

# Benefits & Opportunities



A significant Project in the region, valued at \$230-255 million total

Clean, renewable energy production will create significant opportunities in the region, and across the province - from direct employment, contracts, and spin-off benefits. :

ABO believes that those in close proximity should benefit from the project.

- We have many mechanisms we use that captures this mindset, including our Local Economic Development Policy, Indigenous Inclusion Policy, Community Benefit Funds.

## Melvin Lake Wind - Local Benefits and Opportunities



### Local Contracts and Jobs, and Spinoff Revenue

75-125 jobs during construction, 2-5 long-term for operations and maintenance



### Community Benefits Fund

Funds will go to communities in the vicinity of the Project to help local initiatives through the life of the Project



### Municipal Tax Payments

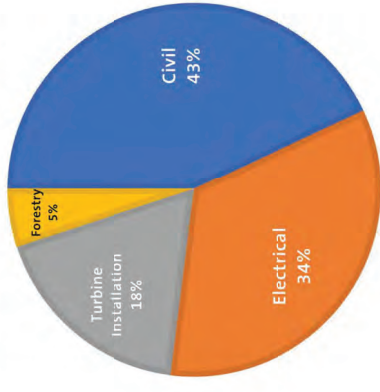
\$20-25M from ABO Wind to the municipality for local services and infrastructure over the lifetime of the project



### Health Benefits

The Project will offset emissions that would otherwise be emitted through the burning of fossil fuels. It will generate electricity without emitting greenhouse gases or air pollutants or any use of freshwater

## Major Works Required



- Wind turbines (transport to site, erection)
- Measurement Equipment (installation, etc.)
- Access roads (clearing and other civil works)
- Electrical transmission lines and collector lines (geotechnical, transmission line installations, etc.)
- Substations (electrical)
- Operations and Maintenance Facilities



Join ABO Wind's Contractor Portal: Scan Phone Here

# Minimizing Environmental Impact

Melvin Lake Wind

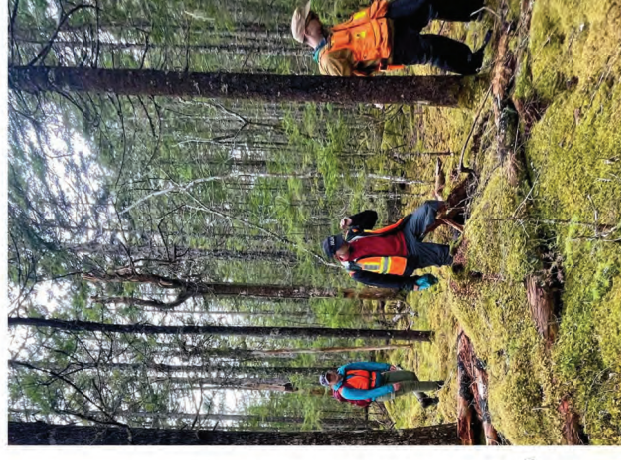


## Environmental Studies

Updated environmental studies have commenced and will be completed in 2024. The studies will consist of desktop assessments and field surveys to characterize the existing environment on the Project site.

Field surveys within the Project study area include:

- **Wildlife surveys:** winter tracking surveys, trail cameras, pellet group surveys and wood turtle assessments to document activity and potential habitat throughout the site.
- **Species at Risk and Species of Conservation Interest** (including mainland moose) are targeted throughout these surveys to understand potential habitat use and distribution.
- **Terrestrial habitat studies:** review of vegetation, lichens, and rare species, including blue felt lichen
- **Wetland and watercourses surveys:** will document existing features in the area to inform design, as well as determine offsetting, where required.
- **Bird surveys:** year-round surveys to highlight species presence on site radar surveys to document: large-scale migratory movements and avian activity in the area.



## Environmental Mitigations and Reporting

The results of the field studies will be incorporated into the Project design to minimize direct impacts to environmental features. Mitigations to minimize environmental impacts may include infrastructure siting to avoid wetlands and other sensitive features.

