



Joffre Solar Park Virtual Open House

October 23, 2020



Welcome to PACE Canada LP Virtual Open House

Thank you for joining us. Members of the project team are available to answer any questions throughout the session.

Objectives

- Introduction to PACE Canada LP Project Team
- Provide an overview of the proposed Joffre Solar Park Project
- Discuss both the AUC Consultation and Development Permit Consultation processes
- Hear your questions about the Project
- Collect and listen to your feedback

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Intro to PACE Canada LP

PACE Canada LP is a joint venture partnership between SWITCH Power Corporation, an Alberta-based Independent Power Producer, and Pathfinder Clean Energy (PACE), a global clean energy development and investment company. Together we develop and manage solar assets throughout western Canada.

This partnership combines 38 years of local Alberta development, project management, and power experience with over 30 years of combined clean energy experience, specializing in technical engineering and design, and over 1 GW of solar development and construction.

We develop and manage every aspect of our projects from site selection through to permitting, design, financing, and offtake agreements, to create a market leading platform for clean energy development and investment in Canada.



PACE Canada LP Core Values

Collaboration

We collaborate with communities and businesses by aligning on common goals

Accountability

We look to develop sustainable energy solutions that create:

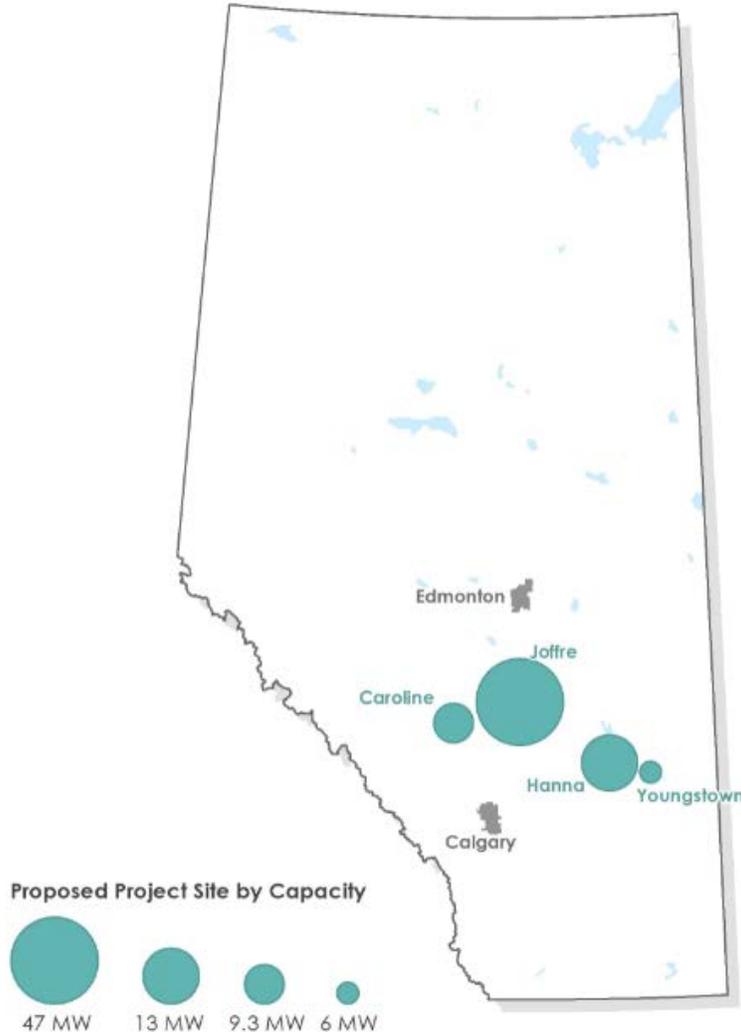
- Value within the Community
- Enhance the Environment
- Sustainable Economic benefit

Passion

We promote positive conversations to solve problems and build consensus

- We embrace and drive positive change
- We constantly innovate within the entire development process

Our Central Alberta Projects



PACE Canada LP is developing a pipeline of opportunities at transmission and distribution scale.

Our constraint algorithms filter sites according to customizable metrics such as proximity to grid, environmental constraints and irradiation on site to create a scalable and efficient process of evaluation and development.

Alberta has the best irradiance in the country and a stable and transparent energy market supported by modern infrastructure.

PACE Canada LP is focused on Community, First Nations (FN) and local utility projects to bring additional value to the communities we are in.





