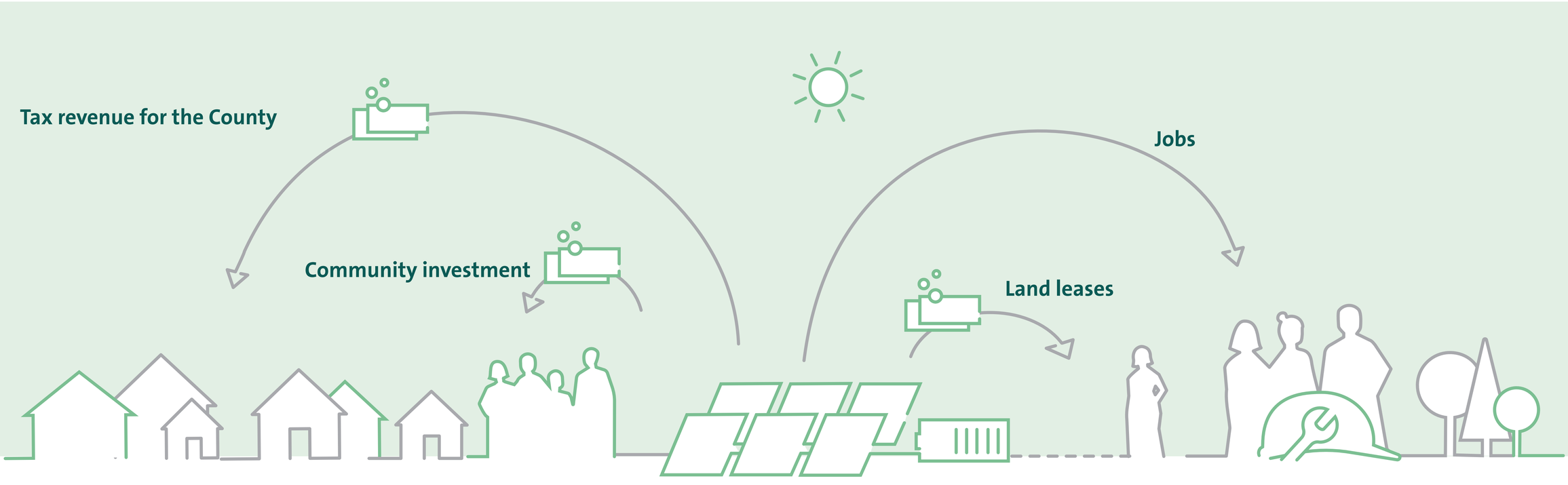
Stettler Solar Project **Project Benefits**

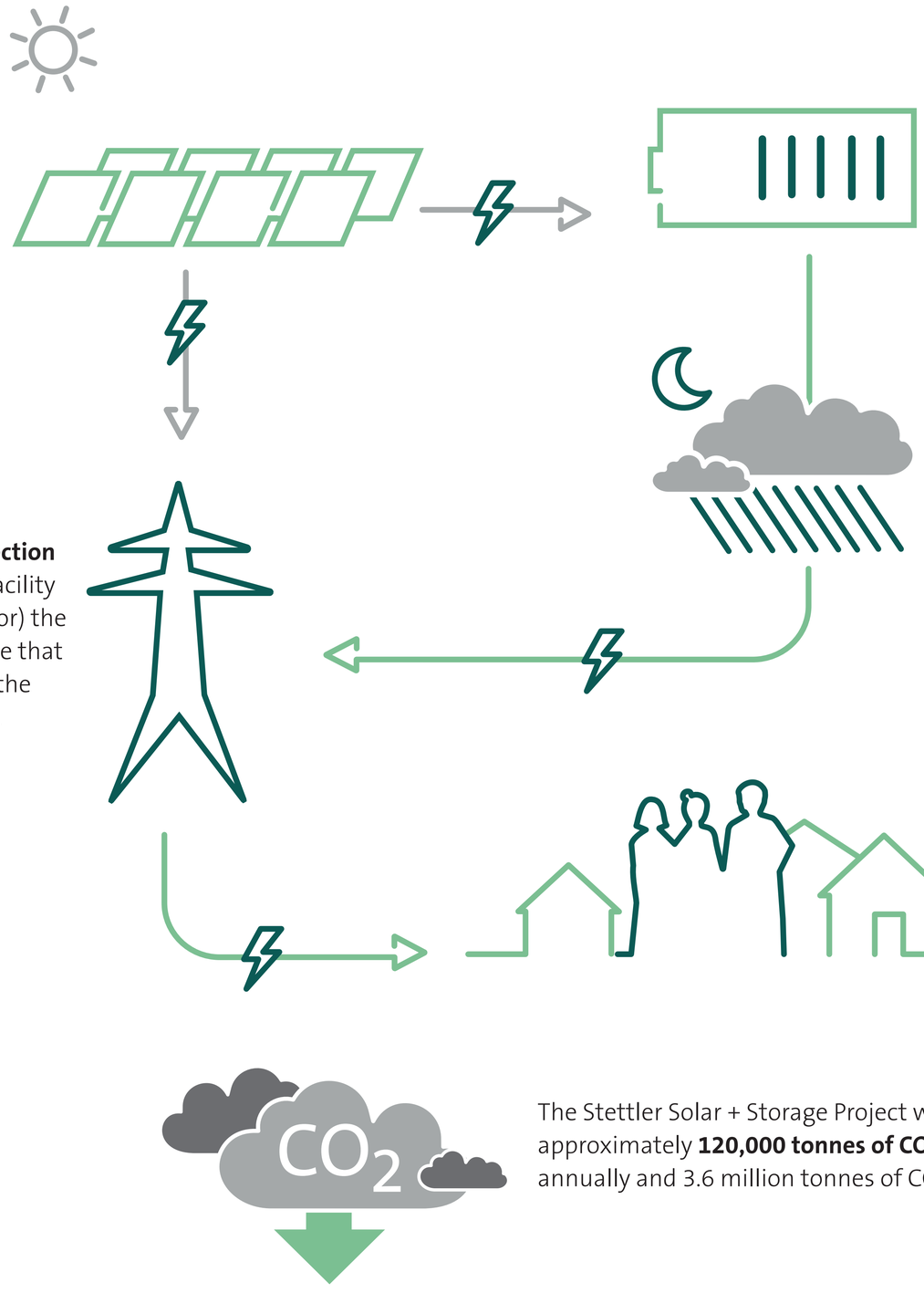
ABO commits to creating a lasting positive impact in the communities where we develop renewable projects. ABO's Local Economic Benefit Policy provides preference to those individuals and entities that are local to the Stettler area. The Project will generate the following positive benefits for the surrounding community:

- Tax dollars in the millions for Stettler County
- Estimated $1-2 million of contracts/revenue to local Stettler goods and service providers
- 80-100 employment opportunities for an estimated 15-month construction period
- Estimated $3 million of revenue to Alberta companies
- Project Funds to support local organizations and initiatives
- Shared Benefit Residence Fund for residences within 400 metres of the Project boundary



Stettler Solar and Storage Project The Project at a Glance

Photovoltaic (PV) Panels - Approximately 72,000 PV panels will be used to convert sunlight into electricity.
The Stettler Solar and Storage Project is capable of producing up to 36MWac.
The project would export up to **25 MW of capacity** to the Alberta electricity grid.



Energy Storage/Battery: The proposed **(16 MW/55 MWh**) battery will store electricity in periods of excess generation from the solar site and discharge the electricity to the grid during periods of high demand. This allows for shifting the renewable energy generation to times when it is most needed. The inclusion of storage will also allow for more penetration of intermittent renewable resources.

Based on the results of the **interconnection** process with ATCO (the Distribution Facility Owner) and AESO (the System Operator) the Project will tie into the distribution line that runs east/west immediately north of the Project site, along Township Road 384.

The Project would provide a cost-effective source of enough clean energy for approximately **10,000 homes** and will contribute to Alberta's increasing percentage of renewable energy generation.

The Stettler Solar + Storage Project would displace approximately **120,000 tonnes of CO2 equivalent** annually and 3.6 million tonnes of CO2 over 30 years.