Construction footprint and disturbance of regular activity reduced to:

- Prioritize use of existing access roads
- No fencing is anticipated to be installed at the Project except for around the substation for safety reasons. Recreational use and hunting activities will not be disrupted, with exception of construction related safety measures and temporary road closures.
- Minimize tree clearing

Interactions between the Project and environmental components will be reviewed as part of the Effects Assessment in the Environmental Assessment Registration Document.



# Wind Power

How does it work?

- Wind turbines are installed on concrete foundations, and have several key components: Tower, nacelle (generator) and the turbine blades.
- Wind causes the blades to rotate. The blades are connected to a gearbox in the nacelle, which turns the generator to produce electricity.
- This clean electricity is transmitted through cables and collected at a substation before feeding into the Nova Scotia electrical grid through overhead power lines.

## How high?

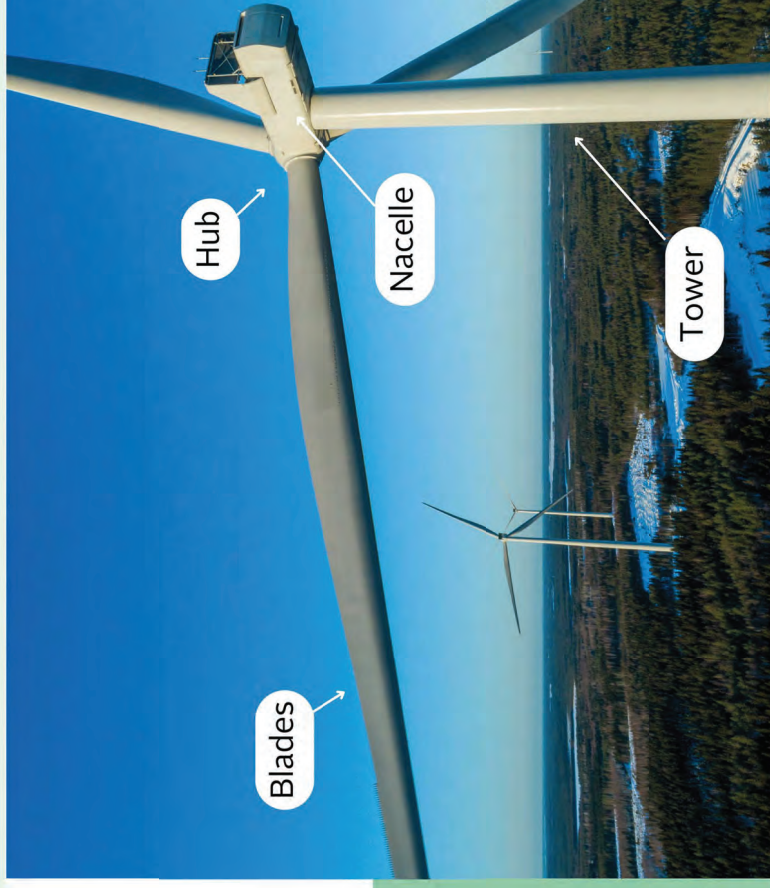
### Nova Scotia Projects

Rhodena Wind turbine height - 387 ft. hub / 655 ft. tip  
Melvin Lake turbine height - 410 ft. hub / 676 ft. tip

### Comparison to Large Structures

Length of Canso Causeway - 4544 ft.  
Length of MacDonald Bridge, Halifax - 4265 ft.  
Height of CN Tower - 1816 ft.  
Height of Eiffel Tower - 1063 ft.  
Height of New Transmission Tower at Strait of Canso - 525 ft.  
Height of Purdy's Wharf Tower 2 in Halifax - 288 ft.

# ABO WIND



Project Information  
[www.abo-wind.ca](http://www.abo-wind.ca)

# Health and Safety

**ABO**  
**WIND**

## 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, including those in homes as close as 820 ft out to 7 miles from wind turbines.
- Conducted self-reported questionnaires and for the first time ever, tested objective measures of health including: sleep studies, hair cortisol (stress), and blood pressure.