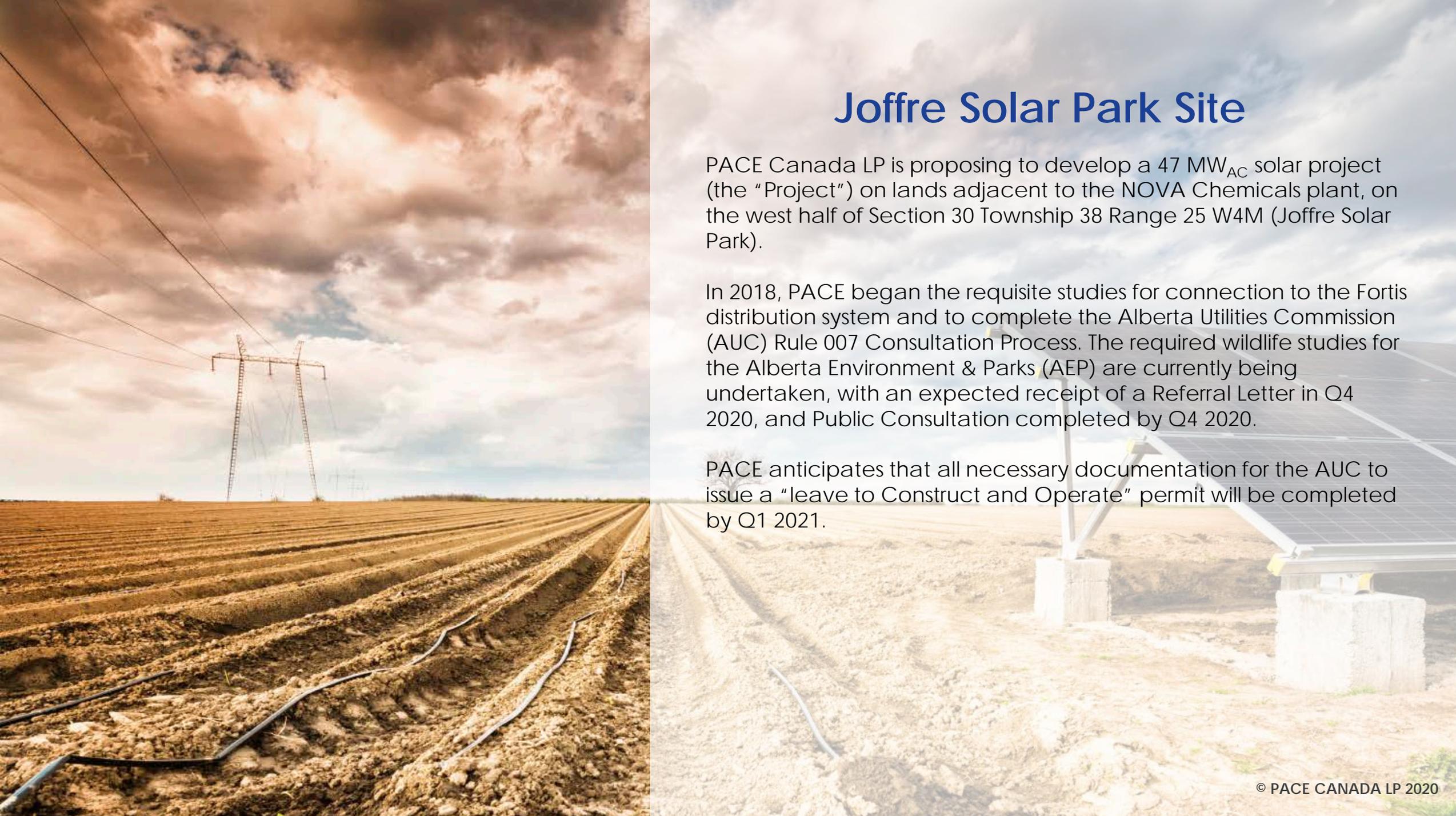
Project Site Selection

All PACE Canada LP solar projects are sited to ensure that development avoids, minimizes, mitigates, and monitors environmental impacts.

As part of our site selection process, we also screen for existing infrastructure including:

- Oil
- Gas
- Electricity
- Municipal roads
- Alberta highways
- Local airports
- Emergency services

In addition to the usual underground search procedures, a local expert will be used to perform tests to identify the precise location of the underground infrastructure.



Joffre Solar Park Site

PACE Canada LP is proposing to develop a 47 MW_{AC} solar project (the “Project”) on lands adjacent to the NOVA Chemicals plant, on the west half of Section 30 Township 38 Range 25 W4M (Joffre Solar Park).

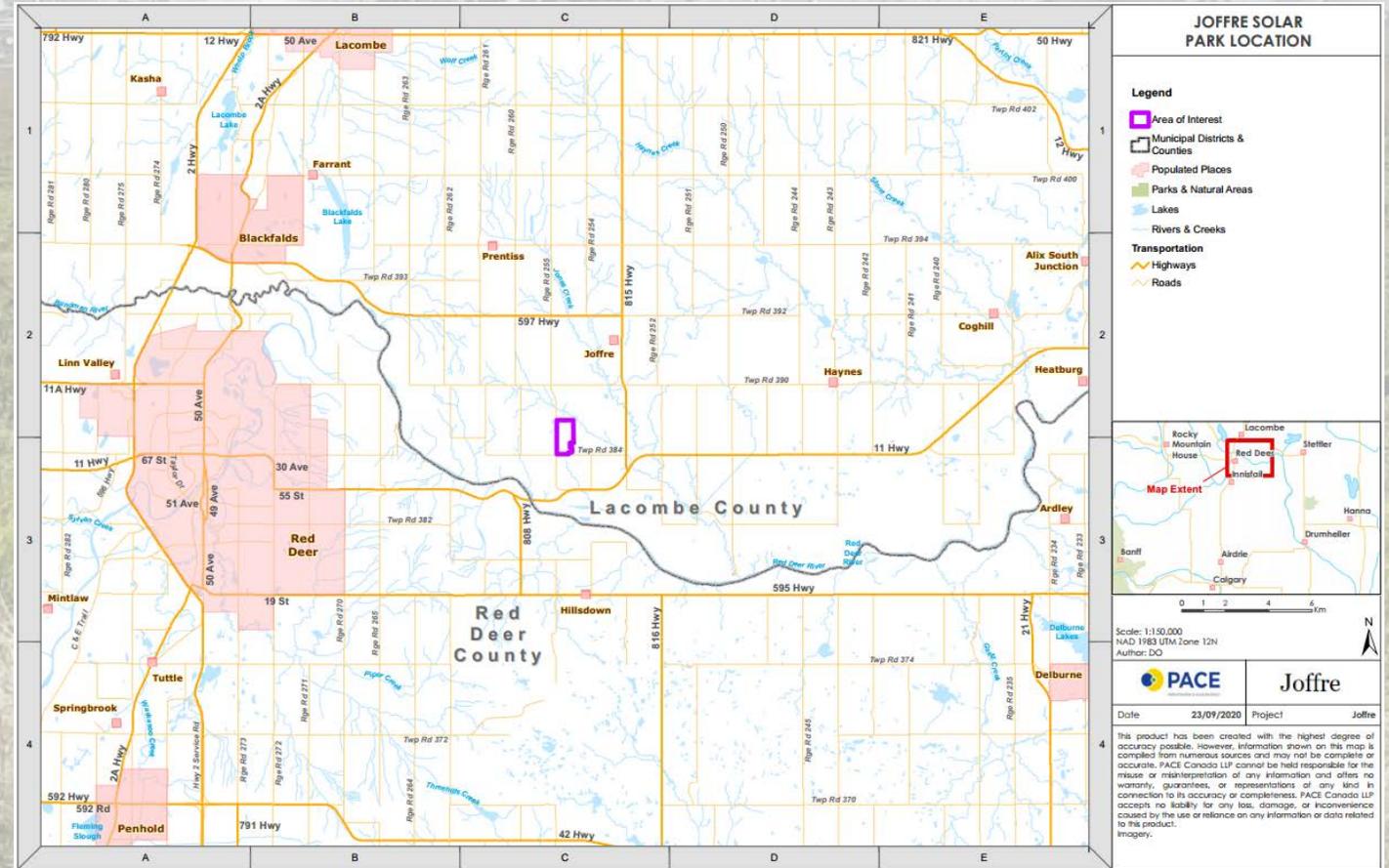
In 2018, PACE began the requisite studies for connection to the Fortis distribution system and to complete the Alberta Utilities Commission (AUC) Rule 007 Consultation Process. The required wildlife studies for the Alberta Environment & Parks (AEP) are currently being undertaken, with an expected receipt of a Referral Letter in Q4 2020, and Public Consultation completed by Q4 2020.

PACE anticipates that all necessary documentation for the AUC to issue a “leave to Construct and Operate” permit will be completed by Q1 2021.

