

**APPENDIX H PROPERTY SETBACK ASSESSMENT**





NextEra Energy Canada, ULC

## BORNISH WIND ENERGY CENTRE PARCEL BOUNDARY SETBACK REDUCTION ANALYSIS

---

JUSTIFICATION REPORT

JUNE 2012



## TABLE OF CONTENTS

<b>1.</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	Purpose .....	1
1.2	Legislation .....	1
1.3	Project Description .....	2
<b>2.</b>	<b>ANALYSIS.....</b>	<b>4</b>
2.1	Turbine 5 – Lot 6, Concession 15 .....	4
2.2	Turbine 10 – N Pt Lot 16, Concession ECR.....	4
2.3	Turbine 12 – E ½ of Lot 15 & W ½ of Lot 14, Concession 13.....	5
2.4	Turbine 16 –Lot 11, Concession 13 .....	6
2.5	Turbine 18 – W½ Lot 6, Concession 13.....	6
2.6	Turbine 21 – Lot 3, Concession 14 .....	7
2.7	Turbine 23 – Part Lot 12, Concession Ecr.....	8
2.8	Turbine 24 – Lot 4, Concession 14 .....	8
2.9	Turbine 26 – Lot 6 & Lot 7, Concession 14 .....	9
2.10	Turbine 27 – Lot 6 & Lot 7, Concession 14 .....	10
2.11	Turbine 33 – E Pt of Lot 10 & W Pt of Lot 9, Concession 12.....	10
2.12	Turbine 37 – W Part of Lot 5, Concession 12.....	11
2.13	Turbine 43 –Lot 3 & 4, Concession 12.....	12
2.14	Turbine 44 – Lot 3, Concession11 .....	12
2.15	Turbine 46 – West ½ Part Lot 17, Concession11 .....	13
<b>3.</b>	<b>CONCLUSION.....</b>	<b>14</b>

# 1. INTRODUCTION

## 1.1 Purpose

The purpose of this report is to provide an assessment of proposed wind turbine locations within the Bornish Wind Energy Centre that do not meet the required setback of “turbine height minus blades” from the base of the wind turbine to the boundary of parcels of land on which the turbine is located.

IBI Group was retained by NextEra Energy Canada, ULC to undertake an analysis of fifteen (15) turbines within the Bornish Wind Energy Centre. The analysis will look at what impacts the reduced setback may have on nearby business, infrastructure, properties or land use activities, and will describe any required preventative measures to be used to address any adverse impacts.

From an agricultural planning perspective, it is generally considered advantageous to farmers to have turbines located as close as possible to lot lines (or fence lines located between fields), in order to cause the least amount of disruption to farming practices, in particular field crop planting and harvesting. This coincides with traditional locations for farm access roads along fence lines, which in turn are preferred locations for new or improved turbine access roads.

## 1.2 Legislation

Ontario Regulation 359/09 as amended outlines the regulations for the development and approval of renewable energy projects within the Province of Ontario. Section 53 of the Regulation outlines setback requirements for Class 3, 4, and 5 wind facilities, with the Bornish Wind Energy Centre being a Class 4 wind facility. It states in subsection 53 (1) (b) that no person shall erect a Class 4 wind facility unless:

*the distance between the centre of the base of the wind turbine and all boundaries of the parcel of land on which the wind turbine is constructed, installed or expanded is equivalent to, at a minimum, the height of the wind turbine, excluding the length of any blades.*

---

Furthermore, subsection 53 (2) states the above described distance does not apply:

*in respect of a boundary of the parcel of land on which the wind turbine is constructed, installed or expanded if the abutting parcel of land on that boundary is,*

*(a) owned by the person who proposes to engage in the renewable energy project in respect of the wind turbine; or*

---

***(b) owned by a person who has entered into an agreement with the person mentioned in clause (a) to permit the wind turbine to be located closer than the distance specified in clause (1) (b).***

---

And furthermore under subsection 53 (3), states that clause 53 (1) (b) does not apply if the distance from the base of the turbine to the property boundary is at least blade length plus 10 metres and:

***as part of an application for the issue of a renewable energy approval or a certificate of approval in respect of the construction, installation or expansion of the wind turbine, the person who is constructing, installing or expanding the wind turbine submits a written assessment,***

***(i) demonstrating that the proposed location of the wind turbine will not result in adverse impacts on nearby business, infrastructure, properties or land use activities, and***

***(ii) describing any preventative measures that are required to be implemented to address the possibility of any adverse impacts mentioned in subclause (i).***

---

This report is intended to fulfill the above requirements of subsection 53 (2) and (3) of Ontario Regulation 359/09 as amended.

