

September 21, 2012

COURIER

Ontario Energy Board
P.O. Box 2319
27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

Attention: Ms. K. Walli, Board Secretary

Dear Ms. Walli:

Re: Dufferin Wind Power Inc. - Application for Leave to Construct Transmission Facilities (EB-2012-0365)

We are counsel to Dufferin Wind Power Inc. ("Dufferin Wind"). On behalf of Dufferin Wind, we are hereby enclosing two copies of an application, pursuant to section 92 of the *Ontario Energy Board Act*, for leave to construct certain electricity transmission facilities in the County of Dufferin, Ontario, for purposes of connecting the applicant's renewable energy generation facility to the IESO-controlled grid (the "Application"). The Board has assigned file no. EB-2012-0365 to the Application.

Also enclosed is a CD-ROM containing one copy of the complete Application, which shall serve as the electronic filing for this Application. Please note that the landowner line list has been intentionally omitted from Appendix 1 of Exhibit F, Tab 1, Schedule 1 of the enclosed hard copies and electronic copy of the Application as it contains confidential information. This document is being filed concurrently under separate cover in accordance with Board requirements.

Yours truly,



Jonathan Myers

Tel 416.865.7532
jmyers@torys.com

cc: Mr. J. Hammond, Dufferin Wind

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Sched. B);

AND IN THE MATTER OF an application by Dufferin Wind Power Inc. for an Order or Orders pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (as amended) granting leave to construct transmission facilities in the Township of Melancthon, the Town of Shelburne and the Township of Amaranth, all of which are in the County of Dufferin, Ontario.

APPLICATION FOR LEAVE TO CONSTRUCT

DUFFERIN WIND POWER INC.

EB-2012-0365

September 21, 2012

EXHIBIT A - INDEX

Exhibit A, Tab 1, Schedule 1
Exhibit List

EXHIBIT LIST

<u>Exh.</u>	<u>Tab</u>	<u>Sch.</u>	<u>Title</u>
A - INDEX			
A	1	1	Exhibit List
B - APPLICATION			
B	1	1	Application
		2	Procedural Orders, Correspondence and Notices
	2	1	Summary of the Application
		2	Description of the Applicant
		3	Project Location
		4	Maps
		5	Drawings and Illustrations
	3	1	Need for the Project
	4	1	Transmission Alternatives Considered
C - PROJECT PLANNING			
C	1	1	Construction and In-Service Schedule
D - PROJECT DETAILS			
D	1	1	Physical Design Features
E - DESIGN SPECIFICATIONS AND OPERATIONAL DATA			
E	1	1	Operational Details
	2	1	Codes, Standards and Other Regulatory Approvals
F - LAND MATTERS			

F	1	1	Land Matters
	2	1	Forms of Land Agreements
G - COMMUNITY AND STAKEHOLDER CONSULTATION			
G	1	1	Consultation Program and Process
H - IMPACT ASSESSMENTS			
H	1	1	Overview of Impact Assessments
	2	1	Notification of Conditional Approval of Connection Proposal
		2	System Impact Assessment
	3	1	Customer Impact Assessment

EXHIBIT B - APPLICATION

**Exhibit B, Tab 1, Schedule 1
Application**

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Sched. B);

AND IN THE MATTER OF an application by Dufferin Wind Power Inc. for an Order or Orders pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (as amended) granting leave to construct transmission facilities in the Township of Melancthon, the Town of Shelburne and the Township of Amaranth, all of which are in the County of Dufferin, Ontario.

APPLICATION

1. Dufferin Wind Power Inc. (the “**Applicant**”) is a corporation, headquartered in Toronto, that was formed on May 17, 2011 pursuant to the laws of the Province of New Brunswick. The Applicant’s majority shareholder is Longyuan Canada Renewables Ltd. (“**Longyuan Canada**”), a New Brunswick corporation which is a wholly owned subsidiary of China Longyuan Power Group Corporation Limited (“**Longyuan**”). Longyuan constructs, manages and operates wind generation facilities and, with over 8,900 MW of wind power (installed capacity), is the second largest wind energy owner and operator in the world. The Applicant’s minority shareholder is Farm Owned Power (Melancthon) Ltd. (“**FOP**”), a corporation formed pursuant to the laws of Canada by a group of local landowners in the vicinity of the Dufferin Wind Farm site in the Township of Melancthon. A detailed description of the Applicant is provided in Exhibit B, Tab 2, Schedule 2.
2. The Applicant hereby applies to the Ontario Energy Board (the “**Board**”) pursuant to Section 92 of the *Ontario Energy Board Act, 1998* (the “**Act**”) for an order or orders

under Section 96 of the Act granting leave to construct the following transmission and interconnection facilities:

- (a) a 34.5/230 kV intermediate transformer station on the southeast corner of the West half of Lot 26, Concession 2 in the Township of Melancthon (the “**Project Substation**”);
 - (b) a 230 kV switching station on Lot 5, Plan 131 in the Township of Amaranth, adjacent to Hydro One Networks Inc.’s (“**Hydro One’s**”) existing Orangeville Transformer Station (“**Orangeville TS**”) in the Township of Amaranth (the “**Switching Station**”);
 - (c) an approximately 47 km 230 kV three phase single circuit transmission line running from the Project Substation to the Switching Station (the “**Transmission Line**”); and
 - (d) a 100 m 230 kV interconnection that will connect the Switching Station to Orangeville TS (the “**Interconnection**”).
2. The facilities described in paragraph 2, being the Project Substation, the Switching Station, the Transmission Line and the Interconnection, are collectively referred to in this Application as the “**Transmission Project**”.
 3. The Applicant further requests approval of the Board pursuant to Section 97 of the Act for the forms of land agreement included in Exhibit F, Tab 2, Schedule 1.
 4. Moreover, the Applicant requests approval of the Board pursuant to Section 101 of the Act for authority to construct portions of the Transmission Project upon, under or over a highway, utility line or ditch, as further described in Exhibit F, Tab 1, Schedule 1.
 5. The Applicant is currently developing, and plans to construct and operate, the Dufferin Wind Farm, which is a planned 99.1 MW wind energy generation facility in the Township of Melancthon in Dufferin County (the “**Wind Farm**”). The Wind Farm will consist of 49 wind turbines, the output of which will run along a 34.5 kV underground collection system that links the turbines to the Project Substation. The Applicant has a

20-year contract with the Ontario Power Authority (the “**OPA**”) in respect of the Wind Farm pursuant to the OPA’s Feed-in Tariff (“**FIT**”) Program.

7. The proposed Transmission Project is required by the Applicant to connect the Wind Farm to the Independent Electricity System Operator (“**IESO**”) controlled grid. This will enable the Applicant to supply renewable energy to the IESO-controlled grid, consistent with its obligations under its FIT contract, the objectives of the FIT Program and the renewable energy policies of the Government of Ontario.
8. The Applicant proposes to locate the Project Substation on private lands amid the Wind Farm in the Township of Melancthon, as well as to locate the Switching Station on private lands adjacent to Orangeville TS in the Township of Amaranth.
9. The Applicant proposes to locate 31.2 km of the Transmission Line along a former rail corridor that is now owned by the County of Dufferin, as well as 15.6 km of the Transmission Line along private lands situated between the Wind Farm site and the former rail corridor, for a total length of nearly 47 km. While these private lands along which the Transmission Line will run are entirely within the Township of Melancthon, the former rail corridor runs through the Township of Melancthon, the Town of Shelburne and the Township of Amaranth, all of which are in the County of Dufferin, Ontario.
10. The proposed Transmission Project was selected from among other transmission alternatives and routes (see Exhibit B, Tab 4, Schedule 1) on the basis of consultations with members of the local community and municipal governments in the vicinity of the Wind Farm and Transmission Project and with a view to minimizing impacts on residents and the affected communities. The proposed Transmission Project is also preferred because it minimizes line losses relative to lower voltage options that were considered.

11. While the Applicant has been engaged in ongoing discussions with the County of Dufferin concerning its request for an easement along the former rail corridor, an easement agreement has not been finalized to date. The Applicant and the County of Dufferin have signed a Memorandum of Understanding to address cost recovery for negotiating the easement and the negotiations are ongoing. With respect to the private lands required for the Transmission Line, with a few minor exceptions the Applicant currently has easements or leases in place for all such lands required for the Transmission Line. The Applicant is continuing to work with the owners of these sections with a view to finalizing the necessary agreements shortly. With respect to the private lands required for the stations, the Applicant currently has a lease with the owner of the lands required for the Project Substation that contemplates a wind turbine and intends to finalize an additional lease to cover the lands needed for the Project Substation and related facilities. Moreover, the Applicant has secured an option to purchase the lands required for the Switching Station.
12. The location of the Wind Farm and the Transmission Project is described in Exhibit B, Tab 2, Schedule 3. Maps and technical drawings, including a single line drawing, are provided in Exhibit B, Tab 2, Schedules 4 and 5, respectively. The components of the Transmission Project are described in detail in Exhibit D, Tab 1, Schedule 1.
13. The Applicant received a System Impact Assessment Report from the IESO on December 2, 2011 (the “**Initial SIA Report**”) and a System Impact Assessment Final Addendum Report from the IESO on August 31, 2012 (the “**SIA Addendum Report**”) in respect of the Wind Farm and the Transmission Project. Copies of the Initial SIA Report and the SIA Addendum Report are provided in Exhibit H, Tab 2, Schedule 2. The SIA Addendum Report concludes that, subject to certain requirements set out in the Initial SIA Report and the SIA Addendum Report, the Transmission Project is expected to have no material adverse impacts on the reliability of the integrated power system and it therefore recommends that a *Notification of Conditional Approval for Connection* be

issued for the Dufferin Wind Farm. The *Notification of Conditional Approval for Connection* was issued concurrently with the SIA Report on August 31, 2012, a copy of which is provided in Exhibit H, Tab 2, Schedule 1.

14. The Applicant received a final Customer Impact Assessment (“CIA”) Report from Hydro One on August 31, 2012 in respect of the Wind Farm and the Transmission Project. The final CIA Report, a copy of which is provided in Exhibit H, Tab 3, Schedule 1, concludes that the Wind Farm and Transmission Project can be incorporated without any adverse impacts on Hydro One customers in the area.
15. The Wind Farm and the proposed Transmission Project are subject to the requirements of the Renewable Energy Approval (“REA”) process in Ontario Regulation 359/09 under the *Environmental Protection Act*. The Applicant filed its final REA submission package with the Ministry of the Environment on August 13, 2012 and therefore expects to receive its REA in approximately January 2013. The REA process is discussed in Exhibit E, Tab 2, Schedule 1.
16. The Applicant has carried out a comprehensive stakeholder consultation program, guided by the REA process, through which it has been able to provide information to interested stakeholders and receive feedback and other information from stakeholders. The feedback received has played a significant role in shaping the proposed Transmission Project. The Applicant’s consultation program and the impact it has had on the Transmission Project are described in Exhibit G, Tab 1, Schedule 1.
17. Although the proposed Transmission Project will enable the Applicant to transmit electricity, by application of Ontario Regulation 161/99 under the Act, the Applicant is exempt from the requirement under Section 57(b) of the Act to obtain a licence to own or operate transmission facilities. This is because the Applicant will not charge a price for transmitting electricity and the Applicant will be a transmitter that is also a generator that transmits electricity only for the purpose of conveying it to the IESO-controlled grid.

The Applicant does intend to apply for a generator licence in respect of the Wind Farm in due course.

18. Subject to receipt of its REA approval, as well as other necessary permits and approvals, the Applicant plans to commence construction of the Project Substation and the Switching Station in Spring 2013. Construction of these stations is expected to take approximately 5 months to complete. Construction of the Transmission Line is scheduled to commence in Summer 2013 and is also expected to take approximately 5 months to complete. The Wind Farm is expected to go into service by December 31, 2013. In keeping with this project schedule, the Applicant requests that this Application be handled by the Board on an expedited basis, having regard to the need for appropriate timeframes for notice and intervenor participation.
19. The cost of the Transmission Project will be paid for by the Applicant. As such, the Transmission Project will not affect electricity transmission rates in Ontario.
20. The evidence in support of this Application has been prepared in accordance with the requirements set out in Chapter 4 of the Board's *Minimum Filing Requirements for Transmission and Distribution Rate Applications and Leave to Construct Projects*, as amended May 17, 2012.
21. The Applicant requests that copies of all documents filed with or issued by the Board in connection with this Application be served on the Applicant and the Applicant's counsel as follows:
 - (a) The Applicant:

Dufferin Wind Power Inc.
Suite 4550
TD Canada Trust Tower
161 Bay Street, P.O. Box 203
Toronto, ON M5J 2S1

Attention: Mr. Jeff Hammond
Tel: 416-551-2578
Fax: 416-551-3617
Email: jeff.hammond@clypg.com.cn

(b) The Applicant's Counsel:

Torys LLP
Suite 3000
79 Wellington St. W.
Box 270, TD Centre
Toronto, ON M5K 1N2

Attention: Mr. Jonathan Myers
Tel: 416-865-7532
Fax: 416-865-7380
Email: jmyers@torys.com

and

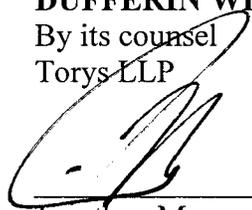
Mr. Charles Keizer
Tel: 416-865-7512
Fax: 416-865-7380
Email: ckeizer@torys.com

22. Additional written evidence, as required, may be filed in support of this Application and may be amended from time to time prior to the Board's final decision.
23. The Applicant requests that the Board proceed by way of written hearing, pursuant to Section 34.01 of the Board's *Rules of Practice and Procedure*.

Dated at Toronto, Ontario, this 21st day of September, 2012.

DUFFERIN WIND POWER INC.

By its counsel
Torys LLP



Jonathan Myers

Exhibit B, Tab 1, Schedule 2
Procedural Orders, Correspondence, and Notices

PROCEDURAL ORDERS, CORRESPONDENCE AND NOTICES

- 1 This tab is provided as a placeholder for any Procedural Orders, correspondence and notices that
- 2 may be filed in connection with the Application.

Exhibit B, Tab 2, Schedule 1
Summary of the Application

SUMMARY OF THE APPLICATION

1 **1. The Applicant**

2 The Applicant, Dufferin Wind Power Inc., is a corporation, headquartered in Toronto, that was
3 formed pursuant to the laws of the Province of New Brunswick for the purposes of developing,
4 constructing and operating the 99.1 MW Dufferin Wind Farm in the Township of Melancthon
5 (the “**Wind Farm**”), as further described in Exhibit D, Tab 1, Schedule 1. The Applicant’s
6 majority shareholder is Longyuan Canada Renewables Ltd. (“**Longyuan Canada**”), a New
7 Brunswick corporation which is, indirectly, a wholly owned subsidiary of China Longyuan
8 Power Group Corporation Limited (“**Longyuan**”). Longyuan constructs, manages and operates
9 wind generation facilities and, with over 8,900 MW of wind power (installed capacity), is the
10 second largest wind energy owner and operator in the world. A more detailed description of the
11 Applicant is provided in Exhibit B, Tab 2, Schedule 2.

12 **2. Approvals Sought**

13 The Applicant has applied to the Ontario Energy Board (the “**Board**”) pursuant to Section 92 of
14 the *Ontario Energy Board Act, 1998* (the “**Act**”) for an order or orders under Section 96 of the
15 Act granting leave to construct the following transmission and interconnection facilities:

- 16 (a) a 34.5/230 kV intermediate transformer station on the southeast corner of the
17 West half of Lot 26, Concession 2 in the Township of Melancthon (the “**Project**
18 **Substation**”);
- 19 (b) a 230 kV switching station on Lot 5, Plan 131 in the Township of Amaranth,
20 adjacent to Hydro One Networks Inc.’s (“**Hydro One’s**”) existing Orangeville
21 Transformer Station (“**Orangeville TS**”) in the Township of Amaranth (the
22 “**Switching Station**”);

1 (c) an approximately 47 km 230 kV three phase single circuit transmission line
2 running from the Project Substation to the Switching Station (the “**Transmission**
3 **Line**”); and

4 (d) a 100 m 230 kV interconnection that will connect the Switching Station to
5 Orangeville TS (the “**Interconnection**”).

6 The above listed facilities, being the Project Substation, the Switching Station, the Transmission
7 Line and the Interconnection, are collectively referred to in this Application as the
8 “**Transmission Project**”.

9 The Applicant also requests approval of the Board pursuant to Section 97 of the Act for the
10 forms of land agreement included in Exhibit F, Tab 2, Schedule 1.

11 Moreover, the Applicant requests approval of the Board pursuant to Section 101 of the Act for
12 authority to construct portions of the Transmission Project upon, under or over a highway, utility
13 line or ditch, as further described in Exhibit F, Tab 1, Schedule 1.

14 3. **Need for the Project**

15 On April 8, 2010 the Ontario Power Authority offered a contract under the Feed-in Tariff
16 Program in respect of the Applicant’s Wind Farm. The Wind Farm will further the Government
17 of Ontario’s policy objective of increasing the amount of renewable energy generation that forms
18 part of Ontario’s energy supply mix. The Transmission Project is needed to connect the Wind
19 Farm to the IESO-controlled grid. As the development of the Wind Farm promotes the use of
20 renewable energy sources in a manner consistent with the policies of the Government of Ontario,
21 the Transmission Project is in the public interest pursuant to paragraph 96(2)2 of the Act.

22 4. **Description of the Project**

23 The Wind Farm, including its wind turbines, access roads and the underground collector system,
24 will be located entirely within the Township of Melancthon, which is situated in Dufferin County

1 in south-central Ontario. The proposed Transmission Project, which is the subject of this
2 Application, is comprised of the Project Substation, the Transmission Line, the Switching Station
3 and the Interconnection. The Project Substation will be located on private lands in the Township
4 of Melancton amidst the Wind Farm site. At the Project Substation, the collector lines will
5 converge and the voltage will be stepped up from 34.5 kV to 230 kV. The 230 kV single circuit
6 Transmission Line will run from the Project Substation for 15.6 km along private lands in the
7 Township of Melancton to a former railway corridor that is currently owned by the County of
8 Dufferin (the “**Rail Corridor**”), and will then run for 31.2 km along the Rail Corridor in the
9 Township of Melancton, through the Town of Shelburne and in the Township of Amaranth,
10 until reaching the Switching Station. The total length of the Transmission Line will therefore be
11 approximately 47 km. The Switching Station will be located adjacent to both the Rail Corridor
12 and Hydro One Networks Inc.’s existing Orangeville Transmission Station, in the Township of
13 Amaranth. A short 230 kV line will connect the Switching Station directly with the Orangeville
14 Transmission Station.

15 A detailed description of the Transmission Project location is provided in Exhibit B, Tab 2,
16 Schedule 3, with maps being provided in Exhibit B, Tab 2, Schedule 4. A detailed description of
17 the physical design features of the Transmission Project is provided in Exhibit D, Tab 1,
18 Schedule 1, with technical drawings being provided in Exhibit B, Tab 2, Schedule 5.

19 To date, the Applicant has secured a lease with the owner of the private lands on which the
20 Project Substation is to be located. This lease concerns a wind turbine on the same property.
21 The Applicant intends to finalize an additional lease with the landowner for the Project
22 Substation and related facilities. Moreover, the Applicant has secured an option to purchase the
23 private lands on which the Switching Station is to be located. In respect of the private lands
24 along which the Transmission Line will run, the Applicant has secured transmission easements
25 or leases for all but two properties and expects to conclude agreements for those remaining
26 properties shortly. In respect of the transmission easement required from the County of Dufferin
27 along the Rail Corridor, the Applicant has been engaged in discussions with the County since the

1 Fall of 2011 and intends to continue to work towards concluding a definitive transmission
2 easement with the County for the use of these lands.

3 **5. Consultations**

4 The Applicant engaged in extensive stakeholder consultations in respect of the Wind Farm and
5 the Transmission Project, including an alternative transmission project that had initially been
6 considered the preferred approach. These consultations were carried out in the context of the
7 Applicant's Renewable Energy Approval ("REA") process and included the publication of
8 multiple notices, direct mailings, multiple rounds of Public Information Centres at various
9 locations throughout the community, meetings and presentations to local officials and
10 consultations with potentially affected Aboriginal communities. These activities have had a
11 significant influence on the proposed Transmission Project, as further described in Exhibit G,
12 Tab 1, Schedule 1.

13 **6. Construction and In-Service Schedule**

14 It is currently expected that the construction of the Project Substation and the Switching Station
15 will commence in May 2013 and be completed within 5 months. Construction of the
16 Transmission Line is expected to commence in Summer 2013 and be completed within 5 months
17 thereof. It is anticipated that the proposed Transmission Project will be completed in time to
18 allow for commissioning in early winter 2013, which will allow the Wind Farm to commence
19 commercial operations by December 31, 2013.

20 **7. Impact Assessments**

21 The IESO issued a final System Impact Assessment Addendum Report on August 31, 2012.
22 This report is an addendum to an initial System Impact Assessment Report that was issued on
23 December 2, 2011. While the initial report concerned a transmission project with a different
24 route and design that had initially been preferred, the addendum considers the proposed
25 Transmission Project. As such, only limited aspects of the initial report remain relevant.
26 Overall, the reports conclude that the proposed connection will have no material adverse impacts

1 on the reliability of the integrated power system. Both reports are provided in Exhibit H, Tab 2,
2 Schedule 2. A Notification of Conditional Approval, issued concurrently with the addendum
3 report, is provided in Exhibit H, Tab 2, Schedule 1.

4 Hydro One Networks Inc. (“**Hydro One**”) issued a final Customer Impact Assessment Report
5 for the proposed Transmission Project on August 31, 2012, concluding that the proposed
6 connection will not have any adverse impacts on existing Hydro One customers in the area. A
7 copy of the report is provided in Exhibit H, Tab 3, Schedule 1.

8 **8. Other Approvals**

9 A list of all approvals required or potentially required for the Transmission Project is provided in
10 Exhibit E, Tab 2, Schedule 1. Of particular note, Dufferin Wind filed its final REA submission
11 package with the Ministry of the Environment on August 13, 2012 and therefore anticipates
12 receiving its REA by approximately January 2013. The Applicant is also awaiting the
13 finalization of certain amendments to O. Reg. 359/09 under the *Environmental Protection Act*,
14 which may affect the specific design of the Transmission Line in certain locations but is not
15 expected to affect the proposed route, as discussed in Exhibit E, Tab 2, Schedule 1.

16 **9. Project Costs**

17 The Transmission Project and the costs of connecting to Hydro One’s Orangeville TS will be
18 paid for by the Applicant and will therefore have no impact on transmission rates in Ontario.

Exhibit B, Tab 2, Schedule 2
Description of the Applicant

DESCRIPTION OF THE APPLICANT

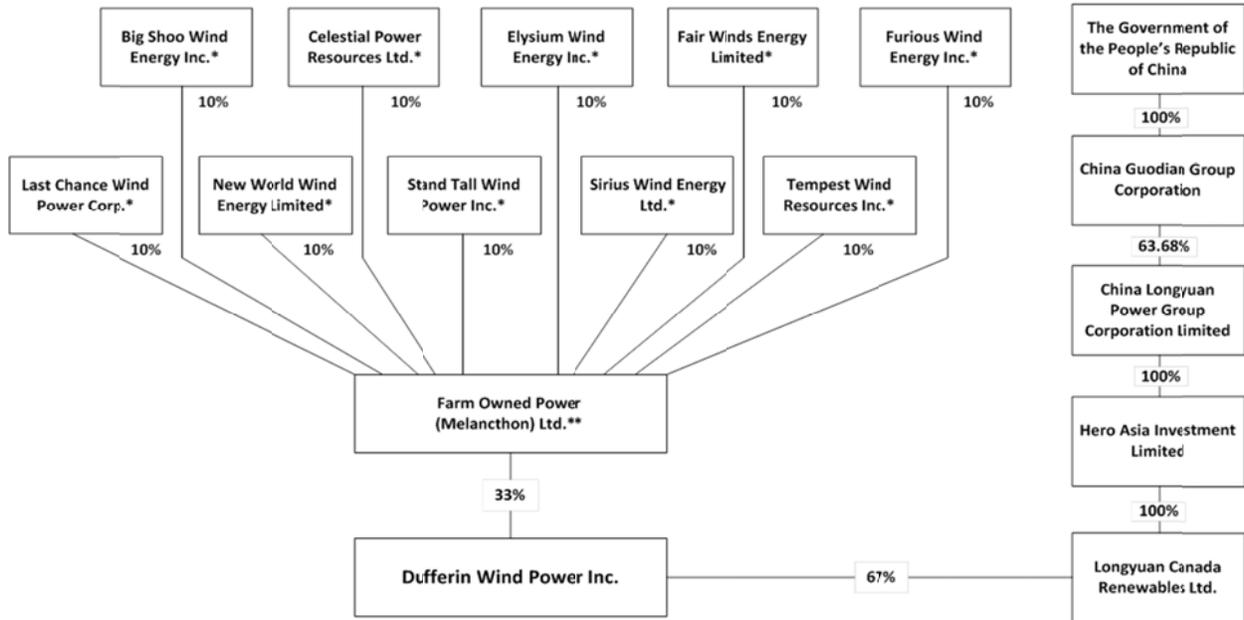
1 The Applicant, Dufferin Wind Power Inc., is a corporation, headquartered in Toronto, that was
2 formed on May 17, 2011 pursuant to the laws of the Province of New Brunswick for the
3 purposes of developing, constructing and operating the Dufferin Wind Farm (the “**Wind**
4 **Farm**”). The Wind Farm, which is further described in Exhibit D, Tab 1, Schedule 1, is a
5 planned 99.1 MW wind energy generation facility being developed in the Township of
6 Melancthon pursuant to a contract with the Ontario Power Authority under the Feed-in Tariff
7 (“**FIT**”) Program.

8 The Applicant’s majority shareholder is Longyuan Canada Renewables Ltd. (“**Longyuan**
9 **Canada**”), a New Brunswick corporation which is, indirectly, a wholly owned subsidiary of
10 China Longyuan Power Group Corporation Limited (“**Longyuan**”). Longyuan constructs,
11 manages and operates wind generation facilities and, with over 8,900 MW of wind power
12 (installed capacity), is the second largest wind energy owner and operator in the world.

13 The Applicant’s minority shareholder is Farm Owned Power (Melancthon) Ltd. (“**FOP**”), a
14 corporation established pursuant to the laws of Canada by a group of local landowners in the
15 vicinity of the Dufferin Wind Farm site in the Township of Melancthon. FOP, together with a
16 company known as 401 Energy Ltd., commenced development of the Dufferin Wind Farm
17 (formerly known as the Melancthon Wind Farm Project) and entered into a contract under the
18 FIT Program on April 30, 2010. In June 2011, Longyuan Canada purchased 67% of 401 Energy
19 Ltd.’s interests in the Dufferin Wind Farm and, together with FOP, incorporated the Applicant
20 company as the vehicle through which the Dufferin Wind Farm would continue to be developed,
21 owned and operated. Concurrently with this transaction, the FIT contract was assigned to the
22 Applicant.

23 An organizational chart illustrating the structure of the Applicant is provided In Figure 1, below.

1 **Figure 1: Applicant's Organizational Structure**



* Each of these 10 corporations is owned by members of the Melancthon farming community or by corporations owned by members of the Melancthon farming community (51%) and by a corporation owned and controlled by 401 Energy Ltd.

** Farm Owned Power (Melancthon) Ltd. acts as bare trustee and nominee for, and on behalf of, its 10 shareholders.

Exhibit B, Tab 2, Schedule 3
Project Location

PROJECT LOCATION

1 As noted in Exhibit B, Tab 1, Schedule 1, the proposed Transmission Project is being developed
2 to enable the Applicant to connect the Wind Farm to the IESO-controlled grid so that it can
3 supply renewable energy pursuant to its contract with the OPA under the FIT Program. Before
4 describing the location of the Transmission Project, for context it is helpful to first describe the
5 location of the Wind Farm.

6 1. **The Wind Farm**

7 The Wind Farm, including its wind turbines, access roads and the underground collector system,
8 will be located entirely within the Township of Melancthon, which is situated in Dufferin County
9 in south-central Ontario. As shown in Figure 1 at Exhibit B, Tab 2, Schedule 4, the site of the
10 Wind Farm is approximately 14 km north of the Town of Shelburne. Within the Township of
11 Melancthon, as shown in Figure 2 at Exhibit B, Tab 2, Schedule 4, the site of the Wind Farm is
12 generally bounded by the Melancthon-Osprey Townline to the north, the Melancthon-Mulmur
13 Townline to the east, Sideroad 15 in Melancthon to the south and a combination of 5th Line/6th
14 Line Northeast/Sideroad 240/County Road 2 to the west.

15 2. **The Transmission Project**

16 The Transmission Project, which is the subject of the Application, is comprised of the Project
17 Substation, the Transmission Line, the Switching Station and the Interconnection, which are
18 described in Exhibit B, Tab 1, Schedule 1 and in greater detail at Exhibit D, Tab 1, Schedule 1.
19 The locations for each of these components of the Transmission Project are as follows.

20 (a) **Project Substation**

21 The Project Substation will be situated on private lands on the southeast corner of the West ½ of
22 Lot 26, Concession 2 in the Township of Melancthon (just north of County Road 21, between
23 3rd Line and County Road 124), as shown in Figure 4a at Exhibit B, Tab 2, Schedule 4. The
24 Project Substation will have a footprint of approximately 0.56 ha. At the Project Substation, the

1 voltage from the underground collector system will be stepped up from 34.5 kV to 230 kV. The
2 location of the Project Substation has been determined based on its proximity to the wind
3 turbines, proximity to the planned location for the Wind Farm's Operations and Maintenance
4 Building, as well as in response to community concerns for minimizing the need for tree
5 removal.

6 (a) The Transmission Line

7 The Transmission Line will generally run southwest from the Project Substation for 15.6 km
8 along private lands in the Township of Melancthon to a former railway corridor that is now
9 owned by the County of Dufferin (the "**Rail Corridor**"). From a point along the Rail Corridor
10 that is immediately to the west of Highway 10 and south of Sideroad 260, the Transmission Line
11 will run southeast along the Rail Corridor towards the Town of Shelburne (generally alongside
12 Highway 10) and, after passing through the west side of the Town of Shelburne, will enter into
13 the Township of Amaranth and run in a southward direction (generally alongside County Road
14 11) before turning briefly to the east and terminating at the Switching Station. The portion of the
15 Transmission Line that runs along the Rail Corridor is approximately 31.2 km in length. The
16 length of the Transmission Line is therefore approximately 47 km in total. The proposed route
17 for the Transmission Line is shown in its entirety in Figure 3 of Exhibit B, Tab 2, Schedule 4,
18 with portions of the proposed route being shown in greater detail in Figures 4(a)-(d).

19 The location and route for the Transmission Line was selected based on a number of factors and
20 considerations, including feedback received through consultations with members of the local
21 community and municipal officials in the vicinity of the Wind Farm and the Transmission
22 Project, as well as with a view to minimizing the impacts on residents and the affected
23 communities. These considerations are discussed in Exhibit B, Tab 4, Schedule 1.

24 (b) The Switching Station

25 The Switching Station, which will interconnect the Transmission Line to the IESO-controlled
26 grid, will be situated adjacent to Hydro One's existing Orangeville TS at Lot 5, Plan 131 in the

1 2 in the Township of Amaranth, as shown in Figure 4d at Exhibit B, Tab 2, Schedule 4. The
2 Switching Station will have a footprint of approximately 0.2 ha. The location of the Switching
3 Station was determined by the Applicant based on its proximity to Orangeville TS, which
4 facilitates connection of the Wind Farm to its planned connection point.

5 (d) The Interconnection

6 The Interconnection will link the Switching Station to Hydro One's Orangeville TS. The
7 Interconnection will be approximately 100 m in length and will connect to the 230 kV bus at
8 Orangeville TS. The ownership demarcation point as between the Applicants facilities and
9 Hydro One's facilities will be located approximately 2 m outside of the Switching Station fence.

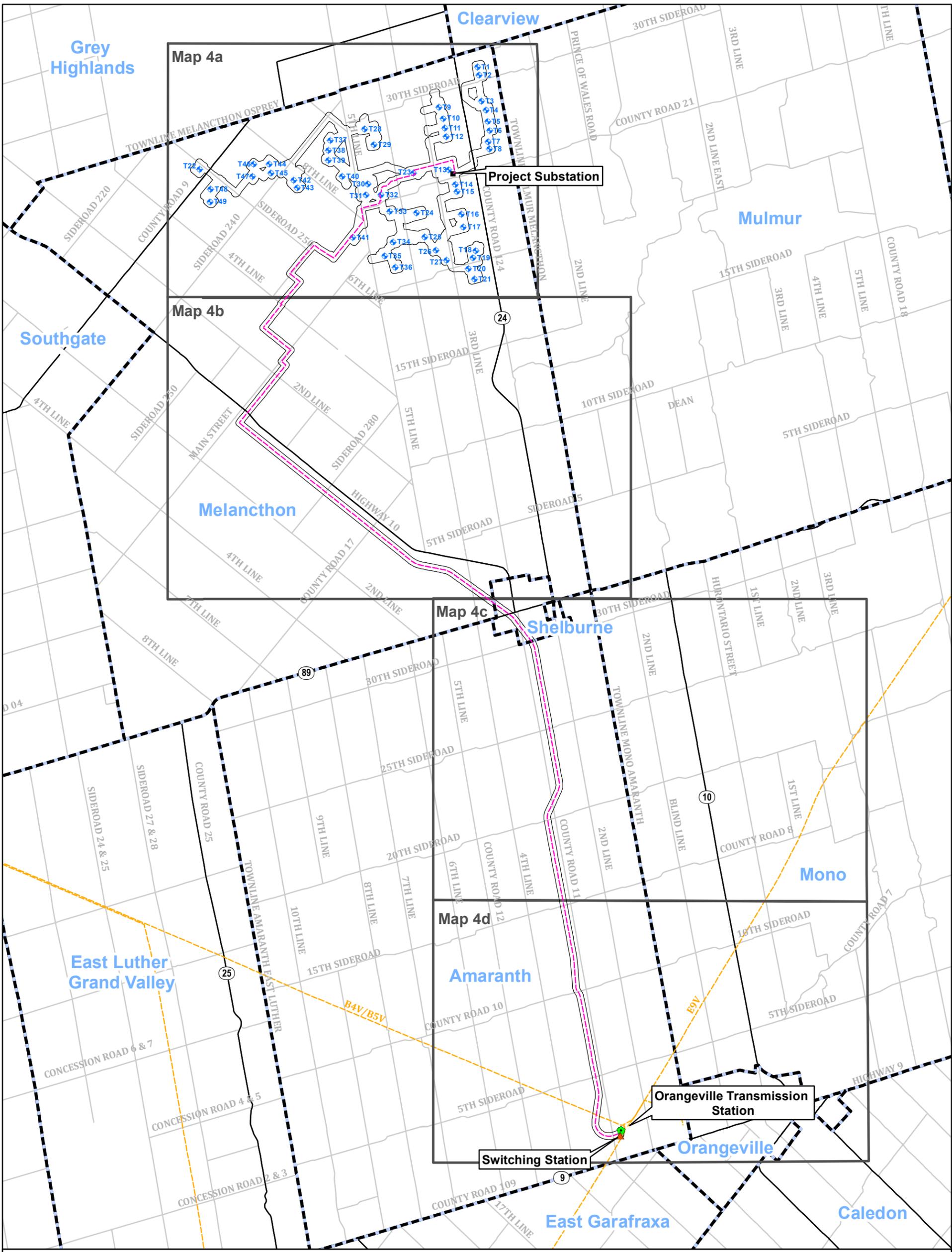
Exhibit B, Tab 2, Schedule 4
Maps

MAPS

1 The following maps are provided in this schedule:

- 2 • Figure 1 - General Location of the Dufferin Wind Farm
- 3 • Figure 2 - Dufferin Wind Farm Site
- 4 • Figure 3 - Transmission Line Route
- 5 • Figure 4(a) - Transmission Line Route - Detail Map 'A'
- 6 • Figure 4(b) - Transmission Line Route - Detail Map 'B'
- 7 • Figure 4(c) - Transmission Line Route - Detail Map 'C'
- 8 • Figure 4(d) - Transmission Line Route - Detail Map 'D'
- 9 • Figures 5(a)-(o) - Lots Affected by Transmission Line Route

Figures 1 to 3

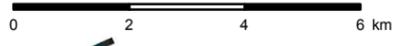


Dufferin Wind Power Project
Figure 1: General Location of the Project

- Legend**
- Turbine
 - Project Substation
 - Orangeville Transmission Station
 - Switching Station
 - Major Roads
 - Local Roads
 - Existing Hydro One Transmission Line
 - Proposed Transmission Line
 - 120 m Project Locations Setback
 - Municipal Boundary

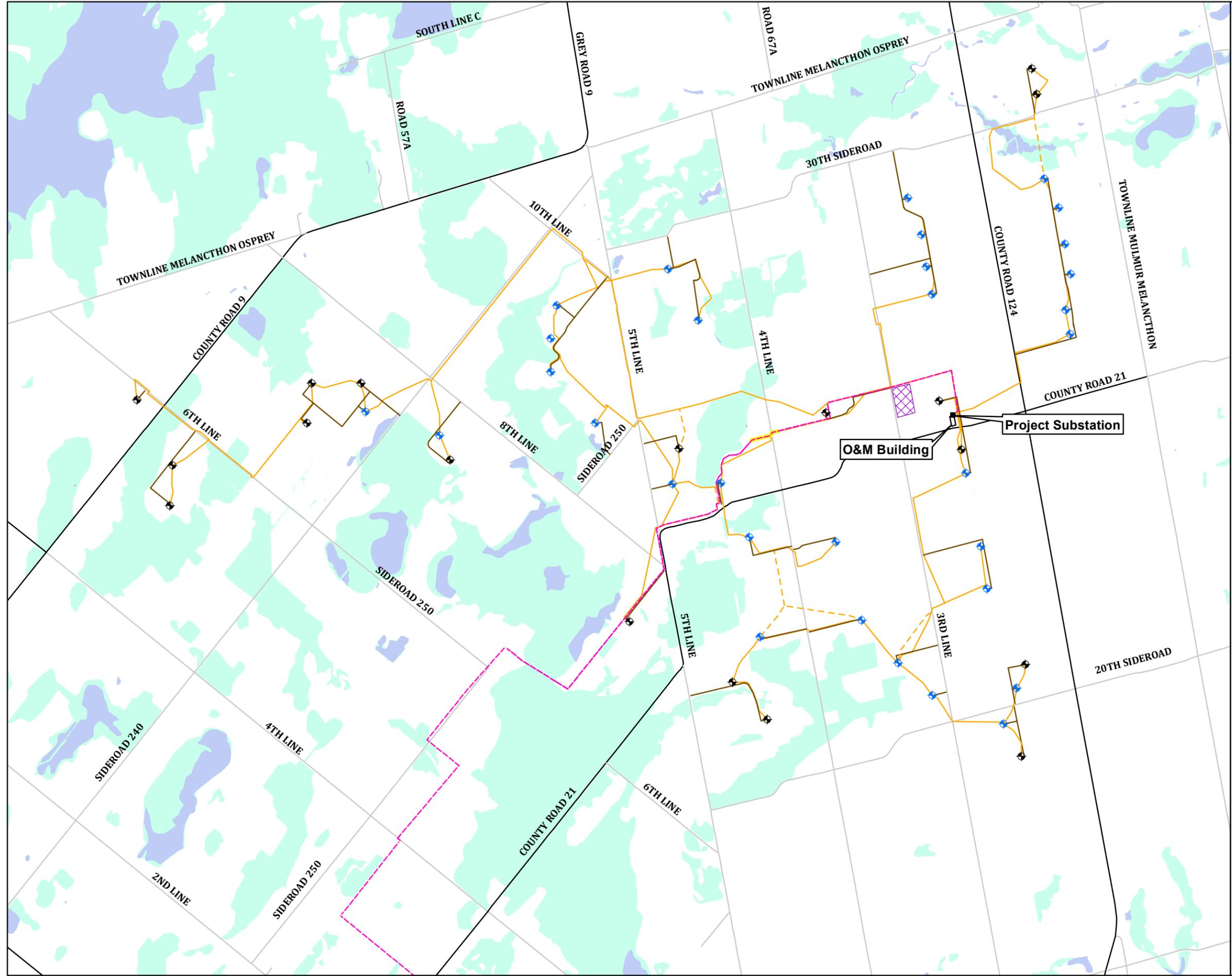


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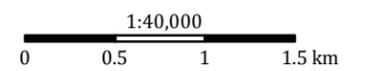


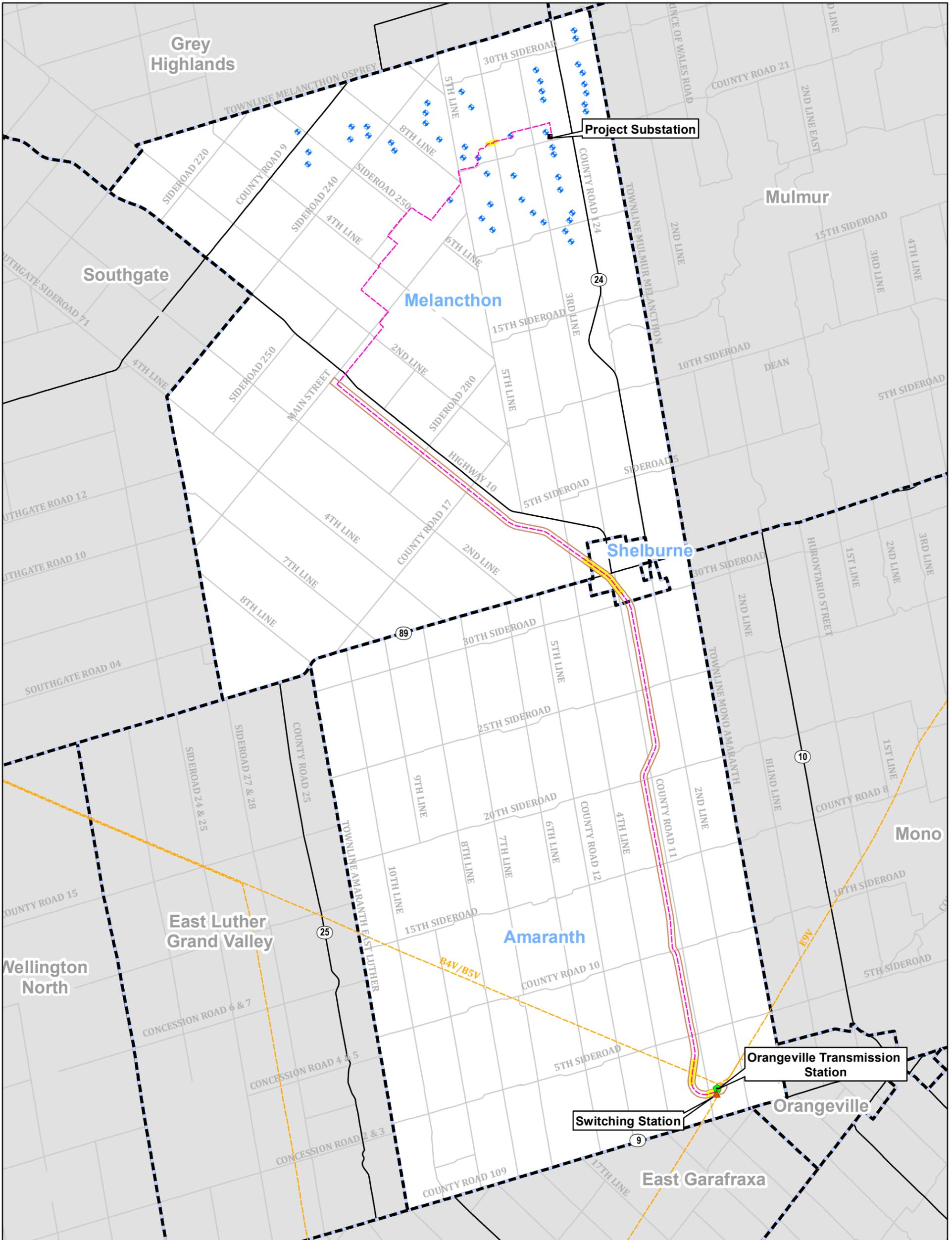
Dufferin Wind Power Project

Figure 2: Wind Facility Site Plan



- Legend**
- GE 1.6 MW Turbine
 - GE 2.75 MW Turbine
 - Major Roads
 - Local Roads
 - Underground Collector System Feeder Lines
 - Underground Collector Alternate Feeder Lines
 - Access Roads
 - Underground Segments
 - Proposed Transmission Line
 - Construction Laydown Area
 - Wetlands
 - Waterbody





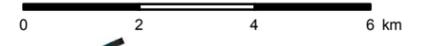
Dufferin Wind Power Project
Figure 3: Transmission Line Route

Legend

- + Turbine
- Project Substation
- Orangeville Transmission Station
- ▲ Switching Station
- Major Roads
- Local Roads
- Proposed Transmission Line (46,948 m)
- Underground Segments
- Existing Hydro One Transmission Line
- Rail Corridor
- Municipal Boundary



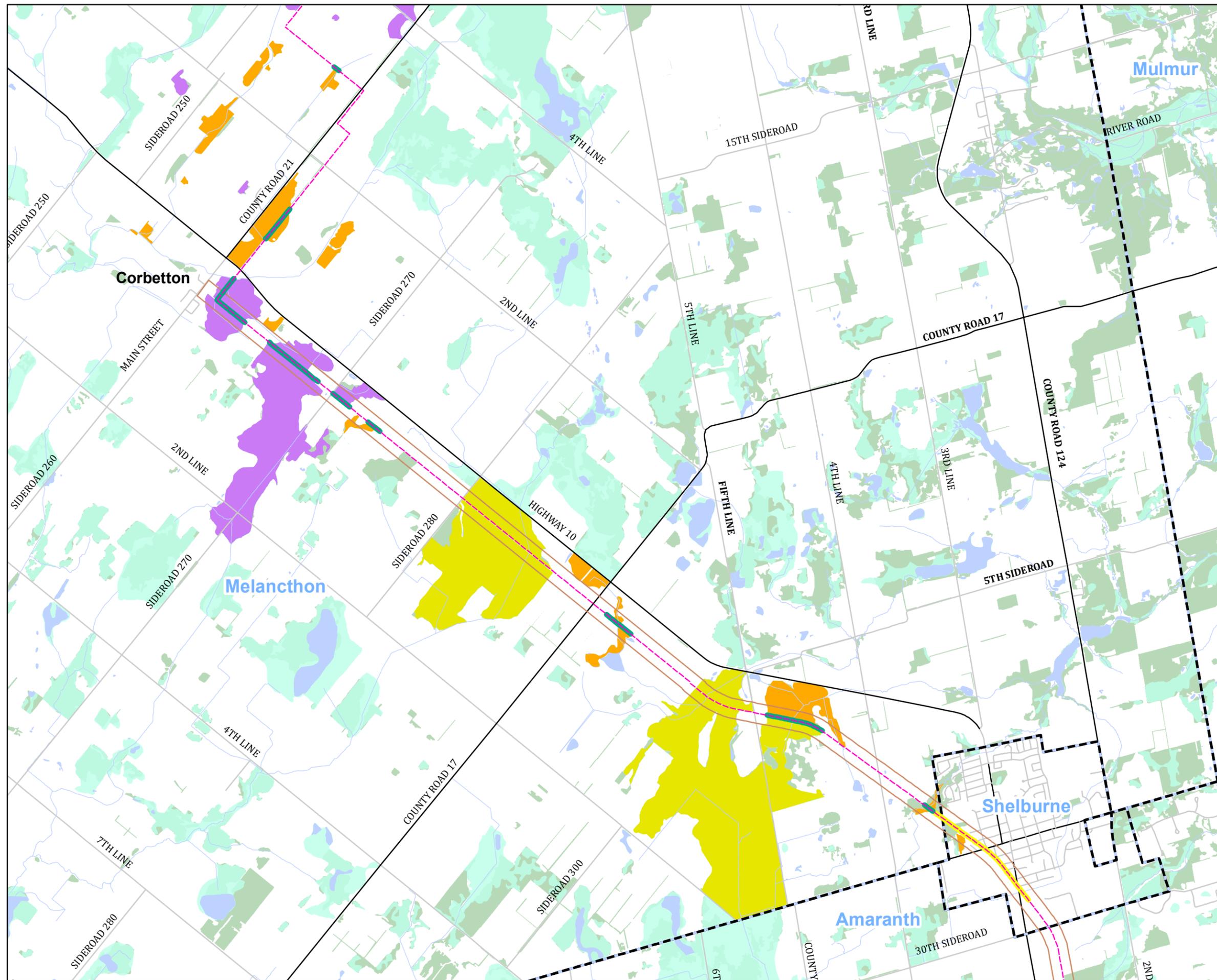
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Figures 4(a) to 4(d)

Dufferin Wind Power Project

Figure 4b: 230 kV Transmission Line



Legend

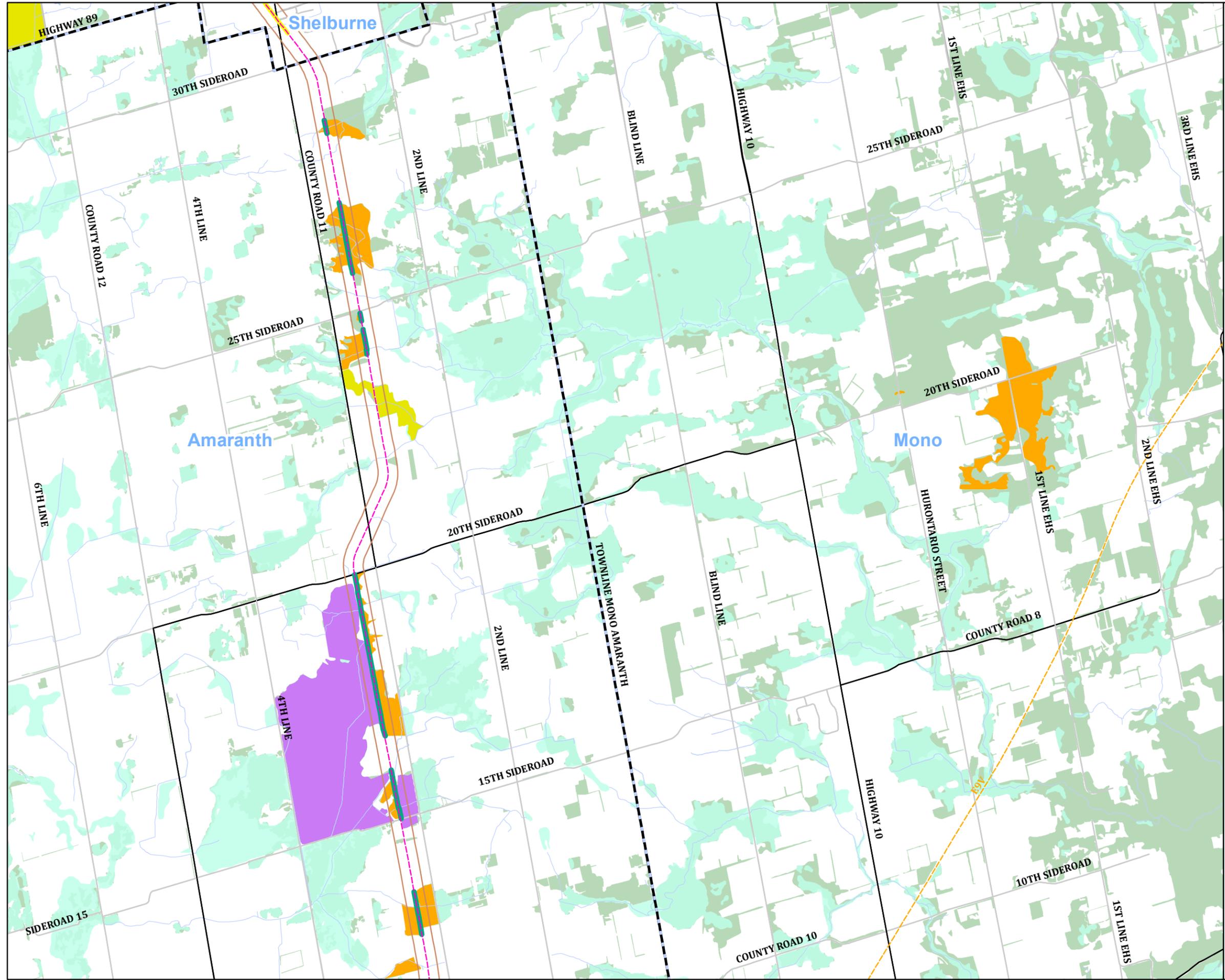
- Major Roads
- Local Roads
- Watercourse
- Provincially Significant Wetland Crossing
- Underground Segments
- Proposed Transmission Line
- Rail Corridor
- Municipalities
- Provincially Significant Wetland
- Wetland Treated as Provincially Significant
- Non-Significant Wetland
- Unevaluated Wetlands
- Waterbody
- Woodland



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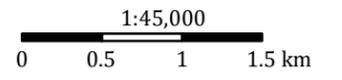
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Dufferin Wind Power Project
Figure 4c: 230 kV Transmission Line

Legend

- Major Roads
- Local Roads
- Watercourse
- Provincially Significant Wetland Crossing
- Underground Segments
- Proposed Transmission Line
- Existing Hydro One Transmission Line
- Rail Corridor
- Municipalities
- Provincially Significant Wetland
- Wetland Treated as Provincially Significant
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- Unevaluated Wetlands
- Waterbody
- Woodland

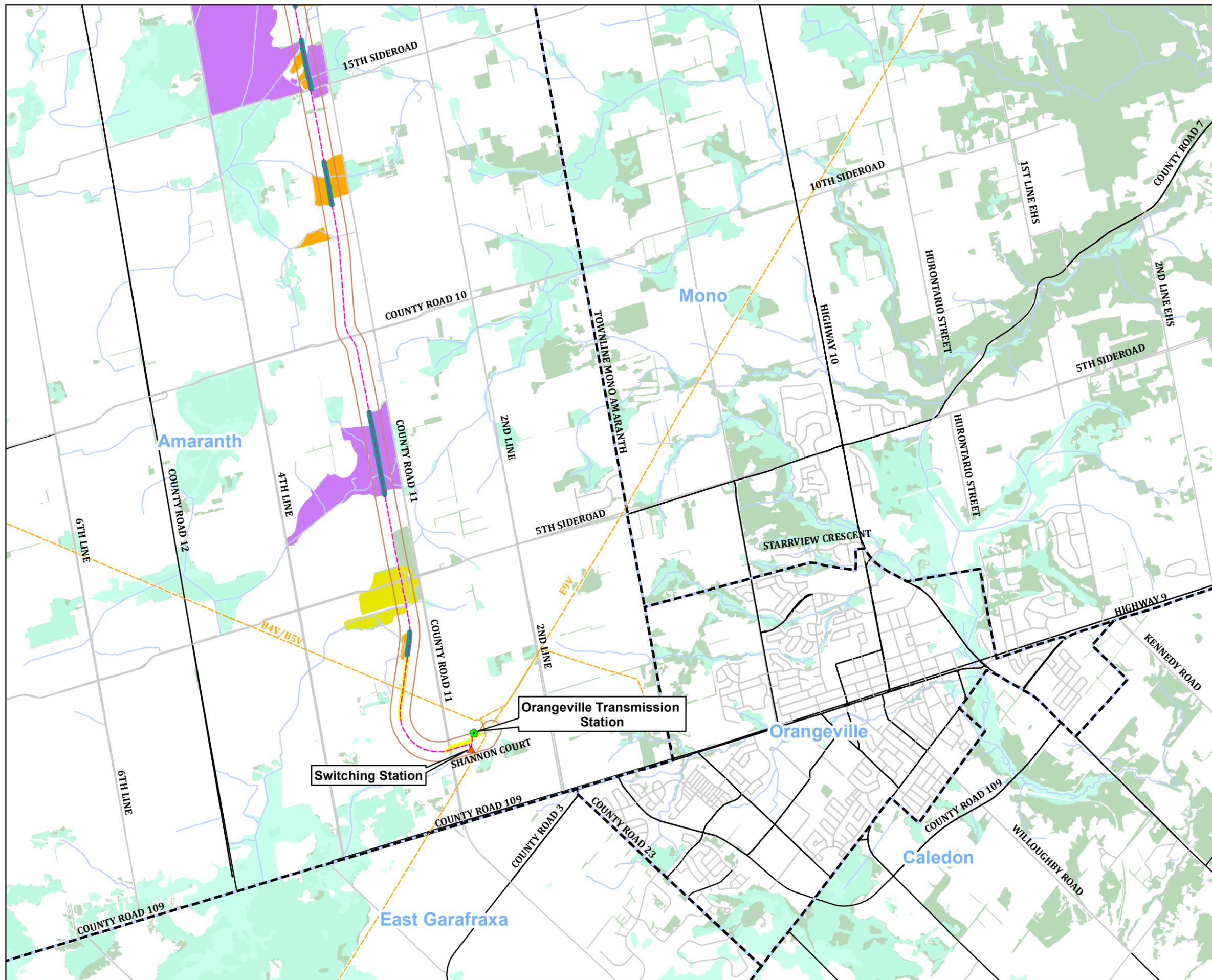


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Dufferin Wind Power Project

Figure 4d: 230 kV Transmission Line



Legend

- Orangeville Transmission Station
- Switching Station
- Major Roads
- Local Roads
- Watercourse
- Provincially Significant Wetland Crossing
- Underground Segments
- Proposed Transmission Line
- Existing Hydro One Transmission Line
- Rail Corridor
- Municipalities
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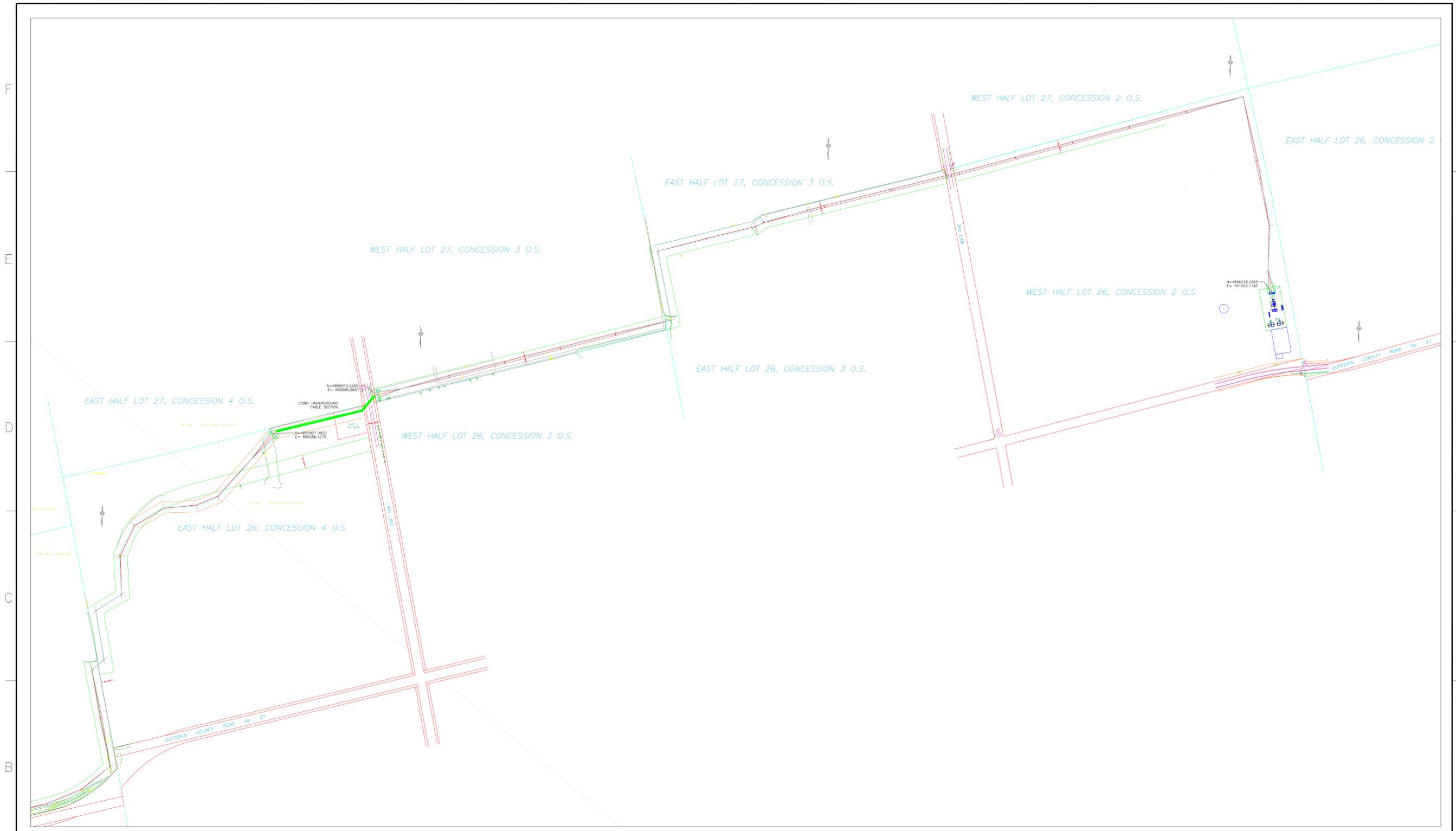
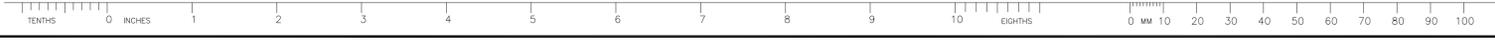


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Figures 5(a) to 5(o)



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		DSN
		E.KWONG 05/09/12
		DRN
		M.HUANG 05/09/12
		CHK
		APP
SCALE	PACKAGE CODE	
N.T.S.		

OVERALL PLAN
 PRIVATE EASEMENT SECTION
 SHEET 1



**K-LINE MAINTENANCE
& CONSTRUCTION LIMITED**
TORONTO, ONTARIO



Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.	
DRAWING NO.	REV.
1248-P001-S01	A

CAD FILE: 1248-P001-A

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WEST HALF LOT 26, CONCESSION 3 O.S.

EAST HALF LOT 27, CONCESSION 3 O.S.

WEST HALF LOT 27, CONCESSION 2 O.S.

EAST HALF LOT 26, CONCESSION 2

WEST HALF LOT 26, CONCESSION 2 O.S.

EAST HALF LOT 26, CONCESSION 3 O.S.

EAST HALF LOT 26, CONCESSION 4 O.S.

WEST HALF LOT 26, CONCESSION 3 O.S.