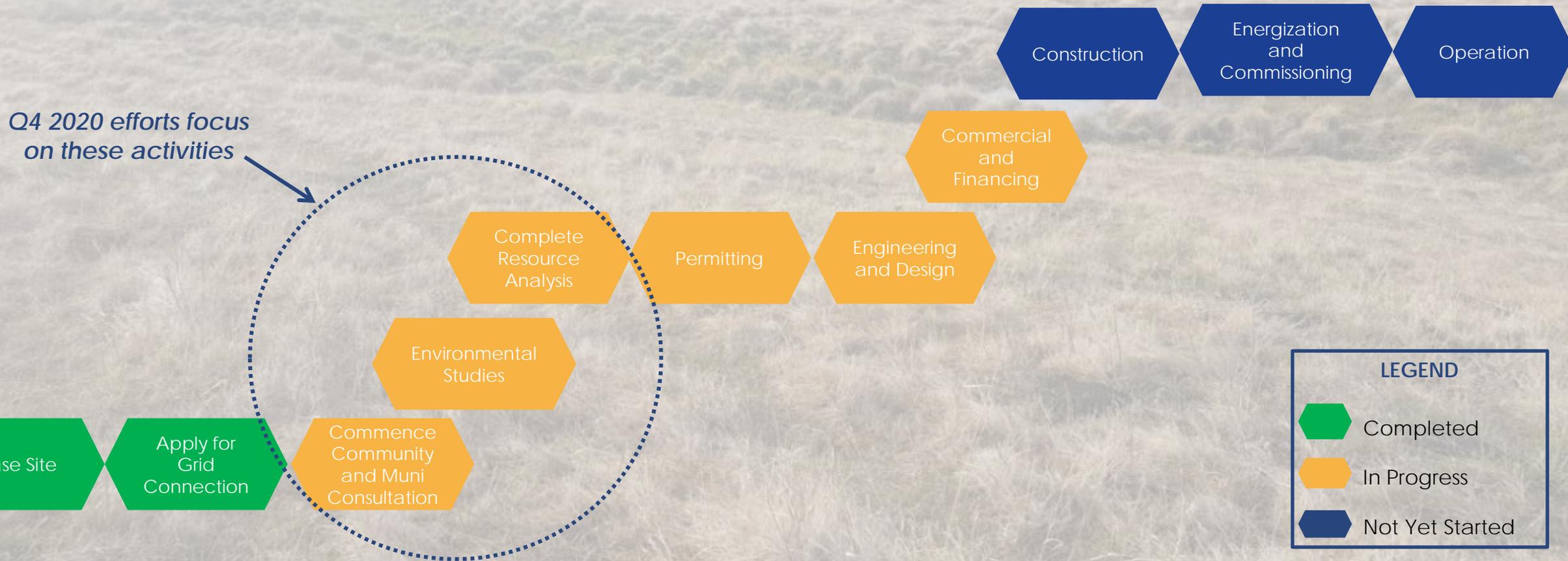
Joffre Solar Park Site

The proposed project is located adjacent to the Nova Chemical plant located at NW-25-38-30 and SW-4-25-38-30.

- Direct footprint impact ~280 acres
- Land Lease secured for 460 acres
- Fortis Distribution connections applied for
- AEP Solar Wildlife Guidelines directed studies underway
- Public Involvement Program underway
- Lacombe County informed of activity
- Commercial discussions underway
- AUC filing Q4 2020
- ISD (In Service Date) Q4 2021 subject to AUC approval



Joffre Solar Park Development Process

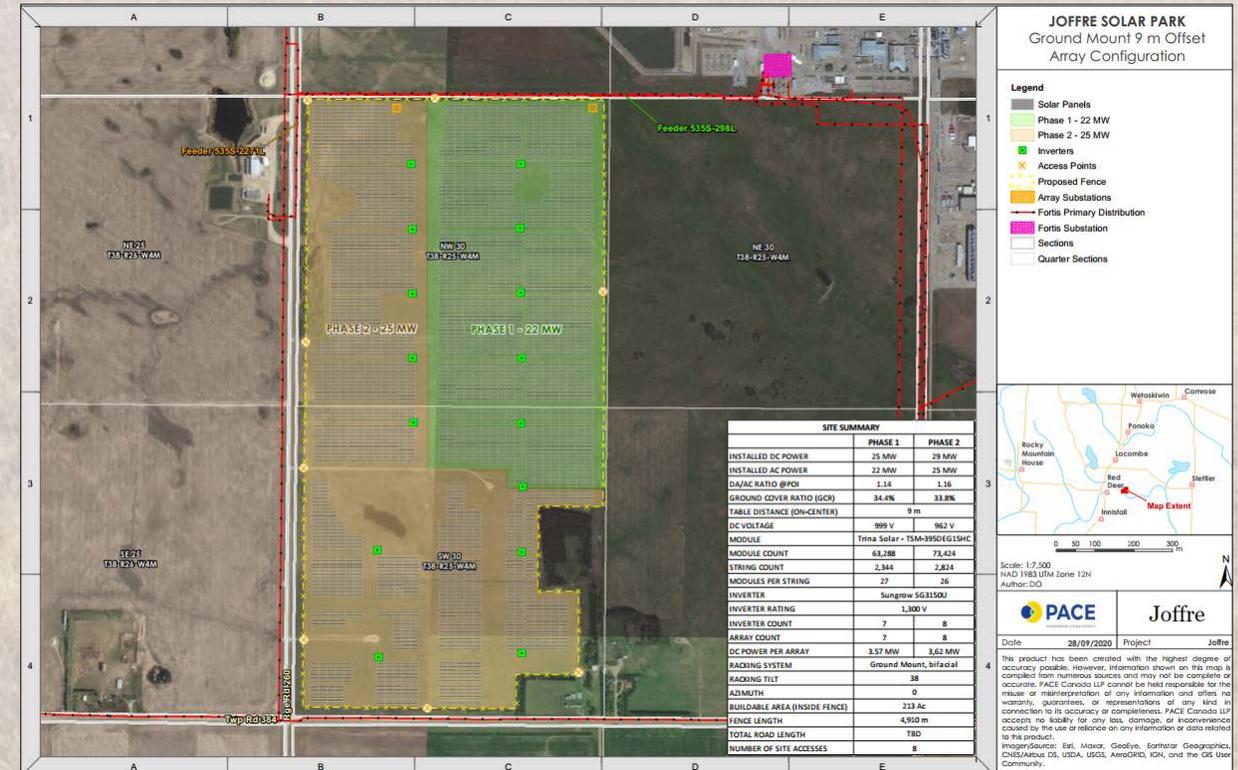


Joffre Solar Park Interconnection

The proposed Project will connect via 2 feeders to the Fortis distribution system and will export electricity onto the Alberta Interconnected Electric System. The Joffre Solar Park will be connected to the Alberta Integrated Electrical System through the Fortis 25 kV distribution system.

Fortis has made the application to the Alberta Electric System Operator (AESO) to connect Joffre Solar in two phases: 22MW connected to circuit 535S- 298L (Phase I) and 25 MW circuit 535S- 2271L (Phase II).

The Project is expected to produce approximately 37,830 MWh per annum from Phase I and an additional 44,466 MWh per annum from Phase II. The proposed Project will be constructed and operated in accordance with recommended and safe industry practices and in compliance with requirements as set out by the AUC permit and license to operate and the AESO rules and procedures governing generators connected to the AIES.

