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**Section 82 Impact Assessment Report for the La Plonge Solar Project**

**Assessed by Natural Resources Canada**

**Federal Lands Team, Impact Assessment Division, Office of the Chief Scientist**

**4 March, 2024**

## Section 82 Impact Assessment Report for the La Plonge Solar Project

### Executive Summary

On February 13, 2023, the Energy Systems Sector contacted the Federal Lands Team (FLT) in the Impact Assessment Division for a possible assessment under section 82 of the *Impact Assessment Act* for the La Plonge Solar Project (the Project). The Project was approved to receive funding under the Smart Renewables and Electrification Pathways (SREPs) program and consists of the construction of a 500 kW capacity solar array on English River First Nation reserve land near Patuanak, Saskatchewan. The Project will be owned by the English River First Nations, developed by their economic development group, Des Nedhe Developments (English River Enterprises Inc.), and built by Aurora Renewables and Tron Construction & Mining. Through initial information submitted by the Proponent and the Sector, it was determined by the FLT that the Project triggered section 82 of the *Impact Assessment Act* and assessment began.

During the assessment process, it was determined that there would be potential impacts of the Project on the following Valued Components: vegetation, wildlife, and wildlife habitat; species at risk (caribou), and migratory birds.

Technically and economically feasible mitigation and monitoring measures were determined through consultations with the Canadian Wildlife Service at Environment and Climate Change Canada, the Canadian Forest Service, the Proponent, and the Government of Saskatchewan's Ministry of Environment's Woodland Caribou Program.

With the implementation of the proposed mitigation and monitoring measures, the FLT determined that significant adverse impacts of the Project on the environment are unlikely. Given this, the FLT issued a positive determination under section 82 of the *Impact Assessment Act* to the Proponent and the Sector. Details and results of the assessment process are described in detail below.

### Overview of the Federal Assessment Process: triggers, federal authorities, and expert advice

On February 13, 2023, the Renewable and Electrical Energy Division (Electricity Resources Branch, Energy Systems Sector) contacted the Federal Lands Team (FLT) of the Impact Assessment Division (IAD) for possible assessment under section 82 (s.82) of the *Impact Assessment Act (IAA)*, for the La Plonge Solar Project (the Project). The Project was approved to receive funding, under the Smart Renewables and Electrification Pathways (SPREPs) program. The Project consists of the construction of a 500 kW capacity solar array on the English River First Nation reserve land near Patuanak, Saskatchewan.

NRCan triggered the s.82 assessment because: 1) the Project is being enabled, through funding, by Natural Resources Canada (NRCan), 2) the Project will be constructed on federal lands (English River First Nation Reserve), and, 3) the Project involves the construction, operation and decommissioning of a solar array, which constitute physical activities in relation to a physical work. NRCan is the sole Federal

Authority for the assessment of the Project. Indigenous Services Canada (ISC) was contacted to determine whether they would be required to issue an authorization for the Project. Upon review of project information, ISC determined it did not need to issue an authorization and thus, would not be a Federal Authority.

Given the Project's potential impacts to wildlife, migratory birds, and species at risk, NRCan contacted Environment and Climate Change Canada (ECCC), under section 85 of the *IAA*, for expert advice on impacts and mitigation measures in relation to its departmental mandate. To better understand potential impacts to critical caribou habitat and the likelihood of occurrence of caribou in the area, NRCan also sought expert advice from the Government of Saskatchewan's Woodland Caribou Program in the Ministry of Environment. Input on caribou habitat compensation was also obtained from the Canadian Forest Service (NRCan). All information and expert advice from these parties was considered in the Impact Assessment Decision and Conditions for the project.

On December 4, 2023 NRCan posted its [Notice of Intent](#) for the project on the [Canadian Impact Assessment Registry \(CIAR\)](#) along with the [draft Screening document](#), for the minimum 30 day public comment period. The public comment period closed on January 4, 2024. No public comments were received.

Based on the assessment of impacts to Valued Components, NRCan has identified required mitigation and monitoring activities to mitigate potential adverse effects of the Project. These mitigation and monitoring activities, which are a condition of the s.82 assessment decision, are provided in Appendix B. Following the s.82 assessment decision, NRCan will post the Notice of Determination on the CIAR within 5 business days of the signing this Assessment Report rendering a decision for the project.

