	7:03	12	12	0
		4		7:19	12	12	0
		5		7:30	12	12	0
		6		7:45	12	12	0
		7		7:50	13	12	0
June 5, 2025		8		8:06	13	12	0
	A. Nerino, C. Lewis	9		8:18	13	12	0
		10		9:18	13	12	0
		11		8:45	15	12	0
		12		8:35	15	12	0
		13		9:00	15	12	0
		19	No target grassland bird species observed. Not suitable grassland bird habitat due to lack of long grass, exposed soil, no forbs.	6:38	12	12	0
		16	Bobolink heard/observed flying and landing throughout area.	8:20	15	9	0
June 6, 2025		17	2 Bobolink observed/heard flying throughout area.	8:10	15	9	0
		14	No target grassland bird species observed.	7:50	15	9	0
		15		8:35	15	9	0
		18		9:00	15	9	0

Date	Site Investigators	Point	Observations	Time (24 hr)	Temp (°C)	Wind Speed (km/h)	Precipitation (mm)
Survey 3							
June 25, 2025	T. Simpanen, A. Nerino	1	Bobolink heard/observed flying through westernmost field (Point 15).	7:54	12	4	0
		2	Bobolink heard/observed flying and singing from adjacent tree line.	6:41	12	4	0
		10	No target grassland bird species observed. Bobolink heard singing in nearby suitable habitat.	9:58	14	4	0
		3	No target grassland bird species observed.	6:30	12	4	0
		4		7:21	14	4	0
		5		7:30	14	4	0
		6		8:18	14	4	0
		7		8:24	14	4	0
		8		8:40	14	4	0
		9		9:08	14	4	0
		11		9:42	14	4	0
		12		9:26	14	4	0
		19	No target grassland bird species observed. Not suitable grassland bird habitat due to lack of long grass, exposed soil, no forbs.	6:45	12	10	0
June 26, 2025		16	Bobolink heard singing in field to south.	8:10	19	13	0
		17		8:00	19	13	0
		14	No target grassland bird species observed.	9:39	19	18	0
		15		8:39	19	15	0
		18		7:40	18	4	0

3.3.4 Anuran Call Survey Results

Surveys were conducted as outlined in Table 3-5 during May and June 2025 to capture various potential breeding amphibian species within the Project Location. As depicted in Figure 3-1 and Figure 3-2, a total of seven survey locations were placed in areas thought to provide suitable habitat. All seven stations were surveyed twice during the survey window (May 15 to June 30); with four species recorded. Calling codes ranged from 1 to 3, with Spring Peepers and Gray Tree Frog both reaching the highest code level of 3 during both surveys.

Table 3-5: Anuran Survey Results Summary

Date	Site Investigator(s)	Station	Species Detected	Calling Code (1-3)	Start Time (24 hr)	End Time (24 hr)	Weather Conditions			
							Temp (°C)	Wind Speed (Beaufort Scale)	Cloud Cover (%)	Precipitation (mm)
Survey 1										
May 27, 2025	C. Lewis, A. Nerino	2	Boreal Chorus Frog, Spring Peeper	1 (Both)	21:48	21:51	14	0	50	0
		3	Gray Tree Frog, Spring Peeper	3 (Both)	21:18	21:21	14	0	70	0
		4	Gray Tree Frog, Spring Peeper	3 (Both)	21:24	21:27	14	0	60	0
		5	Gray Tree Frog, Spring Peeper	3 (Both)	22:07	22:10	14	0	40	0
		6	Spring Peeper	2	20:55	20:58	15	0	70	0
		7	Gray Tree Frog, Spring Peeper	2 (Both)	22:01	22:04	14	0	40	0
Survey 2										
June 25, 2025	T. Simpanen, A. Nerino	1	Gray Tree Frog, Boreal Chorus Frog, Spring Peeper	3 (Both)	22:40	22:43	17	0	80	0
		2	Gray Tree Frog	1	22:22	22:25	17	1	90	0
		3	Gray Tree Frog, Boreal Chorus Frog, Spring Peeper	2 (Both)	21:56	21:59	17	1	100	0
		4	Spring Peeper	3	22:06	22:09	17	1	80	0
		5	No species detected.	N/A	22:58	23:01	17	0	80	0
		6	Gray Tree Frog, Boreal Chorus Frog, Spring Peeper	2 (all)	23:05	23:08	17	1	70	0
		7	Gray Tree Frog, Spring Peeper	3 (Both)	22:51	22:54	17	0	80	0

Based on the results and night-time temperatures recorded during surveys, it is likely that all present species were documented during the surveys completed as early season breeding

populations such as Spring Peeper (*Pseudacris crucifer*) and Chorus Frog (*Pseudacris maculata*) documented during the surveys and Green Frog and Bullfrog largely absent from northwestern Ontario in areas with little open water habitat.

3.3.5 Bat Maternity Roost and Monitoring Results

A limited number of suitable snags were identified within the Project Location. However, two features were identified to have some potential for roost activities and, thus, monitors were placed to determine presence/absence of bat species within the area in an attempt to inform the Project. Table 3-6 below outlines the results of the acoustic monitoring conducted from June 4 to 30, 2025, within the Project Location to assess activity levels and presence/absence of bat species.

Table 3-6: Bat Acoustic Results Summary

Species	Scientific Name	ESA Status	Unit 1	Unit 2	Total All Units (Combined)
Big Brown Bat	*Eptesicus fuscus*	-	27	24	**51**
Eastern Red Bat	*Lasiurus borealis*	END	5	1	**6**
Hoary Bat	*Lasiurus cinereus*	END	78	87	**165**
Little Brown Myotis	*Myotis lucifugus*	END	3	4	**7**
Silver-haired Bat	*Lasionycteris noctivagans*	END	90	86	**176**
Unknown (NoID)	*N/A*	N/A	21	91	**112**
Total Counts (All Species)			**224**	**293**	**517**

A total of five bat species were detected during the monitoring period. ‘Unknown’ are recordings that could not be attributed to or narrowed down to the species level as call structure was noticeably weak or did not have enough call notes to confirm down to the species level but are distinct from noise files. Majority of the bat activity was attributed to Silver-haired Bats (90 detections) at Bat 1, and Hoary Bats (87 total detections) at Bat Unit 2, closely followed by Silver-haired Bats (86 total detections). During the monitoring period, activity was captured and a higher number of bat passes were recorded during the end of the month, specifically June 22, and June 27 to 30, 2025. This is thought to be aligned with increases in insect abundance which resulted in opportunities for heavier foraging activity during the end of June. It is unlikely a maternal roost feature, rather, it is more likely attributed to activity from a few bats visiting the area for foraging purposes.

3.3.6 Ecological Land Classification

The Project is situated on multiple private properties historically and currently used for agricultural, homesteading, and residential usage. ELC was carried out during the appropriate growing season, on July 9 and 10, 2025. Field verification included species inventories (trees, shrubs, vascular plants, rare plants, ground cover, etc.) and characterization of each vegetation community to inform the Project. Additional focus was placed on grassland habitats as this community type is varied and abundant throughout the Project Location.

Specialized graminoid and grass identification took place in order to rank and assess the quality of the grasslands throughout the Project Location. In addition, forested communities were characterized similarly by using species abundance and dominance (treed environments). The topography within and surrounding the Project Location is predominately flat with little change in elevation overall.

The Project Location boundaries displays varied levels of disturbance based on the activities from agriculture and farming within this area. Patches of residual forest and woodlands exist along the boundaries and edges of the Project Location, with few large woodlots intersecting the boundaries.

A number of wetlands interact and are contained within the Project Location, as seen in Figure 3-2. Additional wetlands were identified during site investigations which not previously identified during the Record Review.

The Project Location is a mixture of multiple property owner parcels, predominantly open grassland meadows, open pasture, mixed and deciduous forest types, and riparian areas. Pockets of wetlands fall within the Project Location in scattered configurations, as seen in Figure 3-1.

Approximately six wetlands interact with the Project Location, which includes four types: thicket, swamp, marsh, and bog. Majority of the wetlands within the Project Location are mineral thickets comprising in dominance of Speckled Alder (*Alnus incana*).

A summary of the ELC communities identified in and within 50 m of the Project Location is provided in Table 3-7.

Table 3-7: Summary of ELC Communities on and Within 50 m of the Project Location

ELC Community	ELC Code	ELC Ecosite	On Project Location/ Component	Within 50 m of Project Location/ Component	Community Description
Coniferous Woodland	B037Tt	Dry, Sandy: Spruce - Fir Conifer	√ Connection Line and Solar Facility	√ Connection Line	Dominated by Balsam Fir.
Deciduous Woodland	B040Tt	Dry, Sandy: Aspen-Birch Hardwood	√ Connection Line and Solar Facility	√ Connection Line and Solar Facility	Dominated by Trembling Aspen with White Birch.
Mixedwood Woodland	B125Tt	Moist, Fine: Mixedwood	√ Connection Line and Solar Facility	√ Connection Line and Solar Facility	Mixed woodland dominated by Trembling Aspen and Balsam Fir.
Meadow (Grassland)	MEGM4-1	Open Graminoid Meadow Type	√ Connection Line and Solar Facility	√ Connection Line and Solar Facility	Meadow habitat dominated by Timothy, Red Top and clover.

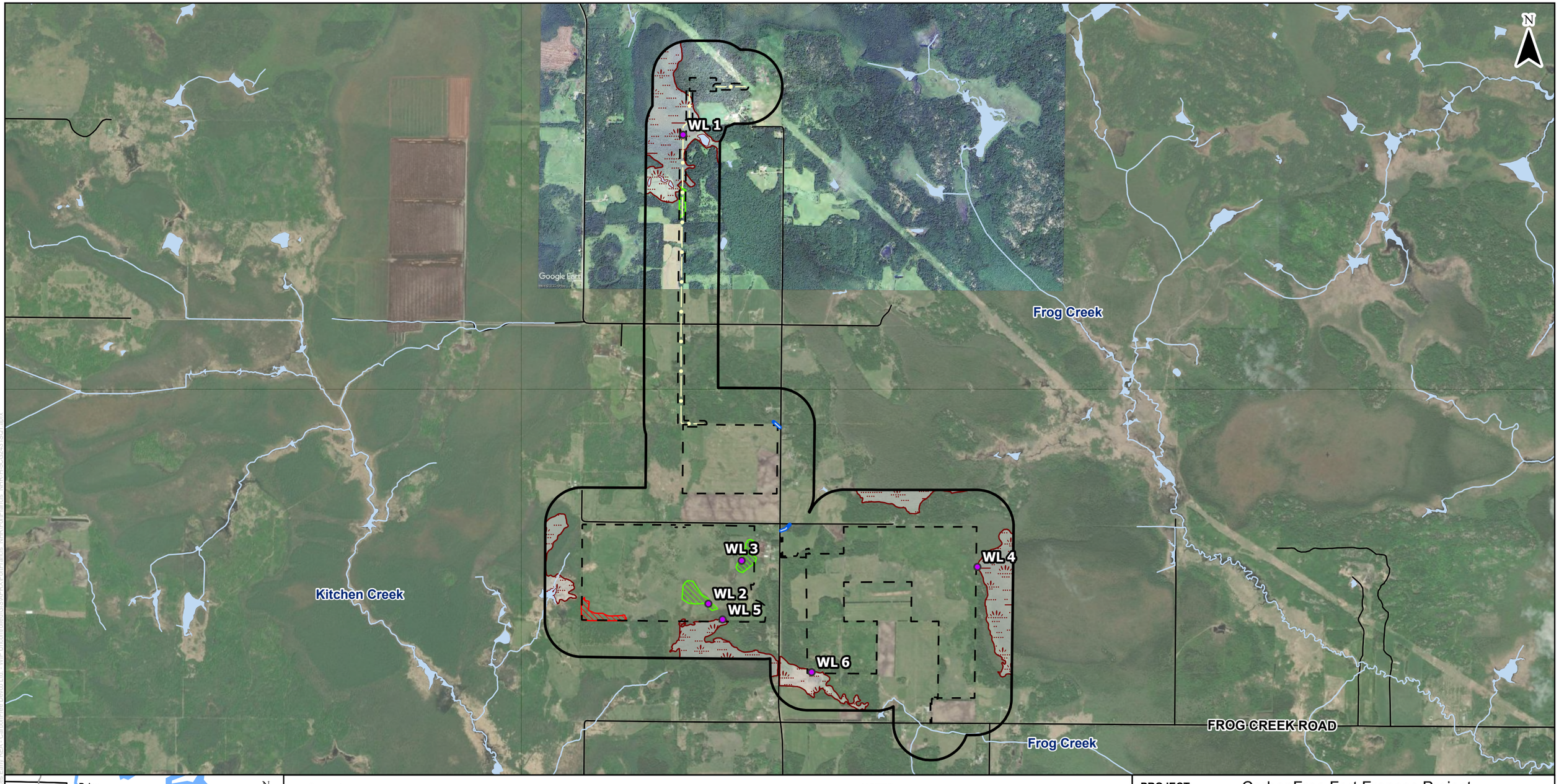
ELC Community	ELC Code	ELC Ecosite	On Project Location/ Component	Within 50 m of Project Location/ Component	Community Description
Meadow (Grassland)	MEGM3-1)	Poverty Oat Grass Graminoid Meadow	√ Solar Facility	√ Solar Facility	Grassland habitat comprised of patches of bare grass from grazing cattle activities and predominantly populated with Poverty Oat Grass. Provides potential habitat for Sharp-tailed Grouse Lek activities.
Wetland	MAM	Meadow Marsh	√ Connection Line	√ Connection Line	Dominated by emergent wetland vegetation.
Wetland	B134S	Mineral Thicket Swamp	√ Connection Line and Solar Facility	√ Connection Line and Solar Facility	Dominated by Speckled Alder (*Alnus incana*).
Wetland	B126TI	Treed Bog	√ Connection Line and Solar Facility	√ Connection Line	Dominated by Black Spruce (*Picea mariana*) with Balsam Fir, Jack Pine, and Lowbush Blueberry, Labrador Tea, and Bog Laurel.
Anthropogenic	CVR	Residential	√ Connection Line	√ Connection Line	Residential property within proximity to proposed transmission line.

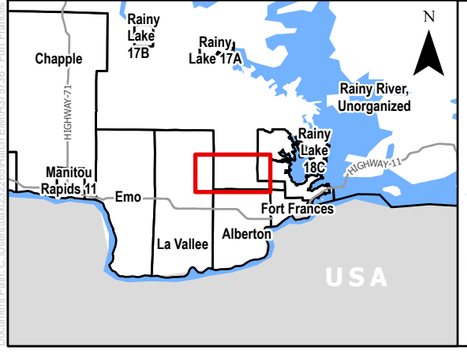
3.3.7 Confirmation and Assessment of Natural Features

The following sections include the natural features to be assessed as part of the Natural Heritage Assessment (NHA). Confirmation of the Records Review (Section 2) findings and any additional natural features discovered during the Site Investigation are discussed in the following sections.