### 1.3 Project Description

The proposed Project is located in the Municipality of North Middlesex, Middlesex County on private lands with lease arrangements. The Project Study Area is south of Parkhill and is generally bounded by:

- Nairn Road / Elginfield Road to the north;
- Fort Rose Road to the east;
- Elm Tree Drive to the south: and
- Sylvan Road to the west.

The Bornish Wind Energy Centre is a 72.9 MW wind energy project proposing the use of forty-five GE 1.6-100 MW wind turbines. The proposed turbines have a hub height of 80 metres and a blade length of 50 metres. Given the hub height of the turbine, the minimum setback from a property boundary is 80 metres. Based on this turbine model the absolute minimum setback from a property boundary would be 60 metres (blade length + 10 metres) if an assessment is undertaken which demonstrates that no adverse impacts will be caused to adjacent lands. In the event that an agreement is in place with the adjacent land owner, a turbine would be permitted to be located a minimum of 0 metres from an adjacent property boundary. Despite having agreement in place, an assessment is still required when a turbine is located between 0-60 metres from a property line as per Section 53 (3).

For this project there are fifteen (15) turbines which have lot line setbacks of less than 80 metres and therefore require justification for the reduced property boundary setback. These turbines are identified on the following chart and also indicate where the closest neighbouring parcel is, and whether an agreement is required, which would allow for a setback less than 60 metres (blade length + 10 metres).

TURBINE NO.	Host Land Parcel		Turbine Distance from Lot Line (metres)	Direction of Neighbouring Land Parcel from Turbine	Neighbouring Land Parcel		Notes
	Lot	Concession			Lot	Concession	
5	6	15	68.1	North	Pt 6 & 7	16	Assessment Conducted
10	N Pt 16	E of Centre	67.3	South	S Pt 16	E of Centre	Assessment Conducted
12	E ½ 15 W ½ 14	13	60.4	North	14	14	Assessment Conducted
16	11	13	66.6 62.4	north east	11 W ½ 9; 10	14 13	Assessment Conducted
18	W ½ 6	13	55.1	east	5, E ½ 6	13	Agreement will be in place as per Section 52(2) (b)
21	3	14	68.3 75.8	west south	S ½ 4 3	14 13	Assessment Conducted
23	Pt 12	E of Centre	69.7	north	13, Pt 14	E of Centre	Assessment Conducted
24	4	14	79.1	south	4	13	Assessment Conducted
26	6, 7	14	62.7	south	W Pt 6	13	Assessment Conducted
27	6, 7	14	62.5	south	6 7	14 13	Assessment Conducted
33	W Pt 9, E Pt 10	12	70.3	west	W Pt 10 11	12	Assessment Conducted
37	W Pt 5	12	61.7	west	6	12	Assessment Conducted
43	3, 4	12	69.2	east	9	WCR	Assessment Conducted
44	3 7	11 ECR	68.1	west	8	ECR	Assessment Conducted
46	W ½ 17	11	44.5	west	18	11	Agreement will be in place as per Section 52(2) (b)

## 2. ANALYSIS

### 2.1 Turbine 5 – Lot 6, Concession 15

#### 2.1.1 DESCRIPTION

This turbine is located 68.1 metres from the closest lot line (northerly rear lot line) which is 11.9 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 800m from the turbine. A woodlot is located west of the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 5 Map in Appendix 1).

#### 2.1.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 11.9 metres. There are no other adverse impacts to adjacent properties or land use activities.

#### 2.1.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

### 2.2 Turbine 10 – N Pt Lot 16, Concession ECR

#### 2.2.1 DESCRIPTION

This turbine is located 67.3 metres from the closest lot line (southerly side lot line) which is 12.7 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 500m from the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 10 Map in Appendix 1).

#### 2.2.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is

not enhanced significantly by requesting a reduction of 12.7 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.2.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.3 Turbine 12 – E ½ of Lot 15 & W ½ of Lot 14, Concession 13

### 2.3.1 DESCRIPTION

This turbine is located 60.4 metres from the closest lot line (northerly rear lot line) which is 19.6 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 800m from the turbine. A municipal drain is located approximately 400 metres east of the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 12 Map in Appendix 1).

### 2.3.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 19.6 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.3.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.4 Turbine 16 –Lot 11, Concession 13

### 2.4.1 DESCRIPTION

This turbine is located 62.4 metres from the closest lot line (easterly side lot line) which is 17.6 metres less than required as the standard setback without undertaking any further analysis. Additionally, the turbine is located 66.6 metres from the northerly rear lot line which is 13.4 metres less than required as the standard setback. The adjacent lands are used for field crop purposes with a building located over 600m from the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 16 Map in Appendix 1).

