



To: Aypa Power Canada Development LP From: Erica Padvaiskas

Stantec Consulting Ltd.

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Reference: Aypa Power Elora Battery Energy Storage System Project - Natural Heritage Memo

1 Introduction

Elora BESS LP is currently exploring the Elora battery energy storage project ("the Project") in close proximity to the existing Hydro One Networks Inc. ("Hydro One") transmission lines in Centre Wellington, Ontario. Stantec Consulting Ltd. (Stantec) was retained by Aypa Power Canada Development LP (Aypa Power) to complete a Class Environmental Assessment for Minor Transmission Facilities (MTF) Class EA.

The objective of this *Natural heritage assessment Memo* is to identify potential natural heritage features to be considered during development. The natural heritage assessment provides the results of the desktop analysis and field investigations undertaken in 2023, including an assessment of Species at Risk (SAR), Significant Wildlife Habitat (SWH) and designated natural heritage features. The Study Area for the natural heritage assessment is the Project Development Area (PDA) plus 120-meter (m) Adjacent Lands (Attachment A, Figure 1).

2 Background Review

2.1 Background Information Sources

A variety of background documents and sources of information were consulted to obtain records of natural heritage features within the 120-m Study Area. Records of terrestrial and aquatic SAR and provincially rare species, occurrences of amphibians, reptiles, birds and mammals, Provincially Significant Wetlands (PSWs), Areas of Natural and Scientific Interest (ANSIs), and fish and fish habitat data were obtained from the following sources:

- The Natural Heritage Information Centre (NHIC), (MNRF 2024a)
- Land Information Ontario (LIO), (MNRF 2024b)
- County of Wellington Official Plan, including Schedule B-1 (Land Use Centre Wellington)
- (County of Wellington 2023)
- Grand River Conservation Authority (GRCA) 'Map your property' Interactive Mapping (GRCA 2024)
- Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature 2020)
- Atlas of the Mammals of Ontario (AMO; Dobbyn 1994)

- Ontario Breeding Bird Atlas (OBBA; Cadman et al. 2007)
- Fisheries and Oceans Canada Aquatic SAR Map (DFO 2024)
- Ontario Butterfly Atlas (OBA; Kaposi et al. 2024)
- Ontario Moth Atlas (OMA;)
- eBird Online Database (eBird 2024)
- iNaturalist Online Observations (iNaturalist 2024)

2.2 Desktop Study Results

2.2.1 Designated Features

The proposed PDA is situated in an agricultural setting, adjacent to industrial properties and existing infrastructure (e.g. Hydro One Transmission Line). The 120-m Study Area overlaps with Core Greenland (i.e. watershed surrounding watercourses) as mapped in the Wellington Center Official Plan, Schedule B-1. See Section 2.2.4 for details regarding the watercourses.

No other natural features (i.e., ANSIs, wooded areas, wetlands) occur within the 120-m Study Area.

2.2.2 Terrestrial Species of Conservation Concern

Species of Conservation Concern (SOCC) are those species which are provincially rare (S1-S3 ranked species) or provincially designated special concern species. This category excludes species with a provincial status of threatened or endangered, which are described in Section 2.2.3. Status rankings (S ranks) for wildlife are based on the number of occurrences in Ontario and have the following meanings:

- S1: critically imperiled; often fewer than 5 occurrences
- S2: imperiled; often fewer than 20 occurrences
- S3: vulnerable; often fewer than 80 occurrences
- S4: apparently secure; uncommon but not rare
- S#B: breeding status rank
- S#N: Non-breeding status rank

Based on a review of background information, 9 SOCC are known to occur in the vicinity of the 120-m Study Area, as shown in Table 2-1. The potential for SOCC to be present in the 120-m Study Area is limited by habitat suitability and availability; therefore, species listed in Table 2-1 may not occur in the PDA.

Table 2-1 Terrestrial Species of Conservation Concern

Species	S-Rank	SARO	Source			
INSECTS						
Monarch (Danaus plexippus)	S2N, S4B	SC	OBA			
BIRDS						
Barn Swallow (Hirundo rustica)	S4B	SC	OBBA			
Eastern Wood-pewee (Contopus virens)	S4B	SC	NHIC, OBBA			
Purple Martin (Progne subis)	S3B	-	OBBA			
Wood Thrush (Hylocichla mustelina)	S4B	SC	OBBA			
HEPTILES						
Midland Painted Turtle (Chrysemys picta marginata)	S4	-	ORAA			
Snapping Turtle (Chelydra serpentina)	S4	SC	NHIC, ORAA			
Western Chorus Frog (Canadian Shield population) (Pseudacris maculata pop. 1)	S3	-	ORAA			
MAMMALS						
Woodland Vole (Microtus pinetorum)	S3?	SC	AMO			

