

Smoky River Wind

# Welcome to our Open House!

We are happy to inform you about the project and the latest updates.  
Feel free to ask us your questions, we will be glad to answer them.

You can also find general information about the project on our website.



Please scan the QR-Code  
or type in the link:

[www.smokyriverwind.com](http://www.smokyriverwind.com)



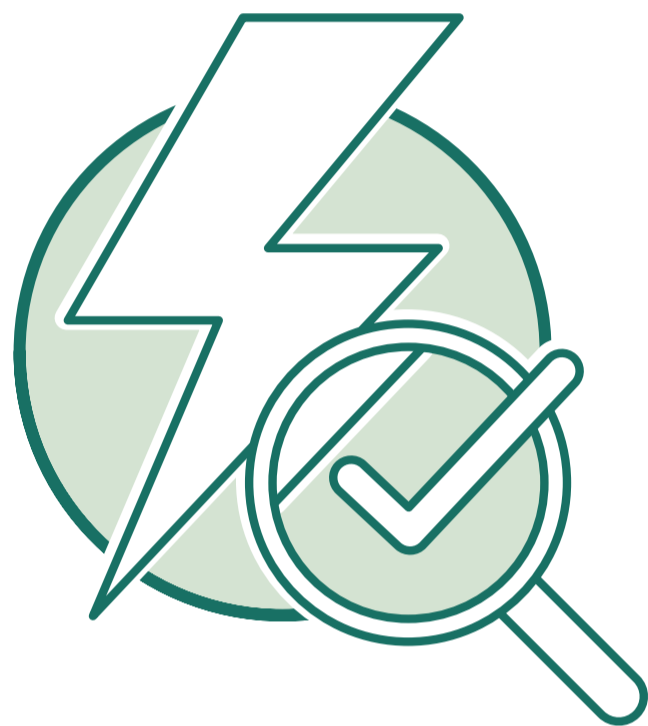
**ABO  
WIND**



## ■ Stage 0: **Application**

### ■ Stage 1: **Scope**

- Establish electrical cases to be studied (AESO)
- Submits electrical characteristics of project (MP)



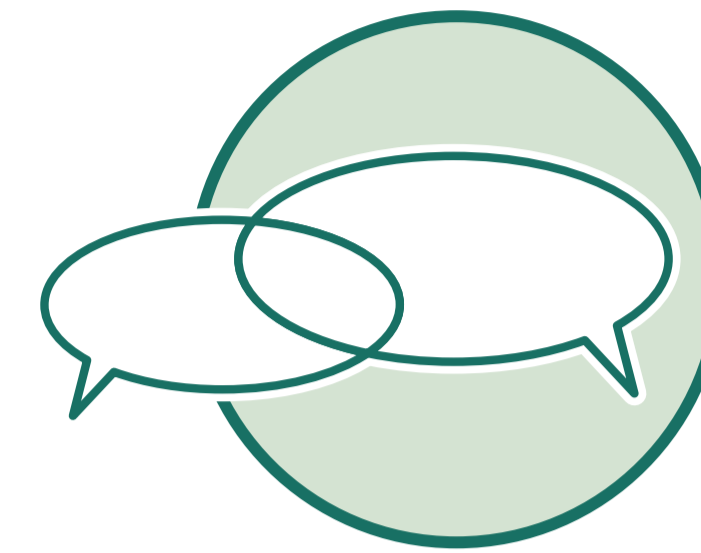
### ■ Stage 2: **Assessment**

- Studies performed to assess connection alternatives
- Cost estimates provided for project
- Facility design – identify relevant standards, major equipment ratings, etc.



### ■ Stage 3: **Regulatory Prep**

- Functional Specification – scope of work, RAS & protection measures, etc.
- Connection Assessment
- Service proposal & cost estimate



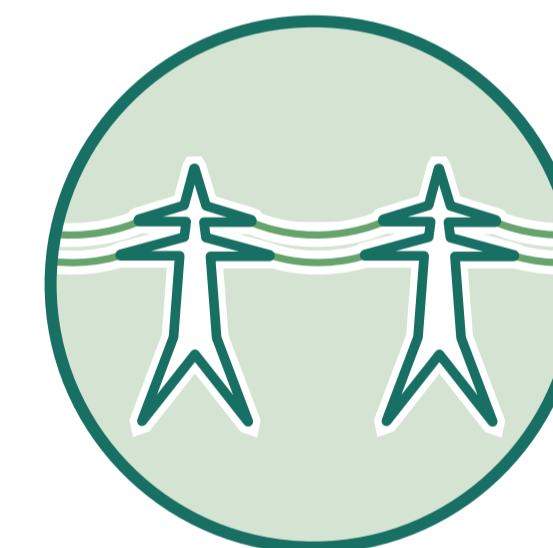
### ■ Stage 4: **AUC Applications**

- Information requests and hearings as required
- P&L



### ■ Stage 5: **Construction**

- Energization packages  
(Drawings, commissioning plans, etc.)
- Updated data packages