## **Project Overview**

### ***Project Description and Purpose:***

The La Plonge Solar Project consists of a 500kW (AC) solar array owned by the English River First Nations. The Project will be developed by their economic development group, Des Nedhe Developments (English River Enterprises Inc.) and built by Aurora Renewables and Tron Construction & Mining. The Project is located on the English River First Nations land, in the La Plonge reserve, and near Patuanak, Saskatchewan. The Project is an approved SaskPower Partner Generation Program Project.

The Project will be connected to a rural radial distribution line, fed by a lower reliability transmission line from the main grid. In addition to generating renewable energy, reducing Saskatchewan's greenhouse gas emissions, and reducing dependence on coal for electricity generation, the Project provides grid reinforcement for the remote radial feeder. This project will reduce CO<sub>2</sub> emissions by offsetting and reducing coal and natural gas use to generate electricity within Saskatchewan. The Project is expected to reduce CO<sub>2</sub> emissions by 220 tCO<sub>2</sub>e/year as well as have net positive social-economic benefits.

### ***Project Location (GPS, address):***

Poplar St, La Plonge, Saskatchewan

55.16208, -107.57853

***Land Ownership Status:***

Reserve Lands of the English River First Nation (Official Name: La Plonge Indian Reserve No. 192; Number: 06594)

***Site Description & Surrounding Environment:***

As part of the SaskPower Partner Generation Program, SaskPower completed a preliminary environmental desktop screening. A separate desktop screening was done based on the publicly available information from the Government of Saskatchewan Interactive Mapping tool. The project site consists of natural vegetation and small-diameter trees as shown in the images in Appendix A. According to the Government of Canada geological records, the area is geologically categorized as "Till Blanket - Diamicton thick and continuous may include fluted landforms, drumlins and morainal deposits." The site is located within the Mead Lake Timber Supply Area (Commercial Forest). Please see Appendix A for maps from the Government of Saskatchewan Interactive Mapping Environmental Assessment layers. Proximity to the nearest water body is approximately 600 m.

**Project Components:****Table 1. Project components and descriptions.**

Component	Description
Vegetation Clearing	The permanent removal of approximately 19,000 square meters of forested area is expected to have a localized impact on the surrounding environment and wildlife. Based on advice from Environment and Climate Change Canada removal of vegetation will include removal of critical caribou habitat and habitat used by migratory birds. The vegetation will be removed using chainsaws and/or heavy machinery.
Site grading	A survey and drainage design will be completed to determine grading requirements. The existing site is relatively flat so the changes to the site are expected to be minimal.
Perimeter fence	A perimeter fence will be installed around the solar array to provide a barrier from wildlife interacting with the solar equipment and to prevent vandalism.
Solar panel foundation installation	Installation of concrete pads or earth anchors on which solar panels will be mounted.
Trenching for laying cable	Use of heavy equipment to dig a trench of 50 to 100m with a 0.6m depth of cover and lay cable to connect the solar array to the existing grid.

**Project Activities:****Table 2. Project activities through each phase of the project.**

<b>Pre-Construction Phase – Timeline:</b>	
Transportation of machinery, equipment and material	<input checked="" type="checkbox"/>
Use of machinery and equipment	<input checked="" type="checkbox"/>
Vegetation cutting and/or clearing	<input checked="" type="checkbox"/>
Ground clearing and/or grubbing	<input checked="" type="checkbox"/>
Topsoil stockpile	<input type="checkbox"/>
Site fencing and/or wildlife fencing	<input checked="" type="checkbox"/>
Fuel storage/handling	<input type="checkbox"/>
Site grading	<input checked="" type="checkbox"/>
Installation of signage	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>
<b>Construction Phase – Timeline:</b>	
Use of machinery and equipment	<input checked="" type="checkbox"/>
Excavation	<input checked="" type="checkbox"/>
Dewatering	<input type="checkbox"/>
Use of chemicals or potentially deleterious or toxic substances	<input type="checkbox"/>
Road paving	<input type="checkbox"/>
Installation of lighting	<input checked="" type="checkbox"/>
Fuel consumption, storage and/or handling	<input type="checkbox"/>
Waste production and management	<input type="checkbox"/>
Final grading	<input checked="" type="checkbox"/>
Other: _____	<input type="checkbox"/>
<b>Operations Phase – Timeline:</b>	
Infrastructure maintenance or replacement	<input checked="" type="checkbox"/>
Use of machinery and equipment	<input type="checkbox"/>
Fuel consumption, storage and/or handling	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>
<b>Decommissioning/Closure Phase – Timeline:</b>	
Waste management/disposal	<input type="checkbox"/>
Site decontamination	<input type="checkbox"/>
Site reclamation	<input type="checkbox"/>
Infrastructure (i.e., buildings, structures, equipment) dismantling/demolition	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

