

## APPENDIX B      PROPERTY LINE SETBACK REPORT

# ERNESTOWN WIND PARK

## PROPERTY LINE SETBACK REPORT JUNE 20, 2013

Prepared by:

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Windpark Inc.

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## 1.0 INTRODUCTION

Ernestown Windpark Inc., as General Partner of Ernestown Windpark LP (Ernestown) is proposing the development of the Ernestown Wind Park (the Project) located in Loyalist Township, the County of Lennox and Addington, Ontario. The Project is located on privately owned land, municipally zoned as agricultural and industrial. The Project involves construction, operation and decommissioning of five Enercon E-82 2MW wind turbines for a total name plate capacity of 10MW.

The proposed project will require approval under Ontario Regulation 359/09 – Renewable Energy Approval (REA) under the Green Energy Act. Based on the REA Regulations, this project is a “Class 4” wind facility. The Property Line Setback Report is one component of the REA Application for the Project, and has been written in accordance with Ontario Regulation 359/09, the Ontario Ministry of Natural Resources’ (MNR) Approval and Permitting Requirements Document for Renewable Energy Projects (September 2009) and Ministry of the Environment’s (MOE) draft Technical Bulletin Six: Required Setbacks for Wind Turbines (March 2010).

This Property Line Setback Report provides a description of setbacks of the project components to property lines, noise receptors and roads and railways, as applicable. It is the conclusion of this report that there will be no expected impacts based on the wind turbine layout.

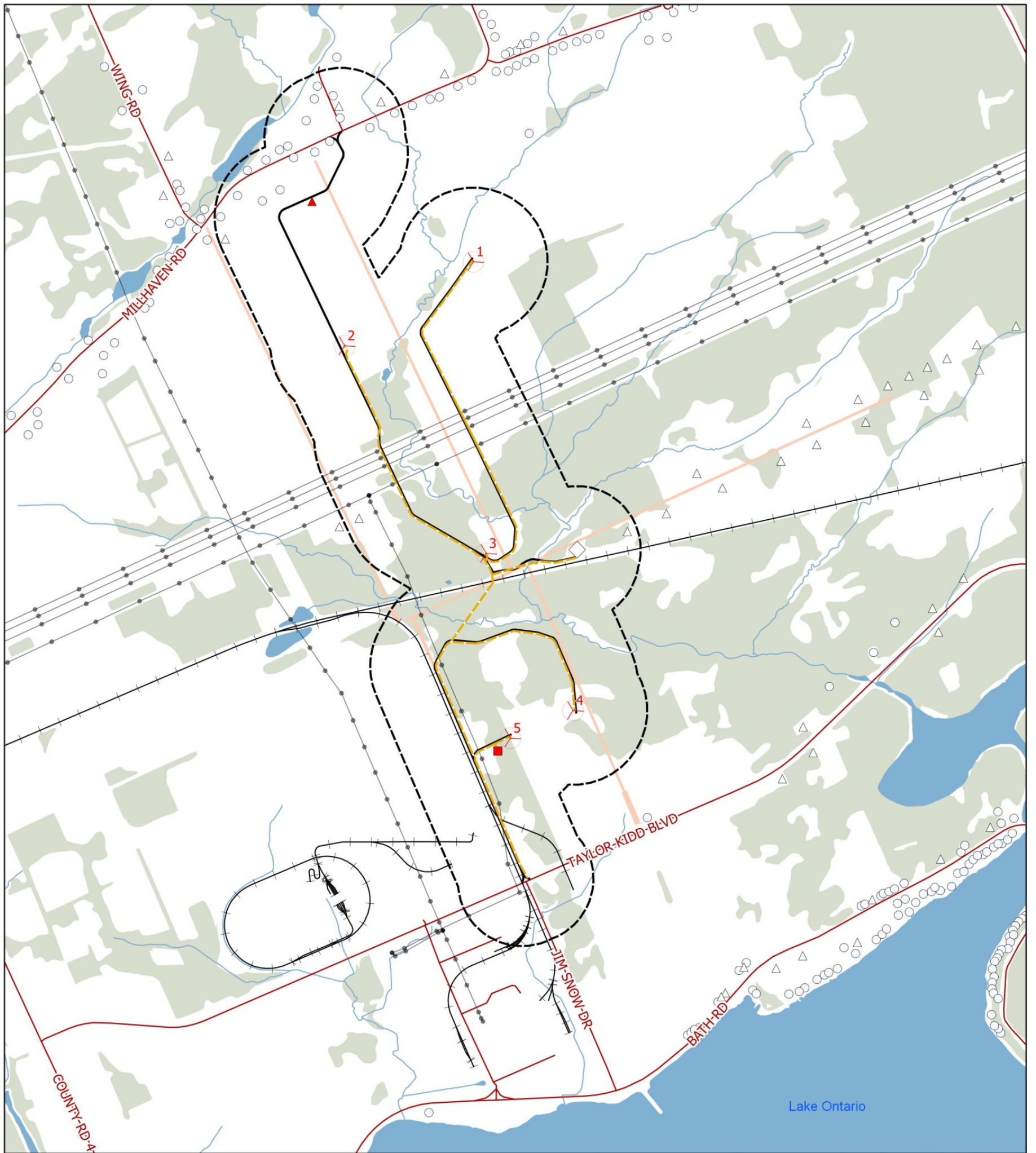
TABLE 1: REGULATORY REQUIREMENT CHECKLIST