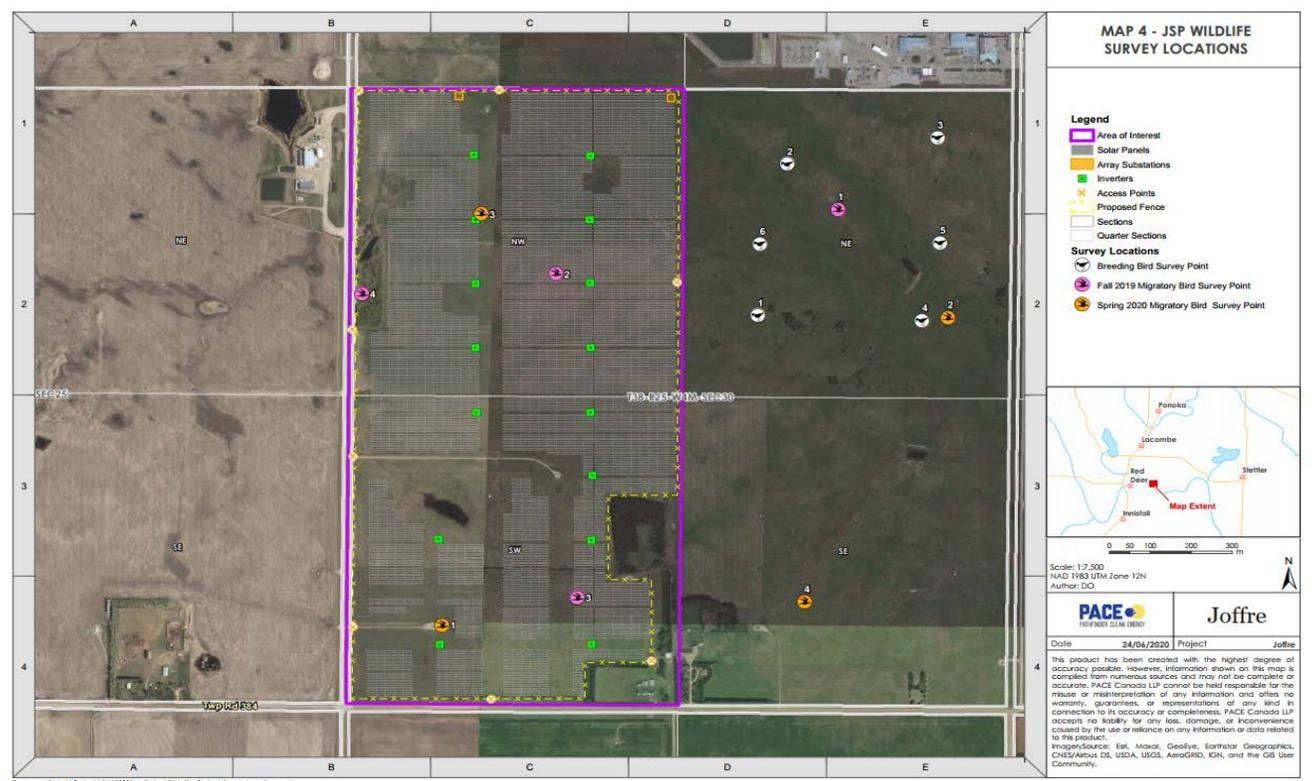


Environmental Site Assessment

H3M Environmental Ltd. (H3M) was contracted in Spring of 2019 to conduct a full environmental review for the Project as outlined by The Alberta Environment and Parks (AEP) and the Wildlife Directive for Alberta Solar Projects.

The completion of the required field studies and desktop reviews are necessary to address the requirements detailed in the Alberta Utilities Commission (AUC) Consultation, Rule 007, Section 3.2 – Applications for Power Plants (AUC, 2018).

They are currently completing an additional set of Fall Migratory Bird studies for the site, as recommended by the AEP. We anticipate a Referral Letter from the AEP following the submission of Summary Report by H3M, which allows us to enter into the AUC application process.



Environmental Assessment Results

“The results of the environmental assessment suggest that there are **no major impacts foreseen on wildlife and wildlife habitat** that cannot be effectively mitigated during construction, operation, and decommissioning of the Joffre Solar Park. There may be some displacement and short-term disturbance of wildlife during project activities, however, long term negative impacts are not anticipated if the recommended construction and operation mitigation plan and post-construction monitoring and mitigation plan proposed in [their] report are followed.”



H3M ENVIRONMENTAL
August 2020 Report

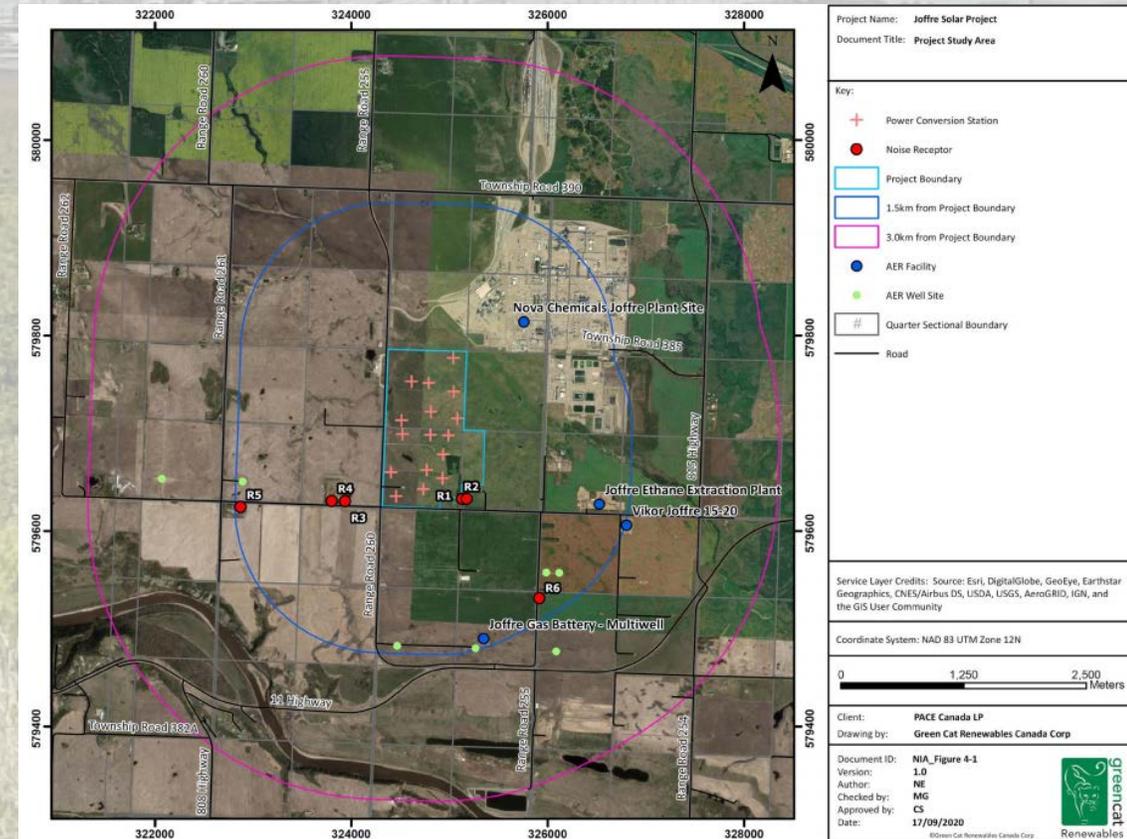
Noise Impact Assessment

Solar panels are completely silent during operation. The only significant noise-producing equipment in site will be the power conversion stations. Sixteen stations each hosting an inverter and transformer shall be distributed throughout the site, inside the perimeter fence.