3.3.7.1 Wetlands

The Records Review identified seven wetlands overlapping with the Project Location. Additional wetlands were added based on observations made during the Site Investigation. One wetland identified during the desktop review as denoted as Wetland 4 in Figure 2-1 was determined to be absent, as agricultural activities were observed occurring throughout the area. Wetlands on site delineated as being under 2 ha were subject to studied to confirm whether significant features were present, but are not being carried forward to the EoS based on typically OWES protocols. Two additional wetlands were identified through site investigations. All wetlands present wetlands over 2 ha will be assumed significant for the purposes of this NHA and will be carried forward to an EIS. A summary of wetland results is available within Figure 3-2.





LEGEND

- Wetland
- Proposed Transmission Line
- Road
- Unnamed Watercourse
- Watercourse
- Project Location
- Study Area (300m Buffer)
- Waterbody
- Wetland Not Present
- Additional Identified Wetland
- Unevaluated Wetland (MNR)

NOTES:
1. Produced by Hatch, contains information licensed under the Open Government Licence – Ontario
2. Spatial referencing: NAD 1983 UTM Zone 17N
3. GoogleEarth 2025 Imagery added for clarity due to cloud cover.

0 500 1,000 2,000 m
1:30,000

PROJECT:	CarbonFree Fort Frances Project - Natural Heritage Assessment
FIGURE TITLE:	Site Investigation Confirmed Wetlands
CLIENT:	CarbonFree Fort Frances LTD

DWG BY:	CHK BY:	FIG NO.:	REV NO.:
V. BAXTER	C. SEHL	3-2	1
DATE: 09/01/26	**PAGE:** 1		

HATCH

3.3.7.2 Wildlife Habitat

The REA Regulation requires determination on whether any wildlife habitats identified through the NHA are significant. The Records Review identified White-tailed Deer Wintering Yard (Stratum 1) on and within 50 m of the Project Location, as seen in Figure 2-1.

The definition of wildlife habitat in the REA Regulation includes an area

- Where plants, animals and other organisms live or have the potential to live and find adequate amounts of food, water, shelter and space to sustain their population, including
  - Where a species concentrates at a vulnerable point in its annual or life cycle.
  - Important to a migratory or non-migratory species.

The purpose of the Site Investigation was to confirm the existence of candidate Significant Wildlife Habitat (cSWH) or generalized cSWH and verify the existence of any previously confirmed SWH identified in the Records Review.

All wildlife habitats identified in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E (MNR, 2015) were assessed to determine presence/absence and candidate significance in and within 50 m of the Project Location.

The MNR recognizes five main categories of wildlife habitat (seasonal concentration areas of animals, rare vegetation communities, specialized habitat for wildlife, habitats for SoCC, and animal movement corridors), each with several wildlife habitat types. Indicator species, ELC requisite ecosites and habitat criteria were used to assess the presence/absence of cSWH or generalized cSWH. An assessment of each of these habitat categories is provided in the following sections.

3.3.7.2.1 Seasonal Concentration Areas of Animals

The Natural Heritage Reference Manual (NHRM) (MNR, 2010) describes seasonal concentration areas of animals as

- Areas where animals occur in relatively high densities for the species at specific periods in their life cycles and/or in particular seasons.
- Seasonal concentration areas, which tend to be localized and relatively small in relation to the area of habitat used at other times of the year.

The criteria outlined in the SWH Ecoregion 3E Criteria Schedule (MNR, 2015) were used to determine the presence/absence and evaluate the significance of seasonal concentration areas within the Project Location. Deer Wintering Areas has been added to Table 3-8 as it is not reflected in Ecoregion 3E Criteria but was identified during a review of available desktop information. An assessment of each of the habitat types associated with this category is provided in Table 3-8.

3.3.7.2.2 Rare Vegetation Communities

The NHRM (MNR, 2010) describes rare vegetation communities as

- Areas that contain a provincially rare vegetation community which depend on such habitats for their survival and cannot readily move to find alternative habitats.
- Areas that contain a vegetation community that are rare within the planning area.

The criteria outlined in the SWH Ecoregion 3E Criterion Schedule (MNR, 2015) was used to determine the presence/absence and evaluate the significance of rare vegetation communities within the project Location. An assessment of each of the rare vegetation communities considered rare within Ecoregion 3E is provided in Table 3-9.

3.3.7.2.3 Specialized Habitat for Wildlife

The NHRM (MNR, 2010) describes specialized habitats for wildlife as

- Areas that support wildlife species that have highly specific habitat requirements.
- Areas with high species and community diversity.
- Areas that provide habitat that greatly enhance species' survival.

The criteria outlined in the SWH Ecoregion 3E Criterion Schedule (MNR, 2015) was used to determine the presence/absence and evaluate the significance of specialized wildlife habitat within the Project Location. An assessment of each of the habitat types associated with this category is provided in Table 3-10.

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

The NHRM (MNR, 2010) defines habitats of SoCC as

- Wildlife species that are listed as Special Concern or rare, that are declining or are featured species.
- Habitat for Species of Conservation Concern does not include habitats for Endangered or Threatened Species as identified by ESA 2007.
- The Significant Wildlife Habitat Support Guide (SWHTG) (MNR, 2000) defines rare or significant species at six levels: globally significant; nationally significant; provincially significant; regionally significant; locally significant (within a Site District); significant within a planning authority's jurisdiction. The levels of rarity are defined in Section 1.

SoCC does not include Provincially or Federally designated species listed as Endangered or Threatened and protected in regulation under the ESA or Schedule 1 of SARA. Those species are identified as "Species at Risk" and are engaged on with the MECP separately.

A list of SoCC that have been recorded within the Project Location is provided in Appendix A. The habitat guides and criteria outlined in the SWH Ecoregion 3E Criterion Schedule (MNR,

2015) were used to determine the presence/absence and evaluate the significance of habitat for SoCC recorded within the Project Location. An assessment of each of the habitat guides associated with this category is provided in Table 3-11.

3.3.7.2.5 Animal Movement Corridors

The NHRM (MNR, 2010) describes animal movement corridors as

- Habitats that link two or more wildlife habitats that are critical to the maintenance of a population of a particular species or group of species.
- Habitats with a key ecological function to enable wildlife to move, with minimum mortality, between areas of significant wildlife habitat or core natural areas.

The criteria outlined in the SWH Ecoregion 3E Criterion Schedule (MNR, 2015) were used to determine the presence/absence and evaluate the significance of animal movement corridors within the Project Location. An assessment of each of the habitat types associated with this category is provided in Table 3-12.

Table 3-8: cSWH Assessment for Seasonal Concentration Areas of Animals

SEASONAL CONCENTRATION AREAS OF ANIMALS								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Waterfowl Stopover and Staging Areas (Terrestrial)	American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall	B060-062, B077-079, B093-095, B109-111 Plus, evidence of annual spring flooding from meltwater or run-off within these Ecosites.	• Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Flood plains (flooded riverbanks). • Cultivated fields with waste grains are commonly used by waterfowl, these are not considered SWH.	There are active agricultural fields within and adjacent to the Project that may provide waste grains. While there may be areas within and adjacent to the Project with seasonal flooding, these areas are associated with active farmland. No observations of sheet water that could be used as stopover and staging habitat were observed throughout site visits or within satellite imagery for the area.	N	N	N/A	N
Waterfowl Stopover and Staging Areas (Aquatic)	Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Common Merganser, Lesser Scaup Greater Scaup, Long-tailed Duck, Surf Scoter, White-winged Scoter, Black Scoter, Ring-necked Duck, Common Goldeneye, Bufflehead, Redhead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback, Tundra Swan, Trumpeter Swan	Shallow Marsh – MAS1, MAS2, MAS3 Shallow Water – SAS1, SAM1, SAF1 Swamp – SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and stormwater ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water).	Wetlands are present in and within 50 m of the Project Location; however, the marsh habitat likely does not support large aggregates of waterfowl due to the size of the features. None of the wetlands in proximity to the Project Location exhibit open water habitat sizable enough to support Waterfowl Stopover and Staging Areas. This habitat type is considered not present.	N	N	N/A	N
Shorebird Migratory Stopover Area	Black-bellied Plover, American Golden-Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird's Sandpiper, Least Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Wilson's Phalarope, Whimbrel, Ruddy Turnstone, Sanderling, Dunlin, Wilson's Snipe	B005-006, B160-162, B170-172, B176-178, B186-188, B204, B207	• 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 stormwater ponds do not qualify as a SWH.	There are no beaches, beach bars, sand dunes or meadow marshes in or within 50 m of the Project Location. There are no requisite ecosites found on or within 50 m of the Project Location and no indicator species were confirmed during the time of the Site Investigation. This habitat feature is considered not present.	N	N	N/A	N

SEASONAL CONCENTRATION AREAS OF ANIMALS								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	B158-159, B164-165, B174-175, B180-181 Caves and mine shafts are the important features.	• Hibernacula may be found in abandoned caves, mine shafts, underground foundations and karsts. • Active mine sites should not be considered as SWH. • The locations of bat hibernacula are relatively poorly known. • Buildings are not considered to be SWH.	There are no crevices or caves on or within 50 m of the Project Location. This habitat feature is considered not present.	N	N	N/A	N
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Forest – FOD, FOM Swamp – SWD, SWM Maternity colonies considered SWH are found in treed Ecosites. B015-109, B023-028, B039-043, B054-059 Aspen is an important feature in Ecoregion 3E, primarily the presence of larger diameter trees in older mixed-wood stands.	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature (dominant trees >80 yrs old) deciduous or mixed forest stands with >10 ha large diameter (>25 cm dbh) wildlife trees. • Female Bats prefer wildlife trees (snags) in early stages of decay, Class 1 or 2 or Class 2 to 4, can be living or with bark mostly intact. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.	There are woodlands within 50 m of the Project Location. These woodlands are assumed to have potential roosting habitat. As this habitat type is considered generalized, habitat use surveys are not required. Potential negative environmental effects and recommended mitigation measures will be provided for this habitat type in the EIS. Acoustic monitoring was conducted during the month of June to assess presence/absence of potential bat species under the *Endangered Species Act* guidance.	Y	Y	Bat 1 and 2	Y (generalized cSWH)
Turtle Wintering Areas	Midland Painted Turtle Special Concern: Snapping Turtle	Marsh – MA Open Fen – FEO Open Bog – BOO B128-142 B145-152	• For most turtles, wintering areas are in the same general area as their core habitat. Water must be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen. • Year-round persistence of standing or flowing water to depth, or presence of springs to prevent freezing is key. • Man-made ponds such as sewage lagoons or stormwater ponds should not be considered SWH.	There are wetlands that interact with the Project Location; however, in all cases the features likely freeze to bottom providing limited opportunity for overwintering. No turtles were observed during any site investigations. Based on the minimal potential habitat present and lack of historical or recent observations of turtles within it is believed that turtle wintering habitat is not present within 50 m of the Project Location.	N	N	N/A	N

SEASONAL CONCENTRATION AREAS OF ANIMALS								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Reptile Hibernacula	Eastern Gartersnake, Smooth Green Snake, Northern Ringneck Snake, Northern Redbelly Snake	For all snakes, habitat may be found in any forested ecosite in northern Ontario. Talus, rock barren, crevice and caves are more typically related to these habitats. Many suitable conditions also observed in the very shallow ecosite particularly on fractured bedrock and lower veg cover. Open and Sparse Tall/Low Treed Shrub Systems. B008-028, B167-172, B174, B175, B180-181, B183-188	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. • The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.	There are various woodlands within 50 m of the Project Location that may provide suitable habitat for hibernating snakes. No significant areas of fissured rock were observed on site. No snake observations were made throughout site investigations.	N	N	N/A	N
Colonially – Nesting Bird Breeding Habitat (Cliff)	Cliff Swallow	Cliff faces, bridge abutments, silos, barns (Cliff Swallows). Habitat found but not limited to the following ecosites: B001-004, B157-159, B173-175 Cultural Meadow – CUM1 Cultural Thicket – CUT1, THD Cultural Savannah – CUS1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation.	There were no cliffs or banks observed on or within 50 m of the Project Location that would provide suitable habitat for colonially nesting bird breeding habitat (cliff). This habitat type is considered not present.	N	N	N/A	N
Colonially – Nesting Bird Breeding Habitat (Trees/Shrubs)	Great Blue Heron, Bonaparte's Gull, Double-crested Cormorant	Swamp – SWM2, SWM3, SWM5, SWM6, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7 Fen – FET1 May include a wide variety of tall treed ecosites. Habitat selection based on close proximity to water body or on island: B045-059, B064-076, B081-092, B097-108, B113-137, B161-162, B177-178	• Great Blue Herons nest in live or dead standing trees in wetlands, lakeshores, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. • Bonaparte's Gulls nest in coniferous trees (preferably spruce-fir) near fens, bogs, swamps, ponds or lakes. • Double-crested Cormorants prefer to nest in trees but will nest on the ground as well where trees are limited or have died and fallen.	Though wetlands are present within the Project Location, no wetlands are of sufficient size to support colonial nesting birds. Therefore, this habitat type is considered not present. No observation of colonial nesting bird activity was noted throughout site investigations.	N	N	N/A	N

SEASONAL CONCENTRATION AREAS OF ANIMALS								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Colonially – Nesting Bird Breeding Habitat (Ground)	Herring Gull, Ring-billed Gull, Common Tern, Double-crested Cormorant, Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river. B160-165 B169-172 B176-181 B185-188 Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). B008, B020-021, B030-031, B045-046, B061-062, B078-079, B094-095, B110-111, B142-144 Meadow Marsh – MAM1-6 Shallow Marsh – MAS1-3 Cultural Meadow – CUM	• Nesting colonies of gulls and terns are on islands or peninsulas (natural or artificial) associated with open water or in marshy areas, lakes or large rivers • Brewer's Blackbird colonies are found loosely on the ground in or in low bushes near streams and irrigation ditches within farmlands. • Double-crested Cormorants prefer to nest in trees but will nest on the ground as well where trees are limited or have died and fallen.	There is no habitat potential for gulls and terns.	N	N	N/A	N
Deer Winter Congregation Areas	White tailed Deer	All Forested Ecosites	Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots >50 ha. Woodlots with high densities of deer due to artificial feeding are not significant.	Woodlots of the size largely absent from the Project Location. Areas mapped previously as Deer Yarding areas have since been cleared and no longer serve as SWH.	N	N	N/A	N