Regulatory Requirement	Requirement Met
Demonstrate that the proposed location of the wind turbine would not result in adverse impacts on nearby business, infrastructure, properties or land use activities, and	Yes
Describe any preventative measures that are required to be implemented to address the possibility of any adverse impacts.	Yes

## 1.1 CONTACT INFORMATION

The proponent for the Project is Ernestown Windpark Inc., a subsidiary of Horizon Legacy Energy Corp. Ernestown’s office and main contact for the Project is:

Nhung Nguyen  
Vice President Development  
2300 Yonge St. Suite 801  
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**Legend**

Project Location 300m Setback



Turbine



Collector Line



Proposed Access Road



Staging Area (potential)



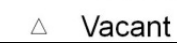
Substation / Switch (potential)



Meterological Station



Noise Receptor



Hydro Line



Railroad



Road



Watercourse



Waterbody



Woodlands



Unmaintained Road Allowance



**Ernestown Wind Park Site Plan**



Scale: 1:20000 or 1 centimetre to 200 metres



Datum: NAD83  
Projection: UTM Zone 18N  
Unit: Metres

Sources: Ministry of Natural Resources, Ernestown Windpark L.P., Loyalist Township, Cataraqui Region Conservation Authority (CRCA).  
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## 2.0 PROJECT DESCRIPTION

### 2.1 BUILDINGS

A temporary office will be erected on the staging area during construction. There is a barn and several residential dwellings within 300m of the Project Location. These buildings are near the entranceway from Millhaven Rd. and not near turbine construction areas. The closest dwelling to the Project is located south of Turbine 4 at a distance of 611m from the turbine; this residence is built on industrial zoned lands but was considered under the more conservative sound standards given for residential lands.

### 2.2 WIND TURBINES

The Project will include 5 turbines with a total installed nameplate capacity of 10MW. Wind turbine specifications are given in Table 2 and installation coordinates are provided in Table 3. The closest existing or proposed turbines from other Projects are found on Amherst Island, more than 5km away from the Ernestown Wind Park Project location and more than 3km away from any receptor that might be impacted by this Project. The distance between noise receptors considered by this Project and other proposed turbines was too far to require assessing cumulative noise impact according to Section 54(1) of O. Reg. 359/09.