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

Municipal setback distances - that we meet and exceed - will ensure the protection of public health from wind turbine sound.

## Safety

- A Project-specific Emergency Management Plan will be developed. It will be informed by industry best-practices, ABO's global and Canadian expertise in developing wind farms, and local emergency responders.
- We'll use existing access roads along with some new access roads as part of this Project, working to ensure adequate emergency access, including identified egresses for the Project site are incorporated and shared as part of the Project safety plans.
- For the safety of workers and residents, like any construction site, there would be periods of limited access in zones that are under active construction (i.e., turbine installation, foundation pouring, etc.).
- Once turbines and other infrastructure are installed in a given area, if there is not active construction happening, in-season hunting, hiking, ATV use, snowmobiling, and other activities can occur in/around the Project site.



Health Canada



Canada

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

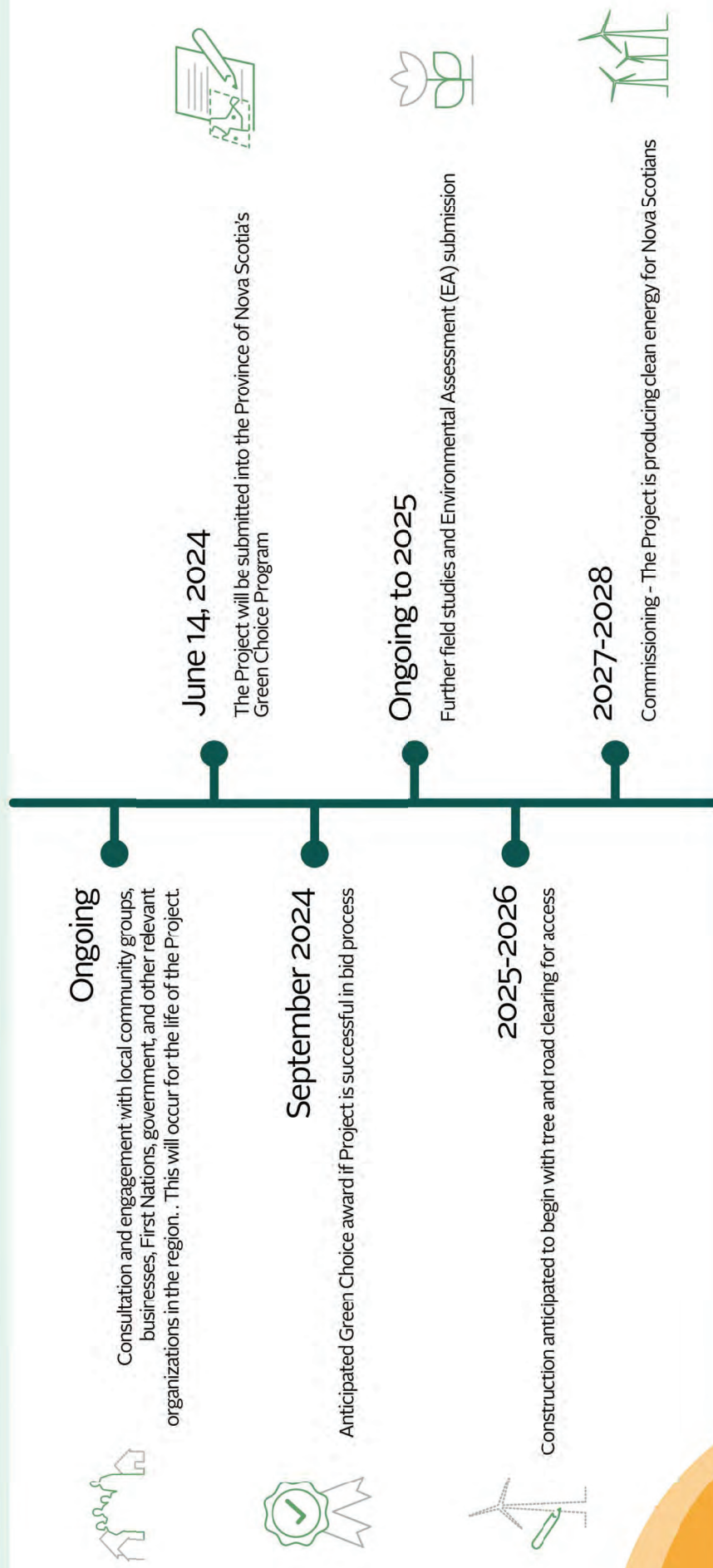
- 1 blade failure per 10,000 a year
- Fires are very rare events with <1 a year in Canada
- Ice throw can occur but only as far as the height of the turbine