DUFFERIN COUNTY ROAD No 21

DUFFERIN COUNTY ROAD No 21

230KV UNDERGROUND CABLE SECTION

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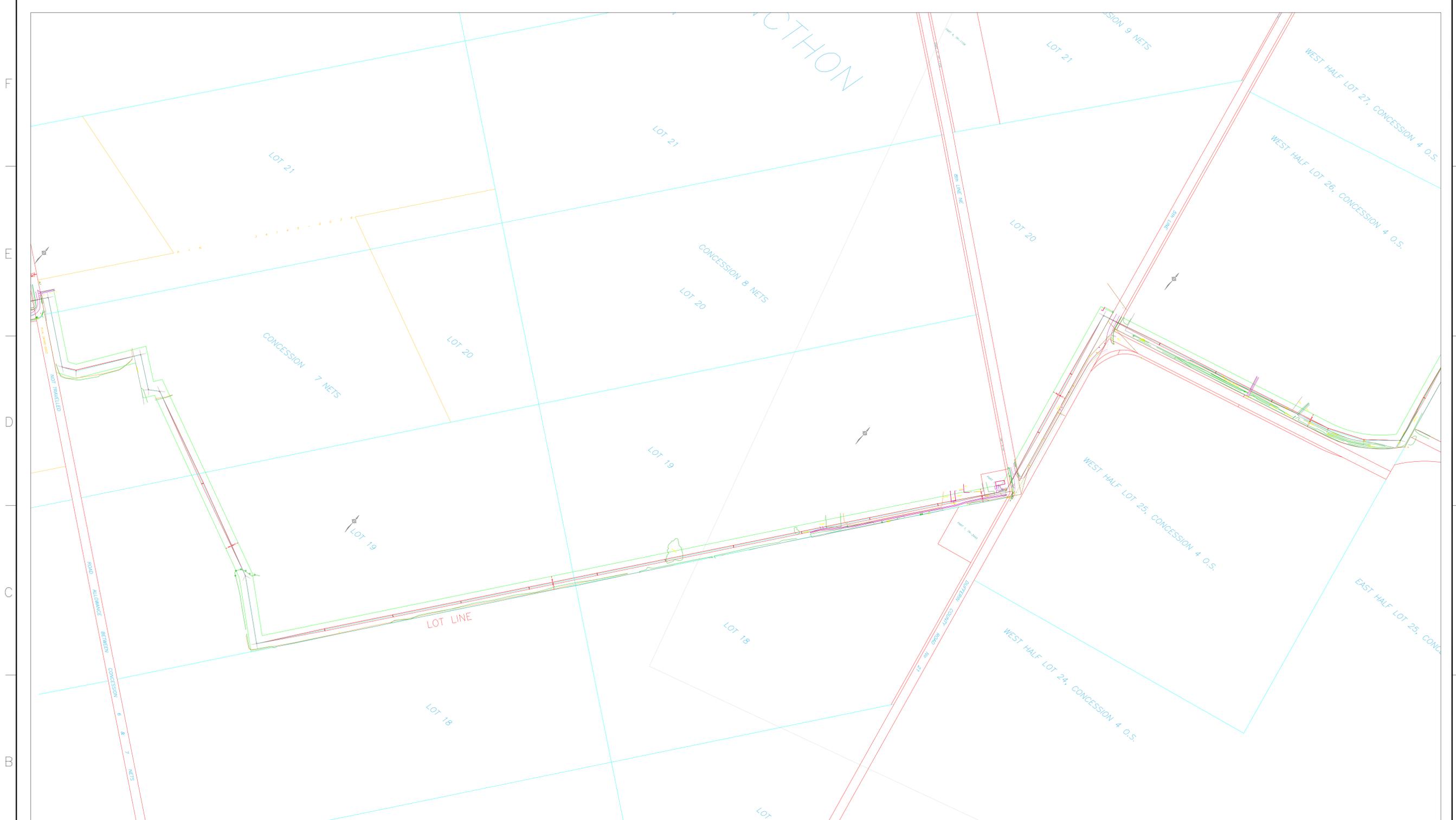
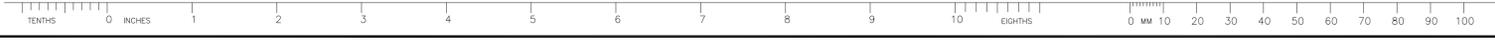
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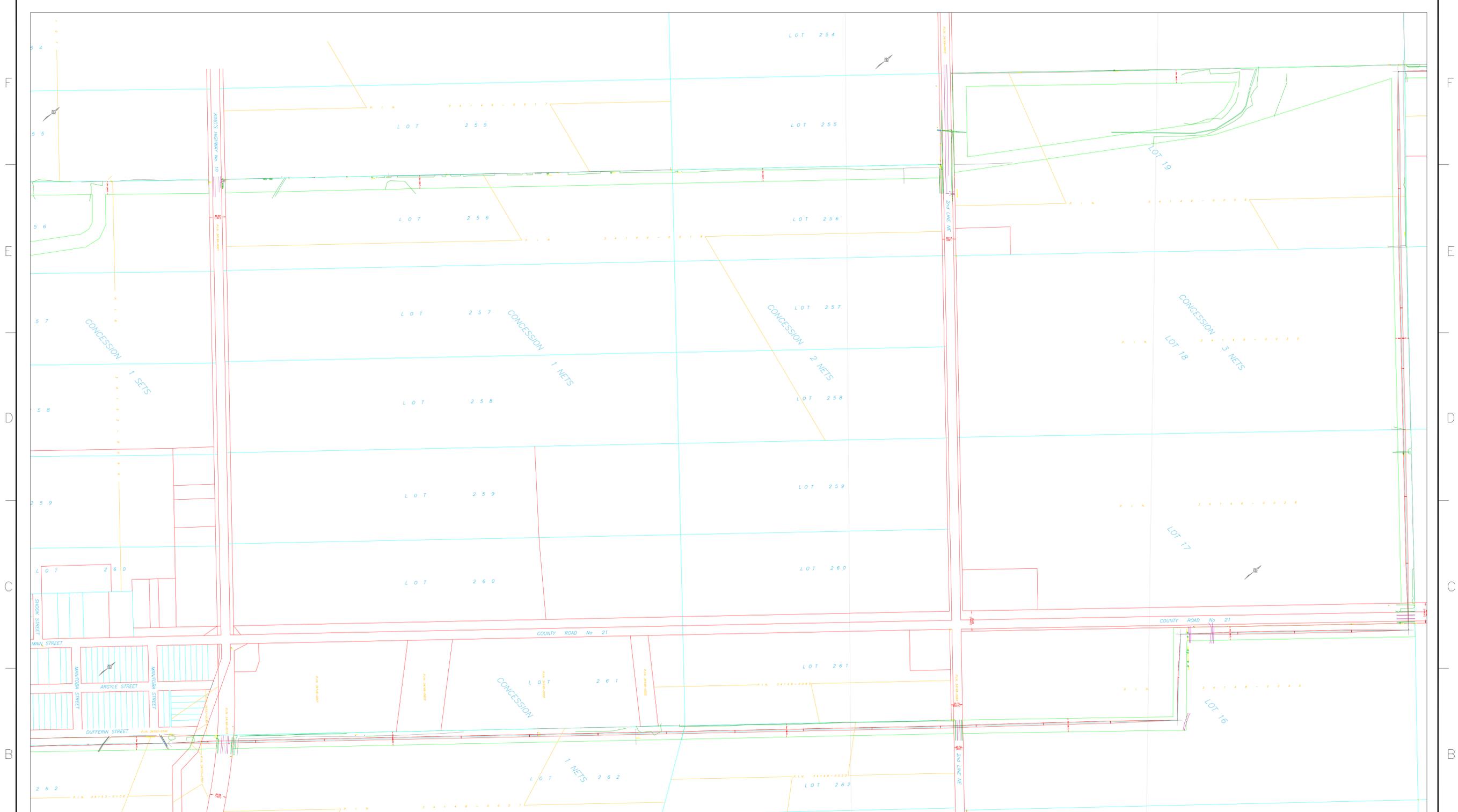
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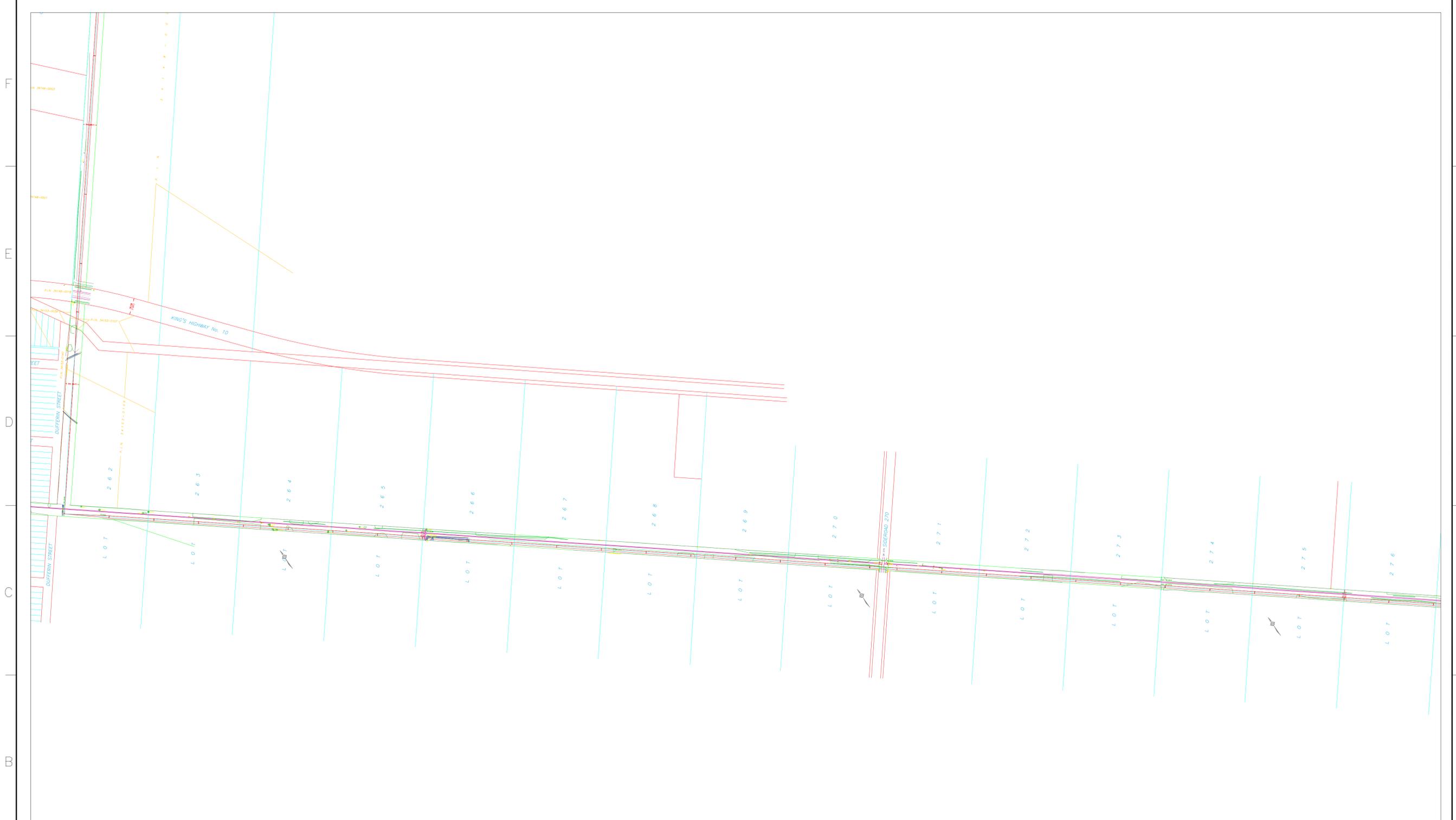
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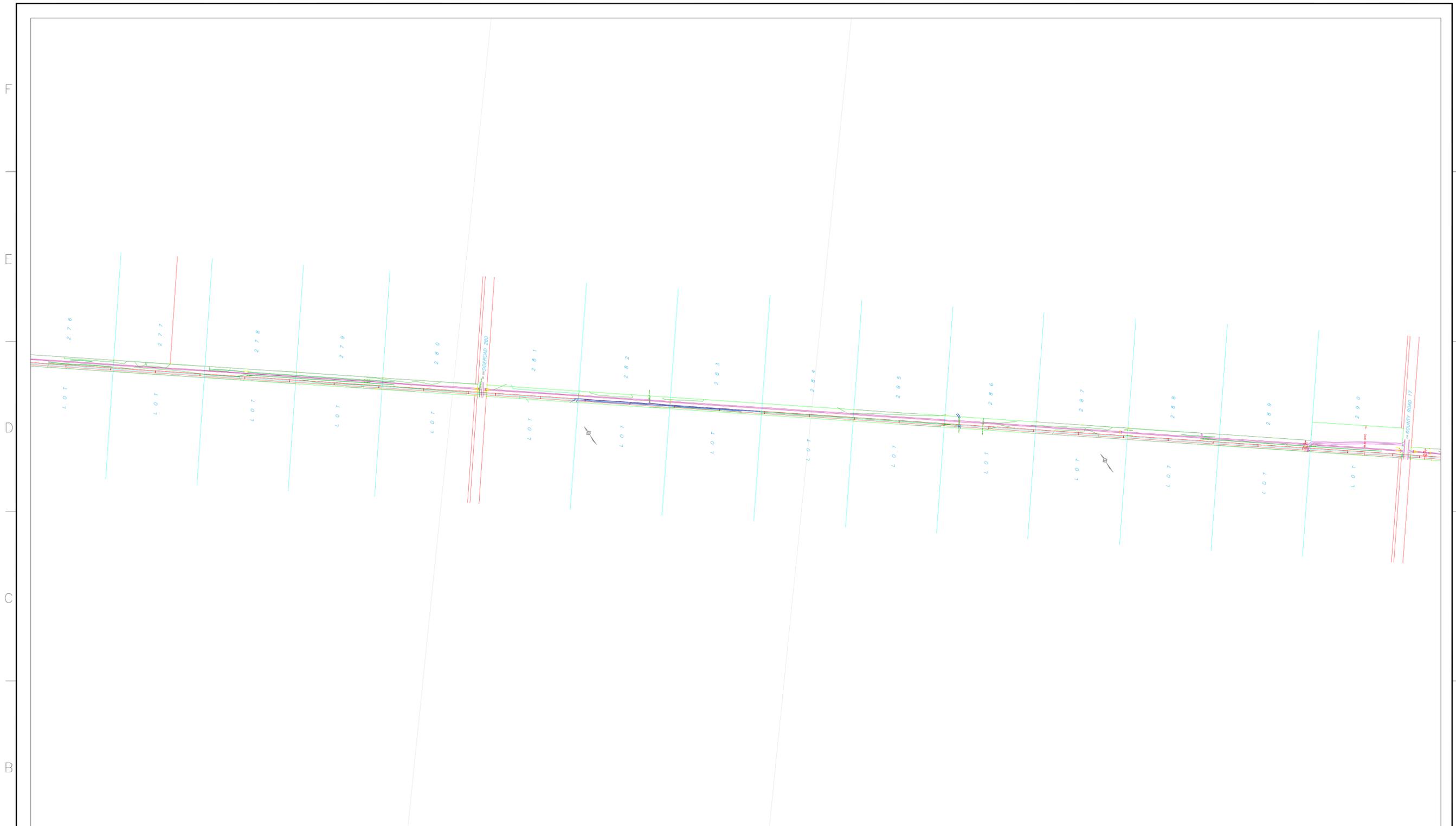
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PROJECT NO.	ACTIVITY NO.	BY DSN E.KWONG 05/09/12
SCALE	PACKAGE CODE	DRN M.HUANG 05/09/12
N.T.S.		CHK APP

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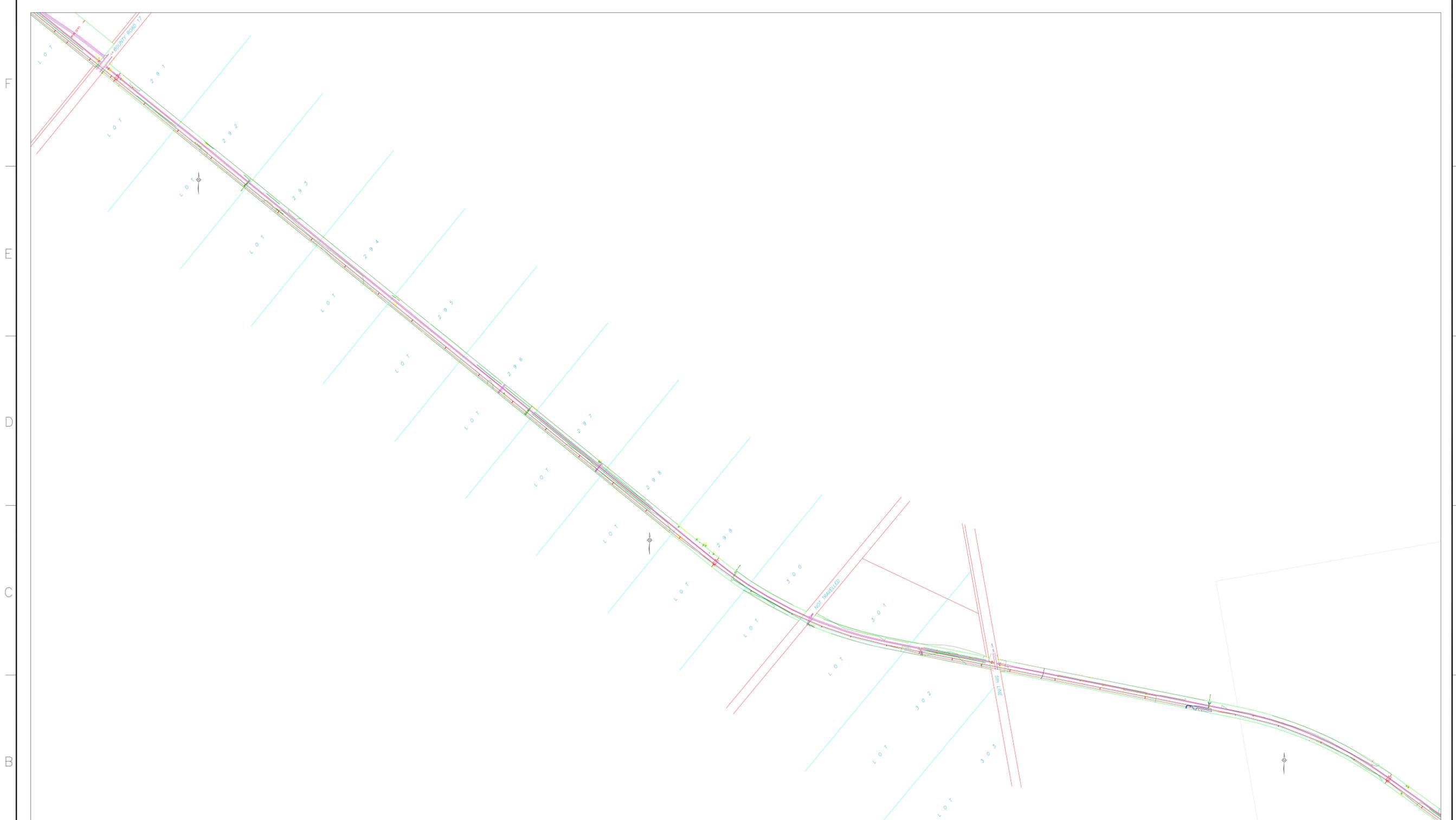
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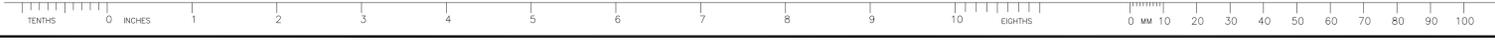
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SCALE N.T.S.	PACKAGE CODE	CHK APP

SUBJECT
 OVERALL PLAN
 RAILROAD CORRIDOR SECTION
 SHEET 7

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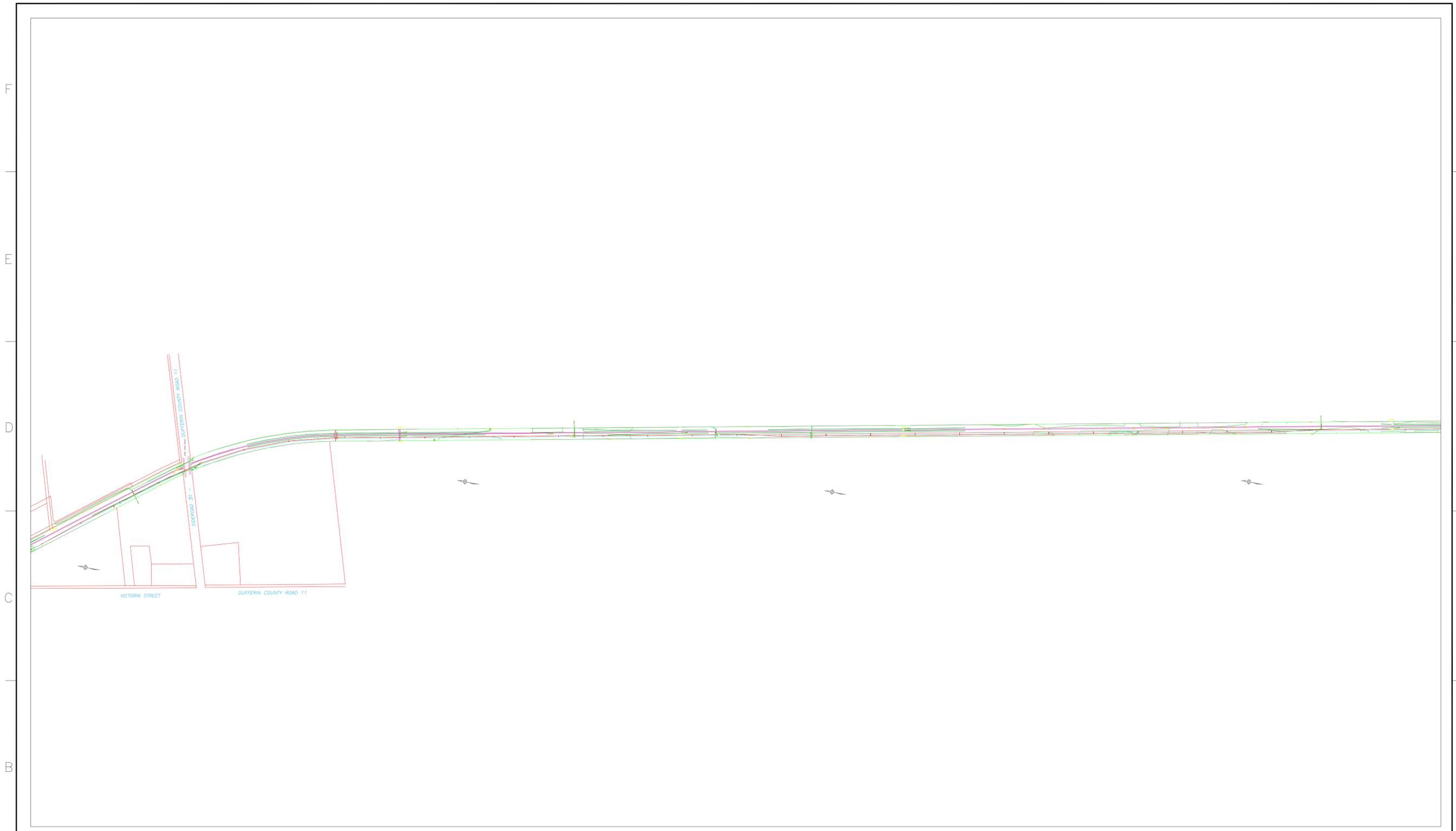
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PROJECT NO.	ACTIVITY NO.	BY DSN E.KWONG 05/09/12 DRN M.HUANG 05/09/12
SCALE	PACKAGE CODE	CHK APP
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SUBJECT
 OVERALL PLAN
 RAILROAD CORRIDOR SECTION
 SHEET 8

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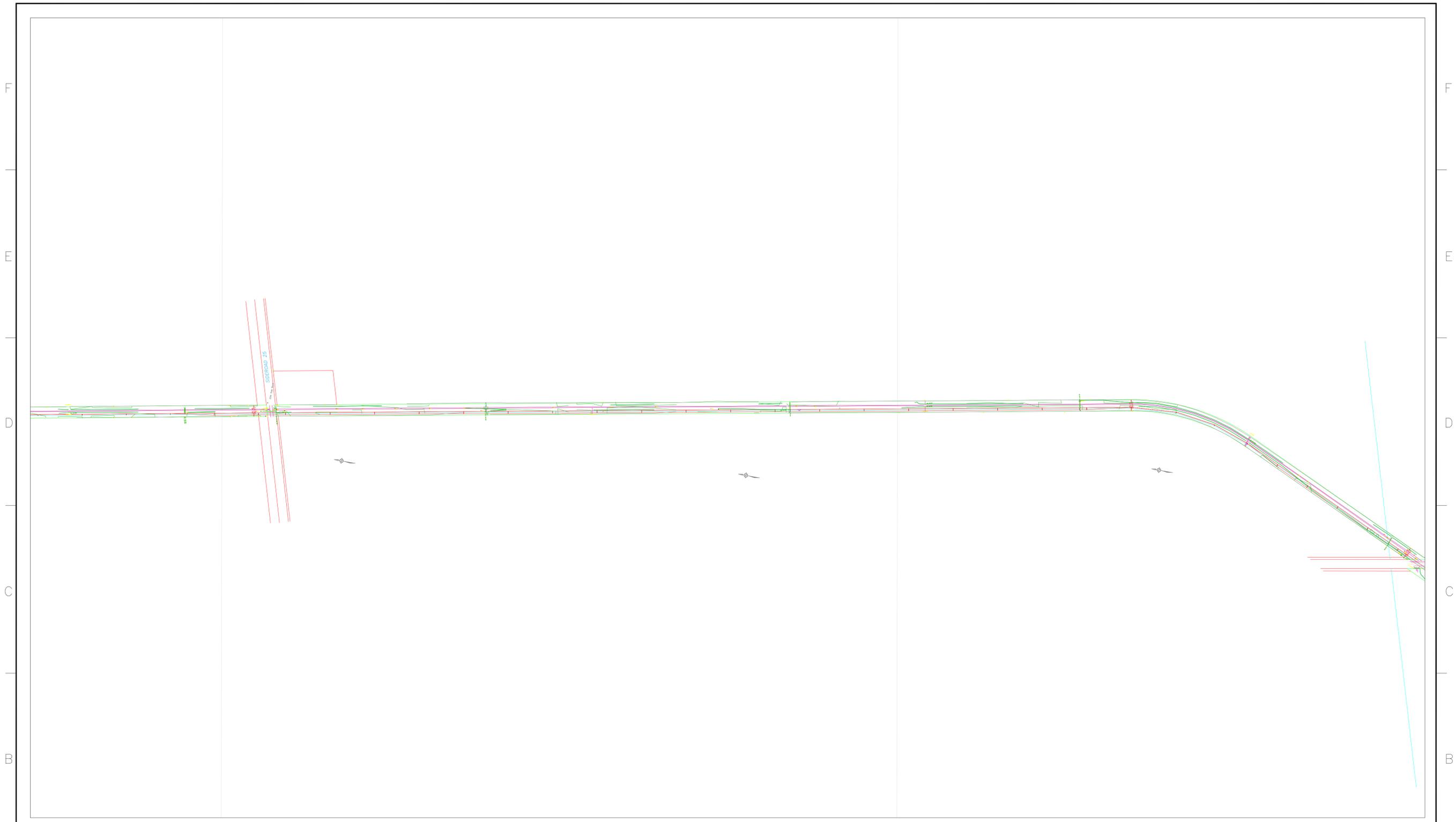
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SCALE	PACKAGE CODE	CHK
N.T.S.		APP

SUBJECT
 DUFFERIN WIND POWER PROJECT
 230 KV TRANSMISSION LINE
 OVERALL PLAN
 RAILROAD CORRIDOR SECTION
 SHEET 9

CLIENT DWG. NO.	REV.
DRAWING NO. 1248-P001-S09	A



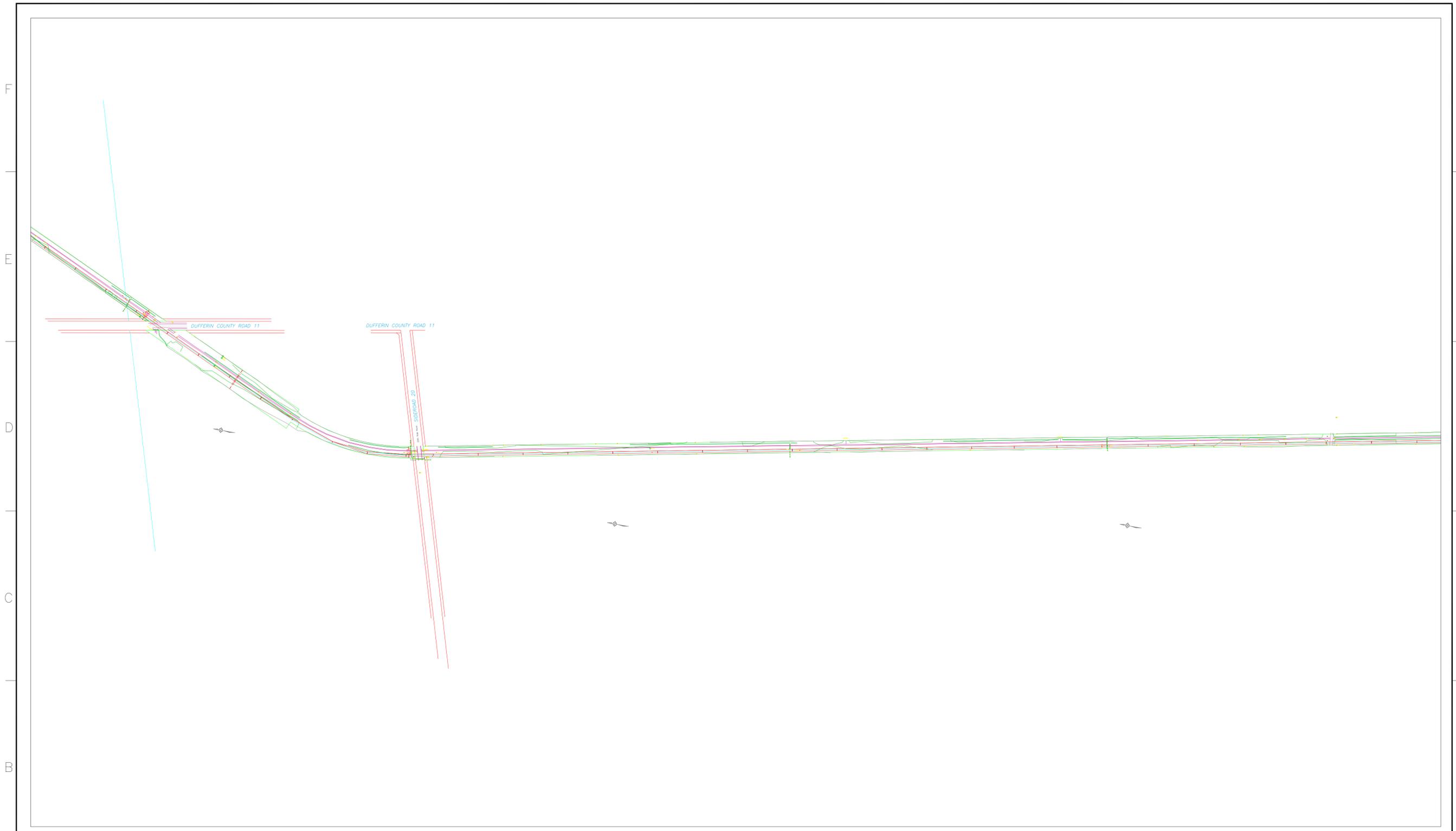
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A	06/09/12	PRELIMINARY DESIGN							A	06/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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PROJECT PHASE	AREA	
PROJECT NO.	ACTIVITY NO.	BY
		DDMMYY
		DSN
		E.KWONG
		05/09/12
		DRN
		M.HUANG
		05/09/12
		CHK
		APP
SCALE	PACKAGE CODE	
N.T.S.		

SUBJECT
 DUFFERIN WIND POWER PROJECT
 230 kV TRANSMISSION LINE
 OVERALL PLAN
 RAILROAD CORRIDOR SECTION
 SHEET 10

CLIENT DWG. NO.	REV.
DRAWING NO.	A
1248-P001-S10	



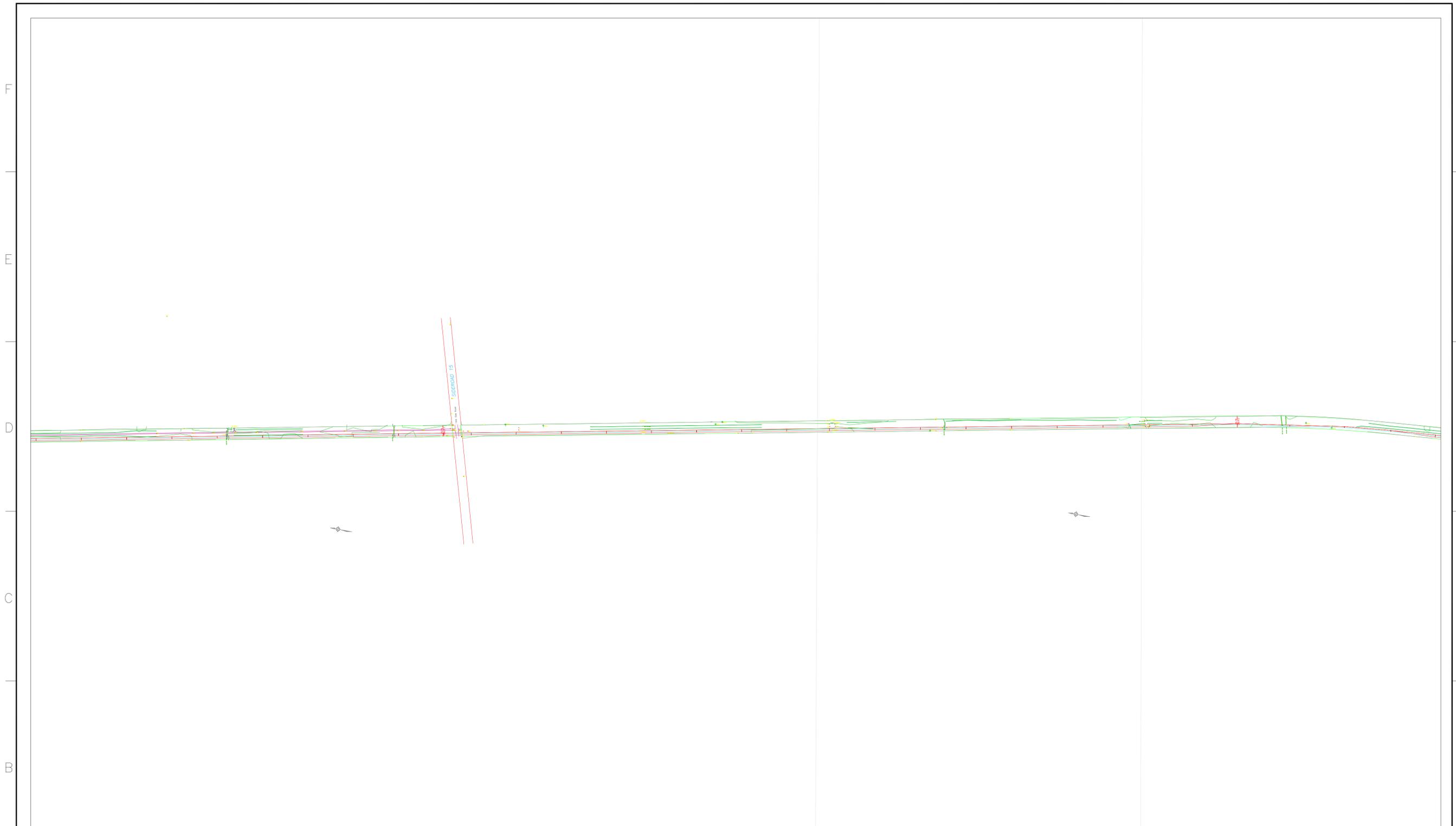
REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
A	06/09/12	PRELIMINARY DESIGN	M.H.	E.K.					A	06/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE	AREA	
PROJECT NO.	ACTIVITY NO.	BY
SCALE	PACKAGE CODE	DDMMYY
N.T.S.		05/09/12
		DSN E.KWONG
		DRN M.HUANG
		CHK
		APP

SUBJECT
 DUFFERIN WIND POWER PROJECT
 230 KV TRANSMISSION LINE
 OVERALL PLAN
 RAILROAD CORRIDOR SECTION
 SHEET 11

CLIENT DWG. NO.	REV.
DRAWING NO. 1248-P001-S11	A



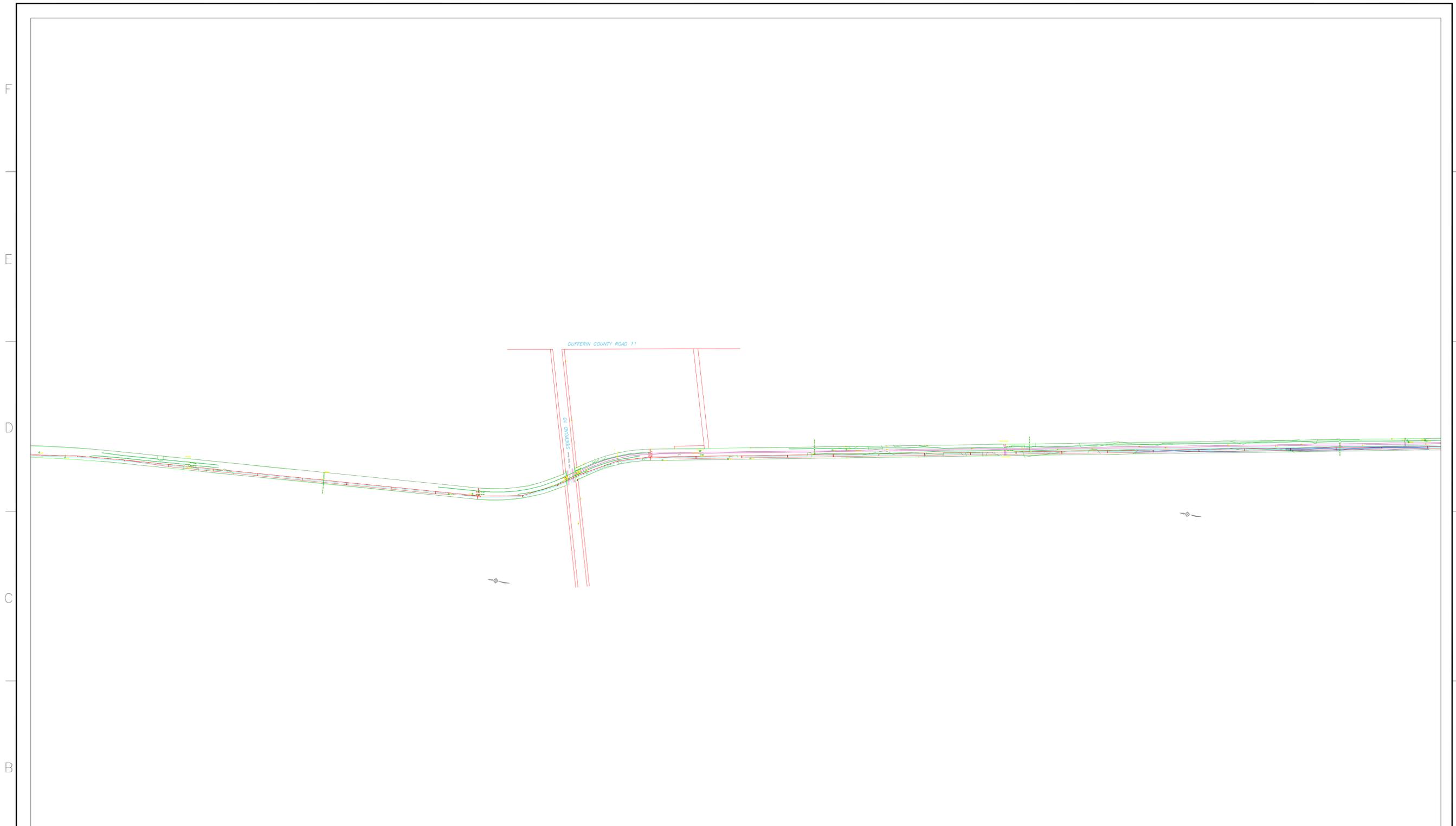
REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
A	06/09/12	PRELIMINARY DESIGN							A	06/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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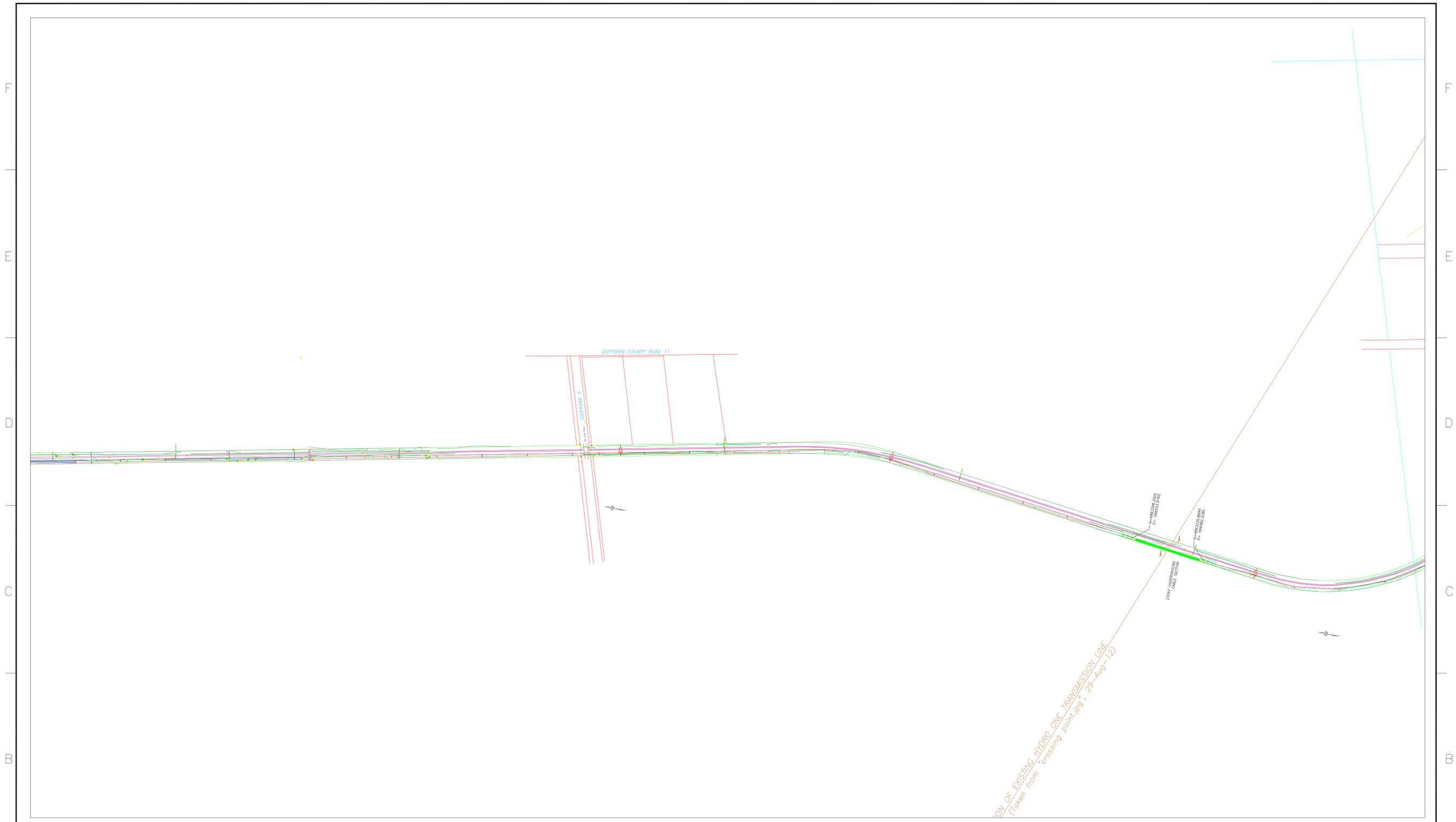
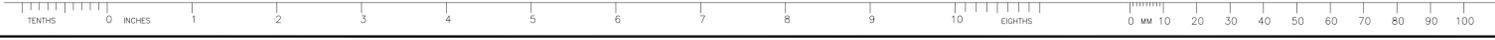
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE	AREA	
PROJECT NO.	ACTIVITY NO.	BY
SCALE	PACKAGE CODE	DDMMYY
N.T.S.		05/09/12
		DSN E.KWONG
		DRN M.HUANG
		CHK
		APP

SUBJECT
 DUFFERIN WIND POWER PROJECT
 230 KV TRANSMISSION LINE
 OVERALL PLAN
 RAILROAD CORRIDOR SECTION
 SHEET 12

CLIENT DWG. NO.	REV.
DRAWING NO. 1248-P001-S12	A



										CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR. PROJECT PHASE PROJECT NO. ACTIVITY NO. BY DDMYY. SUBJECT DSN E.KWONG 05/09/12 DRN M.HUANG 05/09/12 CHK APP			AREA DUFFERIN WIND POWER PROJECT 230 KV TRANSMISSION LINE		CLIENT DWG. NO. DRAWING NO. 1248-P001-S13		REV. A
STAMP/SEAL PROPRIETARY INFORMATION: THIS DRAWING IS THE PROPERTY OF CHIMAX INC. AND IS NOT TO BE LOANED OR REPRODUCED IN ANY WAY WITHOUT THE PERMISSION OF CHIMAX, INC.										SCALE N.T.S.	PACKAGE CODE	OVERALL PLAN RAILROAD CORRIDOR SECTION SHEET 13	DRAWING NO. 1248-P001-S13	REV. A			
9	8	7	6	5	4	3	2	1	CAD FILE: 1248-P001-A	1							
A	06/09/12	PRELIMINARY DESIGN	M.H.	E.K.	APP	APP	APP	APP	ISS	06/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	REFERENCES	TITLE		
A	06/09/12	PRELIMINARY DESIGN	M.H.	E.K.	APP	APP	APP	APP	ISS	06/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	REFERENCES	TITLE		

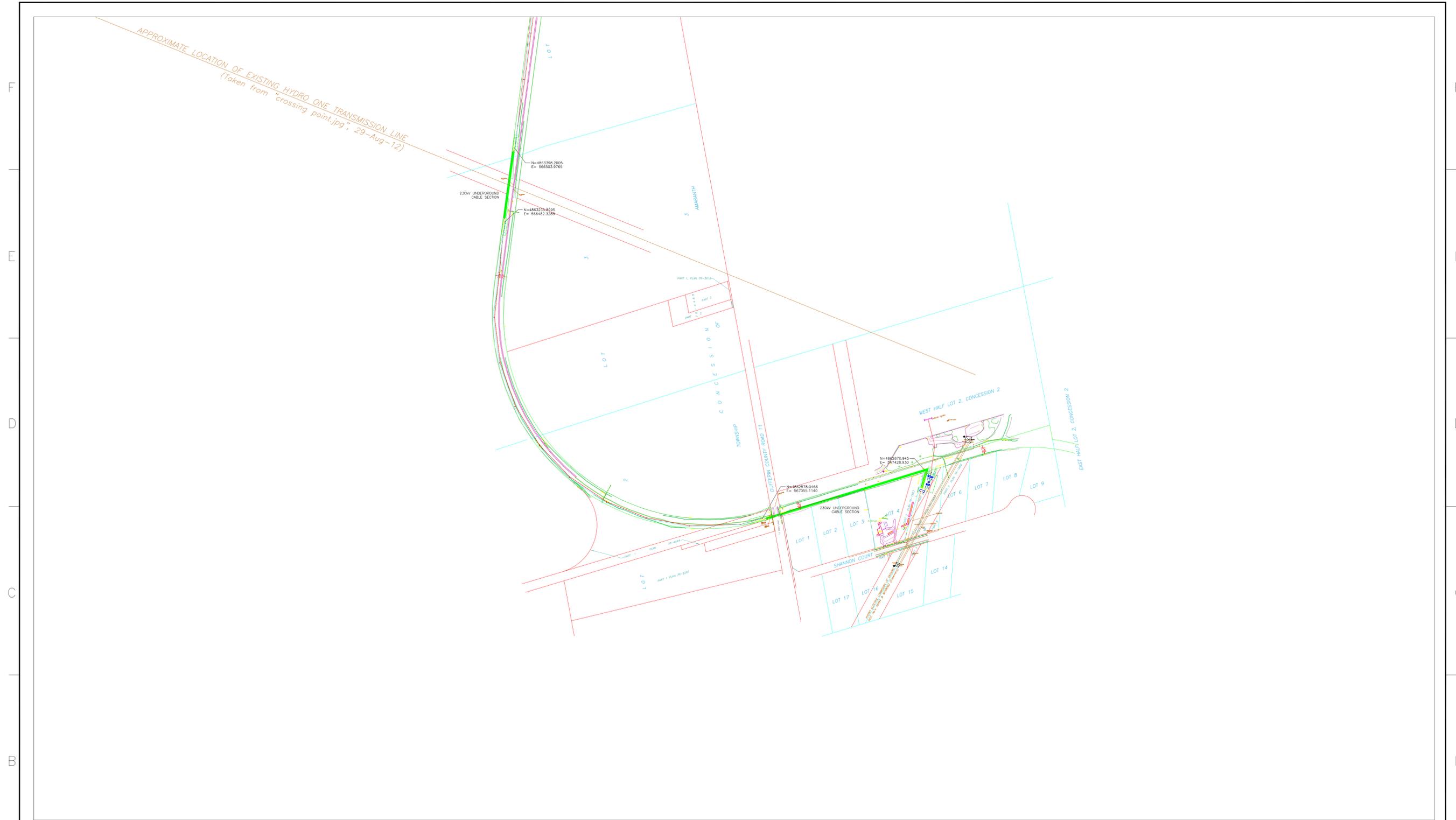


REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
A	06/09/12	PRELIMINARY DESIGN							A	06/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA	DUFFERIN WIND POWER PROJECT 230 KV TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT
		DSN	E.KWONG	05/09/12
		DRN	M.HUANG	05/09/12
		CHK		
		APP		
SCALE	PACKAGE CODE	OVERALL PLAN RAILROAD CORRIDOR SECTION SHEET 14		
N.T.S.		DRAWING NO. 1248-P001-S14		
				REV. A



REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
C	16/11/12	REVISED SWITCHING STATION LOCATION (LOT 5)								C	16/11/12	ISSUED FOR LEAVE TO CONSTRUCT PERMIT UPDATE			
B	13/09/12	REVISED SWITCHING STATION LAYOUT								B	13/09/12	ISSUED FOR LEAVE TO CONSTRUCT PERMIT			
A	06/09/12	PRELIMINARY DESIGN								A	06/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		
PROJECT NO.	ACTIVITY NO.	BY
		DDMMYY
SCALE	PACKAGE CODE	SUBJECT
N.T.S.		DUFFERIN WIND POWER PROJECT 230 KV TRANSMISSION LINE
		OVERALL PLAN RAILROAD CORRIDOR SECTION SHEET 15

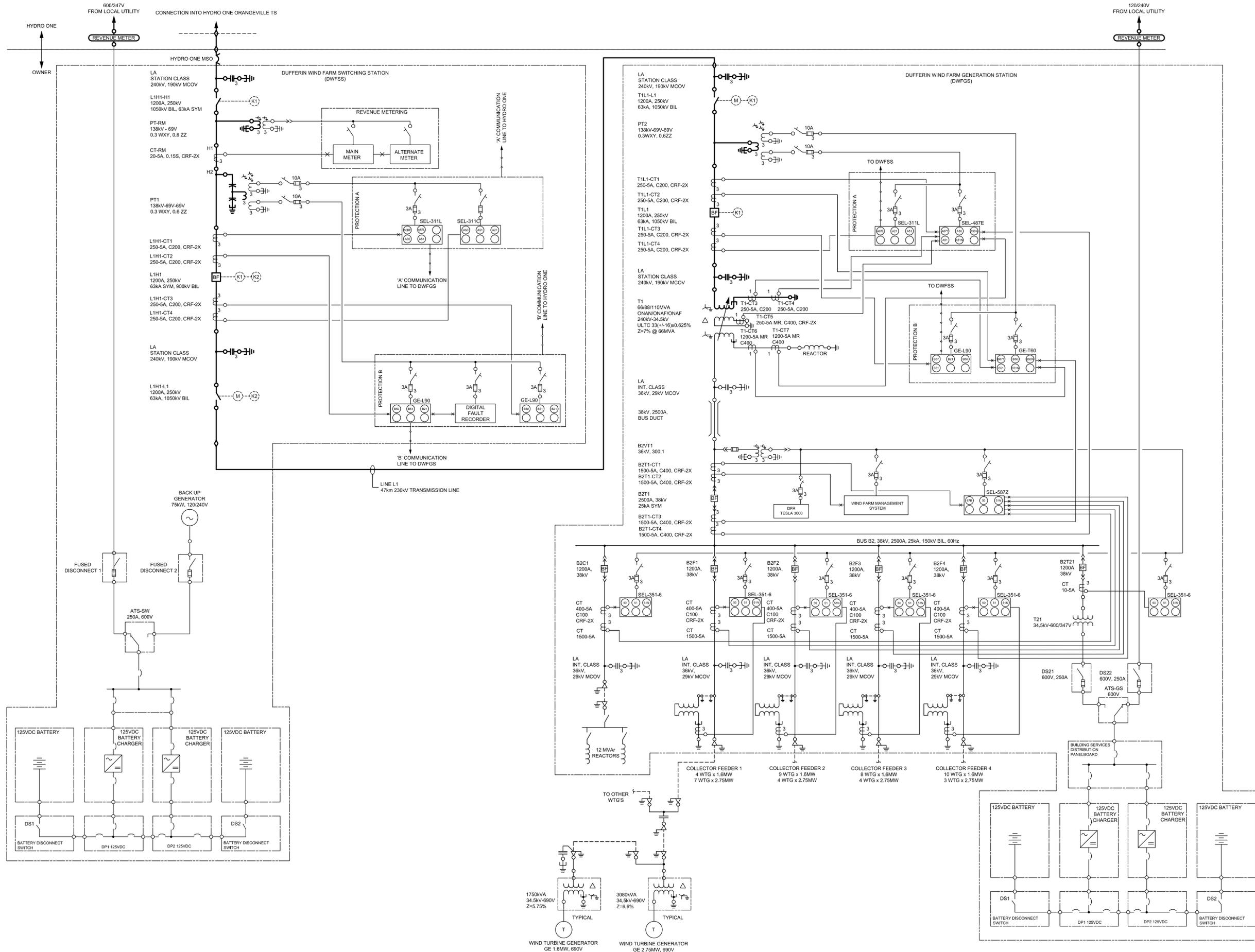
CLIENT DWG. NO.	DRAWING NO.	REV.
	1248-P001-S15	C

Exhibit B, Tab 2, Schedule 5
Drawings and Illustrations

DRAWINGS & ILLUSTRATIONS

- 1 The following line drawings, station layouts and illustrations are included in this schedule:
- 2 • Figure 1 - Transmission Project - Single Line Drawing
 - 3 • Figure 2(a) - Project Substation - Site Plan
 - 4 • Figure 2(b) - Project Substation - Station Layout
 - 5 • Figure 3(a) - Switching Station - Site Plan
 - 6 • Figure 3(b) - Switching Station - Station Layout
 - 7 • Figures 4(a)-(n) - ROW Dimensions, Pole Structures and Framing
 - 8 • Figure 5(a) - Cross Section of Underground Segment
 - 9 • Figure 5(b) - Transition Stations in Private Easements
 - 10 • Figure 5(c) - Transition Stations in Rail Corridor

Figure 1



- LEGEND:**
- 21 - DISTANCE PROTECTION
 - 50 - INSTANTANEOUS OVERCURRENT PROTECTION
 - 51 - INV. TIME OVERCURRENT PROTECTION
 - 51N - NEUTRAL OVERCURRENT PROTECTION
 - BF - CIRCUIT BREAKER WITH BF PROTECTION
 - 87 - DIFFERENTIAL PROTECTION
 - DFR - DIGITAL FAULT RECORDER
 - CS - CURRENT CIRCUIT TEST SWITCH
 - (M) - MOTOR OPERATOR
 - (K) - MECHANICAL KEY INTERLOCK

- NOTES:**
1. ALL EQUIPMENT RATINGS ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.
 2. THIS DRAWING IS BASED ON THE CONCEPT OF DRAWING# 154130-0000-141-SLD-0002, REV 'D'

PRELIMINARY DESIGN
NOT FOR CONSTRUCTION
OR TENDER PURPOSES

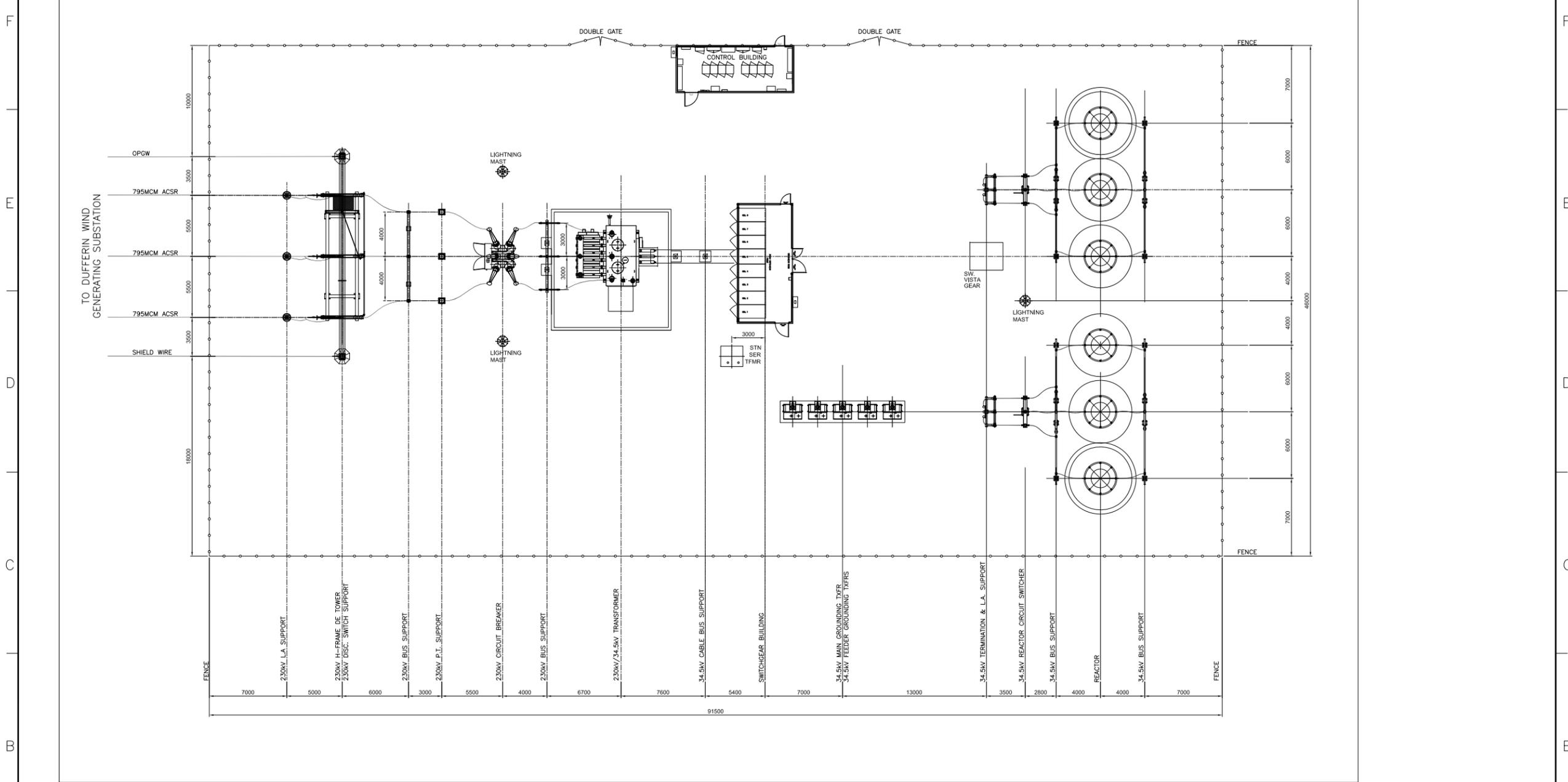
REV	DATE	REMARKS	REV. BY	APP. BY
B	SEP. 17, 2012	ADD BREAKER AT SWITCHING STATION	S.M.	S.M.
A	SEP. 5, 2012	REMOVE BREAKER AT SWITCHING STN.	C.M.	S.M.


K-LINE MAINTENANCE & CONSTRUCTION LIMITED
 1271 HWY. #48, STURFVILLE, ONTARIO, L4A 7X5, PHONE: (905) 640-2002


K-TEK ELECTRO-SERVICES LIMITED
 CONSULTING ENGINEERS
 37 SANDFORD DR. UNIT 107
 STURFVILLE, ONTARIO, L4A 7X5
 TEL.: (905) 640-0660 FAX: (905) 640-8566

Drawing No.:	Q2252-12-SS	Single Line Diagram
Drawn By:	Chris McKay	
Checked By:	Deepak Sharma	Project: Dufferin Wind Farm
Approved By:	Shereen Meleka	Date: August 20, 2012

Figures 2(a) to 2(b)



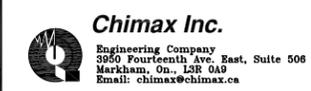
- NOTES:**
1. SUBSTATION SITE PLAN, SEE DWG. # 1248-E101.
 2. ALL DIMENSIONS ARE MM U.N.O.

34.5 / 230kV GENERATING SUBSTATION STATION LAYOUT PLAN

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	ISSUED FOR PERMIT							B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW							A	15/08/12	ISSUED FOR REVIEW				

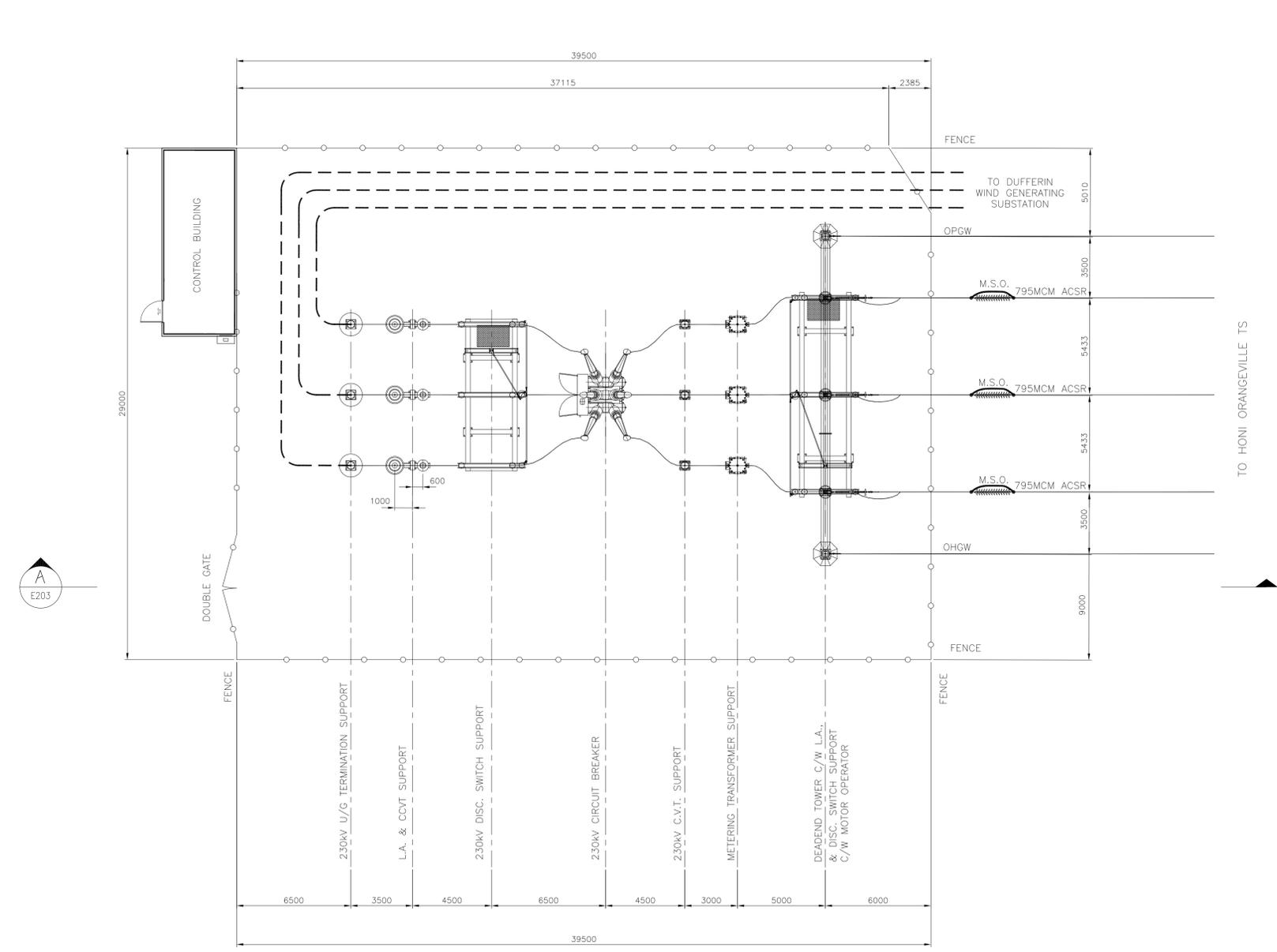
APPROVED FOR CONSTRUCTION			
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	
PROJECT PHASE			AREA
			34.5 / 230 kV GENERATING SUBSTATION
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT
			34.5 / 230kV GENERATING SUBSTATION
SCALE		BY	D/M/Y
N.T.S. (11"x17")		DSN. E.KWONG	14/08/12
		DRN. E.KWONG	14/08/12

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CLIENT DWG. NO.	DRAWING NO.
	1248-E102
REV.	B
CADD FILE ADDRESS	
1248-E102-B	



Figures 3(a) to 3(b)

- NOTES:
 1. FOR OVERALL SITE PLAN, SEE DWG# 1248-E201.
 2. FOR SECTION VIEW, SEE DWG# 1248-E203.
 3. ALL DIMENSIONS ARE METER U.N.O.



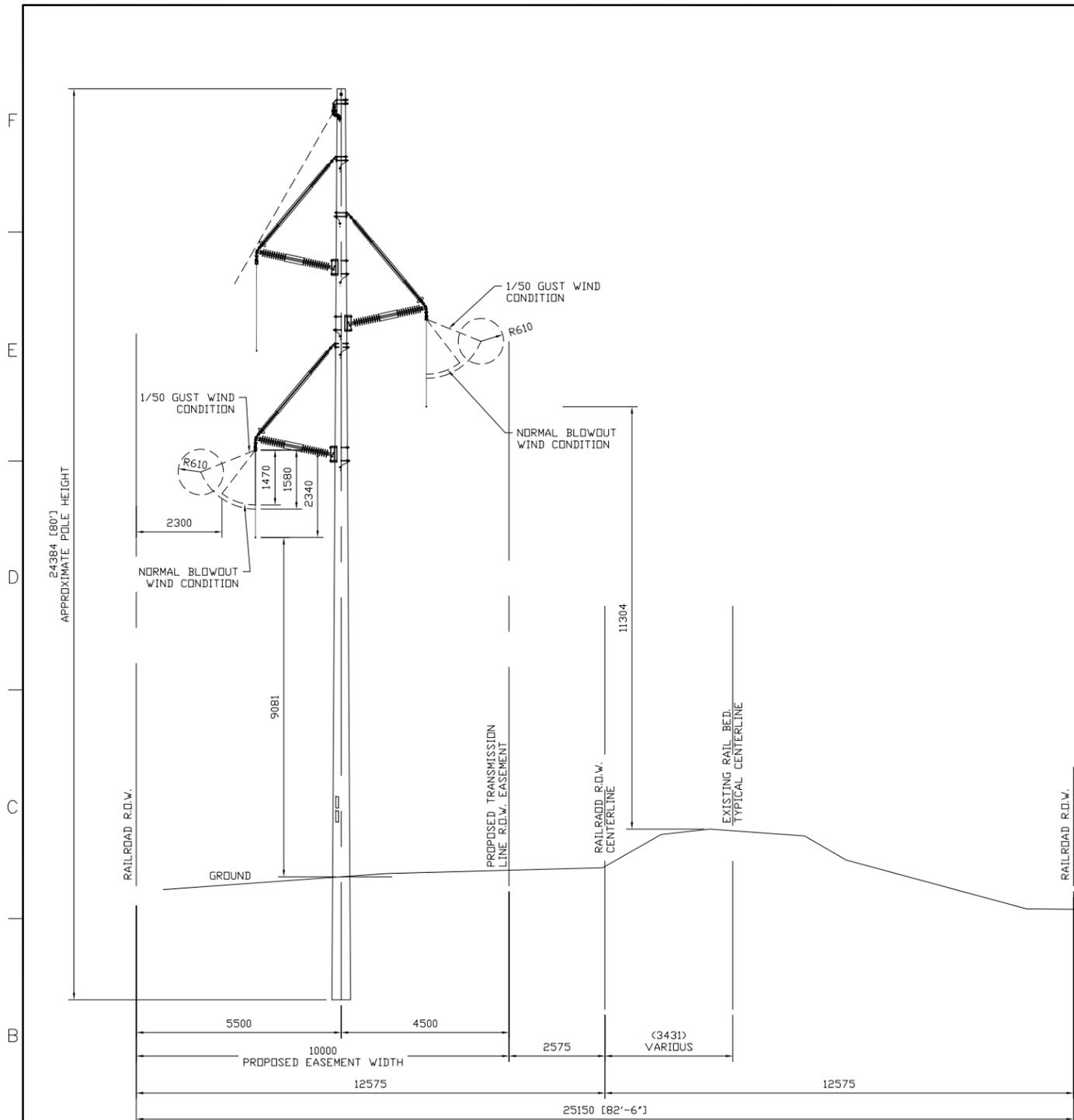
230kV INTERCONNECT SWITCHING STATION
 STATION LAYOUT PLAN

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
F	16/10/12	ISSUED FOR PERMIT	J.C.	E.K.					F	16/10/12	ISSUED FOR PERMIT				
E	13/09/12	RE-INSERT PROTECTION EQUIPMENTS	E.K.	W.L.					E	13/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
D	05/09/12	REMOVE CIRCUIT BREAKER, PROTECTION P.T. & S.S.T.	E.K.	W.L.					D	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
C	30/08/12	INCORPORATE CLIENT'S COMMENT (ROTATED BUS)	E.K.	W.L.					C	30/08/12	ISSUE FOR REVIEW				
B	29/08/12	GENERAL REVISION	E.K.	W.L.					B	28/08/12	ISSUE FOR REVIEW				
A	15/08/12	ISSUED FOR REVIEW	E.K.	W.L.					A	15/08/12	ISSUE FOR REVIEW				

CLIENT PROJECT MGR.		DEPARTMENT MGR.		PROJECT MGR.		AREA		DUFFERIN WIND POWER PROJECT 230 kV INTERCONNECT SWITCHING STATION	
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT					
		DSN E.KWONG	29/08/12	230kV SWITCHING STATION HONI INTERCONNECT STATION LAYOUT PLAN					
		DRN E.KWONG	29/08/12						
SCALE	PACKAGE CODE	CHK							
NTS		APP		DRAWING NO. 1248-E202		REV. F			



Figures 4(a) to 4(n)



230kV TRANSMISSION LINE
RAILROAD RIGHT OF WAY SECTION
TRIANGULAR TANGENT CONFIGURATION
(TYPICAL 100m SPAN)

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE 230kV CONDUCTOR: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE 230kV CONDUCTOR: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT) 230kV CONDUCTOR: 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING 230kV CONDUCTOR: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE 230kV CONDUCTOR: 2.5m FROM RAILWAY
4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE
C	14/09/12	INCORPORATE CLIENT'S COMMENTS								C	14/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			
B	05/09/12	GENERAL REVISION								B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			
A	15/08/12	ISSUED FOR REVIEW								A	15/08/12	ISSUED FOR REVIEW			

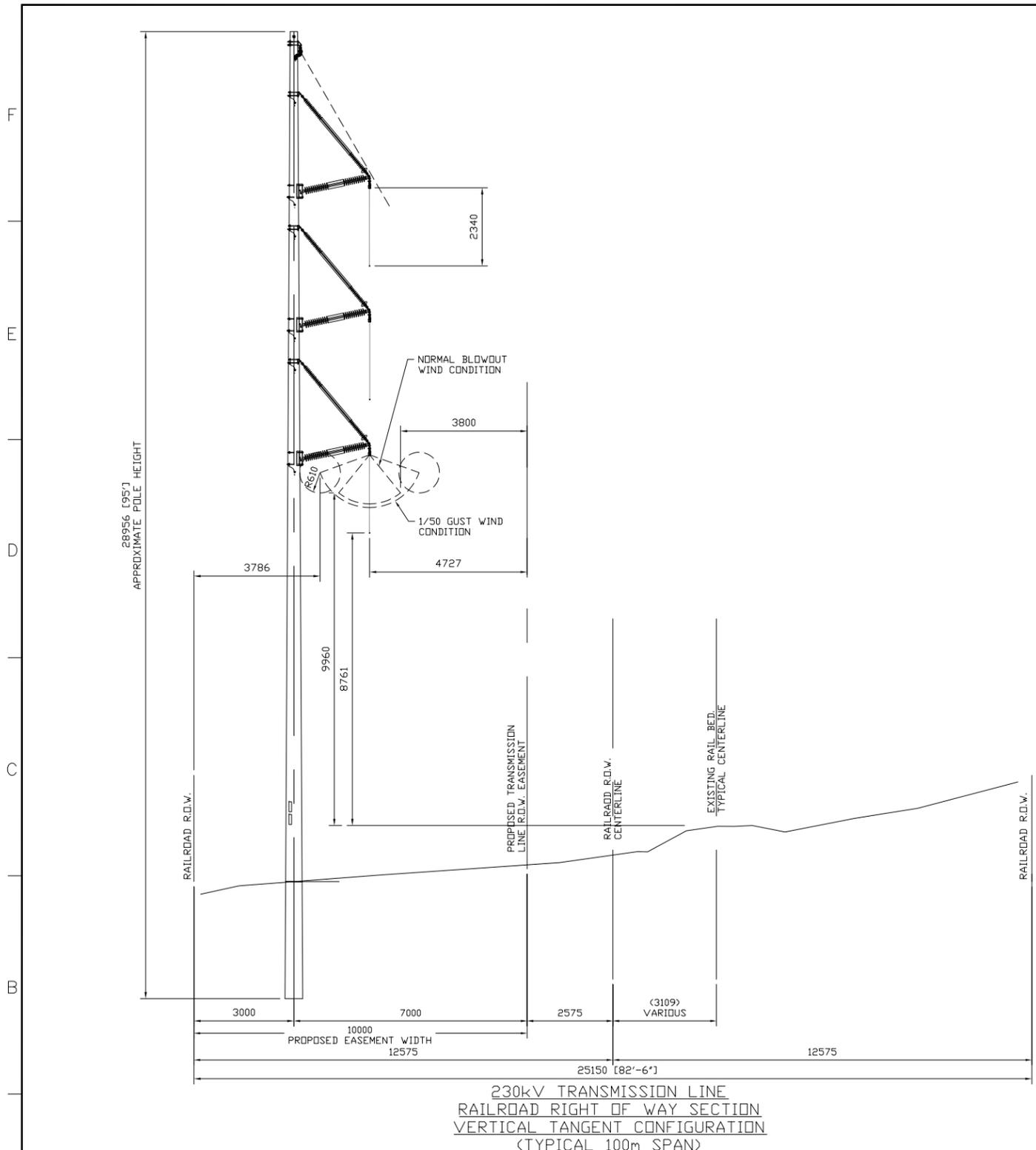
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.		ACTIVITY NO.
PACKAGE CODE		D/W/Y
BY		D/M/Y
DRN.		DRN.