### Predicted Project Impacts & Mitigation

For each Valued Component, the potential impact, mitigation measure, and conclusion (residual effects and significance) are summarized in the table below. Detailed mitigation and monitoring activities to address each impact are given in Appendix B. More detail about each Valued Component is described in the following section.

**Table 3. Summary of potential impacts on Valued Components, proposed mitigation measures, and residual effects**

Valued Component	Impact	Mitigation Measure	Residual Effect
Vegetation, Wildlife & Wildlife Habitat	<ul style="list-style-type: none"> <li>The permanent removal of approximately 19,000 square meters of small diameter trees and herbaceous vegetation</li> <li>Removal of habitat for raptors, migratory birds and wildlife.</li> </ul>	<ul style="list-style-type: none"> <li>Plant similar habitat in another location to compensate for loss of vegetation and wildlife habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Permanent loss of vegetation, but non-significant with habitat compensation mitigation applied.</li> </ul>
Species At Risk (caribou)	<ul style="list-style-type: none"> <li>Removal of critical habitat for the SK2 Boreal Caribou herd.</li> </ul>	<ul style="list-style-type: none"> <li>Plant similar habitat in another location at a rate of 2 trees replanted for every 1 removed.</li> <li>Conduct surveys and monitoring of the Saskatchewan Boreal Caribou population to determine presence/use of available habitat at and around project site.</li> </ul>	<ul style="list-style-type: none"> <li>Permanent loss of vegetation, but non-significant with habitat compensation mitigation applied.</li> <li>If surveys detect caribou presence/use at the project site, additional mitigation may be applied to mitigate impacts to non-significant.</li> </ul>
Migratory Birds	<ul style="list-style-type: none"> <li>Removal of habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Clear vegetation outside of the local nesting season for migratory birds.</li> </ul>	<ul style="list-style-type: none"> <li>Permanent loss of vegetation, but non-significant with habitat compensation mitigation applied.</li> </ul>
	<ul style="list-style-type: none"> <li>Presence of birds and removal of habitat at site.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct migratory bird breeding surveys to confirm which species are present and may be affected by the project, and whether any rare or endangered species may be affected.</li> </ul>	<ul style="list-style-type: none"> <li>Non-significant if additional mitigation is applied, <i>should any additional rare or endangered species be detected.</i></li> </ul>
	<ul style="list-style-type: none"> <li>Impacts of solar panel array on bird mortality.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and report on bird mortality around the solar array.</li> </ul>	<ul style="list-style-type: none"> <li>Mortality is predicted to be low, and non-significant, given the limited size of the solar array.</li> </ul>

			Additional mitigation may be applied as needed.
	<ul style="list-style-type: none"> <li>Impacts on bird mortality due to lighting.</li> </ul>	<ul style="list-style-type: none"> <li>Conform to lighting standards to reduce attraction of migratory birds to lighting at the site.</li> </ul>	<ul style="list-style-type: none"> <li>Mortality is predicted to be low and non-significant with conformation to required lighting standards.</li> </ul>
	<ul style="list-style-type: none"> <li>Presence and removal of raptor habitat at project site.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct raptor stick nest surveys during the boreal raptor breeding season (15 May to 30 June).</li> </ul>	<ul style="list-style-type: none"> <li>Given the small size of the project site, from which vegetation will be removed, impacts to raptor are predicted to be non-significant.</li> </ul>
Atmospheric Environment	NA	-	-
Terrain	NA	-	-
Groundwater	NA	-	-
Surface Water	NA	-	-
Fish and Fish Habitat	NA		