Noise Impact Assessments were completed by Green Cat Renewables, a third-party engineering firm. They worked with PACE Canada LP to identify nearby dwellings (PORs) in closest proximity to the solar farm and then used software to predict the level of noise at these locations. From their findings "Joffre Solar Project is considered to have a negligible sound level impact on the baseline sound level".

They have also made recommendations to mitigate any potential noise impacts from the proposed development.

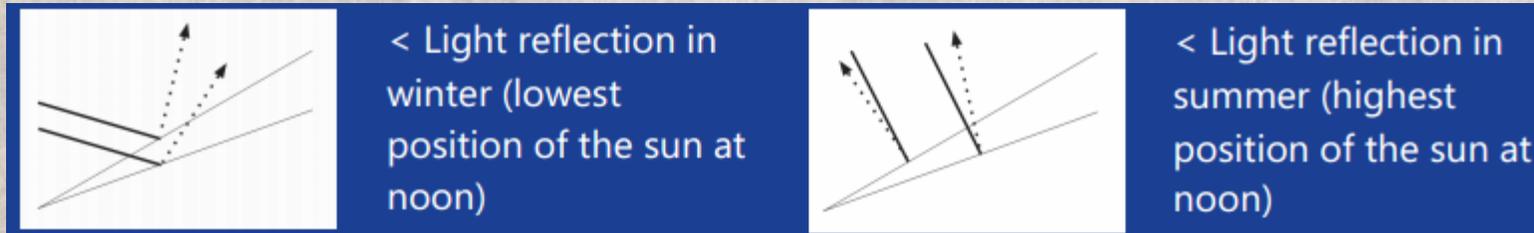
Note: Worst case sound power levels were used to model sound emissions from the project during day and night periods from the proposed Joffre Solar Project.



Glint and Glare Assessments

Green Cat Renewables, a third-party engineering team completed Glint & Glare Studies indicating “taking account of the times at which glare may occur, the low positioning of the sun in the sky at those times, and the general makeup of the PV panels to absorb light rather than reflect it, the Joffre Solar Project overall poses a low potential for hazardous glare conditions along the road routes and dwellings assessed.” Their report will be submitted as part of our AUC Application.

Our solar modules will be orientated to face south, typically at an inclination of 30 to 35 degrees. They will be set in south facing rows approximately 12m apart. Due to the orientation of the modules (pointed as much as possible toward the sun), the reflected angle of sunlight is such that most of the reflected light travels in a direction that does not affect people at ground level (see diagram below). There will be a shallower angle of reflectance in early morning and late evening, when the sun’s angle is at its lowest and this is where our analysis will focus.



The function of a solar module is to absorb as much light energy as possible, not reflect it. There are many examples of large solar arrays being installed in areas where visual interference would be of greater consideration, but here that is not the case.

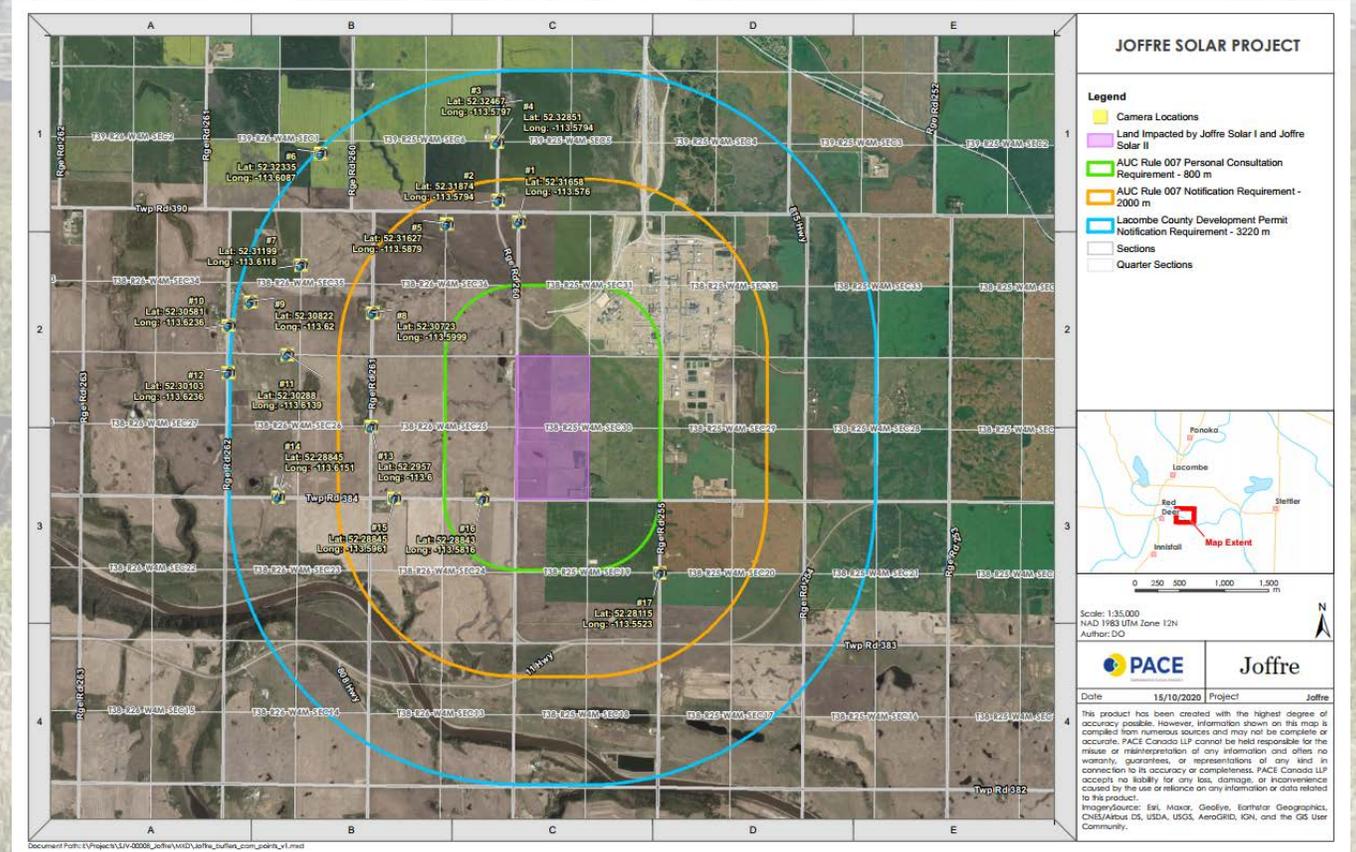
Visual Impact Assessment

By taking photographs from seventeen locations surrounding the proposed site, we will be able to prepare a series of visualizations of the solar project.