TABLE 2: WIND TURBINE SPECIFICATIONS

Item	Info
Wind Turbine: Enercon E82 Nameplate Capacity: 2 MW	Hub Height: 98 meters Blade length: 39m Blade sweep area: 5281m <sup>2</sup> Sound rating: 103.5 dB(A) Reinforced concrete foundation Rotational Speed: 6-18 rpm

TABLE 3: TURBINE COORDINATES

Turbine Number	Easting	Northing
1	362573	4899981
2	361973	4899588
3	362637	4898617
4	363041	4897871
5	362747	4897742

### 2.3 ACCESS ROADS

Existing provincial and municipal roads will be used to transport equipment to the site. New permanent access roads will be constructed to provide access to each turbine site during construction and will remain for use by maintenance personnel during the operation stage of the Project. Approximately 5 km

of new access roads will be created on private land to facilitate site access. One permanent stream crossing will be required to allow road access to Project components.

New entrances and roadway from Millhaven Rd. and Jim Snow Dr. will be created. The entrances will be constructed to accommodate the turning radius, width, and load of large construction vehicles and turbine components.

## 2.4 ELECTRICAL COLLECTOR SYSTEM AND DATA LINE

The Project requires construction of new access roads to the turbine sites and a new 44 kV overhead and below-ground electrical connection line which will connect with planned distribution line located along Jim Snow Drive. The electricity generated from the wind turbines will be collected through a network of collection grid lines to the on-site switch yard which provides a 44kV line to the Public Connection Coupling (PCC).

## 3.0 ADJACENT PROPERTY LINES

The purpose of this investigation is to identify and propose mitigation for any encroachment of turbine locations which exist less than 98m (hub height of the E82 turbine) from any existing property lines. None of the proposed turbine sites are located less than the length of the turbine blades plus 10 metres (i.e. 49 metres) from a non-participating property line. However one turbine, T4, is located closer to a non-participating property line than the height of the turbine (98 metres). The following Table 4 lists the turbines proposed for the Ernestown Wind Park and the nearest non-participating property line. Figure 2 shows the location of Turbine 4 and the setback distances with respect to adjacent property lines.

TABLE 4: TURBINE PROXIMITY TO PROPERTY LINES

Turbine Number	Closest Non-Participating lot PIN (s)	Distance from property line
1	45129-0063	128m
2	45129-0161	250m
3	45129-0120	202m
4	45129-0020, 45129-0134	65.8m, 80m
5	45129-0019	200m

## 3.1 POTENTIAL IMPACTS

Works involved in the construction and operation of the facility will be closely monitored to ensure that all works remain within the areas permitted. In the highly unlikely event of turbine collapse the project owners would work with landowners to mitigate losses. Table 5 lists features within 98m of Turbine 4 and the potential impacts of the construction, operation and decommissioning of the turbine.

Preventative measures are listed with references given to the applicable environmental investigation reports which assessed the impacts.

TABLE 5: POTENTIAL IMPACTS FROM TURBINES WITHIN 98M OF A PROPERTY LINE

Turbine Number	Features within 98m of turbine	Potential Impacts	Preventative Measures
1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	Woodlands <sup>1</sup>	Ice throw	Installation of blade de-icing system in turbines
5	N/A	N/A	N/A

<sup>1</sup>For more detailed information, please see the Ernestown Windpark Natural Heritage Assessment, entry 3 of Table 4-3

From the Environmental Impact Study, prepared by M.K. Ince and Associates in 2012, the following construction and post-construction mitigations are planned:

“[The] Entire disturbed area will be re-vegetated with native species following the completion of any construction/decommissioning activities, at the discretion of the landowner. Silt barriers (e.g. fencing) will be erected along the edge of the woodland boundary (closest locations to wetlands and water bodies). Erosion and sediment fencing will be maintained and monitored, especially after a rain event and until vegetation has become established. Area subject to dust generation will be watered when required.”