Table 3-9: cSWH Assessment for Rare Vegetation Communities

RARE VEGETATION COMMUNITIES								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Cliffs and Talus Slopes	N/A	Uncommon to rare in Ecoregion 3E. Cliffs: B157-159, B173-175, B201-203 Talus: B166-168, B182-184	Cliffs: Vertical consolidate bedrock communities with a minimum height of 3 m and a slope of >60° or 173%. They have limited plant growth and species diversification. Ground cover dominated by lichen and bryophytes. Plant communities are tolerant of environmental extremes, well adapted to desiccation, rapid fluctuations in temperature, and low availability of nutrients. Talus: Rock accumulations at the base of cliffs, or former cobble beaches left behind after lake levels drop. These have a skeletal soil structure, and can have organic accumulations between the rocks. Lichen cover usually extensive. Trees and shrubs are stunted. Herbs and graminoids limited to patches of organic or mineral soil accumulations.	There are no cliffs or talus slopes on or within 50 m of the Project Location.	N	N	N/A	N
Rock Barren	N/A	Calcareous Rock Barren: B179, B180, B181 Precambrian Rock Barren: B163, B164, 164	Exposed bedrock areas (mostly exposed rock with <5 cm mineral or <10 cm organic material) and <25% vascular vegetation.	There are no rock barrens on or within 50 m of the Project Location.	N	N	N/A	N
Sand Dunes (American Dune Grass Type)	N/A	B005, B006, B142	Exposed mineral material community often associated with shorelines of lakes or exposed inland mineral material that has been shaped by eolian (wind) processes.	There are no sand dunes on or within 50 m of the Project Location.	N	N	N/A	N
Great Lakes Arctic-Alpine Shoreline Type	N/A	B161, B162	Found on the shoreline of Lake Superior on open basic bedrock. Vegetation consist mostly of arctic-alpine species.	There are no arctic-alpine shoreline habitats on or within 50 m of the Project Location.	N	N	N/A	N
Hardwood Swamps	N/A	B130, B131, B132, B133	Dominant hardwood canopy that is located within lower topographic positions and subject to flooding. Nutrient regime is rich and substrate is mostly moderately deep to deep with variable textures. All hardwood swamp ecosites are considered significant.	There are no hardwood swamps on or within 50 m of the Project Location.	N	N	N/A	N
Rare Treed Type: Red and White Pine Stands	N/A	B011, B015, B023, B027, B033, B039, B048, B054, B064, B069, B081, B087, B097, B103, B113, B118	Red and White Pine stands attain their northern limit near the northern margin of the Clay Belt. They occur as sporadic, small stands and are generally found on dry, often exposed, and rocky sites. However, these conditions can vary.	There are no Red or White Pine stands on or within 50 m of the Project Location.	N	N	N/A	N
Rare Treed Type: Black Ash	Black Ash	B019, B028, B056, B059, B071, B076, B089, B092, B105, B108, B120, B125	Black Ash stands are found within low lying, predominantly alluvial material throughout the Clay Belt.	Black Ash documented within small wetland within the Project Location. However, does not meet absolute (>10%) cover or relative cover (>35%) to be considered SWH.	Y	N	N/A	N
Rare Treed Type: Elm	Elm Spp.	B019, B043, B056, B059, B071, B076, B089, B092, B105, B108, B120, B125	Elm stands are found within low lying, predominantly alluvial material throughout the Clay Belt.	There are no Elm stands on or within 50 m of the Project Location.	N	N	N/A	N
Rare Treed Type: Oak	Oak Spp.	B017, B019, B028, B041, B043, B057, B059, B072, B076, B090, B092, B106, B108, B121, B125	Hardwood canopy within lower topographic positions. Fresh to moist moisture regimes with variable substrate textures.	There are no Oak stands on or within 50 m of the Project Location.	N	N	N/A	N

RARE VEGETATION COMMUNITIES								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Rare Treed Type: Red and Sugar Maple	Red and Sugar Maple	B018, B019, B028, B042, B043, B058, B059, B073(Mh), B074(Mr), B075, B076, B091, B092, B107, B108, B122(Mh), B123(Mr), B124, B125	Hardwood canopy containing red and/or sugar maple. Generally, on warmer-than-normal sites with a higher nutrient regime.	No Red or Sugar maple stands on or within 50 m of the Project Location.	N	N	N/A	N
Rare Treed Type: Yellow Birch	Yellow Birch	B019, B028, B040, B043, B055, B059, B070, B076, B088, B092, B104, B108, B119, B125	Hardwood canopy consisting mostly of yellow birch. Generally, on warmer-than-normal sites with a higher nutrient regime.	No Yellow Birch stands on or within 50 m of the Project Location.	N	N	N/A	N
Other Rare Vegetation Communities	N/A	S1 – Extremely rare – usually 5 or fewer occurrences in the province, or very few remaining hectares. S2 – Very rare – usually between 5 and 20 occurrences in the province, or few remaining hectares. S3 – Rare to uncommon – usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with some extensive examples remaining.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M. The MNR/NHIC will have up to date listing for rare vegetation communities.	All vegetation communities on and within 50 m of the Project Location are common to the area. There are no rare vegetation communities on or within 50 m of the Project Location.	N	N	N/A	N

Table 3-10: cSWH Assessment for Specialized Habitat for Wildlife

SPECIALIZED HABITAT FOR WILDLIFE								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Waterfowl Nesting Area	American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Common Merganser, Red-breasted Merganser, Mallard, Canada Goose, American Wigeon, Bufflehead, Common Goldeneye	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH. B129-135, B140-152, B224 Shallow Marsh – MAS1, MAS2, MAS3 Shallow Water – SAS1, SAM1, SAF1 Meadow Marsh – MAM1, MAM2, MAM3, MAM4, MAM5, MAM6 **Note:** includes adjacency to Provincially Significant Wetlands.	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5 ha) and any small wetlands (0.5 ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as raccoons, skunks, and foxes have difficulty finding nests. • Wood Ducks, Bufflehead, Common Goldeneye, and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites.	There are wetlands in and within 50 m of the Project Location. However, due to the size and characteristics of each wetland, this habitat type is considered not present.	N	N	N/A	N
Bald Eagle and Osprey Nesting	Osprey Special Concern Species: Bald Eagle	Treed communities directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. • Nests located on man-made objects are not to be included as SWH (e.g., telephone poles and constructed nesting platforms).	There are deciduous woodlands adjacent ponds/open water wetlands (Wetland 1) Within and within 50 m of the Project Location. No Eagle or Osprey nests were observed while conducting site investigations. However, as these species are known to occur in the region, this habitat type will be considered generalized cSWH.	Y	Y	Wetland 1	Y (generalized cSWH)
Woodland Raptor Nesting Habitat	Red-tailed Hawk, Great-horned Owl, Broad-winged Hawk, Sharp-shinned Hawk, Merlin, Coopers Hawk, Northern Goshawk, Great Gray Owl, Long-eared Owl, Common Raven Cavity Nesters/users: Saw-whet Owl, Boreal Owl, Barred Owl, Northern Hawk Owl, American Kestrel (Northern Flying Squirrel use cavities as roosting sites in winter)	May be found in all forested ELC Ecosites. May also be found in: Swamp – SWD, SWC (directly adjacent to riparian areas – rivers, lakes, ponds and wetlands)	All natural or conifer plantation woodland/forest stands. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Merlin or Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • Some woodland raptors rely on cavity trees for nesting. They do not excavate their own cavities, they rely on natural cavities of sufficient size and those excavated by Pileated Woodpeckers. Larger diameter trees are used most frequently, with nest cavities most often found in trembling aspen. • Nest sites may be used again, or a new nest may be in close proximity to an old nest.	There are deciduous woodlands in and within 50 m of the Project Location. The woodlands do not meet the size or composition typically associated with the habitat. Little interior forest habitat present. This habitat type is considered to be not present.	N	N	N/A	N

SPECIALIZED HABITAT FOR WILDLIFE								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Turtle Nesting Areas	Midland Painted Turtle Special Concern Species: Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100 m). Shallow Marsh – MAS1, MAS2, MAS3 Shallow Water – SAS1, SAM1, SAF1 Open Bog – BOO1 Open Fen – FEO1 B003, B006-007, B031, B171-172, B187-188	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. • These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	There are wetlands within 50 m of the Project Location. However, due to lack of open water and suitable substrates such as sand and gravel beaches and open areas, this habitat type is considered not present.	N	N	N/A	N
Seeps and Springs	Selected wildlife species that utilize this feature: Ruffed Grouse, Moose, White-tailed Deer, Black Bear, Northern two-lined Salamander.	Seeps/Springs are areas where groundwater comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/ field/pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species.	There are no known seeps or springs within 50 m of the Project Location. No seeps or springs were documented during the Site Investigations. This habitat type is considered not present.	N	N	N/A	N
Aquatic Feeding Habitat	Moose	Habitat may be found in all forested ecosites adjacent to water.	• Aquatic feeding habitats are an extremely important habitat component for moose and other wildlife as they supply important nutrients. Forest cover adjacent to these areas is important as well to provide for summer thermal cover, screening and escape cover. • MNR maps these locations on Crown Land and rate the site on a scale of 1 to 4, with 4 having the greatest potential. Feeding sites classed 3 or 4 are candidate SWH. • MNR District should be contacted where Class 2 feeding sites are identified as these may be considered significant by MNR if higher quality sites are absent in the surrounding landscape. • Wetlands and isolated embayments in rivers or lakes which provide an abundance of submerged aquatic vegetation such as pondweeds, water milfoil and yellow water lily are preferred sites. Adjacent stands of lowland conifer or mixed woods will provide cover and shade.	Rivers and open water features are generally absent from the Project Location. Coniferous forested habitats and large open wetlands are absent from in or within 50 m of the Project Location. Therefore, this habitat type is considered not present.	N	N	N/A	N

SPECIALIZED HABITAT FOR WILDLIFE								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Mineral Licks	Moose, Porcupine	Habitat may be found in all treed ecosites.	• Mineral licks are a valuable habitat component but are also very rare on the landscape. • This habitat component is found in upwelling groundwater and the soil around these seepage areas. It typically occurs in areas of sedimentary and volcanic bedrock. In areas of granitic bedrock, the site is usually overlain with calcareous glacial till.	Seeps or spring were not documented within the site and the surrounding area is considered disturbed in conjunction with minimal forest cover. Therefore, this feature is considered not present.	N	N	N/A	N
Denning Sites for Mink, Otter, Gray Wolf, Eastern Wolf, Canada Lynx, Marten, Fisher, Black Bear	Mink, Otter, Gray Wolf, Canada Lynx <u>Special Concern:</u> Eastern Wolf <u>Cavity Users:</u> Marten, Fisher	Habitat may be found in all treed ecosites.	• Mink prefer shorelines dominated by coniferous or mixed forests with dens usually underground. Mink will often use old muskrat lodges. They may den in root masses along shorelines of waterbodies. • Otters prefer undisturbed shorelines along water bodies that support productive fish populations with abundant shrubby vegetation and downed woody debris for denning. They often use old beaver lodges or log jams and crevices in rock piles. • Marten and fisher share the same general habitat, requiring large tracts of coniferous or mixed forests of mature or older age classes. Denning sites are often in cavities in large trees or under large downed woody debris. • Wolves prefer a more interior forest condition for locating their den sites. Wolves often select sandy sites, sloped for excavation (esker areas should be examined as potentially key sites). Wolf dens are often located in close proximity to wetlands. • Lynx dens are most often associated with the presence of downed woody debris. • Black bears, particularly sub-adults, will often den in the base of hollow trees. In 3E, such trees are rare and primarily consist of large diameter cedar or sometimes large white spruce.	Shorelines and large tracts of forests were not documented or observed within or 50 m outside of the Project Location. Therefore, this feature is considered not present.	N	N	N/A	N
Rendezvous Sites	Gray Wolf <u>Special Concern:</u> Eastern Wolf	Isolated open areas including bogs, fens, other wetlands, meadows, clearcuts.	• Rendezvous sites may be found in a variety of habitats such as open bogs, burns, clearcuts, beaver meadows, and open forest. • Rendezvous sites are often used by wolf packs during multiple years. • Aras used as rendezvous sites one year may be used as den sites in subsequent years. • Wolves appear to have a low tolerance for human activity near rendezvous sites.	Rendezvous sites were not observed or documented within the site or the surrounding area as it is considered disturbed with active land management, cattle, farming activities in conjunction with minimal forest cover for this species to travel between sites. Therefore, this feature is not considered present.	N	N	N/A	N

SPECIALIZED HABITAT FOR WILDLIFE								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Amphibian Breeding Habitat (Woodland).	Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, Spring Peeper, Wood Frog, American Toad	All treed upland ecosites, however more likely on fine textured moist ecosites (e.g., B119-125). The wetland breeding ponds (including vernal pools) may be permanent or seasonal, large or small in size and could be located within or adjacent to the woodland. Forest – FOC, FOM FOD Swamp – SWC SWM SWD	• Presence of a wetland, lake or pond (including vernal pools) >500 m^2 (about 25 m dia.) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. • Breeding pools within the woodland or the shortest distance from the forest habitat are more significant because of reduced risk to migrating amphibians and more likely to be used.	This habitat type was identified as potentially present during the Site Investigation These features were subject to further targeted surveys and will be evaluated as part of the Evaluation of Significance	Y	Y	Moist, Fine: Mixedwood (B125Tt)	Y (generalized cSWH)
Amphibian Breeding Habitat (Wetlands)	Eastern Newt, American Toad, Spotted Salamander, Four-toed Salamander, Blue-spotted Salamander, Gray Treefrog, Boreal Chorus Frog, Northern Leopard Frog, Green Frog, Mink Frog, Wood Frog, Spring Peeper	Rich swamps and thickets, vernal/seasonal pooling, riparian and variety of wetland interiors and margins B128-135, B141-152, B223-224 Typically, these wetland ecosites will be isolated (>120 m) from woodland ecosites; however, larger wetlands containing predominantly aquatic species (e.g., Green Frog) may be adjacent to woodlands. Swamp – SW Marsh – MA Fen – FE Bog – BO Open Water – OA Shallow Water – SA	• Wetlands and pools (including vernal pools) >500 m (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats • Wetlands and pools need to persist until mid-July • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.	This habitat type was identified as potentially present during the Site Investigation These features were subject to further targeted surveys and will be evaluated as part of the Evaluation of Significance	Y	Y	Wetlands	Y (generalized cSWH)
Mast Producing Areas	Black Bear, White-tailed Deer, Ruffed Grouse	All shrub and treed ecosites capable of producing mast.	• Mast is a very important food requirement for many wildlife species. • Significant tree species include mountain ash and pin cherry. Significant shrub species include blueberries, raspberries, beaked hazel, and choke cherry. • Some Oak or other hard-mast producing species may be present in 3E and significance should be evaluated as encountered because of its importance as a food source for various wildlife species. • Recently disturbed sites (fire or logging), large bedrock outcroppings, forest openings or utility corridors >1 ha provide excellent sites for mast producing shrubs. • Permanent open sites providing long-term food sources are more significant.	Minimal target species were identified and do not meet the 50% ground cover requirement. Therefore, this feature is considered not present.	N	N	N/A	N