# Project Timeline

The timeline is preliminary and subject to change

# ABO WIND



# Sound

How we're reducing and measuring noise related to wind turbines



# ABO WIND

The Project will be designed in accordance with the Province of Nova Scotia's Environmental Assessment ("EA") requirements for Wind Power Projects.

This Project not only meets, but exceeds the requirement for sound levels: "a proponent must ensure that the wind farm design and turbine siting does not cause sound levels to exceed 40 dBA (A-weighted decibels) at the exterior of receptors" (Province of Nova Scotia, 2021).

- The Project-specific noise modelling study indicates that cumulative noise level, including turbine-generated noise, will not exceed 40 dBA at any existing residences.
- A 40 dBA sound level is similar to a quiet library or a suburban area at night.



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



# Wind farm life cycle



## Decommissioning and Repowering

**ABO**  
**WIND**

Wind turbines are expected to last between 20 and 30 years.

During the life of the wind farm, maintenance will occur as needed to replace parts, like your vehicle or home. Operations and maintenance workers will be required to fulfill this important task through the life of the wind farm.

There will be a decommissioning and reclamation plan required as part of the Environmental Assessment.

**What happens at the end of life of a wind farm?** It may be repowered or decommissioned.

### Repowering

The older wind turbines or other components can be upgraded with newer, more efficient equipment.

### Decommissioning

Due to economics, regular wear and tear or other factors, it may be necessary to remove the project and return the land to its original state.



The main components of a wind turbine that can be recycled, repurposed, or salvaged include: Steel tower sections, steel reinforcement, electrical equipment and cables, precious metals, and concrete. Other materials or pieces of equipment that cannot be recycled, repurposed, or salvaged will be disposed of according to local/provincial regulations.