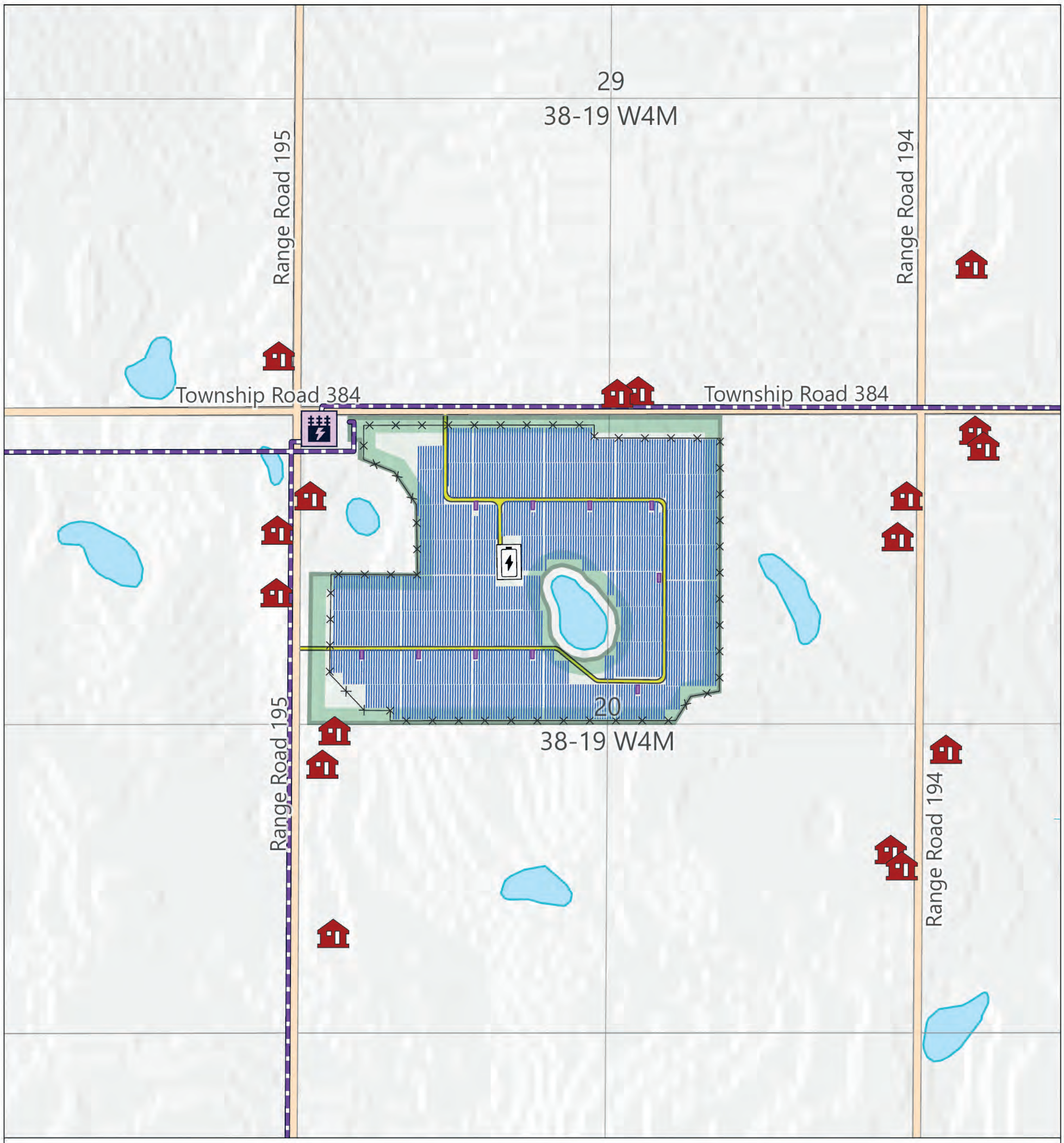
Stettler Solar and Storage Project **Preliminary Schedule**

ABO ENERGY

Activity	Timeline
Public Notification and Project Information Package 1	November 2022
Environmental Field Studies	Since Spring 2022
ABO Energy submission of Renewable Energy Submission Report to AEPA	Q2 2023
First Open House	March 2023
Public Notification and Project Information Package 2	Q3 2023
AEPA provides a Renewable Energy Referral Report to ABO Energy	Q1 2024
AUC Application Submission	Q3 2024
AUC Review and Approval	Q1 2025
MD Permit Review and Approval	Q1 2025
Start of Construction (Earliest Date)	Q2 2025
Commencement of Operation	Q2 2026

Stettler Solar and Storage Project **Map**

ABO ENERGY



Stettler Solar and Storage Project

Preliminary Layout - Subject to Change

- Project Boundary
- Proposed Solar Panel Placement
- Project Inverter
- Battery Energy Storage System (BESS) Area
- Access Road
- Project Fenced Area
- Existing Substation
- Existing Transmission Line
- Residence