### ■ Stage 6: **Close Out**

- Authorization letters
- Commissioning
- Final cost reports

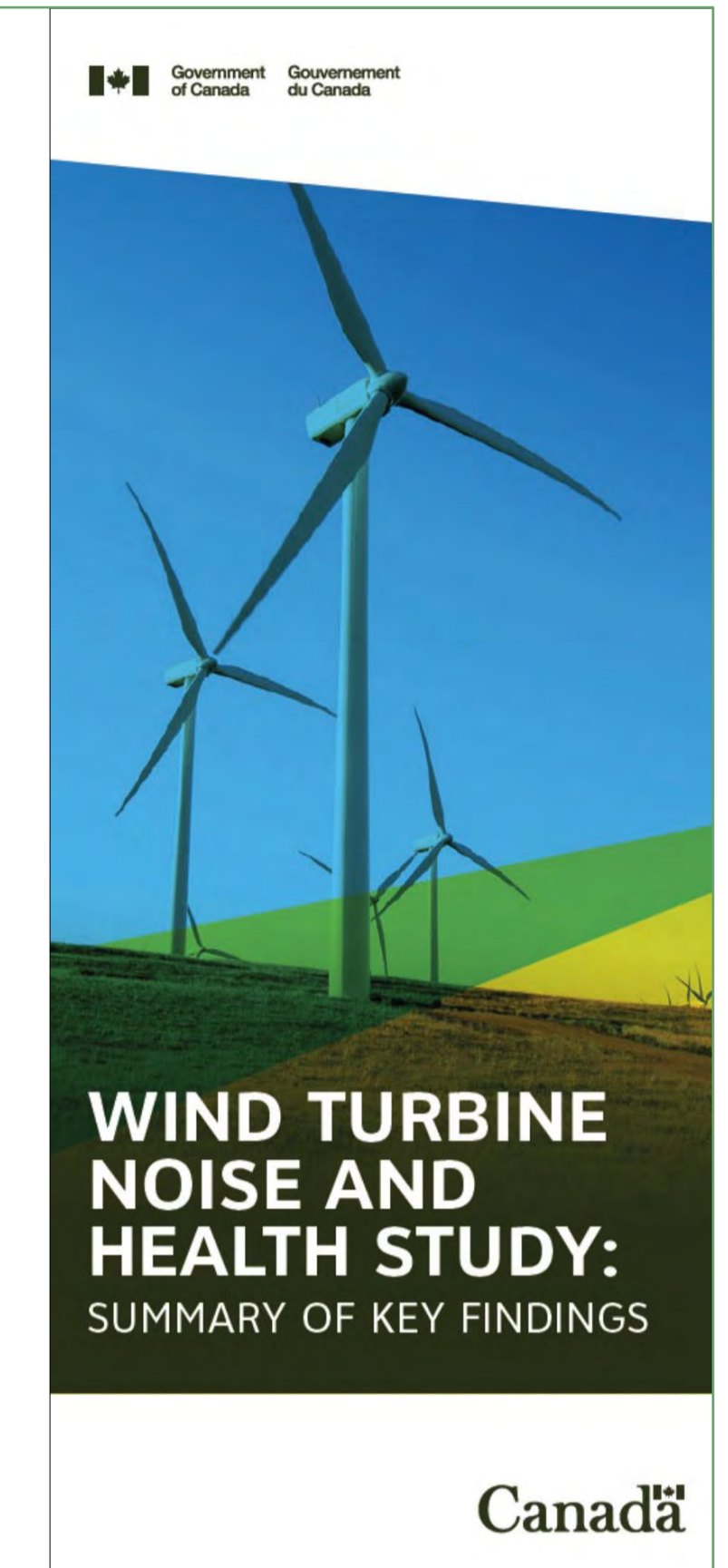
## Human Health

There have been well over 100 peer-reviewed research papers published by academics, consultants and medical agencies around the world on the potential health effects of people living near wind turbines.

The studies include issues of audible sound, low frequency noise, infrasound, shadow flicker, and electromagnetic fields (EMF).

Health Canada conducted the largest study in the world of people living, working and playing near wind turbines:

- Largest study ever undertaken around the world on wind turbines and health.
- 1238 people participated Homes as close as 820 ft out to 7 miles from wind turbines.
- Conducted self-reported questionnaires and for the first time ever objective measures of health including:
  - Sleep Study
  - Hair Cortisol (stress)
  - Blood Pressure



**The overall conclusion to emerge from the study findings is that the study found no evidence of an association between exposure to WTN and the prevalence of self-reported or measured health effects beyond annoyance.**

**Alberta's AUC Rule 012 and the M.D. of Smoky River No.130 setback distances will ensure the protection of public health from wind turbine sound.**

## Public Safety

Wind turbine failures, fires and ice throw are very rare events:

- 1 blade failure per 10,000 a year
- Fires are very rare events with <1 a year in Canada
- Ice throw does occur but only as far as the height of the turbine

M.D. of Smoky River No.130 setback distance requirements to property lines, roads and setback to homes is key to protecting public safety.