AREA: DUFFERIN WIND POWER PROJECT
230 kV TRANSMISSION LINE

SUBJECT: RAILROAD RIGHT OF WAY SECTION
PROPOSED ALIGNMENT (5.5M OFFSET)
TRIANGULAR TANGENT CONFIGURATION

K-LINE MAINTENANCE & CONSTRUCTION LIMITED TORONTO, ONTARIO	
Chimax Inc. Engineering Company 9950 Fourteenth Ave. East, Suite 508 Markham, On. L3R 0A9 Email: chimax@chimax.ca	
CLIENT DWG. NO.	DRAWING NO.
	1248-P003
CADD FILE ADDRESS	REV.
1248-P003-C	C



230kV TRANSMISSION LINE
RAILROAD RIGHT OF WAY SECTION
VERTICAL TANGENT CONFIGURATION
(TYPICAL 100m SPAN)

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- | | |
|--|----------------------------|
| 1. METEOROLOGICAL LOCATION: | ORANGEVILLE |
| 2. MINIMUM DESIGN LOADING | |
| 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION | |
| HOURLY WIND | 400 Pa |
| RADIAL ICE THICKNESS | 12.7 mm (1/2") |
| CONDUCTOR TEMPERATURE | -20°C |
| 2.2. CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD | |
| (i) IEC ICE (1/50) | 25 mm @ -10°C |
| (ii) IEC WIND (1/50) | 94 km/h (417.9 Pa) @ -10°C |
| (iii) COMBINED ICE (85%) & WIND (60%) | 21.3 mm & 150.5 Pa @ -10°C |
| WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826. | |
- B. CLEARANCE CRITERIA**
- | | |
|---|-------------------------|
| 1. MEAN ANNUAL SNOW ACCUMULATION: | 0.6 m |
| 2. ADDITIONAL SURVEY TOLERANCE: | 0.3 m |
| 3. VERTICAL GROUND CLEARANCE: | |
| 3.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE | |
| 230kV CONDUCTOR | 6.10 m |
| 3.2. DESIGN VERTICAL GROUND CLEARANCE | |
| 230kV CONDUCTOR | 7.00 m |
| 3.3. FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT) | |
| 230kV CONDUCTOR | 7.30m |
| 3.4. MINIMUM CSA 22.3 No.1 RAILWAY CROSSING | |
| 230kV CONDUCTOR | 9.00m |
| 4. HORIZONTAL CLEARANCE FROM RAILWAY TRACK | |
| 4.1. MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. | |
| SUPPORT STRUCTURE | 2.5m FROM RAILWAY |
| 230kV CONDUCTOR | 4.1m FROM RAILWAY TRACK |
| 5. VERTICAL GROUND CLEARANCE LOADING CONDITIONS | |
| 5.1. PHASE CONDUCTOR | |
| (i) MAXIMUM CONDUCTOR TEMPERATURE | 100°C |
| (ii) DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738) | 75°C |
| (iii) RADIAL ICE THICKNESS (CLEARANCE) | 12.7 mm (1/2") |
| 6. PHASE CLEARANCE CONDITIONS: | |
| (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50) | 360 Pa (~87 km/hr) |
| (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30) | 320 Pa (~82 km/hr) |
| (iii) NORMAL BLOWOUT WIND | 290 Pa |
| (iv) GALLOPING | |
| GALLOPING SWING | 290 Pa |
| GALLOPING ICE | 12.7 mm (1/2") |
- C. WIND POWER PROJECT CIRCUITS DATA**
- | | |
|-----------------------------------|---------------------|
| 1. MERCHANT CIRCUIT(S) | |
| 1.1. NOMINAL SYSTEM VOLTAGE | 230 kV |
| 1.2. NUMBER OF PHASES | 3 |
| 1.3. SYSTEM FREQUENCY | 60 Hz |
| 1.4. SYSTEM GROUNDING | LOW IMPEDANCE (xxx) |
| 1.5. NUMBER OF CIRCUIT | 1 (ONE) |
| 1.6. MAXIMUM CIRCUIT CURRENT | 350 A PER CIRCUIT |
| 1.7. PHASE CONDUCTOR SIZE | 795MCM ACSR (DRAKE) |
| 1.8. DESIGN CONDUCTOR TEMPERATURE | 75°C |

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
C	14/09/12	INCORPORATE CLIENT'S COMMENTS								C	14/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
B	05/09/12	GENERAL REVISION								B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW								A	15/08/12	ISSUED FOR REVIEW				

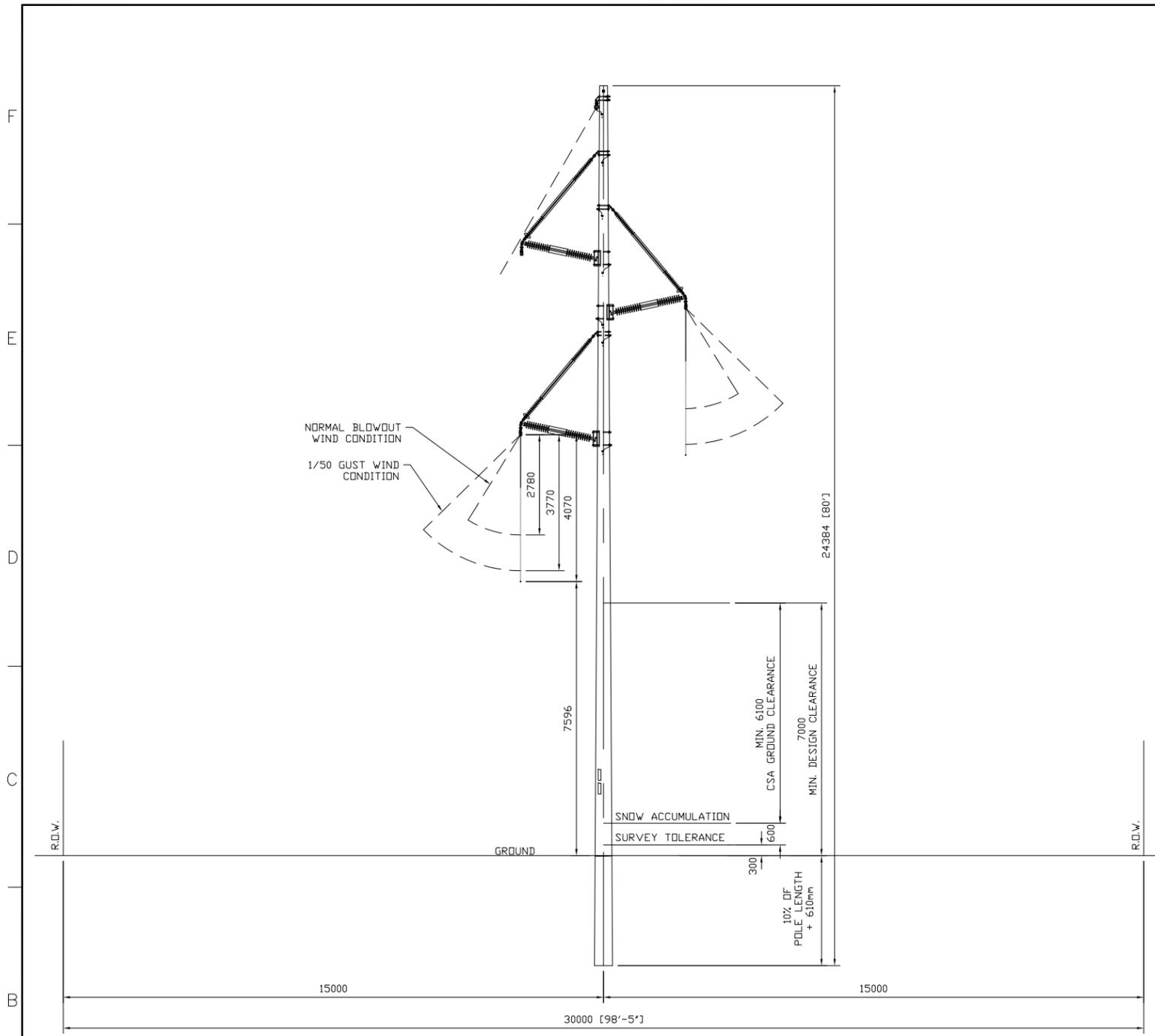
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE	AREA	DUFFERIN WIND POWER PROJECT 230 kV TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE	BY	D/M/Y
N.T.S. (11"x17")	DSN. E.KWONG	14/08/12
	DRN. M.HUANG	14/08/12

SUBJECT	
RAILROAD RIGHT OF WAY SECTION PROPOSED ALIGNMENT (3.0M OFFSET) VERTICAL TANGENT CONFIGURATION	



CLIENT DWG. NO.	
DRAWING NO.	1248-P004
REV.	C
CADD FILE ADDRESS	1248-P004-C



230kV TRANSMISSION LINE
PRIVATE EASEMENT RIGHT OF WAY SECTION
TRIANGULAR TANGENT CONFIGURATION
(TYPICAL 150m SPAN)

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE 230kV CONDUCTOR: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE 230kV CONDUCTOR: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT) 230kV CONDUCTOR: 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING 230kV CONDUCTOR: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE 230kV CONDUCTOR: 2.5m FROM RAILWAY
4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	GENERAL REVISION						B	05/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW					A	15/08/12			ISSUED FOR REVIEW				

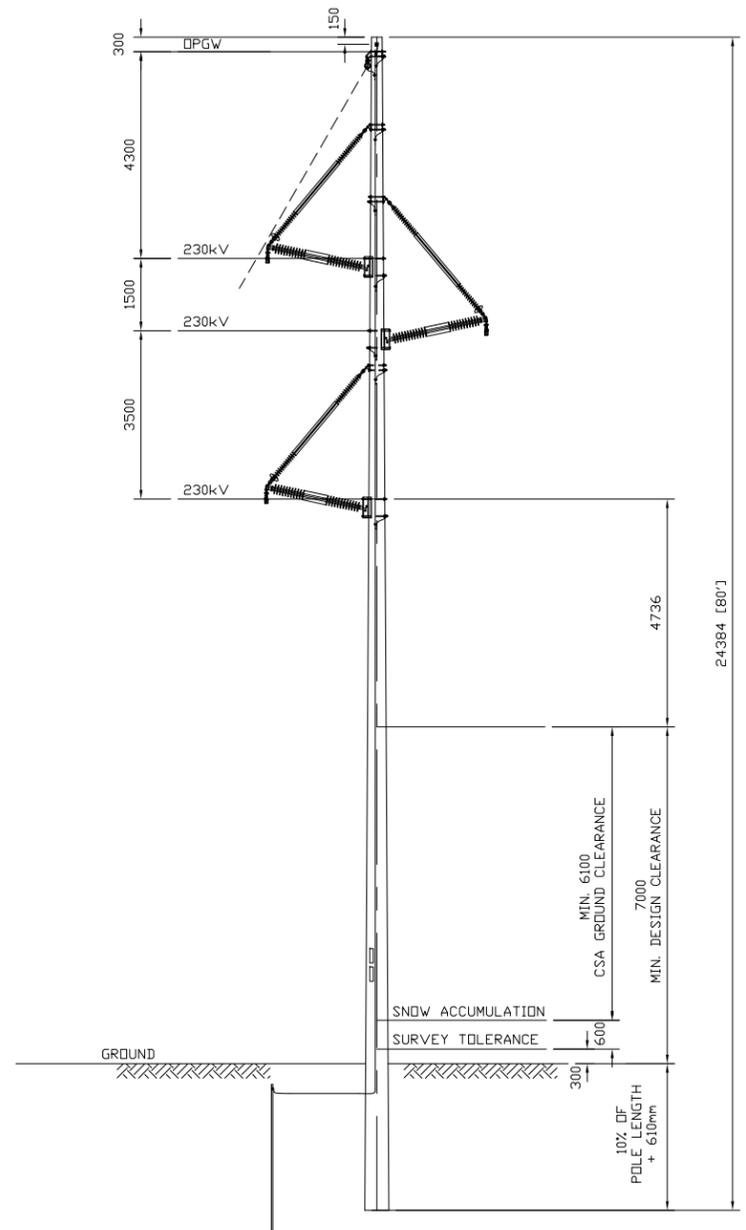
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.		ACTIVITY NO.
PACKAGE CODE		D/W/Y
BY		D/M/Y
DGN. E.KWONG		14/08/12
DRN. M.HUANG		14/08/12

SUBJECT	
PRIVATE EASEMENT RIGHT OF WAY PROPOSED ALIGNMENT SECTION TRIANGULAR TANGENT CONFIGURATION	



CLIENT DWG. NO.	
DRAWING NO.	1248-P005
REV.	B
CADD FILE ADDRESS	1248-P005-B



1CCT 230kV TRANSMISSION LINE
TANGENT (0 - 2°)
TRIANGULAR CONFIGURATION FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE 230kV CONDUCTOR: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE 230kV CONDUCTOR: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT) 230kV CONDUCTOR: 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING 230kV CONDUCTOR: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE 230kV CONDUCTOR: 2.5m FROM RAILWAY
4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
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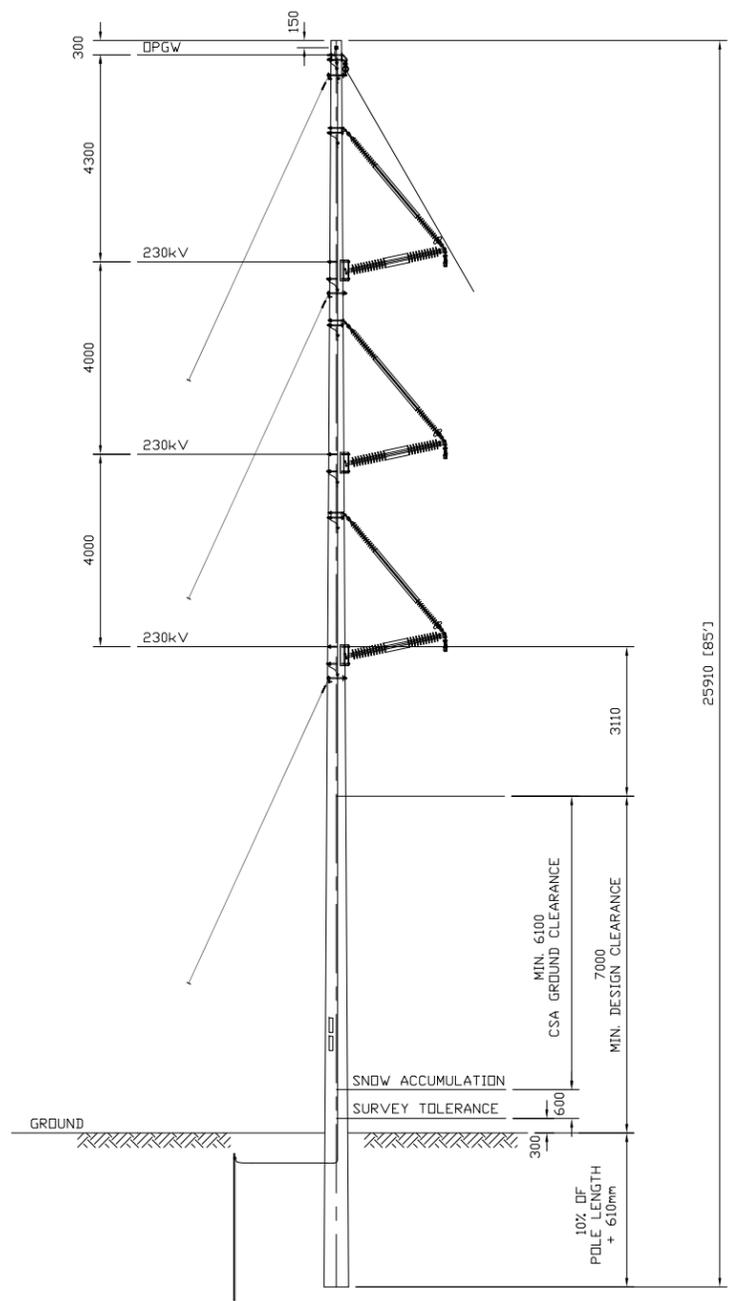
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/SN. E.KWONG
		D/RN. M.HUANG
		D/Y 15/08/12
		D/Y 15/08/12

SUBJECT	
1CCT 230kV TRANSMISSION LINE TANGENT (0 - 2°) TRIANGULAR CONFIGURATION FRAMING	



CLIENT DWG. NO.	
DRAWING NO.	1248-P201
CADD FILE ADDRESS	1248-P201-B



1CCT 230kV TRANSMISSION LINE
LIGHT ANGLE (2 - 15°) FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
1. METEOROLOGICAL LOCATION: ORANGEVILLE
 2. MINIMUM DESIGN LOADING
 - 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION

HOURLY WIND	400 Pa
RADIAL ICE THICKNESS	12.7 mm (1/2")
CONDUCTOR TEMPERATURE	-20°C
 - 2.2. CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - (i) IEC ICE (1/50) 25 mm @ -10°C
 - (ii) IEC WIND (1/50) 94 km/h (417.9 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%) 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
1. MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 2. ADDITIONAL SURVEY TOLERANCE: 0.3 m
 3. VERTICAL GROUND CLEARANCE:
 - 3.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE

230kV CONDUCTOR	6.10 m
230kV CONDUCTOR	7.00 m
 - 3.2. DESIGN VERTICAL GROUND CLEARANCE

230kV CONDUCTOR	7.30m
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 - 3.3. FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT)

230kV CONDUCTOR	9.00m
-----------------	-------
 - 3.4. MINIMUM CSA 22.3 No.1 RAILWAY CROSSING

230kV CONDUCTOR	9.00m
-----------------	-------
 4. HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - 4.1. MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W.

SUPPORT STRUCTURE	2.5m FROM RAILWAY
230kV CONDUCTOR	4.1m FROM RAILWAY TRACK
 5. VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - 5.1. PHASE CONDUCTOR
 - (i) MAXIMUM CONDUCTOR TEMPERATURE 100°C
 - (ii) DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738) 75°C
 - (iii) RADIAL ICE THICKNESS (CLEARANCE) 12.7 mm (1/2")
 6. PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50) 360 Pa (~87 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30) 320 Pa (~82 km/hr)
 - (iii) NORMAL BLOWOUT WIND 290 Pa
 - (iv) GALLOPING

GALLOPING SWING	290 Pa
GALLOPING ICE	12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
1. MERCHANT CIRCUIT(S)
 - 1.1. NOMINAL SYSTEM VOLTAGE 230 kV
 - 1.2. NUMBER OF PHASES 3
 - 1.3. SYSTEM FREQUENCY 60 Hz
 - 1.4. SYSTEM GROUNDING LOW IMPEDANCE (xxx)
 - 1.5. NUMBER OF CIRCUIT 1 (ONE)
 - 1.6. MAXIMUM CIRCUIT CURRENT 350 A PER CIRCUIT
 - 1.7. PHASE CONDUCTOR SIZE 795MCM ACSR (DRAKE)
 - 1.8. DESIGN CONDUCTOR TEMPERATURE 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
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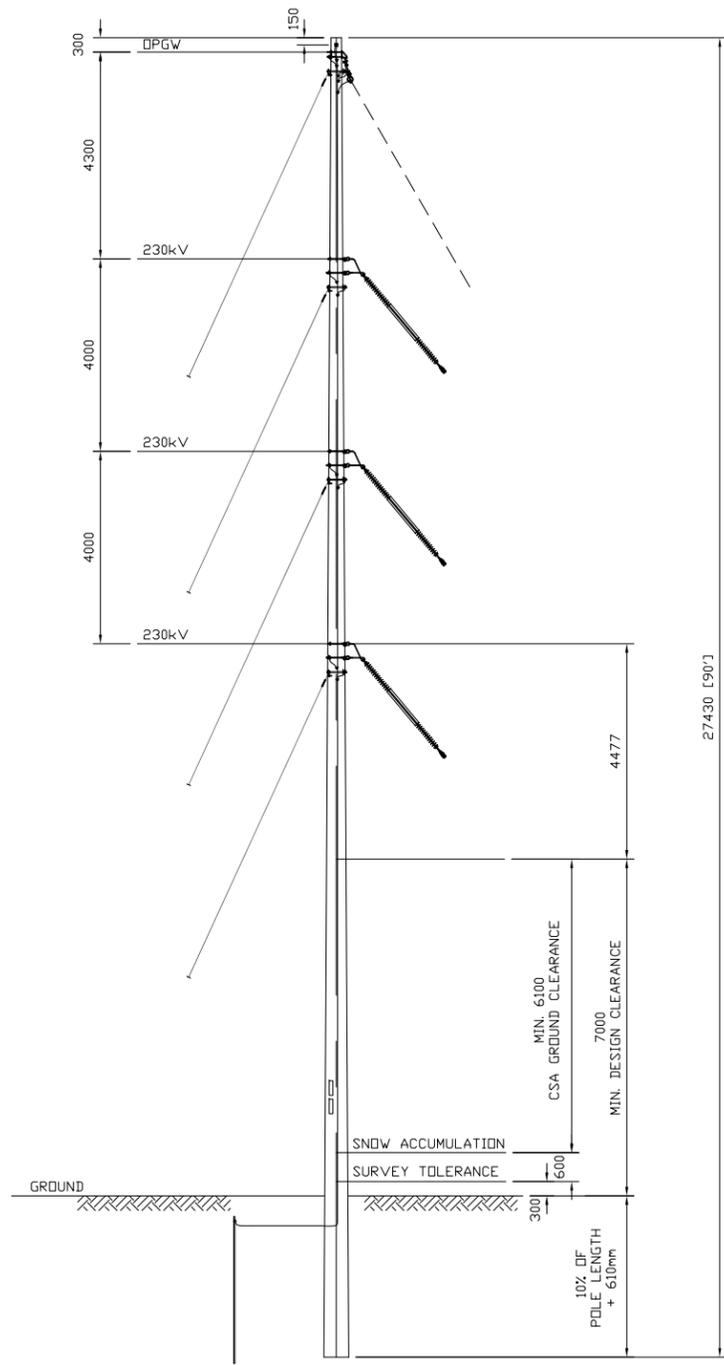
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/SN. E.KWONG
		DRN. M.HUANG
		D/M/Y
		15/08/12
		15/08/12

SUBJECT	
1CCT 230kV TRANSMISSION LINE LIGHT ANGLE (2 - 15°) FRAMING GUYED WOOD POLE	



CLIENT DWG. NO.	
DRAWING NO.	1248-P202
CADD FILE ADDRESS	1248-P202-B



1CCT 230kV TRANSMISSION LINE
MEDIUM ANGLE (15 - 30°) FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

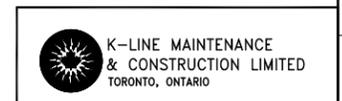
- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - 230kV CONDUCTOR: 7.00 m
 - DESIGN VERTICAL GROUND CLEARANCE: 7.30m
 - 230kV CONDUCTOR: 9.00m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - 230kV CONDUCTOR: 9.00m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING: 9.00m
 - 230kV CONDUCTOR: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR:
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING:
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
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A	15/08/12	ISSUED FOR REVIEW							A	15/08/12	ISSUED FOR REVIEW				

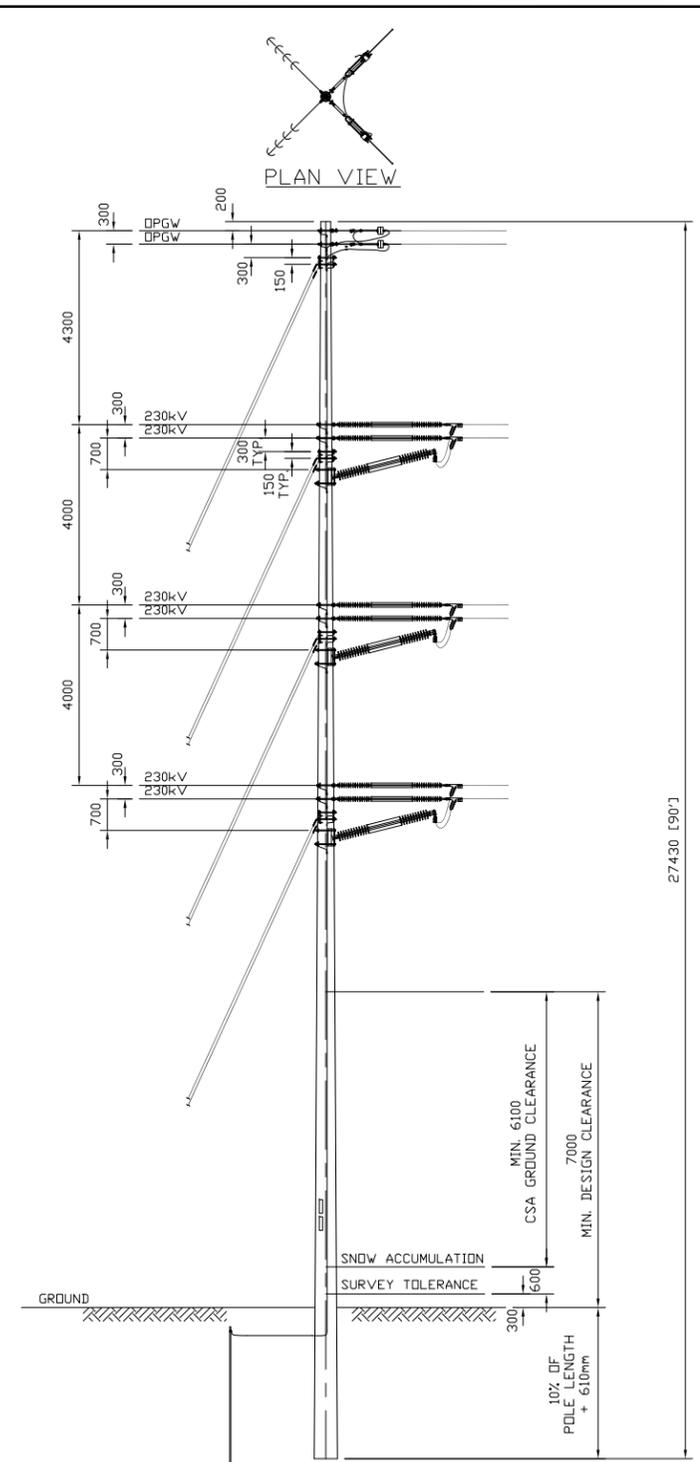
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.		ACTIVITY NO.
PACKAGE CODE		D/W/Y
BY		DRN.
M.HUANG		15/08/12

SUBJECT	
1CCT 230kV TRANSMISSION LINE MEDIUM ANGLE (15 - 30°) FRAMING GUYED WOOD POLE	



CLIENT DWG. NO.	REV.
DRAWING NO. 1248-P203	B
CADD FILE ADDRESS 1248-P203-B	



1CCT 230kV TRANSMISSION LINE
MEDIUM ANGLE (30 - 60°) FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
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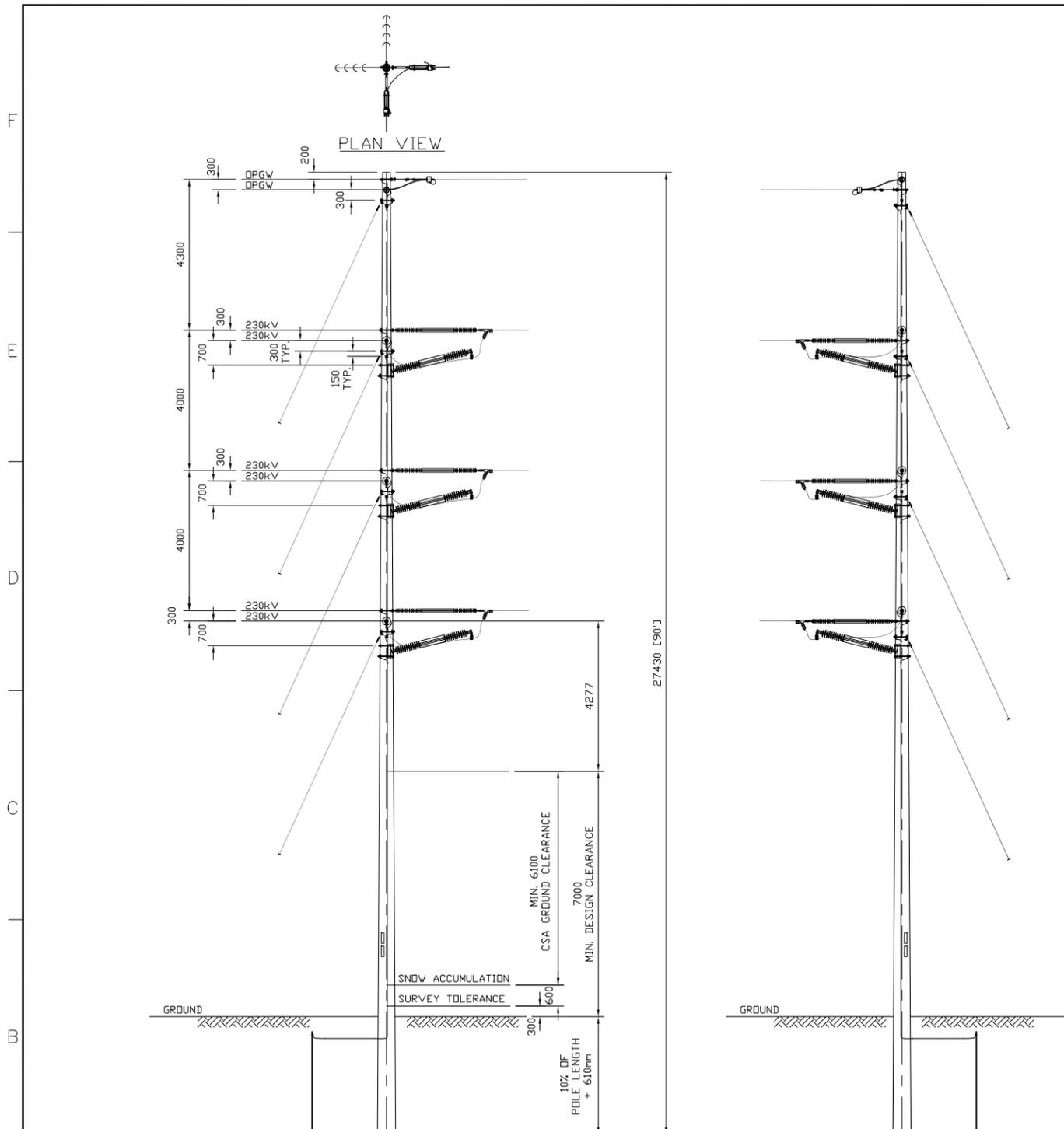
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/SN. E.KWONG
		DRN. M.HUANG
		D/M/Y
		15/08/12
		15/08/12

SUBJECT	
1CCT 230kV TRANSMISSION LINE MEDIUM ANGLE (30 - 60°) FRAMING GUYED WOOD POLE	



CLIENT DWG. NO.	
DRAWING NO.	1248-P204
REV.	B
CADD FILE ADDRESS	1248-P204-B



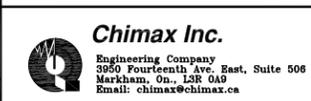
1CCT 230kV TRANSMISSION LINE
HEAVY ANGLE (60 - 90°) FRAMING

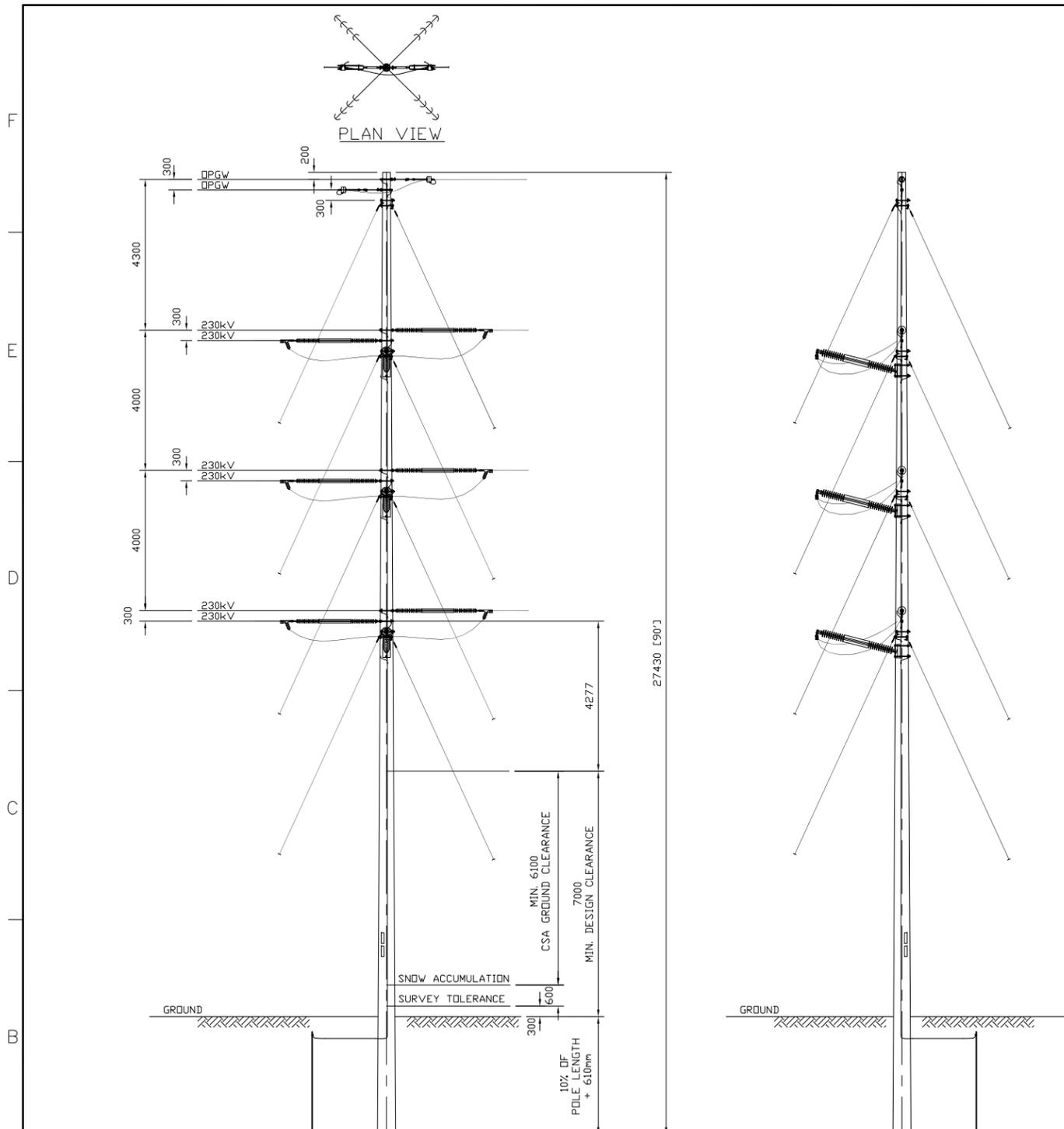
DESIGN NOTES:
THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	GENERAL REVISION						B	05/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW					A	15/08/12			ISSUED FOR REVIEW				

APPROVED FOR CONSTRUCTION		CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.		AREA		DUFFERIN WIND POWER PROJECT 230 kV TRANSMISSION LINE	
PROJECT PHASE		PROJECT NO.		ACTIVITY NO.		PACKAGE CODE	
SUBJECT		SCALE		BY		D/M/Y	
1CCT 230kV TRANSMISSION LINE HEAVY ANGLE (60 - 90°) FRAMING GUYED WOOD POLE		N.T.S. (11"x17")		D.SN. E.KWONG D.RN. M.HUANG		15/08/12 15/08/12	
CLIENT DWG. NO.		DRAWING NO.		REV.			
		1248-P205		B			
CADD FILE ADDRESS		1248-P205-B					





1CCT 230kV TRANSMISSION LINE
DOUBLE DEADEND FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

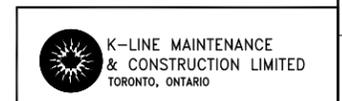
- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	GENERAL REVISION							B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW							A	15/08/12	ISSUED FOR REVIEW				

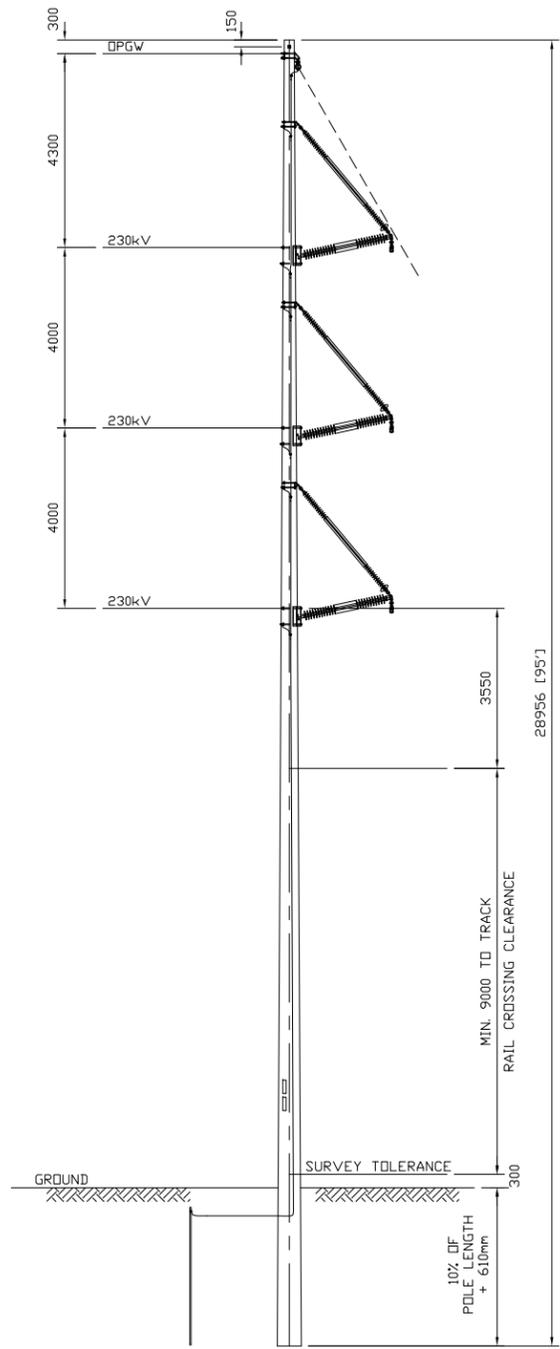
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/SN. E.KWONG
		D/RN. M.HUANG
		D/W/Y
		15/08/12

SUBJECT	
1CCT 230kV TRANSMISSION LINE DOUBLE DEADEND FRAMING GUYED WOOD POLE	



CLIENT DWG. NO.	
DRAWING NO.	1248-P206
REV.	B
CADD FILE ADDRESS	1248-P206-B

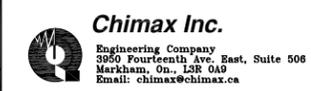


1CCT 230kV TRANSMISSION LINE
TANGENT (0 - 2°)
VERTICAL CONFIGURATION FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - 230kV CONDUCTOR: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - 230kV CONDUCTOR: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C



REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	GENERAL REVISION								B	05/09/12				
A	15/08/12	ISSUED FOR REVIEW								A	15/08/12				

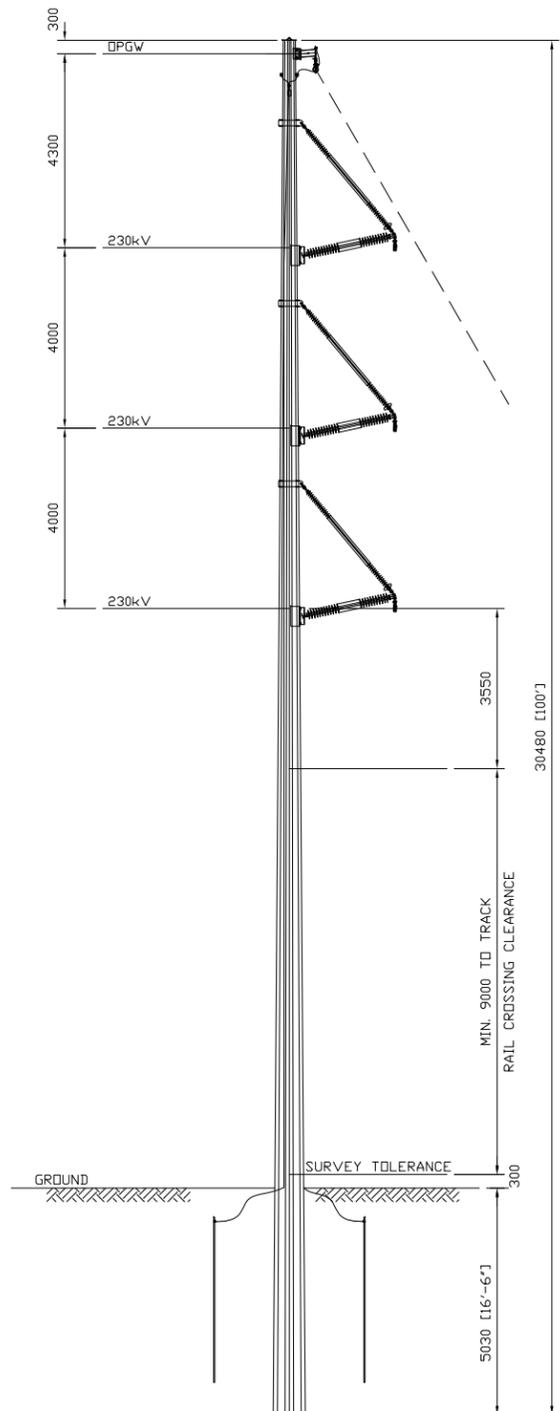
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/SN. E.KWONG
		DRN. M.HUANG
		D/M/Y
		15/08/12
		15/08/12

SUBJECT	
1CCT 230kV TRANSMISSION LINE TANGENT (0 - 2°) VERTICAL CONFIGURATION FRAMING	
CLIENT DWG. NO.	
DRAWING NO.	REV.
1248-P301	B
CADD FILE ADDRESS 1248-P301-B	

F
E
D
C
B
A

F
E
D
C
B
A



1CCT 230kV TRANSMISSION LINE
MONO STEEL TANGENT (0 - 2°) FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

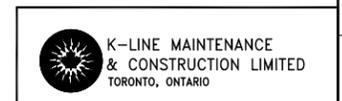
- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - 230kV CONDUCTOR: 7.00 m
 - 230kV CONDUCTOR: 7.30m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 9.00m
 - 230kV CONDUCTOR: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR:
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING:
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	GENERAL REVISION							B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW							A	15/08/12	ISSUED FOR REVIEW				

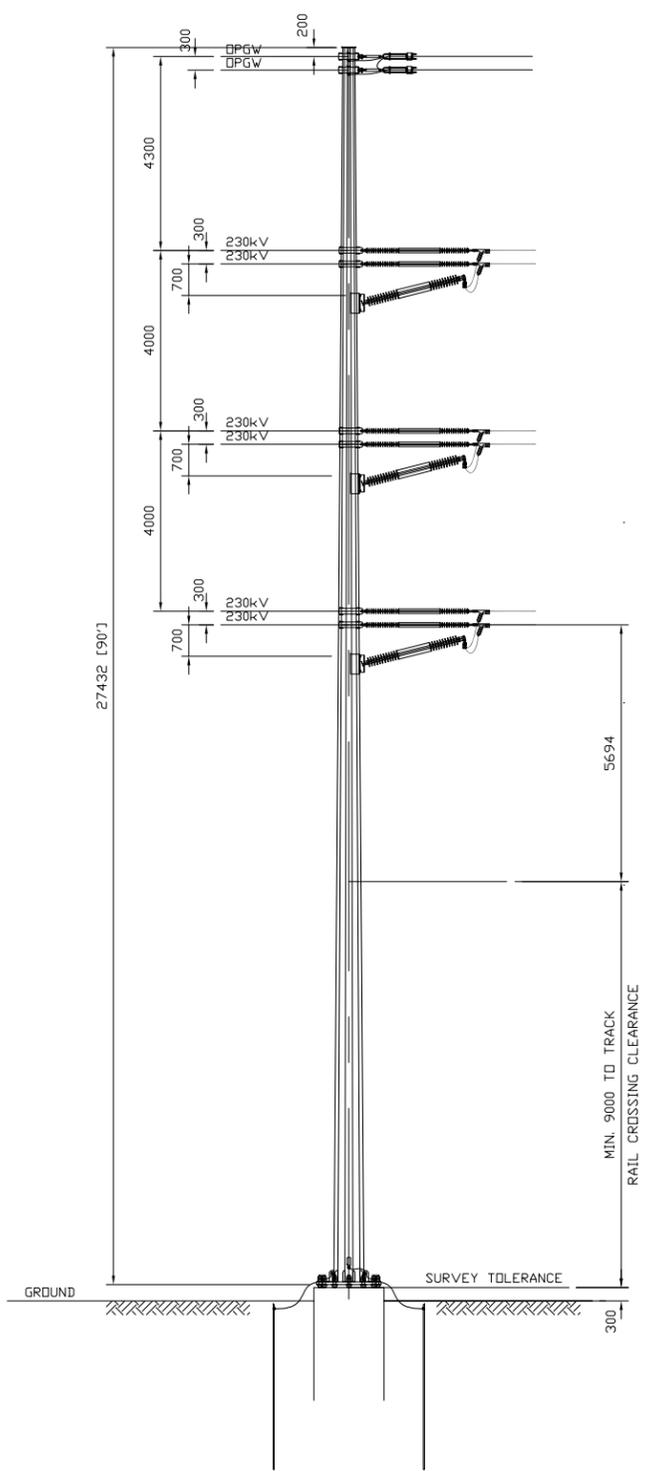
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.		ACTIVITY NO.
PACKAGE CODE		D/W/Y
SCALE		BY
N.T.S. (11"x17")		DRN. E.KWONG
		DRN. M.HUANG

DUFFERIN WIND POWER PROJECT	
230 kV TRANSMISSION LINE	
SUBJECT	
1CCT 230kV TRANSMISSION LINE	
LIGHT ANGLE (2 - 15°) FRAMING	
SELF SUPPORTING STEEL POLE	



CLIENT DWG. NO.	
DRAWING NO.	1248-P302
REV.	B
CADD FILE ADDRESS	1248-P302-B



1CCT 230kV TRANSMISSION LINE
MONO STEEL MEDIUM ANGLE (30 - 60°) FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION

HOURLY WIND	400 Pa
RADIAL ICE THICKNESS	12.7 mm (1/2")
CONDUCTOR TEMPERATURE	-20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD

(i) IEC ICE (1/50)	25 mm @ -10°C
(ii) IEC WIND (1/50)	94 km/h (417.9 Pa) @ -10°C
(iii) COMBINED ICE (85%) & WIND (60%)	21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE

230kV CONDUCTOR	6.10 m
230kV CONDUCTOR	7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT)

230kV CONDUCTOR	7.30m
-----------------	-------
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING

230kV CONDUCTOR	9.00m
-----------------	-------
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W.

SUPPORT STRUCTURE	2.5m FROM RAILWAY
230kV CONDUCTOR	4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR

(i) MAXIMUM CONDUCTOR TEMPERATURE	100°C
(ii) DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738)	75°C
(iii) RADIAL ICE THICKNESS (CLEARANCE)	12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:

(i) HOURLY WIND (NATIONAL BUILDING CODE 1/50)	360 Pa (~87 km/hr)
(ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30)	320 Pa (~82 km/hr)
(iii) NORMAL BLOWOUT WIND	290 Pa
(iv) GALLOPING	
GALLOPING SWING	290 Pa
GALLOPING ICE	12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

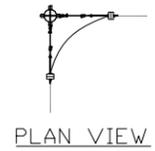
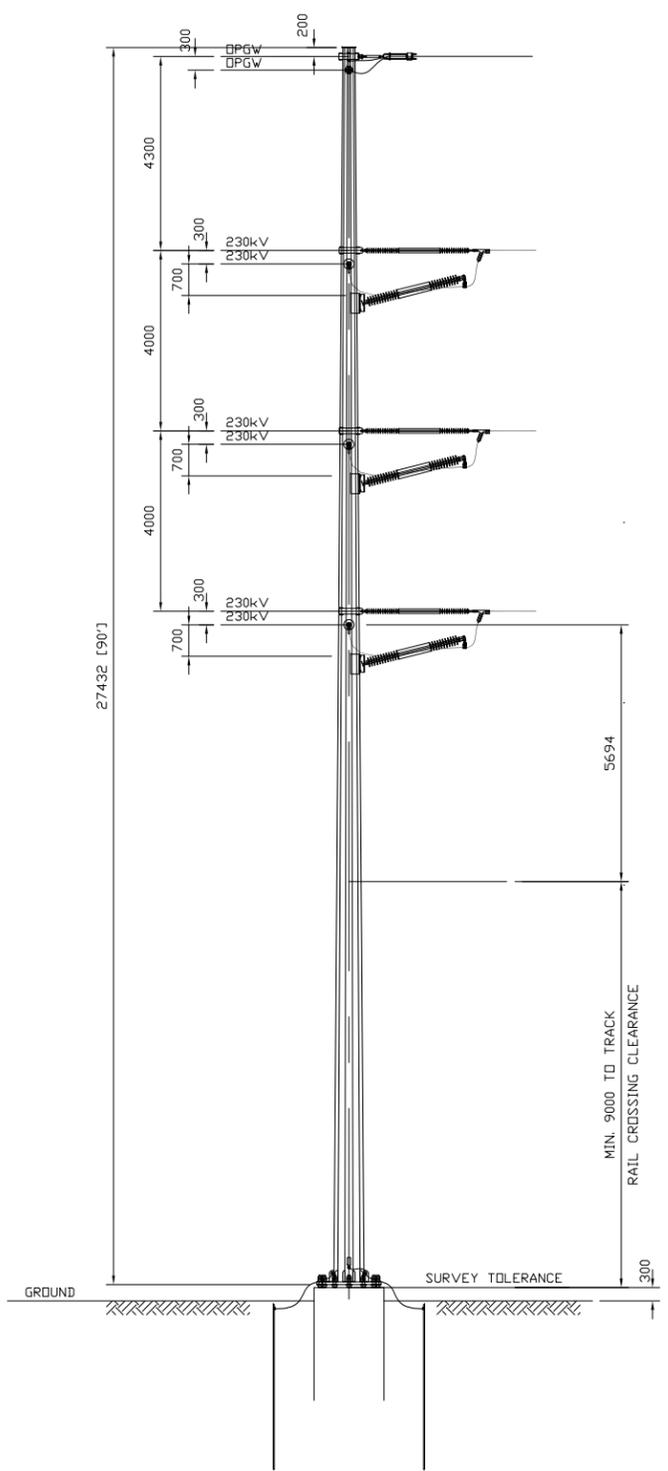
REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	ISSUED FOR	REF	NUMBER	TITLE
B	05/09/12	GENERAL REVISION						B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			
A	15/08/12	ISSUED FOR REVIEW						A	15/08/12	ISSUED FOR REVIEW			

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APPROVED FOR CONSTRUCTION			
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA
PROJECT PHASE			DUFFERIN WIND POWER PROJECT 230 kV TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT
			1CCT 230kV TRANSMISSION LINE MEDIUM ANGLE (30 - 60°) FRAMING SELF SUPPORTING STEEL POLE
SCALE	BY		D/M/Y
N.T.S. (11"x17")	DSN. E.KWONG		15/08/12
	DRN. M.HUANG		15/08/12



CLIENT DWG. NO.	
DRAWING NO.	1248-P303
CADD FILE ADDRESS	1248-P303-B



1CCT 230kV TRANSMISSION LINE
MONO STEEL HEAVY ANGLE (60 - 90°) FRAMING

DESIGN NOTES:

THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

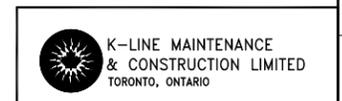
- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE
B	05/09/12	GENERAL REVISION						B	05/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			
A	15/08/12	ISSUED FOR REVIEW					A	15/08/12			ISSUED FOR REVIEW			

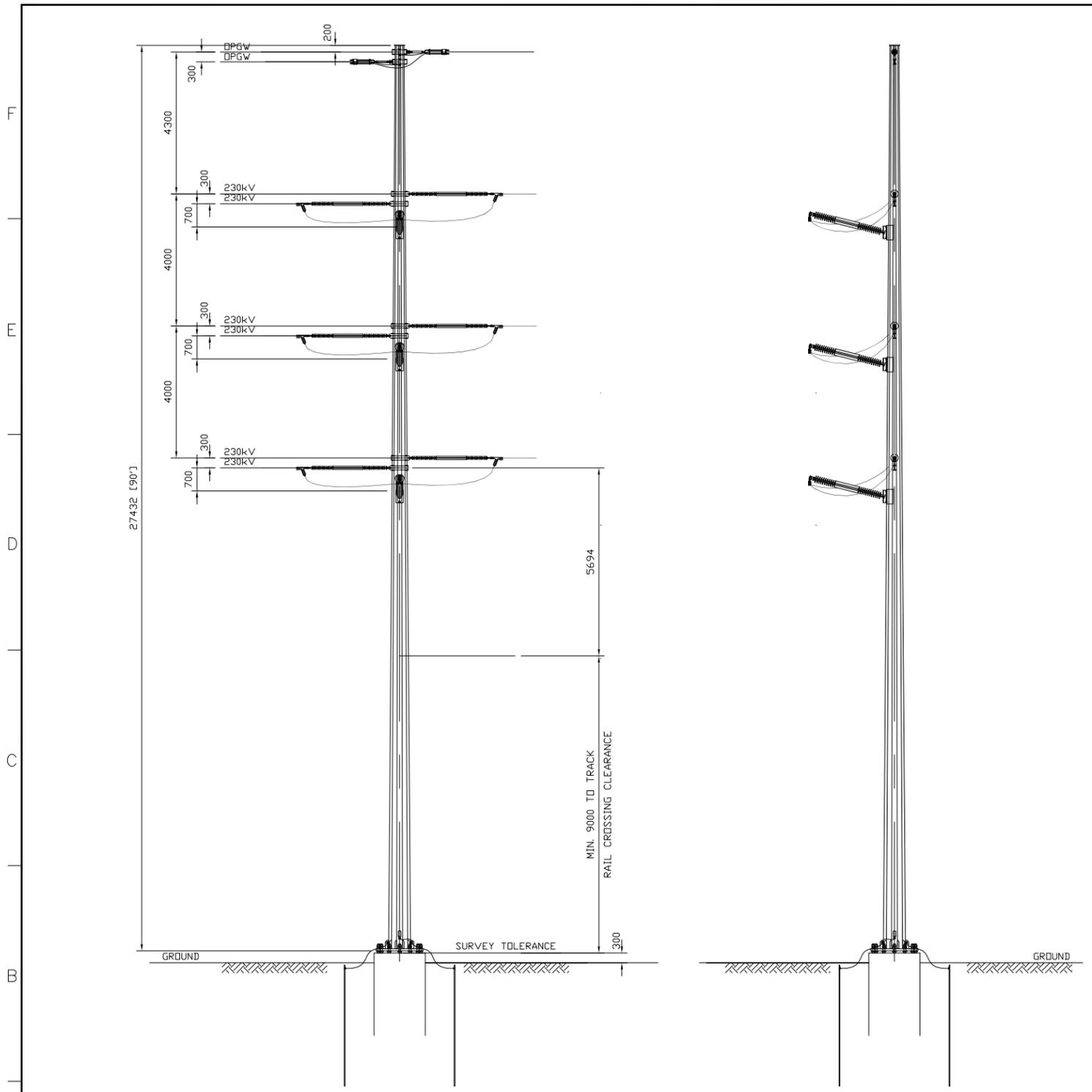
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.		ACTIVITY NO.
PACKAGE CODE		D/W/Y
BY		D/M/Y
N.T.S. (11"x17")		DRN. M.HUANG

DUFFERIN WIND POWER PROJECT	
230 kv TRANSMISSION LINE	
SUBJECT	
1CCT 230kV TRANSMISSION LINE	
HEAVY ANGLE (60 - 90°) FRAMING	
SELF SUPPORTING STEEL POLE	



CLIENT DWG. NO.	
DRAWING NO.	1248-P304
REV.	B
CADD FILE ADDRESS	1248-P304-B



1CCT 230kV TRANSMISSION LINE
MONO STEEL DOUBLE DEADEND FRAMING

DESIGN NOTES:

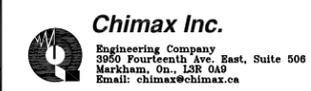
THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: ORANGEVILLE
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.7 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 25 mm @ -10°C
 - IEC WIND (1/50): 94 km/h (417.9 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 21.3 mm & 150.5 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.6 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 6.10 m
 - DESIGN VERTICAL GROUND CLEARANCE: 7.00 m
 - FARM VEHICLE VERTICAL CLEARANCE (VEHICLE 14' HEIGHT): 7.30m
 - MINIMUM CSA 22.3 No.1 RAILWAY CROSSING: 9.00m
 - HORIZONTAL CLEARANCE FROM RAILWAY TRACK
 - MINIMUM CSA 22.3 No.1 ALONG RAILWAY R.O.W. SUPPORT STRUCTURE: 2.5m FROM RAILWAY
 - 230kV CONDUCTOR: 4.1m FROM RAILWAY TRACK
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR:
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 75°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.7 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 360 Pa (~87 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 320 Pa (~82 km/hr)
 - NORMAL BLOWOUT WIND: 290 Pa
 - GALLOPING:
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.7 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 230 kV
 - NUMBER OF PHASES: 3
 - SYSTEM FREQUENCY: 60 Hz
 - SYSTEM GROUNDING: LOW IMPEDANCE (xxx)
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 350 A PER CIRCUIT
 - PHASE CONDUCTOR SIZE: 795MCM ACSR (DRAKE)
 - DESIGN CONDUCTOR TEMPERATURE: 75°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	GENERAL REVISION						B	05/09/12		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW						A	15/08/12		ISSUED FOR REVIEW				

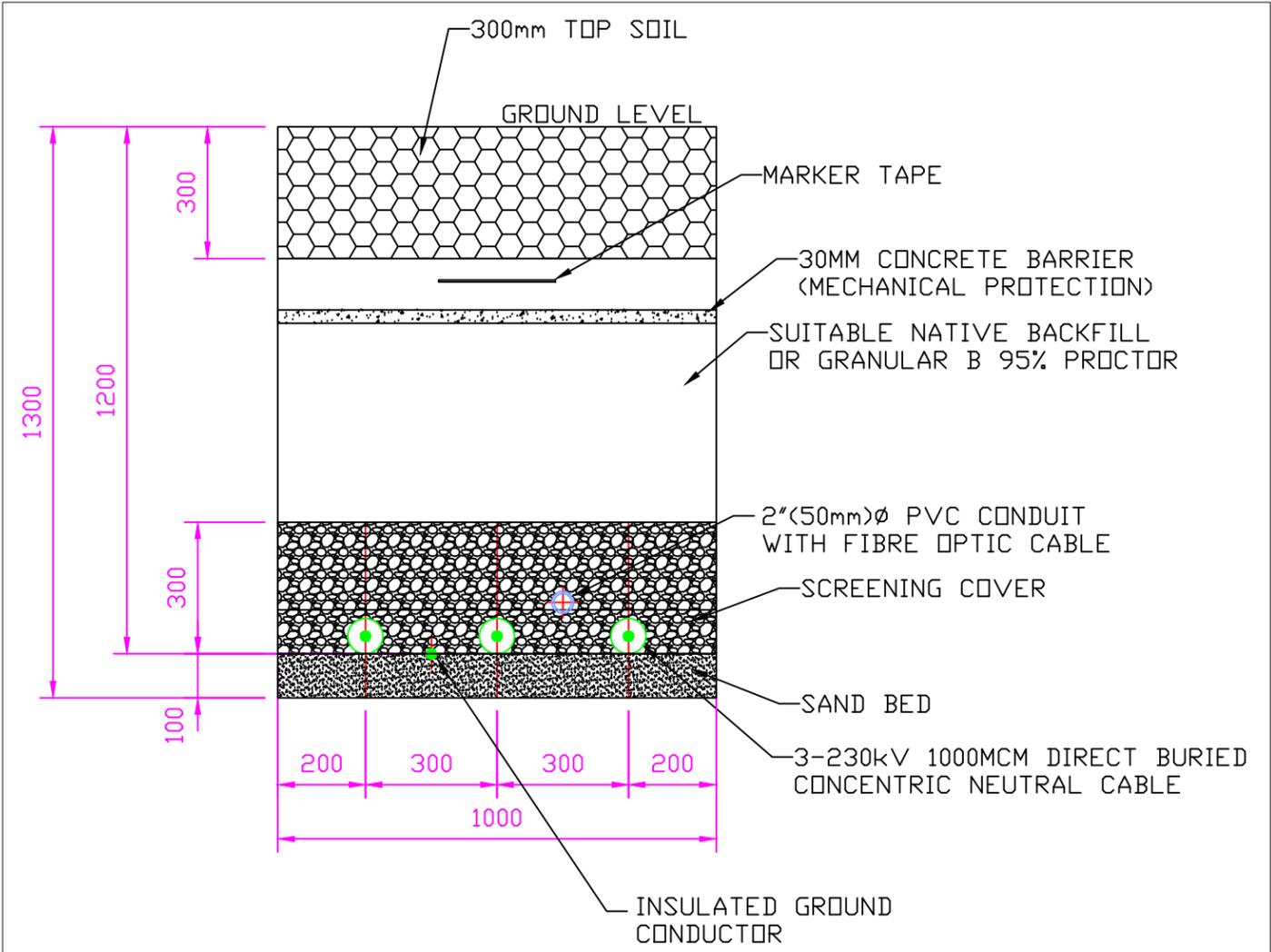
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APPROVED FOR CONSTRUCTION			
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA
PROJECT PHASE		DUFFERIN WIND POWER PROJECT 230 kV TRANSMISSION LINE	
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT
			1CCT 230kV TRANSMISSION LINE DOUBLE DEADEND FRAMING SELF SUPPORTING STEEL POLE
SCALE			CLIENT DWG. NO.
N.T.S. (11"x17")			
BY	D/M/Y	DRAWING NO.	
DSN. E.KWONG	15/08/12	1248-P305	
DRN. M.HUANG	15/08/12	REV. B	
CADD FILE ADDRESS			
1248-P305-B			

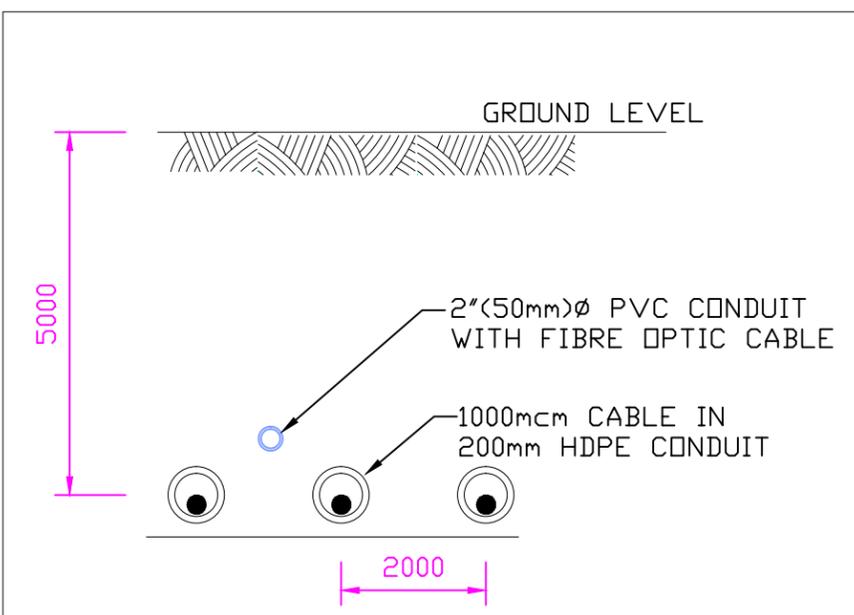


Figures 5(a) to 5(c)

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TYPICAL 230kV DUCTBANK ARRANGEMENT
(DIRECT BURIED)



TYPICAL DIRECTIONAL BORING
CROSS SECTION

ALL UNDERGROUND CROSS SECTIONS ARE SUBJECT TO FINAL DESIGN INCLUDING ANY REQUISITE STUDIES

REV.	MM/DD/YY	DESCRIPTION	BY	CHKD
1	09/13/12	CHANGED DIMENSIONS ON CROSS SECTION	C.M.	G.M.
0	09/05/12	PRELIMINARY DESIGN	D.L.	G.M.