## Impacts to Valued Components

### ***Vegetation, Wildlife & Wildlife Habitat:***

Due to the removal of natural vegetation including herbaceous plants and small diameter trees, NRCan sought the expert knowledge and advice of Environment and Climate Change Canada (ECCC) under s.85 of the *Impact Assessment Act* (IAA). ECCC provided several rounds of advice in an initial letter and in follow-up emails and meetings. ECCC identified potential impacts to migratory birds and to species at risk (SARA species) from removal of habitat. The *Species at Risk Act* is directed towards preventing wildlife species from becoming extinct or lost from the wild, helping in the recovery of species that are at risk as a result of human activities, and promoting stewardship. In particular, ECCC identified potential impacts to the SK2 Boreal Caribou population from the removal of critical caribou habitat at the project site. Although the critical habitat prohibitions S.58(1) do not apply to reserve lands per Order: SOR/2019-188, the lands are still identified as critical habitat and mitigation must be applied. ECCC stated that additional critical habitat loss should be avoided or mitigated using offsets to ensure a net positive outcome for boreal caribou. Specifically, ECCC recommended a standard, minimum 4:1 offset ratio (habitat restored: habitat lost) for boreal caribou to account for inherent uncertainties and time-lags in reclamation. Upon review of the Project scope and scale of impacts, NRCan identified 2:1 habitat offsets as being appropriate given the scale and scope of the project footprint, project activities, and their impacts. Based on ECCC's advice and additional input by CFS, replanted trees should match the natural tree composition with a higher proportion of coniferous species which characterize the preferred caribou habitat in the areas where the tree planting will occur. Habitat offsets or restoration should be located within the caribou range affected by the Project.

ECCC stated that no impacts to wetlands were expected, based on the information provided by the Proponent. Should any activities of the Project result in impacts to wetlands in any way, the Proponent should notify NRCan and consult the Federal Policy on Wetland Conservation.

Specific details of mitigation measures, including the timing of mitigation measures, for impacts to wildlife and wildlife habitat can be found in the Mitigation and Monitoring table in Appendix B.

### ***Species At Risk:***

ECCC noted that there is potential foraging habitat for Canada Warbler, Northern and Little Brown Myotis on the project site, however given the younger seral forest type, the Project site is not likely suitable habitat for nesting or bat maternity roosts.

Given potential impacts to the SK2 Boreal Caribou habitat, ECCC recommended conducting surveys and monitoring of the SK2 Boreal Caribou population to determine presence/use of available habitat at and around project site. Specifically, for 2 years, monitor for the presence of Saskatchewan Boreal Caribou at and around the project site, including indirect signs (e.g., scat, tracks). Specific methodology can be developed by the Project proponent's environmental consultant.

Specific details of mitigation measures, including the timing of mitigation measures, for impacts to species at risk can be found in the Mitigation and Monitoring table in Appendix B.

### ***Migratory Birds:***

ECCC identified potential impacts to migratory birds through the removal of vegetation and habitat. ECCC recommended that vegetation be cleared outside of the local nesting season for migratory birds. ECCC

noted, that given the small and isolated footprint of the Project, the value added by undertaking migratory bird migration surveys in the spring and fall may be small. However, NRCan recommended that fall spring and fall migratory bird surveys be conducted during migration to monitor for project impacts. ECCC recommended that the proponent conduct 2 rounds of onsite migratory bird breeding surveys between May 15 – June 15, and June 16 - July 10. The purpose of the surveys is to confirm which species are present and may be affected by the project, and whether any rare or endangered species may be affected, which may then require additional mitigation. ECCC recommended that the proponent monitor and report on bird mortality around the solar array. Specifically, for 2 years, conduct mortality surveys once per week from April 1 to May 15, and from August 1 to September 30. An avian wildlife consultant should develop the survey protocol, and a detail-oriented person with excellent recordkeeping skills could be trained to undertake the surveys. ECCC also identified potential impacts to birds through mortality associated with lighting at the project site. Impacts of lighting at the solar array and its attraction of migratory birds should be mitigated with lighting conforming to industry standards to reduce attraction of migratory birds.

Removal of habitat may have impacts for raptors. ECCC recommended that the proponent conduct 1 round of raptor stick nest surveys during the boreal raptor breeding season (15 May to 30 June). ECCC recommends that an experienced person (such as an avian biologist or amateur avian naturalist with adequate identification skills) conduct the stick nest surveys.

Specific details of mitigation measures, including the timing of mitigation measures, for impacts to migratory birds can be found in the Mitigation and Monitoring table in Appendix B.

***Atmospheric Environment:***

None. Short-term use of heavy equipment will not create significant air emissions.