Notes:

AMO - Atlas of the Mammals of Ontario - Dobbyn 1994

NHIC - Natural Heritage Information Center (MNRF 2024a)

OBBA - Ontario Breeding Bird Atlas (Cadman et al. 2007)

OBA - Ontario Butterfly Atlas (Ontario Nature 2024a)

ORAA - Ontario Reptile and Amphibian Atlas (Ontario Nature 2019)

SARO - Species at Risk in Ontario List

END - Endangered

THR - Threatened

SC - Special Concern

2.2.3 Terrestrial Species at Risk

For this report, SAR are defined as species that are listed as endangered or threatened under the provincial *Endangered Species Act*, 2007 (ESA). The ESA was created to protect SAR and their habitats in Ontario. Endangered, threatened, and extirpated species listed on the Species at Risk in Ontario (SARO) list (O. Reg. 230/08 under the ESA) automatically receive legal protection from harm or harassment under the ESA. In addition to species protection, the ESA prohibits damage or destruction of habitat for endangered or threatened species. A given species' habitat may have either general habitat protection or regulated habitat protection, where the type of protection each species is provided depends mainly on when the species was added to the SARO List, its designated status, and if a habitat regulation has been developed specifically for this species.

Based on a review of background information, 11 SAR are known to occur in the vicinity of the 120-m Study Area, as shown in Table 2-2. The potential for SAR to be present in the 120-m Study Area is limited by habitat suitability and availability; therefore, species listed in Table 2-2 may not occur in the PDA.

Table 2-2 Terrestrial Species at Risk

Species	SARO Status	SARA Status	Source
BIRDS	·	•	
Bank Swallow (Riparia riparia)	THR	THR	OBBA
Bobolink (Dolichonyx oryzivorus)	THR	THR	NHIC, OBBA
Chimney Swift (Chaetura pelagica)	THR	THR	OBBA
Eastern Meadowlark (Sturnella magna)	THR	THR	NHIC, OBBA
Eastern Whip-poor-will (Antrostomus vociferus)	THR	THR	OBBA
Golden-winged Warbler (Vermivora chrysoptera)	SC	THR	OBBA
Red-headed Woodpecker (<i>Melanerpes</i> erythrocephalus)	END	END	OBBA
MAMMALS			
Eastern Small-footed Myotis (Myotis leibii)	END	-	OMA
Little Brown Myotis (Myotis lucifugus)	END	END	OMA
Northern Myotis (Myotis septentrionalis)	END	END	OMA
Tricolored Bat (Perimyotis subflavus)	END	END	OMA

Notes:

AMO - Atlas of the Mammals of Ontario - Dobbyn 1994

NHIC - Natural Heritage Information Center (MNRF 2024a)

OBBA - Ontario Breeding Bird Atlas (Cadman et al. 2007)

OBA - Ontario Butterfly Atlas (Ontario Nature 2024a)

ORAA - Ontario Reptile and Amphibian Atlas (Ontario Nature 2019)

SARO - Species at Risk in Ontario List

END - Endangered

THR - Threatened

SC - Special Concern

2.2.4 Aquatic Habitat

The 120-m Study Area overlaps with one mapped tributary of Swan Creek (MNRF 2024b) that is also a municipal drain, and with one waterbody (Attachment A, Figure 1).

Municipal Drain 2 runs parallel to the west border and the south border of the 120-m Study Area and is a Class D Drain. Class D Drains have a permanent flow regime and support fish species that spawn in the fall (including sensitive species) (DF0 2014). The Swan Creek tributary associated with Municipal Drain 2 has a Coldwater and permanent flow regime and supports the following fish species: Blacknose Dace, Bluntnose Minnow, Brook Trout, Brown Trout, Common Shiner, Creek Chub, Fantail Darter, Johnny Darter x Tesselated Darter, Longnose Dace, Mottled Sculpin (MNFR 2023b).

The waterbody occurs at the southeastern edge of the 120-m Study Area (Attachment A, Figure 1) and is connected to the mapped watercourse through an in-flowing tributary.

The 120-m Study Area is within the jurisdiction of the GRCA and is subject to the provisions under Ontario Regulation (O. Reg.) 150/06 of the *Conservation Authorities Act*. The identified aquatic features (i.e. watercourse and waterbody) are regulated by the GRCA (GRCA 2023).