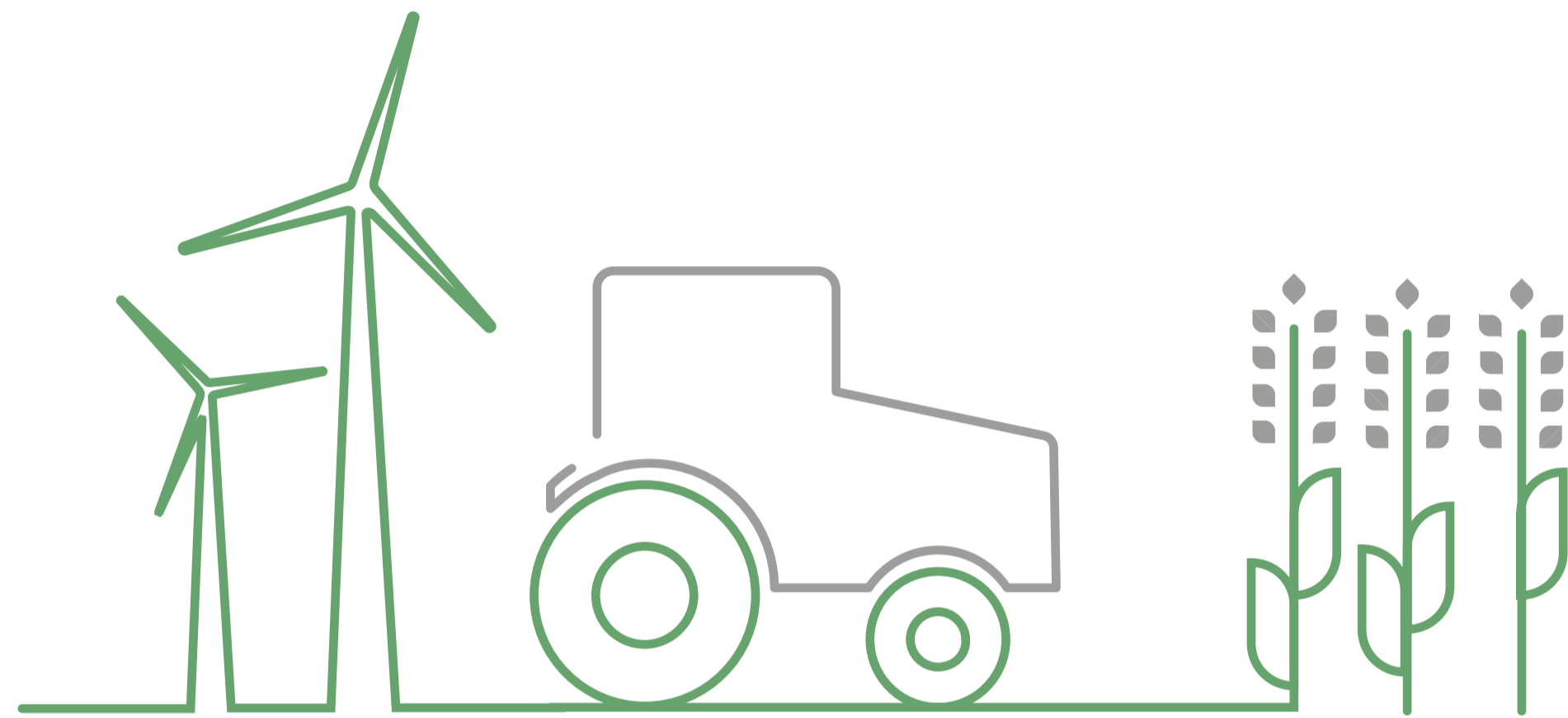
**The 800 m setback to homes is one of the most restrictive anywhere in the world where wind turbines are sited. The vast majority of homes in the project will be >1 km from a turbine.**

## Livestock

There are over 1,000 wind turbines in operation in Alberta and >6,000 across Canada. Most of these turbines are located on agricultural and pasture land. There have been several livestock and wild game studies published in the scientific literature.

**There is no link between any wind turbine emissions and livestock health.**





## Ongoing Farming

A wind facility occupies a small percentage of the land throughout its life. Farming and ranching will be ongoing throughout the entire operational life of the facility. At many wind facilities landowners can use access roads and will farm and ranch right up to the equipment (turbines, access roads, substation). Once the project has been decommissioned and the land reclaimed, the small percentage of land that was occupied will be available for farming or ranching. Effective soil management practices during construction and facility access guidelines during operations ensure that land used for a facility is suitable for farming and ranching after operations come to an end.