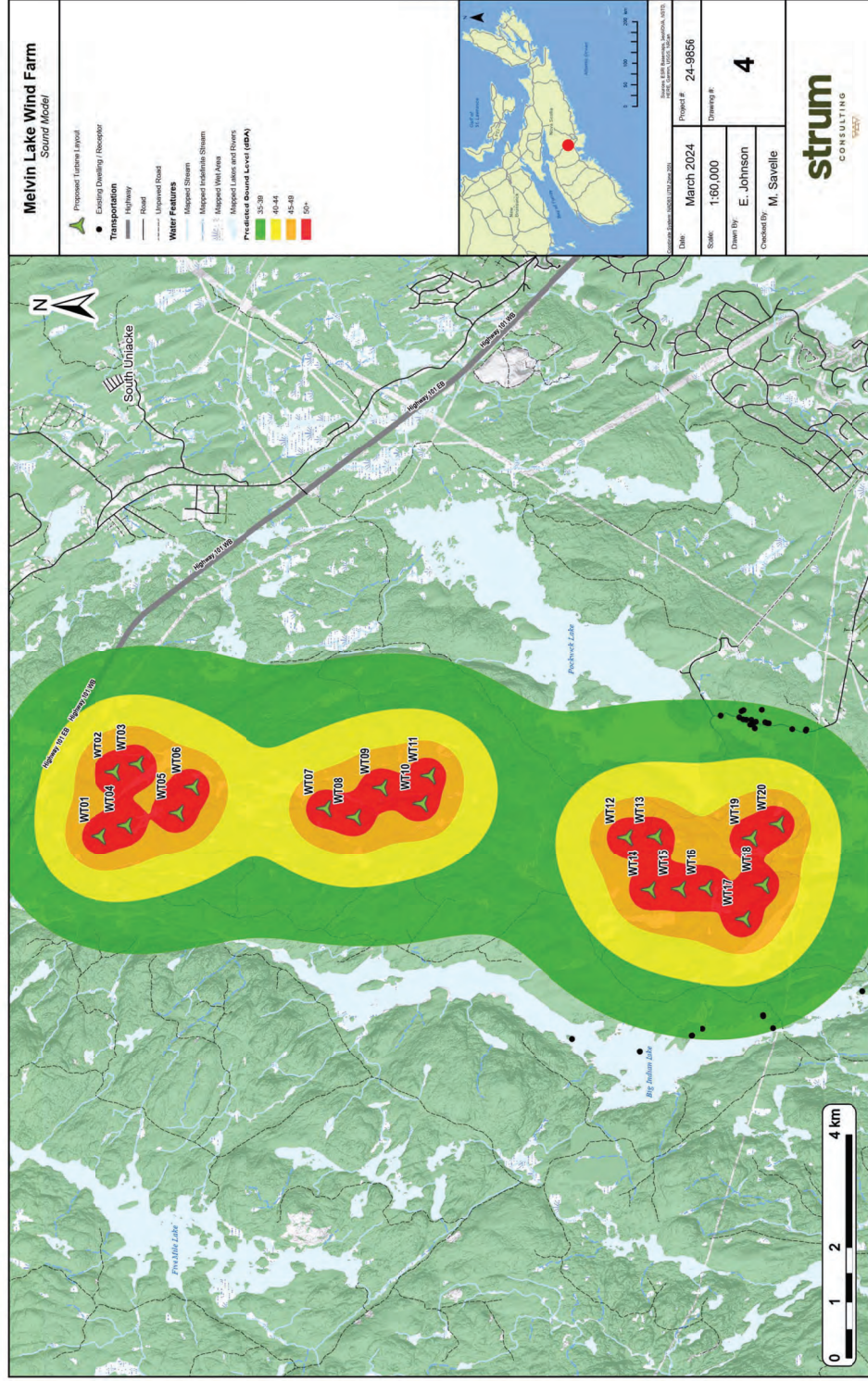
Two of the largest turbine manufacturers have created the first set of turbine blades that are fully recyclable. The use of these blades will be evaluated for this project.



*Dismantling a wind farm*



# Sound Model





# Shadow Flicker

## What is 'shadow flicker'?

Shadow flicker occurs when the spinning rotor is located between the sun and a building, and the turbine blades alternately block and allow the sunlight to shine through.

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 has been conducted to assess the potential for shadow flicker at nearby receptors (residences).