SPECIALIZED HABITAT FOR WILDLIFE								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Sharp-tailed Grouse Leks	Sharp-tailed Grouse	B029-031, B044-046, B060-062, B077-079, B093-095, B109-111, B126, B136-141	• Leks are an important habitat feature required to maintain populations of sharp-tailed grouse. • The lek or dancing ground consists of bare, grassy area as the core of the lekking area and may contain some sparse shrubland. • There is often a knoll or slightly elevated rise in topography associated with the site. This is a better drained site less likely to collect water. • Leks are typically a grassy field/meadow separated by >15 ha from adjacent shrublands and >30 ha from adjacent treed areas. • Field/meadows are to be >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous stands. • Field/meadows are to be as undisturbed as possible with low intensities of agriculture (light grazing or late haying). • Leks will be used annually if not destroyed by cultivation or invasion of woody plants or tree planting.	Incidental observations of multiple Sharp-tailed Grouse were made during the 2025 site investigations. However, given the size and proximity to other woodland and anthropogenic features, it is unlikely to support Lek habitat.	N	N	N/A	N

Table 3-11: cSWH Assessment for Habitat for Species of Conservation Concern

HABITAT FOR SPECIES OF CONSERVATION CONCERN								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Marsh Breeding Bird Habitat	American Bittern, Sora, Red-necked Grebe, Ring-necked Duck, Lesser Scaup, Ruddy Duck, American Coot, Sandhill Crane, Virginia Rail, Trumpeter Swan Special Concern: Black Tern, Yellow Rail	Ecosites: B134-152	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • Rich wetlands for these bird species are very productive and rare in Northern Ontario landscapes.	There are various wetlands in or within 50 m of the Project Location however, only Wetland 1 appears to be of sufficient size and with characteristics to potentially support Marsh Breeding Bird Habitat.	Y	Y	Wetland 1	Y (generalized cSWH)
Open Country Bird Breeding Habitat	Vesper Sparrow, Le Conte's Sparrow, Northern Harrier, Savannah Sparrow Special Concern: Short-eared Owl	All Field, Meadow and Sparse Shrub ecosites: B09-09, B020-021, B029-31, B044-046, B060-062, B077-079, B093-095, B109-111	• Large field/meadow areas (includes natural and cultural fields and meadows) >30 ha. • Field/meadow not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e., no row cropping or intensive hay or livestock pasturing in the last 5 years). • Field/meadow sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger field/meadow areas than the common grassland species.	Meadow communities confirmed breeding presence of Savannah Sparrows only. No additional indicator species for this SWH were documented during the 2025 field investigations. Therefore, this habitat type is considered not present. The majority of Project areas are associated with existing agricultural activities.	N	N	N/A	N
Shrub/Early Successional Bird Breeding Habitat	Clay-coloured Sparrow, Field Sparrow, Ruffed Grouse, Eastern Kingbird, American Woodcock	All sparse shrub and shrub ecosites: B09-010, B021-022, B031-032, B046-047, B062-063, B079-080, B095-096, B111-112, B134-135	This wildlife habitat is declining throughout Ontario and North America. • Large natural field areas succeeding to shrub and thicket habitats >30 ha in size. Shrub land or early successional fields, not Class 1 or 2 agricultural lands, not being actively used for farming (i.e., no row-cropping, hay or live-stock pasturing in the last 5 years). • Larger shrub thicket habitats (>30 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or lightly grazed pasturelands.	While thicket communities exist within the Project Location, these communities do not meet the size requirements to be considered SWH and are associated with active agricultural lands. Three species were identified incidentally and during site investigations, including Eastern Kingbird, American Woodcock and Ruffed Grouse. Therefore, this habitat type is considered not present.	N	N	N/A	N

HABITAT FOR SPECIES OF CONSERVATION CONCERN								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Special Concern and Rare Wildlife Species All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	Brewer's Blackbird (*Euphagus cyanocephalus*)	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy.	When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites.	Species encountered and documented during Breeding Bird Surveys in 2025. Thought to be utilizing the area for foraging.	Y	Y	SoCC-2	Y (generalized cSWH)
	Black-billed Magpie (*Pica hudsonia*)	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy.	When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites.	Species encountered and documented during Breeding Bird Surveys and on-site investigations.	Y	Y	SoCC-1 and SoCC-4	Y (generalized cSWH)
	Barn Swallow (*Hirundo rustica*)	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy.	When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites.	Buildings and structures likely able to support this species are located over 50 m away from the Project Location.	N	N	N/A	N
	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	All plant and animal element occurrences (EO) within a 1 or 10 km grid. Older EO were recorded prior to GPS being available; therefore, location information may lack accuracy.	When an EO is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites.	A singular individual was observed incidentally during site investigations during 2025. Various woodlots that exist within the Project Location and adjacent to the project provide adequate habitat for this species. No nesting activity was observed.	Y	Y	SoCC-3	Y (generalized cSWH)

Table 3-12: cSWH Assessment for Animal Movement Corridors

ANIMAL MOVEMENT CORRIDORS								
cSWH Type	Candidate Significant Wildlife Habitat (cSWH) Criteria			Assessment of cSWH				Carried Forward to EoS (Y/N)
	Indicator Species	ELC Ecosite Codes	Habitat Criteria	Assessment Details	In Project Location (Y/N)	Within 50 m of Project Location (Y/N)	cSWH Feature ID	
Amphibian Movement Corridors	Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Wood Frog, Boreal Chorus Frog, Spring Peepers, Northern Leopard Frog, Green Frog, Mink Frog, American Toad, Four-toed Salamander	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.2.2 of the Significant Wildlife Habitat Criteria Schedules for Ecoregion 3E (MNR, 2015).	Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (MNR, 2015).	Amphibian breeding habitat (woodland) was identified for woodlands within the Project Location. Movement between these woodlands would require travelling through active farmland or areas where predation is considered high (i.e., agricultural lands and open areas). Only areas where movement would occur in naturalized areas with adequate cover and protection from predation or incidental take were considered. As such, this habitat type will be considered not present.	N	N	N/A	N
Cervid Movement Corridors	Moose	Corridors may be found in all treed ecosites.	• Movement corridors must be determined when Moose Aquatic Feeding Area and Mineral Lick Habitat are confirmed from Table 1.2.2 (MNR, 2015). • Corridors typically follow riparian areas, woodlots, and areas of physical geography (ravines or ridges). Corridors will be multi-functional (i.e., these will function for any smaller mammal species as well).	**'Moose Aquatic Feeding Area'** and **'Mineral Lick Habitat'** are not present in or within 50 m of the Project Location, resulting in the absence of movement corridors for Moose. Therefore, this feature is considered not present.	N	N	N/A	N
Furbearer Movement Corridors	Mink, Marten, Fisher, Otter, Canada Lynx	All treed Ecosites adjacent to or within shoreline habitats.	• Intact forest corridors are critical for movements within territories for hunting, breeding, and maintenance of populations. For habitat related to denning sites, a corridor to and from the denning site must be maintained as this habitat is extremely important for local populations and is rarely identified. • Mink and Otter den sites are typically found within a riparian area of a lake, river, or stream or wetland. The den site will potentially have a movement corridor associated with it. • Den sites of other furbearer species may be more associated with social, hunting, breeding, or other behaviours. • All den sites identified using Table 1.2.2 (MNR, 2015) under the habitat of **'Denning Sites for Mink, Otter, Marten, Fisher, and Eastern Wolf'** are considered for an animal movement corridor.	Denning sites of target species were not identified in Table 1.2.2 (MNR, 2015) and are not expected to be present within the Project Location. Therefore, this feature is considered not present.	N	N	N/A	N

3.4 Summary of Site Investigation

3.4.1 Candidate and Generalized Significant Natural Features

The Site Investigation confirmed the presence of several wetlands, identified two additional wetlands over 2 ha in size and determined one wetland identified through the records review to be absent. Figure 3-2 outlines the presence and absence of the relevant wetlands. Amphibian Breeding Habitat (wetlands and woodlands) were identified as cSWH. These features were subject to targeted studies as described in Section 3.3.4 and will be evaluated as part of the EoS. Marsh Breeding Bird Habitat, Bat Maternity Roost Habitat as well as Bald Eagle and Osprey Nesting Habitat were identified as generalized cSWH and will be carried forward to the EoS and EIS. SoCC were identified throughout the targeted studies. These features will be carried forward to the EoS/EIS as generalized cSWH. Table 3-13 outlines the details of the cSWH within the Project Location.

Table 3-13: Confirmed and Candidate Significant Natural Features Identified During the Site Investigation

Natural Feature	Figure 3-1 ID	Proximity to Project Location	Assessment	Next Steps
Generalized cSWH				
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Wetland 1	Within and adjacent to Project Location (transmission line only)	Woodlands and areas nearby watercourses may serve as habitat. No species specific surveys are necessary. Considered as generalized SWH.	Treated as significant and construction mitigation provided in the EIS.
Maternity Roosting Habitats	Bat 1 and Bat 2	Within Project Location	Considered as generalized SWH. Acoustic assessments and general habitat availability is low, however may occur in the area generally. Considered as generalized SWH.	Treated as significant and construction mitigation provided in the EIS.
Marsh Breeding Bird Habitat	Wetland 1	Within Project Location (transmission line only)	Considered as generalized SWH. Wetland 1 holds some potential to serve as candidate SWH but breeding bird studies in the area did not identify relevant species that would indicate habitat significance.	Treated as significant and construction mitigation provided in the EIS.
Black-billed Magpie (*Pica hudsonia*)	SOCC-1	Within Project Location	Observed during study. Considered as generalized SWH.	Treated as significant and construction mitigation provided in the EIS.

Natural Feature	Figure 3-1 ID	Proximity to Project Location	Assessment	Next Steps
Brewer's Blackbird (*Euphagus cyanocephalus*)	SOCC-2	Within Project Location	Observed during study. Considered as generalized SWH.	Treated as significant and construction mitigation provided in the EIS.
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	SOCC-3	>50 m of Project Location	Observed during study. Considered as generalized SWH.	Treated as significant and construction mitigation provided in the EIS.
Black-billed Magpie (*Pica hudsonia*)	SOCC-4	Within Project Location	Observed during study. Considered as generalized SWH.	Treated as significant and construction mitigation provided in the EIS.
cSWH				
Amphibian Breeding Habitat (Wetland)	Amphib 3, 4 and 6	Within the Project Location and within 50 m	Candidate SWH present. Targeted studies completed.	Carried forward to EoS.
Amphibian Breeding Habitat (Woodland)	Amphib 1, 2, 5 and 7	Within the Project Location and within 50 m	Candidate SWH present. Targeted studies completed.	Carried forward to EoS.
Natural Features				
Wetland 1 to 6	WL 1	Within Project Location (transmission line)	Confirmed present. Assumed significant	Carried forward to EIS
	WL 2	Within 50 m of Project Location	Confirmed present. Assumed significant	Carried forward to EIS
	WL 3	Within 50 m of Project Location	Confirmed present. Assumed significant	Carried forward to EIS
	WL 4	>Within 50 m of Project Location	Confirmed present. Assumed significant	Carried forward to EIS
	WL 5	Within 50 m of Project Location	Confirmed present. Assumed significant	Carried forward to EIS
	WL 6	Within 50 m of Project Location	Confirmed present. Assumed significant	Carried forward to EIS

3.4.2 Site Investigation Determinations and Corrections to the Records Review

The REA Regulation requires that the Site Investigation include a summary of any corrections to the Records Review and the determinations made as a result of conducting the Site Investigation. A summary of the results of the Site Investigation and any corrections required to the Records Review are provided in Table 3-14.

Table 3-14: Summary of Corrections Required to the Records Review and Determinations Made as a Result of the Site Investigation

Natural Feature	Records Review (Y/N)	Site Investigation (Y/N)	Determinations Made as a Result of Conducting the Site Investigation	Correction Required (Y/N)	Carried Forward to the EoS (Y/N)
Wetland	Y	Y	There are wetlands in and/or within 50 m of the Project Location. Two additional wetlands were identified during the Site Investigation. All wetlands over 2 ha have been assumed significant and will be carried forward to the EIS.	Y	Y
Wildlife Habitat	Possible	Y	There are cSWH and generalized cSWH identified in and/or within 50 m of the Project Location. These generalized cSWH are treated as significant and will be carried forward to the EIS. Targeted surveys took place to further evaluate these features as described in the EoS.	Y	Y

4. Evaluation of Significance

4.1 Regulatory Requirements

Part IV, Subsection 27 (3) of the REA Regulation requires proponents of Class 3 solar projects to prepare an Evaluation of Significance (EoS) report for Natural Features identified in the Records Review and Site Investigation, that sets out

- A determination of whether the natural feature is or is not provincially significant (i.e., wetlands and ANSIs) or significant (i.e., woodlands and wildlife habitat).
- A summary of the evaluation criteria or procedures used to make the determinations.
- The name and qualifications of any person who applied to evaluation criteria or procedures.
- The dates of the beginning and completion of the evaluation.

4.2 Evaluation of Significance Methodology

The Records Review and Site Investigation identified generalized candidate Significant Wildlife Habitat (SWH). These features have been further studied and as outlined in Section 3.3 and will be further assessed within this EoS in comparison to the defining criteria as outline in the Ecoregion 3E SWH Schedules (MNR, 2015).

4.2.1 Evaluation of Significance Details

The REA Regulation requires that the EoS includes the name and qualifications of the evaluator and beginning and completion dates of the evaluation. These dates are associated with the surveys previously highlighted in Section 3.2.1.1.

The name and qualifications of the evaluator are provided in Appendix B. The methodologies utilized for habitat use studies to confirm the presence/absence of the cSWH types identified during the Site Investigation are present within Section 3.2.2.

4.3 Evaluation of Candidate Significant Natural Features

The Records Review and Site Investigation identified cSWH in and/or within 50 m of the Project Location. All identified cSWH features identified during the desktop and Site Investigation were further studied utilizing targeted surveys to evaluate their significance.