Visualizations will be used to inform:

- project concept development and design
- GIS constraints mapping
- Consultation
- landscape and visual impact assessment
- cumulative landscape and visual impact assessment
- residential visual amenity assessment

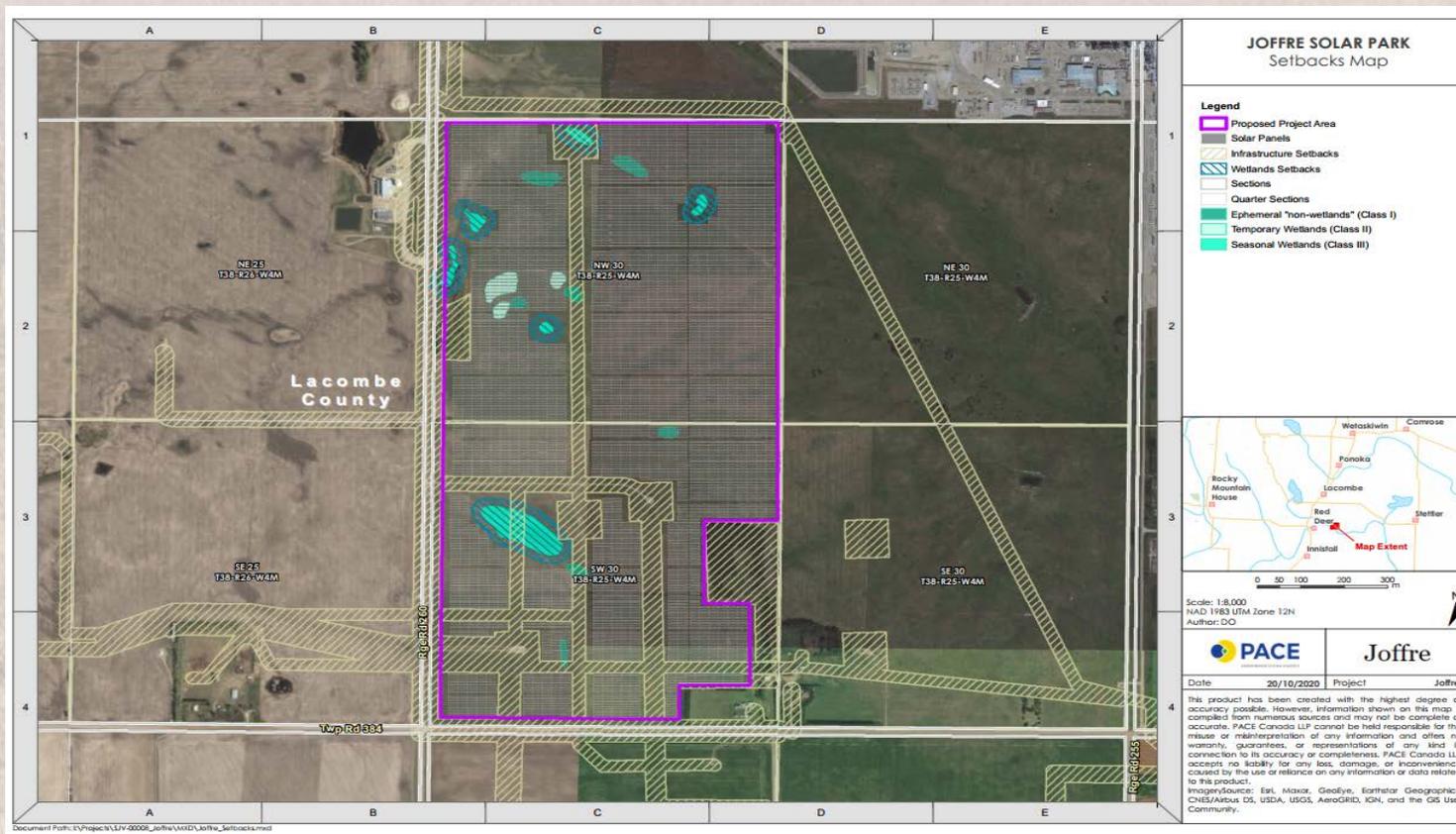
This exercise is scheduled to be completed in Q4 2020.



Layout Considerations

Our preliminary layout considers some important aspects specific to the Joffre Solar Park site, including:

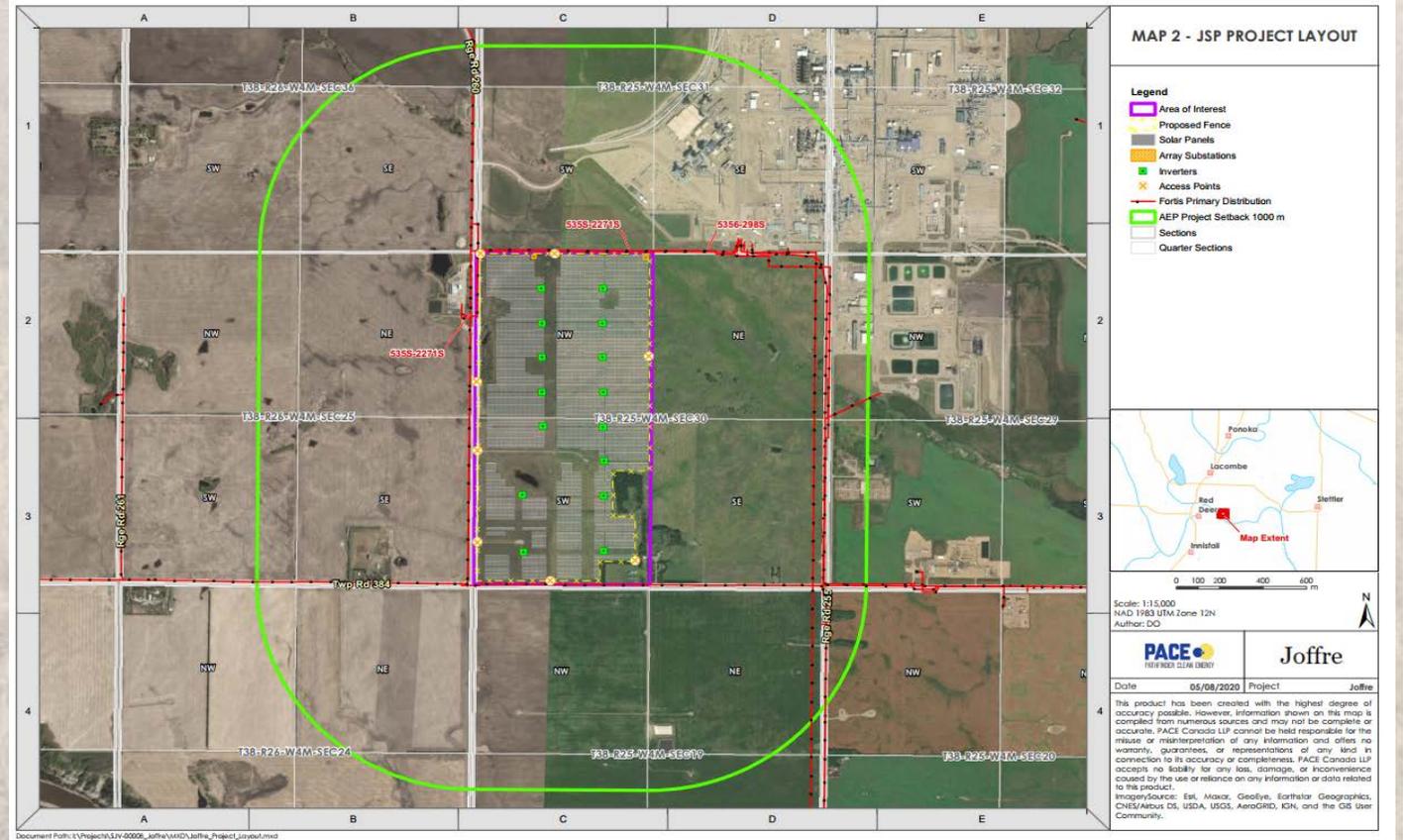
- Minimizing impact to all-natural values and current agricultural use
- Adherence to setbacks prescribed by Alberta Environment and Parks to protect environmentally sensitive areas and species
- Avoidance of existing oil and gas infrastructure such as pipelines