N W E S

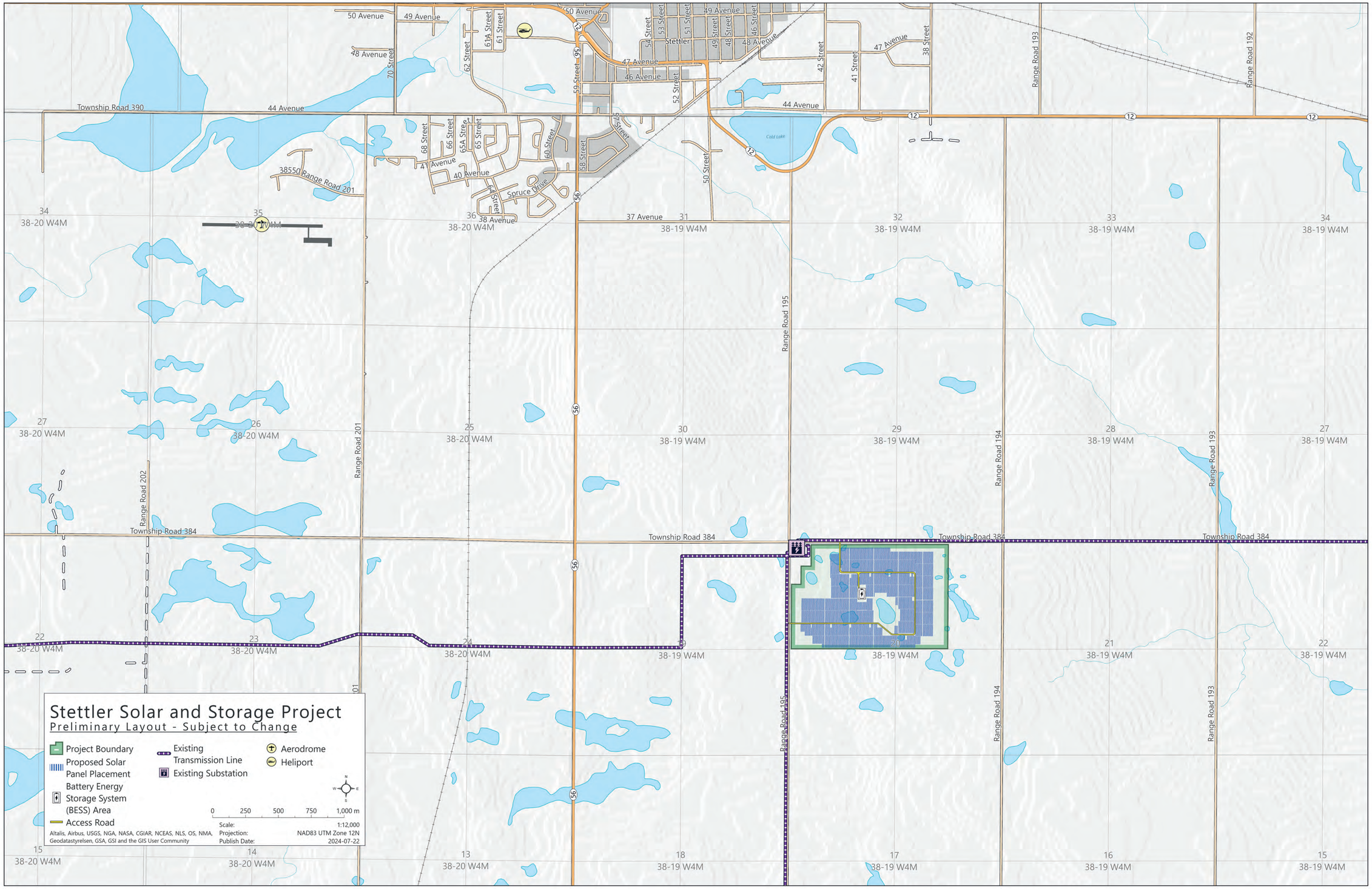
0 200 400 600 m

Scale: 1:16,000
Projection: NAD83 UTM Zone 12N
Publish Date: 2024-07-23

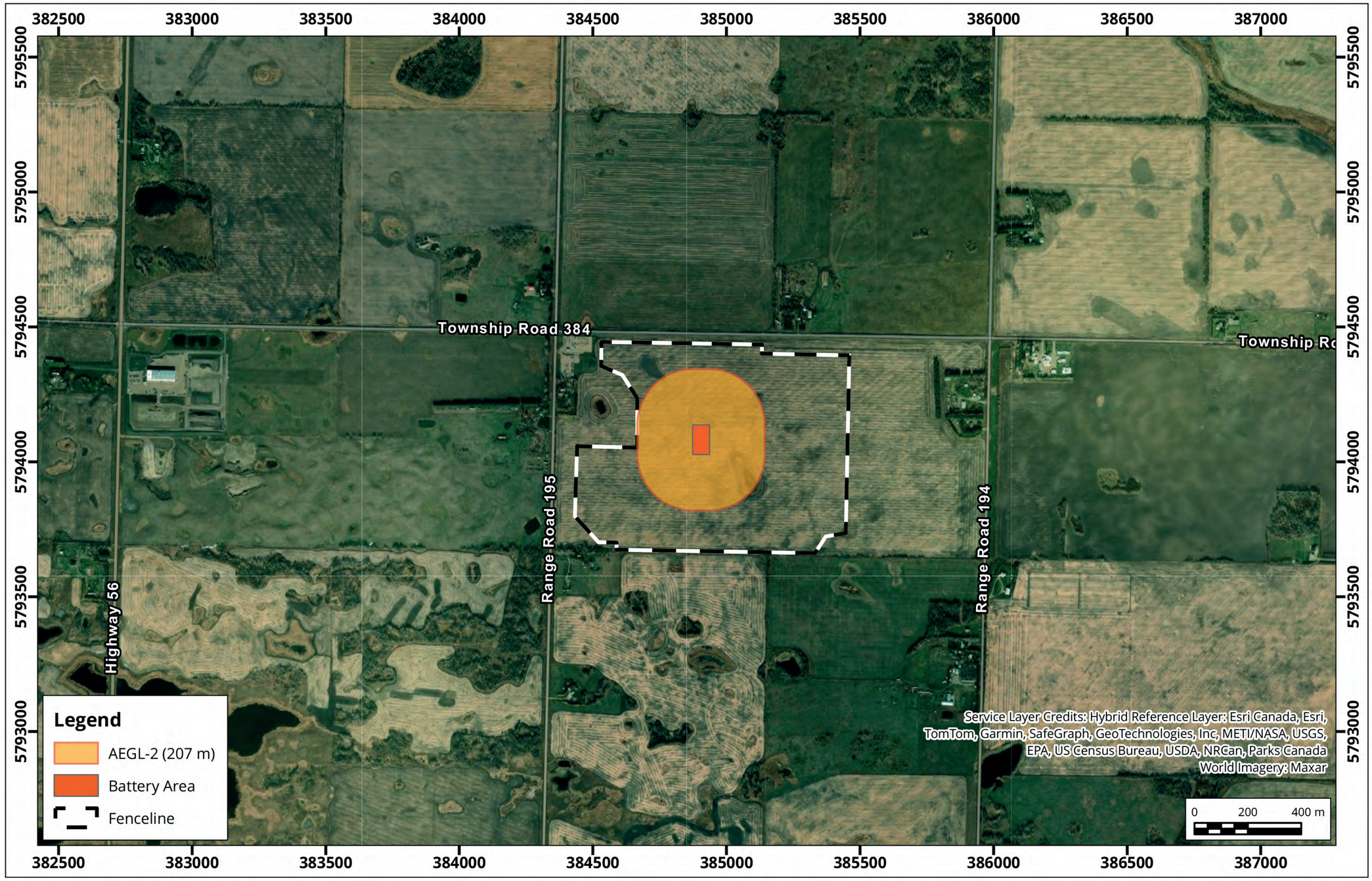
Altalis, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community