K-LINE MAINTENANCE & CONSTRUCTION LIMITED
 12731 HIGHWAY 48
 STOUFFVILLE, ONTARIO, L4A 7X5
 TEL.: (905) 640-2002 FAX: (905) 640-8566



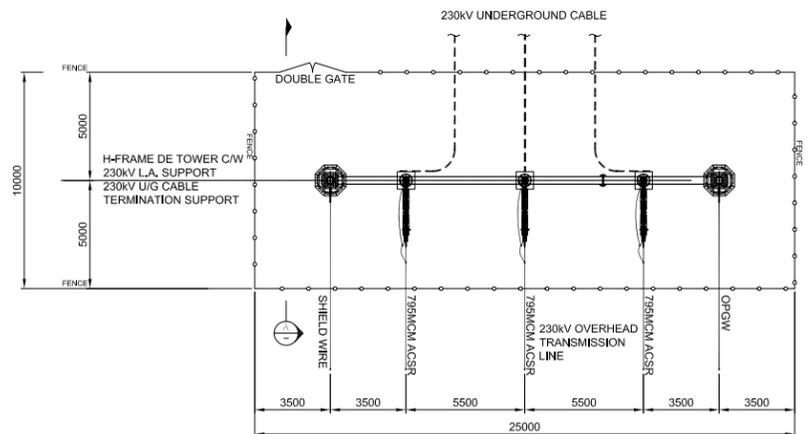
K-TEK ELECTRO-SERVICES LIMITED
 CONSULTING ENGINEERS
 37 SANDIFORD DR., UNIT 107
 STOUFFVILLE, ONTARIO, L4A 7X5
 TEL.: (905) 640-0860 FAX: (905) 640-8566

TITLE:
 DUFFERIN WIND
 230KV DUCT BANK ARRANGEMENT

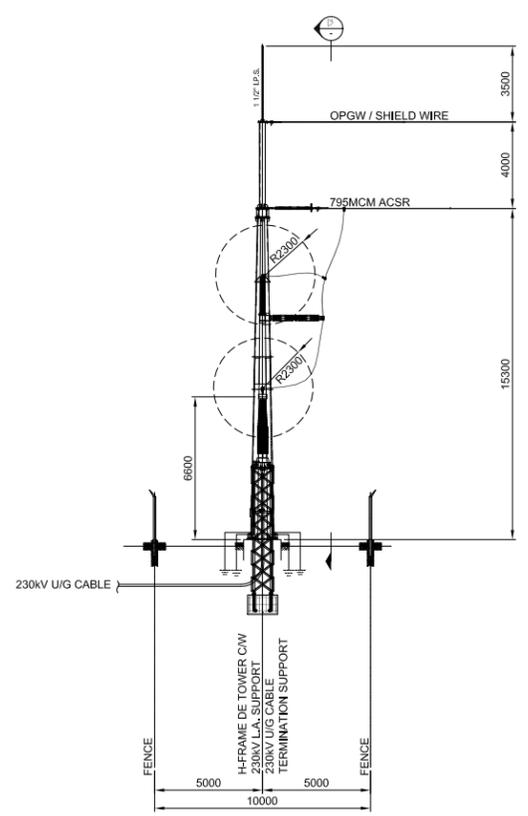
WORK ORDER No. 31073-12-20	CUSTOMER WORK ORDER No.	SCALE: N.T.S.
DESIGNED BY: D.L.	CHECKED BY: G.M.	DRAWING No. 31073-001
DRAWN BY: D.L.	DATE: SEPT 5, 2012	REV. 1

F
E
D
C
B
A

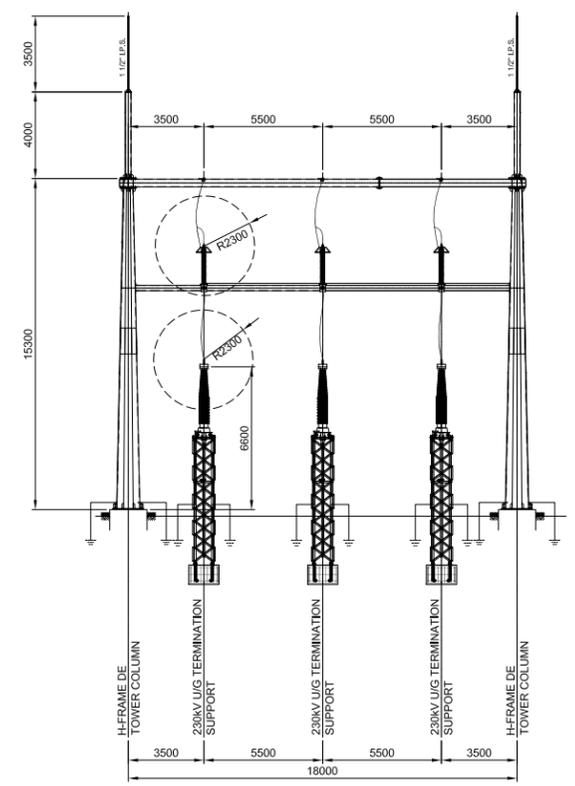
F
E
D
C
B
A



PLAN VIEW



SECTION A



SECTION B

- NOTES:
 1. TRANSITION STATION SITE PLAN, SEE DWG. # 1248-P001.
 2. ALL DIMENSIONS ARE MM U.N.O.

230kV O/H TO U/G TRANSITION STATION
 PRIVATE EASEMENT RIGHT OF WAY
 STATION LAYOUT

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
B	05/09/12	ISSUED FOR PERMIT							B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
A	15/08/12	ISSUED FOR REVIEW							A	15/08/12	ISSUED FOR REVIEW				

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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE	BY	D/M/Y
N.T.S. (11"x17")	DSN. E.KWONG	14/08/12
	DRN. E.KWONG	14/08/12

AREA	DUFFERIN WIND POWER PROJECT 230 kv TRANSMISSION LINE
SUBJECT	230kV OVERHEAD TO UNDERGROUND TRANSITION STATION LAYOUT PLAN & SECTIONS

K-LINE MAINTENANCE & CONSTRUCTION LIMITED
 TORONTO, ONTARIO

Chimax Inc.
 Engineering Company
 3950 Fourteenth Ave. East, Suite 508
 Markham, On. L3R 0A9
 Email: chimax@chimax.ca

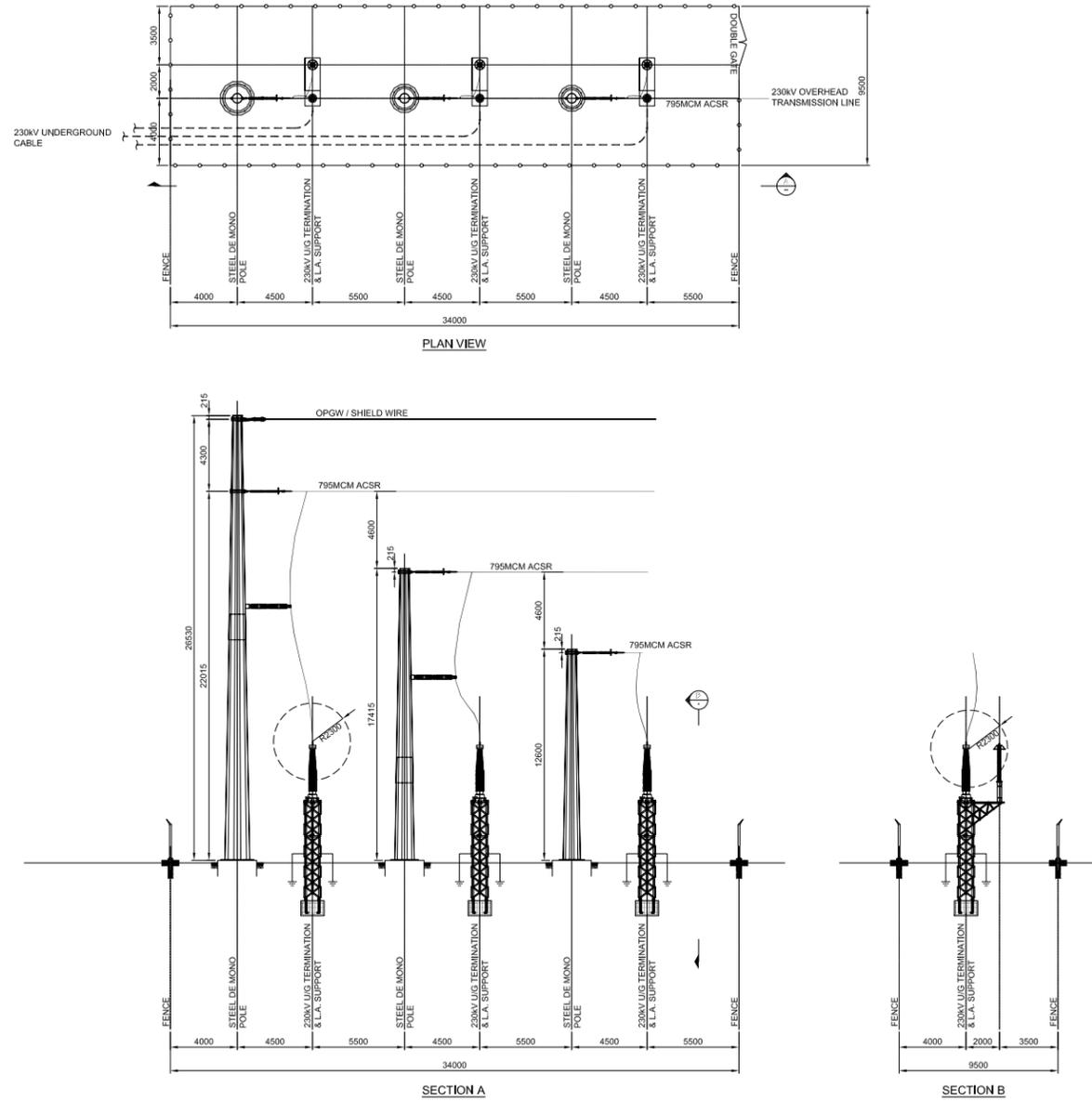
CLIENT DWG. NO.

DRAWING NO.
1248-E301

REV.
B

CADD FILE ADDRESS
1248-E301-B

- NOTES:
 1. TRANSITION STATION SITE PLAN, SEE DWG. # 1248-P001.
 2. ALL DIMENSIONS ARE MM U.N.O.



230kV O/H TO U/G TRANSITION STATION
 RAILROAD RIGHT OF WAY
 STATION LAYOUT

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE
B	05/09/12	ISSUED FOR PERMIT								B	05/09/12	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			
A	23/08/12	ISSUED FOR REVIEW								A	23/08/12	ISSUED FOR REVIEW			

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APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO. PACKAGE CODE

SCALE N.T.S. (11"x17")

AREA DUFFERIN WIND POWER PROJECT

230 kv TRANSMISSION LINE

SUBJECT

230kV OVERHEAD TO UNDERGROUND
 TRANSITION STATION
 LAYOUT PLAN & SECTIONS
 RAILROAD RIGHT OF WAY

CLIENT DWG. NO.

DRAWING NO. 1248-E401

REV. B

CADD FILE ADDRESS 1248-E401-B

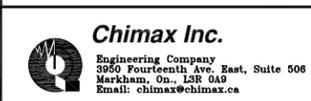


Exhibit B, Tab 3, Schedule 1
Need for the Project

NEED FOR THE PROJECT

1 The Government of Ontario enacted the *Green Energy and Green Economy Act, 2009* to increase
2 renewable energy generation and promote the creation of clean energy jobs. Under this
3 legislation, the Minister of Energy directed the Ontario Power Authority (“**OPA**”) to develop the
4 Feed-in Tariff (“**FIT**”) Program to procure energy from renewable energy sources. The
5 procurement of renewable energy in Ontario is guided by *Ontario’s Long-Term Energy Plan*,
6 under which the Government of Ontario has committed to putting in place 10,700 MW of
7 renewable energy capacity (wind, solar and bioenergy) as part of the supply mix by 2018. The
8 FIT Program has been the centerpiece of the Government’s strategy for achieving this renewable
9 energy target.

10 On April 8, 2010 the OPA offered a contract under the FIT Program in respect of the Applicant’s
11 Wind Farm. The Wind Farm will further the Government of Ontario’s policy objective of
12 increasing the amount of renewable energy generation that forms part of Ontario’s energy supply
13 mix. In particular, the Wind Farm will contribute 99.1 MW of renewable energy capacity
14 towards this objective. The Transmission Project is needed to connect the Wind Farm to the
15 IESO-controlled grid. As the development of the Wind Farm promotes the use of renewable
16 energy sources in a manner consistent with the policies of the Government of Ontario, the
17 Transmission Project is in the public interest pursuant to paragraph 96(2)2 of the *Ontario Energy*
18 *Board Act, 1998*, which provides as follows:

19 **96. (2)** In an application under section 92, the Board shall only consider the
20 following when, under subsection (1), it considers whether the construction,
21 expansion or reinforcement of the electricity transmission line or electricity
22 distribution line, or the making of the interconnection, is in the public interest:

23 1. The interests of consumers with respect to prices and the reliability and quality
24 of electricity service.

25 2. Where applicable and in a manner consistent with the policies of the
26 Government of Ontario, the promotion of the use of renewable energy sources.

Exhibit B, Tab 4, Schedule 1
Transmission Alternatives Considered

TRANSMISSION ALTERNATIVES CONSIDERED

1 The Applicant considered various alternatives for connecting the Wind Farm to the IESO-
2 controlled grid. This Schedule discusses the process that led the Applicant to its determination
3 that the Transmission Project is the preferred approach, its rationale for selecting the proposed
4 Transmission Project and route, as well as the primary alternatives to the proposed Transmission
5 Project that were considered and ultimately rejected.

6 1. **Selection Process**

7 The proposed Transmission Project was selected by the Applicant as the preferred approach to
8 connecting the Wind Farm to the IESO-controlled grid following a lengthy period of
9 consultation, technical and environmental review. Early on in the project development process,
10 the Applicant considered several transmission alternatives. While the Applicant initially
11 identified a transmission option other than the proposed Transmission Project as its preferred
12 approach, in response to feedback received through consultations with the local community the
13 Applicant undertook additional technical and environmental reviews and further consultations in
14 respect of what ultimately became the proposed Transmission Project. Based on such additional
15 reviews and further consultations, the Applicant determined that the proposed Transmission
16 Project is the preferred approach.

17 In particular, as part of its Renewable Energy Approval (“**REA**”) process, the Applicant issued
18 numerous notices, delivered presentations, participated in meetings with local government
19 officials and carried out several rounds of Public Information Centres (“**PICs**”). A detailed
20 discussion of the Applicant’s community and stakeholder consultations is set out in Exhibit G,
21 Tab 1, Schedule 1. A September 2011 series of PICs introduced the Applicant’s initially
22 preferred transmission alternative, which would have connected the Wind Farm to the IESO-
23 controlled grid by means of a dual circuit 69 kV transmission line running largely along
24 municipal road right-of-ways (“**ROWS**”) in the Townships of Melancthon, Mulmur and
25 Amaranth, as well as in the Town of Mono, all of which are in the County of Dufferin, as further

1 described below (the “**69 kV Alternative**”). During the course of these consultations, the
2 Applicant found the level of community support for the 69 kV Alternative to be relatively weak.
3 Members of the community instead suggested the Applicant should consider the viability of
4 using the former Rail Corridor (described below) for transmission purposes. For the reasons set
5 out below, the Applicant ultimately determined that the former Rail Corridor could support a
6 transmission connection that offers a number of important advantages over the 69 kV
7 Alternative.

8 **2. Rationale for Selecting the Proposed Transmission Project**

9 The proposed Transmission Project is a single circuit three phase 230 kV transmission line that
10 runs approximately 47 km from the Project Substation in the Township of Melancthon to the
11 Switching Station adjacent to Hydro One’s Orangeville TS in the Township of Amaranth. As
12 described in Exhibit B, Tab 2, Schedule 3, a 15.6 km portion of the proposed route would run
13 along private lands between the Project Substation and the Rail Corridor, and a 31.2 km portion
14 of the proposed route would run along a former Rail Corridor that is currently owned by the
15 County of Dufferin. Based on consultations with members of the local community, as well as
16 technical and environmental reviews undertaken, the Applicant has determined that the proposed
17 Transmission Project is in the circumstances the optimal means for connecting the Wind Farm to
18 the IESO-controlled grid. Key benefits and characteristics of the proposed Transmission Project
19 that led to this determination include the following:

- 20 (a) Community Support. The proposed Transmission Project has greater support
21 from residents and local officials in the affected communities, relative to the 69
22 kV Alternative. This understanding is based on consultations that the Applicant
23 has had directly with residents and officials in the potentially affected
24 communities, as further described in Exhibit G, Tab 1, Schedule 1;
- 25 (b) Lower Visual Impact. For the reasons that follow, relative to the 69 kV
26 Alternative, the proposed Transmission Project will have a low visual impact.

1 Visual impact was a key concern from local stakeholders. The lower visual
2 impact of the Transmission Project would result from the following:

3 (i) whereas the proposed route would run along private lands and then along
4 the Rail Corridor in, for the most part, sparsely populated areas, the 69 kV
5 Alternative would have run along public roads in more heavily populated
6 areas of the community;

7 (ii) whereas the proposed Transmission Project will involve the installation of
8 a total of approximately 425 new poles with an average height of 85 ft.,
9 with spacing of 100 meters along the 31.2 km Rail Corridor and spacing of
10 150 meters along the 15.6 km of private lands associated with the
11 Transmission Line, the 69 kV Alternative would have required
12 approximately 850 replacement poles, with 70-80 ft. poles and spacing of
13 45 m over a distance of approximately 36 km; and

14 (iii) whereas the proposed Transmission Project is a single circuit line, along
15 which there would be three conductors, the 69 kV Alternative would have
16 required a double circuit line, comprised of six conductors, along with
17 insulators that further increase visual impact. Moreover, it had been
18 contemplated that the 69 kV Alternative would have involved joint use
19 along an existing Hydro One distribution line over the vast majority of that
20 route. Consequently, the six transmission conductors would be in addition
21 to the three or more electricity distribution conductors, communications,
22 cable and other attachments that are already supported by those poles;

23 (c) Low Station Impacts at Connection Point. As the power will be stepped up from
24 34.5 kV to 230 kV at the Project Substation, there is no need for a second step-up
25 transformer station. Rather, aside from the Project Substation, only a Switching
26 Station is required adjacent to the Orangeville TS. The Switching Station will be

1 smaller than a second step-up transformer station would have been and, whereas a
2 step-up transformer gives rise to potential noise and environmental impacts, the
3 Switching Station will not. Moreover, whereas the 69 kV Alternative would have
4 required a new step-up transformer station at a connection point along Hydro
5 One's 230 kV line where no station presently exists, the Switching Station for the
6 proposed Transmission Project will be situated adjacent to the existing
7 Orangeville TS, where the incremental visual impact will be insignificant;

8 (d) Station Cost. The Switching Station will be less costly to construct and will
9 require less maintenance as compared to an additional step-up transformer station,
10 such as would have been required with the 69 kV Alternative;

11 (e) Reduced Line Losses. By stepping up power at the Project Substation from 34.5
12 kV to 230 kV, the proposed Transmission Project will be able to convey
13 electricity from the Wind Farm to the IESO-controlled grid more efficiently and
14 with significantly lower line losses as compared to the 69 kV Alternative, which
15 would first step up from 34.5 kV to 69 kV at the Project Substation and then from
16 69 kV to 230 kV at a second transformer station. In particular, the Applicant
17 determined that the 69 kV Alternative would have given rise to line losses of
18 approximately 5.3% at full rated load as compared to 0.95% at full rated load for
19 the proposed Transmission Project. As such, the 69 kV Alternative would be five
20 times less efficient than the Transaction Project. Consequently, more renewable
21 energy will ultimately be supplied by the Wind Farm with the Transmission
22 Project. Moreover, as the Applicant will be metered and paid under its FIT
23 Contract based upon the quantity of energy it supplies into the IESO-controlled
24 grid (i.e. net of line losses), the proposed Transmission Project is economically
25 beneficial to the Applicant relative to the 69 kV Alternative. Over the life of the
26 Wind Farm, the difference to the Applicant is expected to be material;

- 1 (f) Use of Industrial Lands. The proposed Transmission Line represents an effective
2 and appropriate use for the Rail Corridor, which has historically been used for
3 industrial purposes and which conveniently runs from just west of the Wind Farm
4 site directly to Hydro One's Orangeville TS;
- 5 (g) Fewer Directly Affected Municipalities. The proposed route for the 47 km
6 Transmission Project runs through the Township of Melancthon, the Town of
7 Shelburne and the Township of Amaranth, all of which are in the County of
8 Dufferin. The route for the 69 kV Alternative would also have run through the
9 Townships of Melancthon and Amaranth but, rather than run through the Town of
10 Shelburne, would have run through the Township of Mulmur and the Township of
11 Mono, all of which are in the County of Dufferin; and
- 12 (h) Operational Efficiency. As compared to the 69 kV Alternative, which would have
13 involved the use of a non-standard voltage for Ontario and joint use along Hydro
14 One distribution poles, which would give rise to the need to negotiate and
15 coordinate operations and maintenance activities on an ongoing basis, the
16 proposed Transmission Project will utilize a standard voltage and not require such
17 operational coordination.

18 For the foregoing reasons, the Applicant determined that the proposed Transmission Project is its
19 preferred alternative for connecting the Wind Farm to the IESO-controlled grid.

20 **3. The 69 kV Alternative**

21 As noted, the Applicant initially considered connecting the Wind Farm to the IESO-controlled
22 grid by means of a dual circuit 69 kV transmission line running largely along municipal road
23 ROWs in the Townships of Melancthon, Mulmur and Amaranth, as well as in the Town of
24 Mono, as shown in Appendix 'A' to this schedule. The route would have commenced at the
25 Project Substation, where the power would have been stepped up from 34.5 kV to 69 kV. The

1 transmission line would then have run stepwise along various municipal road ROWs in four
2 different municipalities until terminating at a new transformer station in the Town of Mono, at
3 which the power would need to be further stepped up from 69 kV to 230 kV. A new line tap
4 would connect the transformer station to Hydro One's circuit E9V approximately 11 km
5 northeast of Orangeville TS. In total, the 69 kV Alternative would have been approximately 36
6 km in length. Subject to agreement with Hydro One, it was contemplated that nearly 33 km of
7 the 69 kV Alternative would have been by way of joint use along Hydro One distribution poles.
8 Under the joint use arrangements, it was contemplated that such poles would have had to have
9 been removed and replaced with taller poles to accommodate joint use and Hydro One's
10 distribution facilities and any third party attachments would then need to be transferred to the
11 new poles at the Applicant's cost. Absent such agreement for joint use, Dufferin Wind would
12 have had to consider locating its facilities along the opposite side of the road from the existing
13 Hydro One distribution system.

14 Although the 69 kV Alternative offered the possibility of a shorter route from the Project
15 Substation to the Hydro One transmission system and would have required land rights from
16 fewer private landowners as compared to the proposed Transmission Project, the 69 kV
17 Alternative had only weak support from members of the local community. A key concern from
18 the community was the high visual impact of the line, which as noted would have included more
19 poles, spaced closer together, along which would have run a total of at least nine distribution,
20 transmission and telecommunication wires and which would have been situated in clear view
21 alongside public roads.

22 Also significant to the Applicant was that, from a technical perspective, relative to the proposed
23 Transmission Project, the 69 kV Alternative would give rise to relatively high levels of line
24 losses. As noted, line losses have been estimated to be approximately 5.3% at full rated load, as
25 compared to just 0.95% for the proposed Transmission Project. This would make inefficient use
26 of the renewable energy output from the Wind Farm and over the life of the Wind Farm would
27 have a material adverse economic impact on the Applicant under its FIT Contract.

1 4. **Other Alternative Considered**

2 In addition to the 69 kV Alternative, the Applicant considered and ultimately dismissed several
3 other alternative routes and transmission options for connecting the Wind Farm to the Hydro One
4 transmission system. In particular, these included:

5 (a) a route that would have run through the Niagara Escarpment and which would
6 have connected the Wind Farm to Hydro One’s transmission line E9V at a point
7 that is approximately 17 km to the northwest of the connection point that is being
8 used with the proposed Transmission Project (“**Other Alternative #1**”);

9 (b) a variation on the proposed Transmission Project that would have employed
10 alternative routing to bypass the Town of Shelburne (“**Other Alternative #2**”);
11 and

12 (c) a variation on the proposed Transmission Project that would have employed
13 alternative routing along private easements near Corbetton so as to more easily
14 and directly reach the former Rail Corridor (“**Other Alternative #3**”).

15 Each of these alternatives is depicted on the map provided in Appendix ‘A’ to this schedule.

16 Other Alternative #1 was rejected because it would have required the installation of more, and
17 substantially larger, poles along a public road right of way running through the Niagara
18 Escarpment, which would have negatively impacted this UNESCO-designated biosphere reserve,
19 the open landscape character of the area and natural scenery of the Niagara Escarpment, all of
20 which is inconsistent with and may not have been viable under the Province of Ontario’s Niagara
21 Escarpment Plan and the land use restrictions established by related legislation.

22 Other Alternative #2 was rejected because it would have impacted multiple residences and
23 wetland areas, and would have increased the length of the route. Moreover, the community
24 concerns that drove Dufferin Wind to consider this Other Alternative #2 were instead able to be

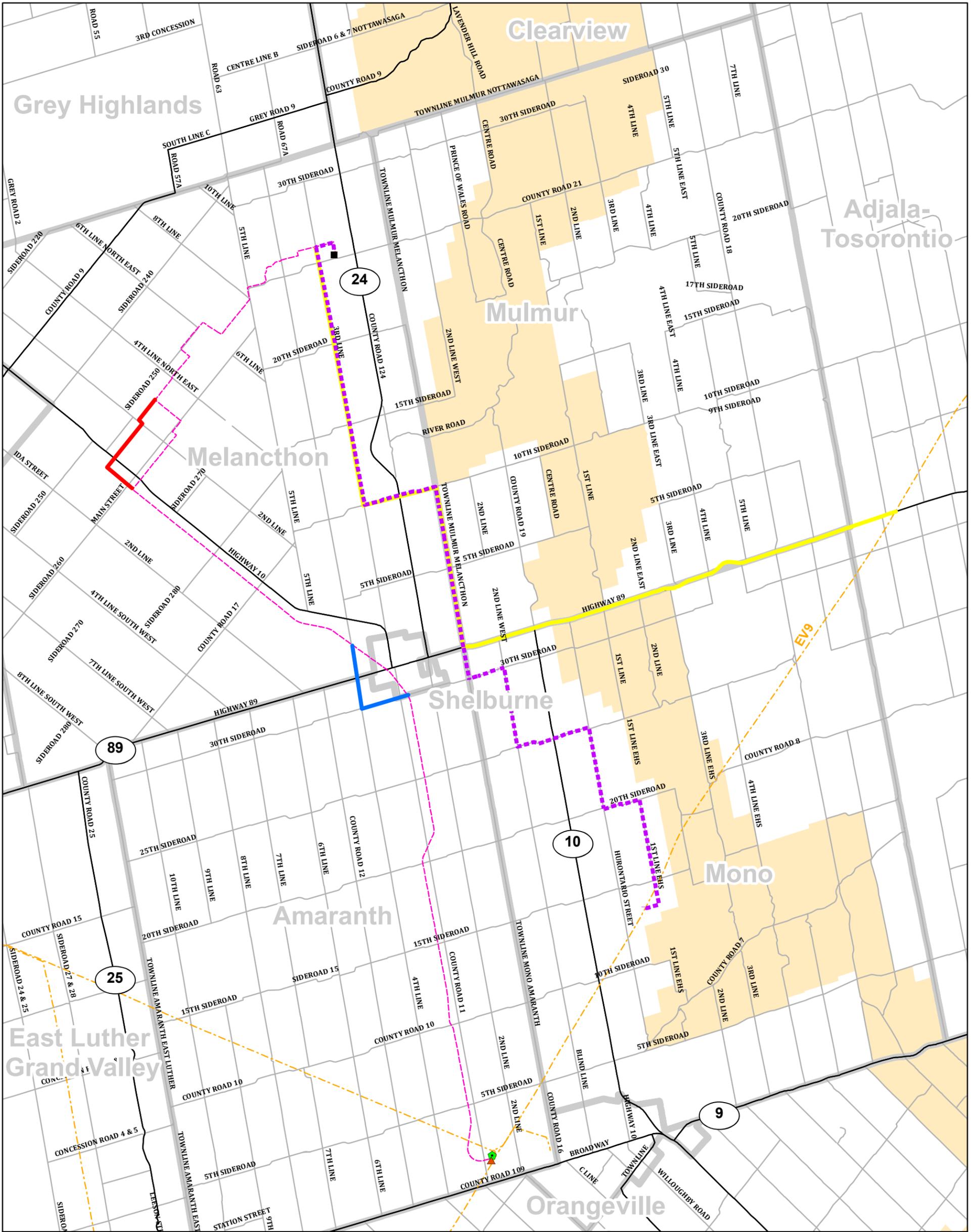
1 addressed by the proposed approach of installing a portion of the Transmission Line running
2 through the Town of Shelburne underground along the former Rail Corridor to further minimize
3 potential impacts to the community. On the whole, it was determined that the proposed approach
4 of installing this segment underground would result in substantially lower impacts on the
5 community than would Other Alternative #2.

6 Other Alternative #3 was rejected because it would have resulted in the transmission line
7 entering the Rail Corridor to the north of Corbetton (a hamlet in the Township of Melancthon)
8 and would then have to run through Corbetton. The preferred route, which is the proposed
9 Transmission Project, instead accesses the Rail Corridor to the south of Corbetton and eliminates
10 the need for the route to pass through this community, thereby minimizing the potential impacts
11 on residents of Corbetton.

12 Other factors affecting the Applicant's consideration of each of these alternatives included the
13 cost and schedule implications of each alternative for the overall project.

Appendix 'A'

Alternative Route Map



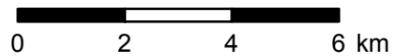
Dufferin Wind Power Project Alternative Route Map

Legend

- Project Substation
- ◆ Orangeville Transmission Station
- ▲ Switching Station
- Major Roads
- Local Roads
- 230 kV Transmission Line
- Transmission Line Alternative #1
- Transmission Line Alternative #2
- Transmission Line Alternative #3
- 69 kV Transmission Line
- Existing Hydro One Transmission Line
- Niagara Escarpment Boundary



1:135,000



Created By: SLP
 Checked By: DR
 Date Created: 112311
 Date Modified: 091812
 File Path: I:\GIS\115199 - Dufferin Wind\
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 Produced by Dillon Consulting Limited under Licence with the
 Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011

EXHIBIT C - PROJECT PLANNING

Exhibit C, Tab 1, Schedule 1

Construction and In-Service Schedule

CONSTRUCTION AND IN-SERVICE SCHEDULE

1 The timing for construction of the Transmission Project will depend in part upon the timing of
2 the Board's decision in this Application as well as on the timing of the Applicant's Renewable
3 Energy Approval. It is currently expected that construction of the Project Substation and
4 Switching Station will commence in May 2013 and will be completed within 5 months thereof.
5 Construction of the Transmission Line is expected to commence shortly thereafter in Summer
6 2013 and be completed within 5 months.

7 Construction activities with the ability to impact wildlife and the natural environment will be
8 undertaken at appropriate time periods to minimize impacts. In particular, vegetation clearing
9 activities will to the extent possible occur outside of the bird breeding season from May 1 to July
10 15 and in accordance with the REA would only be performed during this period upon
11 confirmation that no nests are present in the affected area. Similarly, to the extent possible,
12 construction activities such as vegetation clearing adjacent to wet areas will occur outside of the
13 amphibian breeding season from April 15 to June 15 and vegetation removal in areas where
14 amphibians are known to exist would also occur outside of this amphibian breeding season.

15 Construction activities will generally occur during daylight hours between 7 am and 7 pm and
16 any activities that may be required outside of these hours will comply with applicable noise by-
17 laws.

18 It is anticipated that the Transmission Project will be completed in time to allow for
19 commissioning by early winter 2013, which will allow the Wind Farm to commence commercial
20 operations by December 31, 2013.

EXHIBIT D - PROJECT DETAILS

Exhibit D, Tab 1, Schedule 1

Physical Design Features

PHYSICAL DESIGN FEATURES

1 The proposed Transmission Project is required to connect the 99.1 MW Wind Farm in the
2 Township of Melancthon to the IESO-controlled at Hydro One's Orangeville TS. To provide
3 context for the description of the physical design features of the Transmission Project, this
4 Schedule first provides a technical description of the Wind Farm and its collector system.

5 1. Wind Farm and Collector System

6 The Wind Farm will consist of 49 wind turbines and will have a total nameplate capacity of 99.1
7 MW. The Applicant will use two types of wind turbines for the Wind Farm. Specifically, the
8 Wind Farm will include 31 General Electric 1.6 MW turbines and 18 General Electric 2.75 MW
9 turbines. Each turbine will consist of a supporting tower, concrete tower foundation, rotor blades
10 and a gearbox/electrical generator housing. The 2.75 MW turbines, which will be located in the
11 eastern portion of the Wind Farm, have a tower height of 85 m, blade length of 51.5 m and rotor
12 diameter of 103 m. The 1.6 MW turbines, which will be located in the western portion of the
13 Wind Farm, have a tower height of 79.7 m, blade length of 50 m and rotor diameter of 100 m.

14 At the base of each turbine there will be a small step-up transformer that will transform the
15 electricity from 690 V to 34.5 kV, making it suitable for transmitting along the collector system.
16 The 690V/34.5 kV step-up transformer will connect each wind turbine to one of the four circuits
17 on the collector system, which consist of underground 34.5 kV feeder lines that connect each of
18 the turbines to the Project Substation. Each of the four feeders will connect a combination of 1.6
19 MW turbines and 2.75 MW turbines, for a total capacity of approximately 25 MW. The feeder
20 lines will generally follow the turbine access roads and will be buried to a depth of 1.0 to 1.2 m
21 by means of trenching or, where being installed underneath watercourses, wetland features or
22 roads, by means of horizontal directional drilling. A map of the Wind Farm site showing the
23 locations of turbines and the collector system is provided at Figure 2 of Exhibit B, Tab 2,
24 Schedule 4.

25 2. Proposed Transmission Project

1 The proposed Transmission Project is comprised of four elements: the Project Substation, the
2 Transmission Line, the Switching Station and the Interconnection. A single line diagram for the
3 Transmission Project is provided in Exhibit B, Tab 2, Schedule 5 at Figure 1. The physical
4 design for each of the four elements is described below.

5 (a) **Project Substation**

6 As shown in Figure 2 of Exhibit B, Tab 2, Schedule 4, the Project Substation will be located
7 amid the Wind Farm site on the southeast corner of the West ½ of Lot 26, Concession 2 in the
8 Township of Melancthon and will have an approximate area of 0.56 ha. Electricity generated by
9 the wind turbines will be transmitted by means of the 34.5 kV collector system to the Project
10 Substation, at which it will then be stepped up from 34.5 kV to 230 kV. The Project Substation
11 will be an open-air facility, surrounded by a security fence. The location of the Project
12 Substation has been determined based on its proximity to the wind turbines, proximity to the
13 planned location for the Wind Farm's Operations and Maintenance Building, as well as in
14 response to community concerns for minimizing the need for tree removal. Construction of the
15 Project Substation will require vegetation clearing, as well as grading of the station footprint and
16 access roads.

17 The main components of the Project Substation will be a transmission line terminating at bus
18 circuit breakers, a transformer and a control building. More specifically, the Project Substation
19 will have one 240-34.5 kV step-up transformer rated for 66/88/110 MVA, one 250 kV circuit
20 breaker, one 250 kV motorized load break switch and one 38 kV switchgear containing five
21 1200A feeder breakers, one 2500A main breaker and one fuse unit. The switchgear will also
22 contain cells for current transformers (CTs) for the main and feeder breakers. Grounding
23 transformers will be connected to the collector feeders. In addition, a capacitor bank will be
24 connected to the 38 kV buswork. The station will contain two sets of 125V DC battery banks
25 and 125V DC battery chargers, with the AC terminals of the chargers connected via a transfer
26 switch with upstream fuses. The switchgear and batteries will be contained in a control building,
27 along with relay panels for substation protection and control. As a single-walled transformer

1 will be used, a concrete oil containment system will be incorporated into the Project Substation
2 design to protect against the risk of any oil leaks that may occur. Exhibit B, Tab 2, Schedule 5
3 includes a single line drawing in Figure 1, as well as a site plan and station layout for the Project
4 Substation in Figures 2(a) and (b).

5 (b) **Transmission Line**

6 From the Project Substation, a three phase single circuit 230 kV transmission line, approximately
7 47 km in length, will run to the Switching Station (described below), which in turn will be
8 interconnected with the IESO-controlled grid at Hydro One's Orangeville TS. A 15.6 km
9 portion of the proposed Transmission Line, running southwest from the Project Substation, will
10 be situated along private lands pursuant to transmission easements or leases obtained or to be
11 obtained by the Applicant. The remaining 31.2 km portion of the proposed Transmission Line,
12 which runs south from near the intersection of County Road 21 and Highway 10 in the Township
13 of Melancthon and through the west side of the Town of Shelburne to the Switching Station, will
14 be situated along a former Rail Corridor that is now owned by the County of Dufferin. The
15 Applicant is continuing to work with the County of Dufferin with a view to finalizing the
16 necessary transmission easement for use of the former Rail Corridor. The proposed route is
17 described in Exhibit B, Tab 2, Schedule 3 and shown in Figures 3 and 4(a)-(d) of Exhibit B, Tab
18 2, Schedule 4. Section by section maps of the route and the specific parcels of land that are
19 affected are provided in Exhibit B, Tab 2, Schedule 4 at Figures 5(a)-(o).

20 The Transmission Line will run overhead to the extent permitted by environmental laws, unless
21 the Applicant has agreed otherwise with a particular landowner to bury a discrete segment of the
22 line. As such, for the vast majority of the Transmission Line, the Applicant will be installing,
23 owning and maintaining new poles. Along the portion of the Transmission Line that is on
24 private lands, the poles will generally be 80-85 ft. tall (including the portion that will be
25 embedded in the ground) wood poles that will be spaced approximately 150 meters apart. Along
26 the portion of the Transmission Line that is on the Rail Corridor, the poles will generally be 85-
27 90 ft. tall (including embedded portion) and spaced approximately 100 meters apart. The

1 reduced spacing along the Rail Corridor is to ensure that the line will, with sagging, meet all
2 clearance requirements necessary to accommodate the potential redevelopment of a rail line in
3 the Rail Corridor (discussed below). A combination of wood and steel poles will be used along
4 the Rail Corridor, with wood poles being used for tangent structures and self-supporting steel
5 poles being used for angles and dead-end locations. A total of approximately 425 poles will be
6 required along the entire length of the Transmission Line to carry the conductors, as well as fiber
7 optic ground wire. Wood poles will be directly embedded in the ground to a typical depth of 3-4
8 meters depending on pole height. Steel poles will not require anchors or guying and will be
9 either weathering or galvanized steel with concrete foundations.

10 As noted, strung along the wood and steel poles will be three circuit lines of 230 kV power
11 conductor (1 x 795 kcmil ACSR Drake per phase), as well as aluminum clad steel shield wire
12 with fiber optic ground wire (OPGW). Illustrations of the various pole structures and framing
13 designs that may be used are provided in Figures 4(a)-(n) of Exhibit B, Tab 2, Schedule 5.

14 The horizontal and vertical clearance of the Transmission Line from the ground or from any road
15 or potential future rail ROW, as well as weather loadings, will be in accordance with CSA
16 Standard C22.3 1-00. In addition, local weather and conditions for wind, ice, temperature and
17 standard utility practice in the area will be taken into account to ensure reliable operation of the
18 Transmission Line. The Transmission Line will also be constructed using good utility
19 construction practices with minimal disruptions in accordance with the applicable IEEE
20 guidelines.

21 Based on the foregoing standards, within the Rail Corridor, the Transmission Line will require a
22 width of approximately 10 m for overhead portions and, to the extent that underground segments
23 will be required, a width of approximately 3.4 m will be required in the relevant areas. Within
24 the transmission easements along private lands, the Transmission Line will require a width of
25 approximately 30 m for overhead portions and, to the extent that underground segments will be
26 required, a width of 3-4 m will be needed. Descriptions of the land area and land rights required

1 to support the Transmission Line are set out in Exhibit F, Tab 1, Schedule 1 and Exhibit F, Tab
2 2, Schedule 2. Right-of-Way dimensions are shown in Figures 4(a)-(c) of Exhibit B, Tab, 2,
3 Schedule 5.

4 There are two unique factors that have affected the Applicant's proposed Transmission Line
5 design. These factors, which reflect the Applicant's responses to particular concerns raised by
6 the local community during the course of consultations, are discussed below.

7 (i) Underground Segments

8 In response to concerns identified through consultations with the local community, the Applicant
9 is planning to install four discrete segments of the Transmission Line underground. The first
10 segment is located along a private easement near County Road 21 and 4th Line and will be
11 approximately 250 m in length. The second segment consists of a portion of the route that runs
12 through the Town of Shelburne, in close proximity to existing buildings, and will be
13 approximately 1.7 km in length. The third segment, which will be approximately 165 m in
14 length, is required to cross Hydro One's existing 230 kV line near the south end of the
15 Transmission Line, just before it hooks to the east towards Orangeville TS. The fourth segment,
16 which will be approximately 220 m in length, consists of the portion of the Transmission Line
17 that runs from just west of County Road 11 into the Switching Station. Collectively, these four
18 segments (the "**Underground Segments**") will result in a total of approximately 2.3 km of the
19 Transmission Line along the proposed route being constructed underground, either by means of
20 trenching or horizontal directional drilling. Illustrations of cross-sections for typical
21 Underground Segments along with illustrations of overhead to underground transition structures
22 are provided in Figures 5(a) – (c) of Exhibit B, Tab 2, Schedule 5. In addition, the locations of
23 the Underground Segments are shown in Figures 4(a)-(d) of Exhibit B, Tab 2, Schedule 4.

24 (ii) Accommodating Potential Railway Redevelopment

25 Another consideration in the design of the Transmission Line has been the Applicant's
26 recognition, arising from its extensive consultations with the County of Dufferin and certain of

1 its constituent municipalities, of the potential significance of the Rail Corridor to the region's
2 long-term economic development. In particular, through its consultations the Applicant became
3 aware of a proposal by The Highland Group of Companies to develop a large quarry in the
4 Township of Melancthon - a project that is known locally as the "Mega Quarry". While it is the
5 Applicant's understanding that the Mega Quarry is a project that is still in the planning stage, the
6 proponent of that project has identified as a possibility the use of the Rail Corridor to transport
7 aggregate from the Mega Quarry. As the Mega Quarry proponent notes on its website, "we
8 developed our vision for restoring the rail corridor north through Dufferin and Grey Counties.
9 This corridor was abandoned by Canadian Pacific many years ago. Restoring the rail corridor
10 will allow the shipment of aggregate throughout the Greater Golden Horseshoe of Ontario . . .
11 The Melancthon Quarry is designed to include both truck and rail facilities . . . The rail facilities
12 will only be installed if and when the rail corridor is restored. The rail project, however, is
13 separate from the quarry and depends on the cooperation of Dufferin County, which presently
14 owns the rail corridor through Dufferin County."¹

15 Recognizing this interest in developing a potential future rail line in the Rail Corridor, the
16 Applicant has designed the Transmission Project so as to facilitate the potential future co-
17 location of a rail line within the Rail Corridor. As noted, the design of the Transmission Line
18 includes reduced pole spacing along the Rail Corridor to ensure appropriate clearances so as to
19 accommodate potential co-location with a future railway line. Also notable is that the
20 Transmission Line would run along one side of the Rail Corridor so as to leave room within the
21 Rail Corridor for a potential future rail line, while at the same time ensuring that the setbacks
22 from the Transmission Line to the edge of the Rail Corridor and to the potential location of the
23 rails would meet all applicable safety standards.

¹ http://www.melancthonquarry.ca/index.php/site/quarryfacts/rail_corridor_in_dufferin_county/FAQ

1 (c) **Switching Station**

2 The Switching Station will be located on Lot 5, Plan 131 in the Township of Amaranth and will
3 have an approximate area of 0.2 ha. The Switching Station will be situated adjacent to both the
4 Rail Corridor and Hydro One's existing Orangeville TS and will enable the Transmission Line to
5 interconnect with the IESO-controlled grid. As with the Project Substation, the Switching Station
6 will be an open-air facility, surrounded by a security fence. The ownership demarcation point
7 with Hydro One will be approximately 2 m outside the Switching Station fence.

8 The main components of the Switching Station will be two deadend towers, a circuit breaker,
9 disconnect switches and a control building. More specifically, the Switching Station will have
10 one 250 kV circuit breaker, one set of three 230 kV capacitive voltage transformers, two 250 kV
11 motorized disconnect switches, a set of three 230 kV metering PTs and 230 kV metering CTs.
12 The Switching Station will also contain two sets of 125V DC battery banks and 125V DC battery
13 chargers, with the AC terminals of the chargers being connected via a transfer switch to a local
14 75 kW generator or to a local utility. The Switching Station will have a control building to house
15 the batteries and chargers, as well as the relays for protection and control. Please see Exhibit B,
16 Tab 2, Schedule 5 for a single line drawing that includes the Switching Station at Figure 1.
17 Illustrations of the Switching Station site plan and layout are provided in Figures 3(a) – (b).

18 **Interconnection**

19 The Switching Station will be connected to the 230 kV bus within Hydro One's existing
20 Orangeville TS using a 230 kV Interconnection that is approximately 100 m in length. The
21 connection or ownership demarcation point with Hydro One will be situated 2 m outside of the
22 fence from the Switching Station. The location for revenue metering units will be determined in
23 accordance with IESO requirements set out in Chapters 3, 5 and 6 of the Market Rules, as well as
24 in accordance with requirements set out in the FIT Contract.

**EXHIBIT E - DESIGN SPECIFICATIONS AND
OPERATIONAL DATA**

Exhibit E, Tab 1, Schedule 1

Operational Details

OPERATIONAL DETAILS

1 An Operations and Maintenance Building will be constructed on the same parcel of land as, and
2 adjacent to, the Project Substation, on the West 1/2 of Lot 26, Concession 2 in the Township of
3 Melancthon. The building will include a warehouse, workshop spaces, administrative offices
4 and telecommunications areas. A separate containment area will be used for the temporary
5 storage of spent oil and lubricants.

6 It is anticipated that the Applicant will enter into an operations and maintenance agreement with
7 a qualified third party operator that is experienced in the operation and maintenance of wind
8 generation facilities similar to the Wind Farm. The third party operator will provide the full
9 complement of personnel required to operate the Wind Farm, including up to 15 full and part-
10 time employees who will carry out all operations, maintenance, monitoring and control functions
11 related to the Wind Farm on a 24/7 basis.

12 The third party operator will be required to provide operators that are available 24/7 to respond
13 to requests from the IESO or Hydro One's Ontario Grid Control Centre ("OGCC") to remove
14 the Wind Farm from the grid within the response times and subject to all applicable IESO
15 requirements. A dedicated fax line will be established to enable the OGCC to send and receive
16 operating instructions. Staff performing such switching operations in response to these
17 instructions will need to have completed Ontario's "Work Protection Control Training". OGCC
18 will not issue a permit to perform switching to the Wind Farm without operators having
19 completed this training. The Applicant is also considering establishing a remote management
20 and monitoring capability with qualified staff to serve as a back-up to on-site operations for
21 additional safety and reliability.

22 While the third party operator's focus is expected to be on the operation of the Wind Farm itself,
23 it is anticipated that the Applicant will retain the services of a separate third party to provide
24 specialized operations and maintenance services in respect of the Transmission Project. Such
25 third party would be expected to provide services that include, among other things, periodic

1 inspections of the Transmission Line and stations, vegetation management and maintenance
2 activities consistent with good utility practices. Vegetation management is expected to be
3 carried out on a 5 to 8 year cycle, depending on the specific local conditions and vegetation
4 management techniques that are used. Emergency maintenance will be carried out in the most
5 time sensitive manner while complying with applicable notification requirements and permits
6 from applicable governmental authorities and land owners. Moreover, spare parts and poles
7 would be stored for use in emergencies.

8 The Applicant also intends to establish an emergency response plan that includes notification
9 requirements and protocols to ensure local municipalities, first responders and the public are kept
10 informed during emergency situations involving the Wind Farm and the Transmission Project.

Exhibit E, Tab 2, Schedule 1

Codes, Standards, and Other Regulatory Approvals

CODES, STANDARDS AND OTHER REGULATORY APPROVALS

1 1. **Codes and Standards**

2 As noted in Exhibit D, Tab 1, Schedule 1, the Transmission Project will be constructed in
3 accordance with applicable technical codes and standards, including the Canadian Electrical
4 Code, Part III (which incorporates by reference CSA Standard C22.3), as well as applicable
5 IEEE transmission line design and construction standards. The Transmission Project will also
6 comply with applicable requirements of the Transmission System Code and the Market Rules for
7 the Ontario Electricity Market, including with respect to metering.

8 2. **Renewable Energy Approval**

9 In connection with the changes introduced through the *Green Energy and Green Economy Act*,
10 2009, Ontario updated its approach to approving renewable energy projects. The new approach
11 and updated rules reflect changes made to regulations under the *Environmental Protection Act*,
12 *Environmental Assessment Act* and the *Environmental Bill of Rights, 1993* (for which the
13 Ministry of the Environment is responsible), the *Planning Act* (for which the Ministry of
14 Municipal Affairs and Housing is responsible) and to policies and requirements set by the
15 Ministry of Natural Resources under various legislation.

16 Under the new approach, renewable energy projects (other than waterpower projects) are no
17 longer subject to the *Environmental Assessment Act*. Rather, the environmental protections that
18 are built into the environmental assessment process have been incorporated into the Renewable
19 Energy Approval (“**REA**”) process. In addition, rules regarding setback distances from
20 residences and other sensitive receptors and environmental features are now applied consistently
21 across Ontario. Also significant is that renewable energy projects are no longer subject to land
22 use planning instruments under the *Planning Act*.

23 Under the new approach, most renewable energy projects now require a REA from the Ministry
24 of the Environment. As a Class 4 wind facility (pursuant to subsection 6(1) of the REA

1 Regulation, O. Reg. 359/09 under the *Environmental Protection Act*), the Dufferin Wind Farm
2 project is no exception. As described below, Dufferin Wind Power Inc. is currently nearing
3 completion of the REA process.

4 Although prior Public Information Centres were held in respect of the Wind Farm and the 69 kV
5 Alternative, the Applicant held its first series of Public Information Centres in respect of the
6 Wind Farm and the proposed Transmission Project between April 17 and 19, 2012. Dufferin
7 Wind then released its Draft REA Submission Package to the public on May 24, 2012, with
8 comments being due by July 24, 2012. The Draft REA Submission package, which considered
9 the potential impacts of both the Wind Farm and the Transmission Project, included the
10 following reports, plans and assessments:

- 11 (a) Project Description Report
- 12 (b) Construction Plan Report, which includes:
 - 13 (i) Archaeological Assessments
 - 14 (ii) Cultural Heritage Self-Assessments
 - 15 (iii) Cultural Heritage Assessments
- 16 (c) Design and Operations Report, which includes:
 - 17 (i) Noise Assessment Report
 - 18 (ii) Environmental Management Plan
 - 19 (iii) Emergency Response and Communications Plan
 - 20 (iv) Post Construction Monitoring Plan
- 21 (d) Decommissioning Plan Report
- 22 (e) Surface Water Assessment Report
- 23 (f) Wind Facility Specifications Report
- 24 (g) Natural Heritage Assessment Reports, which include:

- 1 (i) Records Review
- 2 (ii) Site Investigation
- 3 (iii) Evaluation of Significance
- 4 (iv) Environmental Impact Statement
- 5 (h) Supporting Documents

6 Subsequent to the comment period on the Draft REA Submission Package, the Applicant held its
7 second series of Public Information Centres concerning the Wind Farm and the proposed
8 Transmission Project between July 24 and 28, 2012. Based on the feedback received during the
9 comment period and at the second series of Public Information Centres, which were held
10 throughout the community, Dufferin Wind finalized and filed its REA Submission Package on
11 August 13, 2012 with the Ministry of the Environment. The Final REA Submission Package
12 included the above-listed documents, as well as a Consultation Report. It is expected that the
13 REA will be issued by approximately January 2013. A more detailed description of the
14 Applicant's consultation program and process is provided in Exhibit G, Tab 1, Schedule 1.

15 3. **Amendments to O. Reg. 359/09**

16 Section 37 of Ontario Regulation 359/09 (Renewable Energy Approvals Under Part V.0.1 of the
17 Act) under the *Environmental Protection Act* currently restricts the construction, installation or
18 expansion of a renewable energy generation facility as part of a renewable energy project at a
19 project location that is in, among other locations, a provincially significant southern or coastal
20 wetland. Pursuant to O. Reg. 160/99 under the *Electricity Act*, a "renewable energy generation
21 facility" includes transmission lines of less than 50 km in length that are associated with or
22 ancillary to a renewable energy generation facility. Consequently, Section 37 of O. Reg. 359/09
23 currently restricts the proposed Transmission Line from being constructed or installed overhead
24 through provincially significant southern or coastal wetlands. Along the Applicant's proposed
25 Transmission Line route, there are a number of distinct areas that are or that may be deemed to

1 be provincially significant southern wetlands. These areas are marked on Figures 4(a)-(d) of
2 Exhibit B, Tab 2, Schedule 4.

3 On July 20, 2012 the Ministry of the Environment posted proposed amendments to O. Reg.
4 359/09 for a 45-day comment period on the Environmental Registry. The proposed amendments
5 are wide-ranging. One aspect of the proposed amendments is that, based on the Ministry of
6 Natural Resources' review of over 120 natural heritage assessments since 2009, it has been
7 proposed that the Section 37 restrictions under O. Reg. 359/09 be aligned with the direction
8 established by the Provincial Policy Statement under the *Planning Act* to allow new transmission
9 and distribution lines, as well as changes to existing transmission infrastructure, to be
10 constructed through provincially significant southern and coastal wetlands, including overhead,
11 subject to completion of an environmental impact study. This amendment would also ensure that
12 O. Reg. 359/09 takes a consistent approach with respect to the development of renewable energy
13 project infrastructure both in and within 120 meters of provincially significant southern and
14 coastal wetlands. The public comment period for these amendments closed in early September
15 and it is anticipated that the proposed amendments will come into effect in approximately mid-
16 October 2012.

17 It is important to note that proposed route for the Transmission Project will not be affected by the
18 proposed amendments to O. Reg. 359/09. Rather, the proposed amendments will determine
19 whether or not certain segments of the Transmission Line will need to be installed underground.
20 Specifically, for those segments of the Transmission Line route that cross through areas that are
21 provincially significant wetlands, if the regulatory amendments are brought into effect in
22 substantially the form in which they have been proposed and by such time as the Transmission
23 Project requires, then the Applicant intends to construct those segments of the Transmission Line
24 overhead, subject to any requirements that may be established by the amended regulation. To
25 this end, Dufferin Wind has initiated work on the environmental impact study that it anticipates
26 will be required for developing overhead transmission lines across provincially significant
27 southern wetlands under the amended regulation. However, if the regulatory amendments are

1 not brought into effect by such time as the Transmission Project requires or if the amendments
 2 are materially different from those initially proposed, then the Applicant intends to construct the
 3 relevant segments of the Transmission Line underground.

4 **4. Other Permits, Approvals and Authorizations**

5 In addition to the codes, standards and REA requirements set out above, a number of other
 6 permits, licenses and approvals from other governmental authorities may be required before the
 7 Transmission Project can be implemented. These are set out in Table 1, below.

8 ***Table 1 - Potentially Applicable Permits, Approvals and Authorizations***

Government	Authority	Potentially Required Permit or Approval	Wind Farm	Tx Project
Federal	Fisheries and Oceans Canada	Authorization under Subsection 35(2) of the <i>Fisheries Act</i> for watercourse crossings (or Letter of Advice)	✓	✓
Federal	Environment Canada	Permit under <i>Migratory Bird Conservation Act</i> to collect bird carcasses	✓	
Federal	Navigation Canada	Aviation Safety Land Use Proposal under the <i>Aeronautical Act</i>	✓	
Federal	Transport Canada	Aeronautical Obstruction Clearance Permit under the <i>Aeronautical Act</i>	✓	
Federal	Transport Canada	Navigational Clearances under the <i>Navigable Waters Protection Act</i>	✓	✓
Federal	Organizations on the Radio Advisory Board of Canada Mandatory Contact List	Clearance from applicable organizations operating radio communications and radar systems	✓	

Government	Authority	Potentially Required Permit or Approval	Wind Farm	Tx Project
Federal	Canadian Broadcasting Corporation	CBC Radio Communications Interference Approval	✓	
Provincial	Ministry of Government Services	Clearance re Emergency Radio System	✓	
Provincial	Ministry of Natural Resources	Approval and permitting requirements under the Renewable Energy Approval process	✓	✓
Provincial	Ministry of Natural Resources	Water Crossings Work Permit under O. Reg. 453/96 of <i>Lakes and Rivers Improvement Act</i>	✓	✓
Provincial	Ministry of Natural Resources	Work Permit for Watercourse Crossings under the <i>Public Lands Act</i>	✓	✓
Provincial	Ministry of Natural Resources	Species at Risk Permit under the <i>Endangered Species Act</i> (if designated species habitat is impacted, which is to be confirmed)	✓	✓
Provincial	Ministry of Natural Resources	Permit under the Fish and Wildlife Conservation Act to collect bat and bird carcasses	✓	
Provincial	Nottawasaga and Grand River Conservation Authorities	Generic Regulations Permit for water crossings and works within floodplain	✓	✓
Provincial	Ministry of Tourism, Culture and Sport	Archeological and Cultural Heritage Clearances under the <i>Heritage Act</i>	✓	✓
Provincial	Ministry of Transportation	Compliance with the <i>Highway Traffic Act</i> and <i>Road Safety Regulations</i> - Highway Entrance Permit, Transportation Permits (e.g. Oversize, Overweight Permit or Special Vehicle Configuration)	✓	✓

Government	Authority	Potentially Required Permit or Approval	Wind Farm	Tx Project
		Permit), Crossing Permits		
Provincial	Ontario Energy Board	Notice of Proposal under Section 81 of the <i>Ontario Energy Board Act</i>	✓	✓
Provincial	Ontario Energy Board	Electricity Generation Licence under Section 57 of the <i>Ontario Energy Board Act</i>	✓	
Provincial	Ministry of Labour	Notice of Project prior to commencing construction (to be obtained by contractor)	✓	✓
Provincial	Hydro One Networks Inc.	Transmission Connection Agreement		✓
Provincial	Independent Electricity System Operator	Authorization as a Market Participant	✓	
Provincial	Independent Electricity System Operator	Facility Registration	✓	✓
Provincial	Independent Electricity System Operator	Metering Registration		✓
Provincial	Independent Electricity System Operator	Connection Assessment Approval		✓
Provincial	Electrical Safety Authority	Connection Authorization		✓
Municipal	County of Dufferin, Township of Melancthon; Township of Amaranth and Town of Shelburne	Road Use Agreements and/or Building Permits (as applicable)	✓	✓

Government	Authority	Potentially Required Permit or Approval	Wind Farm	Tx Project
Provincial	Hydro One	Utility Crossing Agreements to cross existing distribution lines	✓	✓

EXHIBIT F - LAND MATTERS

Exhibit F, Tab 1, Schedule 1

Land Matters

LAND MATTERS

1 The land area required for the Transmission Project consists of (a) the lands required for the
2 Project Substation, (b) the lands required for the Transmission Line, and (c) the lands required
3 for the Switching Station, including any lands required either on a temporary basis for
4 construction purposes and any lands required on an ongoing basis for structures or access to and
5 operation of such structures. These requirements are described in the following sections.

6 **1. Land Area Required and Land Rights Acquired/to be Acquired**

7 As described in Exhibit B, Tab 2, Schedule 3, the Project Substation will be situated on private
8 lands on the southeast corner of the West 1/2 of Lot 26, Concession 2 in the Township of
9 Melancthon (just north of County Road 21, between 3rd Line and County Road 124), as shown
10 in Figure 4a at Exhibit B, Tab 2, Schedule 4. The Project Substation will have a footprint of
11 approximately 0.56 ha. These lands are privately owned. The Applicant has secured a lease
12 with the owner of the property for purposes of a wind turbine that will be located on the
13 property. In addition, the Applicant intends to enter into an additional lease, substantially in the
14 form of the lease provided in Exhibit F, Tab 2, Schedule 1, Appendix 1 for purposes of the
15 Project Substation, Operations and Maintenance Building and the Transmission Line.

16 Also as described in Exhibit B, Tab 2, Schedule 3, the Switching Station will be situated adjacent
17 to Hydro One's existing Orangeville TS at Lot 5, Plan 131 in the Township of Amaranth, as
18 shown in Figure 4d at Exhibit B, Tab 2, Schedule 4. The Switching Station will have a footprint
19 of approximately 0.2 ha. These lands are privately owned and the Applicant has secured an
20 option to purchase the property based on an option agreement substantially in the form provided
21 in Exhibit F, Tab 2, Schedule 1, Appendix 2.

22 As indicated in Exhibit B, Tab 2, Schedule 3, the Transmission Line will generally run southwest
23 from the Project Substation for 15.6 km along private lands (and road crossings) in the Township
24 of Melancthon to a former railway corridor that is now owned by the County of Dufferin (the
25 "**Rail Corridor**"). From a point along the Rail Corridor that is immediately to the west of

1 Highway 10 and south of Sideroad 260, the Transmission Line will run southeast along the Rail
2 Corridor towards the Town of Shelburne (generally alongside Highway 10) and, after passing
3 through the west side of the Town of Shelburne, will enter into the Township of Amaranth and
4 run in a southward direction (generally alongside County Road 11) before turning briefly to the
5 east and terminating at the Switching Station. The portion of the Transmission Line that runs
6 along the Rail Corridor is approximately 31.2 km in length. The total length of the Transmission
7 Line is therefore approximately 47 km. The proposed route for the Transmission Line is shown
8 in its entirety in Figure 3 of Exhibit B, Tab 2, Schedule 4, with portions of the proposed route
9 being shown in greater detail in Figures 4(a)-(d).

10 The 15.6 km portion of the Transmission Line that runs generally along private lands is
11 comprised of approximately 30 separate parcels of land. Of these, 10 parcels are municipally
12 owned roads or public highways that will be crossed by the Transmission Line. For these
13 crossings, the Applicant does not need to acquire any land rights beyond those which are
14 provided by legislation under Section 41 of the *Electricity Act*. Although pursuant to Subsection
15 41(10) the Board does not have the authority to determine the specific location of structures,
16 equipment or facilities in public streets and highways where the facilities are also subject to the
17 need for leave to construct pursuant to Section 92 of the *Ontario Energy Board Act*, it is the
18 Applicant's understanding that the Board has such authority either in connection with its powers
19 under Section 92 or pursuant to Section 101 of the *Ontario Energy Board Act*, under which the
20 Board may grant authority to construct works upon, under or over a highway, utility line or ditch.
21 Accordingly, as noted in Exhibit B, Tab 1, Schedule 1, the Applicant hereby requests such
22 authorization to construct the Transmission Line upon, under or over the municipally owned
23 roads and public highways, as well as any utility line or ditch which may need to be crossed to
24 construct the Transmission Line in accordance with this Application.

25 For the remaining approximately 20 parcels of privately owned land along the 15.6 km portion of
26 the Transmission Line referred to above, there are 17 affected land owners. To date, the
27 Applicant has secured transmission easements or leases with all of these land owners in respect

1 of all of these affected parcels with the exception of two small sections. The Applicant expects
2 that it will be able to reach final agreements with respect to these two parcels shortly. Dufferin
3 Wind has employed a combination of transmission easements and transmission leases in respect
4 of these privately owned parcels. Moreover, it has used one form of lease for properties that
5 have or were at an earlier stage expected to have a wind turbine as well as transmission facilities,
6 and a different form of lease for certain properties that will only have transmission facilities.
7 Each of these forms of agreement for transmission lines are provided in Exhibit F, Tab 2,
8 Schedule 1, at Appendices 3 to 5.

9 The 31.2 km portion of the Transmission Line that runs along the Rail Corridor is comprised of
10 approximately 60 parcels of land, the majority of which are owned by the County of Dufferin. A
11 small number of parcels along the Rail Corridor, consisting of public roads or highways being
12 crossed by the Transmission Line, are municipally owned or owned by the provincial Crown.
13 For these parcels, as with the road crossings described above, the Applicant does not require any
14 land rights beyond those which are provided by legislation under Section 41 of the *Electricity*
15 *Act* and, with respect to the specific locations of such crossings the Applicant hereby requests
16 authorization to construct the Transmission Line upon such road and highway crossings pursuant
17 to the Board's authority under Sections 92 and 101 of the *Ontario Energy Board Act*. In respect
18 of the Rail Corridor parcels that are owned by the County of Dufferin and that are not road or
19 highway crossings, the Applicant has made clear to the County that it is interested in acquiring a
20 transmission easement. The Applicant and the County have been engaged in ongoing
21 discussions with the County concerning such easement since Fall 2011 but to date the easement
22 has not been finalized. The Applicant proposes that the easement in respect of the Rail Corridor
23 would be substantially in the form of the agreement provided at Exhibit F, Tab 2, Schedule 1,
24 Appendix 6. In addition, in connection with the Applicant's efforts to conclude a transmission
25 easement with the County of Dufferin, Dufferin Wind has been working with the prior owner of
26 the Rail Corridor to cure historical title defects related to several parcels along the Rail Corridor

1 2. **Widths of Required ROWs**

2 As shown in Exhibit B, Tab 2, Schedule 5 at Figure 4(c), the width of the right-of-ways acquired
3 or to be acquired under the Applicant's form of easement in respect of the portion of the
4 Transmission Line that runs along private lands is typically 30 m (but will in some areas be 25
5 m).

6 As shown in Exhibit B, Tab 2, Schedule 5 at Figures 4(a)-(b), the width of the right-of-way to be
7 acquired in respect of the portion of the Transmission Line that runs along the Rail Corridor will
8 be approximately 10 m. In areas where overhead to underground transition structures are
9 necessary, the width will instead need to be approximately 11.5 m. There will be five such
10 locations, each being approximately 40 m in length.

11 3. **Temporary Working Rights Required**

12 In addition to the land rights required for structures and for the ongoing operation and
13 maintenance of the Transmission Project, certain temporary working rights may be required to
14 allow for construction activities. These include road crossings, drains crossings, construction
15 access and equipment or material laydown areas. To the extent such rights may be required, the
16 Applicant intends to rely upon the temporary construction and working rights that are included
17 within each of the forms of land agreements provided in Exhibit F, Tab 2, Schedule 1.

18 4. **Land Rights Acquisition Process**

19 Each of the affected land owners has received multiple notices pursuant to the REA process and
20 will receive notice of this Application. In addition, representatives of Dufferin Wind have
21 personally met with each of these owners to directly discuss the Wind Farm, the Transmission
22 Project and the Applicant's interest in acquiring rights in respect of such owner's property.

23 The Applicant will continue to work with the owners of all properties in respect of which
24 required land rights remain outstanding. In particular, this includes (a) the owners of the two

1 discrete sections of the Transmission Line that run along private property where transmission
2 easements or leases have not yet been finalized, (b) the County of Dufferin in respect of the
3 parcels it owns along the Rail Corridor (as well as the owners of the properties with historical
4 title defects), and (c) the owners of any lands for which the Applicant determines temporary
5 construction or working rights will be required. A landowner line list is provided in Appendix 1
6 to this Exhibit F, Tab 1, Schedule 1.

7 In respect of the sections of the Transmission Line that run along private property where
8 transmission easements or leases have not yet been finalized, the Applicant has provided
9 agreements for review by the landowners and anticipates finalizing these shortly. In respect of
10 any temporary construction or working rights that may be required, the Applicant will continue
11 to assess its needs to determine whether any additional such rights will be required beyond those
12 which are already incorporated into the various forms of agreement.

13 With respect to the County-owned parcels along the Rail Corridor, the Applicant submitted a
14 proposal to the County in November 2011 for a transmission easement. In May 2012, the County
15 Council directed that an easement agreement be drafted for their consideration. In June 2012,
16 the County requested that Dufferin Wind enter into a Memorandum of Understanding (the
17 “MOU”) with the County to provide for reimbursement of legal costs related to the granting of
18 the easement and for pre-payment of estimated costs to finalize the agreement. On September 13,
19 2012 the MOU was approved by the County Council and the Applicant provided the associated
20 funding. Negotiations between the Applicant and the County on the transmission easement are
21 ongoing. Going forward, the Applicant plans to continue to work with the County and to address
22 its concerns to the extent reasonable and practically feasible, with a view to concluding the
23 transmission easement, substantially in the form provided, on a timely basis.

APPENDIX 1 - LANDOWNER LINE LIST

- 1 The following Landowner Line List is organized geographically commencing at the Project
- 2 Substation and ending at the Switching Station.

[Note: The Landowner Line List contains personal information of landowners and has therefore been filed in confidence with the Board pursuant to Rule 9A.01 of the Board's *Rules of Practice and Procedure* and in accordance with Section 4.3 of the Board's *Practice Direction on Confidential Filings*]

Exhibit F, Tab 2, Schedule 1
Forms of Land Agreements

FORMS OF LAND AGREEMENTS

1 This schedule includes copies of the forms of land agreements that the Applicant has used and/or
2 intends to use for the acquisition of the land rights it requires in respect of the Transmission
3 Project. These include the following.