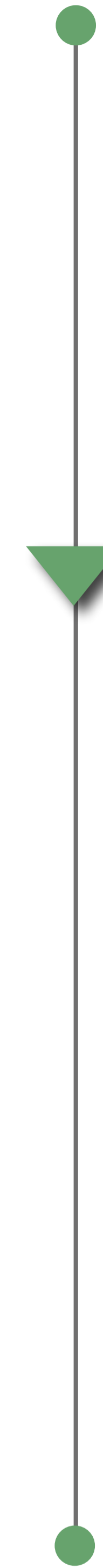


## Reclamation Certificate

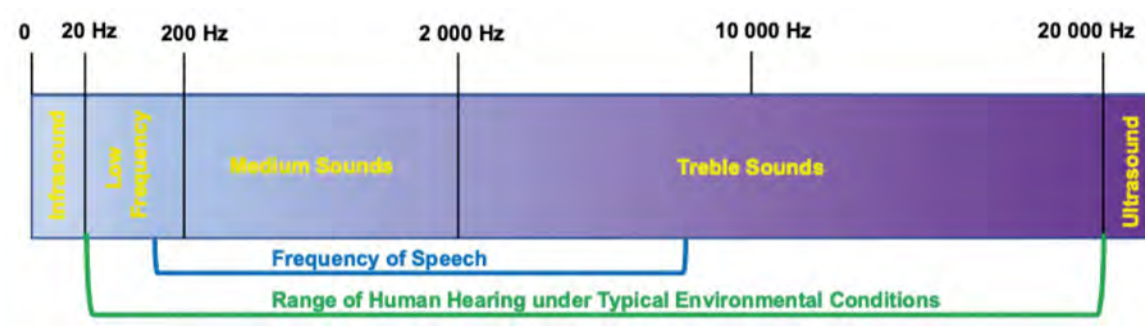
Provincial regulations have stringent requirements to obtain a Reclamation Certificate. A proponent would need to demonstrate the decommissioned site meets these criteria to the governing body before a certificate would be issued.

Activity	Timeline
Environmental Field Studies	Spring 2022 to Fall 2022
Public Notification and Project Information Package 1	February 2023
Open House	April 5, 2023
Project Information Package 2	October 2023
Submission of Renewable Energy Project Submission Report to Alberta Environment and Parks	November 2023
AUC Application Submission	Q2 2024
AUC Review and Approval	Q4 2024
Start of Construction	Q2 2025 (assuming two seasons for construction)
Commencement of Operation	Q4 2026

\*Project timeline is preliminary and subject to change.



## Sound



Sound is the measurement of the pressure levels in decibels (dBA) at individual frequencies (Hz). The louder the sound, the higher the decibel readings. Specialized sound meters have been designed to measure the sound pressure levels (SPL) across a wide range of frequencies.

## Alberta Utilities Commission (AUC) Rule 012 Audible Sound Limits for Wind Turbines

### 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

The Permissible Sound Levels (PSLs) under the Alberta Utilities Commission (AUC) Rule 012 wind turbines are:

- 50 dBA Leq Daytime (0700 to 2200)
- 40 dBA Leq Nighttime (2200 to 0700)

AUC Rule 012 is one of the most conservative wind turbine sound standards published by any regulatory authority around the world. These levels ensure that people can continue to get a good nights sleep and that their health is protected.

## Infrasound and Low Frequency Noise (LFN) from Wind Turbines



Although wind turbines are a source of LFN and infrasound during operation, these sound pressure levels are not unique to wind turbines. Common natural sources of LFN and infrasound include ocean waves, thunder, and even the wind itself. Other human sources include road traffic, refrigerators, air

conditioners, oil pump jacks, farm machinery, and airplanes.

Wind turbine infrasound and LFN noise have been studied extensively. The levels surrounding turbines are far lower than would be required to induce health impacts.