4.3.1 Amphibian Breeding Habitat (Wetland).

Amphibian Breeding Habitat (Wetland) is defined as features with permanently wet pools subsisting until at least mid-July that are greater than 120 m away from woodlands. The SWH Ecoregion 3E Criterion Schedule (MNR, 2015) outlines that significant Amphibian Breeding Habitats (wetlands) contain the presence of 1 or more of the listed newt or salamander species or 3 or more of the listed frog/toad species with call level codes of 3 (as defined by the Marsh Monitoring Program). As described in Sections 3.2 and 3.3 anuran call surveys were completed at all relevant wetlands. Stations 3, 4 and 6 (Figure 3-1) would be considered candidates for Amphibian Breeding Habitat Wetland based on proximity of woodlands. At

these calling stations only Spring Peeper and Gray Treefrog (*Hyla versicolor)* were listed species heard calling at call level Code 3 during the site visits. Based on these studies, the Amphibian Breeding Habitat is not considered to be significant and will not be carried forward to the EIS.

4.3.2 Amphibian Breeding Habitat (Woodland)

Amphibian Breeding Habitat (woodland) is defined as features with permanently wet pools subsisting until at least mid-July that are greater within woodlands. The SWH Ecoregion 3E Criterion Schedule (MNR, 2015) outlines that significant Amphibian Breeding Habitats (woodlands) contain the presence of 1 or more of the listed newt or salamander species or 2 or more of the listed frog/toad species with call level codes of 3 (as defined by the Marsh Monitoring Program). As described in Sections 3.2 and 3.3, anuran call surveys were completed at all candidate wetlands. Stations 1, 2, 5 and 7 (Figure 3-1) would be considered candidates for Amphibian Breeding Habitat Woodland based on proximity of woodlands. At these calling stations only one listed species (Spring Peeper) was heard calling at call level code 3 during the site visits. Based on these studies, the Amphibian Breeding Habitat is not considered to be significant and will not be carried forward to the EIS.

4.3.3 Generalized Significant Wildlife Habitat

Generalized cSWH treated as significant do not require habitat use studies. Although not required, cSWH types have been evaluated through species specific studies to assess existing conditions. An assessment of potential negative environmental effects of the Project on these habitats is required as part of the EIS. Generalized cSWH types are assessed as a group and not individually. Instead, the focus is on the development activity being proposed and potential effects in the generalized cSWH area. The following generalized cSWH types have been identified within 50 m of the Project Location and are shown in Figure 3-1.

- Bat Maternity Colonies – Maternity colonies are found in deciduous woodlands or swamps where tree cavities or snags are found. Woodlands in and within 50 m of the Project Location have the potential to provide habitat for bat maternity colonies; however, based on the present ELC communities and acoustic monitoring results, maternity roost activity in the area is relatively low. Regardless, these generalized areas will be carried forward to the EIS.
- Bald Eagle and Osprey Nesting Habitat (Wetland 1) – This habitat type is associated with woodlands adjacent open water features. In association with the Project Location they are primarily associated with Wetland 1 adjacent the proposed transmission line. These generalized areas will be carried forward to the EIS.
- Marsh Breeding Bird Habitat (Wetland 1) – This habitat type is associated with woodlands adjacent open features primarily associated with Wetland 1 adjacent the proposed transmission line. No observations of species relevant to These generalized areas will be carried forward to the EIS.

4.3.4 Evaluation of Wetland Significance

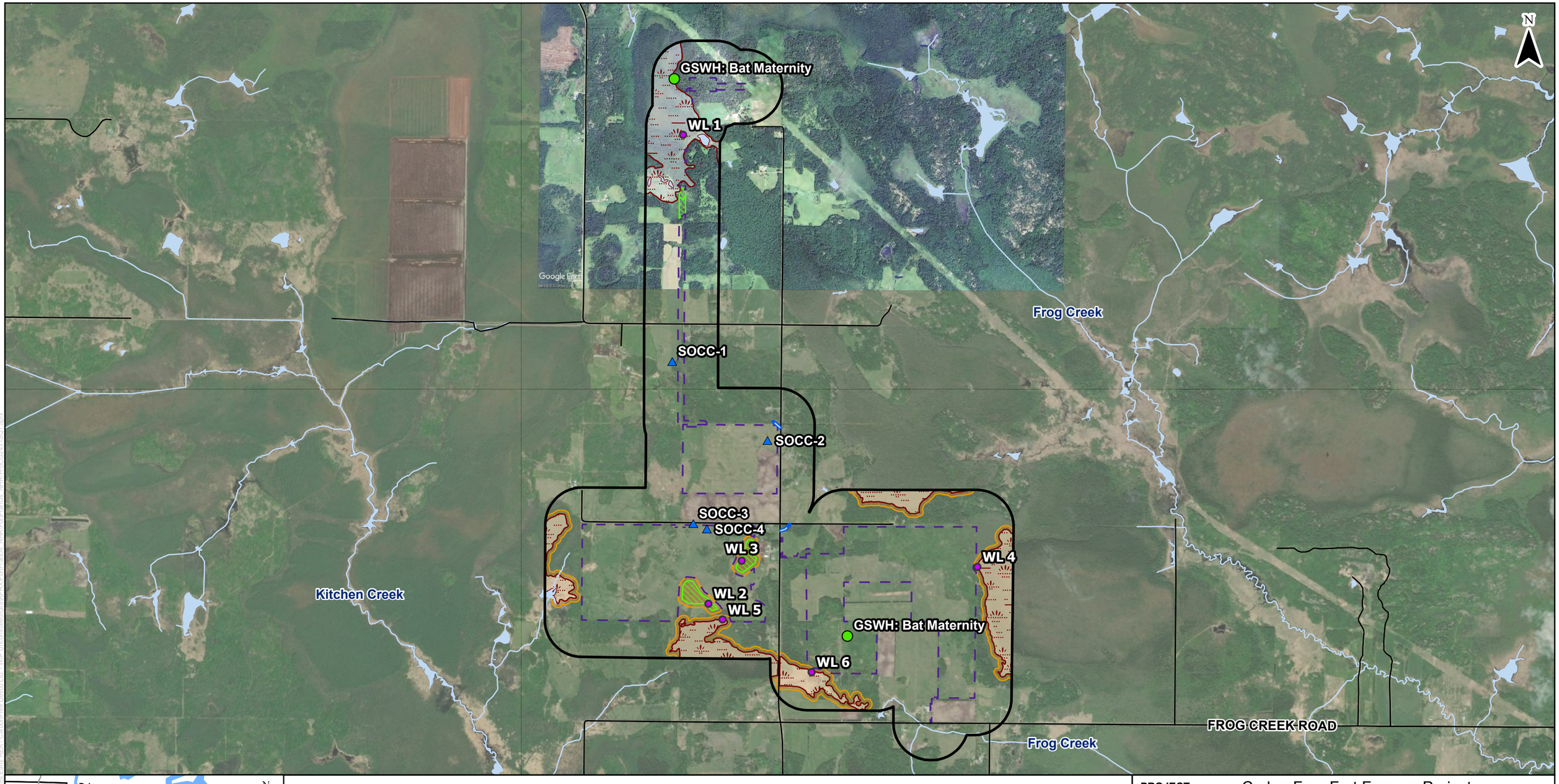
For the purposes of this NHA, all confirmed present wetlands as outlined in Figure 3-2, found to be larger than the minimum 2 ha, will be treated as significant and carried forward to the EIS. The Project Location can accommodate 30 m setbacks from all wetlands aside from Wetland 1, which overlaps with the portion of the Project Location associated with the proposed transmission line. The Project Location has been modified to reflect these setbacks in Figure 4-1.

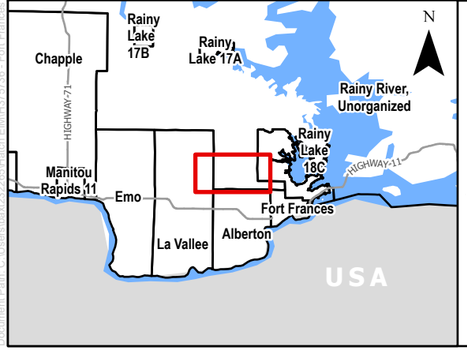
4.4 Summary of Evaluation of Significance

The Site Investigation and EoS identified cSWH and generalized cSWH in and/or within 50 m of the Project Location. These natural features are treated as significant and carried forward to the EIS. The EIS will include mitigation measures to avoid and/or minimize potential effects associated with the Project. These features include

- Unevaluated Wetlands 1 to 6.
- Marsh Breeding Bird Habitat (generalized).
- Bat Maternity Roost Habitat (generalized).
- SoCC Habitats (generalized).

Figure 4-1 outlines the locations of the above-listed features that are treated as significant or confirmed significant. Potential locations of generalized cSWH have been identified in Figure 4-1 as well.





LEGEND

- GSWH: Bat Maternity
- Species of Conservation Concern
- Wetland
- Road
- Unnamed Watercourse
- Watercourse
- Revised Project Location
- Study Area (300m Buffer)
- Waterbody
- Additional Identified Wetland
- Unevaluated Wetland (MNR)
- Wetland (30m Buffer)

NOTES:
1. Produced by Hatch, contains information licensed under the Open Government Licence – Ontario
2. Spatial referencing: NAD 1983 UTM Zone 17N
3. GoogleEarth 2025 Imagery added for clarity due to cloud cover.

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PROJECT:	CarbonFree Fort Frances Project - Natural Heritage Assessment
FIGURE TITLE:	Evaluation of Significance Results
CLIENT:	CarbonFree Fort Frances LTD

DWG BY:	CHK BY:	FIG NO.:	REV NO.:	
V. BAXTER	C. SEHL	4-1	1	HATCH
DATE: 09/01/26	**PAGE:** 1			

5. Environmental Impact Study

5.1 REA Regulation – Environmental Impact Study

Section 38(1) of the REA Regulation prohibits the construction, installation or expansion of any component of a solar project within the following locations:

- Within or within 50 m of a provincially Significant Northern Wetland.
- In or within 50 m of a Provincially Significant ANSI (Earth Science or Life Science).
- In or within 50 m of a Significant Wildlife Habitat.
- Within 50 m of a Provincial Park or Conservation Reserve.

However, Section 38(2) allows proponents to construct within the locations noted above, subject to the completion of an EIS to assess negative effects and evaluate appropriate mitigation and monitoring measures. Section 38(2) of the REA Regulation indicates that the EIS report must

- Identify and assess any negative environmental effects of the projects on Natural Features, Provincial Parks or Conservation Reserves referred to in Section 38(1).
- Identify mitigation measures in respect of any negative environmental effects.
- Describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects.
- Describe how the Project Description Report addresses any negative environmental effects.

This EIS has been prepared to address these requirements for the construction of Project components in and within 50 m of significant natural features identified in the EoS. The EIS has also been prepared in accordance with the guidelines established in the NHAG (MNR, 2012a).

5.2 Significant Natural Features

Table 5-1 provides a summary of the Natural Features treated as significant and that require an EIS. An assessment of potential negative environmental effects and recommended mitigation measures to avoid and/or minimize potential effects are provided in Table 5-1. The Significant Natural Features are shown in Figure 3-2 and Figure 4-1.

Table 5-1: Significant Natural Features Identified in the NHA to be Assessed in the EIS

Natural Feature	Figure 4-1 ID	Proximity to Project Location	Assessment	Next Steps
Generalized cSWH				
Bat Maternity Colonies	Bat Maternity	Within and within 50 m from Project Location (solar facility and transmission line)	Woodland – potential for this habitat type to occur in woodlands in Project Location and within 50 m, although based on results of species-specific surveys it is expected to be low quality.	Treated as significant and construction mitigation provided in the EIS.
Marsh Breeding Bird Habitat	Wetland 1	Within and within 50 m from Project Location (transmission line)	Wetland 1 holds some potential to serve as Marsh Breeding Bird habitat, although based on results of species-specific surveys it is expected to be low quality.	Treated as significant and construction mitigation provided in the EIS.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Wetland 1	Within and within 50 m from Project Location (transmission line)	Woodlands – potential for this habitat type to occur in woodlands adjacent open water features associated with Wetland 1.	Treated as significant and construction mitigation provided in the EIS.
Species of Conservation Concern	SoCC 1-4	Within and within 50 m from Project Location (solar facility and transmission line)	Species observations occurred; however, specific habitat to support breeding is largely absent within Project Location.	Treated as significant and construction mitigation provided in the EIS.
Natural Features				
Unevaluated Wetlands	Wetland 1	Within Project Location (transmission line)	Confirmed to be present. Treated as Significant.	Treated as significant and construction mitigation provided in the EIS.
Unevaluated Wetlands	Wetland 2-6	Within 50 m of Project location (solar facility)	Confirmed to be present. Treated as Significant.	Setback Project Location at least 30 m. Treated as significant and construction mitigation provided in the EIS.

5.3 Existing Conditions of Significant Natural Features

5.3.1 Wetland 1

Wetland 1 is a swamp and marsh complex with multiple open water features. The wetland generally drains southwest ultimately feeding tributaries of Frog Creek. The wetland is generally palustrine. The areas within or adjacent the Project Location (transmission line) are primarily composed of treed bog with some areas of marsh. A historic ATV trail has been observed travelling through the majority of Wetland 1 which would roughly align with the proposed Project Footprint within the Wetland. Adjacent land uses include agricultural lands (row crops and cattle grazing) transmission lines at its northern boundary. The overall size of the northwestern portion of the wetland is approximately 80 ha of which approximately 19.5 ha is marsh.

5.3.2 Wetland 2

Wetland 2 is a treed bog. It serves as a hydrological catchment to the adjacent agricultural fields and likely generally drains south outside of the Project Location. The wetland is palustrine. Currently, agricultural activities such as cattle grazing occur surrounding the feature within adjacent agricultural lands.

5.3.3 Wetland 3

Wetland 3 is a thicket swamp. It serves as a hydrological catchment to the adjacent agricultural fields and likely generally drains south outside of the Project Location. The wetland is palustrine. Currently, agricultural activities such as cattle grazing occur surrounding the feature within adjacent agricultural lands.

5.3.4 Wetland 4

Wetland 4 is a treed bog and swamp complex associated with areas of lowland adjacent tributaries of Frog Creek. It likely drains south and east toward Frog Creek. It is largely palustrine wetland but has some riverine features. It is largely outside of the Project Location.

5.3.5 Wetland 5

Wetland 5 is primarily a coniferous swamp. It is a palustrine wetland. It is largely outside of the Project Location and is expected to generally collect drainage from the agricultural field associated with the Project Location and drain southwest towards Wetland 6 and Frog Creek. The wetland's eastern border is located at Highway 611 south of the various parcels of land associated with the Project Location. Wetland 5 likely connects to Wetland 6 through drainage culverts below Highway 611 although no obvious watercourse channel is present.