Stettler Solar and Storage Project **Regional Map**

ABO ENERGY



www.stettlersolar.com



Map Document: C:\Working Folder\Jobs_Americas\P2407836\P2407836.aprx

Maximum Predicted Concentration Extents of Hydrogen Fluoride AEGL-2 Endpoint for One Battery Module

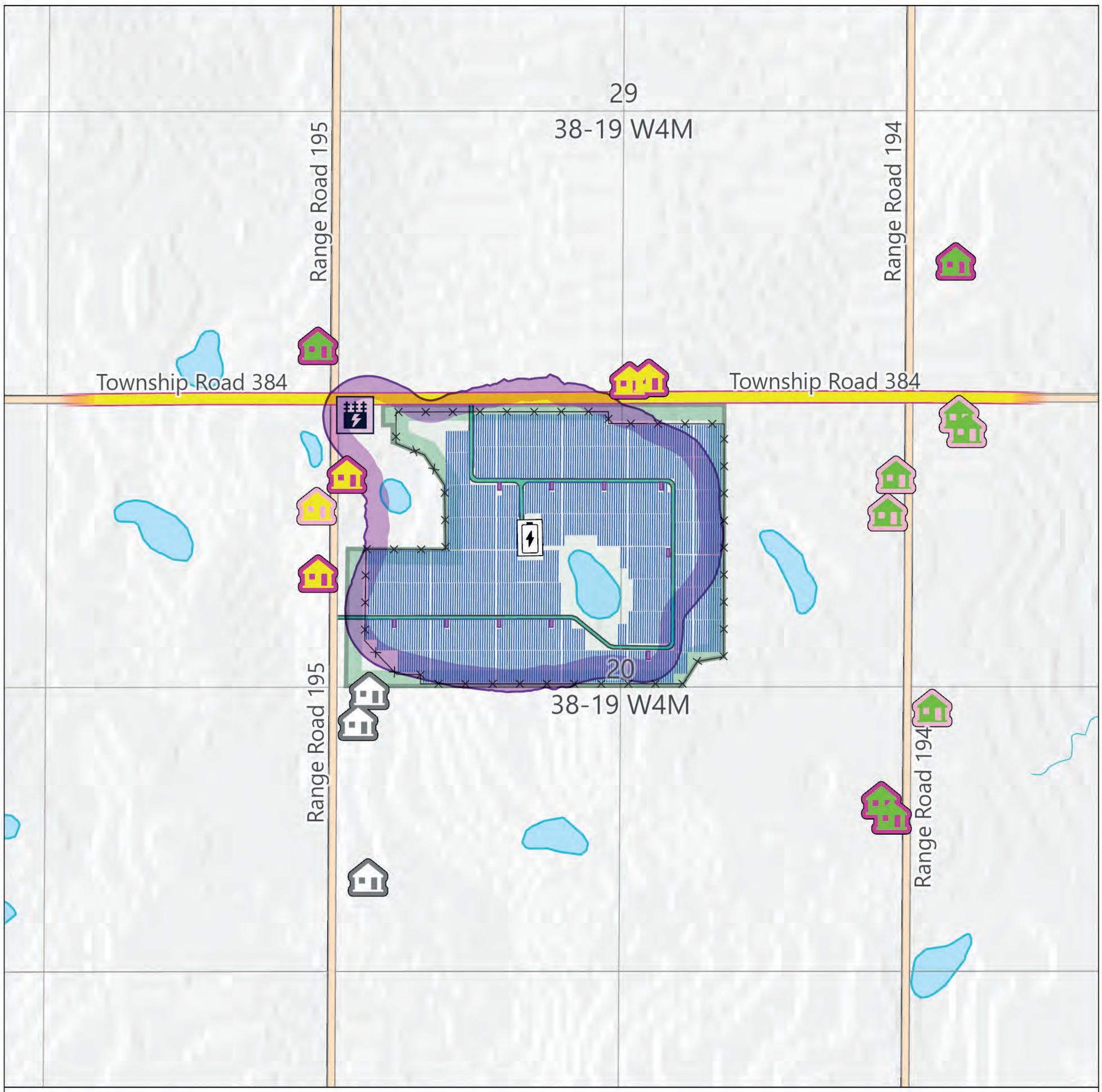
True North

Map Projection: NAD 1983 UTM Zone 12N

Stettler Power Plant - Stettler, Alberta

Project #: 2407836

Drawn by: PIP	Figure: 1
Approx. Scale:	1:20,000
Date Revised:	Jun 20, 2024



Stettler Solar and Storage Project

Noise and Glare

- Project Boundary
- Proposed Solar Panel Placement
- Project Inverter
- Battery Energy Storage System (BESS) Area
- Access Road
- Existing Substation
- Predicted Cumulative 38.9 dBA Sound Level Contour