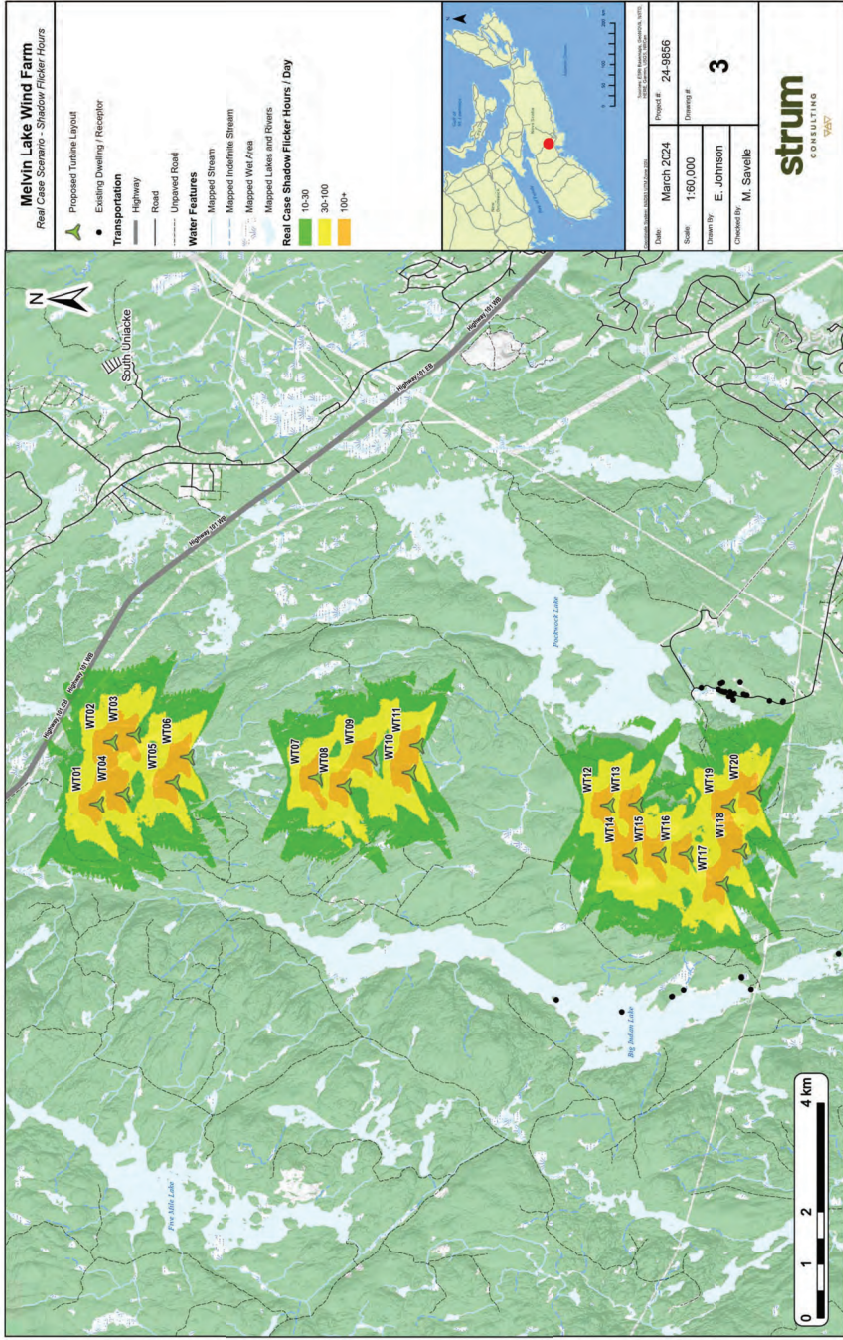
The assessment will be included in the Project Environmental Assessment that is being submitted to the Province of NS for approval.

## Shadow flicker study results:

27 receptors (residences) were identified within 2km of the study area.

Under worst-case scenario conditions, the most shadow flicker experienced at a receptor is 17 hours and 32 minutes per year, and 22 minutes on the worst day.

Normally, it would be less. Shadow flicker modeling indicates that regulatory thresholds will be met by the Project.







**Notes:**  
 1. Data Source: GeoHau, Client  
 2. Software: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JCS, AeroGRID, IGN, and the GIS User Community  
 3. Projection: NAD83 UTM Zone 20

Proposed Turbine Layout  
 Camera Location  
 Camera Bearing  
 Turbine Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Mill Lake
View Coordinates:	Latitude: 44° 42' 26.0308" N Longitude: 63° 53' 54.9961" W Easting: 428816.00m Northing: 4950821.00m
Distance to Nearest Turbine:	6.8km
Direction of View:	North, Heading 0°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	10:45
Photo Credit:	Strum Consulting

Melvin Lake Wind Farm - Visual Simulation Mill Lake	
<b>strum</b> CONSULTING	
Date:	Project #:
April 2024	24-9856
Scale:	Drawing #:
1:250,000	
Drawn By:	<b>1</b>
E. Johnson	
Checked By:	
M. Saville	



**Notes:**  
 1. Data Source: GeoHau, Client  
 2. Software: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JCS, AeroGRID, IGN, and the GIS User Community  
 3. Projection: NAD83 UTM Zone 20