No federally listed aquatic species were identified as potentially occurring in the 120-m Study Area, through the Fisheries and Oceans Canada Aquatic SAR Map (DFO 2021).

3 Field Investigations

3.1 Survey Methods

A Stantec terrestrial ecologist visited the PDA on November 16, 2023, to document existing vegetation conditions and conduct wildlife habitat assessments. Vegetation communities were mapped and classified using the Ecological Land Classification (ELC) system for Southern Ontario (Lee et al. 1998) and the updated ELC Catalogue (2008) as guides.

3.2 Results

3.2.1 Vegetation Communities

Vegetation communities documented during the site investigation are shown on Attachment A, Figure 2 and summarized in Table 3-1 below. The focus of the ELC survey was the Subject Property of the proposed storage facility; the remaining vegetation communities were characterized from the edge of the property and through aerial photos interpretation.

Table 3-1 Vegetation Communities

ELC Code	Community Description
Cultural Communities	
OAGM1 Annual Row Crops	Three agricultural fields occur in the 120-m Study Area. These agricultural fields are planted with annual crops including corn, soya, and wheat.
Forest Communities	
FOCM5 Naturalized Coniferous Hedgerow Ecosite	Three narrow hedgerows occur in the 120-m Study Area and serve as a divide between the agricultural fields and/or constructed communities. The hedgerows are dominated by coniferous species including White Spruce (Picea glauca), Norway Spruce (Picea abies), Eastern White Cedar (Thuja occidentalis), and Eastern White Pine (Pinus strobus). The understory includes European Buckthorn (Rhamnus cathartica) as the dominant species, with Norway Maple (Acer platanoides) as an occasional associate.
Meadow Communities	
MEMM3 Dry – Fresh Mixed Meadow Ecosite	Two meadow communities run along the north edge of 2 nd Line. These communities are dominated by grass and forb species including Orchard Grass (<i>Dactylis glomerata</i>), Common Tansy (<i>Tanacetum vulgare</i>), Smooth Brome (<i>Bromus inermis</i>), Goldenrod species (<i>Solidago</i> sp.), Wild Carrot (<i>Daucus carota</i>), and Common Teasel (<i>Dipsacus fullonum</i>).
MEMM3 Dry – fresh Mixed Meadow Ecosite MAMM1-12 Common Reed Graminoid Mineral Meadow Marsh Type	Large mixed meadow community with several low depressions which support species typically found in meadow marsh communities. Mixed meadow species include Orchard Grass (<i>Dactylis glomerata</i>), Common Tansy (<i>Tanacetum vulgare</i>), Smooth Brome (<i>Bromus inermis</i>), Goldenrod species (<i>Solidago sp.</i>), Wild Carrot (<i>Daucus carota</i>), Milkweed species (<i>Asclepias sp.</i>), Red Raspberry (<i>Rubus idaeus</i>), and Common Teasel (<i>Dipsacus fullonum</i>). The marsh meadow is dominated by Common Reed (<i>Phragmites australis</i>), with Manitoba Maple (<i>Acer negundo</i>) and Willow species (<i>Salix</i> sp.) as a common associate.
MAMM1-2 Cattail Graminoid Mineral Meadow Marsh Type	This community is runs along the northeast edge of the constructed commercial community and is dominated by Cattail species (<i>Typha sp.</i>) and Common Reed (<i>Phragmites australis</i>). Canopy species include Pussy Willow (<i>Salix discolor</i>) and Red-osier Dogwood (<i>Cornus sericea</i>).
Constructed Communities	
CVI_1 Transportation	These communities include roads.
CVC Commercial and Industrial	Commercial property located to the northeast of the PDA.
CGL Green Lands	This community runs along the southern edge of 2nd Line and is comprised of a manicured lawn and planted trees.
Aquatic	
SA Shallow Water	Small waterbody located on the southeastern edge of the 120-m Study Area.

None of these vegetation communities are considered rare in the province.

No trees or plant SAR or SOCC were documented by Stantec during the November 16, 2023, site visit.

3.2.2 Wildlife and Wildlife Habitat

General wildlife habitat assessments focused on the identification of wildlife habitat features that could support SAR and/or SOCC. Features that may support SWH features as outlined in the Ministry of Natural Resources and Forestry (MNRF)'s Criteria Schedule for Ecoregion 6E (MNRF 2015) were also assessed.