Receptors Within 800 m
by glare intensity

- No Glare
- Green Glare
- Yellow Glare

by maximum minutes of glare per day*

- 0
- 1-9
- 10-18

- Road with Glare Potential

*±15° field of view for the ground based transportation routes. Glare does not necessarily occur every day of the year.

N

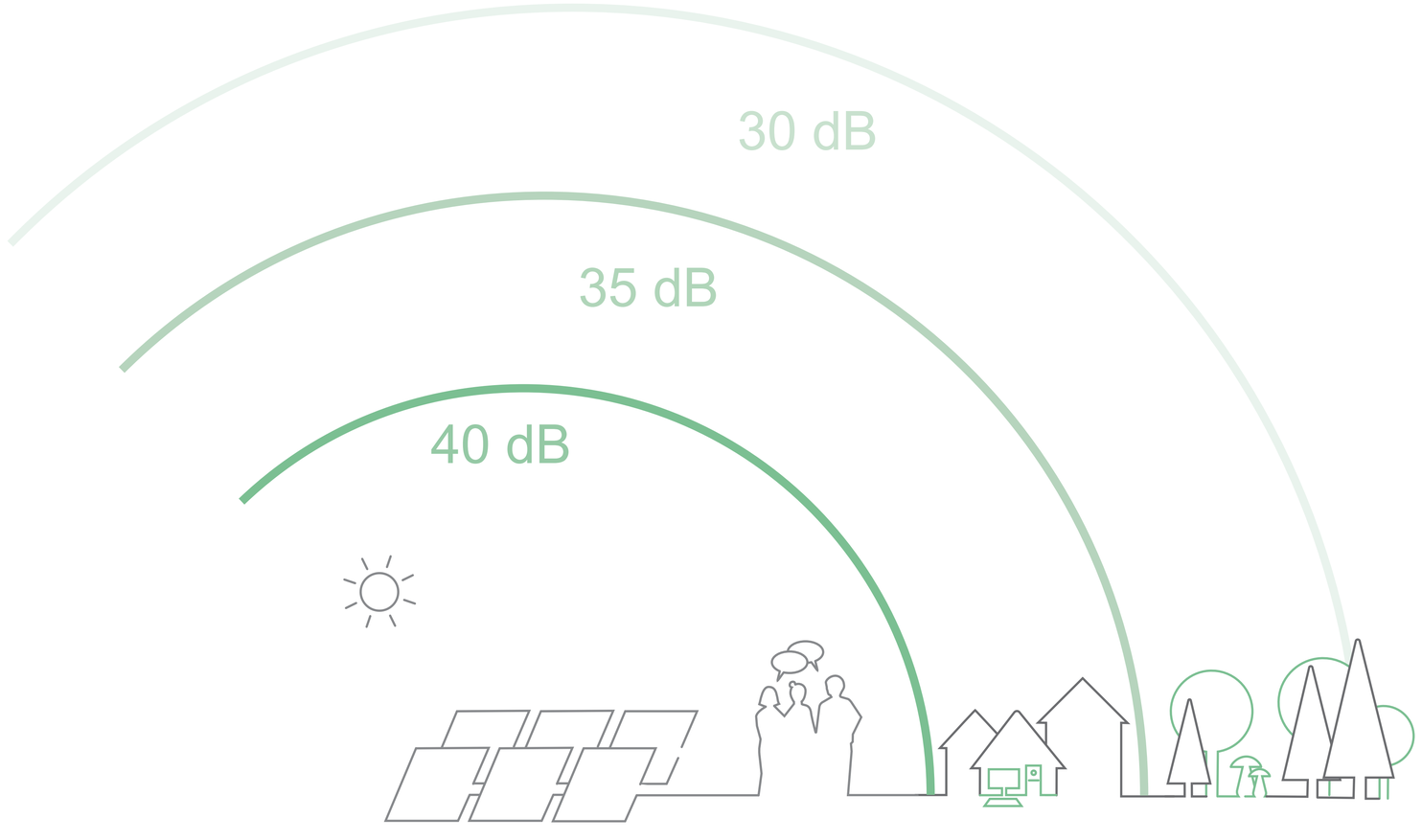
0 200 400 600 m

Scale: 1:18,000
Projection: NAD83 UTM Zone 12N
Publish Date: 2024-07-23

Altalis, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community

The Project has been designed in accordance with the Alberta Utilities Commission (AUC) Rule 012 (Noise Control), which is intended to “ensure noise from a facility, measured cumulatively with noise from other energy-related facilities does not exceed the permissible sound level calculated in accordance with this rule”.