Proposed Turbine Layout  
 Camera Location  
 Camera Bearing  
 Turbines Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Wrights Lake Public Dock
View Coordinates:	Latitude: 44° 44' 03.8024" N Longitude: 63° 52' 30.9529" W Easting: 430697.75m Northing: 4953817.71m
Distance to Nearest Turbine:	4.1km
Direction of View:	Northwest, Heading 352°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	9:15
Photo Credit:	Strum Consulting

Melvin Lake Wind Farm - Visual Simulation Wrights Lake Public Dock	
<b>strum</b> CONSULTING	
Date:	Project #:
April 2024	24-9856
Scale:	Drawing #:
1:250,000	
Drawn By:	<b>9</b>
E. Johnson	
Checked By:	
M. Saville	





**Notes:**

1. Data Sources: GeoHawk, Client
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JSCS, AeroGRID, IGN, and the GIS User Community
3. Projection: NAD83 UTM Zone 20

- Proposed Turbine Layout
- Camera Location
- Camera Bearing
- Turbines Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Wrights Lake Public Dock
View Coordinates:	Latitude: 44° 44' 03.8024" N Longitude: 63° 52' 30.9529" W Easting: 430697.75m Northing: 4953817.71m
Distance to Nearest Turbine:	4.1km
Direction of View:	Northwest, Heading 332°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	9:15
Photo Credit:	Strum Consulting

**Melvin Lake Wind Farm - Visual Simulation Wrights Lake Public Dock**

**strum CONSULTING**

Date:	Project #:
April 2024	24-9856
Scale:	Drawing #:
1:250,000	7
Drawn By:	
E. Johnson	
Checked By:	
M. Saville	



**Notes:**

1. Data Sources: GeoHawk, Client
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JSCS, AeroGRID, IGN, and the GIS User Community
3. Projection: NAD83 UTM Zone 20

- Proposed Turbine Layout
- Camera Location
- Camera Bearing
- Turbine Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Oceanstone / Falcourt
View Coordinates:	Latitude: 44° 43' 58.4552" N Longitude: 63° 53' 14.1411" W Easting: 429746.00m Northing: 4953663.00m
Distance to Nearest Turbine:	3.8km
Direction of View:	Northeast, Heading 12°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	9:45
Photo Credit:	Strum Consulting

**Melvin Lake Wind Farm - Visual Simulation Westwood Hills Subdivision**

**strum CONSULTING**

Date:	Project #:
April 2024	24-9856
Scale:	Drawing #:
1:250,000	6
Drawn By:	
E. Johnson	
Checked By:	
M. Saville	





**Notes:**  
 1. Data Sources: GeoHawk, Client  
 2. Software: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JSCS, AeroGRID, IGN, and the GIS User Community  
 3. Projection: NAD83 UTM Zone 20

Proposed Turbine Layout  
 Camera Location  
 Camera Bearing  
 Turbine Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Mill Lake
View Coordinates:	Latitude: 44° 42' 26.0308" N Longitude: 63° 53' 54.9961" W Easting: 428816.00m Northing: 4950821.00m 6.8km
Distance to Nearest Turbine:	6.8km
Direction of View:	Northeast, Heading 7°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	10:45
Photo Credit:	Strum Consulting

Melvin Lake Wind Farm - Visual Simulation Mill Lake	
<b>strum</b> CONSULTING	
Date:	Project #:
April 2024	24-9856
Scale:	Drawing #:
1:250,000	
Drawn By:	<b>2</b>
E. Johnson	
Checked By:	M. Saville



**Notes:**  
 1. Data Sources: GeoHawk, Client  
 2. Software: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JSCS, AeroGRID, IGN, and the GIS User Community  
 3. Projection: NAD83 UTM Zone 20

Proposed Turbine Layout  
 Camera Location  
 Camera Bearing  
 Turbine Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Mill Lake
View Coordinates:	Latitude: 44° 42' 26.0308" N Longitude: 63° 53' 54.9961" W Easting: 428816.00m Northing: 4950821.00m 6.8km
Distance to Nearest Turbine:	6.8km
Direction of View:	Northeast, Heading 15°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	10:45
Photo Credit:	Strum Consulting