### 2.4.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 17.6 & 13.4 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.4.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.5 Turbine 18 – W½ Lot 6, Concession 13

### 2.5.1 DESCRIPTION

This turbine is located 55.1 metres from the closest lot line (easterly side lot line) which is 24.9 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 600m from the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 18 Map in Appendix 1).

### 2.5.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is

not enhanced significantly by requesting a reduction of 24.9 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.5.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.6 Turbine 21 – Lot 3, Concession 14

### 2.6.1 DESCRIPTION

This turbine is located 68.3 metres and 75.8 metres from the closest lot lines (westerly side lot line and southerly rear lot line respectively) which are 12.7 metres and 4.2 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with no buildings located on either adjacent parcel. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 21 Map in Appendix 1).

### 2.6.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 12.7 metres and 4.2 metres respectively. There are no other adverse impacts to adjacent properties or land use activities.

### 2.6.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.7 Turbine 23 – Part Lot 12, Concession Ecr

### 2.7.1 DESCRIPTION

This turbine is located 69.7 metres from the closest lot line (northerly side lot line) which is 10.3 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 700m from the turbine. Two open drains are located approximately 100 metres east and 350 metres west of the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 23 Map in Appendix 1).

### 2.7.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 10.3 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.7.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.8 Turbine 24 – Lot 4, Concession 14

### 2.8.1 DESCRIPTION

This turbine is located 79.1 metres from the closest lot line (southerly rear lot line) which is 0.9 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 800m from the turbine. A woodlot is located 100m southwest of the turbine; a second woodlot is located 100m east of the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 24 Map in Appendix 1).

### 2.8.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is

not enhanced significantly by requesting a reduction of 0.9 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.8.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.9 Turbine 26 – Lot 6 & Lot 7, Concession 14

### 2.9.1 DESCRIPTION

This turbine is located 62.7 metres from the closest lot line (southerly rear lot line) which is 17.3 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 750m from the turbine. A woodlot is located over 150 metres southwest of the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 26 Map in Appendix 1).

### 2.9.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 17.3 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.9.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.10 Turbine 27 – Lot 6 & Lot 7, Concession 14

### 2.10.1 DESCRIPTION

This turbine is located 62.5 metres from the southerly side lot line which is 17.5 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are characterized as mostly cash crop fields, with an open drain that bisects the field (Note: drain located over 120 metres southeast of the proposed turbine). The nearest buildings on the adjacent lands are located over 950 metres southeast of the proposed turbine location along Bornish Drive. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 27 Map in Appendix 1).

### 2.10.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 17.5 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.10.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback

## 2.11 Turbine 33 – E Pt of Lot 10 & W Pt of Lot 9, Concession 12

### 2.11.1 DESCRIPTION

This turbine is located 70.3 metres from the closest lot line (westerly side lot line) which is 9.7 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 750m from the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 33 Map in Appendix 1).

### 2.11.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is

not enhanced significantly by requesting a reduction of 9.7 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.11.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.12 Turbine 37 – W Part of Lot 5, Concession 12

### 2.12.1 DESCRIPTION

This turbine is located 61.7 metres from the closest lot line (westerly side lot line) which is 18.3 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are used for field crop purposes with a building located over 750m from the turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 37 Map in Appendix 1).

### 2.12.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 18.3 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.12.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.13 Turbine 43 –Lot 3 & 4, Concession 12

### 2.13.1 DESCRIPTION

This turbine is located 69.2 metres from the closest lot line (easterly side lot line) which is 10.8 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are characterized as mostly cash crop fields, with a small woodlot approximately 200 metres east of the proposed turbine. There are no buildings, structures, or infrastructure located on-site. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 43 Map in Appendix 1).

### 2.13.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 10.8 metres. There are no other adverse impacts to adjacent properties or land use activities.

### 2.13.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.14 Turbine 44 – Lot 3, Concession 11

### 2.14.1 DESCRIPTION

This turbine is located 68.1 metres from the closest lot line (westerly side lot line) which is 11.9 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are characterized as mostly cash crop fields. A municipal drain is located over 100 metres west of the proposed turbine. The nearest building is located over 800 metres from the proposed turbine. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 44 Map in Appendix 1).

### 2.14.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is

not enhanced significantly by requesting a reduction of 11.9 metres. There are no other adverse impacts to adjacent properties or land use activities.

#### 2.14.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

## 2.15 Turbine 46 – West ½ Part Lot 17, Concession 11

#### 2.15.1 DESCRIPTION

This turbine is located 44.5 metres from the closest lot line (westerly side lot line) which is 35.5 metres less than required as the standard setback without undertaking any further analysis. The adjacent lands are characterized as mostly cash crop fields. The closest building is located approximately 800 metres to south. Land use within the vicinity of the proposed turbine would be restricted to seasonal farming activities (See Turbine 46 Map in Appendix 1).