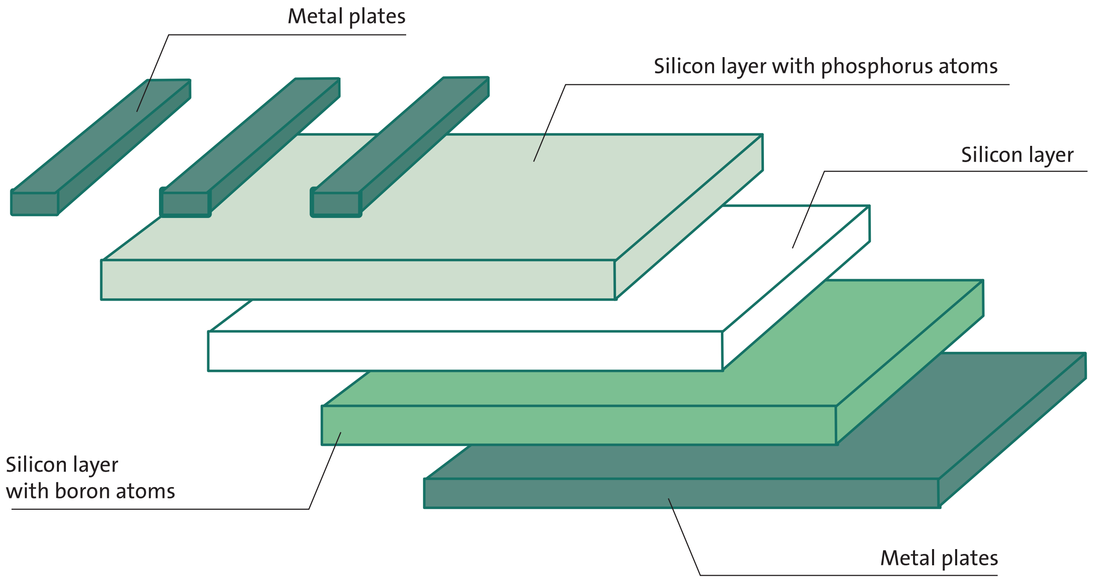
This rule does not allow sound pressure levels from energy-related sources, measured in dBA, to exceed the permissible sound level applicable at each receptor within 1.5km from the sound-emitting Project infrastructure. A noise impact assessment was carried out by a third party consultant and is included as part of our application to the AUC. Moreover, studies will be done that adheres to any applicable municipal bylaws as part of the Development Permit Application.



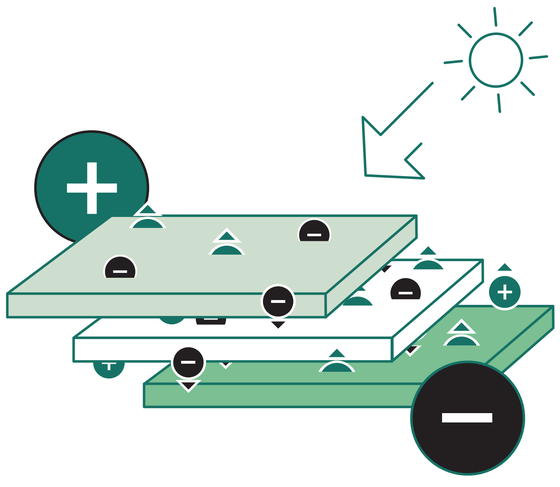
Examples of common sound levels (dBA)

140	Threshold of pain
130	Jet take off
120	Rock concert
110	Jackhammer
100	Power saw
90	Street traffic
80	Doorbell
70	Office
60	Normal conversation
50	Quiet urban neighborhood, daytime
40	Library
30	Soft whisper
20	Ticking of a wrist watch
10	Rustling leaves

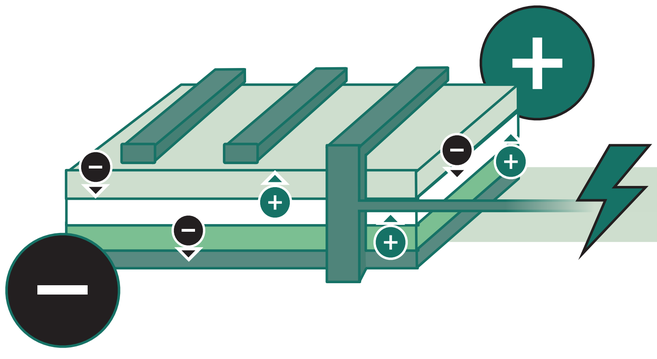
Stettler Solar Project How does PV Work



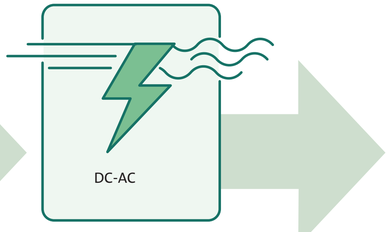
A solar cell consists of three silicon layers, where the upper layer is typically enriched with phosphorus atoms and the lower layer with boron atoms.