Melvin Lake Wind Farm - Visual Simulation Mill Lake	
<b>strum</b> CONSULTING	
Date:	Project #:
April 2024	24-9856
Scale:	Drawing #:
1:250,000	
Drawn By:	<b>3</b>
E. Johnson	
Checked By:	M. Saville





**Notes:**

1. Data Source: GeoNova, Client
2. Software: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JSCS, AeroGRID, IGN, and the GIS User Community
3. Projection: NAD83 UTM Zone 20

- Proposed Turbine Layout
- Camera Location
- Camera Bearing
- Turbine Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Oceanstone / Falcourt
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Direction of View:	Northwest, Heading 354°
Camera Make/ Model:	Canon EOS REBEL T7
Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	9:45
Photo Credit:	Strum Consulting

Melvin Lake  
Wind Farm  
Visual Simulation  
Westwood Hills Subdivision

**strum**  
CONSULTING

Date:	April 2024	Project #:	24-9856
Scale:	1:250,000	Drawing #:	4
Drawn By:	E. Johnson		
Checked By:	M. Saville		



**Notes:**

1. Data Source: GeoNova, Client
2. Software: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, JSCS, AeroGRID, IGN, and the GIS User Community
3. Projection: NAD83 UTM Zone 20

- Proposed Turbine Layout
- Camera Location
- Camera Bearing
- Turbine Visible



TECHNICAL INFORMATION	
Visual Simulation Location:	Oceanstone / Falcourt
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Lens:	50 mm
Image Resolution:	6000 x 4000
Weather Conditions:	Clear
Date of Photo:	2024/04/08
Time of Photo:	9:45
Photo Credit:	Strum Consulting

Melvin Lake  
Wind Farm  
Visual Simulation  
Westwood Hills Subdivision

**strum**  
CONSULTING

Date:	April 2024	Project #:	24-9856
Scale:	1:250,000	Drawing #:	5
Drawn By:	E. Johnson		
Checked By:	M. Saville		





# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

# WINNER

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend?    April 15     April 16

### Comments or questions regarding the Project?

I Support

# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend?    April 15     April 16

### Comments or questions regarding the Project?

Thanks for the orientation

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# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

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Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend? April 15  April 16

### Comments or questions regarding the Project?

*Very good display, great job*

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# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

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Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend?    April 15     April 16

### Comments or questions regarding the Project?

- concerns re close proximity to future HRA development + 500 series ring road.



# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

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Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend?    April 15     April 16

### Comments or questions regarding the Project?

LET GOV DISPLAY  
PEOPLE LEARN HELPER & INFORMATION

# ABO WIND

## Comment Form

Melvin Lake Wind Open House 2024

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Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend? April 15  April 16 \_\_\_\_\_

### Comments or questions regarding the Project?

Good presentation. Well informed presenters who answered our questions in detail.





# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

\$50.00  
Sobeys.

WINNER

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please [redacted] information.

Name (optional): [redacted]

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend?    April 15 \_\_\_    April 16

### Comments or questions regarding the Project?

*This Program was Very well Organized  
and the people were so friendly*

[redacted]

[redacted]



# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend? April 15  April 16

### Comments or questions regarding the Project?

Good to see new wind mill projects. As long as the sites are clean. Not like Big Carver in Vorage. The Ellershausen wind mill site is a good clean example.

# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please do not fill in the contact information.

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend? April 15 \_\_\_ April 16 X

### Comments or questions regarding the Project?

INTERESTING VALUABLE FOR THE COMMUNITY

GOOD TO SEE ONE PROPOSED IN HIRM

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# ABO WIND

## Comment Form Melvin Lake Wind Open House 2024

*If you would like to receive a response to your comment or question, please fill out the contact information below. If you would like to have your comment on record but not have your name attributed to it, please*

*do not fill in the contact information.*

Name (optional): \_\_\_\_\_

Phone Number (optional): \_\_\_\_\_

Email Address (optional): \_\_\_\_\_

Which open house did you attend?    April 15 \_\_\_    April 16

### Comments or questions regarding the Project?

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