5.3.6 Wetland 6

Wetland 6 is primarily a marsh; however, it has small swamp complex areas. It is largely a palustrine wetland. It is bound by Highway 611 to its west and is largely fed by field drainage and culverts below Highway 611 from Wetland 5.

5.3.7 Marsh Breeding Bird Habitat

Marsh Breeding Bird Habitat is prevalent within the general areas surrounding the Project; however, it is limited within the immediate Project Location. Generally, only Wetland 1 has open water features and shallow submerged or emergent vegetation that may support Marsh Breeding Bird Habitat. Based on results of breeding bird surveys in similar wetland areas associated with the transmission line, this habitat likely does not meet the criteria for confirmed SWH. Mitigation measures will be provided within the EIS to minimize impacts as required through the REA process for generalized SWH features.

5.3.8 Bat Maternity Roost Habitat

Bat Maternity Roost habitat is generally considered as potentially present throughout deciduous woodlands. Generally, throughout the Project Location, snag abundance was low and ELC ecosites identified are not typical of high-quality Maternity Roost Habitat. Acoustic studies completed showed low occurrences throughout the area as described in Section 3.3.5. Based on these observations, maternity roost quality is generally low within forested areas within the Project Location.

5.3.9 Bald Eagle and Osprey Nesting Habitat

Bald Eagles were observed within the general area of the Project Location. Nesting activities generally occurs in woodlands adjacent open water features. Only areas associated with woodlands surrounding Wetland 1 (Figure 4-1) meet the criteria for this generalized SWH. No nesting activity was observed within 50 m of the Project Location.

5.4 Project Components and Activities

The following sections describe the construction, operation and decommissioning phases of the Project. The information is taken from the Project Description Report. More detailed information will be provided in Projects Project Description Report, Construction Plan Report, Design and Operations Report and Decommissioning Plan Report once finalized.

5.4.1 Construction

Construction is anticipated to occur over an approximate 24-month period, likely commencing in the first quarter of 2027, pending receipt of requisite permits and approvals. The activities associated with construction are summarized in Table 5-2.

Table 5-2: General Description of Construction Activities

Activity	Description
Access Road Construction	Activities associated with construction of internal access roads will include • vegetation clearing as necessary • topsoil removal • placement of granular base • installation of ditches and culverts, as required • removal of any access roads not required, replacement of topsoil, and seeding.

Activity	Description
Site Preparation	Activities associated with the site preparation will include • removal of trees and large standing vegetation from areas where PV arrays will be constructed • preparation and implementation of a sediment and erosion control plan • determination of locations of topsoil, timber, and vegetation stockpiles (not within 30 m of any identified waterbodies).
Installation of Support Structures, PV Modules, Trackers, and Mounting Racks	Activities associated with the installation of support structures will include • construction of foundations and/or support structures beneath transformers, inverters and PV panels • installation of PV panels on racks mounted on tracking structures • installation of steel piles to be driven or screwed into the ground to support tracking structures and PV panels • inspection of foundation construction and support structures prior to installation of PV panels and wiring.
Electrical Cable Installation	Activities associated with underground cable installation will include • installation of underground DC cabling from the termination point of the PV array to the inverters and medium-voltage transformers • installation of overhead and underground cabling from the inverters as necessary, to connect the PV array to the proposed substation and HONI transmission system • utilization of a simple trenching device to install the cables; whereby a slot will be opened, the cable will be laid, and the soil replaced • installation of a (approximately 2.5 km) overhead transmission line to enable connection to the existing HONI 230 kV transmission line. This is to be constructed between the substation yard and point of interconnection (POI) with the existing HONI transmission line. • removal of vegetation to install new wooden poles associated with the overhead transmission line.
Substation Construction	Activities associated with the substation construction will include • excavation of topsoil, installation of ground grid, foundation construction, construction of secondary containment, covering of the area with crushed stone, and installation of the substation transformer and other electrical equipment.
Site Security	Activities associated with site security will include • installation of perimeter fencing consisting of a chain-link fence topped with barbed wire and access gates to prevent unauthorized access.

5.4.2 Operations and Maintenance

The Project will operate year-round and generate electricity during daylight hours. The amount of power generated will depend on daily weather conditions and sufficient solar irradiation. The Project will be operated remotely. The project will primarily be monitored remotely. A permanent workforce is not expected to be required on site with the exception of maintenance and inspection staff or security personnel (as needed). To ensure the safety and integrity of the Project, access will be limited to Project personnel and unauthorized public access will be prevented by fences, gates and security procedures. Operationally, there are no significant hazards involved in the operation of the Project, nor are hazardous materials

stored on site or created by the Project during its operation. The Project will not generate significant quantities of waste from its operation.

The Project solar PV modules, inverters and transformers and other electrical equipment, wiring and electrical connections will be routinely inspected, typically monthly. Any broken or malfunctioning PV modules, electrical cabling or components will be repaired or replaced by facility staff. Trash, debris and equipment parts replaced during maintenance and repair activities will be collected and properly stored in waste disposal bins. All waste collected during operation of the Project will be removed in accordance with provincial and municipal requirements. Vegetative ground cover, drainage systems and trees will be monitored and maintained, typically on a monthly basis. If required, water trucks will bring water to supply the water to support vegetative cover.

The Project has been designed to accommodate agricultural land use (agrivoltaics) throughout operations, specifically low-intensity grazing or crop production beneath and between solar panels, subject to landowner agreements and contractor availability. These activities would not require additional vegetation clearing or ground disturbance beyond that assessed for the Project. In all cases, agrivoltaics activities would be limited to the fenced in areas of the Project Location.

No hazardous chemicals are expected to be used for regular maintenance or vegetation abatement activities and will only be considered for management of invasive species, where present. The Project Location, including any drainage features (e.g., grassed swales, culverts) and any sediment and erosion control measures (e.g., riprap protection, rock flow checks) will be visually inspected for any signs of erosion or sedimentation and recorded. Regular maintenance such as the cleanout of accumulated sediment and/or the removal of any debris blockage would be conducted at that time. The need to clean the solar PV modules will be determined according to local weather conditions, such as the quantity and frequency of rain and snow at the Project Location. At the very most, it is expected that the modules will require cleaning quarterly, but it is possible that cleaning the modules will not be necessary at all. If required, water trucks will bring water to supply the water required. No chemicals will be used for the cleaning of the modules. The transformers will be visually inspected on a quarterly basis and their status recorded. Any faulty equipment that could result in an oil leak will be repaired and any observed leaks will be cleaned up immediately by maintenance personnel. During winter, primary access roads will be ploughed to clear snow to maintain access of personnel to Project facilities.

Generally, adjacent vegetation associated with the transmission line right-of-way will be inspected annually. Maintenance clearing of the right-of-way is expected to occur on a 5-year schedule or as needed pending vegetation regrowth in the transmission right-of-way footprint.

Unless access is required for vegetation control in proximity to the Project fenceline, there will be no activities occurring within the 30 m setbacks applied to wetlands adjacent to the solar facility component of the Project Location.

5.4.3 Decommissioning

The anticipated lifespan of the Project is approximately 35 years. At that time the Project will be decommissioned or refurbished depending on market conditions and/or technological changes.

If the decision is to discontinue renewable energy generation, the decommissioning process would likely involve the following:

- Removal of the scrap metal and cabling. Where possible, these materials will be recycled, with non-recyclables taken to an approved disposal site.
- Removal of trackers, support structures, and foundations; these materials will be recycled where possible.
- Cleanup and any necessary re-grading.
- A Decommissioning Plan Report will be developed and published as part of the REA application process.

5.5 Environmental Effects Assessment

Multiple generalized candidate SWH (cSWH) and wetlands assumed to be significant (as summarized in Section 5.2) have been identified in and within 50 m of the Project Location and are being treated as significant as part of the Environmental Effects Assessment. In accordance with the NHAG (MNR, 2012) an assessment of direct and indirect effects to significant natural features has been provided in the sections below.

5.5.1 Wetlands (Solar Facility)

Project Location has been set back 30 m from all wetlands with the exception of the Project transmission line.

Generally, only indirect effects to the wetland are expected based on the 30 m setback implemented between the wetlands and Project. Construction work adjacent wetlands can cause soil compaction and impact soil stability due to grading and vegetation removal. This can cause sediment and erosion events that can degrade adjacent features and impact drainage patterns. Utilization of machinery carries risk of spilling deleterious material that can also impact adjacent features when left unmitigated. Dust may be mobilized due to vehicular traffic and heavy machinery use, drilling (if necessary for solar panel installation) and soil moving activities (e.g., excavation, grading trenching).

Where the Project Location extends within 50 m of one of these features, sediment and erosion controls will be put in place to minimize impacts to the wetland. Spill prevention and response measures will be put in place to reduce the likelihood of a spill occurring and impacting the feature. Visual monitoring of dust will occur throughout construction activities. The following mitigation measures may be imposed where necessary if dust levels are observed to be high:

- Use of dust suppression (i.e., water or non-chloride based materials) on exposed areas including access roads, stockpiles and works/laydown areas as necessary.
- Adding coarse granular material, free of fine soil particles) on access roads or high traffic work areas.
- Phased construction where possible to minimize duration of soil exposure.
- Stockpiles and disturbed areas may be stabilized as necessary (i.e., tarped, mulched, graded, or vegetated) to reduce release of fugitive dust.

Through the implementation of these mitigation measures and abiding by the prescribed setbacks, negative effects to wetlands are expected to be negligible throughout all phases of the Project. The implementation of a 30 m setback may ultimately have a positive effect on the wetlands, reducing encroachments from adjacent land uses such as cattle grazing, vegetation clearing and land tilling associated with the existing agriculture activities. Setbacks of 30 m are largely the provincial standard for the mitigation of effects to wetlands as reflected in the Provincial Policy Statement (Kings Printer for Ontario, 2024) and the *Conservation Authorities Act* .

The Projects will include the creation and implementation of a stormwater management plan expected to maintain the existing drainage regime in the area. As such, no impacts to wetlands are expected throughout the operation of the facility.

Effects during decommissioning activities are expected to be similar to those described in relation to construction.

5.5.2 Wetlands (Transmission Line)

With the exception of Wetland 1, the Project Location associated with the transmission line will be setback from wetland boundaries a minimum of 30 m.

Due to limitations associated with the availability of land and the presence and location of existing infrastructure, it is not feasible to locate the Project transmission line outside of Wetland 1. Similarly, due to the width of the wetland it is not feasible for the transmission line to span the wetland or avoid locating transmission poles within the feature. CarbonFree Fort Frances Ltd will continue to investigate alternative land access in an attempt to minimize the overlap of transmission line infrastructure with Wetland 1. These alternatives will only be considered if they further minimize the Projects overlap with Wetland 1.

In order to minimize the footprint of the transmission line within the wetland, the Projects substation will be located south of Wetland 1 to allow transmission line voltage to be stepped up to 230 kV. This will allow for greater span lengths throughout the transmission line minimizing the footprint of the Project within Wetland 1 to the extent possible. The location of the transmission line infrastructure (poles) will be optimized where possible to minimize the volume of poles within the wetland boundaries.

Direct impacts associated with the Project Location overlapping Wetland 1 cannot be avoided. Therefore, conservatively, 2.75 ha of wetland consisting primarily of bog will be cleared to facilitate the construction of the transmission line. Impacts to the wetland within this area will be minimized to the extent possible by locating poles outside of the wetland or in dry areas wherever possible. The overall right-of-way footprint represents approximately 3.4% of the overall area of the northwestern portion of the wetland. Therefore, it is not expected to have an impact on the overall function of the wetland or impact the wetland type. It is likely that following construction, the majority of the areas will remain or reestablish as bog or marsh wetland. Maintenance activities will limit the growth of trees within the transmission right-of-way.

To mitigate impacts to potential resident bird and bat species tree clearing activities will take place outside the active bird and bat windows between April 15 to August 31 of each calendar year. This is applicable to clearing associated with construction and maintenance activities.

Transmission infrastructure is expected to largely avoid open water areas that could support Marsh Breeding Bird Habitat.

In order to ensure that the amount of vegetation removed from the wetland, work areas will be well marked and workers will be advised to remain within the bounds of the demarcated work areas. All trees will be felled into previously cleared areas, and any cleared and grubbed material will be piled away from the remnant vegetation.

Access through the site may require the use of swamp mats and tracked equipment. An invasive species management plan and equipment cleaning protocol will be implemented to reduce the likelihood of invasive species into the wetland during construction or maintenance.

Spill prevention and response measures will be put in place to reduce the likelihood of a spill occurring and impacting the Natural Features.

Given the size of the wetland community, the characteristics of the wetland communities expected to be impacted (i.e., treed bog and reed marsh communities as opposed to open water communities), and remaining area of the wetland not expected to be impacted, Project is not expected effect the overall composition, habitat availability or functions associated with Wetland 1.

Potential impacts that may occur during decommission to the wetland are expected to be similar those identified above.

5.5.3 Grassland Birds (SoCC)

Potential effects of the Project on grassland birds can largely be avoided through seasonal timing windows associated with clearing and tilling land. Grassland habitat expected to be removed as part of the Project. The grassland habitat for SoCC species is marginal as minimal perching areas and cover is available for these species. Construction

commencement will be phased to minimize impacts on grassland birds. All earthworks will commence outside of the grassland bird nesting period (April 15 to July 31) to minimize direct effects on resident grassland bird species and prevent direct impacts to active nests.

5.5.4 Bald Eagle and Osprey Nesting Habitat

Few areas within project Location are likely suitable for Bald Eagle or Osprey Nesting and are limited to the proposed transmission line. In this area, limited open water features are available to support foraging typically associated with nests. No observations of Bald Eagle or Osprey Nests were identified within the Project Location incidentally during the Site Investigation or any targeted surveys. Generally, monitoring for stick nests will occur ahead of clearing activities. Additional mitigation measures may be required in the event an active nest is identified.

5.5.5 Bat Maternity Roost Habitat

Potential effects of the Project on generalized maternity roost habitat can largely be avoided through seasonal timing windows associated with clearing. Generally, forested areas expected to be cleared are primarily young Aspen-Birch forest. All tree clearing will take place outside of the bat maternity roost period of April 15 to August 31. Generally, potential for maternity roost habitat in the area proposed to be cleared is marginal with limited snags posing opportunities for maternity roosts.

5.5.6 Potential Environmental Effects and Mitigation Measures

An assessment of potential environmental effects, recommended mitigation measures, and residual effects during all Project phases is provided in Table 5-4. Characterization and assessment of residual effects following mitigation is also provided in Table 5-5, with criteria outlined in Table 5-3.