Additional Layout Considerations

Our preliminary layout ensures:

- Minimizing impact of glint and glare
- Minimizing and mitigating noise impact
- Adherence to development setbacks
- Use of existing access roads
- Proximity to existing electrical grid infrastructure suitable for connection
- Optimization of Energy Yield



Layout and Design

A solar farm consists principally of:

- A racking system, which will orientate the modules toward the sun
- Solar panels, which convert the light to DC electricity
- Inverters, which convert this electricity to AC (alternating current)
- Transformers, which increase the electrical voltage to make the power suitable for export to the grid
- A substation, which contains the necessary protection equipment to keep the site safe
- Associated collector cables, which transport the electricity to the grid
- Fencing and access tracks to secure and maintain the site



SOLAR PANELS



INVERTER STATION



RACKING SUBSTRUCTURE



ARIEL VIEW



Permitting the Project

With the completion of indicative layout and design we can move forward with permitting activities. This involves consultation with potentially impacted parties, and the public at large.

As part of this process, and to optimize community benefits to the project we are undertaking:

- Individual meetings with directly impacted landowners
- Meetings and discussions with county, and government organizations

Then, we will file applications for Lacombe County Municipal Development Permit(s) and Power Plant approvals under Alberta Utilities Commission (AUC) Rule 007.

AUC Performance Standards for Facility Applications

From Rule 007 Draft dated 2020-08-07

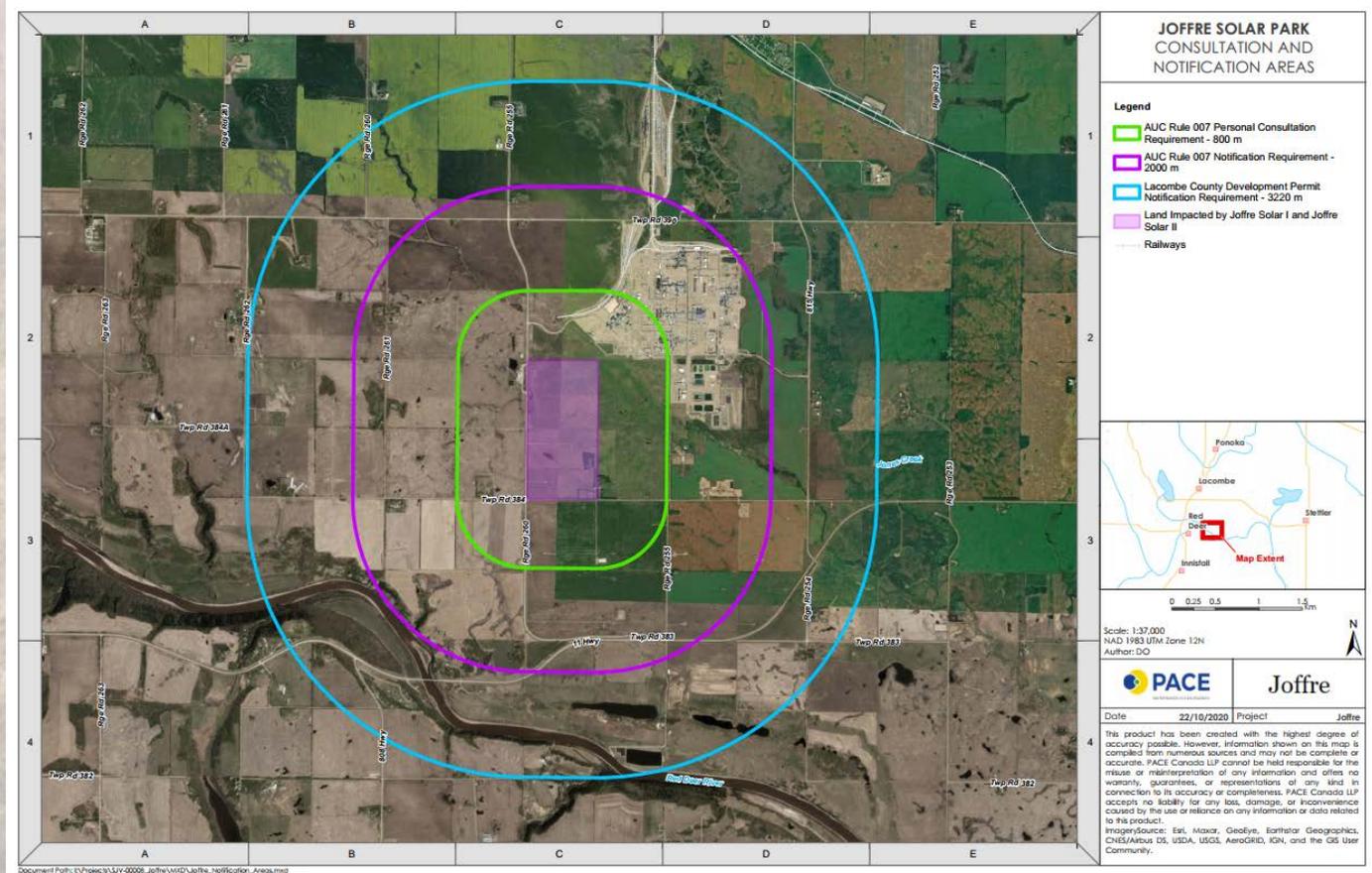
Category	1	2	3	4	5
Process	<ul style="list-style-type: none"> • no notice • no objections • no information requests 	<ul style="list-style-type: none"> • no notice • no objections • one round of AUC information requests 	<ul style="list-style-type: none"> • notice • no objections/ no person with standing • one or more rounds of AUC information requests 	<ul style="list-style-type: none"> • notice • objections • no participant information requests • written/oral hearing 	<ul style="list-style-type: none"> • notice • objections • participant information requests • written/oral hearing
Record development timeline	5 business days*	35 days	90 days	120 days	205 days
Performance standard	90 per cent			80 per cent	
Decision writing timeline	15 days	20 days	30 days	75 days	90 days
Performance standard	100 per cent				