SWH may occur in one of four categories: seasonal concentration areas, rare vegetation communities or specialized habitats for wildlife, habitat for SOCC, and animal movement corridors. Targeted wildlife surveys are typically required to confirm habitat use and significance of SWH.

3.2.2.1 SIGNIFICANT WILDLIFE HABITAT

The following candidate significant wildlife habitat (SWH) may occur within the 120-m Study Area:

- Habitat for SOCC
 - Monarch suitable habitat potentially present in mixed meadow communities (MEMM3 in Attachment A, Figure 2).
 - A stick nest observed on artificial nesting platform; however, this feature does not qualify as a SWH. The artificial nesting structure was located directly outside of the 120-m Study Area in the Cattail Graminoid Mineral Meadow Marsh (MAMM1-2) community.

3.2.2.2 SPECIES AT RISK

No wildlife SAR were observed during site investigation on November 16, 2023. However, the survey was conducted outside of the active season for most species.

Results of the background review and habitat assessment indicate that SAR habitat may be present for:

- Bobolink and Eastern Meadowlark may be present meadow community adjacent to the PDA (MEMM3 in Attachment A, Figure 2).
- Bat SAR may be present in the mature deciduous trees of the hedgerow communities within the 120-m Study Area (FOCM5 in Attachment A, Figure 2).

4 Recommendations

Natural heritage features adjacent to the eastern boundary of the PDA include treed hedgerows. These hedgerows may provide habitat for bat SAR; as such, a 5 m buffer should be maintained around the edge of the hedgerow (FOCM5 in Attachment A, Figure 2).

The mixed meadow community to the east of the PDA may provide habitat for SOCC (Monarch) and SAR (Bobolink and Eastern Meadowlark) (MEMM3 in Attachment A, Figure 2). This habitat is outside of the PDA and not expected to be directly impacted by the proposed Project. The existing hedgerow and associated 5 m buffer will reduce potential sensory impacts from the Project. If the 5 m buffer can be maintained, additional surveys to assess the presence of SAR are not anticipated.

The stick nest observed on the artificial nesting structure is located outside the PDA and is not anticipated to be affected by project-related activities; therefore, this feature is not expected to be a constraint.

Other natural heritage features within the 120-m Study Area include the waterbody and watercourse. These features are set back from the PDA and are not expected to be affected by the proposed Project; therefore, a DFO Reguest for Review is not required.

The aquatic features (i.e. watercourse and waterbody) are also associated with the GRCA Regulated Areas (Attachment A, Figure 1). The proposed development is not expected to occur within these Regulated Areas, as such approval from the GRCA is not required.

No SOCC or SAR habitat were identified within the PDA; therefore, authorization or permitting requirements under the ESA are not anticipated.

4.1 Mitigation Measures

The following general mitigation measures are recommended to reduce impacts to wildlife in the 120-m Study Area:

- Avoid construction activities with the potential to remove migratory bird habitat, such as vegetation
 clearing, to the extent possible during the breeding season, which is generally from April 1 to
 August 31 in southern Ontario (Government of Canada 2021). Should limited vegetation clearing
 activities be unavoidable during this window, a program should be implemented to reduce and
 avoid impacts to migratory birds and their nests. This program should include preventative and
 mitigation measures but may also include avoidance of clearing during key sensitive periods and in
 key locations.
- Avoid vegetation clearing between May 1 to August 31 (Mission Monarch 2020) if possible, to avoid harm to Monarch eggs, caterpillar, or pupae. If vegetation clearing will proceed during the peak season for eggs, caterpillar, or pupae (May 1 to August 31), identification and inspection of milkweed plants may be completed to locate Monarch individuals. If present, they may be moved to a location that is suitable and safe under the direction of a qualified professional. Monarch caterpillars may be moved to other milkweed plants; for other immature stages (i.e., eggs and chrysalis), entire milkweed plants should be transplanted.
- When conducting activities for the Project, avoid tree clearing from April 1 September 30 when bats could be roosting in trees.

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- If wildlife is encountered during construction, personnel are required to move away from the animal and provide reasonable time for the animal to move off the construction site.
- In some instances, handling wildlife may be required, such as the movement of an animal to
 outside of harm's way, or the transportation of an injured animal to an authorized wildlife
 rehabilitator; however, this activity should occur under the direction of a professional with
 knowledge of wildlife handling.

5 Closure

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property. Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work.

Regards,

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Attachment: Attachment A – Figures

Figure 1 – Site Location and Natural Heritage Background Information

Figure 2 - Vegetation Communities

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6 References

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Attachment A	Figures		

Reference:

Design with community in mind