#### 2.15.2 POTENTIAL IMPACTS

Adverse impacts to the neighbouring parcel from the reduced setback may include damage to crops as a result of turbine failure. However, this impact is already present at an 80 metre setback and is not enhanced significantly by requesting a reduction of 35.5 metres. There are no other adverse impacts to adjacent properties or land use activities.

#### 2.15.3 PREVENTATIVE MEASURES

Preventative measures to address potential damage to neighbouring crops, and reduce risk to human safety include certification of the wind turbine by professional engineers; ongoing regular maintenance and monitoring of the wind turbine by operations staff; and shutdown mechanisms and protocols in extreme weather instances to prevent damage to wind turbines. All of these measures are standard best practices and no additional preventative measures are required for the change in setback.

### 3. CONCLUSION

Based on the preceding analysis of the proposed fifteen (15) turbine locations considered for reduced setbacks from property boundaries, a total of two (2) turbines require agreements due to their location being less than 60 metres from an adjacent property boundary. It is our opinion that the fifteen (15) turbines would create no adverse impacts as a result of the setback reductions, and that standard preventative measures implemented through best practices address any change in impacts that may be encountered.

## **Appendix 1 – Individual Map Schedules**

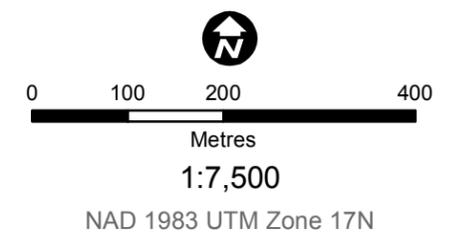
**Bornish**  
**Wind Energy Centre**  
Lambton County, Ontario

**Parcel Boundary Setback  
Reduction Analysis**

**Legend**

-  Turbine Location
-  Host Land Parcel  
Lt 6, Con 15
-  Neighbouring Land Parcel  
Pt Lts 6 & 7 Con 16
- Required Lotline Setback**
-  Agreement Will Be in Place  
With Assessment - No Setback  
Required
-  No Agreement - 60m Setback  
With Assessment

**Turbine 5**



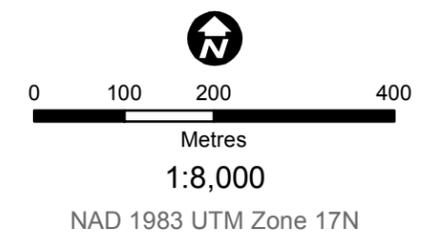
**Bornish**  
**Wind Energy Centre**  
 Middlesex County, Ontario

**Parcel Boundary Setback  
 Reduction Analysis**

**Legend**

-  Turbine Location
-  Host Land Parcel  
N Pt Lts 16, Con Ecr.
-  Neighbouring Land Parcel  
S Pt Lts 16, Con Ecr.
- Required Lotline Setback**
-  Agreement Will Be in Place  
With Assessment - No Setback  
Required
-  No Agreement - 60m Setback  
With Assessment

**Turbine 10**



**Enlarged Turbine Area**

67.3m

Turbine 10  
 Northing: 4,774,524 m  
 Easting: 446,083 m

**Bornish  
Wind Energy Centre**  
Middlesex County, Ontario

**Parcel Boundary Setback  
Reduction Analysis**

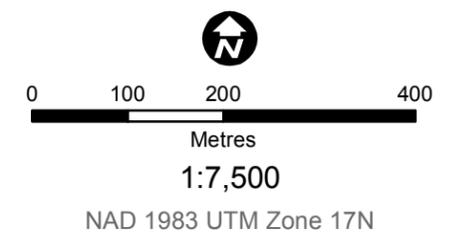
**Legend**

-  Turbine Location
-  Host Land Parcel  
E 1/2 Of Lt 15 & The W 1/2  
Of Lt 14, Con 13
-  Neighbouring Land Parcel  
Lt 14, Con 14 , Except 239745

**Required Lotline Setback**

-  Agreement Will Be in Place  
With Assessment - No Setback  
Required
-  No Agreement - 60m Setback  
With Assessment

**Turbine 12**



**Bornish**  
**Wind Energy Centre**  
Middlesex County, Ontario

**Parcel Boundary Setback  
Reduction Analysis**

**Legend**

-  Turbine Location
-  Host Land Parcel  
Lt 11, Con 13
-  Neighbouring Land Parcel  
Lt 11, Con 14; Lt 10 & The W  
1/2 Of Lt 9, Con 13
- Required Lotline Setback**
-  Agreement Will Be in Place  
With Assessment - No Setback  
Required
-  No Agreement - 60m Setback  
With Assessment

**Turbine 16**