* This is the only performance standard based on business days

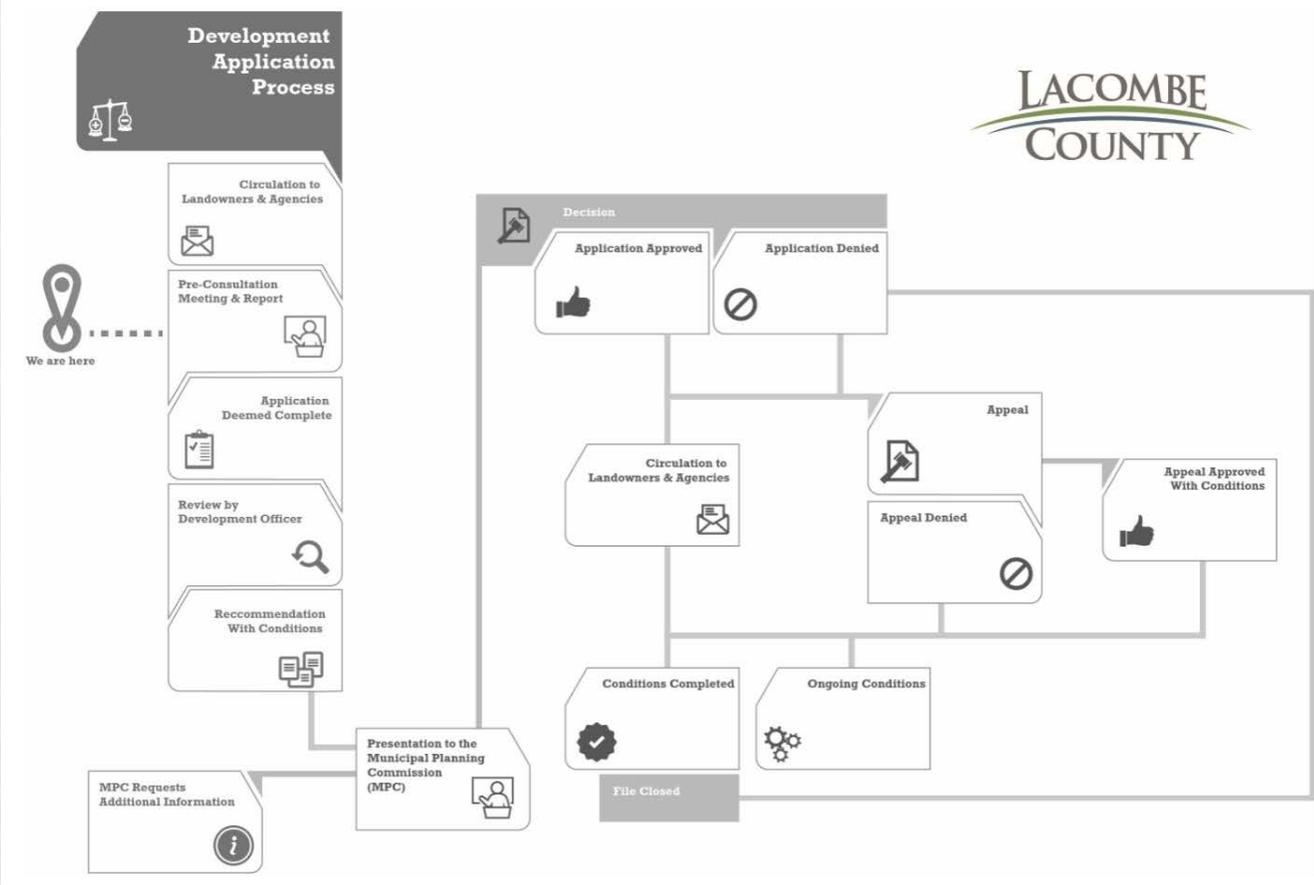
Permitting and Consultation

Based on current protocols and precautions being taken to reduce the spread of COVID-19, both AUC and Lacombe County have recommended virtual consultation wherever possible.

As such, Lacombe County has accommodated an Open House event which will satisfy the interim public involvement program requirements of both agencies.



Municipal Development/Building Permit Process



Joffre Solar Park Construction

PACE Canada is currently establishing a formal relationship with an EPC firm. This third-party firm will be responsible for construction of the project based on industry best practices. They will also be responsible for a local hiring day.

Construction is expected to take approximately 5 months, from site establishment through to energization and site operation. Prior to construction we survey the land, test the soil conditions and establish a temporary workspace area.

The access tracks and worker HSE facilities will be set up. Fencing will be erected around the perimeter of the site. Deliveries will start arriving to site, and civil works will commence.

Then the piling works will begin, which forms the foundations for the racking structure. Trenches in which cables are later buried will be dug, and foundations for the inverter stations will be prepared.

The substructure of the solar racking will then be assembled and the solar modules will be mounted onto the racking. Electrical cables are then wired up.

The inverter stations usually arrive pre-assembled and are landed onto their foundations. The substation will be erected. CCTV will be installed and electrical grid works and commissioning will take place.



Continuous Stakeholder Engagement

PACE Canada LP is committed to keeping the public informed of our ongoing activities while working to foster positive and collaborative relationships with all parties who have an interest in PACE Canada LP's development plans.

This public consultation is an important part of our submission to the AUC and to our internal decision making and project planning process. PACE Canada LP welcomes your feedback online, by mail, in person or by phone. If you require further information or would like to talk to a PACE Canada LP representative regarding this proposed Project, please contact us through the contact information listed on the next slide.

PACE Canada LP is diligently working to satisfy all consultation requirements to successfully complete this project. To date, the following has been completed:

- AUC Rule 007 information Packages mailed out
- Open House newspaper article advertisement
- Hosting Open House

Joffre Solar Park Community Benefits

Joffre Solar Park Phase I, 22 MW and Phase II, 25.2MW, for a cumulative 47.2 MW solar project with ~\$65.3M investment

Community Value

- Job Creation:
 - Construction: 140 temporary positions*
 - Operations and Maintenance: 3 Full-time equivalent/annum**
- Property taxes: ~\$385.8k/annum***

Environmental Value

- Greenhouse Gas Avoidance: ~36,800 tonnes CO₂e/annum, ~736,900 tonnes CO₂e over 20-year project life; or,
- Renewable electricity: ~1,632 Gigawatt hours over 20-year project life
- Considers native grass species, wetlands and allows for continued, more diverse use (agricultural and native species)
- Water Consumption Avoidance: ~165.6 MM litres/ annum****

Economic Value

- Annual operating costs: ~\$205,000/ annum, ~\$6.2 MM/ lifetime****
- Landowner lease revenue: ~\$170,000/annum

References

*estimate provided by third party EPC

**https://solaralberta.ca/sites/default/files/canwea_-_cansia_final_submission_sept_30.pdf

***Assumes Lacombe County 2019 approved mill-rate (non-NPV)

****Based on the creation of 3 Full-time equivalent jobs for Operations and Maintenance

*****https://wri.org.s3.amazonaws.com/s3fs-public/17_TECH_PowerPlants_V7.pdf

Questions?

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