***Terrain (soils, geology):***

None. Only minor surface grading for site preparation.

***Groundwater:***

None. No disruption to groundwater.

***Surface Water:***

None. No surface water was reported at project site and no project activities that would affect surface water were reported.

***Fish & Fish Habitat:***

None. No fish-bearing waters were identified on the project site and no project activities that would affect nearby fish-bearing waters. The closest water body to the project site is 600 m away.

**Accidents & Malfunctions**

Section 22 of the *Impact Assessment Act* requires that the impact assessment take into account, the environmental effects of accidents and malfunctions that may occur in connection with the Project. NRCan is of the view that the Project is not likely to result in significant adverse environmental effects

from accidents and malfunctions, after taking into account the implementation of proposed standard mitigation measures as specified in Table 4, below.

**Table 4. Accidents and Malfunctions**

No.	Accident/Malfunction	Mitigation Measure
1	Accident/malfunction resulting from the use of heavy equipment during vegetation clearing, site grading, installation of solar foundations, and trenching to lay cable.	Follow standard procedures for operating equipment. Ensure that equipment is in good running condition. Daily inspection of equipment while work is in progress. Refuelling of equipment should occur in designated areas away from water bodies or other sensitive habitat. Follow health and safety procedures for safe operation of equipment.
2	Accidents while installing the perimeter fence.	Follow health and safety procedures for safe operation of equipment.

### Cumulative Effects

Cumulative environmental effects are defined as the effects of a project that are likely to result when a residual effect acts in combination with those of other projects or activities that have been or will be carried out. The primary cumulative effect of concern to NRCan was the potential impacts to the SK2 Boreal Caribou population through habitat loss due to vegetation clearing. Based on expert knowledge and advice from ECCC as well as traditional knowledge from the English River First Nation, caribou sightings at the proposed project site as well as indirect evidence of caribou occurs via scat, tracks, etc. are rare. This conclusion was supported by data from the Government of Saskatchewan's Woodland Caribou Program in the Ministry of Environment. NRCan is of the view that the Project, in combination with past, present, and reasonably foreseeable projects and activities, is not likely to cause significant adverse cumulative effects on the SK2 Boreal Caribou herd, with the implementation of the 2:1 habitat offsets specified in the Mitigation and Monitoring Plan (see Appendix B). Cumulative effects on migratory birds are unlikely given the mitigation measures required to alleviate impacts.

### Follow-up Programs

Appendix B details the mitigation and monitoring activities that are a requirement of the s.82 decision for the La Plonge Solar Project. These activities include surveys and monitoring for caribou, raptors, and migratory birds. The timing and duration of each activity is specified in Appendix B.

### List of Federal Permits or Authorizations Required

None were identified based on the information provided by the proponent. ECCC confirmed that, at this time, it would not be required to issue any authorizations for the Project. Should aspects of the Project change that may alter possible impacts to vegetation, wildlife and wildlife habitat, migratory birds or any

other factor under ECCC's jurisdiction, the proponent must contact ECCC. Indigenous Services Canada indicated that they would not be required to issue an authorization for the Project.

### **Impacts to Factors Under Provincial/Municipal Jurisdiction**

Based on the information provided by the Proponent, impacts to factors under provincial or municipal jurisdiction are not anticipated.

### **List Provincial/Municipal Permits Required**

None anticipated.

### **Impacts To Indigenous Peoples**

The *Impact Assessment Act* requires that potential impacts to Indigenous peoples, including potential impacts to Aboriginal and treaty rights, be assessed. The s.82 assessment of the La Plonge Solar Project took into consideration these potential impacts. Furthermore, the federal government has a legal duty to consult and, where appropriate, accommodate Indigenous peoples, including First Nations and Métis Peoples, when the Crown contemplates conduct that may adversely affect Aboriginal or Treaty rights that are recognized and affirmed in section 35 of the *Constitution Act, 1982*.