4 Appendix 1 - Form of Lease for Project Substation

5 Appendix 2 - Form of Option to Purchase for Switching Station

6 Appendix 3 - Form of Transmission Easement (for Private Easements)

7 Appendix 4 - Form of Transmission Lease (for Private Lands)

8 Appendix 5 - Form of Wind Turbine and Transmission Lease (for Private Lands)

9 Appendix 6 - Form of Transmission Easement (for Rail Corridor)

Appendix 1 - Form of Lease for Project Substation

**DUFFERIN WIND POWER INC.
LEASE**

LEASE

THIS LEASE made as of ____ of _____, 2012.

BETWEEN :

□

Address: ■

(the “**Landlord**”)

– and –

DUFFERIN WIND POWER INC.

a corporation incorporated under the laws of New Brunswick

Address: 79 Wellington Street West, Suite 3000, TD Waterhouse Tower,
Toronto, Ontario, M5K 1N2

(the “**Tenant**”)

WHEREAS:

- A. The Landlord is the registered and beneficial owner of an estate in fee simple title, subject however to such liens, mortgages and encumbrances existing as of the date of this Lease, of and in that certain parcel or tract of land situated, lying and being in the Province of Ontario and legally described as set out in Schedule “A” attached to this Lease (the “**Lands**”); and
- B. The Landlord has agreed to lease portions of the Lands to the Tenant for the purposes and upon the terms and conditions set forth in this Lease.

WITNESSES that in consideration of the covenants and agreements herein contained and the sum of **TWO DOLLARS (\$2.00)**, the receipt and sufficiency of which are hereby acknowledged, the Landlord and the Tenant covenant and agree as follows:

**INTRODUCTION
DEFINITIONS**

In this Lease:

“**Additional Rent**” has the meaning set out in Section 3.03 of this Lease;

“**Adjoining Property**” means that part of the Lands which does not include the Leased Premises;

“**Annual Rent**” has the meaning set out in Section 3.02 of this Lease;

“**Assignment**” has the meaning set out in Section 9.01 of this Lease;

“**Business Days**” means Mondays through Fridays inclusive but excluding any statutory holidays;

“**CPI**” or “**Consumer Price Index**” means the Consumer Price Index (All items for Regional Cities, base year 1992 = 100) for the City of Windsor, Ontario published by Statistics Canada (or by a successor or other governmental agency, including a provincial agency), or if the CPI is no longer published, an index published in substitution for the CPI or any replacement index designated by the Tenant with the consent of the Landlord. If a substitution is required, the Tenant will make the necessary conversions. If the base year for the CPI (or the substituted or replacement index) is changed by Statistics Canada (or by its successor or other governmental agency) the Tenant will make the necessary conversions.

“**Designated Area**” means the part of the Lands identified as such in Part 2 of Schedule “B” of this Lease;

“**Electrical Supply Cables**” means cables, wires, pipes, meters, conduits, tubes and all necessary appurtenances, to be installed on, over, along or under the Adjoining Property and the Leased Premises for the purpose of transporting the electric power generated at the Project to the distribution facilities of prospective purchasers of said electric power;

“**Facilities**” means collectively all buildings, structures, improvements, fixtures, installations, equipment or chattels installed or brought on to the Leased Premises or the Adjoining Property by or at the request of the Tenant for the purpose of the Project, and includes without limitation the Electrical Supply Cables, the Perimeter Fences, the Tenant’s signage, electrical substations, switching stations, transformers, energy storage facilities, overhead and underground electrical transmission and communication lines, telecommunications equipment, power generation facilities to be operated in conjunction with wind farm installations, meteorological towers, control buildings, vehicle parking, indoor and outdoor storage, control rooms, business offices, maintenance yards, and related facilities and equipment and all appurtenances thereto and an anemometer;

“**Farming**” has the meaning set out in Section 6.08 of this Lease;

“**Foundation**” has the meaning set out in Section 6.02(a) of this Lease;

“**HST**” has the meaning set out in Section 4.02 of this Lease;

“**Lands**” means the lands owned by the Landlord described in Schedule “A” of this Lease as more particularly referred to in Recital **A** on page **1** of this Lease;

“**Lease**” means this lease, as it may be amended, supplemented or restated from time to time in accordance with the terms hereof;

“**Lease Commencement Date**” has the meaning set out in Section 1.02 of this Lease;

“Lease Year” means the following: the first Lease Year shall commence on the Lease Commencement Date and shall end on the day immediately preceding the first anniversary of the Lease Commencement Date; thereafter each Lease Year shall consist of **twelve (12)** consecutive calendar months commencing on the anniversary of the Lease Commencement Date in a year and ending on the day immediately preceding the anniversary of the Lease Commencement Date in the next following year;

“Leased Premises” means that part of the Lands identified in Part 1 of Schedule “B” of this Lease;

“Mortgage” has the meaning set out in Section 13.01 of this Lease;

“Mortgagee” has the meaning set out in Section 13.01 of this Lease;

“Perimeter Fence” means fences, barriers, or any other divider to limit access to any Facilities installed by the Tenant;

“Project” means the wind energy conversion facility to be constructed and operated by the Tenant within the vicinity of the Leased Premises for the purpose of carrying on the business of wind electricity generation and all associated commercial purposes, including but not limited to the installation of wind turbine units, Facilities and all associated facilities, the harnessing of wind and conversion of wind energy to electricity, the commercial distribution of harnessed wind electricity and such other purposes as are reasonably necessary or desirable for the conduct of such business;

“Rent” means Annual Rent and Additional Rent;

“Right of Access” has the meaning set out in Section 6.06 of this Lease;

“Roadway” has the meaning set out in Section 6.03 of this Lease;

“Tax Payment” has the meaning set out in Section 4.01 of this Lease;

“Taxes” means all real property taxes, capital taxes, rates, duties, assessments (including local improvement taxes), impost charges or levies, whether general or special, that are levied, rated, charged or assessed against the Lands, the Leased Premises or the Facilities, as the case may be depending on the context, or any part thereof from time to time by any lawful taxing authority, whether federal, provincial, municipal, school or otherwise, and any taxes or other amounts which are imposed in lieu of, in substitution for, or in addition to any such real property taxes whether of the foregoing character or not and whether in existence at the commencement of the Term of this Lease or not, and any such real property taxes levied or assessed against the Lands, the Leased Premises or the Facilities, as the case may be, but shall not include local improvement charges;

“Tenant’s Mortgage” has the meaning set out in Section 9.02 of this Lease;

“Tenant’s Mortgagee” has the meaning set out in Section 9.02 of this Lease; and

“**Term**” has the meaning set out in Section 1.02 of this Lease.

ARTICLE I GRANT AND TERM

1.01 Grant

In consideration of the Rent, and the covenants and agreements hereinafter reserved and contained on the part of the Tenant to be paid, kept, observed and performed, the Landlord hereby leases to the Tenant and the Tenant leases from the Landlord portions of the Lands identified in Part 1 of Schedule “B” attached to this Lease (the “**Leased Premises**”).

1.02 Term

This Lease shall be for a term (the “**Term**”) expiring Twenty (20) years after the Annual Rent Commencement Date, and commencing on [■] or on such earlier date as the Tenant may notify the Landlord by giving the Landlord not less than ten (10) days’ prior written notice (the “**Lease Commencement Date**”).

1.03 Extension

If the Tenant is not then in default in respect of any of the covenants and conditions contained in this Lease at the end of the Term, then the Tenant shall have the right to extend the Term for additional terms totalling up to twenty-nine (29) years where the first and second extension terms shall both be ten (10) years and the final extension term shall be up to nine (9) years (each additional term being an “**Extension Term**”), but in no event shall the term of this Lease, including any Extension Term, exceed 50 years from the date hereof. Each Extension Term shall be on the same terms and conditions of this Lease, save that the Landlord shall have the right to increase the Annual Rent as provided for in Section 3.02. The Tenant’s right to extend the Term shall be exercisable by written notice by the Tenant to the Landlord given not less than thirty (30) days prior to the end of the Term, or each Extension Term.

The Tenant hereby declares that the Leased Premises will be used for the purpose of a renewable energy project as defined by the *Green Energy Act, 2009* (S.O. 2009, Ch. 12 Schedule A) to construct and operate a renewable energy generation facility as defined by the *Electricity Act, 1998* (S.O. 1998, Ch. 15 Schedule A).

1.04 Early Termination by Tenant

The Landlord agrees that the Tenant shall have the right at any time, upon **six (6)** months’ notice to that effect to the Landlord, to terminate this Lease upon the occurrence of any of the following:

- (a) the Tenant is unable for any reason whatsoever to obtain any permits, licences or approvals as may be necessary for the construction, installation, operation or maintenance of the Facilities or otherwise to permit the Tenant to occupy the Leased Premises and conduct its activities thereon, as required by applicable laws;

- (b) the Tenant in its sole discretion, deems the Facilities to be economically unfeasible; or
- (c) the construction, installation, operation or maintenance of the Facilities is prevented or significantly impeded for any reason whatsoever, including not limited to, legal or regulatory requirements,

and, in such event, this Lease shall terminate on the next succeeding anniversary date thereof.

Upon the Tenant so electing to terminate this Lease the Tenant, at its sole cost and expense, shall remove and discharge any instrument or encumbrance registered against title to the Lands and related to its interest therein arising under this Lease.

1.05 Early Termination by Landlord

If the Tenant has not commenced the construction and installation of the Facilities on or before [January 30, 2015], the Tenant agrees that the Landlord shall have the right to terminate this Lease at any time, prior to the Tenant commencing construction and installation of Facilities on the Leased Premises by giving written notice to that effect to the Tenant, and this Lease shall terminate on the next succeeding anniversary date thereof unless the Tenant has completed construction and installation of the Facilities by that date.

ARTICLE II LEASED PREMISES

2.01 Leased Premises

The Leased Premises shall comprise, from time to time, such part or parts of the Designated Area as the Tenant, in its sole and unfettered discretion, may designate in accordance with this Article. At the Lease Commencement Date, the Leased Premises shall comprise the Leased Premises described in Schedule "B" of this Lease. Thereafter, the Tenant may from time to time add to the Leased Premises any part or parts of the Lands forming part of the Designated Area by delivery of written notice to the Landlord to that effect specifying the description of the new Leased Premises, and specifying the date on which such new Leased Premises shall become part of the Leased Premises. The Tenant may also from time to time delete lands from the Leased Premises by delivery of written notice to that effect to the Landlord specifying that portion of the Lands to be deleted from the Leased Premises and the date when they shall become deleted from the Leased Premises; in the case of any such deletion of Lands from the Leased Premises the Tenant shall comply with the provisions of Section 8.03 with respect to the removal of the Tenant's Facilities from such deleted Leased Premises as if this Lease had been terminated on the designated date. On the occurrence of any change in the Leased Premises hereunder, the obligation under Section 4.01 with respect to Taxes levied against the added or deleted Leased Premises shall be prorated and adjusted as the date of the respective change in the Leased Premises.

As a result of the exercise of the Tenant's rights under this Article, the Leased Premises may consist of one or more non-contiguous parcels of land in the Designated Area. Each such non-contiguous area (a "Site") shall have an area of at least **one hundred and twenty-five (125)**

square meters. Each Site, at the option of the Tenant, in its sole and unfettered discretion, may be enclosed by a Perimeter Fence.

[NTD: Instead of the concepts of a Designated Area and Site, the Leased Premises may be simply be a fixed area identified on a Plan]

2.02 General Rights of the Tenant

The Landlord grants to the Tenant, its agents, employees, contractors and licensees, and their vehicles, tools, equipment, apparatus and materials of whatsoever nature and kind, the full, free and uninterrupted exclusive right of way and easement over, along and upon the Adjoining Property to enter for temporary periods of time upon the Adjoining Property for all purposes connected with, or incidental to, the rights and privileges herein granted to the Tenant with respect to the Leased Premises including, without limitation the right to erect, install, reinstall, construct, reconstruct, operate, repair and maintain its Facilities on the Leased Premises and, incidental thereto, the right to (i) load, unload and store material, apparatus and equipment, (including, but not limited to, heavy equipment), upon the Adjoining Property (ii) remove or trim any trees on the Adjoining Property immediately adjacent to the Leased Premises which, in the reasonable opinion of the Tenant, (which determination will be made with prior consultation with the Landlord), may constitute a hazard to the Facilities and, (iii) remove other obstructions which in the reasonable opinion of the Tenant (which determination will be made with prior consultation with the Landlord), may endanger the operation of the Facilities. Where, in the reasonable opinion of the Tenant, the Tenant considers it necessary by reason of the nature or condition of the Leased Premises or the circumstances then existing, the Tenant shall have the right in the nature of an easement throughout the Term to go on, across and exit from all or any part of the Adjoining Property whether by the Landlord's access routes or otherwise for the purposes of gaining access to the Leased Premises and for the purpose of constructing, reconstructing, repairing, replacing, relocating or protecting the Facilities; provided however, in exercising such rights, the Tenant shall abide by all reasonable safety precautions.

[NTD: s2.02(i) provides laydown rights with respect to the Adjoining Property - additional rights may be required]

2.03 Conduct of Operations

The Tenant shall conduct all operations on the Leased Premises in a diligent, careful and workmanlike manner, and in compliance with the provisions of any statutes, regulations, orders or directives of any government or governmental agency applicable to such operations, and where such provisions conflict with the terms of this Lease, such provisions shall prevail.

ARTICLE III RENT

3.01 Covenant to Pay

The Tenant hereby covenants with the Landlord to pay Rent, including Annual Rent and Additional Rent, as herein provided.

3.02 Annual Rent

The Lessee shall pay to the Lessor the sum of ■ Dollars (\$■) per annum for each year of the Term payable in one lump sum payable on the 1st day of January of every year (the “**Annual Rent**”).

[For each year of the Extension Term, on January 1 of each calendar year during the Extension Term, the Annual Rent shall be automatically increased by the amount obtained by multiplying the Annual Rent for the previous calendar year of the Term or Extension Term by the percentage increase in the CPI from January 1 of the previous year to January 1 of the then current year of the Extension Term, provided that the new Annual Rent shall not be greater than the amount that would be obtained by increasing the original Annual Rent by three (3%) percent compounded annually from January 1 of the calendar year in which the commencement of the extension term occurs to January 1 of the then-current year of the Extension Term.]

3.03 Additional Rent

All amounts payable hereunder by the Tenant except Annual Rent shall be payable as additional rent (“**Additional Rent**”). The Tenant shall pay Additional Rent to the persons, at the times and in the manner hereinafter set forth, and if the time and manner of payment of any Additional Rent is not set out expressly in this Lease, such Additional Rent shall be payable by the Tenant to the Landlord forthwith on demand. Where the calculation of any Additional Rent is not made until after the termination of this Lease, the obligation of the Tenant to pay such Additional Rent shall survive the termination of this Lease.

3.04 Place of Payment

The Tenant shall make all payments of Annual Rent and any payments of Additional Rent required by this Lease to be paid to the Landlord by way of cheque payable to the Landlord (or to such other person as the Landlord may hereafter designate by notice in writing to the Tenant) and all such payments shall be delivered or sent to the address set out on page 1 of this Lease or to such other person or address as the Landlord may hereafter designate by notice in writing to the Tenant.

3.05 Accrual and Prorating

Rent shall be considered as accruing from day to day hereunder and where it becomes necessary for any reason to calculate Annual Rent or Additional Rent for an irregular period of less than **one (1) Lease Year**, an appropriate apportionment and adjustment shall be made.

3.06 Net Lease

The Tenant acknowledges, covenants and agrees that, except as otherwise expressly set out in this Lease, this Lease shall be a completely carefree net Lease for the Landlord and that the Tenant shall pay all costs, expenses, charges or outlays of any kind arising from, relating to or affecting the Leased Premises (except any payments of principal and interest to be made under any mortgage placed or assumed by the Landlord; the payment of the Landlord’s income taxes or

corporation taxes, unless such income or corporation taxes have been imposed in lieu of or substitution for Taxes; and the payment of any costs incurred by the Landlord in connection with the activities of the Landlord on the Leased Premises).

ARTICLE IV TAXES

4.01 Realty Taxes

Except as hereinafter set out, the Tenant shall pay all Taxes attributable to the Leased Premises and the Facilities to the taxing authorities when the same become due and payable. At the request of the Landlord, the Tenant shall provide evidence to the Landlord of payment of Taxes. If any bills, assessments, notices or other communications for or in respect of Taxes are received by the Tenant from the taxing authorities, the Tenant shall promptly deliver to the Landlord copies of same.

If a separate tax bill is not issued to the Tenant with respect to the Leased Premises and/or the Facilities, the Tenant shall pay to the Landlord, as Additional Rent, the Tenant's share of the Taxes with respect to the Lands (the "**Tax Payment**") as follows:

- (a) If there is a separate assessment of the Leased Premises and/or the Facilities, the amount of the Tax Payment shall include the amount of the Taxes attributable thereto determined in accordance with such assessment.
- (b) If there is no separate assessment of either the Leased Premises or the Facilities, the amount of the Tax Payment shall include a portion of the Taxes levied against the Lands determined by allocating to the Leased Premises or the Facilities, as the case may be, such proportion of the total assessment of the Lands as is reasonably attributable to them in accordance with assessment principles then used in the municipality in which the Lands are located.
- (c) A Tax Payment will become due **one (1)** month after the Landlord has furnished to the Tenant official receipts of the appropriate taxing Authority, or other proof satisfactory to the Tenant evidencing the payment of the Taxes payable by the Landlord with respect to the Lands. At the option of the Landlord, the Landlord may direct that the Tenant pay the Tax Payment directly to the taxing authority, in which case the Tenant shall pay such Tax Payment to the taxing authority on or before the date when the Taxes to which such Tax Payment relates are due.

For clarity, it is the intention of the parties that the Tenant shall pay **one hundred percent (100%)** of any increase in the Taxes which are levied against the Lands as a result of the Facilities and which would not have been levied but for the Facilities, together with the Taxes levied against the Leased Premises based on their unimproved land value as agricultural land and the actual area of the Leased Premises occupied by the Tenant in comparison to the total area of the Lands.

Notwithstanding anything to the contrary in this Lease, the Tenant shall not be required to pay any Taxes which are levied against the Lands as a result of (i) any improvements to the Lands

made by the Landlord, or (ii) an increase in the value of the Landlord's property, or (iii) any change of use of the Adjoining Property from its current use for Farming.

4.02 HST

Subject to any applicable legislation, (i) the Tenant shall pay to the Landlord an amount equal to any and all goods and services taxes, sales taxes, value added taxes, business transfer taxes, or any other taxes imposed on the Landlord or the Tenant with respect to Rent payable by the Tenant under this Lease, whether characterized as goods and services tax, sales tax, harmonized sales tax, value added tax, business transfer tax or otherwise (collectively "**HST**"), it being the intention of the parties that the Landlord shall be fully reimbursed by the Tenant with respect to any and all HST. The amount of such HST so payable by the Tenant shall be calculated by the Landlord in accordance with the applicable legislation and shall be paid to the Landlord at the same time as the amounts to which such HST applies are payable to the Landlord under the terms of this Lease or upon demand or at such other time or times as the Landlord from time to time determines; and (ii) the amount of such HST so payable by the Tenant shall be deemed not to be Rent, but the Landlord shall have all of the same remedies for and rights of recovery of such amount as it has for recovery of Rent under this Lease.

**ARTICLE V
UTILITIES**

5.01 Utilities

The Tenant shall be solely responsible for and shall pay as same become due all charges for any public or private utilities or services supplied to or used or consumed by the Tenant at the Leased Premises and for equipment, fittings, machines, apparatus, meters or other things leased or purchased in respect thereof, including installation costs, and for all work performed by any corporation or commission in connection with any such utilities or services.

5.02 Shared Connection

The Tenant, at its option, may connect its electrical utility supply connection to the electrical utility connection of the Landlord, in which case the Tenant shall pay all costs incurred in making such connection and shall pay its share, based on actual consumption, of all charges for electricity charged to the Landlord. If possible the Tenant shall at its cost install a check meter to monitor such consumption.

**ARTICLE VI
CONDUCT OF BUSINESS BY TENANT
USE BY LANDLORD**

6.01 Use of Leased Premises

The Tenant may use the Leased Premises for the construction, operation, maintenance and repair of all Facilities considered by the Tenant in its sole and unfettered discretion to be necessary or desirable for the operation of the Project subject to and on the terms and conditions set out in this

Lease. The Tenant may also use the Leased Premises for the purposes of parking, indoor and outdoor storage, maintenance and operation of a control room and business offices.

The Tenant shall also have such rights of access and otherwise over the Adjoining Property as are hereinafter set out in connection with the Project.

6.02 Facilities - Construction, Access and Maintenance

The Tenant may load, unload and store material, apparatus and equipment, (including, but not limited to, heavy equipment), upon the Leased Premises and at the Tenant's sole cost and expense, may construct, operate, maintain and repair the Facilities and all necessary appurtenances in a location or locations to be designated by the Tenant in its sole and unfettered discretion on the Leased Premises for the purpose of the Project.

The Tenant, in its sole and unfettered discretion, shall determine:

- (a) all related specifications of any electrical substations, switching stations, transformers, energy storage facilities, overhead and underground electrical transmission and communication lines, telecommunications equipment or power generation facilities which are to be included as part of the Facilities to be located on the Leased Premises; and
- (b) the number of Facilities to be installed on the Leased Premises.

In connection with the Project, the Tenant may construct, operate, maintain and repair, at its sole cost and expense, on, over, along and under the Leased Premises any or all of the following:

- (a) concrete pads, footings and any other device or structure reasonably necessary to support and affix the Facilities to the ground of the Leased Premises (a "**Foundation**");
- (b) **one (1)** or more Perimeter Fences; and
- (c) buildings or any other form of structure or shelter necessary or desirable for the Project.

6.03 Roadway - Construction, Access and Maintenance

In connection with the Project, the Tenant may construct, operate, maintain and repair, at its sole cost and expense, a roadway over the Leased Premises and the Adjoining Property (the "**Roadway**") which shall connect the Leased Premises to a public highway, for the purpose of obtaining access to the Leased Premises for the construction, operation, maintenance and repair of the Project. The Roadway shall be:

- (a) accessible from a public highway;
- (b) constructed of a grade and standard sufficient to accommodate the Tenant's construction and maintenance vehicles;

- (c) available for use by the Landlord provided that such use does not materially interfere with the Project; and
- (d) in a location to be designated by the Tenant in its sole and unfettered discretion, provided that the Tenant will consult on site with the Landlord with respect to the appropriate location of the Roadway prior to the Tenant making its final location designation.

The Landlord shall not be responsible for maintenance and repair of the Roadway. The Tenant shall determine in its sole and unfettered discretion what maintenance and repair, if any, it performs on the Roadway. The Tenant shall not have any liability to the Landlord or anyone else for any death, injury or damage to property arising out of use of or access to the Roadway by any person or persons including, without limitation, users of the Roadway, without the express permission of the Tenant.

6.04 Electrical Supply Cables - Construction, Access Maintenance

In connection with the Project, the Tenant, at its sole cost and expense, may construct, operate, maintain and repair the Electrical Supply Cables over, along or under the Adjoining Property and the Leased Premises, which shall connect the Facilities to the facilities of the purchaser of the electric power generated by the Project.

6.05 Construction and Materials Used

The Landlord and Tenant covenant and agree with each other that:

- (a) The Tenant shall decide in its sole and unfettered discretion whether it will proceed with the construction of the Project and, if the Project will be constructed, the date of commencement of construction;
- (b) Subject to this Lease, the Tenant shall have the sole and unfettered discretion to determine the materials, specifications and all other matters in connection with the installation, construction, operation, maintenance and repair of all matters relating to the Project, including but not limited to the Facilities, the Roadway and Electrical Supply Cables;
- (c) The Tenant in its sole and unfettered discretion may determine the location on, over, along or under the Leased Premises of all Facilities relating to the Project, including but not limited to the Roadway and Electrical Supply Cables. The Tenant shall determine the location on, over, along or under the Adjoining Property of all permitted Facilities relating to the Project, including but not limited to the Roadway and Electrical Supply Cables, with the consent of the Landlord, acting reasonably and without delay; and
- (d) The Tenant shall have the right to cut and remove, clear and keep clear, and trim all trees or shrubs within the Designated Area.

6.06 Right of Access over Roadway and Adjoining Property

For the duration of the Term, the Landlord hereby grants to the Tenant and any party authorized by the Tenant, the exclusive right of way for pedestrian and vehicular access, ingress and egress in, to, and over:

- (a) the part of the Roadway which is not located on the Leased Premises; and
- (b) the Designated Area

for any and all matters related to the Project, including but not limited to the construction, operation, maintenance and repair of the Facilities, Foundations, Roadway and Electrical Supply Cables (the “**Right of Access**”).

6.07 Testing

At any time and from time to time during the Term, the Tenant, and any person authorized by the Tenant, may enter onto the Designated Area for the purpose of conducting any manner of test, survey or inspection which is deemed necessary or desirable in the Tenant’s sole and unfettered discretion in connection with the Project, including but not limited to the taking of soil samples, geotechnical testing, the release of weather balloons, and other testing for the purpose of determining the effectiveness of any existing or contemplated Facilities. In connection with such testing, the Tenant may construct and leave on the Designated Area testing equipment, and the Tenant shall have access to the Designated Area from time to time for the purpose of maintaining and repairing such equipment and monitoring the results there from. All costs of any such inspections are to be paid by the Tenant. Any damage to the Designated Area resulting from such inspections shall be repaired by the Tenant at its cost.

6.08 Use of Leased Premises by Landlord

The Landlord with the prior written consent of the Tenant (which consent shall not be unreasonably withheld or delayed), may plant and harvest crops, graze livestock and conduct other farming or agricultural activities (“**Farming**”) on all parts of the Leased Premises which have not been enclosed by a Perimeter Fence, if such Farming does not or will not interfere with or create a risk of damage or injury to the Project and subject to the Tenant’s right to thereafter elect on no less than **nine (9)** months prior written notice to terminate such consent.

The Landlord agrees that it shall not hold the Tenant, or any other person directly or indirectly authorized by Tenant to enter onto the Leased Premises, responsible for any costs, damages, expenses or liabilities incurred by the Landlord, however caused, and resulting in damage to crops, plants, livestock, machinery or any other farming commodity or material owned by the Landlord located on the Leased Premises.

6.09 Interference with the Project

The Landlord shall not:

- (a) engage in, or authorize or permit any other party to engage in, any activity on or about the Lands that would directly or indirectly impede or decrease the output or efficiency of wind energy at the Project;
- (b) engage in, or authorize any other party to engage in, any activity on or about the Lands that would directly or indirectly interfere with the speed or direction of the blades or any similar device on any wind turbine unit, or with the quantity or direction of wind energy available to any wind turbine unit;
- (c) without the express written permission of the Tenant, enter or authorize any other party to enter any part of the Leased Premises or Roadway enclosed by a Perimeter Fence; or
- (d) enter, damage, alter or interfere with any structure or other improvement forming part of the Facilities.

6.10 Compliance With Laws

The Tenant, at its own expense, shall comply with all applicable federal, provincial and municipal statutes, regulations, ordinances and orders which relate to or affect the Project, or the use, occupation, operation or maintenance of the Project or any Facilities from time to time in connection with the Project, or the making of any repairs, replacements, alterations, additions or improvements of or to the Facilities, and the Tenant shall make any repairs, replacements, alterations, additions, improvements or deletions necessary to effect such compliance. The Tenant shall at its own risk and expense obtain any and all necessary governmental licences, permits and approvals necessary for such use and shall pay all levies, fees, taxes and imposts with respect to such use of the Leased Premises. The Landlord shall promptly sign all consents, authorizations or other documents which are required by the Tenant to obtain any such licences, permits and approvals, and the Tenant shall pay any cost incurred by the Landlord in that regard.

The Tenant shall have the right to contest by appropriate legal proceedings, without cost or expense to the Landlord, the validity of any statute, regulation, ordinance, order or requirement of the nature hereinbefore in this Section referred to, and if, by the terms of any such statute, regulation, ordinance, order or requirement, compliance therewith may legally be held in abeyance without subjecting the Landlord to any liability, fine or penalty of whatsoever nature for failure to comply therewith, the Tenant may postpone compliance therewith until the final determination of any such proceedings, provided that all such proceedings shall be prosecuted with due diligence and dispatch and the Tenant agrees to indemnify and save harmless the Landlord from and against any liability or damages in respect of any such contestation.

6.11 Waste and Nuisance

The Tenant shall not commit or suffer to be committed any waste or injury to the Leased Premises, and shall not do or omit to do or suffer to be done or omitted anything upon or in respect of the Leased Premises which shall be or result in a nuisance or menace to the Landlord or to the owners or occupiers of neighbouring lands and premises, provided that it is acknowledged and agreed that the Project does not constitute a nuisance for the purposes of this Lease.

The Landlord shall not do or omit to do or suffer to be done or omitted anything upon the Lands which shall be or result in a nuisance or menace to the Tenant or to the Project. The Tenant acknowledges that Farming does not constitute a nuisance.

6.12 Advertising upon the Facilities

Neither the Landlord nor the Tenant shall be permitted to post any advertising, notice, poster, message or other publication of any kind whatsoever, using any medium either directly upon the Facilities or as an attachment or addition to the Facilities at any time during the Term without first obtaining the written consent of the other which consent shall not be unreasonably withheld or delayed. Notwithstanding this general prohibition, any manufacturer or retailer advertising associated directly with the Facilities, which appears upon the Facilities at the time such Facilities are purchased by the Tenant shall be permitted to remain at the sole and unfettered discretion of the Tenant. Further, the Tenant shall be permitted to maintain or update such advertising in accordance with any requirements in any agreement between the Tenant and the vendor, supplier or manufacturer of the Facilities.

6.13 Assignment in Connection with Transmission Lines

The Tenant, in connection with the exercise of its rights pursuant to this Lease, the Tenant, acting reasonably and in consultation with the Landlord, shall have the right for itself or may grant any utility the right to construct, operate and maintain electrical transmissions interconnections and switching facilities on the Leased Premises pursuant to any standard form of easement, leasehold, or any other agreement used for or proposed by the utility consistent with the Tenant's rights under this Lease.

6.14 Replacement and Repair of Fences

The Tenant in the enjoyment of its rights and privileges pursuant to this Lease hereby granted to it, shall replace all fences which it may have removed for its purposes and repair all fences which it may have damaged upon written notice from the Landlord, and if and when so required by the Landlord, will provide proper livestock guards at any point of entry upon the Leased Premises used by it and, upon the use thereof, close all gates.

6.15 Ditches, Roadways, etc.

Roadways which are constructed by the Tenant shall have ditches where required, or if necessary, an adequate number of approaches so that the Landlord can cross the Roadway with farm machinery in moving from one field on the Lands to another field which lies across the Roadway.

Ditches and roadways shall also be constructed by the Tenant so as not to impede the natural precipitation run-off. Where necessary, culverts shall be constructed by the Tenant so as to ensure natural run-off and not create a disturbance in the run-off pattern that would negatively impact the Landlord's use of the Adjoining Property.

6.16 Compensation to Landlord for Damages

If the Tenant's use of the Right of Access results in damage to crops, plants, or any other farming commodity, machinery or material of the Landlord located on the Adjoining Property, the Tenant agrees that it shall be responsible for any and all costs, damages, expenses or liabilities incurred by the Landlord as a result of the Tenant's exercise of such Right of Access, providing that such costs, damages, expenses or liabilities are reasonably attributable to the Tenant's exercise of the Right of Access, and the Tenant shall not have any liability for consequential damages.

In valuing damage to crops the Landlord and Tenant shall average the farm gate value of the damaged crop for the then current growing season and the value of such a same sized crop for the immediately previous **two (2)** growing seasons, the intention being that the Tenant shall reimburse the Landlord for the farm gate value of the current crop based upon the average of its current value and the value of a same sized crop for the previous **two (2)** growing seasons.

Damages to fences, buildings and other improvements owned by the Landlord and situate on the Adjoining Property shall be valued at their then current replacement cost.

The Tenant agrees that it will provide not less than **one hundred and eighty (180)** days prior written notice to the Landlord of the start of the installation of any Roadway/right of way and not less than **one hundred and eighty (180)** days prior written notice for the layout of any Electrical Supply Cables and their footprint on the Leased Premises, the intention being that such advance written notice by the Tenant to the Landlord will enable the Landlord to determine the timing for the Landlord's planting, growing and harvesting requirements so as to minimize, and if possible, eliminate damage to any crops.

6.17 Hazardous or Toxic Materials or Substances

If any hazardous or toxic materials or substances are determined to exist on any part of the Leased Premises during the Term and any extension thereof due to the negligent or intentional acts or omissions of the Tenant, or those for whom at law it is responsible, the Tenant, for its own account, shall defend, indemnify and hold harmless the Landlord with respect thereto. The Tenant shall also assume all responsibility and expense in connection with, and shall promptly take such action as required by applicable law, to remediate or remove any such hazardous or toxic materials or substances.

**ARTICLE VII
MAINTENANCE, REPAIR AND ALTERATIONS**

7.01 Tenant's Repair

The Tenant covenants that, throughout the Term and any extension thereof, at its sole cost and expense, it shall keep the Facilities in good repair, reasonable wear and tear excepted, and shall make all necessary repairs to the extent required to keep the Facilities in good condition, and repair, reasonable wear and tear excepted, commensurate with their age.

Without limiting the generality of the foregoing, the Tenant will conduct inspections of the Facilities on a semi-annual basis and complete any maintenance which the Tenant, in its

reasonable opinion, determines is required in order to ensure that the Facilities, maintain a clean and uncluttered appearance and are, at all times, operating in a safe manner.

7.02 General Maintenance and Operation

The Tenant covenants that, throughout the Term and any extension thereof, at its sole cost and expense, it shall keep and maintain the Leased Premises in a clean and orderly condition and shall repair any damage to the Leased Premises caused by the operations of the Tenant.

Without limiting the generality of the foregoing, the Tenant shall throughout the Term and any extension thereof, at its sole cost and expense, maintain the Leased Premises in a state of repair that does not adversely impact upon the Landlord's use of the Adjoining Property for Farming.

The Tenant shall allow the Landlord access to the Leased Premises in order to remove weeds, rodents and other pests such as insects from the Leased Premises, which removal is the sole responsibility of the Landlord at its sole cost and expense.

Any damage or repairs necessary to be effected with respect to the drainage from the Leased Premises and Adjoining Property caused as a direct result of the Tenant's actions shall be completed at the Tenant's expense.

7.03 Alterations

The Tenant may from time to time make such alterations or additions to the Facilities as the Tenant, in its sole and unfettered discretion, may determine. All such alterations or additions shall be made in a good and workmanlike manner.

7.04 No Obligation on Landlord to Repair

The Landlord shall not have any obligation to effect any maintenance or to make any repairs or replacements to the Facilities or the Roadway, subject only to the exception that the Landlord shall repair at its cost any damage of any kind to the Leased Premises, the Facilities or the Roadway caused by the Landlord, its livestock, or those for whom the Landlord is in law responsible. If the Landlord does not make any such repairs within **one (1)** month after the Tenant's written request, the Tenant shall have the right, at its sole option, to make such repairs and deduct the cost of such repairs from the next Rent due to the Landlord.

7.05 Construction Liens

If any construction lien or other lien or order for the payment of money shall be filed against the Lands by reason of, or arising out of, any work, labour, services or materials furnished or claimed to have been furnished to the Tenant or to anyone claiming through the Tenant, the Tenant, within a reasonable period of time after written notice to the Tenant of the filing, shall cause the same to be discharged by bond, deposit, payment, court order or in any other manner required or permitted by law. The Tenant, at its own expense, shall defend all suits to enforce any such lien or order whether against the Tenant and/or the Landlord. The Tenant shall indemnify and keep indemnified the Landlord from and against payment of all loss, costs, charges and expenses occasioned by or arising from any such lien or order.

**ARTICLE VIII
TRADE FIXTURES, IMPROVEMENTS AND SURRENDER**

8.01 Ownership of Facilities

The Facilities and all of the property and equipment placed or operated on the Leased Premises by or on behalf of the Tenant, shall at all times remain the property of the Tenant notwithstanding that they may be annexed or affixed to the freehold and notwithstanding any rule of law or equity to the contrary, and they shall at the written request of the Landlord, at any time and from time to time, be removable in whole or in part by the Tenant without the consent of the Landlord.

8.02 Trade Fixtures

The Tenant shall have the right at all times and from time to time to install and remove its trade fixtures. All trade fixtures shall be owned by and be the property of the Tenant, shall remain the property of the Tenant and the Tenant may from time to time remove any or all of its trade fixtures from the Leased Premises either during or at the expiration or other termination of the Term or any extension thereof, provided that the Tenant shall promptly repair any damage to the Leased Premises caused by the installation and/or removal of such trade fixtures in a good and workmanlike manner.

8.03 Surrender of Leased Premises

Upon the termination of this Lease for any reason whatsoever, the Tenant, at its sole cost and expense and in compliance with the then applicable environmental laws, shall remove or cause the removal of the Facilities, including without limitation, any Electrical Supply Cables, and all other improvements, equipment, apparatus, and other chattel assets of the Tenant located on the Leased Premises, the Adjoining Property and the Roadway, and the Tenant shall promptly repair any damage to the Leased Premises caused by such removal. Provided, however, that the Tenant may, at its option, leave on the Leased Premises or Adjoining Property any of the Facilities which are buried to a sufficient depth (and in any event a minimum of **one (1)** metre below original grade) so as not to interfere materially with the Landlord's Farming, and provided further that the Tenant shall have no obligation to remove the Roadway.

Except as otherwise set out in this Lease, upon the expiration of the Term or other earlier termination of this Lease, the Tenant shall peaceably surrender and yield up unto the Landlord the Leased Premises in as good order, condition and repair as the Tenant is required to maintain the Leased Premises under the terms of this Lease.

**ARTICLE IX
ASSIGNMENT, SUBLETTING AND FINANCING**

9.01 Assignment of Tenant's Rights

The Landlord agrees that the Tenant, without consent from the Landlord, may transfer, convey, assign, sublet, license, grant concessions in, or otherwise part with or share possession of the Leased Premises and any or all of the Tenant's rights, interests, benefits and obligations under

this Lease in whole or in part to any person, firm or corporation (an “**Assignment**”). Upon any Assignment, but provided that the assignee executes and delivers to the Landlord an Assumption Agreement, from and after the date of the Assignment, the term “Tenant” as used in this Lease, in so far as covenants or obligations on the part of the Tenant are concerned, shall be limited to mean and include only the lessee of the Leased Premises after completion of such Assignment, and, in the event of an Assignment, the Tenant herein named (and in case of any subsequent Assignment, then the assignor) shall to the extent of the Assignment be automatically freed and relieved from and after the date of such Assignment of all personal liability with respect to the performance of any covenant or obligation on the part of the Tenant contained in this Lease thereafter to be performed, provided that, at the time of the Assignment all amounts owing by the Tenant to the Landlord under any provision of this Lease are current as of the date of the Assignment, it being intended hereby that the covenants and obligations contained in this Lease on the part of the Tenant shall, subject as aforesaid, be binding on the Tenant only during and in respect of its period as a lessee of the Property. In this section 9.01, “Assumption Agreement” means an agreement executed by the assignee in form satisfactory to the Landlord acting reasonably, wherein the assignee shall covenant and agree directly with the Landlord with effect from and after the date of Assignment to be bound by all of the provisions in this Lease to be observed and performed or otherwise complied with by the Tenant as if the assignee had originally executed this Lease as Tenant. The Assumption Agreement shall be prepared by and at the sole cost and expense of the Tenant and the Tenant shall pay to the Landlord, as Additional Rent, on demand, all reasonable legal costs with respect thereto incurred by the Landlord.

9.02 Tenant’s Financing

The Landlord agrees that the Tenant, without consent from the Landlord, may assign, sublet or charge this Lease by way of any bona fide mortgage or security interest of the Tenant’s leasehold interest in the Lease and Leased Premises or any part thereof and the Facilities as security for any loan or financing including without limitation any form of trust indenture, debenture or bond (a “**Tenant’s Mortgage**”). The Landlord hereby grants to any holder of a Tenant’s Mortgage (a “**Tenant’s Mortgagee**”) the rights and remedies set forth in Schedule “C” hereto. In addition, the Landlord will, from time to time, at the request of the Tenant’s Mortgagee, promptly execute and deliver in favour of any Tenant’s Mortgagee such consents and acknowledgements granting and confirming Tenant’s Mortgagee’s right and remedies hereunder and in Schedule “C” hereto. The Landlord shall also agree to any reasonable modification to the Lease, and shall enter into any other reasonable agreements with the Tenant’s Mortgagee, as may reasonably be required by the Tenant in order to obtain financing from the Tenant’s Mortgagee. If the Landlord receives notice of the existence of a Tenant’s Mortgage, then the Landlord (i) shall agree not to amend, terminate or accept a surrender of this Lease without the prior consent in writing of the Tenant’s Mortgagee, and (ii) shall deliver to the Tenant’s Mortgagee a copy of any notice of default given to the Tenant under this Lease, and shall afford to the Tenant’s Mortgagee the opportunity to remedy any defaults of the Tenant under this Lease as provided in Schedule “C” hereto.

**ARTICLE X
INSURANCE AND INDEMNITY**

10.01 Tenant's Insurance

The Tenant shall during the Term or any extension thereof and during such other time as the Tenant occupies the Leased Premises or any part thereof, at its sole cost and expense, take out and keep in full force and effect the following insurance:

- (a) "all risks" insurance not less broad than the standard commercial property floater policy with the exclusions such as, without limitation, those relating to sprinkler leakages (where applicable), earthquake, flood and collapse removed therefrom upon the Facilities contained therein in an amount not less than the full replacement cost thereof; and
- (b) comprehensive general liability insurance including but not limited to property damage, public liability, and personal injury liability, all on an occurrence basis, with respect to any use, occupancy, activities or things, in on or about the Leased Premises and with respect to the use and occupancy of any part of the Leased Premises by the Tenant or any of its servants, agents, contractors or persons for whom the Tenant is in law responsible, including, without limitation, the activities, operations and work conducted or performed by the Tenant, by any other person on behalf of the Tenant, by those for whom the Tenant is in law responsible and by any other person on the Leased Premises at the request of the Tenant, with coverage for any one occurrence or claim of not less than **■ Dollars**.

Each of the foregoing policies of insurance shall name the Landlord and its mortgagee(s), if any, and anyone designated in writing by the Landlord as additional named insured as their interests may appear.

10.02 Failure to Insure

If the Tenant fails to take out or to keep in force any of the policies of insurance referred to in Section 10.01 hereof, and should the Tenant not rectify such default within **forty-eight (48)** hours after written notice thereof, the Landlord may, but shall not be obligated to, effect such insurance and the Tenant shall pay to the Landlord, as Additional Rent, forthwith on demand all premiums, costs, charges and expenses incurred by the Landlord in effecting such insurance.

10.03 Loss or Damage

The Landlord shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the Leased Premises, or damage to property of the Tenant or of others located on the Leased Premises, except to the extent caused by the negligence of the Landlord, its agents, servants or employees or other persons for whom it may in law be responsible.

Subject as expressly set out in this Lease, the Tenant shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the Adjoining Property, or any damage to property of the Landlord or of others located on the Adjoining Property, except to the

extent caused by the negligence of the Tenant, its agents, servants, or employees or other persons for whom it may in law be responsible.

10.04 Indemnification of Landlord

Subject as expressly set out in this Lease, the Tenant shall indemnify the Landlord and save it harmless from and against any and all loss (including loss of Rent payable by the Tenant pursuant to this Lease), claims, actions, damages, liability and expenses in connection with loss of life, personal injury, damage to property or any other loss or injury whatsoever arising from or out of this Lease, or any occurrence in, upon or at the Leased Premises, or the occupancy or use by the Tenant of the Leased Premises or any part thereof, or occasioned wholly or in part by any act or omission of the Tenant or by anyone permitted to be on the Leased Premises by the Tenant, except to the extent caused by the negligence of the Landlord, its agents, servants or employees or other persons for whom the Landlord may in law be responsible. If the Landlord shall, without fault on its part, be made a party to any litigation commenced by or against the Tenant, then the Tenant shall protect, indemnify and hold the Landlord harmless from and against, and shall pay as Additional Rent, all costs, expenses and reasonable legal fees incurred or paid by the Landlord in connection with such litigation.

10.05 Landlord's and Tenant's Employees

Every indemnity, exclusion and release of liability herein contained for the benefit of the Landlord or the Tenant, and every waiver of subrogation contained in any insurance policy maintained by one party hereto, shall survive the expiration or earlier termination of the Term and any extension thereof and shall extend to and benefit all of the Landlord, the Tenant or the other party, as the case may be, the owner(s) of the Leased Premises (if different from the Landlord) and all of their respective directors, officers, shareholders, servants, agents and employees and those for whom any of them is in law responsible. Solely for such purpose, and to the extent any such party expressly chooses to enforce the benefits of this Section for any or all of such persons, it is agreed that such party is the agent or trustee for such persons.

**ARTICLE XI
DAMAGE AND DESTRUCTION**

11.01 Damage and Destruction

The Landlord and Tenant agree that if and whenever during the Term hereby demised or any renewal or extension thereof the Facilities shall be destroyed or damaged in whole or in part then, and in every such event if the destruction or damage is such that the in the opinion of the Tenant, in its sole and unfettered discretion, the Project is no longer economically viable, then the Tenant may at its option within **sixty (60)** days following the date of such damage or destruction terminate this Lease by giving to the Landlord notice in writing of such termination, in which event this Lease and the Term hereby demised shall cease and be at an end as of the date of such destruction or damage and the Rent and all other payments for which the Tenant is liable under the terms of this Lease shall be apportioned and paid in full to the date of such destruction or damage. In the event that the Tenant does not so terminate this Lease, then the Tenant shall repair the Facilities with all reasonable speed.

**ARTICLE XII
DEFAULT OF TENANT**

12.01 Right to Re-Enter

If and whenever:

- (a) the Tenant fails to pay Rent or other sums due hereunder or any part thereof on the day appointed for the payment thereof whether lawfully demanded or not and such failure shall continue for **thirty (30)** days after notice thereof has been given to the Tenant; or
- (b) the Tenant fails to keep, observe or perform any other of the terms, conditions, covenants and agreements herein contained on the part of the Tenant to be kept, observed or performed for **sixty (60)** days after notice in writing of such failure has been given to the Tenant and such failure has not been cured within such **sixty (60)** day period, or, where such failure is incapable of being cured within **sixty (60)** days, the Tenant has not commenced to cure such failure and is not proceeding diligently to cure such failure; or
- (c) the Leased Premises are vacated or left vacant or unoccupied for a period of **six (6)** consecutive months unless due to damage or destruction, or the Tenant abandons or attempts to abandon the Leased Premises; or
- (d) re-entry is permitted under any other terms of this Lease;

then and in any of such cases, the Tenant shall be in default under this Lease and, at the option of the Landlord, the Landlord shall have, in addition to any other rights or remedies of the Landlord pursuant to this Lease or at law or in equity, the immediate right to re-enter into and upon and take possession of the Leased Premises or any part thereof in the name of the whole and have again, re-possess and enjoy the Leased Premises in its former estate, and to expel all persons from the Leased Premises.

12.02 Right to Re-let

If and whenever the Landlord shall be entitled to re-enter, the Landlord may from time to time without terminating this Lease enter the Leased Premises as the agent of the Tenant either by force or otherwise, without being liable for any prosecution therefore, and make such alterations and repairs as are necessary in order to re-let the Leased Premises or any part thereof for such term or terms (which may extend beyond the Term or extension period) and at such rent and upon such other terms, covenants and conditions as the Landlord in its sole and unfettered discretion considers advisable. Upon each such re-letting all rent received by the Landlord from such re-letting shall be applied, firstly to the payment of any indebtedness other than Annual Rent or Additional Rent due hereunder from the Tenant to the Landlord, secondly, to the payment of any costs and expenses of such re-letting including brokerage fees and solicitors' fees and the cost of alterations and repairs, thirdly, to the payment of Annual Rent and Additional Rent due hereunder, and the residue, if any, shall be held by the Landlord and applied in payment of future Annual Rent and Additional Rent as the same become due and payable hereunder and the Landlord shall not be accountable for any monies except those actually received notwithstanding any act, neglect, omission or default of the Landlord. No such entry of

the Leased Premises by the Landlord shall be construed as an election on its part to terminate this Lease unless a written notice of termination is given to the Tenant. Notwithstanding any such re-letting without termination, the Landlord may at any time thereafter terminate this Lease for such previous breach by written notice of termination given to the Tenant.

12.03 Landlord May Cure Default

If the Tenant is in default of any obligation or covenant under this Lease after the expiry of any applicable notice periods, the Landlord shall have the right at all times to remedy or attempt to remedy any such default of the Tenant, and in so doing may make any payments due or alleged to be due by the Tenant to third parties and may enter upon the Leased Premises to do any work or other things therein, and in each such event all expenses of the Landlord in remedying or attempting to remedy such default shall be payable as Additional Rent by the Tenant to the Landlord forthwith upon demand, and the Landlord shall not be liable for any loss or damage to the Tenant's property or business caused by acts of the Landlord in remedying or attempting to remedy any such default, and the Tenant agrees that any such entry by the Landlord is not a re-entry or a breach of any covenant for quiet enjoyment contained in this Lease.

12.04 No Waiver of Breach

No condoning, excusing or overlooking by the Landlord or the Tenant of any default, breach or non-observance by the other party at any time or times in respect of any covenant, proviso or condition herein contained shall operate as a waiver of the Landlord's or the Tenant's rights hereunder in respect of any continuing or subsequent default, breach or non-observance, or so as to defeat or affect such continuing or subsequent default or breach, and no waiver shall be inferred from or implied by anything done or omitted by the Landlord or the Tenant save only an express waiver in writing.

**ARTICLE XIII
MORTGAGE BY LANDLORD**

13.01 Attornment and Non-disturbance

The Tenant shall promptly, on request, attorn to the holder of any mortgage or charge of the Leased Premises or any modification, renewal or extension thereof (a "**Mortgage**" and the holder thereof called a "**Mortgagee**") or to the purchaser of the Leased Premises on any foreclosure or sale proceedings taken under any Mortgage, and shall recognize such Mortgagee or purchaser as the Landlord under this Lease. No attornment aforesaid by the Tenant shall have the effect of subordinating or postponing this Lease to the Mortgage or disturbing the Tenant's occupation and possession of the Leased Premises in accordance with the provisions of this Lease so long as the Tenant is not in default hereunder beyond any applicable cure periods.

13.02 No Obligation to Subordinate

The Tenant shall not be obligated to subordinate or postpone this Lease to any Mortgage. The Landlord shall use its diligent best efforts to either have any Mortgage registered in priority to this Lease subordinated and postponed to this Lease, or obtain from any such Mortgagee a non-disturbance agreement by which the Mortgagee agrees with the Tenant that the Mortgagee shall

be bound by this Lease and that the Tenant shall have undisturbed possession of the Leased Premises on the terms and conditions of this Lease so long as the Tenant is not in default hereunder beyond any applicable cure periods, and the Mortgagee acknowledges the rights of any Tenant Mortgagee hereunder.

**ARTICLE XIV
LANDLORD'S COVENANTS**

14.01 Landlord's Covenants

The Landlord covenants with the Tenant:

- (a) for quiet enjoyment, subject to and on the terms of this Lease; and
- (b) that if the Landlord leases, licences or grants a right to another person to occupy, use, farm, or plant or harvest crops on the Lands, the Landlord shall notify that person of the Tenant's rights and interest hereunder and the Landlord shall indemnify and save the Tenant harmless from and against any claims asserted against the Tenant by that person or those claiming through that person and from and against any losses damages or costs that the Tenant may suffer arising from that person's rights.

14.02 Landlord's Warranties

The Landlord covenants, represents and warrants to the Tenant that:

- (a) The Landlord is the registered and beneficial owner of the Property; and
- (b) The Landlord has good right, full power and lawful authority to execute and deliver this Lease and to perform all of the obligations of the Landlord hereunder.

14.03 Approvals

The Landlord covenants and agrees to execute and to not object to, all applications, consents, permissions, postponements, and any other documents and assurances which the Tenant may require in connection with obtaining any rezoning, governmental approvals, consents, permits or variances (collectively, "**Approvals**") and in connection with entering into by the Tenant of any agreement with such governmental and public authorities as may be necessary to give full force and effect to and in furtherance of the Tenant's applications, and the Landlord shall produce all other documents and information which may be required in connection with such applications. All applications for Approvals shall be made by the Tenant at its sole cost and expense and any third party costs to the Landlord associated with such Approvals shall be borne by the Tenant. The Tenant agrees that the obligation of the Landlord pursuant to this Section shall be restricted to execution of documents and production of documents and information and shall not impose upon the Landlord any financial obligation whatsoever.

14.04 Exclusive Right

The Landlord agrees that the Tenant shall have the exclusive right to collect, convert and transmit all the wind resources on the Lands, and the Landlord agrees that it will not interfere with the Tenant's operations hereunder or the enjoyment of the rights hereby granted. The Landlord covenants and agrees that during the Term and any extensions thereof that no other corporation, partnership, joint venture or person will be permitted to use or occupy the Lands, or any part thereof, for the purposes of wind energy conversion and transmission of electric power and related activities. The Landlord acknowledges and agrees that the duration and area within which the restrictions set forth herein shall apply have been considered by the Landlord and the restraints and restrictions of and on the future activities of the Landlord are reasonable in the circumstances. All defences to the strict enforcement thereof by the Tenant are hereby waived by the Landlord. If the Landlord breaches the foregoing obligations, it is understood and agreed that the Tenant will suffer immediate and irreparable harm and damage.

14.05 Non-Disturbance

The Landlord shall not, concurrently and prospectively, interfere with the construction, installation, maintenance or operation of the Facilities; any development activities; or the undertaking of any other activities permitted hereunder. Further, the Lessor agrees that it shall not undertake any action including, without limitation, hunting, blasting, excavation or construction, that may have the effect of constituting a danger to the Facilities or increasing the Tenant's maintenance costs with respect to the Facilities. Without limiting the generality of the foregoing, the Landlord shall not interfere with the wind speed or wind direction over the Lands or the Leased Premises, whether by placing wind turbines, planting trees or constructing buildings or other structures, or by engaging in any other activity on the Lands or elsewhere that might cause a decrease in the output or efficiency of the Facilities. The Landlord expressly reserves the right to use the Lands (other than the Leased Premises) for agricultural purposes that do not and will not interfere with the Tenant's operations hereunder or enjoyment of the rights hereby granted. If any of the Landlord's activities negatively impacts on the construction, installation, maintenance or operation of the Facilities, the Landlord agrees to cease and desist such activities immediately upon notice from the Tenant.

14.06 Salvage

The Landlord shall permit the Tenant to enter upon the Lands for a period of six (6) months after the termination or expiry of this Lease for the purposes of dismantling and salvaging the Tenant's property including, without limitation, the Facilities, situated on the Leased Premises.

14.07 Non-Impairment

If the Lands are located within two (2) kilometres of a wind turbine unit operated by the Tenant as part of the Project, the Landlord shall not pursue, participate, invest in, develop, acquire, or provide consulting or other services (and the Landlord shall also prevent any affiliates and any of its or its affiliates' respective owners, directors, officers, managers, employees and any individuals or entities acting on its behalf and any entity in which the Landlord has an interest, whether direct, indirect or otherwise from pursuing, participating in, investing in, developing,

acquiring, or providing consulting or other services) in relation to any existing or proposed wind energy project or any other activity that adversely affects (i) the quality or quantity of the wind resources of the Project, or (ii) access to the Project for construction, servicing or otherwise, in each case within a two kilometre radius of any wind turbine unit sited at the Project.

ARTICLE XV MISCELLANEOUS

15.01 Force Majeure

If and to the extent that any party hereto is bona fide delayed or hindered in or prevented from the performance of any provision of this Lease by causes beyond its reasonable control (but not including any lack of funds or other financial cause of delay), then the performance of such provision of this Lease so delayed, hindered or prevented shall be excused for the period during which such performance is rendered impossible and the time for such performance shall be extended accordingly.

15.02 Registration

The Landlord agrees that the Tenant shall be entitled, at its cost and expense, to register this Lease, or a Notice in respect thereof, and any required reference plans, in the Land Registry Office where title to the Lands is recorded on behalf of both the Tenant and the Landlord. The Landlord agrees to execute and deliver to the Tenant, if requested in writing to do so and, at no cost to the Tenant, all necessary instruments, plans and documentation for that purpose. The Landlord and Tenant also hereby authorize Shibley Righton LLP and/or the Tenant's lawyers that will complete any such registrations to certify that such registration is on behalf of and with the Landlord's approval and consent.

15.03 Notices

Any notice required or contemplated by any provision of this Lease shall be given in writing and shall be delivered in person or, if there is no actual or apprehended disruption in the Canadian Postal Service, sent by registered mail postage prepaid, to the address for the respective party shown on the first page of this Lease.

Every such notice shall be deemed to have been given and received when personally delivered or, if mailed as aforesaid, upon the third Business Day after the date on which it was so mailed. Either party may at any time give notice in writing to the other of any change of address within the Province of Ontario of the party giving such notice and from and after the date of such notice, the address therein specified is deemed to be the address of such party for the giving of notices hereunder.

15.04 Planning Act

It is an express condition of this Lease that the subdivision control provisions of the *Planning Act*, (Ontario) and amendments thereto be complied with if they apply. The Tenant shall obtain any necessary consent under the *Planning Act*, (Ontario) at the cost of the Tenant. The Landlord

shall co-operate and assist the Tenant in its application and shall promptly sign any necessary application for consent.

15.05 Status Certificate

Whenever requested by the Landlord or the Tenant, the other party shall promptly (and in any event within ten (10) days) execute and deliver a certificate in form reasonably satisfactory to the party requesting it, addressed to the party requesting it or as it directs, certifying as to the status and validity of this Lease and the state of the rental account hereunder and such other information as may reasonably be required by the party requesting it, all with the intent that any such certificate may be conclusively relied upon by the party or person to whom it is required to be addressed.

15.06 Further Assurances

Each Party, if so requested by the other Party, shall execute such further documents of title and any other required assurances in respect of the Leased Premises and the Adjoining Property as may be required to perfect the Tenant's leasehold interest in the Leased Premises and easement rights in the Adjoining Property. The Landlord further agree to execute and deliver, or cause to be executed and delivered by the Tenant, any further legal instruments, including, without limitation, any required consents, and perform any acts which are or may become necessary to effectuate the purposes of this Lease. Any third party costs associated with the Landlord requirements under this Section shall be borne by the Tenant.

15.07 Arbitration

Whenever there is an unresolved dispute between the Landlord and the Tenant involving any of the terms of this Lease then such dispute shall be resolved by arbitration referred to a single arbitrator, if the Landlord and Tenant agree upon one; otherwise such dispute shall be referred to three (3) arbitrators for resolution, one to be appointed by the Landlord, one to be appointed by the Tenant, and a third arbitrator to be appointed by the first two (2) arbitrators as appointed by the Landlord and Tenant respectively within thirty (30) days after the first of the first two (2) arbitrators have been appointed, (and failing such appointment of the third arbitrator, as aforesaid, the third arbitrator shall be appointed upon the application of either the Landlord or the Tenant by a Judge of the High Court of Ontario, or such person as that Judge may designate). If either the Landlord or the Tenant shall refuse or neglect to appoint an arbitrator within thirty (30) days after the other party has appointed an arbitrator and shall have served a written notice upon the party so refusing or neglecting to appoint an arbitrator, requiring such party to make such appointment, then the arbitrator first appointed shall, at the request of the party appointing him, proceed to hear and determine the matters in dispute as if he were a single arbitrator appointed by both the Landlord and the Tenant for this purpose. The award or determination which shall be made by the arbitrator or the majority of them, or by the single arbitrator, as the case may be, both as to the matters in dispute and as to the costs of the arbitration, shall be final and binding upon the Landlord and the Tenant and there shall be no appeal therefrom. Except as otherwise hereinbefore set forth, the provisions of the *Arbitration Act*, 1991 S.O. 1991 c.17, from time to time in effect or any legislation in substitution therefore, shall apply to any arbitration pursuant to the provisions of this Lease, provided that any

limitation on the remuneration of the arbitrators imposed by such legislation shall not be applicable.

15.08 Confidentiality

The Landlord covenants that any information to which it has access relating to the Tenant's operations shall be considered as confidential and shall be held in the strictest confidence by the Landlord, and that the Landlord shall not communicate the same orally or in writing to others in any manner whatsoever except as may be required by law and shall use its best efforts to prevent those within its employ and control from communicating to others such information.

15.09 Construction

Each obligation or agreement of the Landlord or the Tenant expressed in this Lease, even though not expressed as a covenant, is considered to be a covenant for all purposes.

The captions or headings introducing articles or sections of this Lease are for convenience of reference only and in no way define, limit, construe or describe the scope or intent of such articles or sections of this Lease or in any way affect the interpretation of this Lease.

The words "herein", "hereof", "hereby", "hereunder", "hereto", "hereinafter" and similar expressions refer to this Lease and not to any particular article, section, paragraph or other portion thereof, unless there is something in the subject matter or context inconsistent therewith.

If any term, provision, covenant or condition of this Lease or its application to any person or circumstance is held to be or rendered invalid, unenforceable or illegal, then such term, provision, covenant or condition shall be considered separate and severable from the remainder of this Lease; shall not affect, impair or invalidate the remainder of this Lease; and to the fullest extent permitted by law shall continue to be applicable to and enforceable against any person or in any circumstance other than those as to which such term, provision, covenant or condition has been held or rendered invalid, unenforceable or illegal.

Wherever the singular number or a gender is used in this Lease the same shall be construed as including the plural and the masculine, feminine and neuter respectively where the fact or context so requires.

This Lease shall be construed in accordance with and governed by the laws of the Province of Ontario.

Time is of the essence of this Lease and of every part hereof.

15.10 Entire Agreement

This Lease and the Schedules attached hereto constitute the entire Lease between the Parties pertaining to the subject matter hereof, and amends, replaces and supersedes all prior and contemporaneous agreements, understandings, negotiations and discussions between the parties whether oral or written.

There are no representations, warranties, collateral agreements, conditions or other agreements between the Parties in connection with the subject matter of this Lease except as specifically set forth herein. No supplement, modification, waiver or termination of this Lease shall be binding unless in writing and executed by the Parties. No waiver of any provision of this Lease shall constitute a waiver of any other provision nor shall such waiver constitute continuing waiver unless otherwise expressly provided herein.

The Landlord acknowledges that the Tenant is acting in a representative capacity as bare trustee and agent for one or more beneficial owners.

15.11 Independent Legal Advice

With respect to this Lease and all matters related thereto, the parties acknowledge that Shibley Righton LLP has acted as lawyers for the Landlord and Torys LLP has acted as lawyers for the Tenant.

The Landlord confirms to the Tenant that the Landlord has reviewed this Lease with the Landlord's independent legal counsel and fully understands the Landlord's rights and obligations under this Lease. The Tenant confirms to the Landlord that the Tenant has reviewed this Lease with the Tenant's independent legal counsel and fully understands the Tenant's rights and obligations under this Lease.

15.12 Binding Effect

This Lease shall be binding upon and shall enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and permitted assigns, as the case may be.

- SIGNATURES ON NEXT PAGE -

IN WITNESS WHEREOF the parties hereto have executed this Lease under seal.

Landlord:

■

Witness

Landlord:

■

Witness

Tenant:

DUFFERIN WIND POWER INC.

By: _____

Name: Wu Hao

Title: President

By: _____

Name: Jeff Hammond

Title: Senior Vice-President

I/We have authority to bind the Corporation.

[We, _____ and _____, the Landlords described above, are spouses of one another.]

SCHEDULE "A"
LEGAL DESCRIPTION OF PROPERTY

SCHEDULE “B”
PART 1 – DESCRIPTION OF LEASED PREMISES

The Leased Premises means up to **fifty (50)** contiguous or non-contiguous blocks, each measuring no more than **sixteen (16)** metres by **sixteen (16)** metres square in the Designated Area to be selected by the Tenant from time to time during the Term in its sole and unfettered discretion, subject to reasonable objections of the Landlord if the selection of any block would cause material detriment (over and above the loss of available Land) to the Landlord’s farming operations.

PART 2 – DESCRIPTION OF DESIGNATED AREA

The Designated Area means the Lands except that part of the Lands:

- (a) on which any house, barn, out building or other existing permanent structure is located (including that part of the Lands on which they are situate) together with that part of the Lands located within a distance less than **thirty (30)** metres from where such structures have been sited; and
- (b) lying within a distance of **ten (10)** metres from any private road, feed station or similar improvement on the Lands.

SCHEDULE "C"

RIGHTS AND REMEDIES ACCORDED TO TENANT'S MORTGAGEES

1. The Landlord will from time to time execute and deliver such consents and acknowledgements reasonably requested by the Tenant's Mortgagee.
2. The Landlord agrees that, upon the Tenant's Mortgagee giving the Landlord written notice of a Tenant's Mortgage, the Tenant's Mortgagee will, without any further action being required, have the benefit of the following provisions until such time as the Tenant's Mortgagee advises the Landlord in writing that its Tenant's Mortgage is no longer in effect (and, if the Tenant's Mortgagee so requests, the Landlord will (i) acknowledge in writing that the Tenant's Mortgagee so benefits from these provisions, or (ii) enter into a written agreement with the Tenant's Mortgagee substantially in accordance with these provisions):
 - (a) the Landlord will give prompt written notice to the Tenant's Mortgagee of any breach or default by the Tenant of its obligations under the Lease in respect of which the Landlord proposes to exercise any of its remedies;
 - (b) the Landlord will give the Tenant's Mortgagee the right to cure any breach or default by the Tenant under the Lease, within a period of 90 days commencing on the later of (i) the expiry of the cure period afforded the Tenant under the Lease, and (ii) the date on which the Landlord gives the Tenant's Mortgagee notice of such breach or default pursuant to Section 2(a), or such longer period of time as the Tenant's Mortgagee may reasonably require to cure such breach or default; and no exercise by the Landlord of any of its rights or remedies against the Tenant will be effective against the Tenant or the Tenant's Mortgagee unless the Landlord has the Tenant's Mortgagee such notice and opportunity to cure;
 - (c) if the Tenant's Mortgagee is not capable of curing any breach or default of the Tenant under the Lease (such as a breach or default relating to the bankruptcy or insolvency of the Tenant), the Tenant's Mortgagee will have the right to cure all defaults that are curable within the time period specified in Section 2(b) and the Landlord agrees that it will not terminate the Lease (or exercise any other rights or remedies against the Tenant's Mortgagee) if all curable defaults are cured by the Tenant's Mortgagee within such time period;
 - (d) the Landlord agrees that if there exists any breach or default of the Tenant under the Lease at any time when any receivership, insolvency, bankruptcy or similar proceedings or events relating to the Tenant are proceeding or when the Tenant's Mortgagee is enforcing the security of the Tenant's Mortgage, (i) the Landlord will not terminate the Lease as a result thereof, and (ii) if the Lease is actually terminated or disclaimed in connection with or as a result of any such proceedings or enforcement, the Tenant's Mortgagee or its nominee or appointee will have the right to enter into a new Lease upon the same terms and conditions (including any

options to renew or to purchase) as the terminated Lease (the “**New Lease**”), provided that:

- (A) the Tenant’s Mortgagee has notified the Landlord in writing of its intention to enter into the New Lease within 90 days from the date the Tenant’s Mortgagee receives written notice from the Landlord that the Lease has been terminated or disclaimed; and
- (B) the Tenant’s Mortgagee pays to the Landlord such amounts as may then be owing by the Tenant to the Landlord under the terminated Lease and cures or commences diligently to cure any breach or default by the Tenant under the terminated Lease that is capable of being cured by the Tenant’s Mortgagee;

and if the Tenant’s Mortgagee notifies the Landlord of its intention to enter into a New Lease, then the Landlord will forthwith execute and deliver to the Tenant’s Mortgagee a New Lease;

- (e) if the Tenant’s Mortgagee takes enforcement proceedings under the Tenant’s Mortgage and advises the Landlord of its intention in writing to maintain the Lease (the “**Secured Creditor Notice**”), the Tenant’s Mortgagee: (i) will be entitled to all of the rights of the Tenant under the Lease as though it were an original party thereto, and (ii) will only be liable for: (A) the payment of any arrears that the Landlord gives the Tenant’s Mortgagee written notice of within ten (10) days of the Tenant’s Mortgagee Notice being given to the Landlord, and (B) the performance of Tenant’s covenants and obligations arising under the Lease for the period starting on the date enforcement proceedings were commenced and ending on the date such enforcement proceedings are terminated or the Tenant’s Mortgagee assigns, transfers, surrenders or terminates the Lease in accordance with its terms;
- (f) the Landlord and the Tenant will not amend, terminate or surrender the Lease without the Tenant’s Mortgagee’s prior written consent;
- (g) the Landlord will, at any time and from time to time, upon not less than ten (10) days’ prior request by the Tenant or the Tenant’s Mortgagee or proposed the Tenant’s Mortgagee, deliver to the Tenant’s Mortgagee a statement in writing certifying that: (i) the Lease is in full force and full effect unamended (or setting out any such amendments), (ii) all amounts owing and payable under the Lease have been paid (or setting out any unpaid amounts), and (iii) to the Landlord’s knowledge, the Tenant is not in default of its obligations under the Lease in any material respect (or setting out particulars of any such defaults);
- (h) in addition to its obligations under Section 2(g), the Landlord will, at any time and from time to time, upon not less than ten (10) days’ prior request by the Tenant or the Tenant’s Mortgagee or proposed the Tenant’s Mortgagee, execute any

agreements, certificates or acknowledgements that the Tenant or the Tenant's Mortgagee may reasonably request with respect to this Lease; and

- (i) all notices to the Tenant's Mortgagee from the Landlord will be in writing and will be sent by personal delivery, registered mail, email or by fax to the address, email address or facsimile number of the Tenant's Mortgagee set out in any notice that the Tenant's Mortgagee delivers to the Landlord.
3. The provisions of Section 2 will enure to the benefit of the Tenant's Mortgagee and its successors and assigns, and any rights conferred on the Tenant's Mortgagee by the terms of this Schedule "C" to the Lease or limiting its liability under the Lease will benefit each receiver or receiver-manager appointed by the Tenant's Mortgagee or by a court of competent jurisdiction; and
4. The Landlord will give any purchaser or any other person acquiring an interest in the Premises notice of the Lease (including the terms of this Schedule "C") and any notice received from the Tenant's Mortgagee.
5. The Landlord hereby acknowledges that Lessee may grant a Tenant's Mortgage or other security to a trustee or collateral agent acting on behalf of one or more lenders (a "**Collateral Agent**"), and the Landlord hereby acknowledges and agrees that upon its receipt of notice that such a Tenant's Mortgage or other security was granted, the Collateral Agent will be entitled to all of the rights of the Tenant's Mortgagee set forth in this Schedule "C" to the Lease and such notice will constitute notice of the existence of the Collateral Agent as the Tenant's Mortgagee.