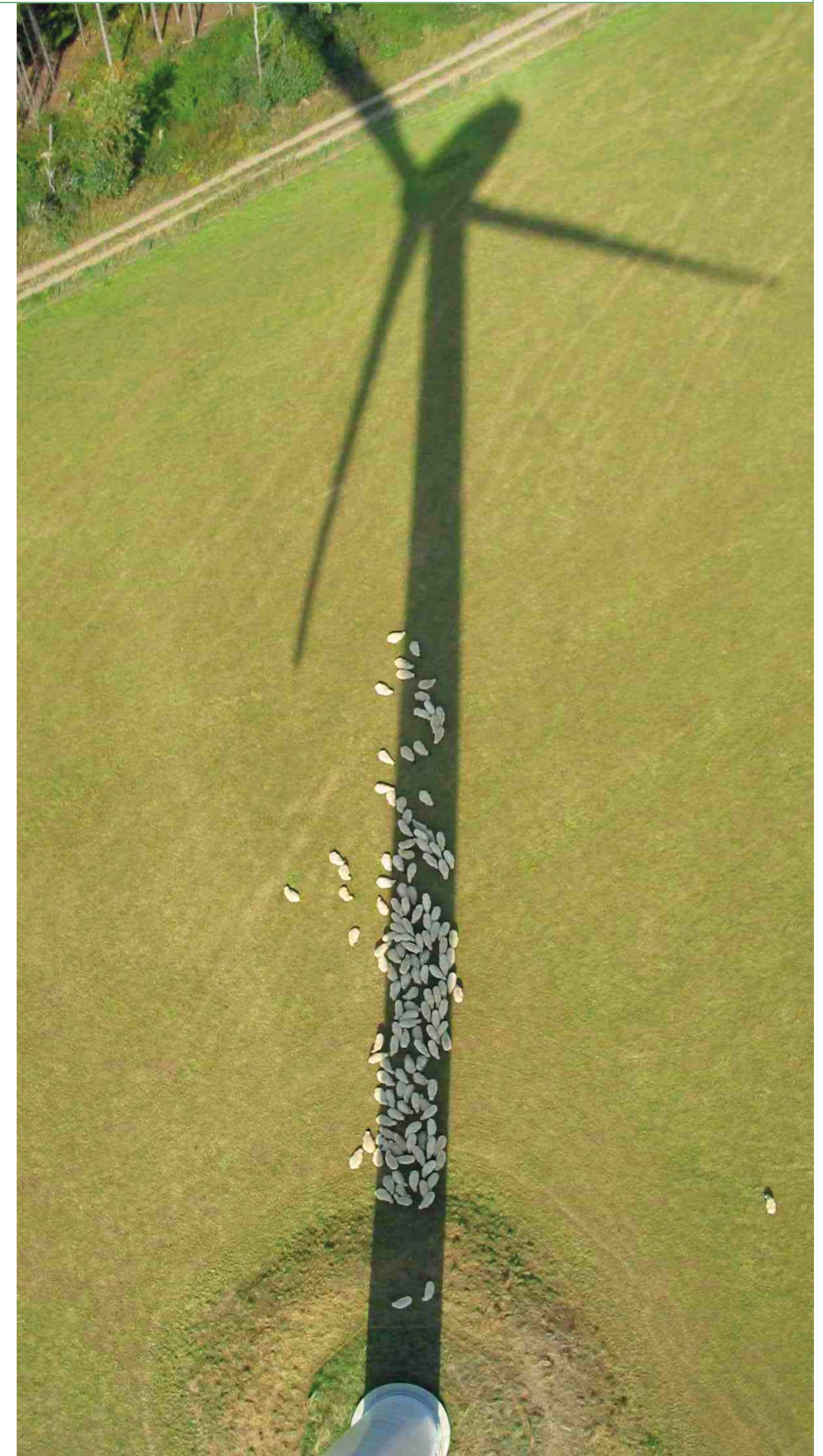
Measurements at other wind farms are similar, if not lower, than natural and anthropogenic sources of infrasound that we are exposed to, and are below international guidelines on infrasound.

Shadow flicker occurs when the spinning rotor is located between the sun and a building, and the turbine blades alternatively block and allow the sunlight to shine through (taken from the original poster board – incl diagram as well). This causes a ‘flicker’ effect and only occurs when certain conditions are met such as the sun shining and turbine(s) operating. A Shadow Flicker study will be conducted to rely on findings of potential shadow flicker at nearby receptors. Results from the study will be shared with local stakeholders once completed. Moreover, the assessment will be included in the application to the AUC.

### Expected Case Modeling assumptions:

- Long term climatic data will be used to model expected sun and shade dates for shadow flicker to occur
- Wind data will be also used to estimate times when there would not be enough wind to turn the turbines or the wind is too high for the turbines to operate, and thus no flickering would occur
- Obstacles such as trees or walls surrounding specific receptors will be included in the model further reducing the amount of shadow flicker observed

**Several studies conducted around the world have shown that shadow flicker does not impact health. The project will be designed in a manner that minimizes shadow at homes.**



# Smoky River Wind Project Visualizations



Photomontage

Viewpoint Location:	E496833 N6194729	Camera:	Nikon D3000	Field of View:	53.5° (planar)
Viewpoint Elevation:	626m AOD	Lens:	35mm		
View Direction:	235°	Camera Height:	1.5 AGL		
Nearest Turbine:	0.93km	Date and Time:	08/08/2023 11:00		

Viewpoint 01



Photomontage

Viewpoint Location:	E499953 N6197960	Camera:	Nikon D3000	Field of View:	53.5° (planar)
Viewpoint Elevation:	623m AOD	Lens:	35mm		
View Direction:	227°	Camera Height:	1.5 AGL		
Nearest Turbine:	1.6km	Date and Time:	08/08/2023 08:25		