### ***Benefits Of The Project:***

The La Plonge solar project will be 100% owned by the English River First Nations (ERFN). The project is 100% owned by English River Enterprises Property Management Limited Partnership, by its general partner, English River Enterprises Inc. This is the first solar project for ERFN. The project will be built by ERFN community members (via Aurora Renewables and Tron Construction & Mining), including skills trades and labourers (Tron employs a significant number of Indigenous workers (typically 55-60%+)). It will provide long term jobs for operations and maintenance. It will improve grid reliability in the area serving the community. It will develop capacity and enable ERFN community members to participate in other solar projects in Canada. It will enable Tron Construction & Mining to scale renewable energy services in Saskatchewan and beyond. The project will provide economic diversity for ERFN and their economic development corporation. Currently they are very dependent on the mining sector and have experienced challenging economic periods as a result. This solar project will provide steady income to ERFN and the community. There is a future plan for battery energy storage, creating additional opportunity for the community, and could be coupled with this project. The energy supplied by the solar facility is fed to the SaskPower grid, and directly connected to the radial distribution and transmission lines the feed the Beauval, La Plonge, and Patuanak communities. The solar array will provide voltage support and create the ability for improved grid reliability and resiliency in this region.

### ***Support of the Project by the English River First Nation:***

The English River First Nation (ERFN) provided a letter of support to NRCAN on February 1, 2022 for the project. The letter from ERFN Chief, Jerry Bernard, stated that the chief and band council were fully

aware of the funding application being made to NRCan SREPS program and that the ERFN fully supports the application for funding. Support for the project was reaffirmed by Chief Alfred Dawatsare in a letter dated January 22, 2024.

***Summary of s.35 Consultation:***

NRCan's Section 35 Duty to Consult was discharged by the Renewable and Electrical Energy Division (Electricity Resources Branch, Energy Systems Sector) who is providing funding for the La Plonge Solar Project under their Smart Renewables and Electrification Pathways (SPREPs) program.

**Overall Conclusions**

The environmental effects of the Project and their significance have been determined using assessment methods and analytical tools that reflect current accepted practices of environmental and socioeconomic assessment practitioners, including consideration of potential accidents and malfunctions and cumulative environmental effects.

NRCan concludes that the Project is not likely to cause significant adverse impacts as defined in Section 82 of the *Impact Assessment Act*. This conclusion is based on the information provided by the Proponent, expert knowledge and advice from Environment and Climate Change Canada, the Canadian Forest Service, and information provided by the Government of Saskatchewan's Woodland Caribou Program, and the implementation of the required mitigation measures and monitoring activities.

**Decision & Conditions**

It is NRCan's view that, based on the project assessment under s.82 of the *Impact Assessment Act*, and with the implementation of the required mitigation and monitoring measures specified in Appendix B, the proposed La Plonge Solar Project is unlikely to result in adverse impacts to the environment and factors related to the environment.

**Decision Rendered By**

Shelley Ball  
Acting Team Lead/Senior Impact Assessment Officer  
Impact Assessment Division, Office of the Chief Scientist  
Natural Resources Canada  
Date: 4 March, 2024