INDEX TO LEASE FORM

	Page
ARTICLE I GRANT AND TERM.....	4
1.01 Grant	4
1.02 Term.....	4
1.03 Extension.....	4
1.04 Early Termination by Tenant	4
1.05 Early Termination by Landlord	5
ARTICLE II LEASED PREMISES.....	5
2.01 Leased Premises.....	5
2.02 General Rights of the Tenant	6
2.03 Conduct of Operations	6
ARTICLE III RENT	6
3.01 Covenant to Pay	6
3.02 Annual Rent	7
3.03 Additional Rent.....	7
3.04 Place of Payment.....	7
3.05 Accrual and Prorating	7
3.06 Net Lease	7
ARTICLE IV TAXES.....	8
4.01 Realty Taxes.....	8
4.02 HST	9
ARTICLE V UTILITIES.....	9
5.01 Utilities.....	9
5.02 Shared Connection	9
ARTICLE VI CONDUCT OF BUSINESS BY TENANT USE BY LANDLORD	9
6.01 Use of Leased Premises	9
6.02 Facilities - Construction, Access and Maintenance	10
6.03 Roadway - Construction, Access and Maintenance.....	10
6.04 Electrical Supply Cables - Construction, Access Maintenance	11
6.05 Construction and Materials Used.....	11
6.06 Right of Access over Roadway and Adjoining Property	12

INDEX TO LEASE FORM

(continued)

	Page
6.07 Testing.....	12
6.08 Use of Leased Premises by Landlord.....	12
6.09 Interference with the Project.....	12
6.10 Compliance With Laws.....	13
6.11 Waste and Nuisance.....	13
6.12 Advertising upon the Facilities	14
6.13 Assignment in Connection with Transmission Lines	14
6.14 Replacement and Repair of Fences.....	14
6.15 Ditches, Roadways, etc.	14
6.16 Compensation to Landlord for Damages	15
6.17 Hazardous or Toxic Materials or Substances.....	15
ARTICLE VII MAINTENANCE, REPAIR AND ALTERATIONS	15
7.01 Tenant's Repair.....	15
7.02 General Maintenance and Operation	16
7.03 Alterations.....	16
7.04 No Obligation on Landlord to Repair	16
7.05 Construction Liens	16
ARTICLE VIII TRADE FIXTURES, IMPROVEMENTS AND SURRENDER	17
8.01 Ownership of Facilities.....	17
8.02 Trade Fixtures	17
8.03 Surrender of Leased Premises.....	17
ARTICLE IX ASSIGNMENT, SUBLETTING AND FINANCING	17
9.01 Assignment of Tenant's Rights.....	17
9.02 Tenant's Financing.....	18
ARTICLE X INSURANCE AND INDEMNITY.....	19
10.01 Tenant's Insurance	19
10.02 Failure to Insure	19
10.03 Loss or Damage	19
10.04 Indemnification of Landlord	20
10.05 Landlord's and Tenant's Employees	20

INDEX TO LEASE FORM
(continued)

	Page
ARTICLE XI DAMAGE AND DESTRUCTION	20
11.01 Damage and Destruction.....	20
ARTICLE XII DEFAULT OF TENANT	21
12.01 Right to Re-Enter	21
12.02 Right to Re-let.....	21
12.03 Landlord May Cure Default.....	22
12.04 No Waiver of Breach	22
ARTICLE XIII MORTGAGE BY LANDLORD.....	22
13.01 Attornment and Non-disturbance.....	22
13.02 No Obligation to Subordinate	22
ARTICLE XIV LANDLORD’S COVENANTS.....	23
14.01 Landlord’s Covenants	23
14.02 Landlord’s Warranties	23
14.03 Approvals.....	23
14.04 Exclusive Right.....	24
14.05 Non-Disturbance	24
14.06 Salvage.....	24
14.07 Non-Impairment.....	24
ARTICLE XV MISCELLANEOUS.....	25
15.01 Force Majeure	25
15.02 Registration.....	25
15.03 Notices	25
15.04 Planning Act.....	25
15.05 Status Certificate.....	26
15.06 Further Assurances.....	26
15.07 Arbitration.....	26
15.08 Confidentiality	27
15.09 Construction.....	27
15.10 Entire Agreement	27
15.11 Independent Legal Advice	28

INDEX TO LEASE FORM
(continued)

Page

15.12 Binding Effect..... 28

Appendix 2 - Form of Option to Purchase for Switching Station

Option to Purchase
Use with OREA Form 104

This Option to Purchase dated this..... day of..... 20.....

OPTIONEE: DUFFERIN WIND POWER INC.

OPTIONOR:

Property ~~forming part of~~..... ~~side of~~..... known municipally as in the of and having a frontage of..... more or less by a depth of more or less and described as.....

1. In consideration of the sum of: ~~..... Dollars (CDN\$)~~.....

payments set forth in Section 2 of Schedule A hereto to be..... Dollars

paid by the Optionee to the Optionor's Brokerage (the receipt whereof is hereby acknowledged) the Optionor grants to the Optionee the sole and exclusive Option, irrevocable within the time for exercise herein limited, to purchase the property described above and owned by the Optionor.(the "Option Price")

PURCHASE PRICE: Dollars (CDN\$).....

.....Dollars

~~On exercise of the Option..... Canadian dollars
shall be paid by bank draft or certified cheque to the Optionor's Brokerage
deposit to be held by such Brokerage in trust pending completion or other termination of the Agreement pending exercise of the Option hereby given. The parties to this Agreement hereby acknowledge that, unless otherwise provided for in this Agreement, the Deposit Holder shall place the deposit in trust in the Deposit Holder's non-interest bearing Real Estate Trust Account and no interest shall be earned, received or paid on the deposit.~~

The sum of the payments set forth in Section 2 of Schedule A hereto ~~..... Canadian dollars (CDN\$)~~.....

already paid to the Optionor's Brokerage as consideration for the granting of this Option, as well as the sum paid upon the exercise of this Option shall be credited to the Optionee as a deposit and allowed as part of the Purchase Price.

Optionee agrees to pay the balance as more particularly set out in Schedule A attached.

SCHEDULE(S) A..... attached hereto form(s) part of this Agreement.

2. Optionee and Optionor agree that all existing fixtures are included in the Purchase Price except those listed hereunder: ~~none~~.....

and that the following chattels are included in the Purchase Price: ~~none~~.....

Unless otherwise stated in this Agreement or any Schedule hereto, Optionor agrees to convey all fixtures and chattels included in the Purchase Price free from all liens, encumbrances or claims affecting the said fixtures and chattels.

3. The Option hereby granted may be exercised by the Optionee until... 8:00 p.m. ~~(on 06/09/11)~~ on the..... day of..... 20....., and shall be exercised by a letter delivered to the Optionor, the

Optionor's solicitor ~~the Optionor's Brokerage or for the Optionor's Brokerage to usual place of business.~~ In the event that such Option is not exercised in the manner aforesaid, this Option and everything herein contained shall be null and void and no longer binding upon any of the parties hereto and the Optionor shall be entitled to retain the said sum given as consideration for the granting of this Option. Upon the exercise of this Option by Optionee in the manner aforesaid, this Option and the letter exercising it shall then become a binding Agreement of Purchase and Sale between the parties and the same shall be completed upon the terms hereinafter set forth. Notwithstanding anything else herein, the Option Period (as such term is defined in Schedule B hereto) may be extended in accordance with this Agreement.

INITIALS OF OPTIONEE(S):  **INITIALS OF OPTIONOR(S):** 

a day selected by the Optionee by giving Optionor at least 10 days notice, but in any event within 120 days of the Optionee exercising its Option under Section 3

4. This sale arising from this Option shall be completed on ~~the day of completion of the sale~~ Upon completion, vacant possession of the property shall be given to the Optionee unless otherwise provided for in this Agreement
5. The Optionee shall be allowed until 4:59 p.m. on the.....15th.....day of prior to the day of completion of the sale ~~to~~ to: examine the title to the property, at the Optionee's own expense, to satisfy the Optionee that there are no outstanding work orders affecting the property; that its present use: Industrial *and provided such will not adversely affect Dufferin Wind's proposed electrical transmission and substation facility may be lawfully continued; and that the principal building may be insured against risk of fire.
6. Provided that the title to the property is good and free from all restrictions, charges, liens, claims and encumbrances, except as otherwise specifically provided in this Agreement, and save and except for:
 - (a) any registered restrictions or covenants that run with the land, provided that such are complied with; *
 - (b) any registered agreements with a municipality or a supplier of utility service including, without limitation, electricity, water, sewage, gas, telephone or cable television or other telecommunication service, providing such have been complied with or security has been posted to ensure compliance and ~~completion as evidenced by letter from the relevant municipality or utility supplier and~~ provided such will not adversely affect the Optionee's proposed transmission and substation facilities.
 - (c) any minor easements for the supply of utility service to the property or to adjacent properties.
 If within the time for examining the title any valid objection to title, or any outstanding work order or deficiency notice, or to the fact that the said present use may not lawfully be continued, or that the principal building may not be insured against risk of fire, is made in writing to the Optionor or Optionor's solicitor, which Optionor is unable or unwilling to remove, remedy or satisfy, or obtain insurance save and except against risk of fire (Title Insurance) in favour of the Optionee and any mortgagee, (with all related costs at the expense of the Optionor), and which Optionee will not waive, this Agreement, notwithstanding any intermediate acts or negotiations in respect of such objections, shall be at an end, and all money theretofore paid shall be returned without interest or deduction and Optionor and the Optionor's Agents shall not be liable for any costs or damages. Save as to any valid objection so made within such time, and except for any objection going to the root of title, Optionee shall be conclusively deemed to have accepted Optionor's title to the property. Optionor hereby consents to the municipality releasing to Optionee details of all outstanding work orders or deficiency notices affecting the property, and Optionor agrees to execute and deliver to Optionee or Optionee's solicitor such further authorizations in this regard as Optionee may reasonably require.
7. Optionee acknowledges having inspected the property prior to submitting this Option and understands that upon exercising this Option there shall be a binding Agreement of Purchase and Sale between Optionee and Optionor.
8. Optionor and Optionee agree that there is no condition, express or implied, representation or warranty of any kind that the future intended use of the property by Optionee is or will be lawful except as may be specifically stipulated elsewhere in this Agreement.
9. Optionee shall not call for the production of any title deed, abstract, survey or other evidence of title to the property except such as are in the possession or control of Optionor. *If requested by Optionee, Optionor will deliver any sketch or survey of the property within Optionor's control to Optionee as soon as possible and prior to the Requisition Date. If a discharge of any Charge/Mortgage held by a corporation incorporated pursuant to the Trust And Loan Companies Act (Canada), Chartered Bank, Trust Company, Credit Union, Caisse Populaire or Insurance Company and which is not to be assumed by Optionee on completion, is not available in registrable form on completion, Optionee agrees to accept Optionor's lawyer's personal undertaking to obtain, out of the closing funds, a discharge in registrable form and to register same, or cause same to be registered, on title within a reasonable period of time after completion, provided that on or before completion Optionor shall provide to Optionee a mortgage statement prepared by the mortgagee setting out the balance required to obtain the discharge, and, where a real-time electronic cleared funds transfer system is not being used, a direction executed by Optionor directing payment to the mortgagee of the amount required to obtain the discharge out of the balance due on completion. **and except as otherwise provided herein
10. All buildings on the property and all other things being purchased shall be and remain until completion at the risk of Optionor. Pending completion, Optionor shall hold all insurance policies, if any, and the proceeds thereof in trust for the parties as their interests may appear and in the event of substantial damage, Optionee may either terminate this Option and have all monies theretofore paid returned without interest or deduction or else take the proceeds of any insurance and complete the purchase. No insurance shall be transferred on completion. If Optionor is taking back a mortgage or charge, or Optionee is assuming a mortgage or charge, Optionee shall supply Optionor with reasonable evidence of adequate insurance to protect the Optionor's or other mortgagee's interest on completion.
11. Provided that this Option shall be effective to create an interest in the property only if the subdivision control provisions of The Planning Act are complied with by Optionor on or before completion and Optionor hereby covenants to proceed diligently at his expense to obtain any necessary consent on or before completion.
12. Optionee shall be credited towards the Purchase Price with the amount, if any, which it shall be necessary for Optionee to pay to the Minister of National Revenue in order to satisfy Optionee's liability in respect of tax payable by Optionor under the non-residency provisions of the Income Tax Act by reason of this sale. Optionee shall not claim such credit if Optionor delivers on completion the prescribed certificate or his statutory declaration that he is not then a non-resident of Canada.
13. Any rents, mortgage interest, realty taxes including local improvement rates and unmetered public or private utility charges and unmetered cost of fuel, as applicable, shall be apportioned and allowed to the day of completion, the day of completion itself to be apportioned to Optionee.

INITIALS OF OPTIONEE(S):

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INITIALS OF OPTIONOR(S):

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14. The Buyer and Seller hereby acknowledge that the Province of Ontario has implemented current value assessment and properties may be re-assessed on an annual basis. The Buyer and Seller agree that no claim will be made against the Buyer or Seller, ~~or any Brokerage, Broker or Salesperson~~, for any changes in property tax as a result of a re-assessment of the property, save and except any property taxes that accrued prior to the completion of this transaction.
15. The Transfer/Deed shall, save for the Land Transfer Tax Affidavit, be prepared in registrable form at the expense of Optionor, and any mortgage or charge to be given back by the Optionee to the Optionor at the expense of the Optionee. If requested by Optionee, Optionor covenants that the Transfer/Deed to be delivered on completion shall contain the statements contemplated by Section 50 (22) of The Planning Act, RSO 1990.
16. Time shall in all respects be of the essence hereof provided that the time for doing or completing of any matter provided for herein may be extended or abridged^{***} by an agreement in writing signed by Optionor and Optionee or by their respective solicitors who may be specifically authorized in that regard. ^{***}in accordance with the Agreement or
17. Any tender of documents or money hereunder may be made upon Optionor or Optionee or their respective solicitors on the day set for completion of this sale. Money may be tendered by bank draft or cheque certified by a Chartered Bank, Trust Company, Province of Ontario Savings Office, Credit Union or Caisse Populaire.
18. The Optionor warrants that spousal consent is not necessary to this transaction under the provisions of the Family Law Act, 1986, unless the Optionor's spouse has executed the consent hereinafter provided.
19. The Optionor represents and warrants to the Optionee that during the time the Optionor has owned the property, the Optionor has not caused any building on the property to be insulated with insulation containing ureaformaldehyde, and that to the best of the Optionor's knowledge no building on the property contains or has ever contained insulation that contains ureaformaldehyde. This warranty shall survive and not merge on the completion of this transaction, and if the building is part of a multiple unit building, this warranty shall only apply to that part of the building which is the subject of this transaction.
20. ~~The parties acknowledge that any information provided by the brokerage is not legal, tax or environmental advice.~~
21. **The Optionee is hereby notified that a consumer report containing credit and/or personal information may be referred to in connection with this transaction.**
22. ~~The Optionor hereby appoints the listing Brokerage as agent for the Optionor for the purpose of giving and receiving notices pursuant to this Agreement. Where a Brokerage (Optionee's Brokerage) has entered into a representation agreement with the Optionee, the Optionee hereby appoints the Optionee's Brokerage as agent for the purpose of giving and receiving notices pursuant to this Agreement. Where a Brokerage represents both the Optionor and the Optionee (multiple representation), the Brokerage shall not be entitled or authorized to be agent for either the Optionee or the Optionor for the purpose of giving and receiving notices. Any notice relating hereto or provided for herein shall be in writing in addition to any provision contained herein and in any Schedule hereto, and for any counts offer, notice of acceptance hereof or any notices to be given or received pursuant to this Agreement or any Schedule hereto shall be deemed given and received when delivered personally or hand delivered to the Address for Service provided in the Acknowledgement below, or where a facsimile number is provided herein, when transmitted electronically to that facsimile number.~~
23. If there is conflict between any provision written or typed in this Option (including any Schedule to this Option) and any provision in the printed portion hereof, the written or typed provision shall supersede the printed provision to the extent of such conflict. This Option including any Schedules attached hereto, shall constitute the entire agreement between the Optionee and Optionor. There is no representation, warranty, collateral agreement or condition, whether direct or collateral or expressed or implied, which induced any party hereto to enter into this Option or on which reliance is placed by any such party, or which affects this Option or the property or supported hereby, other than as expressed herein. This Option shall read with all changes of gender or number required by the context.
24. Any reference to a time and date in this Agreement shall mean the time and date where the property is located.
25. If the sale of the property (Real Property as described above) is subject to Harmonized Sales Tax (HST), then such tax shall be in addition to the Purchase Price. The Optionor will not collect HST if the Optionee provides to the Optionor a warranty that the Optionee is registered under the Excise Tax Act ("ETA"), together with a copy of the Optionee's ETA registration, a warranty that the Optionee shall self-assess and remit the HST payable and file the prescribed form and shall indemnify the Optionor in respect of any HST payable. The foregoing warranties shall not merge but shall survive the completion of the transaction. If the sale of the property is not subject to HST, Optionor agrees to certify on or before closing, that the transaction is not subject to HST. Any HST on chattels, if applicable, is not included in the purchase price.

This Option Agreement shall be signed by all necessary Parties thereto no later than the.....day of.....~~July~~ August.....20.12....., after which time if not signed, it shall be null and void and all consideration money returned to the Optionee in full and without interest.

~~The Optionor agrees with the Brokerage(s) with whom I have agreed to pay commission, in consideration for the Brokerage's services in procuring the said Option, to pay the Brokerage on the date of completion the commission set out in our Option Commission Agreement, together with applicable Land Transfer Tax and any other taxes or fees that may hereafter be applicable, which commission and taxes may be deducted from the deposit. I hereby irrevocably instruct my solicitor~~

INITIALS OF OPTIONEE(S):

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INITIALS OF OPTIONOR(S):

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SCHEDULE "A"
Option to Purchase

This Schedule is attached to and forms part of the Option to Purchase dated ■ between:

OPTIONEE: **DUFFERIN WIND POWER INC.**

OPTIONOR: **■**

for the property known as ■.

1. Interpretation

Unless otherwise defined in this Schedule "A" any terms have the same meanings ascribed to them in the Option to Purchase (the "**Agreement**") to which this Schedule "A" is attached and forms a part. In this Schedule "A", the following capitalized terms will have the following meanings:

- 1.1 "**Business Day**" means any day except Saturday, Sunday or any statutory holiday in the Province of Ontario;
- 1.2 "**COD**" means the Optionee has commenced commercial operation of the Facilities under the OPA Purchase Agreement;
- 1.3 "**Environmental Laws**" means the common law and all statutes, regulations, by-laws, rules, orders, permits policies guidelines of any Governmental Authority and requirements concerning discharges to the air, soil, surface water or ground water concerning the emission release, generation, disposal, transportation, storage, handling or treatment of Hazardous Substances;
- 1.4 "**Facilities**" means collectively, all buildings, structures, improvements, fixtures, installations, equipment or chattels which the Optionee intends to construct or install on the Property for the purposes of the commercial distribution of harnessed wind electricity from the Optionee's wind energy project and its connection to the Ontario electricity grid, and including, but not limited to, carrying on the business of wind electricity generation and all associated commercial purposes.
- 1.5 "**Governmental Authority**" means any governmental authority, body, agency, commission, board, bureau, department, whether federal, provincial or municipal, having or claiming jurisdiction over the Property or over any approvals under the *Green Energy Act, 2009* and including for greater certainty the OPA;
- 1.6 "**Hazardous Substances**" means any pollutants, contaminants, chemicals, deleterious substances, industrial, toxic or hazardous wastes, dangerous or toxic substances, petroleum, petroleum by-products, asbestos, PCBs, underground storage tanks and the contents thereof, and flammable or radioactive materials;
- 1.7 "**OPA**" means Ontario Power Authority (or any successor thereof);

- 1.8 **“OPA Power Purchase Agreement”** means the power purchase agreement entered into or to be entered into by the Optionee with the OPA in connection with the Optionee’s wind energy project, including the Facilities, as it may be amended from time to time;
- 1.9 **“Option Period”** means the period from the date of execution of the Agreement by both parties to the date set forth in Section 3 of the Agreement, as the same may be renewed or extended in accordance with this Agreement or by the parties;
- 1.10 **“Person”** means any individual, partnership, limited partnership, joint venture, syndicate, sole proprietorship, company or corporation with or without share capital, unincorporated association, trust, trustee, executor, administrator or other legal representative, a government, governmental agency, authority or entity however designated or constituted; and
- 1.11 **“Property”** means the lands described in the recitals of this Agreement.

2. Payment

The Optionee will, within five (5) Business Days after the date of acceptance of this Agreement, deliver to the Optionor a cheque in the amount of ■ (\$■) in favour of the Optionor in consideration of the granting of the Option. This amount delivered by the Optionee to the Optionor shall be, if the Option is exercised by the Optionee, credited towards the Purchase Price set out in Section 1 of this Agreement.

3. Renewal Option

- 3.1 Provided that the Tenant is not in default under this Agreement, the Optionee shall have the option to renew the Option for a further twelve (12) months upon the payment from the Optionee to the Optionor of an additional ■ (\$■).
- 3.2 The option to renew shall be exercised by the Optionee no later than thirty (30) days prior to the expiration date of the Option Period, failing which such option to renew shall be null and void.

4. Purchase Price

The balance of the Purchase Price will be paid to the Optionor’s solicitors by wire transfer, certified cheque or bank draft on the closing of the Purchase of the Property after:

- 4.1 making the adjustments set out in this Agreement; and
- 4.2 the deposit and option payments have been credited against the Purchase Price for the benefit of the Optionee.

5. Delivery of Title Deeds, Surveys, etc.

The Optionor will, within five (5) Business Days after the execution of this Agreement, deliver to the Optionee all surveys, site plans, well driller’s certificates, plans for septic systems, and any other plans and specifications relating to the Property as may be in the Vendor’s possession, and all easements, leases, licences and permits affecting the Property.

6. Inspections

The Optionee and its designates shall have the right during the Option Period, at Optionee's sole risk and expense, to conduct any manner of test, survey, inspection, examination, investigation in respect of each and every aspect of the Property which is deemed necessary or desirable in the Optionee's sole and unfettered discretion to determine whether the Property is suitable for its purposes, including its development as a transmission and substation facility, including intrusive environmental testing, the taking of soil samples, performing a detailed archeological investigation and assessment, geotechnical testing and the release of weather balloons, and to determine whether the Optionee will be permitted to construct the Facilities on the Property and obtain all its approvals.

The Optionee shall be entitled to cause a full inspection of the Property to be made by any Governmental Authorities as the Optionee or its counsel may consider necessary or advisable at any time and from time to time prior to the expiry of the Option Period in order to ensure that the Property now complies and will comply with all applicable statutes, by-laws and regulations. The Optionor shall cooperate with the Optionee as necessary to obtain any governmental approvals and will provide any consents or authorizations (written or otherwise) necessary or desirable to enable the Optionee or its counsel to carry out such investigations as they may consider necessary or advisable, as soon as reasonably practicable after request by the Optionee therefor.

If for any reason the transaction contemplated by this Agreement is not completed, the Optionee will return all documents and materials which it has obtained from the Optionor and will repair and restore, to substantially the same condition existing on the date prior to any such inspection or test, any damage to the Property caused by the investigations, inspections or tests.

7. Representations and Warranties

The Optionor hereby represents and warrants to the Optionee as follows and acknowledges that the Optionee is relying upon such representations and warranties in connection with the purchase of the Property:

- 7.1 on closing, the Optionor will have good and marketable title to the Property free and clear of all rights, interests, mortgages, charges, liens, encumbrances, easements, rights of way, encroachments, restrictive covenants, leases, licences or adverse claims whatsoever;
- 7.2 no Person has any agreement, option or understanding or any right capable of becoming an agreement, option or understanding for the purchase, lease or occupation of all or any part of the Property;
- 7.3 on closing there will be no leases, licences or occupancy agreements affecting the Property or any part thereof;
- 7.4 on closing there shall not be any contracts or agreements which have been granted, assumed or consented to by the Optionor in respect of the Property and the Optionor does not have any knowledge of any other contracts or agreements relating to the Property;
- 7.5 the Optionor: (i) is not an insolvent person within the meaning of the *Bankruptcy and Insolvency Act* (Canada); (ii) has not made an assignment in favour of its creditors or a proposal in bankruptcy to her creditors or any class thereof; (iii) has not had any petition for a receiving order presented to it; and (iv) has not initiated proceedings with respect to a compromise or arrangement with its creditors;

- 7.6 the Optionor has not received from any Governmental Authority any notice of any proposed expropriation or notice of contravention or breach of, or any proposed change to, any laws, including any municipal or zoning by-laws, relating to, with respect to or which may affect the Property or its use;
- 7.7 the Optionor has not received any notice and, to the best of the Optionor's knowledge, information and belief, the Optionor has no knowledge of:
 - 7.7.1 the use, storage, existence, discharge or release of any Hazardous Substances on, onto or from the Property (except in compliance with applicable law) or of any discharge or release from a facility or property owned or operated by third parties but with respect to which the Optionor may, by virtue having an interest in the Property, have liability under any Environmental Laws;
 - 7.7.2 any fact which could give rise to any notice that may require clean up of any waste disposal or taking other corrective, remedial or protective action respecting the Property under any Environmental Laws; or
 - 7.7.3 Hazardous Substances or conditions that directly or indirectly relate or may adversely affect the Property or its use or any adjoining properties or properties in the vicinity of the Property;
- 7.8 except as may be disclosed elsewhere in this Option, to the best of the Optionor's knowledge and belief:
 - 7.8.1 there are no limitations or restrictions affecting the use of the Property;
 - 7.8.2 there are no ongoing claims or litigation nor are any threatened or pending claims or litigation by any third party; and
 - 7.8.3 the Property is not and has not at any time been used as a waste disposal facility;
- 7.9 all licenses, permits and approvals necessary for the current use of the Property have been issued and are valid and in force and effect;
- 7.10 the Property is not subject to any mining rights, oil or gas drilling rights or aboriginal land claims; and
- 7.11 the Optionor is not now, and on closing will not be, a non-resident of Canada for the purposes of the Income Tax Act (Canada).

The Optionor will promptly notify the Optionee in writing of the existence or happening of any matter or event, and will not do or omit to do anything, during the Option Period which may alter the accuracy or completeness of any representation or warranty contained herein. The representations and warranties set forth above shall survive the exercise of the Option by the Optionee and the completion of the purchase of the Property.

8. Removal Covenant

The Optionor shall, at its sole cost and expense, not less than five Business Days prior to the date set for closing, remove any machinery, equipment, scrap and debris from the Property.

9. Conditions for the Benefit of the Optionee

The obligation of the Optionee to complete the purchase of the Property pursuant to this Agreement is subject to the satisfaction of, or compliance with, at or prior to the closing (unless otherwise specified below) each of the following conditions precedent (each of which is acknowledged to be for the exclusive benefit of the Optionee and any of which may be waived, in whole or in part, by the Optionee in its sole discretion):

- 9.1 the representations and warranties of the Optionor made in or pursuant to this Agreement shall be true and correct at closing with the same force and effect as if made at and as of closing; the covenants contained in this Agreement to be performed by the Optionor at or prior to closing shall have been performed; the Optionor shall not be in breach of any agreement on its part contained in this Agreement; and the Optionee shall have received a certificate confirming the foregoing, signed for and on behalf of the Optionor, in form and substance satisfactory to the Optionee and its counsel;
- 9.2 the Optionee has constructed the Facilities, they have been connected to the Ontario electricity grid, the Optionee's wind energy project has achieved COD; and
- 9.3 all necessary Governmental Approvals and all other consents required in consummating the closing and shall have been obtained or given on or before closing in form and substance satisfactory to the Optionee and his counsel.

10. Co-Operation

The Optionor hereby agrees to co-operate with the Optionee to secure any necessary Governmental Approvals to the proposed use of the Property as a transmission and substation facility, the construction of the Facilities and its connection to the Ontario electricity grid, including promptly providing any authorizations and consents, executing any agreements providing servicing of the Property for the Facilities, and any required development and/or site plan applications in respect of the Property for the Facilities and/or any reference plans for the Property.

11. Assignment

The Optionee shall have the right at any time following acceptance of this Agreement to assign this Agreement to any Person, and upon such assignment and written notice thereof to the Optionor, the Optionee shall be relieved of and from any and all obligations hereunder and the Optionor shall accept such assignee in the place of and stead of the Optionee as if the assignee was the original Optionee herein.

Appendix 3 - Form of Transmission Easement (for Private Easements)

AGREEMENT TO GRANT A TRANSMISSION EASEMENT

THIS AGREEMENT made as of the ____ day of _____, 2012

BETWEEN:

■

(the “**Transferor**”)

- and -

DUFFERIN WIND POWER INC., a corporation incorporated under the laws of New Brunswick

(the “**Transferee**”)

WHEREAS:

- A. The Transferor is the owner of the lands and premises described in Schedule “A” hereto (herein called the “**Lands**”); and
- B. The Transferor has agreed to grant to the Transferee an easement in perpetuity over a portion of the Lands on the terms and conditions set forth herein.

WITNESSES that in consideration of payment by the Transferee to the Transferor of the sum of _____ DOLLARS (\$■) (the “**Offer Consideration**”), and other good and valuable consideration (the sufficiency of which consideration is hereby acknowledged), the parties hereby grant, covenant and agree as follows:

1. **Option**

The Transferor hereby grants to Transferee, its successors and assigns the exclusive right, irrevocable for a period of 14 months from the date hereof (the “**Option Period**”), to purchase upon the terms and conditions hereinafter set out the perpetual rights, easements and privileges set out in the form of Transmission Easement Agreement (the “**Transfer of Easement**”) annexed hereto as Schedule “B” in, through, under, over, across, along and upon a strip of the Lands 30 metres in perpendicular width shown on Schedule “C” hereto (the “**Easement Lands**”).

2. **Purchase Price**

The purchase price (the “**Purchase Price**”) for the Transfer of Easement shall be the sum of _____ (\$■) Dollars of lawful money of Canada plus applicable HST. The Offer Consideration shall be credited against the Purchase Price and the balance shall be paid upon registration of the Transfer of Easement on the title to the Lands at the time of the Closing.

3. **Harmonized Sales Tax**

The Transferee hereby certifies that:

- (a) it is registered under Subdivision d of Division V of Part IX of the *Excise Tax Act* for the collection and remittance of the Harmonized Sales Tax (“**HST**”) and its registration number is 81289 1406 RT0001, and
- (b) it will comply with the self-assessment provisions of the ETA in connection with the Transfer of Easement.

The Transferee shall indemnify and save harmless the Transferor from and against any and all HST, penalties, costs and/or interest which may become payable by or assessed against the Transferor as a result of any failure by the Transferee to comply with the provisions of this section 3

4. **Exercising Option**

The Transferee may at any time during the Option Period notify the Transferor in writing (the “**Exercise Notice**”) that it will be completing the transaction in accordance with the provisions hereof and specifying the date of Closing for the transaction (the “**Closing Date**”) which shall not be less than 60 days nor more than 180 days after the giving the Exercise Notice.

5. **Closing**

The closing (the “**Closing**”) shall take place at 11:00 a.m. on the Closing Date or at such other time or date as the Transferor or Transferee or their respective counsel may agree in writing. Any documents or money payable hereunder may be tendered upon the parties hereto or their respective solicitors. Time shall in all respects be of the essence hereof.

6. **Co-operation/Registration**

The Transfer of Easement, any reference plan depicting the Easement Lands with greater certainty and all ancillary documents necessary to register same on title shall be prepared by and at the expense of the Transferee. The Transferor hereby covenants and agrees that the Transferee may, at its option, register this Agreement or notice thereof, and the Transfer of Easement on title to the Lands, and the Transferor hereby covenants and agrees to execute, at no further cost or condition to the Transferee, such other instruments, plans and documents as may reasonably be required by the Transferee to effect registration of this Agreement or notice thereof and the Transfer of Easement on or prior to Closing.

7. **Priority of Easement**

During the Option Period and, if an Exercise Notice is given, thereafter:

- (a) the Transferee shall not grant or transfer an easement or encumber its interest in the Easement Lands which will have priority over the registration of the Transfer of Easement; and

- (b) the Transferor will use commercially reasonable efforts, and the Transferee has permission to approach prior encumbrancers, to obtain all necessary consents, postponements or subordinations (in registrable form) from all current and future encumbrancers.

8. **Title**

Title to the Easement Lands shall at Closing be good and free from all registered restrictions, charges, liens, easements and encumbrances of any kind whatsoever except for those title matters disclosed in Schedule “D”.

9. **Right of Convey/Further Assurances**

Subject to those title matters disclosed in Schedule “D”, the Transferor covenants and agrees with Transferee that (i) it has the right to enter into this Agreement and the Transfer of Easement and to grant the rights hereunder and thereunder without restriction, (ii) the Transferee will quietly possess and enjoy such rights, and (iii) the Transferor will execute upon request such further assurances as may be requisite to give effect to the provisions of this Agreement and the Transfer of Easement.

10. **Temporary Rights**

The Transferor hereby grants to the Transferee the following temporary rights, easements, rights of way, covenants, agreements and privileges in, through, under, over, across, along and upon the Easement Lands and so much of the Lands as may be reasonably necessary:

- (a) to mark the location of any proposed transmission, distribution or communication lines or lines (the “**line**”) in, on or under the Easement Lands by suitable markers;
- (b) to conduct engineering and legal surveys in, on and over the Easement Lands; and
- (c) to conduct testing and investigations of any sort, including invasive testing, environmental, archaeological, geotechnical and hydrological assessments, taking soil samples, conducting soil compaction tests, and such other testing and assessments as the Transferee or any governmental authority may require, provided that upon completion of such testing and investigations the Transferee shall restore the surface of the lands to substantially the same state as it was prior to such testing or investigations.

11. **Access**

The Transferor consents to the Transferee, its respective officers, employees, agents, contractors, sub-contractors, workers and permittees or any of them entering on, exiting and passing in, on, over, along, upon, across, through and under the Easement Lands and so much of the Lands as may be reasonably necessary, at all reasonable times after the date of this Agreement, with or without vehicles, machinery, equipment, material and supplies, for all purposes necessary or convenient to the exercise and enjoyment of the rights granted hereunder.

12. **Approvals**

The Transferee, its contractors, consultants, agents and appointees, are hereby duly appointed as the Transferor's agent for the purposes of making application for Approvals, at the Transferee's expense, in relation to the Easement Lands and the rights granted hereunder and under the Transfer of Easement. The Transferor agrees to execute and deliver such further agreements, applications and confirmations, and do such further things, as the Transferee may reasonably require to obtain any Approvals, at the Transferee's sole cost and expense. In this section, the term "**Approvals**" includes any authorizations, licences, approvals, permits, subdivision consents, rezoning applications, site plan agreements, and any other permissions from any authorities having jurisdiction which may be necessary or advisable to develop, install, construct and operate the Works (as defined in the Transfer of Easement) and any related activities.

13. **No Interference**

The Transferor shall not:

- (a) interfere with the construction, installation, maintenance or operation of the Works (as defined in the Transfer of Easement), any development activities, or the undertaking of any other activities permitted hereunder.
- (b) undertake any action including, without limitation, hunting, blasting, excavation or construction, that may have the effect of constituting a danger to the Works or increasing the Transferor's construction, installation, maintenance or operating costs with respect to the Works, but the Transferor expressly reserves the right to use the Lands for agricultural purposes that do not and will not interfere with the Transferee's operations hereunder or enjoyment of the rights hereby granted. If any of the Transferor's activities negatively impacts on the construction, installation, maintenance or operation of the Works, the Transferor agrees to cease and desist such activities immediately upon notice from the Transferee.

14. **Planning Act**

This Agreement shall be conditional upon compliance with the subdivision provisions of the *Planning Act* (Ontario) to the extent applicable.

The Transferee hereby declares that this Agreement, the easements hereby granted and the Transfer of Easement are being acquired by the Transferee for the purpose of an electricity transmission line within the meaning of Part VI of the *Ontario Energy Board*

Act, 1998, and for the purpose of a renewable energy project within the meaning of the *Green Energy Act, 2009*.

15. **Notice**

Any demand, notice or other communication to be given in connection with this Agreement shall be given in writing and shall be given by personal delivery, by registered mail postage prepaid, or by facsimile transmission, addressed to the recipient as follows:

To Transferee:

Dufferin Wind Power Inc.
161 Bay Street, Suite 4550
TD Canada Trust Tower
Toronto, Ontario
M5J 2S4

Facsimile No: (416) ■
Phone: (416) 551-4856
Attention: Jeff Hammond, Senior Vice President

To Transferor:

■

Facsimile No: ■
Phone: (■) ■
Attention: ■

or to such other address, facsimile number or individual as may be designated by notice given by either party to the other. Any demand, notice or other communication shall be conclusively deemed to have been given when actually received by the addressee or upon the second business day after the day of mailing.

16. **Successors in Title**

The Transferor covenants and agrees that if and before the Transferor sells, transfers, assigns, charges, leases, disposes or otherwise parts with possession, of all or part of the Lands to a third party (the “**Third Party**”) the Transferor shall ensure that the Third Party executes and delivers to and in favour of the Transferee a written agreement concurrent with such sale, transfer, assignment, charge, lease or disposition in which the Third Party assumes the burden and benefit of this Agreement, and agrees to be bound by it.

17. **Family Law Act Compliance**

The Transferor represents that no part of the Lands is a matrimonial home within the meaning of the *Family Law Act*, as amended, unless the Transferor has caused this Agreement and all related documents to be accepted and consented to in writing to the Transferor's spouse.

18. **Interpretation**

All covenants herein contained shall be construed to be several as well as joint, and wherever the singular and the masculine are used in this Agreement, the same shall be construed as meaning the plural or the feminine or neuter, where the context or the identity of the Transferor/Transferee so requires.

Captions and headings are for convenience of reference only and in no way define, limit, construe or describe the scope or intent of the relevant section or paragraph or in any way affect the interpretation of this Agreement.

19. **Entire Agreement**

This Agreement and the schedules attached hereto constitute the entire agreement between the parties pertaining to the subject matter hereof, and amends, replaces and supersedes all prior and contemporaneous agreements, understandings, negotiations and discussions between the parties whether oral or written. There are no representations, warranties, collateral agreements, conditions or other agreements between the parties in connection with the subject matter of this Agreement except as specifically set forth herein. No supplement, modification, waiver or termination of this Agreement shall be binding unless in writing and executed by the parties. No waiver of any provision of this Agreement shall constitute a waiver of any other provision nor shall such waiver constitute continuing waiver unless otherwise expressly provided herein.

20. **Run with the Land**

The burden and benefit of this Agreement shall continue on after the Closing and shall run with the Easement Lands and the works and undertaking of the Transferee and shall be binding upon and enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and assigns.

21. **Applicable Law**

This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

22. **Counterparts**

This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument. This Agreement may be delivered by fax or electronic transmission.

23. **Independent Legal Advice**

The Transferor acknowledges and confirms to the Transferee that the Transferor has sought such independent legal advice as the Transferor considers appropriate prior to entering into this Agreement.

IN WITNESS WHEREOF the Transferor and Transferee have executed this Agreement as of the day and year first above written.

EITHER

WITNESS

)
)
)
)
)
)
)

[Transferor]

OR

[TRANSFEROR]

Per: _____

Name: ■

Title: ■

I have authority to bind the corporation.

DUFFERIN WIND POWER INC.

Per: _____

Name: Wu Hao

Title: President

Per: _____

Name: Jeffrey Hammond

Title: Senior Vice-President

We have authority to bind the corporation.

■, the Transferor's spouse, hereby consents to the Transferor entering into this Agreement and the grant of the Transfer of Easement this _____ day of _____, 2011.

■

SCHEDULE "A"
LEGAL DESCRIPTION OF THE LANDS

SCHEDULE "B"

TRANSMISSION EASEMENT AGREEMENT

■, (the "Transferor") is the owner in fee simple and in possession of the following lands (collectively, the "Lands"):

- (c) PIN: ■ (LT) - being ■;
- (d) PIN: ■ (LT) - being ■; and
- (e) PIN: ■ (LT) - being ■.

DUFFERIN WIND POWER INC. (the "Transferee") has erected, or is about to erect, certain Works [as more particularly described in paragraph 1(a) below] in, through, under, over, across, along and upon that part of the Lands described below as the Easement Lands.

1. The Transferor hereby grants and conveys to the Transferee, its successors and assigns the rights and easement, the following unobstructed and exclusive rights, easements, rights-of-way, covenants, agreements and privileges in perpetuity (the "Rights") in, through, under, over across, along and upon that portion of the Lands of the Transferor described as Parts ■, ■ and ■ on reference plan 7R -■ (the "Easement Lands") for the following purposes:
 - (a) To enter and lay down, install, construct, erect, maintain, open, inspect, add to, enlarge, alter, repair and keep in good condition, move, remove, replace, reinstall, reconstruct, relocate, supplement and operate and maintain at all times in, through, under, over, across, along and upon the Easement Lands, electrical transmission, distribution and telecommunications systems consisting of pole structures, steel towers, anchors, guys and braces and all such aboveground or underground lines, wires, cables, telecommunications cables, grounding electrodes, conductors, control systems, storage sheds, in-ground service manholes, surface-mounted transformers, apparatus, works, accessories, associated material and equipment, and appurtenances pertaining to or required by either such system (all or any of which are herein individually or collectively called the "Works") as in the opinion of the Transferee are necessary or convenient thereto for use as required by Transferee in its undertaking from time to time, or a related business venture.
 - (b) To enter on and selectively grub, cut or prune, and to clear and keep clear, and remove all trees, branches, bushes, shrubs and other obstructions and materials, over or upon the Easement Lands and, without limitation, to cut and remove all leaning or decayed trees or stumps located on the Lands whose proximity to the Works renders them liable to fall and come in contact with the Works or which may in any way interfere with the safe, efficient or serviceable operation of the Works or this easement by the Transferee.

- (c) To conduct all engineering, legal surveys, and make soil tests, soil compaction and environmental studies and audits in, under, on and over the Easement Lands as the Transferee in its discretion considers requisite.
- (d) To erect, install, construct, maintain, repair and keep in good condition, move, remove, replace and use bridges and such gates in all fences which are now or may hereafter be on the Easement Lands as the Transferee may from time to time consider necessary.
- (e) Except for fences, equipment and Installations permitted under paragraph 2(a), to clear the Easement Lands and keep it clear of all buildings, structures, erections, installations, or other obstructions of any nature (hereinafter collectively called the “**obstruction**”) whether above or below ground, including removal of any materials and equipment or plants and natural growth, which in the opinion of the Transferee, endanger its Works or their operation.
- (f) To enter on and exit by the Transferor’s access routes and to pass and repass at all times in, over, along, upon and across the Easement Lands and so much of the Lands as is reasonably required, for Transferee, its respective officers, employees, agents, servants, contractors, subcontractors, workmen and permittees with or without all plant machinery, material, supplies, vehicles and equipment for all purposes necessary or convenient to the exercise and enjoyment of this easement subject to compensation afterwards for any crop or other physical damage only to the Lands or permitted structures sustained by the Transferor caused by the exercise of this right of entry and passageway.

2. The Transferor agrees that:

- (a) It will not interfere with any Works established on or in the Easement Lands and shall not, without the Transferee’s consent in writing, erect or cause to be erected or permit in, under or upon the Easement Lands any obstruction or plant or permit any trees, bush, shrubs, plants or natural growth which does or may interfere with the Rights granted herein. The Transferor agrees it shall not, without the Transferee’s consent in writing, change or permit the existing configuration, grade or elevation of the Easement Lands to be changed, and the Transferor further agrees that no excavation or opening or work which may disturb or interfere with the existing surface of the Easement Lands shall be done or made unless consent therefor in writing has been obtained from Transferee, provided however, that the Transferor shall not be required to obtain such permission in case of emergency. Notwithstanding the foregoing, where there is no danger or likelihood of danger to the Works of the Transferee or to any persons or property and the safe or serviceable use and operation of this easement by the Transferee is not interfered with, the Transferor may at its expense construct and maintain in accordance with applicable law roads, lanes walks, drains, sewers, water pipes, oil and gas pipelines, fences (not to exceed 2 metres in height) and service cables on or under the Easement Lands (the “**Installation**”) or any portion thereof; provided that prior to commencing such Installation, the Transferor shall give to the Transferee

thirty (30) days' notice in writing thereof to enable the Transferee to have a representative present to inspect the proposed Installation during the performance of such work, and provided further that Transferor comply with all reasonable instructions given by such representative and that all such work shall be done to the reasonable satisfaction of such representative. In the event of any unauthorized interference aforesaid or contravention of this paragraph, or if any authorized interference, obstruction or Installation is not maintained in accordance with the Transferee's instructions or in the Transferee's reasonable opinion, may subsequently interfere with the Rights granted herein, the Transferee may at the Transferor's expense, forthwith remove, relocate, clear or correct the offending interference, obstruction, Installation or contravention complained of from the Easement Lands, without being liable for any damages cause thereby.

- (b) Notwithstanding any rule of law or equity, the Works installed by the Transferee shall at all times remain the property of the Transferee, notwithstanding that such Works are or may become annexed or affixed to the Easement Lands, and shall at any time and from time to time be removable in whole or in part by Transferee.
 - (c) No other easement or permission will be transferred or granted and no encumbrances will be created over or in respect to the Easement Lands, prior to the registration of a transfer of this grant of Rights.
 - (d) The Transferor will execute such further assurances of the Rights in respect of this grant of easement as may be requisite.
 - (e) The Rights hereby granted:
 - (i) shall be of the same force and effect to all intents and purposes as a covenant running with the Easement Lands; and
 - (ii) are declared hereby to be appurtenant to and for the benefit of the Works and undertaking of the Transferee described in paragraph 1(a).
3. The Transferee covenants and agrees to obtain at its sole cost and expense all necessary postponements and subordinations (in registrable form) from all current and future prior encumbrancers, postponing their respective rights, title and interest to the transfer of easement herein so as to place such Rights and easement in first priority on title to the Lands.
4. The Transferor represents and warrants that the Easement Lands have not been used for the storage of and do not contain any toxic, hazardous, dangerous, noxious or waste substances or contaminants (collectively the "**Hazardous Substances**"). The Transferee shall not bring any Hazardous Substances on the Easement Lands. In acquiring its interests in the Easement Lands pursuant to this Easement, the Transferee shall be deemed not to acquire the care or control of the Easement Lands or any component thereof.

5. The Transferee shall maintain the Easement Lands, other than any Installations, in accordance with applicable law and in accordance with paragraph 1(b), at its own cost and expense.
6. There are no representations, covenants agreements, warranties and conditions in any way relating to the subject matter of this grant of Rights whether expressed or implied, collateral or otherwise except those set forth herein.
7. No waiver of a breach or any of the covenants of this grant of Rights shall be construed to be a waiver of any succeeding breach of the same or any other covenant.
8. The burden and benefit of this transfer of Rights shall run with the Easement Lands; and the Works and undertaking of the Transferee and shall extend to, be binding upon and enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and assigns.
9. The Rights and the easements granted hereby shall be conditional upon compliance with the subdivision provisions of the *Planning Act* (Ontario) to the extent applicable. The Transferee hereby declares that this easement and the Rights are being acquired by the Transferee for the purpose of an electricity transmission line within the meaning of Part VI of the *Ontario Energy Board Act*, 1998, and for the purpose of a renewable energy project within the meaning of the *Green Energy Act*, 2009.

10. This easement agreement is governed by the laws of Ontario and the laws of Canada applicable therein.

IN WITNESS WHEREOF the Transferor and Transferee have executed this Agreement this ____ day of ■, 2011.

■

Per: _____

Name:

Title:

Per: _____

Name:

Title:

We have authority to bind the corporation.

DUFFERIN WIND POWER INC.

Per: _____

Name: Wu Hao

Title: President

Per: _____

Name: Jeffrey Hammond

Title: Senior Vice President

We have authority to bind the corporation.

SCHEDULE "C"
EASEMENT LANDS

SCHEDULE "D"
PERMITTED ENCUMBRANCES

Appendix 4 - Form of Transmission Lease (for Private Lands)

**DUFFERIN WIND POWER INC.
ELECTRICAL TRANSMISSION LEASE**

LEASE

THIS LEASE made as of ■ _____, 2012.

BETWEEN :

■
Address: ■

(the “**Landlord**”)

– and –

DUFFERIN WIND POWER INC.

a corporation incorporated under the laws of New Brunswick
Address: 161 Bay Street, Suite 4550, Toronto, Ontario, M5K 1N2

(the “**Tenant**”)

WHEREAS:

- A. The Landlord is the registered and beneficial owner of an estate in fee simple title, subject however to such liens, mortgages and encumbrances existing as of the date of this Lease, of and in that certain parcel or tract of land situated, lying and being in the Province of Ontario and legally described as set out in Schedule “A” attached to this Lease (the “**Lands**”); and
- B. The Landlord has agreed to lease portions of the Lands as identified in Schedule “B” to this Lease to the Tenant for the purposes and upon the terms and conditions set forth in this Lease.

WITNESSES that in consideration of the covenants and agreements herein contained and the sum of TWO DOLLARS (\$2.00), the receipt and sufficiency of which are hereby acknowledged, the Landlord and the Tenant covenant and agree as follows:

**INTRODUCTION
DEFINITIONS**

In this Lease:

“**Additional Rent**” has the meaning set out in Section 3.03 of this Lease;

Lease ■
Landlord's Name: ■

“**Annual Rent**” has the meaning set out in Section 3.02 of this Lease;

“**Annual Rent Commencement Date**” has the meaning set out in Section 3.02 of this Lease;

“**Assignment**” has the meaning set out in Section 9.01 of this Lease;

“**Business Days**” means Mondays through Fridays inclusive but excluding any statutory holidays in the Province of Ontario;

“**Construction Commencement Date**” means the date upon which the Tenant breaks ground for the purpose of installing the Electrical Supply Cables;

“**Electrical Supply Cables**” has the meaning set out in Section 1.01 of this Lease;

“**Farming**” has the meaning set out in Section 6.05 of this Lease;

“**HST**” has the meaning set out in Section 4.02 of this Lease;

“**Lands**” means the lands owned by the Landlord described in Schedule “**A**” of this Lease as more particularly referred to in Recital **A** on page **1** of this Lease;

“**Lease**” means this lease, as it may be amended, supplemented or restated from time to time in accordance with the terms hereof;

“**Lease Commencement Date**” has the meaning set out in Section 1.02 of this Lease;

“**Lease Year**” means the following: the first Lease Year shall commence on the Lease Commencement Date and shall end on the day immediately preceding the first anniversary of the Lease Commencement Date; thereafter each Lease Year shall consist of **twelve (12)** consecutive calendar months commencing on the anniversary of the Lease Commencement Date in a year and ending on the day immediately preceding the anniversary of the Lease Commencement Date in the next following year;

“**Leased Premises**” has the meaning set out in Section 2.01 of this Lease;

“**Mortgage**” has the meaning set out in Section 13.01 of this Lease;

“**Mortgagee**” has the meaning set out in Section 13.01 of this Lease;

“**Project**” means the wind energy conversion facility to be constructed and operated by the Tenant in the vicinity of the Leased Premises in the Township of Melancthon for the purpose of carrying on the business of harnessing of wind energy, and conversion of wind energy to electricity, the commercial distribution of harnessed wind electricity and such other purposes as are reasonably necessary or desirable for the conduct of such business;

“**Rent**” means Annual Rent and Additional Rent;

“**Staging Area**” means that part of the Leased Premises identified as such in Schedule “**B**” of this Lease and having dimensions of **twenty (20)** metres by **twenty (20)** metres;

“**Tax Payment**” has the meaning set out in Section 4.01 of this Lease;

“**Taxes**” means all real property taxes, capital taxes, rates, duties, assessments (including local improvement taxes), impost charges or levies, whether general or special, that are levied, rated, charged or assessed against the Lands, the Leased Premises, as the case may be depending on the context, or any part thereof from time to time by any lawful taxing authority, whether federal, provincial, municipal, school or otherwise, and any taxes or other amounts which are imposed in lieu of, in substitution for, or in addition to any such real property taxes whether of the foregoing character or not and whether in existence at the commencement of the Term of this Lease or not, and any such real property taxes levied or assessed against the Lands, the Leased Premises, as the case may be, but shall not include local improvement charges;

“**Tenant’s Mortgage**” has the meaning set out in Section 9.02 of this Lease;

“**Tenant’s Mortgagee**” has the meaning set out in Section 9.02 of this Lease;

“**Term**” has the meaning set out in Section 1.02 of this Lease;

ARTICLE I GRANT AND TERM

1.01 Grant

In consideration of the Rent, and the covenants and agreements hereinafter reserved and contained on the part of the Tenant to be paid, kept, observed and performed, the Landlord hereby leases to the Tenant, and the Tenant leases from the Landlord, the Leased Premises to be held by the Tenant as tenant during the Term (or as the Term may be terminated earlier or extended as provided in this Lease) for the purposes of the collection, distribution and transmission of electric power to and from the Project including, without limitation, the right of the Tenant, its officers, agents, servants, employees, workers, contractors, subcontractors, permittees and licensees, with or without vehicles, supplies, machinery, plant, tools, equipment, apparatus and materials of whatsoever nature and kind to enter on and install, construct, reconstruct, directionally drill, erect, maintain, operate, repair, replace, relocate, upgrade, reconstruct and remove at any time and from time to time, one or more underground electrical collector, transmission or distribution lines and cables, underground optic cables, communication lines, underground water lines and other utilities which may also include electric transformers, energy storage facilities, telecommunications equipment, utility meters and associated facilities, material and equipment (all or any of which works are herein called the “**Electrical Supply Cables**”).

1.02 Term

This Lease shall be for a term (the “**Term**”) expiring **twenty (20)** years after the Annual Rent Commencement Date, and commencing on October 1, 2012 or on such earlier date as the Tenant may notify the Landlord by giving the Landlord not less than **ten (10)** days’ prior written notice (the “**Lease Commencement Date**”), but in no event shall the Lease Commencement Date be later than the Construction Commencement Date.

1.03 Extension

If the Tenant is not then in default in respect of any of the covenants and conditions contained in this Lease at the end of the Term, then the Tenant shall have the right to extend the Term for additional terms totalling up to **twenty-nine (29)** years where the first and second extension terms shall both be **ten (10)** years and the final extension term shall be up to **nine (9)** years, but in no event shall the term of this Lease, including any renewals or extensions, exceed **50** years from the date hereof. Each extension term shall be on the same terms and conditions of this Lease. The Tenant's right to extend the Term shall be exercisable by written notice by the Tenant to the Landlord given not less than **thirty (30)** days prior to the end of the Term, or each additional extension term.

The Tenant hereby declares that the Leased Premises will be used for the purpose of a renewable energy project as defined by the *Green Energy Act, 2009* (S.O. 2009, Ch. 12 Schedule A) to construct and operate a renewable energy generation facility as defined by the *Electricity Act, 1998* (S.O. 1998, Ch. 15 Schedule A).

1.04 Early Termination by Tenant

The Landlord agrees that the Tenant shall have the right at any time, upon **six (6)** months' notice to that effect to the Landlord, to terminate this Lease upon the occurrence of any of the following:

- (a) the Tenant is unable for any reason whatsoever to obtain any permits, licences or approvals as may be necessary for the construction, installation, operation or maintenance of the Project, the Electrical Supply Cables or otherwise to permit the Tenant to occupy the Leased Premises and conduct its activities thereon, as required by applicable laws;
- (b) the Tenant in its sole discretion, deems the Project to be economically unfeasible; or
- (c) the construction, installation, operation or maintenance of the Project or the Electrical Supply Cables is prevented or significantly impeded for any reason whatsoever, including not limited to, legal or regulatory requirements,

and, in such event, this Lease shall terminate on the next succeeding anniversary date thereof.

Upon the Tenant so electing to terminate this Lease the Tenant, at its sole cost and expense, shall remove and discharge any instrument or encumbrance registered against title to the Lands and related to its interest therein arising under this Lease.

ARTICLE II LEASED PREMISES

2.01 Leased Premises

The "**Leased Premises**" is the Staging Area and that part of the Lands having a perpendicular width of **ten (10)** metres and identified as Option A or Option B in Schedule "B" to this Lease,

as selected by the Tenant in its sole discretion by written notice given to the Landlord on or before the Construction Commencement Date.

2.02 General Rights of the Tenant

In addition to the Tenant's rights under Section 1.01, the Landlord grants to the Tenant, its agents, employees, contractors and licensees, and their vehicles, tools, equipment, apparatus and materials of whatsoever nature and kind, the full, free and uninterrupted exclusive right to (i) load, unload and temporarily store material, apparatus and equipment (including, but not limited to, heavy equipment) upon the Staging Area (ii) temporarily fence off all or a portion of the Staging Area, (iii) remove, cut or trim any trees, roots, shrubs and other obstructions within the Leased Premises which, in the reasonable opinion of the Tenant (which determination will be made with prior consultation with the Landlord) may constitute a hazard or interfere with the Electrical Supply Cables, provided that if the Tenant must remove trees, it will replant similar trees in the vicinity on the Leased Premises, and (iv) remove other obstructions which, in the reasonable opinion of the Tenant (which determination will be made with prior consultation with the Landlord), may endanger the operation of the Electrical Supply Cables.

2.03 Conduct of Operations

The Tenant shall conduct all operations on the Leased Premises in a diligent, careful and workmanlike manner, and in compliance with the provisions of any statutes, regulations, orders or directives of any government or governmental agency applicable to such operations, and where such provisions conflict with the terms of this Lease, such provisions shall prevail.

ARTICLE III RENT

3.01 Covenant to Pay

The Tenant hereby covenants with the Landlord to pay Rent, including Annual Rent and Additional Rent, as herein provided.

3.02 Annual Rent

The Annual Rent shall be **■ (\$■) Dollars per annum** for the **ten (10)** year period starting on the Annual Rent Commencement Date and ending on the **tenth (10th)** anniversary of such date. For the period starting immediately following the **tenth (10th)** anniversary of the Annual Rent Commencement Date and until the end of the Term such Annual Rent shall be **■ (\$■) Dollars per annum**.

For the purpose of this Lease "**Annual Rent Commencement Date**" means the earlier of the second anniversary of the Lease Commencement Date and the date that any wind turbine unit has been installed by the Tenant on the Project in the Township of Melancthon and is delivering power for sale in compliance with applicable Ontario law.

3.03 Additional Rent

All amounts payable hereunder by the Tenant except Annual Rent shall be payable as additional rent (“**Additional Rent**”). The Tenant shall pay Additional Rent to the persons, at the times and in the manner hereinafter set forth, and if the time and manner of payment of any Additional Rent is not set out expressly in this Lease, such Additional Rent shall be payable by the Tenant to the Landlord forthwith on demand. Where the calculation of any Additional Rent is not made until after the termination of this Lease, the obligation of the Tenant to pay such Additional Rent shall survive the termination of this Lease.

3.04 Place of Payment

The Tenant shall make all payments of Annual Rent and any payments of Additional Rent required by this Lease to be paid to the Landlord by way of cheque payable to the Landlord (or to such other person as the Landlord may hereafter designate by notice in writing to the Tenant) and all such payments shall be delivered or sent to the address set out on page 1 of this Lease or to such other person or address as the Landlord may hereafter designate by notice in writing to the Tenant.

3.05 Accrual and Prorating

Rent shall be considered as accruing from day to day hereunder and where it becomes necessary for any reason to calculate Annual Rent or Additional Rent for an irregular period of less than **one (1)** Lease Year, an appropriate apportionment and adjustment shall be made.

3.06 Net Lease

The Tenant acknowledges, covenants and agrees that, except as otherwise expressly set out in this Lease, this Lease shall be a completely carefree net Lease for the Landlord and that the Tenant shall pay all costs, expenses, charges or outlays of any kind arising from, relating to or affecting the Leased Premises (except any payments of principal and interest to be made under any mortgage placed or assumed by the Landlord; the payment of the Landlord’s income taxes or corporation taxes, unless such income or corporation taxes have been imposed in lieu of or substitution for Taxes; and the payment of any costs incurred by the Landlord in connection with the activities of the Landlord on the Leased Premises).

**ARTICLE IV
TAXES**

4.01 Realty Taxes

Except as hereinafter set out, the Tenant shall pay all Taxes attributable to the Leased Premises and the Electrical Supply Cables to the taxing authorities when the same become due and payable. At the request of the Landlord, the Tenant shall provide evidence to the Landlord of payment of Taxes. If any bills, assessments, notices or other communications for or in respect of Taxes are received by the Tenant from the taxing authorities, the Tenant shall promptly deliver to the Landlord copies of same.

If a separate tax bill is not issued to the Tenant with respect to the Leased Premises and/or the Electrical Supply Cables, the Tenant shall pay to the Landlord, as Additional Rent, the Tenant's share of the Taxes with respect to the Lands (the "**Tax Payment**") as follows:

- (a) If there is a separate assessment of the Leased Premises and/or the Electrical Supply Cables, the amount of the Tax Payment shall include the amount of the Taxes attributable thereto determined in accordance with such assessment.
- (b) If there is no separate assessment of either the Leased Premises or the Electrical Supply Cables, the amount of the Tax Payment shall include a portion of the Taxes levied against the Lands determined by allocating to the Leased Premises or the Electrical Supply Cables, as the case may be, such proportion of the total assessment of the Lands as is reasonably attributable to them in accordance with assessment principles then used in the municipality in which the Lands are located.
- (c) A Tax Payment will become due **one (1)** month after the Landlord has furnished to the Tenant official receipts of the appropriate taxing Authority, or other proof satisfactory to the Tenant evidencing the payment of the Taxes payable by the Landlord with respect to the Lands. At the option of the Landlord, the Landlord may direct that the Tenant pay the Tax Payment directly to the taxing authority, in which case the Tenant shall pay such Tax Payment to the taxing authority on or before the date when the Taxes to which such Tax Payment relates are due.

For clarity, it is the intention of the parties that the Tenant shall pay **one hundred (100%)** percent of any increase in the Taxes which are levied against the Lands as a result of the Project and which would not have been levied but for the Electrical Supply Cables, together with the Taxes levied against the Leased Premises based on their unimproved land value as agricultural land and the actual area of the Leased Premises occupied by the Tenant in comparison to the total area of the Lands.

Notwithstanding anything to the contrary in this Lease, the Tenant shall not be required to pay any Taxes which are levied against the Lands as a result of (i) any improvements to the Lands made by the Landlord, or (ii) an increase in the value of the Landlord's property, or (iii) any change of use of the Lands from its current use for farming and residential purposes.

4.02 HST

Subject to any applicable legislation, (i) the Tenant shall pay to the Landlord an amount equal to any and all goods and services taxes, sales taxes, value added taxes, business transfer taxes, or any other taxes imposed on the Landlord or the Tenant with respect to Rent payable by the Tenant under this Lease, whether characterized as goods and services tax, sales tax, harmonized sales tax, value added tax, business transfer tax or otherwise (collectively "**HST**"), it being the intention of the parties that the Landlord shall be fully reimbursed by the Tenant with respect to any and all HST. The amount of such HST so payable by the Tenant shall be calculated by the Landlord in accordance with the applicable legislation and shall be paid to the Landlord at the same time as the amounts to which such HST applies are payable to the Landlord under the terms of this Lease or upon demand or at such other time or times as the Landlord from time to

time determines; and (ii) the amount of such HST so payable by the Tenant shall be deemed not to be Rent, but the Landlord shall have all of the same remedies for and rights of recovery of such amount as it has for recovery of Rent under this Lease.

ARTICLE V UTILITIES

5.01 Utilities

The Tenant shall be solely responsible for and shall pay as same become due all charges for any public or private utilities or services supplied to or used or consumed by the Tenant at the Leased Premises and for equipment, fittings, machines, apparatus, meters or other things leased or purchased in respect thereof, including installation costs, and for all work performed by any corporation or commission in connection with any such utilities or services.

ARTICLE VI CONDUCT OF BUSINESS BY TENANT USE BY LANDLORD

6.01 Tenant's Electrical Supply Cables

The Tenant may use the Leased Premises for the construction, operation, maintenance and repair of all Electrical Supply Cables considered by the Tenant in its sole and unfettered discretion to be necessary or desirable for the operation of the Project subject to and on the terms and conditions set out in this Lease. The Electrical Supply Cables will be buried to a depth of not less than **one (1)** metre below the surface of the Leased Premises.

6.02 Electrical Supply Cables - Construction, Access and Maintenance

The Tenant, at its sole cost and expense, may construct, remove, relocate, reconstruct, replace, upgrade, operate, maintain and repair the Electrical Supply Cables and all necessary appurtenances in a location or locations to be designated by the Tenant in its sole and unfettered discretion under the Leased Premises for the purpose of the Project. The Tenant may mark the location of the Electrical Supply Cables under the Leased Premises by suitable markers, but said markers when set in the ground shall be placed in locations which will not interfere with any reasonable use the Landlord may make of the Leased Premises.

6.03 Construction and Materials Used

The Landlord and Tenant covenant and agree with each other that:

- (a) The Tenant shall decide in its sole and unfettered discretion whether it will proceed with the construction of the Project and, if the Project will be constructed, the date of commencement of construction;
- (b) Subject to this Lease, the Tenant in its sole and unfettered discretion may determine the materials, specifications and all other matters in connection with the installation,

construction, operation, maintenance and repair of all matters relating to the Project, including but not limited to any Electrical Supply Cables;

- (c) The Tenant in its sole and unfettered discretion may determine the location under the Leased Premises of all Electrical Supply Cables; and
- (d) Subject to the Tenant's right to temporarily fence off all or a portion of the Staging Area as described in Section 2.02, the Tenant agrees that it will not otherwise install any fences along the boundaries of the Leased Premises.