Table 5-3: Environmental Effects Analysis Criteria

Criteria	Description of Threshold Ratings
Magnitude	• **Negligible (0):** No detectable change from baseline conditions. • **Low (1):** Differs from the average value for baseline conditions but remains within the range of natural variation and below a guideline or threshold value. • **Medium (2):** Differs substantially from the average value for baseline conditions and approaches the limits of natural variation, but equal to or slightly above a guideline or threshold value. • **High (3):** Differs substantially from baseline conditions and is significantly beyond a guideline or threshold value, resulting in a detectable change beyond the range of natural variation.
Geographical Extent (Biophysical)	• **Project Location (1):** Impact is limited to the Project Location. • **Study Area (within 50 m of Project Location) (2):** Effect occurs throughout the Study Area. • **Beyond Study Area (3):** Effect extends beyond the Study Area.

Criteria	Description of Threshold Ratings
Duration	• **Short Term (1):** Impact lasts less than 2 years (e.g., during the Construction Phase of the Project). • **Medium Term (2):** Impact lasts from 2 to 50 years (i.e., encompassing construction and operation phases). • **Long Term (3):** Impact lasts from 50 to 53 years (i.e., impact lasts into the decommissioning and post-closure phase).
Frequency	• **One Time (1):** Impact is confined to one discrete event. • **Sporadic (2):** Impact occurs rarely and at sporadic intervals. • **Regular (3):** Impact occurs on a regular basis. • **Continuous (4):** Impact occurs constantly.
Reversibility	• **Reversible (1):** Impact can be reversed. • **Partially Reversible (2):** Impact can be partially reversed. • **Permanent (3):** Impact cannot be reversed, is of permanent duration.
Ecological and Socio-Economic Context	• **High (1):** The receiving environment or population has a high natural resilience to imposed stresses, and can respond and adapt to the impact. • **Neutral (2):** The receiving environment or population has a neutral resilience to imposed stresses and may be able to respond and adapt to the impact. • **Low (3):** The receiving environment or population has a low resilience to imposed stresses, and will not easily adapt to the impact.
Certainty of Knowledge	• **High (1):** There is a good understanding of the cause-effect relationship and all necessary data are available for the Project. The effectiveness of the mitigation measures is well known. There is a low degree of uncertainty, and variation from the predicted effect is expected to be low. • **Moderate (2):** The cause-effect relationships are not fully understood, there are a number of unknown external variables, or data for the Project are incomplete. The effectiveness of mitigation measures is moderately well understood. There is a moderate degree of uncertainty; while results may vary, predictions are relatively confident. • **Low (3):** The cause-effect relationships are poorly understood, there are a number of unknown external variables, and data for the Project are incomplete. The effectiveness of the mitigation measures may not yet be proven. High degree of uncertainty and final results may vary considerably.

5.6 Environmental Effects Monitoring Plan

In accordance with the REA Regulation, the monitoring plan identifies

- Performance objectives in respect of the negative environmental effects to natural features.
- Mitigation measures to assist in achieving the performance objectives.
- A program for monitoring negative environmental effects for the Project duration, including a contingency plan, to be implemented if any mitigation measures fail.

A summary of potential environmental effects and mitigations is provided in Table 5-5. This outlines the significant natural features that show potential to be impact by construction, operational, and decommissioning activities as well as mitigation measures to be used to

minimize impacts. A monitoring plan to verify that proposed mitigation measures are functioning as designed (to meet performance objectives) is provided in Table 5-5. If monitoring efforts indicate that performance objectives are not being met, contingency measures will be used to ensure that remedial action is implemented, as necessary.

Table 5-4: Potential Environmental Effects and Mitigation

Natural Features - Significant or Treated as Significant	Construction Activity	Potential Environmental Effects	Mitigation and Contingency Measures	Residual Environmental Effects Analysis						
				Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Ecological and Socio-Economic Context	Certainty of Knowledge
Wetlands	**Construction Phase** • Site preparation (vegetation clearing, minor grading). • Access roads (water crossings). • Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables). **Operational Phase** • Right-of-way maintenance(vegetation clearing). **Decommissioning Phase** • Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).	Alteration to drainage regime along the edge of the wetland (Construction and Decommissioning phases): • soil compaction • changes in moisture regime • fugitive dust • spills (e.g., fuel) • sedimentation • introduction of invasive species.	• Setback Project components and fencing 30 m from features. • Flag buffer area to prevent unauthorized access during construction. • Create and implement a sediment and erosion control plan to minimize sedimentation where Project activities are located within 50 m of a wetland or 120 m of a water body. • Create and implement an spills management procedure including the requirement that refueling, and fuel storage occur more than 50 m away from the natural feature. • Grading and civil design will consider existing drainage patterns to minimize impacts to wetland moisture regime.	2	2	2	3	2	2	2
Bat Maternity Roost Habitat	**Construction Phase** • Site preparation (vegetation clearing, minor grading.	Loss of habitat function following construction of the Project is expected. Incidental take of individuals is possible if clearing takes place withing the bat maternity roost window.	• Complete site clearing and grading outside of the active bat maternity period (April 15 to August 31). • Flag project extents to prevent unauthorized access during construction to areas not required to be cleared for the Project.	1	1	2	1	3	1	2
SoCC Grassland Birds	**Construction Phase** • Site preparation (vegetation clearing, minor grading). • Access roads (water crossings). • Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).	Temporary loss of available foraging or nesting habitat. Incidental take of individuals is possible if clearing takes place withing the bird nesting window.	• Complete site clearing and grading outside of the active grassland bird, breeding bird nesting period or bat maternity roosting period (April 15 to August 31). • Flag project extents to prevent unauthorized access during construction to areas not required to be cleared for the Project.	1	2	2	1	3	2	2
Bald Eagle/Osprey Nesting	**Construction Phase** • Site preparation (vegetation clearing, minor grading). • Access roads (water crossings). • Installation of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables). **Decommissioning Phase** • Removal of Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables).	Temporary loss of available foraging or nesting habitat.	• Complete site clearing and grading outside of the active nesting period (April 15 to August 31). • Flag project extents to prevent unauthorized access during construction to areas not required to be cleared for the Project.	1	1	1	1	2	1	2

Table 5-5: Environmental Effects Monitoring Plan

Negative Effect	Mitigation Strategy	Performance Objective	Monitoring Plan					Contingency Measures
			Methodology	Monitoring Locations	Frequency	Rationale	Reporting Requirements	
Erosion and sedimentation resulting in increased turbidity in site runoff.	A sediment and erosion control plan expected to include vegetation retention where possible. Vegetated setbacks of Project components to sensitive features. Erosion and sedimentation controls (e.g., silt fences, rock check dams, straw bales, erosion control blankets) near ditches, on steep slopes. Sediment and erosion controls will be installed and maintained between the Project Location and wetlands or watercourses where work is required within 50 m of wetlands or 120 m of water features.	No long-term erosion from site over and above existing conditions.	Visual monitoring of vegetated areas and drainage features that convey runoff to identify areas of erosion (e.g., rills, gullies). Visual monitoring of ESC measures to ensure they remain effective throughout construction.	Throughout Project Location.	During regular site inspection throughout construction and operation.	Visual monitoring of erosion would identify potential areas of concern.	Maintenance and improvement requirements actioned as needed and reported internally throughout monthly construction monitoring reports. Ongoing status of permanent features reported internally within annual operations report.	Erosion remediated as necessary to ensure no long-term erosion issues.
Potential for adverse surface water, groundwater and soil quality due to accidental spills.	Standard mitigation to prevent spills and minimize magnitude of spills if they occur. For example, refueling at least 30 m from wetlands and water features.	No long-term environmental effects due to spills.	Visual monitoring at transformer locations and monitoring of spill prevention measures.	Throughout Project Location.	During regular site inspections.	Visual monitoring would identify potential areas of concern and ensure that spill prevention and control measures are functioning as designed and protocols are being implemented as specified in plans to meet performance objectives.	All spills and remediation efforts reported throughout monthly construction monitoring reports. Ongoing status reported internally within annual operations report. Reportable spills must be documents and reported to the Ontario Spills Action Centre.	Spill contingency measures implemented as necessary in the event of a spill. Following spill event, response will be reviewed to determine if additional or altered response protocols are necessary to meet performance objectives.
Increases in surface water runoff from Project Location and changes in drainage/hydrological conditions.	Stormwater management measures which may include enhanced vegetated swales, ditch flow controls and filter strips.	Minimize changes to surface water runoff conditions to receiving waterbodies.	Visual assessment of structural stability of mitigation measures and identification of unintended impacts.	Throughout Project Location.	During regular site inspections.	Visual monitoring will confirm that stormwater management measures remain as designed and allow identification of deficiencies.	Reported internally annual operations report.	Stormwater management measures will be remediated as necessary to ensure that they are functioning as designed.
Incidental take of wildlife.	Speeds to be limited on Project Location and maintenance workforce to be made aware of potential for wildlife on the Project Location. Vegetation clearing will be conducted in fall/winter months outside of the nesting period for breeding birds and outside of the bat maternity roosting period (April 15 to August 31).	Avoid occurrences of incidental take.	Visual monitoring of access roads and other site areas will be conducted by maintenance personnel and occasions of incidental take reported as they are identified.	Throughout Project Location.	Ongoing during maintenance activities.	Incidental take will be reported by maintenance staff to personnel responsible for environmental protection if incidents occur.	Any incidental takes on wildlife will be documented internally and reported within monthly construction monitoring reports. No operational requirement. Any incidental takes of species of conservation concern in which case reporting will be immediate to the MECP/Environment Canada.	If incidental take of species of conservation concern are recorded, work will be ceased until a trained biologist can state that no other individuals of the species is present in the work area. Injured wildlife, specifically reptiles, will be taken to a wildlife rehabilitation center.

Negative Effect	Mitigation Strategy	Performance Objective	Monitoring Plan					Contingency Measures
			Methodology	Monitoring Locations	Frequency	Rationale	Reporting Requirements	
Loss of Species of Conservation Concern Grassland Bird Habitat	Phasing Project to prevent impacts to SoCC (i.e., clearing outside of the active nesting period).	Minimize impacts to grassland nesting birds.	Earthworks activities in grassland habitats to be phased prior to any nesting activity becoming established. This will be confirmed via biologist where necessary. Vegetation on site may be maintained to a level to minimize grassland bird habitation.	Grassland habitats.	Ahead of earthworks starting in new locations.	Only tall grass areas are likely to support any grassland bird species including all SoCC observed within the Project area.	Documented internally in Construction monitoring reports.	Nest sweep of areas immediately ahead of construction. Delaying construction to outside of nesting period.
Disturbance of Bald Eagle Nesting Activity	Preclearing survey for stick nests.	Identify potential nesting features ahead of tree clearing.	Visual monitoring.	Wetland 1 and woodlands.	Ahead of clearing activities	Nesting has potential to occur in super canopy trees near wetlands.	Documented internally as needed monthly Construction monitoring reports.	Phasing activities outside of when nests may be active or sensitive timeframes.

6. NHA Conclusions

The Project Location is primarily on disturbed pasture, agricultural lands, and regenerative forest habitats. The Project Location is generally characterized as having an abundance of grassland, meadow, and prairie habitat that are utilized as pasturelands for cattle, hay production, and annual row crops. The NHA identified wetlands and cSWH that have prescribed setbacks for protection. Furthermore, an EIS was prepared to address potential negative effects to these features as well as identify monitoring activities to confirm the effectiveness of the recommended mitigation measure. Mitigation measures have been identified to avoid and minimize potential effects. A monitoring plan has also been developed to ensure that performance objectives are met and implement contingency plans if mitigation measures fail. The mitigation measures identified in the Project Description Report and NHA EIS are intended to address potential environmental effects for both significant and non-significant natural features.

Overall, the Project has been sited to avoid sensitive natural features, where possible, While there are potential negative environmental effects identified for this Project, the majority of effects can be mitigated through construction phasing and standard Best Management Practices.

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Appendix A
Species Identified in the Records Review

Common Name	Scientific Name	SARA Schedule 1	SARO	COSEWIC	Source
Amphibians					
American Toad	*Anaxyrus americanus*				ORAA
Boreal Chorus Frog	*Pseudacris maculata*				ORAA
Gray Treefrog	*Hyla versicolor*				ORAA
Northern Leopard Frog	*Lithobates pipiens*				ORAA
Spring Peeper	*Pseudacris crucifer*				ORAA
Wood Frog	*Lithobates sylvaticus*				ORAA
Birds					
Alder Flycatcher	*Empidonax alnorum*				OBBA
American Bittern	*Botaurus lentiginosus*				OBBA
American Crow	*Corvus brachyrhynchos*				OBBA
American Goldfinch	*Spinus tristis*				OBBA
American Kestrel	*Falco sparverius*				OBBA
American Redstart	*Setophaga ruticilla*				OBBA
American Robin	*Turdus migratorius*				OBBA
American White Pelcan	*Pelecanus erythrorhynchos*		THR		OBBA
American Woodcock	*Scolopax minor*				OBBA
Bald Eagle	*Haliaeetus leucocephalus*				OBBA
Baltimore Oriole	*Icterus galbula*				OBBA
Barn Swallow	*Hirundo rustica*	THR	SC	SC	NHIC
Barred Owl	*Strix varia*				OBBA
Belted Kingfisher	*Megaceryle alcyon*				OBBA
Black-and-white Warbler	*Mniotilta varia*				OBBA
Black-billed Cuckoo	*Coccyzus erythropthalmus*				OBBA
Black-billed Magpie	*Euphagus cyanocephalus*				NHIC
Blackburnian Warbler	*Setophaga fusca*				OBBA
Black-capped Chickadee	*Poecile atricapillus*				OBBA
Black-throated Green Warbler	*Setophaga virens*				OBBA
Blue Jay	*Cyanocitta cristata*				OBBA
Blue-headed Vireo	*Vireo solitarius*				OBBA
Bobolink	*Dolichonyx oryzivorus*	THR	THR	SC	OBBA
Boreal Owl	*Aegolius funereus*				OBBA
Brewer's Blackbird	*Pica hudsonia*				NHIC
Broad-winged Hawk	*Buteo platypterus*				OBBA
Brown Creeper	*Certhia americana*				OBBA
Brown Thrasher	*Toxostoma rufum*				OBBA
Brown-headed Cowbird	*Molothrus ater*				OBBA
Canada Goose	*Branta canadensis*				OBBA
Canada Jay	*Perisoreus canadensis*				OBBA
Canada Warbler	*Cardellina canadensis*	THR	SC	SC	OBBA
Cedar Waxwing	*Bombycilla cedrorum*				OBBA
Chestnut-sided Warbler	*Setophaga pensylvanica*				OBBA
Chipping Sparrow	*Spizella passerina*				OBBA
Clay-colored Sparrow	*Spizella pallida*				OBBA
Cliff Swallow	*Petrochelidon pyrrhonota*				OBBA
Common Goldeneye	*Bucephala clangula*				OBBA
Common Grackle	*Quiscalus quiscula*				OBBA
Common Raven	*Corvus corax*				OBBA
Common Yellowthroat	*Geothlypis trichas*				OBBA