Appendix A

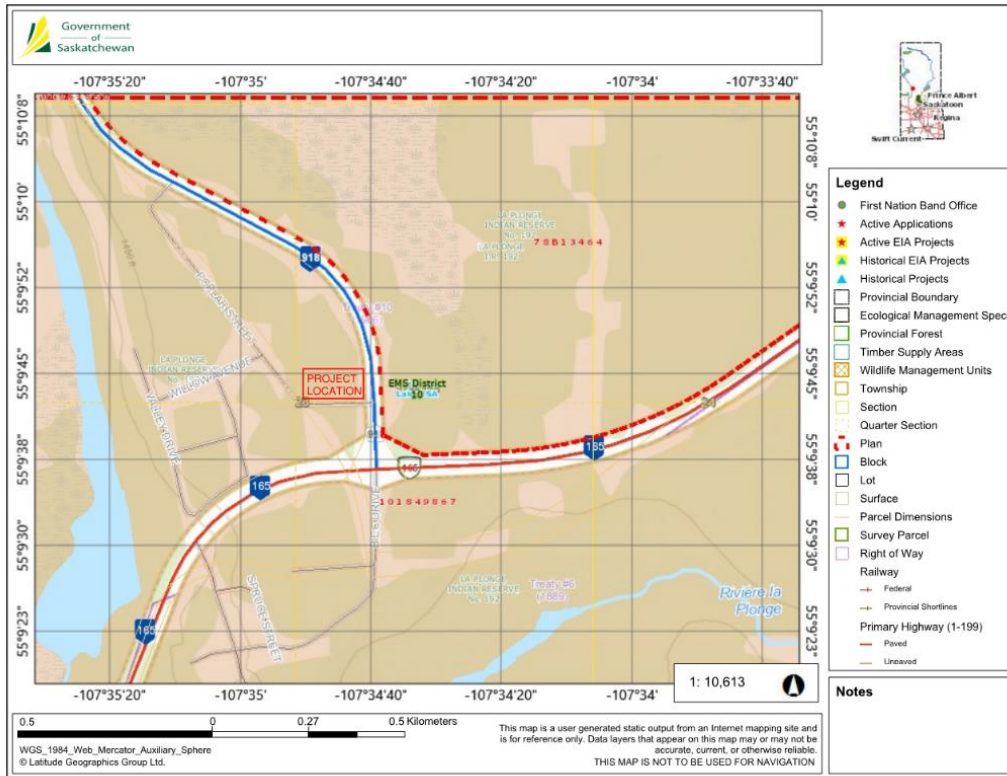


Figure 1: Government of Saskatchewan Interactive Mapping Environmental Assessment layers.



Figure 2: Project Location on othographic image overlay



*Figure 3: Site photo from Google Earth Street view (2021)*

## **Appendix B**

### **La Plonge Solar Project Mitigation and Monitoring Plan**

Assessment of the La Plonge Solar Project under Section 82 of the *Impact Assessment Act* identified potential adverse impacts of the Project. Thus, mitigation and monitoring measures are required to ensure that the Project is not likely to have significant adverse impacts on the environment. These mitigation and monitoring measures are a condition of the assessment decision. Funding from NRCan will be contingent upon the Project proponent's compliance with said measures detailed in Tables 1 and 2, below. The mitigation and monitoring measures in Tables 1 were developed based on Environment and Climate Change Canada's expert knowledge and advice on the Project, and information provided by the Project proponent.

Conditions and Compliance Reporting:

If the Decision Maker (NRCan), determines that the Project may proceed, then the Project proponent will:

1. Ensure that the Project, including site preparation, construction, operation, and decommissioning of the Project, will comply with the mitigation and monitoring measures specified below; and
2. Deliver to the Decision Maker (NRCan) reports by a certified professional, outlining how the Project proponent has implemented the pre-construction, construction, and operation-phase mitigation and monitoring measures. Please submit the following:
  - i. Report on the findings and outcomes from all pre-construction phase mitigation and monitoring measures outlined in Table 1 within 90 days of the completion of all said pre-construction phase mitigation and monitoring measures;
  - ii. Report on the findings and outcomes from all construction phase mitigation and monitoring measures outlined in Table 1 within 90 days of the completion of all said construction phase mitigation and monitoring measures;
  - iii. Report on the findings and outcomes from all post-construction operation phase mitigation and monitoring measures outlined in Table 1 within 90 days of the completion of all said post-construction operation phase mitigation and monitoring measures.



Table 1. Mitigation and Monitoring Plan describing mitigation activities required by the s.82 decision for the project.

No.	Valued Ecosystem Component	Impacts	Mitigation Measure	Phase	Activity Details
1	Migratory Birds	Removal of habitat	Clear vegetation outside of the local nesting season for migratory birds	Pre-construction	Removal of vegetation outside of local migratory bird nesting season. Please consult Environment and Climate Change Canada's (ECCC) webpage on avoiding harm to migratory birds for further information: <a href="#">Avoiding harm to migratory birds - Canada.ca</a>
2	Raptors	Presence and removal of habitat at project site	Conduct raptor stick nest surveys	Pre-construction	Conduct 1 round of raptor stick nest surveys during the boreal raptor breeding season (15 May to 30 June). ECCC recommends that an experienced person (such as an avian biologist or amateur avian naturalist with adequate identification skills) conduct the stick nest surveys.
3	Migratory birds	Presence and removal of habitat at project site	Conduct migratory bird breeding surveys	Pre-construction	Conduct 2 rounds of onsite migratory bird breeding surveys between May 15 – June 15, and June 16 - July 10. The purpose of the surveys is to confirm which species are present and may be affected by the project, and whether any rare or endangered species may be affected, which may then require additional mitigation.
4	Migratory Birds	Presence at project site	Conduct spring and fall migratory bird migration surveys at the project site	Pre-construction	ECCC has identified, that given the small and isolated footprint of the project, the value added by undertaking migratory bird migration surveys in the spring and fall may be small. NRCan recommends that fall spring and fall migratory bird surveys be conducted.
5	Migratory Birds	Bird mortality	Monitor and report on bird mortality around the solar array	Post- Construction Operation	For 2 years, conduct mortality surveys once per week from April 1 to May 15, and from August 1 to September 30. An avian wildlife consultant should develop the survey protocol, and a detail-oriented person with excellent recordkeeping skills could be trained to undertake the surveys.  Please consult: <a href="#">Wildlife Directive for Alberta Solar Energy Projects Mortality Monitoring Design for Utility-Scale Solar Power Facilities (usgs.gov)</a>