6.04 Testing

At any time and from time to time during the Term, the Tenant, and any person authorized by the Tenant, may enter onto the Leased Premises for the purpose of conducting any manner of test, survey or inspection which is deemed necessary or desirable in the Tenant's sole and unfettered discretion in connection with the Project. In connection with such testing, the Tenant may construct and leave on the Leased Premises testing equipment, and the Tenant shall have access to the Leased Premises from time to time for the purpose of maintaining and repairing such equipment and monitoring the results there from. All costs of any such inspections are to be paid by the Tenant. Any damage to the Leased Premises resulting from such inspections shall be repaired promptly by the Tenant at its cost.

6.05 Use of Leased Premises by Landlord

The Landlord, with the prior written consent of the Tenant (which consent shall not be unreasonably withheld or delayed), may plant and harvest crops, graze livestock and conduct other farming or agricultural activities ("**Farming**") on all parts of the Leased Premises, if such Farming does not or will not interfere with or create a risk of damage or injury to the Electrical Supply Cables and subject to the Tenant's right to thereafter elect on no less than **nine (9)** months prior written notice to terminate such consent.

The Landlord agrees that it shall not hold the Tenant, or any other person directly or indirectly authorized by Tenant to enter onto the Leased Premises, responsible for any costs, damages, expenses or liabilities incurred by the Landlord, however caused, and resulting in damage to crops, plants, livestock, machinery or any other farming commodity or material owned by the Landlord located on the Leased Premises.

6.06 Interference with the Project

The Landlord shall not:

- (a) engage in, or authorize or permit any other party to engage in, any activity on or about the Lands that would directly or indirectly impede or decrease the output or efficiency of wind energy from the Project in any material respect provided that this restriction shall not prevent the Landlord from constructing a two-storey residence or barn on the Lands (other than the Leased Premises);

- (b) without the express written permission of the Tenant, enter or authorize any other party to enter any part of the Staging Area enclosed by a fence; or
- (c) damage, alter or interfere with the Electrical Supply Cables.

6.07 Compliance With Laws

The Tenant, at its own expense, shall comply with all applicable federal, provincial and municipal statutes, regulations, ordinances and orders which relate to or affect the Project, or the use, occupation, operation or maintenance of the Project or any Electrical Supply Cables from time to time in connection with the Project, or the making of any repairs, replacements, alterations, additions or improvements of or to the Electrical Supply Cables, and the Tenant shall make any repairs, replacements, alterations, additions, improvements or deletions necessary to effect such compliance. The Tenant shall at its own risk and expense obtain any and all necessary governmental licences, permits and approvals necessary for such use and shall pay all levies, fees, taxes and imposts with respect to such use of the Leased Premises. The Landlord shall promptly sign all consents, authorizations or other documents which are required by the Tenant to obtain any such licences, permits and approvals, and the Tenant shall pay any cost incurred by the Landlord in that regard.

The Tenant shall have the right to contest by appropriate legal proceedings, without cost or expense to the Landlord, the validity of any statute, regulation, ordinance, order or requirement of the nature hereinbefore in this Section referred to, and if, by the terms of any such statute, regulation, ordinance, order or requirement, compliance therewith may legally be held in abeyance without subjecting the Landlord to any liability, fine or penalty of whatsoever nature for failure to comply therewith, the Tenant may postpone compliance therewith until the final determination of any such proceedings, provided that all such proceedings shall be prosecuted with due diligence and dispatch and the Tenant agrees to indemnify and save harmless the Landlord from and against any liability or damages in respect of any such contestation.

6.08 Waste and Nuisance

The Tenant shall not commit or suffer to be committed any waste or injury to the Leased Premises, and shall not do or omit to do or suffer to be done or omitted anything upon or in respect of the Leased Premises which shall be or result in a nuisance or menace to the Landlord or to the owners or occupiers of neighbouring lands and premises, provided that it is acknowledged and agreed that the Project does not constitute a nuisance for the purposes of this Lease.

The Landlord shall not do or omit to do or suffer to be done or omitted anything upon the Lands which shall be or result in a nuisance or menace to the Tenant or to the Project. The Tenant acknowledges that Farming does not constitute a nuisance.

6.09 Replacement and Repair of Fences

The Tenant, in the enjoyment of its rights and privileges pursuant to this Lease hereby granted to it, shall replace all fences which it may have removed for its purposes and repair all fences which it may have damaged upon written notice from the Landlord, and if and when so required by the

Landlord, will provide proper livestock guards at any point of entry upon the Leased Premises used by it and, upon the use thereof, close all gates.

6.10 Compensation to Landlord for Damages

If the Tenant's use of the Leased Premises results in damage to crops, plants, or any other farming commodity, machinery or material of the Landlord located on the Leased Premises, the Tenant agrees that it shall be responsible for any and all costs, damages, expenses or liabilities incurred by the Landlord as a result of such use, but the Tenant shall not have any liability for consequential damages.

In valuing damage to crops the Landlord and Tenant shall average the farm gate value of the damaged crop for the then current growing season and the value of such a same sized crop for the immediately previous **two (2)** growing seasons, the intention being that the Tenant shall reimburse the Landlord for the farm gate value of the current crop based upon the average of its current value and the value of a same sized crop for the previous **two (2)** growing seasons.

Damages to fences, buildings and other improvements owned by the Landlord and situate on the Leased Premises shall be valued at their then current replacement cost.

The Tenant agrees that it will provide not less than ninety (90) days prior written notice to the Landlord of the start of the installation of any right of way and not less than ninety (90) days prior written notice for the layout of any Electrical Supply Cables and their footprint on the Leased Premises, the intention being that such advance written notice by the Tenant to the Landlord will enable the Landlord to determine the timing for the Landlord's planting, growing and harvesting requirements so as to minimize, and if possible, eliminate damage to any crops.

6.11 Hazardous or Toxic Materials or Substances

If any hazardous or toxic materials or substances are determined to exist on any part of the Leased Premises during the Term and any extension thereof due to the negligent or intentional acts or omissions of the Tenant, or those for whom at law it is responsible, the Tenant, for its own account, shall defend, indemnify and hold harmless the Landlord with respect thereto. The Tenant shall also assume all responsibility and expense in connection with, and shall promptly take such action as required by applicable law, to remediate or remove any such hazardous or toxic materials or substances.

ARTICLE VII MAINTENANCE, REPAIR AND ALTERATIONS

7.01 Tenant's Repair

The Tenant covenants that, throughout the Term and any extension thereof, at its sole cost and expense, it shall keep the Electrical Supply Cables in good repair, reasonable wear and tear excepted, and shall make all necessary repairs to the extent required to keep the Electrical Supply Cables in good condition, and repair, reasonable wear and tear excepted, commensurate with their age.

7.02 General Maintenance and Operation

The Tenant covenants that, throughout the Term and any extension thereof, at its sole cost and expense, it shall keep and maintain the Leased Premises in a clean and orderly condition and shall repair any damage to the Leased Premises caused by the operations of the Tenant.

Without limiting the generality of the foregoing, the Tenant shall throughout the Term and any extension thereof, at its sole cost and expense, maintain the Leased Premises in a state of repair that does not adversely impact upon the Landlord's use of the Lands (other than the Leased Premises) for Farming.

The Tenant shall allow the Landlord access to the Leased Premises in order to remove weeds, rodents and other pests such as insects from the Leased Premises, which removal is the sole responsibility of the Landlord at its sole cost and expense.

Any damage or repairs necessary to be effected with respect to the drainage from the Leased Premises caused as a direct result of the Tenant's actions shall be completed at the Tenant's expense.

7.03 Alterations

The Tenant may from time to time make such alterations or additions to the Electrical Supply Cables as the Tenant may at its cost, in its sole and unfettered discretion, may determine. All such alterations or additions shall be made in a good and workmanlike manner.

7.04 No Obligation on Landlord to Repair

The Landlord shall not have any obligation to effect any maintenance or to make any repairs or replacements to the Electrical Supply Cables, subject only to the exception that the Landlord shall repair at its cost any damage of any kind to the Leased Premises or the Electrical Supply Cables caused by the Landlord, its livestock, or those for whom the Landlord is in law responsible but excluding the Tenant or any other person directly or indirectly authorized by the Tenant to enter onto the Leased Premises. If the Landlord does not make any such repairs within **one (1)** month after the Tenant's written request, the Tenant shall have the right, at its sole option, to make such repairs and deduct the cost of such repairs from the next Rent due to the Landlord.

7.05 Construction Liens

If any construction lien or other lien or order for the payment of money shall be filed against the Lands by reason of, or arising out of, any work, labour, services or materials furnished or claimed to have been furnished to the Tenant or to anyone claiming through the Tenant, the Tenant, within a reasonable period of time after written notice to the Tenant of the filing, shall cause the same to be discharged by bond, deposit, payment, court order or in any other manner required or permitted by law. The Tenant, at its own expense, shall defend all suits to enforce any such lien or order whether against the Tenant and/or the Landlord. The Tenant shall indemnify and keep indemnified the Landlord from and against payment of all loss, costs, charges and expenses occasioned by or arising from any such lien or order.

**ARTICLE VIII
TRADE FIXTURES, IMPROVEMENTS AND SURRENDER**

8.01 Ownership of Electrical Supply Cables

The Electrical Supply Cables and all of the property and equipment placed or operated on the Leased Premises by or on behalf of the Tenant, shall at all times remain the property of the Tenant notwithstanding that they may be annexed or affixed to the freehold and notwithstanding any rule of law or equity to the contrary, and they shall at the written request of the Landlord, at any time and from time to time, be removable in whole or in part by the Tenant without the consent of the Landlord.

8.02 Trade Fixtures

The Tenant shall have the right at all times and from time to time to install and remove its trade fixtures. All trade fixtures shall be owned by and be the property of the Tenant, shall remain the property of the Tenant and the Tenant may from time to time remove any or all of its trade fixtures from the Leased Premises either during or at the expiration or other termination of the Term or any extension thereof, provided that the Tenant shall promptly repair any damage to the Leased Premises caused by the installation and/or removal of such trade fixtures in a good and workmanlike manner.

8.03 Surrender of Leased Premises

Upon the termination of this Lease for any reason whatsoever, the Tenant may, at its option, leave on the Leased Premises any of the Electrical Supply Cables which are buried to a sufficient depth (and in any event a minimum of **one (1)** metre below original grade) so as not to interfere materially with the Landlord's Farming.

Except as otherwise set out in this Lease, upon the expiration of the Term or other earlier termination of this Lease, the Tenant shall peaceably surrender and yield up unto the Landlord the Leased Premises in as good order, condition and repair as the Tenant is required to maintain the Leased Premises under the terms of this Lease.

Incidental to such obligation, the Tenant shall provide a Phase I environmental assessment report to the Landlord of an independent environmental consultant confirming that there are no hazardous substances (as such term has meaning under the *Environmental Protection Act* (Ontario)) remaining on the Leased Premises as a result of the Tenant's operations.

**ARTICLE IX
ASSIGNMENT, SUBLETTING AND FINANCING**

9.01 Assignment of Tenant's Rights

The Landlord agrees that the Tenant, without consent from the Landlord, may transfer, convey, assign, sublet, license, grant concessions in, or otherwise part with or share possession of the Leased Premises and any or all of the Tenant's rights, interests, benefits and obligations under this Lease in whole or in part to any person, firm or corporation (an "**Assignment**"). Upon any

Assignment, but provided that the assignee executes and delivers to the Landlord an Assumption Agreement, from and after the date of the Assignment, the term "Tenant" as used in this Lease, in so far as covenants or obligations on the part of the Tenant are concerned, shall be limited to mean and include only the lessee of the Leased Premises after completion of such Assignment, and, in the event of an Assignment, the Tenant herein named (and in case of any subsequent Assignment, then the assignor) shall to the extent of the Assignment be automatically freed and relieved from and after the date of such Assignment of all personal liability with respect to the performance of any covenant or obligation on the part of the Tenant contained in this Lease thereafter to be performed, provided that, at the time of the Assignment all amounts owing by the Tenant to the Landlord under any provision of this Lease are current as of the date of the Assignment, it being intended hereby that the covenants and obligations contained in this Lease on the part of the Tenant shall, subject as aforesaid, be binding on the Tenant only during and in respect of its period as a lessee of the Property. In this section 9.01, "**Assumption Agreement**" means an agreement executed by the assignee in form satisfactory to the Landlord acting reasonably, wherein the assignee shall covenant and agree directly with the Landlord with effect from and after the date of Assignment to be bound by all of the provisions in this Lease to be observed and performed or otherwise complied with by the Tenant as if the assignee had originally executed this Lease as Tenant. The Assumption Agreement shall be prepared by and at the sole cost and expense of the Tenant and the Tenant shall pay to the Landlord, as Additional Rent, on demand, all reasonable legal costs with respect thereto incurred by the Landlord.

9.02 Tenant's Financing

The Landlord agrees that the Tenant, without consent from the Landlord, may assign, sublet or charge this Lease by way of any bona fide mortgage or security interest of the Tenant's leasehold interest in the Lease, Leased Premises or any part thereof and the Electrical Supply Cables as security for any loan or financing including without limitation any form of trust indenture, debenture or bond (a "**Tenant's Mortgage**"). The Landlord hereby grants to any holder of a Tenant's Mortgage (a "**Tenant's Mortgagee**") the rights and remedies set forth in Schedule "C" hereto. In addition, the Landlord will, from time to time, at the request of the Tenant's Mortgagee, promptly execute and deliver in favour of any Tenant's Mortgagee such consents and acknowledgements granting and confirming Tenant's Mortgagee's right and remedies hereunder and in Schedule "C" hereto. The Landlord shall also agree to any reasonable modification to the Lease, and shall enter into any other reasonable agreements with the Tenant's Mortgagee, as may reasonably be required by the Tenant in order to obtain financing from the Tenant's Mortgagee. If the Landlord receives notice of the existence of a Tenant's Mortgage, then the Landlord (i) shall agree not to amend, terminate or accept a surrender of this Lease without the prior consent in writing of the Tenant's Mortgagee, and (ii) shall deliver to the Tenant's Mortgagee a copy of any notice of default given to the Tenant under this Lease, and shall afford to the Tenant's Mortgagee the opportunity to remedy any defaults of the Tenant under this Lease as provided in Schedule "C" hereto.

**ARTICLE X
INSURANCE AND INDEMNITY**

10.01 Tenant's Insurance

The Tenant shall during the Term or any extension thereof and during such other time as the Tenant occupies the Leased Premises or any part thereof, at its sole cost and expense, take out and keep in full force and effect the following insurance:

- (a) “all risks” insurance not less broad than the standard commercial property floater policy with the exclusions such as, without limitation, those relating to sprinkler leakages (where applicable), earthquake, flood and collapse removed therefrom upon the Electrical Supply Cables contained therein in an amount not less than the full replacement cost thereof; and

- (b) comprehensive general liability insurance including but not limited to property damage, public liability, and personal injury liability, all on an occurrence basis, with respect to any use, occupancy, activities or things, in on or about the Leased Premises and with respect to the use and occupancy of any part of the Leased Premises by the Tenant or any of its servants, agents, contractors or persons for whom the Tenant is in law responsible, including, without limitation, the activities, operations and work conducted or performed by the Tenant, by any other person on behalf of the Tenant, by those for whom the Tenant is in law responsible and by any other person on the Leased Premises at the request of the Tenant, with coverage for any one occurrence or claim of not less than ■ **Dollars.**

Each of the foregoing policies of insurance shall name the Landlord and its mortgagee(s), if any, and anyone designated in writing by the Landlord as additional named insured as their interests may appear.

10.02 Failure to Insure

If the Tenant fails to take out or to keep in force any of the policies of insurance referred to in Section 10.01 hereof, and should the Tenant not rectify such default within **forty-eight (48)** hours after written notice thereof, the Landlord may, but shall not be obligated to, effect such insurance and the Tenant shall pay to the Landlord, as Additional Rent, forthwith on demand all premiums, costs, charges and expenses incurred by the Landlord in effecting such insurance.

10.03 Loss or Damage

The Landlord shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the Leased Premises, or damage to property of the Tenant or of others located on the Leased Premises, except to the extent caused by the negligence of the Landlord, its agents, servants or employees or other persons for whom it may in law be responsible.

Subject as expressly set out in this Lease, the Tenant shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the Leased Premises, or any damage to property of the Landlord or of others located on the Leased Premises, except to the

extent caused by the negligence of the Tenant, its agents, servants, or employees or other persons for whom it may in law be responsible.

10.04 Indemnification of Landlord

Subject as expressly set out in this Lease, the Tenant shall indemnify the Landlord and save it harmless from and against any and all loss (including loss of Rent payable by the Tenant pursuant to this Lease), claims, actions, damages, liability and expenses in connection with loss of life, personal injury, damage to property or any other loss or injury whatsoever arising from or out of this Lease, or any occurrence in, upon or at the Leased Premises, or the occupancy or use by the Tenant of the Leased Premises or any part thereof, or occasioned wholly or in part by any act or omission of the Tenant or by anyone permitted to be on the Leased Premises by the Tenant, except to the extent caused by the negligence of the Landlord, its agents, servants or employees or other persons for whom the Landlord may in law be responsible. If the Landlord shall, without fault on its part, be made a party to any litigation commenced by or against the Tenant, then the Tenant shall protect, indemnify and hold the Landlord harmless from and against, and shall pay as Additional Rent, all costs, expenses and reasonable legal fees incurred or paid by the Landlord in connection with such litigation.

10.05 Landlord's and Tenant's Employees

Every indemnity, exclusion and release of liability herein contained for the benefit of the Landlord or the Tenant, and every waiver of subrogation contained in any insurance policy maintained by one party hereto, shall survive the expiration or earlier termination of the Term and any extension thereof and shall extend to and benefit all of the Landlord, the Tenant or the other party, as the case may be, the owner(s) of the Leased Premises (if different from the Landlord) and all of their respective directors, officers, shareholders, servants, agents and employees and those for whom any of them is in law responsible. Solely for such purpose, and to the extent any such party expressly chooses to enforce the benefits of this Section for any or all of such persons, it is agreed that such party is the agent or trustee for such persons.

ARTICLE XI DAMAGE AND DESTRUCTION

11.01 Damage and Destruction

The Landlord and Tenant agree that if and whenever during the Term hereby demised or any renewal or extension thereof the Electrical Supply Cables shall be destroyed or damaged in whole or in part then, and in every such event if the destruction or damage is such that in the opinion of the Tenant, in its sole and unfettered discretion, the Project is no longer economically viable, then the Tenant may at its option within **sixty (60)** days following the date of such damage or destruction terminate this Lease by giving to the Landlord notice in writing of such termination, in which event this Lease and the Term hereby demised shall cease and be at an end as of the date of such destruction or damage and the Rent and all other payments for which the Tenant is liable under the terms of this Lease shall be apportioned and paid in full to the date of such destruction or damage. In the event that the Tenant does not so terminate this Lease, then the Tenant shall repair the Electrical Supply Cables with all reasonable speed.

**ARTICLE XII
DEFAULT OF TENANT**

12.01 Right to Re-Enter

If and whenever:

- (a) the Tenant fails to pay Rent or other sums due hereunder or any part thereof on the day appointed for the payment thereof whether lawfully demanded or not and such failure shall continue for **thirty (30)** days after notice thereof has been given to the Tenant; or
- (b) the Tenant fails to keep, observe or perform any other of the terms, conditions, covenants and agreements herein contained on the part of the Tenant to be kept, observed or performed for **sixty (60)** days after notice in writing of such failure has been given to the Tenant and such failure has not been cured within such **sixty (60)** day period, or, where such failure is incapable of being cured within **sixty (60)** days, the Tenant has not commenced to cure such failure and is not proceeding diligently to cure such failure; or
- (c) the Leased Premises are vacated or left vacant or unoccupied for a period of **six (6)** consecutive months unless due to damage or destruction, or the Tenant abandons or attempts to abandon the Leased Premises; or
- (d) re-entry is permitted under any other terms of this Lease;

then and in any of such cases, the Tenant shall be in default under this Lease and, at the option of the Landlord, the Landlord shall have, in addition to any other rights or remedies of the Landlord pursuant to this Lease or at law or in equity, the immediate right to re-enter into and upon and take possession of the Leased Premises or any part thereof in the name of the whole and have again, re-possess and enjoy the Leased Premises in its former estate, and to expel all persons from the Leased Premises.

12.02 Right to Re-let

If and whenever the Landlord shall be entitled to re-enter, the Landlord may from time to time without terminating this Lease enter the Leased Premises as the agent of the Tenant either by force or otherwise, without being liable for any prosecution therefore, and make such alterations and repairs as are necessary in order to re-let the Leased Premises or any part thereof for such term or terms (which may extend beyond the Term or extension period) and at such rent and upon such other terms, covenants and conditions as the Landlord in its sole and unfettered discretion considers advisable. Upon each such re-letting all rent received by the Landlord from such re-letting shall be applied, firstly to the payment of any indebtedness other than Annual Rent or Additional Rent due hereunder from the Tenant to the Landlord, secondly, to the payment of any costs and expenses of such re-letting including brokerage fees and solicitors' fees and the cost of alterations and repairs, thirdly, to the payment of Annual Rent and Additional Rent due hereunder, and the residue, if any, shall be held by the Landlord and applied in payment of future Annual Rent and Additional Rent as the same become due and payable hereunder and the Landlord shall not be accountable for any monies except those actually received notwithstanding any act, neglect, omission or default of the Landlord. No such entry of

the Leased Premises by the Landlord shall be construed as an election on its part to terminate this Lease unless a written notice of termination is given to the Tenant. Notwithstanding any such re-letting without termination, the Landlord may at any time thereafter terminate this Lease for such previous breach by written notice of termination given to the Tenant.

12.03 Landlord May Cure Default

If the Tenant is in default of any obligation or covenant under this Lease after the expiry of any applicable notice periods, the Landlord shall have the right at all times to remedy or attempt to remedy any such default of the Tenant, and in so doing may make any payments due or alleged to be due by the Tenant to third parties and may enter upon the Leased Premises to do any work or other things therein, and in each such event all expenses of the Landlord in remedying or attempting to remedy such default shall be payable as Additional Rent by the Tenant to the Landlord forthwith upon demand, and the Landlord shall not be liable for any loss or damage to the Tenant's property or business caused by acts of the Landlord in remedying or attempting to remedy any such default, and the Tenant agrees that any such entry by the Landlord is not a re-entry or a breach of any covenant for quiet enjoyment contained in this Lease.

12.04 No Waiver of Breach

No condoning, excusing or overlooking by the Landlord or the Tenant of any default, breach or non-observance by the other party at any time or times in respect of any covenant, proviso or condition herein contained shall operate as a waiver of the Landlord's or the Tenant's rights hereunder in respect of any continuing or subsequent default, breach or non-observance, or so as to defeat or affect such continuing or subsequent default or breach, and no waiver shall be inferred from or implied by anything done or omitted by the Landlord or the Tenant save only an express waiver in writing.

**ARTICLE XIII
MORTGAGE BY LANDLORD**

13.01 Attornment and Non-disturbance

The Tenant shall promptly, on request, attorn to the holder of any mortgage or charge of the Leased Premises or any modification, renewal or extension thereof (a "**Mortgage**" and the holder thereof called a "**Mortgagee**") or to the purchaser of the Leased Premises on any foreclosure or sale proceedings taken under any Mortgage, and shall recognize such Mortgagee or purchaser as the Landlord under this Lease. No attornment aforesaid by the Tenant shall have the effect of subordinating or postponing this Lease to the Mortgage or disturbing the Tenant's occupation and possession of the Leased Premises in accordance with the provisions of this Lease so long as the Tenant is not in default hereunder beyond any applicable cure periods.

13.02 No Obligation to Subordinate

The Tenant shall not be obligated to subordinate or postpone this Lease to any Mortgage. The Landlord shall use its diligent best efforts to either have any Mortgage registered in priority to this Lease subordinated and postponed to this Lease, or obtain from any such Mortgagee a non-disturbance agreement by which the Mortgagee agrees with the Tenant that the Mortgagee shall

be bound by this Lease and that the Tenant shall have undisturbed possession of the Leased Premises on the terms and conditions of this Lease so long as the Tenant is not in default hereunder beyond any applicable cure periods, and the Mortgagee acknowledges the rights of any Tenant Mortgagee hereunder.

**ARTICLE XIV
LANDLORD'S COVENANTS**

14.01 Landlord's Covenants

The Landlord covenants with the Tenant:

- (a) for quiet enjoyment, subject to and on the terms of this Lease; and
- (b) that if the Landlord leases, licences or grants a right to another person to occupy, use, farm, or plant or harvest crops on the Lands, the Landlord shall notify that person of the Tenant's rights and interest hereunder and the Landlord shall indemnify and save the Tenant harmless from and against any claims asserted against the Tenant by that person or those claiming through that person and from and against any losses damages or costs that the Tenant may suffer arising from that person's rights.

14.02 Landlord's Warranties

The Landlord covenants, represents and warrants to the Tenant that:

- (a) The Landlord is the registered and beneficial owner of the Lands; and
- (b) The Landlord has good right, full power and lawful authority to execute and deliver this Lease and to perform all of the obligations of the Landlord hereunder.

14.03 Approvals

The Landlord covenants and agrees to execute and to not object to, all applications, consents, permissions, postponements, and any other documents and assurances which the Tenant may require in connection with obtaining any rezoning, governmental approvals, consents, permits or variances (collectively, "**Approvals**") and in connection with entering into by the Tenant of any agreement with such governmental and public authorities as may be necessary to give full force and effect to and in furtherance of the Tenant's applications, and the Landlord shall produce all other documents and information which may be required in connection with such applications. All applications for Approvals shall be made by the Tenant at its sole cost and expense and any third party costs to the Landlord associated with such Approvals shall be borne by the Tenant. The Tenant agrees that the obligation of the Landlord pursuant to this Section shall be restricted to execution of documents and production of documents and information and shall not impose upon the Landlord any financial obligation whatsoever.

14.04 Exclusive Right

The Landlord agrees that the Tenant shall have the exclusive right to collect, convert and transmit all the wind resources on the Lands, and the Landlord agrees that it will not interfere with the Tenant's operations hereunder or the enjoyment of the rights hereby granted. The Landlord covenants and agrees that during the Term and any extensions thereof that no other corporation, partnership, joint venture or person will be permitted to use or occupy the Lands, or any part thereof, for the purposes of wind energy conversion and transmission of electric power and related activities. The Landlord acknowledges and agrees that the duration and area within which the restrictions set forth herein shall apply have been considered by the Landlord and the restraints and restrictions of and on the future activities of the Landlord are reasonable in the circumstances. All defences to the strict enforcement thereof by the Tenant are hereby waived by the Landlord. If the Landlord breaches the foregoing obligations, it is understood and agreed that the Tenant will suffer immediate and irreparable harm and damage.

14.05 Non-Disturbance

The Landlord shall not, concurrently and prospectively, interfere with the construction, installation, maintenance or operation of the Project or the Electrical Supply Cables; any development activities; or the undertaking of any other activities permitted hereunder. Further, the Landlord agrees that it shall not undertake any action including, without limitation, hunting, blasting, excavation or construction, that may have the effect of constituting a danger to the Electrical Supply Cables or increasing the Tenant's maintenance costs with respect to the Electrical Supply Cables. Without limiting the generality of the foregoing, the Landlord shall not interfere with the wind speed or wind direction over the Lands or the Leased Premises, whether by placing wind turbines, planting trees or constructing buildings or other structures, or by engaging in any other activity on the Lands or elsewhere that might cause a decrease in the output or efficiency of wind energy from the Project in any material respect, provided that this restriction shall not prevent the Landlord from constructing a two-storey residence or barn on the Lands (other than the Leased Premises). If any of the Landlord's activities negatively impacts on the construction, installation, maintenance or operation of the Electrical Supply Cables, the Landlord agrees to cease and desist such activities immediately upon notice from the Tenant.

14.06 Salvage

The Landlord shall permit the Tenant to enter upon the Leased Premises for a period of six (6) months after the termination or expiry of this Lease for the purposes of dismantling and salvaging the Tenant's property including, without limitation, the Electrical Supply Cables.

14.07 Non-Impairment

The Landlord shall not pursue, participate, invest in, develop, acquire, or provide consulting or other services (and the Landlord shall also prevent any affiliates and any of its or its affiliates' respective owners, directors, officers, managers, employees and any individuals or entities acting on its behalf and any entity in which the Landlord has an interest, whether direct, indirect or otherwise from pursuing, participating in, investing in, developing, acquiring, or providing consulting or other services) in relation to any existing or proposed wind energy project or any

other activity that adversely affects (i) the quality or quantity of the wind resources of the Project, or (ii) access to the Project for construction, servicing or otherwise, in each case within a two kilometre radius of any wind turbine unit sited at the Project.

ARTICLE XV MISCELLANEOUS

15.01 Force Majeure

If and to the extent that any party hereto is bona fide delayed or hindered in or prevented from the performance of any provision of this Lease by causes beyond its reasonable control (but not including any lack of funds or other financial cause of delay), then the performance of such provision of this Lease so delayed, hindered or prevented shall be excused for the period during which such performance is rendered impossible and the time for such performance shall be extended accordingly.

15.02 Registration

The Landlord agrees that the Tenant shall be entitled, at its cost and expense, to register this Lease, or a Notice in respect thereof, and any required reference plans, in the Land Registry Office where title to the Lands is recorded on behalf of both the Tenant and the Landlord. The Landlord agrees to execute and deliver to the Tenant, if requested in writing to do so and, at no cost to the Tenant, all necessary instruments, plans and documentation for that purpose. The Landlord and Tenant also hereby authorize Shibley Righton LLP and/or the Tenant's lawyers that will complete any such registrations to certify that such registration is on behalf of and with the Landlord's approval and consent.

15.03 Notices

Any notice required or contemplated by any provision of this Lease shall be given in writing and shall be delivered in person or, if there is no actual or apprehended disruption in the Canadian Postal Service, sent by registered mail postage prepaid, to the address for the respective party shown on the first page of this Lease.

Every such notice shall be deemed to have been given and received when personally delivered or, if mailed as aforesaid, upon the third Business Day after the date on which it was so mailed. Either party may at any time give notice in writing to the other of any change of address within the Province of Ontario of the party giving such notice and from and after the date of such notice, the address therein specified is deemed to be the address of such party for the giving of notices hereunder.

15.04 Planning Act

It is an express condition of this Lease that the subdivision control provisions of the *Planning Act*, (Ontario) and amendments thereto be complied with if they apply. The Tenant shall obtain any necessary consent under the *Planning Act*, (Ontario) at the cost of the Tenant. The Landlord shall co-operate and assist the Tenant in its application and shall promptly sign any necessary application for consent.

15.05 **Status Certificate**

Whenever requested by the Landlord or the Tenant, the other party shall promptly (and in any event within **ten (10)** days) execute and deliver a certificate in form reasonably satisfactory to the party requesting it, addressed to the party requesting it or as it directs, certifying as to the status and validity of this Lease and the state of the rental account hereunder and such other information as may reasonably be required by the party requesting it, all with the intent that any such certificate may be conclusively relied upon by the party or person to whom it is required to be addressed.

15.06 **Further Assurances**

Each Party, if so requested by the other Party, shall execute such further documents of title and any other required assurances in respect of the Leased Premises as may be required to perfect the Tenant's leasehold interest in the Leased Premises. The Landlord further agree to execute and deliver, or cause to be executed and delivered by the Tenant, any further legal instruments, including, without limitation, any required consents, and perform any acts which are or may become necessary to effectuate the purposes of this Lease. Any third party costs associated with the Landlord requirements under this Section shall be borne by the Tenant.

15.07 **Arbitration**

Whenever there is an unresolved dispute between the Landlord and the Tenant involving any of the terms of this Lease then such dispute shall be resolved by arbitration referred to a single arbitrator, if the Landlord and Tenant agree upon one; otherwise such dispute shall be referred to **three (3)** arbitrators for resolution, one to be appointed by the Landlord, one to be appointed by the Tenant, and a third arbitrator to be appointed by the first **two (2)** arbitrators as appointed by the Landlord and Tenant respectively within **thirty (30)** days after the first of the first **two (2)** arbitrators have been appointed, (and failing such appointment of the third arbitrator, as aforesaid, the third arbitrator shall be appointed upon the application of either the Landlord or the Tenant by a Judge of the High Court of Ontario, or such person as that Judge may designate). If either the Landlord or the Tenant shall refuse or neglect to appoint an arbitrator within **thirty (30)** days after the other party has appointed an arbitrator and shall have served a written notice upon the party so refusing or neglecting to appoint an arbitrator, requiring such party to make such appointment, then the arbitrator first appointed shall, at the request of the party appointing him, proceed to hear and determine the matters in dispute as if he were a single arbitrator appointed by both the Landlord and the Tenant for this purpose. The award or determination which shall be made by the arbitrator or the majority of them, or by the single arbitrator, as the case may be, both as to the matters in dispute and as to the costs of the arbitration, shall be final and binding upon the Landlord and the Tenant and there shall be no appeal therefrom. Except as otherwise hereinbefore set forth, the provisions of the *Arbitration Act*, 1991 S.O. 1991 c.17, from time to time in effect or any legislation in substitution therefore, shall apply to any arbitration pursuant to the provisions of this Lease, provided that any limitation on the remuneration of the arbitrators imposed by such legislation shall not be applicable.

15.08 **Confidentiality**

The Landlord covenants that any information to which it has access relating to the Tenant's operations shall be considered as confidential and shall be held in the strictest confidence by the Landlord, and that the Landlord shall not communicate the same orally or in writing to others in any manner whatsoever except as may be required by law and shall use its best efforts to prevent those within its employ and control from communicating to others such information.

15.09 **Construction**

Each obligation or agreement of the Landlord or the Tenant expressed in this Lease, even though not expressed as a covenant, is considered to be a covenant for all purposes.

The captions or headings introducing articles or sections of this Lease are for convenience of reference only and in no way define, limit, construe or describe the scope or intent of such articles or sections of this Lease or in any way affect the interpretation of this Lease.

The words "herein", "hereof", "hereby", "hereunder", "hereto", "hereinafter" and similar expressions refer to this Lease and not to any particular article, section, paragraph or other portion thereof, unless there is something in the subject matter or context inconsistent therewith.

If any term, provision, covenant or condition of this Lease or its application to any person or circumstance is held to be or rendered invalid, unenforceable or illegal, then such term, provision, covenant or condition shall be considered separate and severable from the remainder of this Lease; shall not affect, impair or invalidate the remainder of this Lease; and to the fullest extent permitted by law shall continue to be applicable to and enforceable against any person or in any circumstance other than those as to which such term, provision, covenant or condition has been held or rendered invalid, unenforceable or illegal.

Wherever the singular number or a gender is used in this Lease the same shall be construed as including the plural and the masculine, feminine and neuter respectively where the fact or context so requires.

This Lease shall be construed in accordance with and governed by the laws of the Province of Ontario.

Time is of the essence of this Lease and of every part hereof.

15.10 **Entire Agreement**

This Lease and the Schedules attached hereto constitute the entire Lease between the Parties pertaining to the subject matter hereof, and amends, replaces and supersedes all prior and contemporaneous agreements, understandings, negotiations and discussions between the parties whether oral or written.

There are no representations, warranties, collateral agreements, conditions or other agreements between the Parties in connection with the subject matter of this Lease except as specifically set forth herein. No supplement, modification, waiver or termination of this Lease shall be binding

unless in writing and executed by the Parties. No waiver of any provision of this Lease shall constitute a waiver of any other provision nor shall such waiver constitute continuing waiver unless otherwise expressly provided herein.

The Landlord acknowledges that the Tenant is acting in a representative capacity as bare trustee and agent for one or more beneficial owners.

15.11 Independent Legal Advice

With respect to this Lease and all matters related thereto, the parties acknowledge that Shibley Righton LLP has acted as lawyers for the Landlord and Torys LLP has acted as lawyers for the Tenant.

The Landlord confirms to the Tenant that the Landlord has reviewed this Lease with the Landlord's independent legal counsel and fully understands the Landlord's rights and obligations under this Lease. The Tenant confirms to the Landlord that the Tenant has reviewed this Lease with the Tenant's independent legal counsel and fully understands the Tenant's rights and obligations under this Lease.

15.12 Binding Effect

This Lease shall be binding upon and shall enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and permitted assigns, as the case may be.

IN WITNESS WHEREOF the parties hereto have executed this Lease under seal.

) Landlord:
)
)
)
) ■
Witness	

Tenant:
DUFFERIN WIND POWER INC.

By: _____
Name:
Title:

By: _____

Name:
Title:

I/We have authority to bind the Corporation.

I, ■, the spouse of ■ the Landlord described above, hereby consent to the transaction set out in this Lease.

Spouse of Landlord:

Witness

■

SCHEDULE "A"
LEGAL DESCRIPTION OF LANDS

PIN ■
■

Lease ■
Landlord's Name: ■

14258078.1

SCHEDULE "B"

PART 1 – DESCRIPTION OF LEASED PREMISES INCLUDING STAGING AREA

The Leased Premises and Staging Area means the areas of the Lands depicted on the attached sketch.

Lease ■
Landlord's Name: ■

SCHEDULE “C”
RIGHTS AND REMEDIES ACCORDED TO TENANT’S MORTGAGEES

1. The Landlord will from time to time execute and deliver such consents and acknowledgements reasonably requested by the Tenant’s Mortgagee.
2. The Landlord agrees that, upon the Tenant’s Mortgagee giving the Landlord written notice of a Tenant’s Mortgage, the Tenant’s Mortgagee will, without any further action being required, have the benefit of the following provisions until such time as the Tenant’s Mortgagee advises the Landlord in writing that its Tenant’s Mortgage is no longer in effect (and, if the Tenant’s Mortgagee so requests, the Landlord will (i) acknowledge in writing that the Tenant’s Mortgagee so benefits from these provisions, or (ii) enter into a written agreement with the Tenant’s Mortgagee substantially in accordance with these provisions):
 - (a) the Landlord will give prompt written notice to the Tenant’s Mortgagee of any breach or default by the Tenant of its obligations under the Lease in respect of which the Landlord proposes to exercise any of its remedies;
 - (b) the Landlord will give the Tenant’s Mortgagee the right to cure any breach or default by the Tenant under the Lease, within a period of **90 days** commencing on the later of (i) the expiry of the cure period afforded the Tenant under the Lease, and (ii) the date on which the Landlord gives the Tenant’s Mortgagee notice of such breach or default pursuant to Section 2(a), or such longer period of time as the Tenant’s Mortgagee may reasonably require to cure such breach or default; and no exercise by the Landlord of any of its rights or remedies against the Tenant will be effective against the Tenant or the Tenant’s Mortgagee unless the Landlord has the Tenant’s Mortgagee such notice and opportunity to cure;
 - (c) if the Tenant’s Mortgagee is not capable of curing any breach or default of the Tenant under the Lease (such as a breach or default relating to the bankruptcy or insolvency of the Tenant), the Tenant’s Mortgagee will have the right to cure all defaults that are curable within the time period specified in Section 2(b) and the Landlord agrees that it will not terminate the Lease (or exercise any other rights or remedies against the Tenant’s Mortgagee) if all curable defaults are cured by the Tenant’s Mortgagee within such time period;
 - (d) the Landlord agrees that if there exists any breach or default of the Tenant under the Lease at any time when any receivership, insolvency, bankruptcy or similar proceedings or events relating to the Tenant are proceeding or when the Tenant’s Mortgagee is enforcing the security of the Tenant’s Mortgage, (i) the Landlord will not terminate the Lease as a result thereof, and (ii) if the Lease is actually terminated or disclaimed in connection with or as a result of any such proceedings or enforcement, the Tenant’s Mortgagee or its nominee or appointee will have the right to enter into a new Lease upon the same terms and conditions (including any

Lease ■
Landlord’s Name: ■

options to renew or to purchase) as the terminated Lease (the “**New Lease**”), provided that:

- (A) the Tenant’s Mortgagee has notified the Landlord in writing of its intention to enter into the New Lease within **90 days** from the date the Tenant’s Mortgagee receives written notice from the Landlord that the Lease has been terminated or disclaimed; and
- (B) the Tenant’s Mortgagee pays to the Landlord such amounts as may then be owing by the Tenant to the Landlord under the terminated Lease and cures or commences diligently to cure any breach or default by the Tenant under the terminated Lease that is capable of being cured by the Tenant’s Mortgagee;

and if the Tenant’s Mortgagee notifies the Landlord of its intention to enter into a New Lease, then the Landlord will forthwith execute and deliver to the Tenant’s Mortgagee a New Lease;

- (e) if the Tenant’s Mortgagee takes enforcement proceedings under the Tenant’s Mortgage and advises the Landlord of its intention in writing to maintain the Lease (the “**Secured Creditor Notice**”), the Tenant’s Mortgagee: (i) will be entitled to all of the rights of the Tenant under the Lease as though it were an original party thereto, and (ii) will only be liable for: (A) the payment of any arrears that the Landlord gives the Tenant’s Mortgagee written notice of within **ten (10)** days of the Tenant’s Mortgagee Notice being given to the Landlord, and (B) the performance of Tenant’s covenants and obligations arising under the Lease for the period starting on the date enforcement proceedings were commenced and ending on the date such enforcement proceedings are terminated or the Tenant’s Mortgagee assigns, transfers, surrenders or terminates the Lease in accordance with its terms;
- (f) the Landlord and the Tenant will not amend, terminate or surrender the Lease without the Tenant’s Mortgagee’s prior written consent;
- (g) the Landlord will, at any time and from time to time, upon not less than **ten (10)** days’ prior request by the Tenant or the Tenant’s Mortgagee or proposed the Tenant’s Mortgagee, deliver to the Tenant’s Mortgagee a statement in writing certifying that: (i) the Lease is in full force and full effect unamended (or setting out any such amendments), (ii) all amounts owing and payable under the Lease have been paid (or setting out any unpaid amounts), and (iii) to the Landlord’s knowledge, the Tenant is not in default of its obligations under the Lease in any material respect (or setting out particulars of any such defaults);
- (h) in addition to its obligations under Section 2(g), the Landlord will, at any time and from time to time, upon not less than **ten (10)** days’ prior request by the Tenant or the Tenant’s Mortgagee or proposed the Tenant’s Mortgagee, execute any

agreements, certificates or acknowledgements that the Tenant or the Tenant's Mortgagee may reasonably request with respect to this Lease; and

- (i) all notices to the Tenant's Mortgagee from the Landlord will be in writing and will be sent by personal delivery, registered mail, email or by fax to the address, email address or facsimile number of the Tenant's Mortgagee set out in any notice that the Tenant's Mortgagee delivers to the Landlord.
3. The provisions of Section 2 will enure to the benefit of the Tenant's Mortgagee and its successors and assigns, and any rights conferred on the Tenant's Mortgagee by the terms of this Schedule C to the Lease or limiting its liability under the Lease will benefit each receiver or receiver-manager appointed by the Tenant's Mortgagee or by a court of competent jurisdiction; and
4. The Landlord will give any purchaser or any other person acquiring an interest in the Premises notice of the Lease (including the terms of this Schedule C) and any notice received from the Tenant's Mortgagee.
5. The Landlord hereby acknowledges that Lessee may grant a Tenant's Mortgage or other security to a trustee or collateral agent acting on behalf of one or more lenders (a "**Collateral Agent**"), and the Landlord hereby acknowledges and agrees that upon its receipt of notice that such a Tenant's Mortgage or other security was granted, the Collateral Agent will be entitled to all of the rights of the Tenant's Mortgagee set forth in this Schedule C to the Lease and such notice will constitute notice of the existence of the Collateral Agent as the Tenant's Mortgagee.

INDEX TO LEASE FORM

	Page
ARTICLE I GRANT AND TERM.....	3
1.01 Grant	3
1.02 Term.....	3
1.03 Extension.....	4
1.04 Early Termination by Tenant	4
ARTICLE II LEASED PREMISES.....	4
2.01 Leased Premises.....	4
2.02 General Rights of the Tenant	5
2.03 Conduct of Operations	5
ARTICLE III RENT	5
3.01 Covenant to Pay	5
3.02 Annual Rent	5
3.03 Additional Rent.....	6
3.04 Place of Payment.....	6
3.05 Accrual and Prorating	6
3.06 Net Lease	6
ARTICLE IV TAXES.....	6
4.01 Realty Taxes.....	6
4.02 HST	7
ARTICLE V UTILITIES	8
5.01 Utilities.....	8
ARTICLE VI CONDUCT OF BUSINESS BY TENANT USE BY LANDLORD	8
6.01 Tenant’s Electrical Supply Cables	8
6.02 Electrical Supply Cables - Construction, Access and Maintenance	8
6.03 Construction and Materials Used.....	8
6.04 Testing.....	9
6.05 Use of Leased Premises by Landlord.....	9
6.06 Interference with the Project.....	9
6.07 Compliance With Laws.....	10
6.08 Waste and Nuisance	10

INDEX TO LEASE FORM

(continued)

	Page
6.09 Replacement and Repair of Fences.....	10
6.10 Compensation to Landlord for Damages	11
6.11 Hazardous or Toxic Materials or Substances.....	11
ARTICLE VII MAINTENANCE, REPAIR AND ALTERATIONS	11
7.01 Tenant’s Repair.....	11
7.02 General Maintenance and Operation	12
7.03 Alterations.....	12
7.04 No Obligation on Landlord to Repair	12
7.05 Construction Liens	12
ARTICLE VIII TRADE FIXTURES, IMPROVEMENTS AND SURRENDER	13
8.01 Ownership of Electrical Supply Cables	13
8.02 Trade Fixtures	13
8.03 Surrender of Leased Premises.....	13
ARTICLE IX ASSIGNMENT, SUBLETTING AND FINANCING	13
9.01 Assignment of Tenant’s Rights.....	13
9.02 Tenant’s Financing.....	14
ARTICLE X INSURANCE AND INDEMNITY.....	15
10.01 Tenant’s Insurance	15
10.02 Failure to Insure	15
10.03 Loss or Damage	15
10.04 Indemnification of Landlord.....	16
10.05 Landlord’s and Tenant’s Employees	16
ARTICLE XI DAMAGE AND DESTRUCTION	16
11.01 Damage and Destruction.....	16
ARTICLE XII DEFAULT OF TENANT.....	17
12.01 Right to Re-Enter	17
12.02 Right to Re-let.....	17
12.03 Landlord May Cure Default.....	18
12.04 No Waiver of Breach	18
ARTICLE XIII MORTGAGE BY LANDLORD.....	18

INDEX TO LEASE FORM
(continued)

	Page
13.01 Attornment and Non-disturbance.....	18
13.02 No Obligation to Subordinate	18
ARTICLE XIV LANDLORD’S COVENANTS.....	19
14.01 Landlord’s Covenants	19
14.02 Landlord’s Warranties	19
14.03 Approvals	19
14.04 Exclusive Right.....	20
14.05 Non-Disturbance	20
14.06 Salvage.....	20
14.07 Non-Impairment.....	20
ARTICLE XV MISCELLANEOUS.....	21
15.01 Force Majeure	21
15.02 Registration	21
15.03 Notices	21
15.04 Planning Act.....	21
15.05 Status Certificate.....	22
15.06 Further Assurances.....	22
15.07 Arbitration.....	22
15.08 Confidentiality	23
15.09 Construction.....	23
15.10 Entire Agreement	23
15.11 Independent Legal Advice	24
15.12 Binding Effect.....	24

SCHEDULE “A” – LEGAL DESCRIPTION OF LANDS

SCHEDULE “B” – PART 1 – DESCRIPTION OF LEASED PREMISES INCLUDING STAGING AREA

SCHEDULE “C” – RIGHTS AND REMEDIES ACCORDED TO TENANT’S MORTGAGEES

**Appendix 5 - Form of Wind Turbine and Transmission Lease
(for Private Lands)**

AMENDED AND RESTATED LEASE

THIS AMENDED AND RESTATED LEASE is made as of and with effect from [REDACTED]
[REDACTED]

BETWEEN:

[REDACTED]
[REDACTED] [REDACTED]
[REDACTED]
(the "Landlord")

- and -

[REDACTED]
a corporation incorporated under the laws of Canada
Address: [REDACTED]
[REDACTED]
(the "Tenant")

WHEREAS:

- A. The Landlord is the registered and beneficial owner of an estate in fee simple title, subject however to such liens, mortgages and encumbrances existing as of the date of this Lease, of and in that certain parcel or tract of land situated, lying and being in the Province of Ontario and legally described as set out in Schedule "A" attached to this Lease (the "Lands");
- B. The Landlord has agreed to lease portions of the Lands to the Tenant for the purposes and upon the terms and conditions set forth in this Lease;
- C. The Landlord and the Tenant entered into:
 - (i) a lease dated [REDACTED], notice of which was registered in the Land Registry Office for the Land Titles Division of Dufferin (No. 7) on [REDACTED] as Instrument No. [REDACTED]; and
 - (ii) a lease amending agreement dated [REDACTED], notice of which was registered in the Land Registry Office for the Land Titles Division of Dufferin (No. 7) on [REDACTED] as Instrument No. [REDACTED],(collectively, the "Original Lease"); and
- D. The Landlord and Tenant desire to amend and restate the Original Lease with effect from [REDACTED].

WITNESSES that in consideration of the covenants and agreements herein contained and the sum of [REDACTED], the receipt and sufficiency of which are hereby acknowledged, the Landlord and the Tenant covenant and agree as follows:

**INTRODUCTION
DEFINITIONS**

In this Lease:

"**Additional Rent**" has the meaning set out in Section 3.03 of this Lease;

"**Adjoining Property**" means that part of the Lands which does not include the Leased Premises;

"**Annual Rent**" has the meaning set out in Section 3.02 of this Lease;

"**Annual Rent Commencement Date**" has the meaning set out in Section 3.02 of this Lease;

"**Assignment**" has the meaning set out in Section 9.01 of this Lease;

"**Business Days**" means Mondays through Fridays inclusive but excluding any statutory holidays;

"**Construction Commencement Date**" has the meaning set out in Schedule "C" to this Lease;

"**Designated Area**" means the part of the Lands identified as such in Part 2 of Schedule "B" of this Lease;

"**Electrical Supply Cables**" means cables, wires, pipes, meters, conduits, tubes and all necessary appurtenances, to be installed on, over, along or under the Adjoining Property and the Leased Premises for the purpose of transporting the electric power generated at the Project to the distribution facilities of prospective purchasers of said electric power;

"**Facilities**" means collectively all buildings, structures, improvements, fixtures, installations, equipment or chattels installed or brought on to the Leased Premises or the Adjoining Property by or at the request of the Tenant for the purpose of the Project, and includes without limitation the Wind Turbines Units, the Electrical Supply Cables, the Perimeter Fences, the Tenant's signage, and all appurtenances thereto and an anemometer;

"**Farming**" has the meaning set out in Section 6.08 of this Lease;

"**Foundation**" has the meaning set out in Section 6.02(c) of this Lease;

"**HST**" has the meaning set out in Section 4.02 of this Lease;

"**Lands**" means the lands owned by the Landlord described in Schedule "A" of this Lease as more particularly referred to in Recital A on page 1 of this Lease;

"**Lease**" means this amended and restated lease, as it may be amended, supplemented or restated from time to time in accordance with the terms hereof;

[REDACTED]

"**Lease Commencement Date**" has the meaning set out in Section 1.02 of this Lease;

"**Lease Year**" means the following: the first Lease Year shall commence on the Lease Commencement Date and shall end on the day immediately preceding the first anniversary of the Lease Commencement Date; thereafter each Lease Year shall consist of **twelve (12)** consecutive calendar months commencing on the anniversary of the Lease Commencement Date in a year and ending on the day immediately preceding the anniversary of the Lease Commencement Date in the next following year;

"**Leased Premises**" means that part of the Lands identified in Part 1 of Schedule "B" of this Lease;

"**Mortgage**" has the meaning set out in Section 13.01 of this Lease;

"**Mortgagee**" has the meaning set out in Section 13.01 of this Lease;

"**Option**" means the option to enter into this Lease contained in the Option Agreement between the Landlord and the Tenant;

"**Original Lease**" has the meaning set forth in Recital C on page 1 of this Lease;

"**Perimeter Fence**" means fences, barriers, or any other divider to limit access to any Wind Turbine Unit or other Facilities installed by the Tenant;

"**Project**" means the wind energy conversion facility to be constructed and operated by the Tenant on the Leased Premises for the purpose of carrying on the business of wind electricity generation and all associated commercial purposes, including but not limited to the installation of Facilities and all associated facilities, the harnessing of wind and conversion of wind energy to electricity, the commercial distribution of harnessed wind electricity and such other purposes as are reasonably necessary or desirable for the conduct of such business;

"**Rent**" means Annual Rent and Additional Rent;

"**Right of Access**" has the meaning set out in Section 6.06 of this Lease;

"**Roadway**" has the meaning set out in Section 6.03 of this Lease;

"**Tax Payment**" has the meaning set out in Section 4.01 of this Lease;

"**Taxes**" means all real property taxes, capital taxes, rates, duties, assessments (including local improvement taxes), impost charges or levies, whether general or special, that are levied, rated, charged or assessed against the Lands, the Leased Premises or the Facilities, as the case may be depending on the context, or any part thereof from time to time by any lawful taxing authority, whether federal, provincial, municipal, school or otherwise, and any taxes or other amounts which are imposed in lieu of, in substitution for, or in addition to any such real property taxes whether of the foregoing character or not and whether in existence at the commencement of the Term of this Lease or not, and any such real property taxes levied or assessed against the Lands,



the Leased Premises or the Facilities, as the case may be, but shall not include local improvement charges;

"Tenant's Mortgage" has the meaning set out in Section 9.02 of this Lease;

"Tenant's Mortgagee" has the meaning set out in Section 9.02 of this Lease;

"Term" has the meaning set out in Section 1.02 of this Lease; and

"Wind Turbine Unit" means a wind electricity generating tower to be installed on the Leased Premises for the purpose of harnessing wind for the production of electricity including its Foundation and all suspension cables connected to the Foundation from such generating tower.

ARTICLE I GRANT AND TERM

1.01 Grant

In consideration of the Rent, and the covenants and agreements hereinafter reserved and contained on the part of the Tenant to be paid, kept, observed and performed, the Landlord hereby leases to the Tenant and the Tenant leases from the Landlord portions of the Lands identified in Part 1 of Schedule "B" attached to this Lease (the "Leased Premises").

1.02 Term

This Lease shall be for a term (the "Term") expiring **twenty (20)** years after the Annual Rent Commencement Date, and commencing on [REDACTED] or on such earlier date as the Tenant may notify the Landlord by giving the Landlord not less than **ten (10)** days' prior written notice (the "Lease Commencement Date"), but in no event shall the Lease Commencement Date be later than the Construction Commencement Date.

1.03 Extension

If the Tenant is not then in default in respect of any of the covenants and conditions contained in this Lease at the end of the Term, then the Tenant shall have the right to extend the Term for additional terms totalling up to **twenty-nine (29)** years where the first and second extension terms shall both be **ten (10)** years and the final extension term shall be up to **nine (9)** years, but in no event shall the term of this Lease, including any renewals or extensions, exceed **fifty (50)** years from the date hereof. Each extension term shall be on the same terms and conditions of this Lease save that the Landlord shall have the right to choose as the Annual Rent either the amount stipulated in subparagraph (a) of Section 3.02 or the amount stipulated in subparagraph (b) of Section 3.02. The Tenant's right to extend the Term shall be exercisable by written notice by the Tenant to the Landlord given not less than **thirty (30)** days prior to the end of the Term, or each additional extension term. The Landlord's right to stipulate the basis of the Annual Rent for an extension term shall be exercisable by written notice by the Landlord to the Tenant given within **fifteen (15)** days of the Landlord receiving the Tenant's extension notice. Failure by the Landlord to give such written notice shall be treated as the Landlord's election to choose to

[REDACTED]

continue the method previously selected by the Landlord for the payment of Annual Rent by the Tenant.

The Tenant hereby declares that the Leased Premises will be used for the purpose of a renewable energy project as defined by the Green Energy Act, 2009 (S.O. 2009, Ch. 12 Schedule A) to construct and operate a renewable energy generation facility as defined by the Electricity Act, 1998 (S.O. 1998, Ch. 15 Schedule A).

1.04 Early Termination by Tenant

The Landlord agrees that the Tenant shall have the right at any time, upon six (6) months' notice to that effect to the Landlord, to terminate this Lease upon the occurrence of any of the following:

- (a) the Tenant is unable for any reason whatsoever to obtain any permits, licences or approvals as may be necessary for the construction, installation, operation or maintenance of the Facilities or otherwise to permit the Tenant to occupy the Leased Premises and conduct its activities thereon, as required by applicable laws;
- (b) the Tenant in its sole discretion, deems the Facilities to be economically unfeasible; or
- (c) the construction, installation, operation or maintenance of the Facilities is prevented or significantly impeded for any reason whatsoever, including not limited to, legal or regulatory requirements,

and, in such event, this Lease shall terminate on the next succeeding anniversary date thereof.

Upon the Tenant so electing to terminate this Lease the Tenant, at its sole cost and expense, shall remove and discharge any instrument or encumbrance registered against title to the Lands and related to its interest therein arising under this Lease.

1.05 Early Termination by Landlord

If the Tenant has not commenced the construction and installation of the Facilities on or before **January 30, 2014**, the Tenant agrees that the Landlord shall have the right to terminate this Lease at any time, prior to the Tenant commencing construction and installation of Facilities on the Leased Premises by giving written notice to that effect to the Tenant, and this Lease shall terminate on the next succeeding anniversary date thereof unless the Tenant has completed construction and installation of the Facilities by that date.

ARTICLE II LEASED PREMISES

2.01 Leased Premises

The Leased Premises shall comprise, from time to time, such part or parts of the Designated Area as the Tenant, in its sole and unfettered discretion, may designate in accordance with this Article. At the Lease Commencement Date, the Leased Premises shall comprise the Leased Premises



described in Schedule "B" of this Lease. Thereafter, the Tenant may from time to time add to the Leased Premises any part or parts of the Lands forming part of the Designated Area by delivery of written notice to the Landlord to that effect specifying the description of the new Leased Premises, and specifying the date on which such new Leased Premises shall become part of the Leased Premises. The Tenant may also from time to time delete lands from the Leased Premises by delivery of written notice to that effect to the Landlord specifying that portion of the Lands to be deleted from the Leased Premises and the date when they shall become deleted from the Leased Premises; in the case of any such deletion of Lands from the Leased Premises the Tenant shall comply with the provisions of Section 8.03 with respect to the removal of the Tenant's Facilities from such deleted Leased Premises as if this Lease had been terminated on the designated date. On the occurrence of any change in the Leased Premises hereunder, the obligation under Section 4.01 with respect to Taxes levied against the added or deleted Leased Premises shall be prorated and adjusted as the date of the respective change in the Leased Premises.

As a result of the exercise of the Tenant's rights under this Article, the Leased Premises may consist of one or more non-contiguous parcels of land in the Designated Area. Each such non-contiguous area (a "Site") shall have an area of at least **one hundred and twenty-five (125)** square meters. Each Site, at the option of the Tenant, in its sole and unfettered discretion, may be enclosed by a Perimeter Fence.

2.02 General Rights of the Tenant

The Landlord grants to the Tenant, its agents, employees, contractors and licensees, and their vehicles, tools, equipment, apparatus and materials of whatsoever nature and kind, the full, free and uninterrupted exclusive right of way and easement over, along and upon the Adjoining Property to enter for temporary periods of time upon the Adjoining Property for all purposes connected with, or incidental to, the rights and privileges herein granted to the Tenant with respect to the Leased Premises including, without limitation the right to erect, install, reinstall, construct, reconstruct, operate, repair and maintain its Facilities on the Leased Premises and, incidental thereto, the right to (i) load, unload and store material, apparatus and equipment, (including, but not limited to, heavy equipment), upon the Adjoining Property (ii) remove or trim any trees on the Adjoining Property immediately adjacent to the Leased Premises which, in the reasonable opinion of the Tenant, (which determination will be made with prior consultation with the Landlord), may constitute a hazard to the Facilities and, (iii) remove other obstructions which in the reasonable opinion of the Tenant (which determination will be made with prior consultation with the Landlord), may endanger the operation of the Facilities. Where, in the reasonable opinion of the Tenant, the Tenant considers it necessary by reason of the nature or condition of the Leased Premises or the circumstances then existing, the Tenant shall have the right in the nature of an easement throughout the Term to go on, across and exit from all or any part of the Adjoining Property whether by the Landlord's access routes or otherwise for the purposes of gaining access to the Leased Premises and for the purpose of constructing, reconstructing, repairing, replacing, relocating or protecting the Facilities; provided however, in exercising such rights, the Tenant shall abide by all reasonable safety precautions.



2.03 Conduct of Operations

The Tenant shall conduct all operations on the Leased Premises in a diligent, careful and workmanlike manner, and in compliance with the provisions of any statutes, regulations, orders or directives of any government or governmental agency applicable to such operations, and where such provisions conflict with the terms of this Lease, such provisions shall prevail.

ARTICLE III RENT

3.01 Covenant to Pay

The Tenant hereby covenants with the Landlord to pay Rent, including Annual Rent and Additional Rent, as herein provided.

3.02 Annual Rent

If, and only if, the Tenant installs **one (1)** or more Wind Turbine Units on the Leased Premises the Tenant shall pay to the Landlord, in lawful money of Canada, without any prior demand therefor, for and during each year of the Term, and any extension thereof, an annual rent (the "**Annual Rent**") of either:

- (a) the amount stipulated as the Annual Rent in Schedule "C" to this Lease; OR
- (b) as Annual Rent:
 - (i) for the **ten (10)** year period starting on the Annual Rent Commencement Date and ending on the **tenth (10th)** anniversary of such date, [REDACTED] per Wind Turbine Unit per year on the Leased Premises; and
 - (ii) for the period starting on the **tenth (10th)** anniversary of the Annual Rent Commencement Date until the end of Term, [REDACTED] per Wind Turbine Unit per year on the Leased Premises.

The Landlord shall be required to make the Landlord's election as to which payment the Landlord will receive by written notice to the Tenant given no later than the Annual Rent Commencement Date.

Annual Rent shall be payable quarterly in arrears starting on the last day of the first calendar Quarter following the Annual Rent Commencement Date and on the last day of each Quarter thereafter in accordance with Schedule "C" to this Lease.

If no Wind Turbine Units are or will be installed on the Leased Premises the Annual Rent shall be [REDACTED] **Dollars per annum** for the **ten (10)** year period starting on the Annual Rent Commencement Date and ending on the **tenth (10th)** anniversary of such date. For the period starting immediately following the **tenth (10th)** anniversary of the Annual Rent

[REDACTED]

Commencement Date and until the end of the Term such Annual Rent shall be [REDACTED] Dollars per annum.

For the purpose of this Lease "Annual Rent Commencement Date" means:

- (c) if one (1) or more Wind Turbine Units are installed on the Leased Premises the first day of the second calendar month following the calendar month that a Wind Turbine Unit has been installed by the Tenant on the Leased Premises and delivering power for sale in compliance with applicable Ontario law; and
- (d) where no Wind Turbine Unit is or will be installed on the Leased Premises the earlier of the second anniversary of the Lease Commencement Date and the date that any Wind Turbine Unit has been installed by the Tenant on any Site in the Township of Melancthon and is delivering power for sale in compliance with applicable Ontario law.

3.03 Additional Rent

All amounts payable hereunder by the Tenant except Annual Rent shall be payable as additional rent ("**Additional Rent**"). The Tenant shall pay Additional Rent to the persons, at the times and in the manner hereinafter set forth, and if the time and manner of payment of any Additional Rent is not set out expressly in this Lease, such Additional Rent shall be payable by the Tenant to the Landlord forthwith on demand. Where the calculation of any Additional Rent is not made until after the termination of this Lease, the obligation of the Tenant to pay such Additional Rent shall survive the termination of this Lease.

3.04 Bonus Payment

The Tenant shall pay to the Landlord for each Wind Turbine Unit then installed on the Leased Premises on the Annual Rent Commencement Date an additional bonus payment in the amount of [REDACTED] Dollars.

The Landlord acknowledges that the payment provided for by this paragraph by the Landlord to the Tenant is to be received in full satisfaction of all compensation for inconvenience, loss of income and matters of such nature as a result of the installation of the Facilities on the Leased Premises subject however, to the Tenant's obligations arising under in Section 6.16.

3.05 Place of Payment

The Tenant shall make all payments of Annual Rent and any payments of Additional Rent required by this Lease to be paid to the Landlord by way of cheque payable to the Landlord (or to such other person as the Landlord may hereafter designate by notice in writing to the Tenant) and all such payments shall be delivered or sent to the address set out on page 1 of this Lease or to such other person or address as the Landlord may hereafter designate by notice in writing to the Tenant.

[REDACTED]

3.06 Accrual and Prorating

Rent shall be considered as accruing from day to day hereunder and where it becomes necessary for any reason to calculate Annual Rent or Additional Rent for an irregular period of less than one (1) Lease Year, an appropriate apportionment and adjustment shall be made.

3.07 Net Lease

The Tenant acknowledges, covenants and agrees that, except as otherwise expressly set out in this Lease, this Lease shall be a completely carefree net Lease for the Landlord and that the Tenant shall pay all costs, expenses, charges or outlays of any kind arising from, relating to or affecting the Leased Premises (except any payments of principal and interest to be made under any mortgage placed or assumed by the Landlord; the payment of the Landlord's income taxes or corporation taxes, unless such income or corporation taxes have been imposed in lieu of or substitution for Taxes; and the payment of any costs incurred by the Landlord in connection with the activities of the Landlord on the Leased Premises).

ARTICLE IV TAXES

4.01 Realty Taxes

Except as hereinafter set out, the Tenant shall pay all Taxes attributable to the Leased Premises and the Facilities to the taxing authorities when the same become due and payable. At the request of the Landlord, the Tenant shall provide evidence to the Landlord of payment of Taxes. If any bills, assessments, notices or other communications for or in respect of Taxes are received by the Tenant from the taxing authorities, the Tenant shall promptly deliver to the Landlord copies of same.

If a separate tax bill is not issued to the Tenant with respect to the Leased Premises and/or the Facilities, the Tenant shall pay to the Landlord, as Additional Rent, the Tenant's share of the Taxes with respect to the Lands (the "Tax Payment") as follows:

- (a) If there is a separate assessment of the Leased Premises and/or the Facilities, the amount of the Tax Payment shall include the amount of the Taxes attributable thereto determined in accordance with such assessment.
- (b) If there is no separate assessment of either the Leased Premises or the Facilities, the amount of the Tax Payment shall include a portion of the Taxes levied against the Lands determined by allocating to the Leased Premises or the Facilities, as the case may be, such proportion of the total assessment of the Lands as is reasonably attributable to them in accordance with assessment principles then used in the municipality in which the Lands are located.
- (c) A Tax Payment will become due one (1) month after the Landlord has furnished to the Tenant official receipts of the appropriate taxing Authority, or other proof satisfactory to the Tenant evidencing the payment of the Taxes payable by the Landlord with respect to the Lands. At the option of the Landlord, the Landlord may direct that the Tenant pay the

Tax Payment directly to the taxing authority, in which case the Tenant shall pay such Tax Payment to the taxing authority on or before the date when the Taxes to which such Tax Payment relates are due.

For clarity, it is the intention of the parties that the Tenant shall pay **one hundred (100%)** percent of any increase in the Taxes which are levied against the Lands as a result of the Project and which would not have been levied but for the Project, together with the Taxes levied against the Leased Premises based on their unimproved land value as agricultural land and the actual area of the Leased Premises occupied by the Tenant in comparison to the total area of the Lands.

Notwithstanding anything to the contrary in this Lease, the Tenant shall not be required to pay any Taxes which are levied against the Lands as a result of (i) any improvements to the Lands made by the Landlord, or (ii) an increase in the value of the Landlord's property, or (iii) any change of use of the Adjoining Property from its current use for farming.