Adverse impacts to woodlots, including vegetation damage and disturbance to related wildlife habitat, may occur in the unlikely event of turbine collapse. Should this occur, Ernestown will assess the damage with the appropriate authorities and agencies and develop a strategy to mitigate the damage.

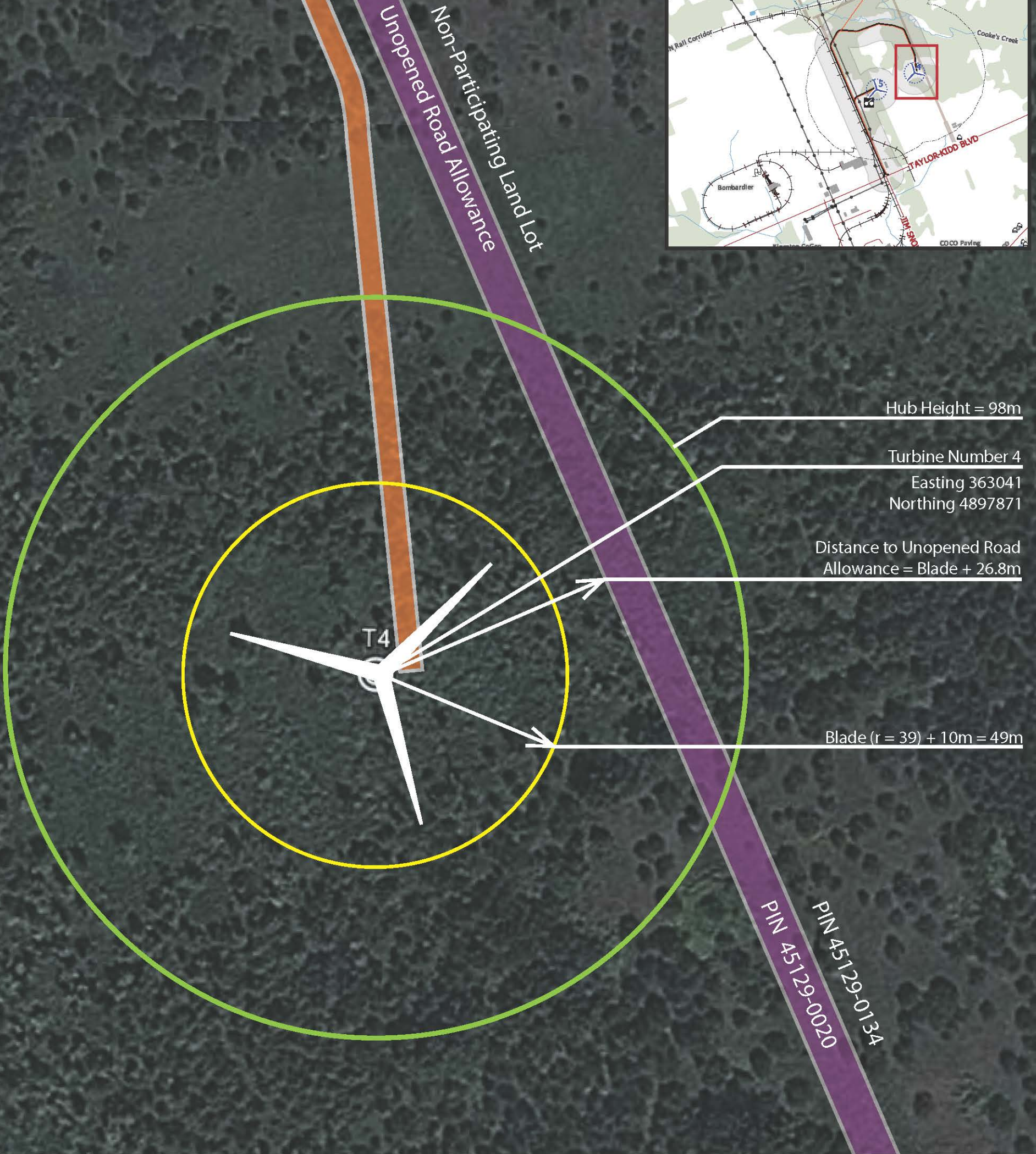
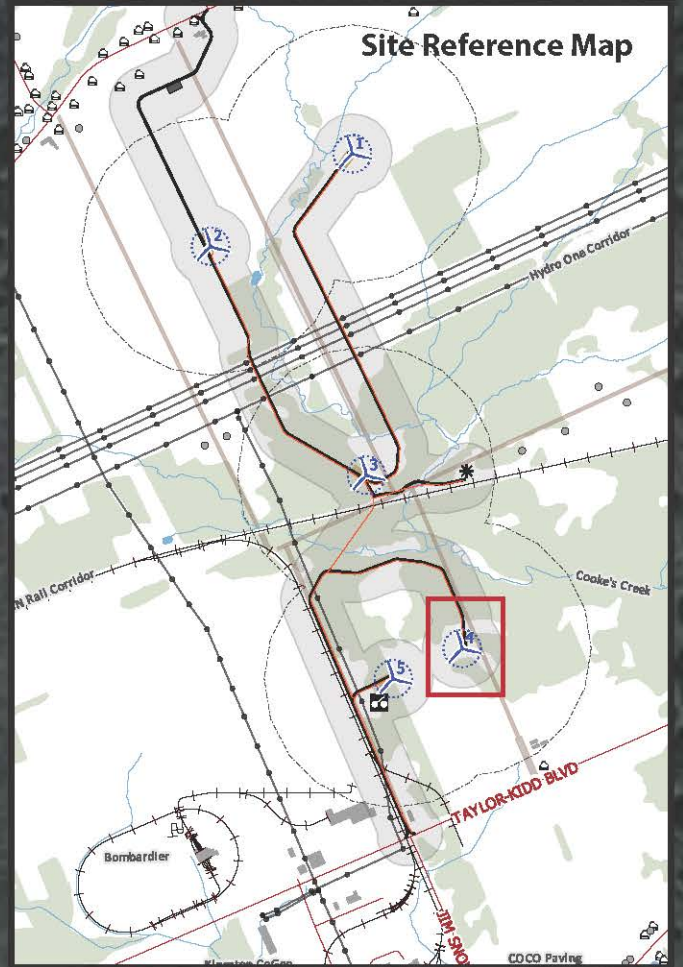
Ice throw was considered as a possible risk. As a preventative measure Ernestown has elected to install ice detection and blade heating systems to avoid the buildup and possible throw of ice from the blades.






The turbines would be constructed and designed by professional engineers, undergo regular maintenance and monitoring by operational staff, and contain automatic shutdown mechanisms in instances such as extreme weather. All of these measures are standard best practices detailed in the REA reports. Additional mitigation measures for woodlots, including vegetation damage and disturbance to related wildlife habitat, are outlined in the REA reports. Given the above measures, no additional preventative measures are required for the changes in setback.

### 3.2 CONCLUSIONS

No adverse impacts to the lands which are not located within the project location but which are within 98m of T4 are anticipated. The lands are zoned as industrial and are planned for future use as quarry lands and as a solar PV facility location. Consultation with the applicable stakeholders has taken place and no adverse effects are anticipated on land use.





-  Wind Turbine #4
-  Turbine 98m Buffer
-  Turbine 49m Buffer
-  Unopened Road Allowance (20m ROW)
-  Internal Access Road & Collector Route

**DO NOT SCALE DRAWING**  
Datum NAD83, Projection UTM Zone 18N, Units: Metres

### Ernestown Wind Park Property Line Setback Assessment: Figure 2

Sources: Ministry of Natural Resources, Ernestown Windpark LP, Loyalist Township, Cataraqui Regional Conservation Authority (CRCA)  
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