6	Migratory Birds	Bird mortality impacts of lighting	Mitigate impacts of lighting at the solar array and its attraction of migratory birds	Post- Construction Operation	Lighting should conform to standards to reduce attraction of migratory birds. For project site lighting please consult: <a href="https://birdsafeca.com/lighting/">https://birdsafeca.com/lighting/</a>  For communications/vertical towers please consult: <a href="https://www.wildlife.state.nm.us/download/conservation/habitat-handbook/project-guidelines/Communication-Tower-Project-Guidelines-USFWS.pdf">https://www.wildlife.state.nm.us/download/conservation/habitat-handbook/project-guidelines/Communication-Tower-Project-Guidelines-USFWS.pdf</a>
7	Caribou	Presence/avoidance at and near project site	Conduct surveys and monitoring of the Saskatchewan Boreal Caribou population to determine presence/use of available habitat at and around project site	Pre-construction Construction Post- Construction Operation	For 2 years, monitor for the presence of Saskatchewan Boreal Caribou at and around the project site, including indirect signs (e.g., scat, tracks). Specific methodology can be developed by the Project proponent's environmental consultant.
8	Caribou Habitat	Removal of caribou critical habitat to clear project site	Plant compensation habitat at a ratio of 2:1 (2 units of habitat compensation for every one unit removed)	Pre-construction Construction	Compensate for the loss of critical caribou habitat by planting at minimum 2 units of habitat for every 1 unit removed. Based on ECCC's advice, replanted trees should match the natural tree composition with a higher proportion of coniferous species which characterize the preferred caribou habitat in the areas where the tree planting will occur. Please contact ECCC for guidance.  For additional information, please consult: <a href="https://www.ec.gc.ca/operational-framework-for-use-of-conservation-allowances-canada-ca">Operational Framework for Use of Conservation Allowances - Canada.ca</a>
9	Wetlands	Destruction of wetlands	If applicable, consult the Federal policy on wetland conservation	Pre-construction Construction	Wetlands provide important habitat for migratory birds. Should any project activities impact wetlands, The Federal Policy on Wetland Conservation should be consulted.  The Federal Policy on Wetland Conservation promotes the wise use of wetlands and protection through adequate consideration of wetland concerns in environmental assessments of development projects, and more specifically promotes the no net loss of wetland function on federal lands. The Policy goals promote the

				<p>maintenance of the functions and values derived from wetlands throughout Canada, recognition of wetland functions in resource planning and economic decisions, enhancement, and rehabilitation of wetlands in areas where continuing loss or degradation of wetlands or their functions have reached critical levels, and utilization of wetlands in a manner that enhances prospects for their sustained and productive use by future generations.</p> <p>Please visit the following link for more information:  <a href="https://www150.ca.gov/~/media/150/150-116/150-116-1991E-IN-Government%20of%20Canada%20Publications%20-%20Canada.ca">Federal policy on wetland conservation : CW66-116/1991E-IN - Government of Canada Publications - Canada.ca</a></p> <p>Should any activities of the project result in impacts to wetlands in any way, please notify Natural Resources Canada (NRCan) and consult the Federal Policy on Wetland Conservation.</p>
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Table 2. Accidents and Malfunctions

No.	Accident/Malfunction	Mitigation Measure
1	Accident/malfunction resulting from the use of heavy equipment during vegetation clearing, site grading, installation of solar foundations, and trenching to lay cable.	Follow standard procedures for operating equipment. Ensure that equipment is in good running condition. Daily inspection of equipment while work is in progress. Refuelling of equipment should occur in designated areas away from water bodies or other sensitive habitat. Follow health and safety procedures for safe operation of equipment.
2	Accidents while installing the perimeter fence.	Follow health and safety procedures for safe operation of equipment.