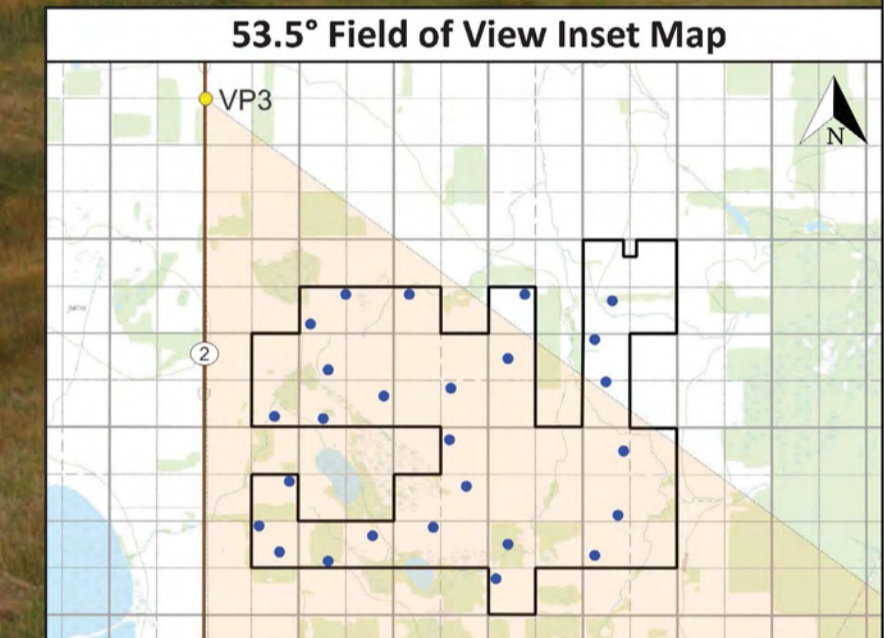
Viewpoint 02



# Smoky River Wind Project Visualizations



Photomontage



Viewpoint Location: E491700 N6200390  
 Viewpoint Elevation: 613m AOD  
 View Direction: 153°  
 Nearest Turbine: 4.1km

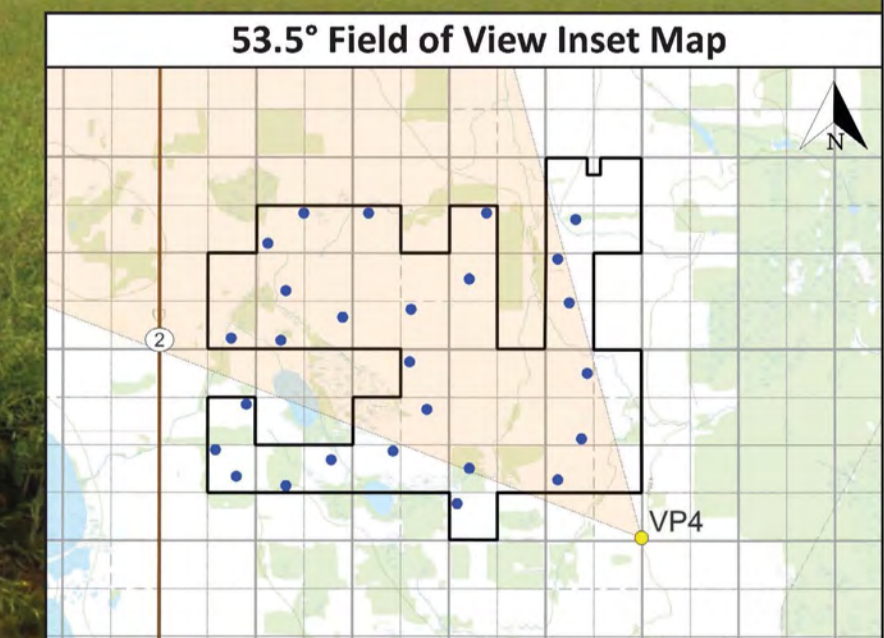
Camera: Nikon D3000  
 Lens: 35mm  
 Camera Height: 1.5 AGL  
 Date and Time: 06/08/2023 19:55

Field of View: 53.5° (planar)

Viewpoint 03



Photomontage

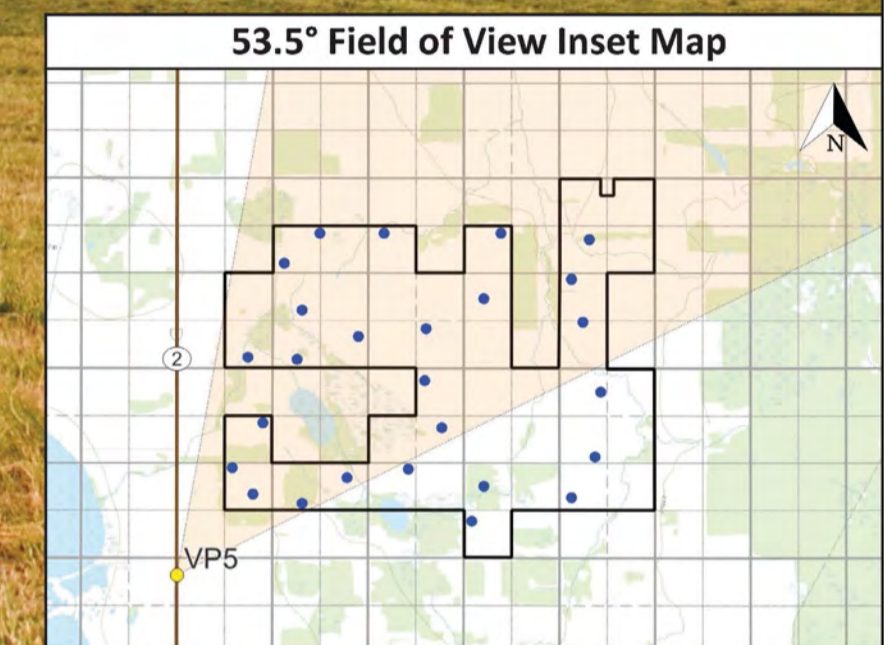


Viewpoint Location: E499840 N6191537  
 Viewpoint Elevation: 635m AOD  
 View Direction: 318°  
 Nearest Turbine: 1.7km