When sunlight hits the solar cell, the photons separate the electrons from the atoms. This separation ensures that the electrons accumulate on one side of the solar cell: An electric field with a plus and a minus pole is created.



In order for current to flow, metal plates and a cable are connected to both sides of the solar cell.



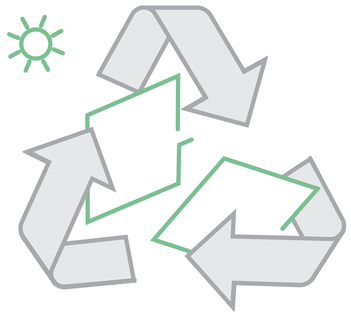
The direct current produced is fed to inverter/ transformer stations, where the energy is changed to alternating current, and stepped up to medium voltage.

Energy may also be temporarily stored in the Battery Energy Storage System (BESS) and fed into the grid as needed. Solar cells produce electricity even with little solar radiation.

Stettler Solar and Storage Project Construction Examples

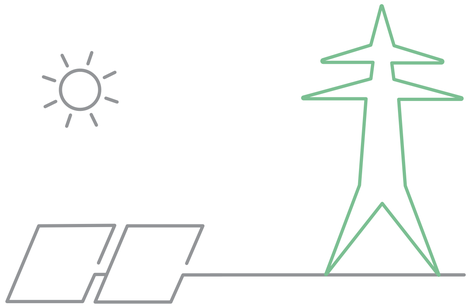
ABO ENERGY

What will be recycled and who will pay for decommissioning?



Recycling

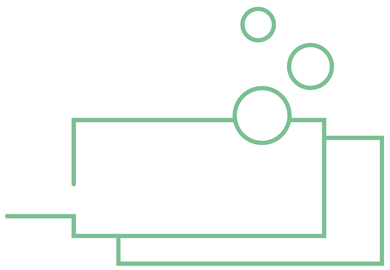
The main components of a solar facility that can be recycled, repurposed, or salvaged include: steel racking and support systems, electrical equipment and cables, precious metals/materials (including solar panel components), and concrete. Other materials or pieces of equipment that cannot be recycled, repurposed, or salvaged will be disposed of according to local/provincial regulations.



High residual values

Renewable energy projects have high residual values for two main reasons:

- The project has secured electrical capacity on the electrical grid which is extremely competitive to do, expensive and time consuming, and valued by others.
- The strong winds and good solar resource are present at the location and free to use. This means there is no additional cost to use wind or the sun.



Project owner reponsible for decommissioning

A high residual value means that if a project (or company that owns a project) does go bankrupt (even with a year left) that the facility is extremely attractive to others. All obligations to decommission and reclaim a site remain with the project, regardless of who the owner is. A project that is owned by potentially bankrupt company would be seen as highly valuable to others and would be expected to be sold and to have operations continue throughout.
A Decommissioning Cost Report will be completed, which will be used to help meet Alberta Utility Commission‘s mandatory reclamation security requirements, which were created as a result of the moratorium.

Stettler Solar and Storage Project Environmental Studies

ABO ENERGY

Environmental Survey Results

Wildlife survey results

- Songbirds observed were common to the area.
- High number of migrating birds in the area.
- No raptor nests, sharp-tailed grouse leks, or sensitive amphibian breeding ponds were identified.
- Wildlife surveys were completed in 2022, and reassessed again in 2024. No new wildlife findings in 2024.

Wetlands and vegetation survey results

- Wetlands were identified within the project boundary and setbacks implemented in Project design.
- Project lands are cultivated.
- Mostly common grassland species.

Environmental Mitigations and Reporting

Mitigations

- Avoidance of higher-quality wildlife habitat (native grassland, pasture) and of seasonal and semi-permanent wetlands.
- Erosion and sediment control plans.
- Wildlife sweeps ahead of construction to look for nests, dens, etc. during the breeding season.
- Construction will follow Stettler County's Clubroot Disease and Vegetation Policies. Any imported soil and seed mixes will be laboratory tested to be weed free.
- Dust will be controlled through dust abatement, reduced speeds, and potentially require treatment of roads during construction.
- The Project will be monitored for three years after construction for environmental impacts.

Reporting

- Submission of the Renewable Energy Submission Report to Alberta Environment and Protected Areas (EPA) - Received a low risk ranking to wildlife and habitat.
- Current drafting of an Environmental Evaluation (EE), and Environmental Protection Plan (EPP) that includes a summary of field work results. Proposed mitigation will be included as part of the AUC Facility Application.
- Current drafting of a Conservation and Reclamation (C&R) Plan which will detail plans for reclamation from construction stages to end of project life.
- A detailed soils program will be undertaken in accordance with the Conservation and Reclamation Directive for Renewable Energy Operations to determine baseline information.

MASKWA ENVIRONMENTAL CONSULTING