Common Name	Scientific Name	SARA Schedule 1	SARO	COSEWIC	Source
Comnmon Loon	*Gavia immer*				OBBA
Connecticut Warbler	*Oporornis agilis*				OBBA
Cooper's Hawk	*Astur cooperii*				OBBA
Dark-eyed Junco	*Junco hyemalis*				OBBA
Dickcissel	*Spiza americana*				OBBA
Downy Woodpecker	*Dryobates pubescens*				OBBA
Eastern Bluebird	*Sialia sialis*				OBBA
Eastern Kingbird	*Tyrannus tyrannus*				OBBA
Eastern Phoebe	*Sayornis phoebe*				OBBA
Eastern Warbling Vireo	*Vireo gilvus*				OBBA
Eastern Whip-poor-will	*Antrostomus vociferus*	THR	THR	SC	OBBA
Eastern Wood-pewee	*Contopus virens*	SC	SC	SC	OBBA
European Starling	*Sturnus vulgaris*				OBBA
Field Sparrow	*Spizella pusilla*				OBBA
Golden-crowned Kinglet	*Regulus satrapa*				OBBA
Golden-winged Warbler	*Vermivora chrysoptera*	THR	SC	THR	OBBA
Gray Catbird	*Dumetella carolinensis*				OBBA
Great Blue Heron	*Ardea herodias*				OBBA
Great Crested Flycatcher	*Myiarchus crinitus*				OBBA
Great Gray Owl	*Strix nebulosa*				OBBA
Great Horned Owl	*Bubo virginianus*				OBBA
Green-winged Teal	*Anas crecca*				OBBA
Hairy Woodpecker	*Leuconotopicus villosus*				OBBA
Hermit Thrush	*Catharus guttatus*				OBBA
House Sparrow	*Passer domesticus*				OBBA
Indigo Bunting	*Passerina cyanea*				OBBA
Killdeer	*Charadrius vociferus*				OBBA
Least Flycatcher	*Empidonax minimus*				OBBA
LeConte's Sparrow	*Ammospiza leconteii*				OBBA
Lincoln's Sparrow	*Melospiza lincolnii*				OBBA
Long-eared Owl	*Asio otus*				OBBA
Magnolia Warbler	*Setophaga magnolia*				OBBA
Mallard	*Anas platyrhynchos*				OBBA
Merlin	*Falco columbarius*				OBBA
Mourning Dove	*Zenaida macroura*				OBBA
Mourning Warbler	*Geothlypis philadelphia*				OBBA
Nashville Warbler	*Leiothlypis ruficapilla*				OBBA
Northern Flicker	*Colaptes auratus*				OBBA
Northern Harrier	*Circus hudsonius*				OBBA
Northern House Wren	*Troglodytes aedon*				OBBA
Northern Parula	*Setophaga americana*				OBBA
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*				OBBA
Northern Saw-whet Owl	*Aegolius acadicus*				OBBA
Northern Waterthrush	*Parkesia noveboracensis*				OBBA
Northern Yellow Warbler	*Setophaga aestiva*				OBBA
Olive-sided Flycatcher	*Contopus cooperi*	SC	SC	SC	OBBA
Ovenbird	*Seiurus aurocapilla*				OBBA
Palm Warbler	*Setophaga palmarum*				OBBA
Pileated Woodpecker	*Dryocopus pileatus*				OBBA

Common Name	Scientific Name	SARA Schedule 1	SARO	COSEWIC	Source
Pine Siskin	*Spinus pinus*				OBBA
Purple Finch	*Haemorhous purpureus*				OBBA
Red-breasted Nuthatch	*Sitta canadensis*				OBBA
Red-eyed Vireo	*Vireo olivaceus*				OBBA
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	END	NHIC
Red-tailed Hawk	*Buteo jamaicensis*				OBBA
Red-winged Blackbird	*Agelaius phoeniceus*				OBBA
Ring-necked Duck	*Aythya collaris*				OBBA
Rock Pigeon (Feral Pigeon)	*Columba livia*				OBBA
Rose-breasted Grosbeak	*Pheucticus ludovicianus*				OBBA
Ruby-crowned Kinglet	*Corthylio calendula*				OBBA
Ruby-throated Hummingbird	*Archilochus colubris*				OBBA
Ruffed Grouse	*Bonasa umbellus*				OBBA
Sandhill Crane	*Antigone canadensis*				OBBA
Savannah Sparrow	*Passerculus sandwichensis*				OBBA
Scarlet Tanager	*Piranga olivacea*				OBBA
Sedge Wren	*Cistothorus stellaris*				OBBA
Sharp-tailed Grouse	*Tympanuchus phasianellus*				OBBA
Song Sparrow	*Melospiza melodia*				OBBA
Sora	*Porzana carolina*				OBBA
Spotted Sandpiper	*Actitis macularius*				OBBA
Swainson's Thrush	*Catharus ustulatus*				OBBA
Swamp Sparrow	*Melospiza georgiana*				OBBA
Tree Swallow	*Tachycineta bicolor*				OBBA
Trumpeter Swan	*Cygnus buccinator*				OBBA
Turkey Vulture	*Cathartes aura*				OBBA
Veery	*Catharus fuscescens*				OBBA
Western Meadowlark	*Sturnella neglecta*				OBBA
White-breasted Nuthatch	*Sitta carolinensis*				OBBA
White-throated Sparrow	*Zonotrichia albicollis*				OBBA
Wilson's Phalarope	*Phalaropus tricolor*				OBBA
Wilson's Snipe	*Gallinago delicata*				OBBA
Wilson's Warbler	*Cardellina pusilla*				OBBA
Winter Wren	*Troglodytes hiemalis*				OBBA
Wood Duck	*Aix sponsa*				OBBA
Wood Thrush	*Hylocichla mustelina*	THR	SC	THR	OBBA
Yellow-bellied Flycatcher	*Empidonax flaviventris*				OBBA
Yellow-bellied Sapsucker	*Sphyrapicus varius*				OBBA
Yellow-rumped Warbler	*Setophaga coronata*				OBBA
Yellow-throated Vireo	*Vireo flavifrons*				OBBA

Common Name	Scientific Name	SARA Schedule 1	SARO	COSEWIC	Source
Butterflies					
Acadian Hairstreak	*Satyrium acadica*				OBA
American Lady	*Vanessa virginiensis*				OBA
Aphrodite Fritillary	*Argynnis aphrodite*				OBA
Arctic Fritillary	*Boloria chariclea*				OBA
Arctic Skipper	*Carterocephalus mandan*				OBA
Atlantis Fritillary	*Argynnis atlantis*				OBA
Banded Hairstreak	*Satyrium calanus*				OBA
Black Swallowtail	*Papilio polyxenes*				OBA
Bog Copper	*Tharsalea epixanthe*				OBA
Bog Fritillary	*Boloria eunomia*				OBA
Bronze Copper	*Tharsalea hyllus*				OBA
Brown Elfin	*Callophrys augustinus*				OBA
Cabbage White	*Pieris rapae*				OBA
Canadian Tiger Swallowtail	*Pterourus canadensis*				OBA
Checkered White	*Pontia protodice*				OBA
Clouded Sulphur	*Colias philodice*				OBA
Columbine Duskywing	*Erynnis lucilius*				OBA
Common Ringlet	*Coenonympha california*				OBA
Common Roadside Skipper	*Amblyscirtes vialis*				OBA
Common Wood-nymph	*Cercyonis pegala*				OBA
Compton Tortoiseshell	*Nymphalis l-album*				OBA
Dion Skipper	*Euphyes dion*				OBA
Dorcas Copper	*Tharsalea dorcas*				OBA
Dreamy Duskywing	*Erynnis icelus*				OBA
Dun Skipper	*Euphyes vestris*				OBA
Eastern Comma	*Polygonia comma*				OBA
Eastern Pine Elfin	*Callophrys niphon*				OBA
Eastern Tailed Blue	*Cupido comyntas*				OBA
European Skipper	*Thymelicus lineola*				OBA
Eyed Brown	*Lethe eurydice*				OBA
Freija Fritillary	*Boloria freija*				OBA
Gray Comma	*Polygonia progne*				OBA
Great Spangled Fritillary	*Argynnis cybele*				OBA
Green Comma	*Polygonia faunus*				OBA
Harvester	*Feniseca tarquinius*				OBA
Hoary Comma	*Polygonia gracilis*				OBA
Hobomok Skipper	*Lon hobomok*				OBA
Indian Skipper	*Hesperia sassacus*				OBA
Jutta Arctic	*Oeneis jutta*				OBA
Least Skipper	*Ancyloxypha numitor*				OBA
Little Wood-satyr	*Megisto cymela*				OBA
Long Dash Skipper	*Polites mystic*				OBA
Meadow Fritillary	*Boloria bellona*				OBA
Milbert's Tortoiseshell	*Aglais milberti*				OBA
Monarch	*Danaus plexippus*	END	SC	END	OBA
Mourning Cloak	*Nymphalis antiopa*				OBA
Mustard White	*Pieris oleracea*				OBA
Northern Azure	*Celastrina lucia*				OBA

Common Name	Scientific Name	SARA Schedule 1	SARO	COSEWIC	Source
Northern Broken-dash	*Polites egeremet*				OBA
Northern Cloudywing	*Thorybes pylades*				OBA
Northern Crescent	*Phyciodes cocyta*				OBA
Northern Pearly-eye	*Lethe anthedon*				OBA
Orange Sulphur	*Colias eurytheme*				OBA
Painted Lady	*Vanessa cardui*				OBA
Peck's Skipper	*Polites coras*				OBA
Pink-edged Sulphur	*Colias interior*				OBA
Question Mark	*Polygonia interrogationis*				OBA
Red Admiral	*Vanessa atalanta*				OBA
Satyr Comma	*Polygonia satyrus*				OBA
Silver-bordered Fritillary	*Boloria selene*				OBA
Silvery Blue	*Glaucopsyche lygdamus*				OBA
Silvery Checkerspot	*Chlosyne nycteis*				OBA
Striped Hairstreak	*Satyrium liparops*				OBA
Tawny-edged Skipper	*Polites themistocles*				OBA
Viceroy	*Limenitis archippus*				OBA
Western Branded Skipper	*Hesperia colorado*				OBA
Western Tailed Blue	*Cupido amyntula*				OBA
White Admiral	*Limenitis arthemis arthemis*				OBA
Fish					
Northern Pike	*Esox lucius*				ARA
White Sucker	*Catostomus commersonii*				ARA
Reptiles					
Red-sided Gartersnake	*Thamnophis sirtalis parietalis*				ORAA
Snapping Turtle	*Chelydra serpentina*	SC	SC	SC	ORAA
Western Painted Turtle	*Chrysemys picta bellii*				ORAA

Appendix B
Qualifications of Site Investigation

Details and Qualifications	
Name	Chris Sehl
Education and Professional Affiliations	• B.Sc. (Environmental Science), University of Guelph (2015) • Graduate Diploma (Environmental Management and Assessment), Niagara College (2017)
Years in Practice	Over 10 years
Experience Summary	Chris has supported a wide range of energy, infrastructure, and resource projects across Ontario and eastern Canada. He has extensive experience completing and supporting environmental studies and field investigations for renewable energy, transmission, hydroelectric, transportation, mining, and marine projects. His experience includes terrestrial and aquatic assessments, species at risk surveys and monitoring, habitat evaluations, water and sediments sampling, and environmental compliance monitoring. Chris regularly supports environmental permitting and approvals processes and works closely with regulators, Indigenous communities, municipalities, and project teams to help navigate environmental requirements and support responsible project delivery.
Certifications and Professional Development	Certificates: • Standard First Aid Level C, Canadian Red Cross, 2022 • Class 2 Backpack Crew Leader Electrofishing Course, 2021 • Certification in Ichthyology for identification of Ontario fishes, Royal Ontario Museum - Department of Natural History, 2018 Professional Development: • Fisheries Specialist Training, Ontario Ministry of Transportation, 2018

Details and Qualifications	
Name	Taylor Simpanen
Education and Professional Affiliations	• Dipl. Fish and Wildlife Technician (2018) • Dipl. Arboriculture and Urban Forestry (2019) • Ontario Breeding Bird Atlas • Bird Studies Canada
Years in Practice	~5 years
Experience Summary	Taylor has worked on numerous renewable power projects including hydropower, pumped storage, solar, and wind facilities during his career. He has extensive knowledge and experience completing terrestrial and aquatic field investigations, including Species at Risk (SAR) surveys and monitoring, habitat assessments (including critical habitat), breeding birds, amphibian and reptile, mammals, fisheries, benthics, botanical identification and inventories, Ecological Land Classification (ELC) surveys, wetland delineations, tree health assessments, aquatic and significant wildlife habitat assessments, water quality monitoring, hydrological assessments, and soil sampling.
Certifications and Professional Development	<u>Certificates:</u> • Maritimes Wetland Evaluation System Training (2024) • Ecological Land Classification (ELC) (2023); • Butternut Health Assessor (2022). • Class 2 Crew Lead Electrofisher (2017) • OBBN (2018) <u>Professional Development:</u> • NHIC Data Sensitivity Training Course (2025); • Wood Turtle Habitat Assessment Training (2023); • IBP Banding Certificate (2020); • Bird Studies Canada Migration Monitoring Training (2018)

Details and Qualifications	
Name	Audrey Nerino
Education and Professional Affiliations	• BA (Environmental Studies, Geography), Lakehead University (2019); • Certificate Program (Geomatics), Lakehead University (2019)
Years in Practice	Over 5 years
Experience Summary	Audrey is an Environmental Scientist with extensive experience supporting infrastructure, energy, and environmental projects across Ontario, Quebec, and British Columbia. Her work focuses on indigenous engagement, environmental planning, and consultation support, with experience contributing to environmental assessments, Class EAs, and federal evaluations. Audey regularly supports baseline data review, literature reviews and gap analyses, and consultation planning and documentation to ensure Indigenous knowledge, environmental considerations, and regulatory requirements are appropriately reflected in project decision-making.
Certifications and Professional Development	Certificates: • Certified Management Professional (CMP)