Camera: Nikon D3000  
 Lens: 35mm  
 Camera Height: 1.5 AGL  
 Date and Time: 07/08/2023 14:15

Field of View: 53.5° (planar)

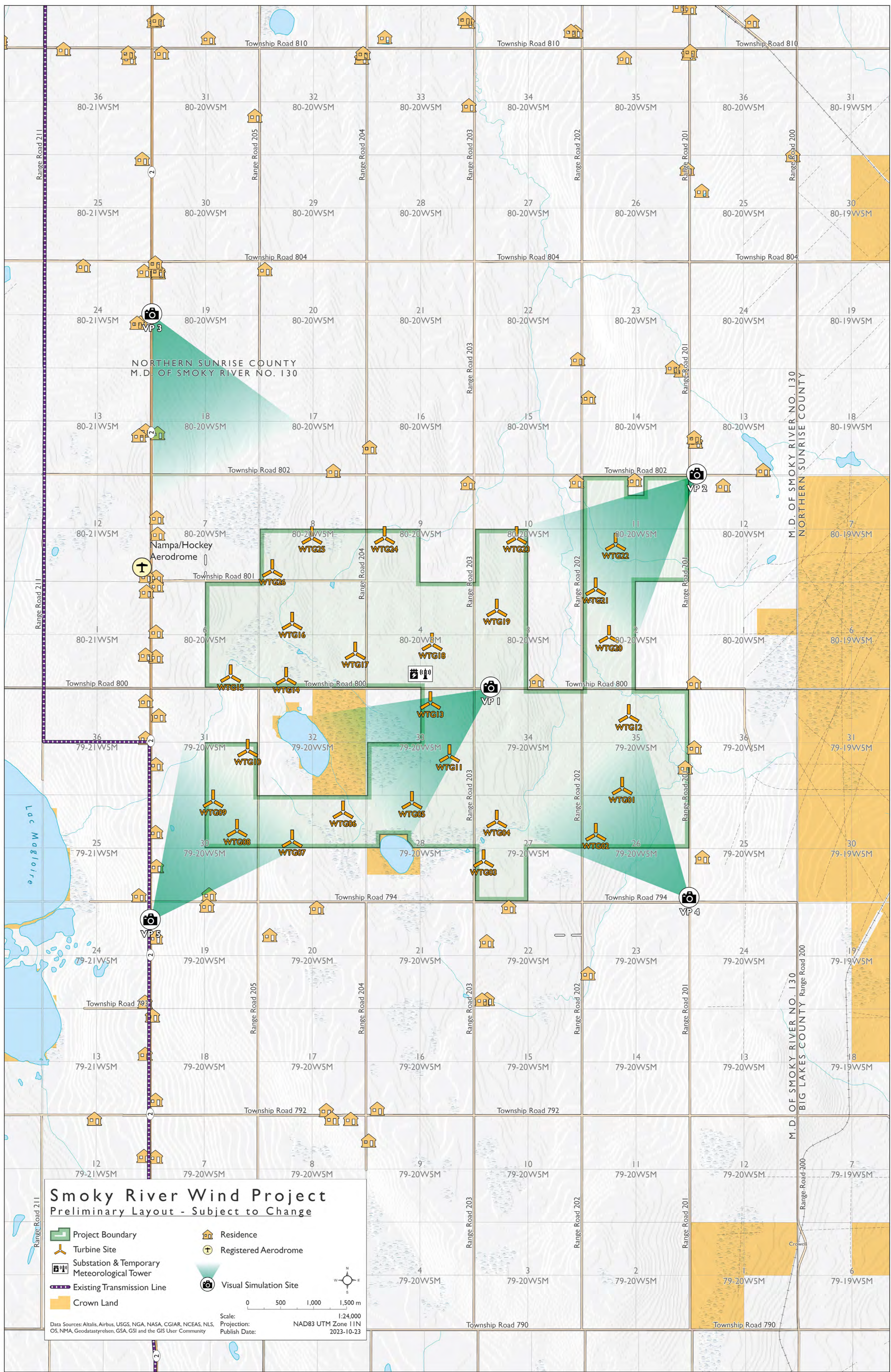
Viewpoint 04



Viewpoint Location: E491678 N6191202    Camera: Nikon D3000    Field of View: 53.5° (planar)  
Viewpoint Elevation: 617m AOD    Lens: 35mm  
View Direction: 37°    Camera Height: 1.5 AGL  
Nearest Turbine: 1.9km    Date and Time: 06/08/2023 18:40

Viewpoint 05

# Smoky River Wind Project Visualizations Overview Map

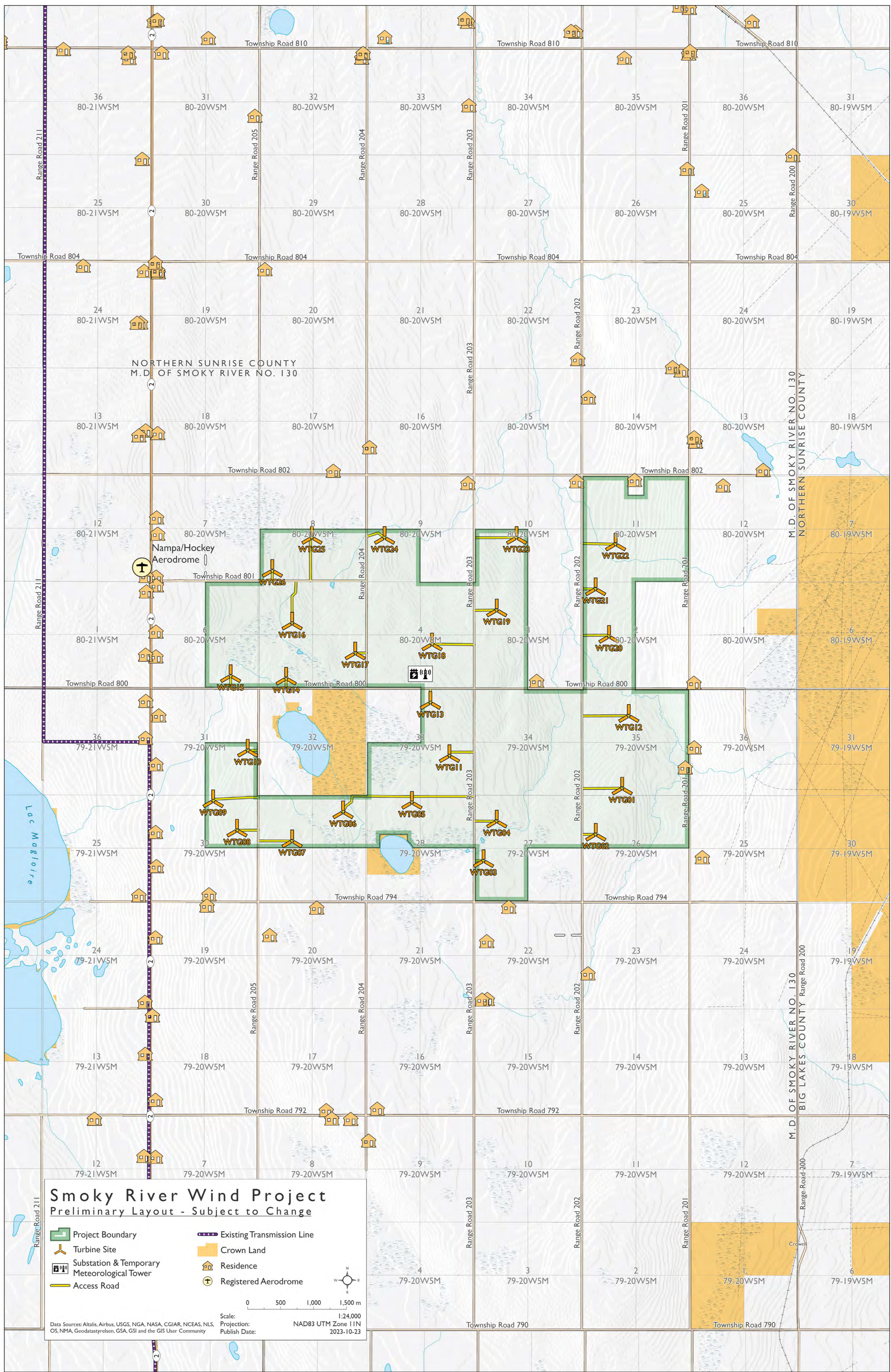


## Smoky River Wind Project Preliminary Layout - Subject to Change

Project Boundary	Residence
Turbine Site	Registered Aerodrome
Substation & Temporary Meteorological Tower	Visual Simulation Site
Existing Transmission Line	Crown Land

Scale: 1:24,000  
 Projection: NAD83 UTM Zone 11N  
 Publish Date: 2023-10-23

Data Sources: Altalis, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatasystemen, GSA, GSI and the GIS User Community



## Smoky River Wind Project Preliminary Layout - Subject to Change

Project Boundary	Existing Transmission Line
Turbine Site	Crown Land
Substation & Temporary Meteorological Tower	Residence
Access Road	Registered Aerodrome

Scale: 1:24,000  
 Projection: NAD83 UTM Zone 11N  
 Publish Date: 2023-10-23

Data Sources: Altalis, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatasystemen, GSA, GSI and the GIS User Community