4.02 HST

Subject to any applicable legislation, (i) the Tenant shall pay to the Landlord an amount equal to any and all goods and services taxes, sales taxes, value added taxes, business transfer taxes, or any other taxes imposed on the Landlord or the Tenant with respect to Rent payable by the Tenant under this Lease, whether characterized as goods and services tax, sales tax, harmonized sales tax, value added tax, business transfer tax or otherwise (collectively "HST"), it being the intention of the parties that the Landlord shall be fully reimbursed by the Tenant with respect to any and all HST. The amount of such HST so payable by the Tenant shall be calculated by the Landlord in accordance with the applicable legislation and shall be paid to the Landlord at the same time as the amounts to which such HST applies are payable to the Landlord under the terms of this Lease or upon demand or at such other time or times as the Landlord from time to time determines; and (ii) the amount of such HST so payable by the Tenant shall be deemed not to be Rent, but the Landlord shall have all of the same remedies for and rights of recovery of such amount as it has for recovery of Rent under this Lease.

ARTICLE V UTILITIES

5.01 Utilities

The Tenant shall be solely responsible for and shall pay as same become due all charges for any public or private utilities or services supplied to or used or consumed by the Tenant at the Leased Premises and for equipment, fittings, machines, apparatus, meters or other things leased or purchased in respect thereof, including installation costs, and for all work performed by any corporation or commission in connection with any such utilities or services.

5.02 Shared Connection

The Tenant, at its option, may connect its electrical utility supply connection to the electrical utility connection of the Landlord, in which case the Tenant shall pay all costs incurred in making such connection and shall pay its share, based on actual consumption, of all charges for



6.03 Roadway - Construction, Access and Maintenance

In connection with the Project, the Tenant may construct, operate, maintain and repair, at its sole cost and expense, a roadway over the Leased Premises and the Adjoining Property (the "Roadway") which shall connect the Leased Premises to a public highway, for the purpose of obtaining access to the Leased Premises for the construction, operation, maintenance and repair of the Project. The Roadway shall be:

- (a) accessible from a public highway;
- (b) constructed of a grade and standard sufficient to accommodate the Tenant's construction and maintenance vehicles;
- (c) available for use by the Landlord provided that such use does not materially interfere with the Project; and
- (d) in a location to be designated by the Tenant in its sole and unfettered discretion, provided that the Tenant will consult on site with the Landlord with respect to the appropriate location of the Roadway prior to the Tenant making its final location designation.

The Landlord shall not be responsible for maintenance and repair of the Roadway. The Tenant shall determine in its sole and unfettered discretion what maintenance and repair, if any, it performs on the Roadway. The Tenant shall not have any liability to the Landlord or anyone else for any death, injury or damage to property arising out of use of or access to the Roadway by any person or persons including, without limitation, users of the Roadway, without the express permission of the Tenant.

6.04 Electrical Supply Cables - Construction, Access Maintenance

In connection with the Project, the Tenant, at its sole cost and expense, may construct, operate, maintain and repair the Electrical Supply Cables over, along or under the Adjoining Property and the Leased Premises, which shall connect the Facilities to the facilities of the purchaser of the electric power generated by the Project.

6.05 Construction and Materials Used

The Landlord and Tenant covenant and agree with each other that:

- (a) The Tenant shall decide in its sole and unfettered discretion whether it will proceed with the construction of the Project or any Wind Turbine Unit and, if the Project or any particular Wind Turbine Unit will be constructed, the date of commencement of construction;
- (b) Subject to this Lease, the Tenant shall have the sole and unfettered discretion to determine the materials, specifications and all other matters in connection with the installation, construction, operation, maintenance and repair of all matters relating to the Project, including but not limited to any Wind Turbine Unit, Foundation, Roadway and Electrical Supply Cables;



- (c) The Tenant in its sole and unfettered discretion may determine the location on, over, along or under the Leased Premises of all Facilities relating to the Project, including but not limited to any Wind Turbine Unit, Roadway and Electrical Supply Cables. The Tenant shall determine the location on, over, along or under the Adjoining Property of all permitted Facilities relating to the Project, including but not limited to the Roadway and Electrical Supply Cables, with the consent of the Landlord, acting reasonably and without delay; and
- (d) The Tenant shall have the right to cut and remove, clear and keep clear, and trim all trees or shrubs within the Designated Area.

6.06 Right of Access over Roadway and Adjoining Property

For the duration of the Term, the Landlord hereby grants to the Tenant and any party authorized by the Tenant, the exclusive right of way for pedestrian and vehicular access, ingress and egress in, to, and over:

- (a) the part of the Roadway which is not located on the Leased Premises; and
- (b) the Designated Area

for any and all matters related to the Project, including but not limited to the construction, operation, maintenance and repair of the Foundations, Roadway, Facilities and Electrical Supply Cables (the "**Right of Access**").

6.07 Testing

At any time and from time to time during the Term, the Tenant, and any person authorized by the Tenant, may enter onto the Designated Area for the purpose of conducting any manner of test, survey or inspection which is deemed necessary or desirable in the Tenant's sole and unfettered discretion in connection with the Project, including but not limited to the taking of soil samples, geotechnical testing, the release of weather balloons, and other testing for the purpose of determining the effectiveness of any existing or contemplated Facilities. In connection with such testing, the Tenant may construct and leave on the Designated Area testing equipment, and the Tenant shall have access to the Designated Area from time to time for the purpose of maintaining and repairing such equipment and monitoring the results there from. All costs of any such inspections are to be paid by the Tenant. Any damage to the Designated Area resulting from such inspections shall be repaired by the Tenant at its cost.

6.08 Use of Leased Premises by Landlord

The Landlord with the prior written consent of the Tenant (which consent shall not be unreasonably withheld or delayed), may plant and harvest crops, graze livestock and conduct other farming or agricultural activities ("**Farming**") on all parts of the Leased Premises which have not been enclosed by a Perimeter Fence, if such Farming does not or will not interfere with or create a risk of damage or injury to the Project and subject to the Tenant's right to thereafter elect on no less than **nine (9)** months prior written notice to terminate such consent.



The Landlord agrees that it shall not hold the Tenant, or any other person directly or indirectly authorized by Tenant to enter onto the Leased Premises, responsible for any costs, damages, expenses or liabilities incurred by the Landlord, however caused, and resulting in damage to crops, plants, livestock, machinery or any other farming commodity or material owned by the Landlord located on the Leased Premises.

6.09 Interference with the Project

The Landlord shall not:

- (a) engage in, or authorize or permit any other party to engage in, any activity on or about the Lands that would directly or indirectly impede or decrease the output or efficiency of wind energy at the Project;
- (b) engage in, or authorize any other party to engage in, any activity on or about the Lands that would directly or indirectly interfere with the speed or direction of the blades or any similar device on any Wind Turbine Unit, or with the quantity or direction of wind energy available to any Wind Turbine Unit;
- (c) without the express written permission of the Tenant, enter or authorize any other party to enter any part of the Leased Premises or Roadway enclosed by a Perimeter Fence; or
- (d) enter, damage, alter or interfere with any structure or other improvement forming part of the Facilities.

6.10 Compliance With Laws

The Tenant, at its own expense, shall comply with all applicable federal, provincial and municipal statutes, regulations, ordinances and orders which relate to or affect the Project, or the use, occupation, operation or maintenance of the Project or any Facilities from time to time in connection with the Project, or the making of any repairs, replacements, alterations, additions or improvements of or to the Facilities, and the Tenant shall make any repairs, replacements, alterations, additions, improvements or deletions necessary to effect such compliance. The Tenant shall at its own risk and expense obtain any and all necessary governmental licences, permits and approvals necessary for such use and shall pay all levies, fees, taxes and imposts with respect to such use of the Leased Premises. The Landlord shall promptly sign all consents, authorizations or other documents which are required by the Tenant to obtain any such licences, permits and approvals, and the Tenant shall pay any cost incurred by the Landlord in that regard.

The Tenant shall have the right to contest by appropriate legal proceedings, without cost or expense to the Landlord, the validity of any statute, regulation, ordinance, order or requirement of the nature hereinbefore in this Section referred to, and if, by the terms of any such statute, regulation, ordinance, order or requirement, compliance therewith may legally be held in abeyance without subjecting the Landlord to any liability, fine or penalty of whatsoever nature for failure to comply therewith, the Tenant may postpone compliance therewith until the final determination of any such proceedings, provided that all such proceedings shall be prosecuted with due diligence and dispatch and the Tenant agrees to indemnify and save harmless the Landlord from and against any liability or damages in respect of any such contestation.



6.11 Waste and Nuisance

The Tenant shall not commit or suffer to be committed any waste or injury to the Leased Premises, and shall not do or omit to do or suffer to be done or omitted anything upon or in respect of the Leased Premises which shall be or result in a nuisance or menace to the Landlord or to the owners or occupiers of neighbouring lands and premises, provided that it is acknowledged and agreed that the Project does not constitute a nuisance for the purposes of this Lease.

The Landlord shall not do or omit to do or suffer to be done or omitted anything upon the Lands which shall be or result in a nuisance or menace to the Tenant or to the Project. The Tenant acknowledges that Farming does not constitute a nuisance.

6.12 Advertising upon the Facilities

Neither the Landlord nor the Tenant shall be permitted to post any advertising, notice, poster, message or other publication of any kind whatsoever, using any medium either directly upon the Facilities or as an attachment or addition to the Facilities at any time during the Term without first obtaining the written consent of the other which consent shall not be unreasonably withheld or delayed. Notwithstanding this general prohibition, any manufacturer or retailer advertising associated directly with the Facilities, which appears upon the Facilities at the time such Facilities are purchased by the Tenant shall be permitted to remain at the sole and unfettered discretion of the Tenant. Further, the Tenant shall be permitted to maintain or update such advertising in accordance with any requirements in any agreement between the Tenant and the vendor, supplier or manufacturer of the Facilities.

6.13 Assignment in Connection with Transmission Lines

The Tenant, in connection with the exercise of its rights pursuant to this Lease, the Tenant, acting reasonably and in consultation with the Landlord, shall have the right for itself or may grant any utility the right to construct, operate and maintain electrical transmissions interconnections and switching facilities on the Leased Premises pursuant to any standard form of easement, leasehold, or any other agreement used for or proposed by the utility consistent with the Tenant's rights under this Lease.

6.14 Replacement and Repair of Fences

The Tenant in the enjoyment of its rights and privileges pursuant to this Lease hereby granted to it, shall replace all fences which it may have removed for its purposes and repair all fences which it may have damaged upon written notice from the Landlord, and if and when so required by the Landlord, will provide proper livestock guards at any point of entry upon the Leased Premises used by it and, upon the use thereof, close all gates.

6.15 Ditches, Roadways, etc.

Roadways which are constructed by the Tenant shall have ditches where required, or if necessary, an adequate number of approaches so that the Landlord can cross the Roadway with



farm machinery in moving from one field on the Lands to another field which lies across the Roadway.

Ditches and roadways shall also be constructed by the Tenant so as not to impede the natural precipitation run-off. Where necessary, culverts shall be constructed by the Tenant so as to ensure natural run-off and not create a disturbance in the run-off pattern that would negatively impact the Landlord's use of the Adjoining Property.

6.16 Compensation to Landlord for Damages

If the Tenant's use of the Right of Access results in damage to crops, plants, or any other farming commodity, machinery or material of the Landlord located on the Adjoining Property, the Tenant agrees that it shall be responsible for any and all costs, damages, expenses or liabilities incurred by the Landlord as a result of the Tenant's exercise of such Right of Access, providing that such costs, damages, expenses or liabilities are reasonably attributable to the Tenant's exercise of the Right of Access, and the Tenant shall not have any liability for consequential damages.

In valuing damage to crops the Landlord and Tenant shall average the farm gate value of the damaged crop for the then current growing season and the value of such a same sized crop for the immediately previous **two (2)** growing seasons, the intention being that the Tenant shall reimburse the Landlord for the farm gate value of the current crop based upon the average of its current value and the value of a same sized crop for the previous **two (2)** growing seasons.

Damages to fences, buildings and other improvements owned by the Landlord and situate on the Adjoining Property shall be valued at their then current replacement cost.

The Tenant agrees that it will provide not less than **one hundred and eighty (180)** days prior written notice to the Landlord of the start of the installation of any Roadway/right of way and not less than **one hundred and eighty (180)** days prior written notice for the layout of any Wind Turbine Units and Electrical Supply Cables and their footprint on the Leased Premises, the intention being that such advance written notice by the Tenant to the Landlord will enable the Landlord to determine the timing for the Landlord's planting, growing and harvesting requirements so as to minimize, and if possible, eliminate damage to any crops.

6.17 Hazardous or Toxic Materials or Substances

If any hazardous or toxic materials or substances are determined to exist on any part of the Leased Premises during the Term and any extension thereof due to the negligent or intentional acts or omissions of the Tenant, or those for whom at law it is responsible, the Tenant, for its own account, shall defend, indemnify and hold harmless the Landlord with respect thereto. The Tenant shall also assume all responsibility and expense in connection with, and shall promptly take such action as required by applicable law, to remediate or remove any such hazardous or toxic materials or substances.



**ARTICLE VII
MAINTENANCE, REPAIR AND ALTERATIONS**

7.01 Tenant's Repair

The Tenant covenants that, throughout the Term and any extension thereof, at its sole cost and expense, it shall keep the Facilities in good repair, reasonable wear and tear excepted, and shall make all necessary repairs to the extent required to keep the Facilities in good condition, and repair, reasonable wear and tear excepted, commensurate with their age.

Without limiting the generality of the foregoing, the Tenant will conduct inspections of the Facilities on a semi-annual basis and complete any maintenance which the Tenant, in its reasonable opinion, determines is required in order to ensure that the Facilities, maintain a clean and uncluttered appearance and are, at all times, operating in a safe manner.

7.02 General Maintenance and Operation

The Tenant covenants that, throughout the Term and any extension thereof, at its sole cost and expense, it shall keep and maintain the Leased Premises in a clean and orderly condition and shall repair any damage to the Leased Premises caused by the operations of the Tenant.

Without limiting the generality of the foregoing, the Tenant shall throughout the Term and any extension thereof, at its sole cost and expense, maintain the Leased Premises in a state of repair that does not adversely impact upon the Landlord's use of the Adjoining Property for Farming.

The Tenant shall allow the Landlord access to the Leased Premises in order to remove weeds, rodents and other pests such as insects from the Leased Premises, which removal is the sole responsibility of the Landlord at its sole cost and expense.

Any damage or repairs necessary to be effected with respect to the drainage from the Leased Premises and Adjoining Property caused as a direct result of the Tenant's actions shall be completed at the Tenant's expense.

7.03 Alterations

The Tenant may from time to time make such alterations or additions to the Facilities as the Tenant, in its sole and unfettered discretion, may determine. All such alterations or additions shall be made in a good and workmanlike manner.

7.04 No Obligation on Landlord to Repair

The Landlord shall not have any obligation to effect any maintenance or to make any repairs or replacements to the Facilities or the Roadway, subject only to the exception that the Landlord shall repair at its cost any damage of any kind to the Leased Premises, the Facilities or the Roadway caused by the Landlord, its livestock, or those for whom the Landlord is in law responsible. If the Landlord does not make any such repairs within **one (1)** month after the Tenant's written request, the Tenant shall have the right, at its sole option, to make such repairs and deduct the cost of such repairs from the next Rent due to the Landlord.



7.05 Construction Liens

If any construction lien or other lien or order for the payment of money shall be filed against the Lands by reason of, or arising out of, any work, labour, services or materials furnished or claimed to have been furnished to the Tenant or to anyone claiming through the Tenant, the Tenant, within a reasonable period of time after written notice to the Tenant of the filing, shall cause the same to be discharged by bond, deposit, payment, court order or in any other manner required or permitted by law. The Tenant, at its own expense, shall defend all suits to enforce any such lien or order whether against the Tenant and/or the Landlord. The Tenant shall indemnify and keep indemnified the Landlord from and against payment of all loss, costs, charges and expenses occasioned by or arising from any such lien or order.

ARTICLE VIII TRADE FIXTURES, IMPROVEMENTS AND SURRENDER

8.01 Ownership of Facilities

The Facilities and all of the property and equipment placed or operated on the Leased Premises by or on behalf of the Tenant, shall at all times remain the property of the Tenant notwithstanding that they may be annexed or affixed to the freehold and notwithstanding any rule of law or equity to the contrary, and they shall at the written request of the Landlord, at any time and from time to time, be removable in whole or in part by the Tenant without the consent of the Landlord.

8.02 Trade Fixtures

The Tenant shall have the right at all times and from time to time to install and remove its trade fixtures. All trade fixtures shall be owned by and be the property of the Tenant, shall remain the property of the Tenant and the Tenant may from time to time remove any or all of its trade fixtures from the Leased Premises either during or at the expiration or other termination of the Term or any extension thereof, provided that the Tenant shall promptly repair any damage to the Leased Premises caused by the installation and/or removal of such trade fixtures in a good and workmanlike manner.

8.03 Surrender of Leased Premises

Upon the termination of this Lease for any reason whatsoever, the Tenant, at its sole cost and expense and in compliance with the then applicable environmental laws, shall remove or cause the removal of the Facilities, including without limitation, any Wind Turbine Unit, Electrical Supply Cables, and all other improvements, equipment, apparatus, and other chattel assets of the Tenant located on the Leased Premises, the Adjoining Property and the Roadway, and the Tenant shall promptly repair any damage to the Leased Premises caused by such removal. Provided, however, that the Tenant may, at its option, leave on the Leased Premises or Adjoining Property any of the Facilities which are buried to a sufficient depth (and in any event a minimum of **one (1)** metre below original grade) so as not to interfere materially with the Landlord's Farming, and provided further that the Tenant shall have no obligation to remove the Roadway.



Except as otherwise set out in this Lease, upon the expiration of the Term or other earlier termination of this Lease, the Tenant shall peaceably surrender and yield up unto the Landlord the Leased Premises in as good order, condition and repair as the Tenant is required to maintain the Leased Premises under the terms of this Lease.

Incidental to such obligation, the Tenant shall provide a Phase I environmental assessment report to the Landlord of an independent environmental consultant confirming that there are no hazardous substances (as such term has meaning under the *Environmental Protection Act* (Ontario)) remaining on the Leased Premises as a result of the Tenant's operations.

ARTICLE IX ASSIGNMENT, SUBLETTING AND FINANCING

9.01 Assignment of Tenant's Rights

The Landlord agrees that the Tenant, without consent from the Landlord, may transfer, convey, assign, sublet, license, grant concessions in, or otherwise part with or share possession of the Leased Premises and any or all of the Tenant's rights, interests, benefits and obligations under this Lease in whole or in part to any person, firm or corporation (an "Assignment"). Upon any Assignment, but provided that the assignee executes and delivers to the Landlord an Assumption Agreement, from and after the date of the Assignment, the term "Tenant" as used in this Lease, in so far as covenants or obligations on the part of the Tenant are concerned, shall be limited to mean and include only the lessee of the Leased Premises after completion of such Assignment, and, in the event of an Assignment, the Tenant herein named (and in case of any subsequent Assignment, then the assignor) shall to the extent of the Assignment be automatically freed and relieved from and after the date of such Assignment of all personal liability with respect to the performance of any covenant or obligation on the part of the Tenant contained in this Lease thereafter to be performed, provided that, at the time of the Assignment all amounts owing by the Tenant to the Landlord under any provision of this Lease are current as of the date of the Assignment, it being intended hereby that the covenants and obligations contained in this Lease on the part of the Tenant shall, subject as aforesaid, be binding on the Tenant only during and in respect of its period as a lessee of the Property. In this section 9.01, "Assumption Agreement" means an agreement executed by the assignee in form satisfactory to the Landlord acting reasonably, wherein the assignee shall covenant and agree directly with the Landlord with effect from and after the date of Assignment to be bound by all of the provisions in this Lease to be observed and performed or otherwise complied with by the Tenant as if the assignee had originally executed this Lease as Tenant. The Assumption Agreement shall be prepared by and at the sole cost and expense of the Tenant and the Tenant shall pay to the Landlord, as Additional Rent, on demand, all reasonable legal costs with respect thereto incurred by the Landlord.

9.02 Tenant's Financing

The Landlord agrees that the Tenant, without consent from the Landlord, may assign, sublet or charge this Lease by way of any bona fide mortgage or security interest of the Tenant's leasehold interest in the Lease and Leased Premises or any part thereof and the Facilities as security for any loan or financing including without limitation any form of trust indenture, debenture or bond (a "Tenant's Mortgage"). The Landlord hereby grants to any holder of a Tenant's Mortgage (a

"Tenant's Mortgagee") the rights and remedies set forth in Schedule "D" hereto. In addition, the Landlord will, from time to time, at the request of the Tenant's Mortgagee, promptly execute and deliver in favour of any Tenant's Mortgagee such consents and acknowledgements granting and confirming Tenant's Mortgagee's right and remedies hereunder and in Schedule "D" hereto. The Landlord shall also agree to any reasonable modification to the Lease, and shall enter into any other reasonable agreements with the Tenant's Mortgagee, as may reasonably be required by the Tenant in order to obtain financing from the Tenant's Mortgagee. If the Landlord receives notice of the existence of a Tenant's Mortgage, then the Landlord (i) shall agree not to amend, terminate or accept a surrender of this Lease without the prior consent in writing of the Tenant's Mortgagee, and (ii) shall deliver to the Tenant's Mortgagee a copy of any notice of default given to the Tenant under this Lease, and shall afford to the Tenant's Mortgagee the opportunity to remedy any defaults of the Tenant under this Lease as provided in Schedule "D" hereto.

ARTICLE X INSURANCE AND INDEMNITY

10.01 Tenant's Insurance

The Tenant shall during the Term or any extension thereof and during such other time as the Tenant occupies the Leased Premises or any part thereof, at its sole cost and expense, take out and keep in full force and effect the following insurance:

- (a) "all risks" insurance not less broad than the standard commercial property floater policy with the exclusions such as, without limitation, those relating to sprinkler leakages (where applicable), earthquake, flood and collapse removed therefrom upon the Facilities contained therein in an amount not less than the full replacement cost thereof; and
- (b) comprehensive general liability insurance including but not limited to property damage, public liability, and personal injury liability, all on an occurrence basis, with respect to any use, occupancy, activities or things, in on or about the Leased Premises and with respect to the use and occupancy of any part of the Leased Premises by the Tenant or any of its servants, agents, contractors or persons for whom the Tenant is in law responsible, including, without limitation, the activities, operations and work conducted or performed by the Tenant, by any other person on behalf of the Tenant, by those for whom the Tenant is in law responsible and by any other person on the Leased Premises at the request of the Tenant, with coverage for any one occurrence or claim of not less than [REDACTED] Dollars.

Each of the foregoing policies of insurance shall name the Landlord and its mortgagee(s), if any, and anyone designated in writing by the Landlord as additional named insured as their interests may appear.

10.02 Failure to Insure

If the Tenant fails to take out or to keep in force any of the policies of insurance referred to in Section 10.01 hereof, and should the Tenant not rectify such default within **forty-eight (48)** hours after written notice thereof, the Landlord may, but shall not be obligated to, effect such

[REDACTED]

insurance and the Tenant shall pay to the Landlord, as Additional Rent, forthwith on demand all premiums, costs, charges and expenses incurred by the Landlord in effecting such insurance.

10.03 Loss or Damage

The Landlord shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the Leased Premises, or damage to property of the Tenant or of others located on the Leased Premises, except to the extent caused by the negligence of the Landlord, its agents, servants or employees or other persons for whom it may in law be responsible.

Subject as expressly set out in this Lease, the Tenant shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the Adjoining Property, or any damage to property of the Landlord or of others located on the Adjoining Property, except to the extent caused by the negligence of the Tenant, its agents, servants, or employees or other persons for whom it may in law be responsible.

10.04 Indemnification of Landlord

Subject as expressly set out in this Lease, the Tenant shall indemnify the Landlord and save it harmless from and against any and all loss (including loss of Rent payable by the Tenant pursuant to this Lease), claims, actions, damages, liability and expenses in connection with loss of life, personal injury, damage to property or any other loss or injury whatsoever arising from or out of this Lease, or any occurrence in, upon or at the Leased Premises, or the occupancy or use by the Tenant of the Leased Premises or any part thereof, or occasioned wholly or in part by any act or omission of the Tenant or by anyone permitted to be on the Leased Premises by the Tenant, except to the extent caused by the negligence of the Landlord, its agents, servants or employees or other persons for whom the Landlord may in law be responsible. If the Landlord shall, without fault on its part, be made a party to any litigation commenced by or against the Tenant, then the Tenant shall protect, indemnify and hold the Landlord harmless from and against, and shall pay as Additional Rent, all costs, expenses and reasonable legal fees incurred or paid by the Landlord in connection with such litigation.

10.05 Landlord's and Tenant's Employees

Every indemnity, exclusion and release of liability herein contained for the benefit of the Landlord or the Tenant, and every waiver of subrogation contained in any insurance policy maintained by one party hereto, shall survive the expiration or earlier termination of the Term and any extension thereof and shall extend to and benefit all of the Landlord, the Tenant or the other party, as the case may be, the owner(s) of the Leased Premises (if different from the Landlord) and all of their respective directors, officers, shareholders, servants, agents and employees and those for whom any of them is in law responsible. Solely for such purpose, and to the extent any such party expressly chooses to enforce the benefits of this Section for any or all of such persons, it is agreed that such party is the agent or trustee for such persons.



**ARTICLE XI
DAMAGE AND DESTRUCTION**

11.01 Damage and Destruction

The Landlord and Tenant agree that if and whenever during the Term hereby demised or any renewal or extension thereof the Facilities shall be destroyed or damaged in whole or in part then, and in every such event if the destruction or damage is such that the in the opinion of the Tenant, in its sole and unfettered discretion, the Project is no longer economically viable, then the Tenant may at its option within **sixty (60)** days following the date of such damage or destruction terminate this Lease by giving to the Landlord notice in writing of such termination, in which event this Lease and the Term hereby demised shall cease and be at an end as of the date of such destruction or damage and the Rent and all other payments for which the Tenant is liable under the terms of this Lease shall be apportioned and paid in full to the date of such destruction or damage. In the event that the Tenant does not so terminate this Lease, then the Tenant shall repair the Facilities with all reasonable speed.

**ARTICLE XII
DEFAULT OF TENANT**

12.01 Right to Re-Enter

If and whenever:

- (a) the Tenant fails to pay Rent or other sums due hereunder or any part thereof on the day appointed for the payment thereof whether lawfully demanded or not and such failure shall continue for **thirty (30)** days after notice thereof has been given to the Tenant; or
- (b) the Tenant fails to keep, observe or perform any other of the terms, conditions, covenants and agreements herein contained on the part of the Tenant to be kept, observed or performed for **sixty (60)** days after notice in writing of such failure has been given to the Tenant and such failure has not been cured within such **sixty (60)** day period, or, where such failure is incapable of being cured within **sixty (60)** days, the Tenant has not commenced to cure such failure and is not proceeding diligently to cure such failure; or
- (c) the Leased Premises are vacated or left vacant or unoccupied for a period of **six (6)** consecutive months unless due to damage or destruction, or the Tenant abandons or attempts to abandon the Leased Premises; or
- (d) re-entry is permitted under any other terms of this Lease;

then and in any of such cases, the Tenant shall be in default under this Lease and, at the option of the Landlord, the Landlord shall have, in addition to any other rights or remedies of the Landlord pursuant to this Lease or at law or in equity, the immediate right to re-enter into and upon and take possession of the Leased Premises or any part thereof in the name of the whole and have again, re-possess and enjoy the Leased Premises in its former estate, and to expel all persons from the Leased Premises.



12.02 Right to Re-let

If and whenever the Landlord shall be entitled to re-enter, the Landlord may from time to time without terminating this Lease enter the Leased Premises as the agent of the Tenant either by force or otherwise, without being liable for any prosecution therefore, and make such alterations and repairs as are necessary in order to re-let the Leased Premises or any part thereof for such term or terms (which may extend beyond the Term or extension period) and at such rent and upon such other terms, covenants and conditions as the Landlord in its sole and unfettered discretion considers advisable. Upon each such re-letting all rent received by the Landlord from such re-letting shall be applied, firstly to the payment of any indebtedness other than Annual Rent or Additional Rent due hereunder from the Tenant to the Landlord, secondly, to the payment of any costs and expenses of such re-letting including brokerage fees and solicitors' fees and the cost of alterations and repairs, thirdly, to the payment of Annual Rent and Additional Rent due hereunder, and the residue, if any, shall be held by the Landlord and applied in payment of future Annual Rent and Additional Rent as the same become due and payable hereunder and the Landlord shall not be accountable for any monies except those actually received notwithstanding any act, neglect, omission or default of the Landlord. No such entry of the Leased Premises by the Landlord shall be construed as an election on its part to terminate this Lease unless a written notice of termination is given to the Tenant. Notwithstanding any such re-letting without termination, the Landlord may at any time thereafter terminate this Lease for such previous breach by written notice of termination given to the Tenant.

12.03 Landlord May Cure Default

If the Tenant is in default of any obligation or covenant under this Lease after the expiry of any applicable notice periods, the Landlord shall have the right at all times to remedy or attempt to remedy any such default of the Tenant, and in so doing may make any payments due or alleged to be due by the Tenant to third parties and may enter upon the Leased Premises to do any work or other things therein, and in each such event all expenses of the Landlord in remedying or attempting to remedy such default shall be payable as Additional Rent by the Tenant to the Landlord forthwith upon demand, and the Landlord shall not be liable for any loss or damage to the Tenant's property or business caused by acts of the Landlord in remedying or attempting to remedy any such default, and the Tenant agrees that any such entry by the Landlord is not a re-entry or a breach of any covenant for quiet enjoyment contained in this Lease.

12.04 No Waiver of Breach

No condoning, excusing or overlooking by the Landlord or the Tenant of any default, breach or non-observance by the other party at any time or times in respect of any covenant, proviso or condition herein contained shall operate as a waiver of the Landlord's or the Tenant's rights hereunder in respect of any continuing or subsequent default, breach or non-observance, or so as to defeat or affect such continuing or subsequent default or breach, and no waiver shall be inferred from or implied by anything done or omitted by the Landlord or the Tenant save only an express waiver in writing.



**ARTICLE XIII
MORTGAGE BY LANDLORD**

13.01 Attornment and Non-disturbance

The Tenant shall promptly, on request, attorn to the holder of any mortgage or charge of the Leased Premises or any modification, renewal or extension thereof (a "Mortgage" and the holder thereof called a "Mortgagee") or to the purchaser of the Leased Premises on any foreclosure or sale proceedings taken under any Mortgage, and shall recognize such Mortgagee or purchaser as the Landlord under this Lease. No attornment aforesaid by the Tenant shall have the effect of subordinating or postponing this Lease to the Mortgage or disturbing the Tenant's occupation and possession of the Leased Premises in accordance with the provisions of this Lease so long as the Tenant is not in default hereunder beyond any applicable cure periods.

13.02 No Obligation to Subordinate

The Tenant shall not be obligated to subordinate or postpone this Lease to any Mortgage. The Landlord shall use its diligent best efforts to either have any Mortgage registered in priority to this Lease subordinated and postponed to this Lease, or obtain from any such Mortgagee a non-disturbance agreement by which the Mortgagee agrees with the Tenant that the Mortgagee shall be bound by this Lease and that the Tenant shall have undisturbed possession of the Leased Premises on the terms and conditions of this Lease so long as the Tenant is not in default hereunder beyond any applicable cure periods, and the Mortgagee acknowledges the rights of any Tenant Mortgagee hereunder.

**ARTICLE XIV
LANDLORD'S COVENANTS**

14.01 Landlord's Covenants

The Landlord covenants with the Tenant:

- (a) for quiet enjoyment, subject to and on the terms of this Lease; and
- (b) that if the Landlord leases, licences or grants a right to another person to occupy, use, farm, or plant or harvest crops on the Lands, the Landlord shall notify that person of the Tenant's rights and interest hereunder and the Landlord shall indemnify and save the Tenant harmless from and against any claims asserted against the Tenant by that person or those claiming through that person and from and against any losses damages or costs that the Tenant may suffer arising from that person's rights.

14.02 Landlord's Warranties

The Landlord covenants, represents and warrants to the Tenant that:

- (a) The Landlord is the registered and beneficial owner of the Property; and



- (b) The Landlord has good right, full power and lawful authority to execute and deliver this Lease and to perform all of the obligations of the Landlord hereunder.

14.03 Approvals

The Landlord covenants and agrees to execute and to not object to, all applications, consents, permissions, postponements, and any other documents and assurances which the Tenant may require in connection with obtaining any rezoning, governmental approvals, consents, permits or variances (collectively, "Approvals") and in connection with entering into by the Tenant of any agreement with such governmental and public authorities as may be necessary to give full force and effect to and in furtherance of the Tenant's applications, and the Landlord shall produce all other documents and information which may be required in connection with such applications. All applications for Approvals shall be made by the Tenant at its sole cost and expense and any third party costs to the Landlord associated with such Approvals shall be borne by the Tenant. The Tenant agrees that the obligation of the Landlord pursuant to this Section shall be restricted to execution of documents and production of documents and information and shall not impose upon the Landlord any financial obligation whatsoever.

14.04 Exclusive Right

The Landlord agrees that the Tenant shall have the exclusive right to collect, convert and transmit all the wind resources on the Lands, and the Landlord agrees that it will not interfere with the Tenant's operations hereunder or the enjoyment of the rights hereby granted. The Landlord covenants and agrees that during the Term and any extensions thereof that no other corporation, partnership, joint venture or person will be permitted to use or occupy the Lands, or any part thereof, for the purposes of wind energy conversion and transmission of electric power and related activities. The Landlord acknowledges and agrees that the duration and area within which the restrictions set forth herein shall apply have been considered by the Landlord and the restraints and restrictions of and on the future activities of the Landlord are reasonable in the circumstances. All defences to the strict enforcement thereof by the Tenant are hereby waived by the Landlord. If the Landlord breaches the foregoing obligations, it is understood and agreed that the Tenant will suffer immediate and irreparable harm and damage.

14.05 Non-Disturbance

The Landlord shall not, concurrently and prospectively, interfere with the construction, installation, maintenance or operation of the Facilities; any development activities; or the undertaking of any other activities permitted hereunder. Further, the Lessor agrees that it shall not undertake any action including, without limitation, hunting, blasting, excavation or construction, that may have the effect of constituting a danger to the Facilities or increasing the Tenant's maintenance costs with respect to the Facilities. Without limiting the generality of the foregoing, the Landlord shall not interfere with the wind speed or wind direction over the Lands or the Leased Premises, whether by placing wind turbines, planting trees or constructing buildings or other structures, or by engaging in any other activity on the Lands or elsewhere that might cause a decrease in the output or efficiency of the Facilities. The Landlord expressly reserves the right to use the Lands (other than the Leased Premises) for agricultural purposes that do not and will not interfere with the Tenant's operations hereunder or enjoyment of the rights



hereby granted. If any of the Landlord's activities negatively impacts on the construction, installation, maintenance or operation of the Facilities, the Landlord agrees to cease and desist such activities immediately upon notice from the Tenant.

14.06 Salvage

The Landlord shall permit the Tenant to enter upon the Lands for a period of **six (6)** months after the termination or expiry of this Lease for the purposes of dismantling and salvaging the Tenant's property including, without limitation, the Facilities, situated on the Leased Premises.

14.07 Non-Impairment

If a Wind Turbine Unit is constructed on the Lands or the Lands are located within **two (2)** kilometres of a Wind Turbine Unit, the Landlord shall not pursue, participate, invest in, develop, acquire, or provide consulting or other services (and the Landlord shall also prevent any affiliates and any of its or its affiliates' respective owners, directors, officers, managers, employees and any individuals or entities acting on its behalf and any entity in which the Landlord has an interest, whether direct, indirect or otherwise from pursuing, participating in, investing in, developing, acquiring, or providing consulting or other services) in relation to any existing or proposed wind energy project or any other activity that adversely affects (i) the quality or quantity of the wind resources of the Project, or (ii) access to the Project for construction, servicing or otherwise, in each case within a two kilometre radius of any Wind Turbine Unit sited at the Project.

ARTICLE XV MISCELLANEOUS

15.01 Force Majeure

If and to the extent that any party hereto is bona fide delayed or hindered in or prevented from the performance of any provision of this Lease by causes beyond its reasonable control (but not including any lack of funds or other financial cause of delay), then the performance of such provision of this Lease so delayed, hindered or prevented shall be excused for the period during which such performance is rendered impossible and the time for such performance shall be extended accordingly.

15.02 Registration

The Landlord agrees that the Tenant shall be entitled, at its cost and expense, to register this Lease, or a Notice in respect thereof, and any required reference plans, in the Land Registry Office where title to the Lands is recorded on behalf of both the Tenant and the Landlord. The Landlord agrees to execute and deliver to the Tenant, if requested in writing to do so and, at no cost to the Tenant, all necessary instruments, plans and documentation for that purpose. The Landlord and Tenant also hereby authorize Shibley Righton LLP and/or the Tenant's lawyers that will complete any such registrations to certify that such registration is on behalf of and with the Landlord's approval and consent. Such authorization by the Landlord and Tenant includes the authority to delete from registered title to the Lands, notice of the registration of the Original

Lease and notice of the registration of any lease amending agreement amending the Original Lease.

15.03 Notices

Any notice required or contemplated by any provision of this Lease shall be given in writing and shall be delivered in person or, if there is no actual or apprehended disruption in the Canadian Postal Service, sent by registered mail postage prepaid, to the address for the respective party shown on the first page of this Lease.

Every such notice shall be deemed to have been given and received when personally delivered or, if mailed as aforesaid, upon the third Business Day after the date on which it was so mailed. Either party may at any time give notice in writing to the other of any change of address within the Province of Ontario of the party giving such notice and from and after the date of such notice, the address therein specified is deemed to be the address of such party for the giving of notices hereunder.

15.04 Planning Act

It is an express condition of this Lease that the subdivision control provisions of the *Planning Act*, (Ontario) and amendments thereto be complied with if they apply. The Tenant shall obtain any necessary consent under the *Planning Act*, (Ontario) at the cost of the Tenant. The Landlord shall co-operate and assist the Tenant in its application and shall promptly sign any necessary application for consent.

15.05 Status Certificate

Whenever requested by the Landlord or the Tenant, the other party shall promptly (and in any event within ten (10) days) execute and deliver a certificate in form reasonably satisfactory to the party requesting it, addressed to the party requesting it or as it directs, certifying as to the status and validity of this Lease and the state of the rental account hereunder and such other information as may reasonably be required by the party requesting it, all with the intent that any such certificate may be conclusively relied upon by the party or person to whom it is required to be addressed.

15.06 Further Assurances

Each Party, if so requested by the other Party, shall execute such further documents of title and any other required assurances in respect of the Leased Premises and the Adjoining Property as may be required to perfect the Tenant's leasehold interest in the Leased Premises and easement rights in the Adjoining Property. The Landlord further agree to execute and deliver, or cause to be executed and delivered by the Tenant, any further legal instruments, including, without limitation, any required consents, and perform any acts which are or may become necessary to effectuate the purposes of this Lease. Any third party costs associated with the Landlord requirements under this Section shall be borne by the Tenant.



15.07 Arbitration

Whenever there is an unresolved dispute between the Landlord and the Tenant involving any of the terms of this Lease then such dispute shall be resolved by arbitration referred to a single arbitrator, if the Landlord and Tenant agree upon one; otherwise such dispute shall be referred to **three (3)** arbitrators for resolution, one to be appointed by the Landlord, one to be appointed by the Tenant, and a third arbitrator to be appointed by the first **two (2)** arbitrators as appointed by the Landlord and Tenant respectively within **thirty (30)** days after the first of the first **two (2)** arbitrators have been appointed, (and failing such appointment of the third arbitrator, as aforesaid, the third arbitrator shall be appointed upon the application of either the Landlord or the Tenant by a Judge of the High Court of Ontario, or such person as that Judge may designate). If either the Landlord or the Tenant shall refuse or neglect to appoint an arbitrator within **thirty (30)** days after the other party has appointed an arbitrator and shall have served a written notice upon the party so refusing or neglecting to appoint an arbitrator, requiring such party to make such appointment, then the arbitrator first appointed shall, at the request of the party appointing him, proceed to hear and determine the matters in dispute as if he were a single arbitrator appointed by both the Landlord and the Tenant for this purpose. The award or determination which shall be made by the arbitrator or the majority of them, or by the single arbitrator, as the case may be, both as to the matters in dispute and as to the costs of the arbitration, shall be final and binding upon the Landlord and the Tenant and there shall be no appeal therefrom. Except as otherwise hereinbefore set forth, the provisions of the *Arbitration Act*, 1991 S.O. 1991 c.17, from time to time in effect or any legislation in substitution therefore, shall apply to any arbitration pursuant to the provisions of this Lease, provided that any limitation on the remuneration of the arbitrators imposed by such legislation shall not be applicable.

15.08 Confidentiality

The Landlord covenants that any information to which it has access relating to the Tenant's operations shall be considered as confidential and shall be held in the strictest confidence by the Landlord, and that the Landlord shall not communicate the same orally or in writing to others in any manner whatsoever except as may be required by law and shall use its best efforts to prevent those within its employ and control from communicating to others such information.

15.09 Construction

Each obligation or agreement of the Landlord or the Tenant expressed in this Lease, even though not expressed as a covenant, is considered to be a covenant for all purposes.

The captions or headings introducing articles or sections of this Lease are for convenience of reference only and in no way define, limit, construe or describe the scope or intent of such articles or sections of this Lease or in any way affect the interpretation of this Lease.

The words "herein", "hereof", "hereby", "hereunder", "hereto", "hereinafter" and similar expressions refer to this Lease and not to any particular article, section, paragraph or other portion thereof, unless there is something in the subject matter or context inconsistent therewith.

If any term, provision, covenant or condition of this Lease or its application to any person or circumstance is held to be or rendered invalid, unenforceable or illegal, then such term,



provision, covenant or condition shall be considered separate and severable from the remainder of this Lease; shall not affect, impair or invalidate the remainder of this Lease; and to the fullest extent permitted by law shall continue to be applicable to and enforceable against any person or in any circumstance other than those as to which such term, provision, covenant or condition has been held or rendered invalid, unenforceable or illegal.

Wherever the singular number or a gender is used in this Lease the same shall be construed as including the plural and the masculine, feminine and neuter respectively where the fact or context so requires.

This Lease shall be construed in accordance with and governed by the laws of the Province of Ontario.

Time is of the essence of this Lease and of every part hereof.

15.10 Entire Agreement

This Lease and the Schedules attached hereto constitute the entire Lease between the Parties pertaining to the subject matter hereof, and amends, replaces and supersedes all prior and contemporaneous agreements, understandings, negotiations and discussions between the parties whether oral or written, including the Original Lease.

There are no representations, warranties, collateral agreements, conditions or other agreements between the Parties in connection with the subject matter of this Lease except as specifically set forth herein. No supplement, modification, waiver or termination of this Lease shall be binding unless in writing and executed by the Parties. No waiver of any provision of this Lease shall constitute a waiver of any other provision nor shall such waiver constitute continuing waiver unless otherwise expressly provided herein.

The Landlord acknowledges that the Tenant is acting in a representative capacity as bare trustee and agent for one or more beneficial owners.

15.11 Independent Legal Advice

Each of the Parties acknowledges that this Lease has been prepared by the Landlord's lawyers, [REDACTED]. With respect to this Lease and all matters related thereto [REDACTED] has acted for the Landlord and is not acting as lawyers for the Tenant. The Tenant hereby acknowledges that the Tenant has had the opportunity and has been advised by the Landlord and its lawyers to review this Lease and all matters related thereto with independent legal counsel of the Tenant's own choice prior to the Tenant's execution of this Lease.

The Tenant confirms to the Landlord that the Tenant has reviewed this Lease with the Tenant's independent legal counsel and fully understands the Tenant's rights and obligations under this Lease.

[REDACTED]

15.12 Binding Effect

This Lease shall be binding upon and shall enure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors and permitted assigns, as the case may be.

15.13 Good Standing

Each of the Landlord and Tenant hereby certify and declare, with the intent that it will be relied upon by any Mortgagee or Tenant's Mortgagee, that:

- (a) as of [REDACTED] [REDACTED] the Original Lease, and now this Lease, were in good standing;

[the balance of the page left intentionally blank]

[REDACTED]

- (b) all Rent due hereunder has been paid in full to [REDACTED];
- (c) this Lease is in full force and effect, unamended; and
- (d) this Lease is intended to retain the priority of the Original Lease.

The Landlord confirms she is not a spouse.

IN WITNESS WHEREOF the parties hereto have executed this Lease under seal.

[REDACTED]

Tenant:

[REDACTED]

[REDACTED]

By: [REDACTED]

[REDACTED]

Title: President

I have authority to bind the Corporation

[REDACTED]

SCHEDULE "A"
LEGAL DESCRIPTION OF PROPERTY

[REDACTED]

[REDACTED]

[REDACTED]

SCHEDULE "B"
PART 1 – DESCRIPTION OF LEASED PREMISES

The Leased Premises means up to **fifty (50)** contiguous or non-contiguous blocks, each measuring no more than **sixteen (16)** metres by **sixteen (16)** metres square in the Designated Area to be selected by the Tenant from time to time during the Term in its sole and unfettered discretion, subject to reasonable objections of the Landlord if the selection of any block would cause material detriment (over and above the loss of available Land) to the Landlord's farming operations.

PART 2 – DESCRIPTION OF DESIGNATED AREA

The Designated Area means the Lands except that part of the Lands:

- (a) on which any house, barn, out building or other existing permanent structure is located (including that part of the Lands on which they are situate) together with that part of the Lands located within a distance less than **thirty (30)** metres from where such structures have been sited; and
- (b) lying within a distance of **ten (10)** metres from any private road, feed station or similar improvement on the Lands.



**SCHEDULE "C"
ANNUAL RENT**

Project: MELANCTHON

In this Schedule and in the Lease to which it is annexed:

"Annual Rent" means the sum of A and B, where A and B are:

A. [REDACTED] DOLLARS (the "Basic Rent").

B. [REDACTED] percent of the Tenant's annual gross revenues from electricity sales attributable to all of the Wind Turbine Units installed upon the Leased Premises less the total costs incurred to operate them during any calendar year occurring after the Construction Commencement Date calculated as follows:

$$B = \frac{TGR-C}{TT} \times GT \times [REDACTED]$$

Where:

TGR represents the total annual gross revenue from the Tenant's electricity sales for all Wind Turbine Units operating as part of the Wind Farm;

C represents the total costs incurred from operating all Wind Turbine Units that form part of the Wind Farm during the applicable year;

TT represents the total number of Wind Turbine Units operating as part of the Wind Farm during the applicable year; and

GT represents the total number of Wind Turbine Units installed upon the Leased Premises during the applicable year.

"CPI" or "Consumer Price Index" means the Consumer Price Index (All items for Regional Cities, base year 1992 = 100) for the City of Windsor, Ontario published by Statistics Canada (or by a successor or other governmental agency, including a provincial agency), or if the CPI is no longer published, an index published in substitution for the CPI or any replacement index designated by the Tenant with the consent of the Landlord. If a substitution is required, the Tenant will make the necessary conversions. If the base year for the CPI (or the substituted or replacement index) is changed by Statistics Canada (or by its successor or other governmental agency) the Tenant will make the necessary conversions.

"Compensation Calculation Date" means the last day of each Quarter.

"Construction Commencement Date" means the date upon which the Tenant breaks ground for the purpose of constructing any Roadway on the site where the Leased Premises are sited or for the installation of the Wind Turbine Units on the Leased Premises, whichever is earlier.

[REDACTED]

"Final Quarter" means October 1 to December 31 of each calendar year.

"Quarter" means, as applicable, January 1 to March 31; April 1 to June 30; July 1 to September 30 and October 1 to December 31 of each calendar year.

"Quarterly Default Compensation" means [REDACTED] Dollars representing the quarterly allocation of the Basic Rent as set forth in A of the Annual Rent.

"Wind Farm" means all Wind Turbine Units that are erected by the Tenant in the Township of Melancthon, Province of Ontario.

2. Payment

- (a) On each Compensation Calculation Date during the Term or any extension thereof and on the date of expiration or termination of the Term or any extension thereof the Tenant shall pay to the Landlord, the Quarterly Default Compensation.
- (b) Within **thirty (30)** days following the Final Quarter of each calendar year occurring after the Construction Commencement Date, the Tenant shall pay to the Landlord any positive amount obtained in calculating B in the Annual Rent.

3. CPI Adjustment

On January 1 of each calendar year during the Term and any extension thereof, the Basic Rent or the Quarterly Default Compensation, as applicable, shall be automatically increased by the amount obtained by multiplying the Basic Rent or the Quarterly Default Compensation, as applicable, for the previous calendar year of the Term, or any extension thereof, by the percentage increase in the CPI from January 1 of the previous year to January 1 of the then current year of the Term or any extension thereof, provided that the new Basic Rent or the new Quarterly Default Compensation, as applicable, shall not be greater than the amount that would be obtained by increasing the original Basic Rent or the original Quarterly Default Compensation, as the case may be, by **three (3%) percent** compounded annually from January 1 of the calendar year in which the Construction Commencement Date occurs to January 1 of the then-current year of the Term or any extension thereof.

4. Fixed Annual Rate Election during Extension Term

If the Landlord chooses to receive as Annual Rent during the initial **twenty (20)** years of the Term the fixed Annual Rent stipulated in subparagraphs (b)(i) and (ii) of Section 3.02 but thereafter, pursuant to Section 1.03, chooses to have the Annual Rent in this Schedule and in the Lease to which it is annexed apply for an extension term then the Basic Rent for the **first (1st)** year of the applicable extension term, as the case may be, shall be determined on the basis that the Landlord had chosen to have the Annual Rent calculated and paid during the initial **twenty (20)** years of the Term and subsequent extension(s) thereof in accordance with this Schedule C.

[REDACTED]

SCHEDULE "D"
RIGHTS AND REMEDIES ACCORDED TO TENANT'S MORTGAGEES

1. The Landlord will from time to time execute and deliver such consents and acknowledgements reasonably requested by the Tenant's Mortgagee.
2. The Landlord agrees that, upon the Tenant's Mortgagee giving the Landlord written notice of a Tenant's Mortgage, the Tenant's Mortgagee will, without any further action being required, have the benefit of the following provisions until such time as the Tenant's Mortgagee advises the Landlord in writing that its Tenant's Mortgage is no longer in effect (and, if the Tenant's Mortgagee so requests, the Landlord will (i) acknowledge in writing that the Tenant's Mortgagee so benefits from these provisions, or (ii) enter into a written agreement with the Tenant's Mortgagee substantially in accordance with these provisions):
 - (a) the Landlord will give prompt written notice to the Tenant's Mortgagee of any breach or default by the Tenant of its obligations under the Lease in respect of which the Landlord proposes to exercise any of its remedies;
 - (b) the Landlord will give the Tenant's Mortgagee the right to cure any breach or default by the Tenant under the Lease, within a period of **ninety (90)** days commencing on the later of (i) the expiry of the cure period afforded the Tenant under the Lease, and (ii) the date on which the Landlord gives the Tenant's Mortgagee notice of such breach or default pursuant to Section **B.2(a)**, or such longer period of time as the Tenant's Mortgagee may reasonably require to cure such breach or default; and no exercise by the Landlord of any of its rights or remedies against the Tenant will be effective against the Tenant or the Tenant's Mortgagee unless the Landlord has the Tenant's Mortgagee such notice and opportunity to cure;
 - (c) if the Tenant's Mortgagee is not capable of curing any breach or default of the Tenant under the Lease (such as a breach or default relating to the bankruptcy or insolvency of the Tenant), the Tenant's Mortgagee will have the right to cure all defaults that are curable within the time period specified in Section **B.2(b)** and the Landlord agrees that it will not terminate the Lease (or exercise any other rights or remedies against the Tenant's Mortgagee) if all curable defaults are cured by the Tenant's Mortgagee within such time period;
 - (d) the Landlord agrees that if there exists any breach or default of the Tenant under the Lease at any time when any receivership, insolvency, bankruptcy or similar proceedings or events relating to the Tenant are proceeding or when the Tenant's Mortgagee is enforcing the security of the Tenant's Mortgage, (i) the Landlord will not terminate the Lease as a result thereof, and (ii) if the Lease is actually terminated or disclaimed in connection with or as a result of any such proceedings or enforcement, the Tenant's Mortgagee or its nominee or appointee will have the right to enter into a new Lease upon the same terms and conditions (including any options to renew or to purchase) as the terminated Lease (the "New Lease"), provided that:



- (A) the Tenant's Mortgagee has notified the Landlord in writing of its intention to enter into the New Lease within **ninety (90)** days from the date the Tenant's Mortgagee receives written notice from the Landlord that the Lease has been terminated or disclaimed; and
- (B) the Tenant's Mortgagee pays to the Landlord such amounts as may then be owing by the Tenant to the Landlord under the terminated Lease and cures or commences diligently to cure any breach or default by the Tenant under the terminated Lease that is capable of being cured by the Tenant's Mortgagee;

and if the Tenant's Mortgagee notifies the Landlord of its intention to enter into a New Lease, then the Landlord will forthwith execute and deliver to the Tenant's Mortgagee a New Lease;

- (e) if the Tenant's Mortgagee takes enforcement proceedings under the Tenant's Mortgage and advises the Landlord of its intention in writing to maintain the Lease (the "**Secured Creditor Notice**"), the Tenant's Mortgagee: (i) will be entitled to all of the rights of the Tenant under the Lease as though it were an original party thereto, and (ii) will only be liable for (A) the payment of any arrears that the Landlord gives the Tenant's Mortgagee written notice of within **ten (10)** days of the Tenant's Mortgagee Notice being given to the Landlord, and (B) the performance of Tenant's covenants and obligations arising under the Lease for the period starting on the date enforcement proceedings were commenced and ending on the date such enforcement proceedings are terminated or the Tenant's Mortgagee assigns, transfers, surrenders or terminates the Lease in accordance with its terms;
- (f) the Landlord and the Tenant will not amend, terminate or surrender the Lease without the Tenant's Mortgagee's prior written consent;
- (g) the Landlord will, at any time and from time to time, upon not less than **ten (10)** days' prior request by the Tenant or the Tenant's Mortgagee or proposed the Tenant's Mortgagee, deliver to the Tenant's Mortgagee a statement in writing certifying that: (i) the Lease is in full force and full effect unamended (or setting out any such amendments), (ii) all amounts owing and payable under the Lease have been paid (or setting out any unpaid amounts), and (iii) to the Landlord's knowledge, the Tenant is not in default of its obligations under the Lease in any material respect (or setting out particulars of any such defaults);
- (h) in addition to its obligations under Section B.2(g), the Landlord will, at any time and from time to time, upon not less than **ten (10)** days' prior request by the Tenant or the Tenant's Mortgagee or proposed the Tenant's Mortgagee, execute any agreements, certificates or acknowledgements that the Tenant or the Tenant's Mortgagee may reasonably request with respect to this Lease; and
- (i) all notices to the Tenant's Mortgagee from the Landlord will be in writing and will be sent by personal delivery, registered mail, email or by fax to the address, email address or



facsimile number of the Tenant's Mortgagee set out in any notice that the Tenant's Mortgagee delivers to the Landlord.

3. The provisions of Section **B.2** will enure to the benefit of the Tenant's Mortgagee and its successors and assigns, and any rights conferred on the Tenant's Mortgagee by the terms of this Schedule "**D**" to the Lease or limiting its liability under the Lease will benefit each receiver or receiver-manager appointed by the Tenant's Mortgagee or by a court of competent jurisdiction; and
4. The Landlord will give any purchaser or any other person acquiring an interest in the Premises notice of the Lease (including the terms of this Schedule "**D**") and any notice received from the Tenant's Mortgagee.
5. The Landlord hereby acknowledges that Lessee may grant a Tenant's Mortgage or other security to a trustee or collateral agent acting on behalf of one or more lenders (a "**Collateral Agent**"), and the Landlord hereby acknowledges and agrees that upon its receipt of notice that such a Tenant's Mortgage or other security was granted, the Collateral Agent will be entitled to all of the rights of the Tenant's Mortgagee set forth in this Schedule "**D**" to the Lease and such notice will constitute notice of the existence of the Collateral Agent as the Tenant's Mortgagee.



Appendix 6 - Form of Transmission Easement (for Rail Corridor)

AGREEMENT TO GRANT EASEMENT

THIS AGREEMENT dated the _____ day of _____, 2012.

BETWEEN:

CORPORATION OF THE COUNTY OF DUFFERIN
(hereinafter called the "County")

OF THE FIRST PART

- and -

DUFFERIN WIND POWER INC.
(hereinafter called "DWPI")

OF THE SECOND PART

WHEREAS the County is, or will become, the registered owner in fee simple in possession, of that parcel or tract of land and premises legally described on Schedule "A" attached hereto (the "County Lands");

AND WHEREAS DWPI is the registered tenant and/or owner in fee simple, of the lands and premises located in Melancthon Township shown on the plan attached as Schedule "B" attached hereto as the same may be modified from time to time with the approval of the Ontario Power Authority or any successor thereto (the "OPA") (the "DWPI Lands");

AND WHEREAS the Council of the County considered a report entitled "<*>" on <*>, 2012 and enacted By-law No. <*> authorizing the County to grant to DWPI a right in the nature of an easement or right-of-way over a part of the County Lands comprising an area of [approximately 32 kilometers in length and 10 metres in width, with the exception of five locations (each being approximately 40 metres in length) that will have overhead to underground/underground to overhead structures, which locations will be approximately 11.5 meters in width] as shown on the sketch attached hereto as Schedule "C" (the "Easement Lands"), to accommodate an electrical transmission line in accordance with the terms and conditions set out below;

WITNESSETH that in consideration of the sum of Ten Dollars (\$10.00) of lawful money of Canada now paid by each of DWPI and the County to the other party, the receipt whereof is hereby acknowledged, the parties agree as follows:

1. Subject to the terms of this Agreement, the County does hereby agree to grant and convey to DWPI for a period of forty-five (45) years commencing on the date hereof (the "Term"), a right in the nature of a non-exclusive easement or right of way (the "Easement") in, over, upon, and through the Easement Lands solely for the purpose of surveying, constructing, operating, using, inspecting, repairing and maintaining on such Easement Lands an electrical transmission line and appurtenant infrastructure and systems (hereinafter collectively referred to as "Works") as necessary for the transmission of electricity generated from the operation of a wind power electrical generation facility on the DWPI Lands from the DWPI Lands to the Orangeville Hydro One 230 kV Transformer Station and, during the construction of the Works and when inspecting, maintaining and repairing the Works to access the Easement Lands with vehicles and equipment and to laydown materials and equipment on and over the County Lands (the "Purposes").
2. Prior to the commencement of the Term, DWPI agrees to pay the County the sum of <*>, plus Harmonized Sales Tax (the "Fee") as consideration for the grant contemplated herein. The initial installment of \$<*> of the Fee shall be paid on execution and delivery of a fully executed copy of this Agreement and the balance of the Fee shall be paid upon delivery and registration of the Transfer of Easement (as defined in Section 22 below)

and the issue by the County of all permits required for construction of the Project and the Works, whichever is later.

3. Upon payment of the initial installment of the Fee, DWPI, its servants and agents, shall be entitled to access the County Lands to permit DWPI to conduct geotechnical investigations, take soil samples, environmental assessments and conduct other site assessments. Forthwith upon commencement of the Term and the payment of the Fee, DWPI, its servants and agents shall be entitled to enter upon the Easement Lands for the Purposes.
4. DWPI acknowledges and agrees that the Easement shall be encumbered by, and subject to present and future, pedestrian and motorized vehicle trail(s), rail line(s), easement and crossing agreements with adjacent owners, registered and unregistered easements, and structures and improvements now existing or which may at any time or times from time to time be constructed or located on the Easement Lands (the "**Encroachments**") and the County's continued unimpeded use of such Encroachments. DWPI agrees to accept the Easement herein granted subject to the Encroachments and agrees that it will not seek the removal or alteration of the Encroachments in the future, provided that any such Encroachments which may hereafter be granted, constructed or located on the Easement Lands shall not materially impair the use by DWPI of the Easement for the Purposes and the Encroachments comply with applicable laws and setbacks required by governmental authorities including the Ontario Energy Board and the Electrical Safety Authority and their respective successors. The County shall obtain from any person to whom it grants a right or permit to use Encroachments and/or the County Lands a written acknowledgement in favour of DWPI acknowledging DWPI's right to use the Easement Lands for the Purposes.
5. DWPI covenants and agrees that:
 - (a) DWPI shall use the Easement Lands only for the Purposes and, without limiting the generality of the foregoing, shall not use or permit the Easement Lands to be used for any other purpose.
 - (b) The County shall have the right to designate a contractor or agent to supervise DWPI's construction of the Works on the Easement Lands, and DWPI agrees to reimburse the County for all fees and other amounts reasonably charged by such contractor or agent for such supervision.
 - (c) DWPI shall (within a reasonable period of receipt by DWPI) provide the County with copies of all testing results and studies obtained by DWPI in connection with the Works and/or the Easement Lands.
 - (d) Prior to commencing construction of the Works, DWPI shall provide appropriate public notice including, without limitation, signage.
 - (e) It shall, upon request, provide the County with copies of any input received from any public consultation process conducted by or on DWPI's behalf in respect of DWPI's generation project and/or the use of the County Lands as a transmission corridor.
6. Except to the extent approved or ordered by the Ontario Energy Board or any successor thereto or as may be required by law, DWPI agrees that it shall not construct or modify in any material respect the Works without the prior written approval of the County and all authorities having jurisdiction including, without limitation, the location and siting of the Works on the Easement Lands. DWPI, at its sole cost and expense, shall obtain all permits necessary to utilize the Easements and the Works for the Purposes including, without limitation, all permissions to construct renewable energy approvals or similar permits. Such construction and modifications, if approved by the County, shall be conducted by DWPI at its sole cost and expense and in compliance with all applicable laws and regulations and the requirements of every authority having jurisdiction and in accordance with good utility practice. All materials and utility line design utilized in connection with such construction and modification shall comply with the standards set by the Ontario Energy Board, the Canadian Standards Association and good utility practices and shall be subject to the County's inspection and approval.
7. Upon expiry or earlier termination of the Term, DWPI shall, at its sole cost and expense, decommission and/or remove such of the Works as the County shall require to be decommissioned and/or removed, such decommission and/or removal to be completed

on or before the end of the Term. DWPI shall, at its sole cost and expense, repair any damage caused to the Easement Lands or the County Lands by the installation, decommission or removal of such Works and shall restore the impacted lands to their former state. DWPI's obligations pursuant to this Section shall be secured by the letter of credit or other security provided to the County pursuant to Section 26 hereof.

8. DWPI covenants and agrees that except to the extent contemplated by this Agreement its use of the Easement Lands is not intended to in any material way adversely affect or prohibit:
 - (a) the County's operations on the County Lands;
 - (b) the County's use of the Encroachments; and
 - (c) the use of the County Lands by others entitled thereto including, without limitation, users pursuant to specific agreements with the County.
9. DWPI shall, at its own risk and expense, during the Term of this Agreement, maintain the Easement Lands, including without limitation the Works, in accordance with good utility practices for tree trimming and clearing transmission line corridors in the Province of Ontario and shall provide all materials and perform all maintenance thereof, to the satisfaction of the County and all authorities having jurisdiction. DWPI covenants and agrees that all maintenance activities will be conducted in a manner to minimize any interference with the use of the Easement Lands by the County or any other party entitled to use the Easement Lands.
10. The County grants DWPI, its servants and agents, the right to use of the County Lands to permit DWPI to maintain and repair the Works. DWPI will notify the County in writing at least ten (10) days prior to the date of such anticipated use, except in the case of emergencies in which case DWPI shall give as much notice, if any, as is practicable.
11. DWPI shall, at its own expense, comply with, in all material respects, all applicable laws, by-laws, ordinances, regulations and directives relating to DWPI's use and occupation of the Easement Lands including, without limitation the Ontario Energy Board, the Electrical Safety Authority and all utility companies and/or public authorities having jurisdiction over DWPI's use and occupation of the Easement Lands, and DWPI shall, at its own expense, construct, maintain and repair of the Works in accordance with good utility practice, including, without limitation, all federal and provincial requirements, including, without limitation, the Electrical Safety Code.
12. DWPI acknowledges and agrees that should it fail to comply with its requirements under Sections 9 and 11 of this Agreement, that the County shall have the right and entitlement to enter upon the Easement Lands and undertake such actions and carry out such matters or things as may be required to remedy or rectify DWPI's default and recover the costs or expenses of doing so by presenting evidence of same to DWPI which DWPI undertakes to pay within thirty (30) days. DWPI's obligations pursuant to this Section shall be secured by the letter of credit or other security provided to the County pursuant to Section 26 hereof.
13. For the purposes of this Agreement:
 - (a) "**Environmental Laws**" means any domestic and foreign federal, provincial, municipal or local laws, statutes, regulations, ordinances, guidelines, guidance notes, policies, judge made laws or common laws and any orders of a court or governmental authority, relating in any way to the natural or human environment (including land, surface water, groundwater, and real, personal, moveable and immovable property), public or occupational health and safety, and the manufacture, importation, handling, use, reuse, recycling, transportation, storage, disposal, elimination and treatment of a substance, hazardous or otherwise; and
 - (b) "**Pollutants**" means any substance which is regulated by or which would be considered a contaminant, pollutant, waste or deleterious or hazardous substance under Environmental Laws, or which is or may be hazardous to persons or property or detrimentally affect property value and includes, without limiting in any way the generality of the foregoing:
 - (i) radioactive materials;

- (ii) explosives;
 - (iii) any substance that, if added to any air, land and/or water, would degrade or alter or form part of a process of degradation or alteration of the quality of that air, land and/or water, to the extent that it is detrimental to its use by human beings or by any animal or plant;
 - (iv) any solid, liquid, gas, microorganism, mould, sound, vibration, ray, heat, radiation, odour or combinations of any of them that is likely to alter the quality of the environment (including air, land and water) in any way or the presence of which in the environment is prohibited by regulation or is likely to affect the life, health, safety, welfare or comfort of human beings or animals or to cause damage to or otherwise impair the quality of soil, vegetation, wildlife or property;
 - (v) toxic substances;
 - (vi) substances declared to be hazardous or toxic under any law or regulation now or hereafter enacted or promulgated by any governmental or municipal authority having jurisdiction over the County, DWPI, the Easement Lands, or the County Lands of which the Easement Lands form a part;
 - (vii) any substance, the use or transportation of which or the release of which into the environment is prohibited, regulated, controlled or licensed under Environmental Laws; and
 - (viii) anything contaminated by any Pollutants.
14. DWPI shall not bring into or allow to be brought onto the Easement Lands or the County Lands any Pollutants, except such as are disclosed in Schedule "D" attached hereto or existed in or on the County Lands at the date of this Agreement. If DWPI or its employees or those for whom it is in law responsible shall bring, create, discharge or release upon, in or from the County Lands, including the Easement Lands, any Pollutants, whether or not disclosed in Schedule "D" and whether during the Term of this Agreement, then such Pollutants shall be and remain the sole property of DWPI and DWPI shall promptly remove same at its sole cost at the expiration or sooner termination of the Term or sooner if required by the County.
15. If, during the Term or any renewal or extension of this Agreement or at any time thereafter, any governmental authority shall require the clean-up of any Pollutants:
- (a) held in, discharged in or from, released from, abandoned in, or placed upon the Easement Lands or the County Lands by DWPI or its employees or those for whom it is in law responsible; or
 - (b) released or disposed of by DWPI or its employees or those for whom it is in law responsible;
- whether during DWPI's occupancy of the Easement Lands or any other portion of the County Lands pursuant to this Agreement, then DWPI shall, at its own expense, carry out all required work, including preparing all necessary studies, plans and approvals and providing all bonds and other security required by any governmental authority or required by the County and shall provide full information with respect to all such work to the County; provided that the County may, at its option, perform any such work at DWPI's sole cost and expense, payable on demand.
16. In addition to and without restricting any other obligations or covenants herein, DWPI covenants that it will:
- (a) comply in all material respects with all Environmental Laws relating to the Easement Lands or the use of the Easement Lands;
 - (b) promptly notify the County in writing of any notice by any governmental authority alleging a possible violation of or with respect to any other matter involving any Environmental Laws relating to operations in the Easement Lands or relating to any Person for whom it is in law responsible or any notice from any other party concerning any release or alleged release of any Pollutants; and

- (c) permit the County to:
 - (i) enter and inspect the Easement Lands and the operations conducted therein,
 - (ii) conduct tests and environmental assessments or appraisals,
 - (iii) remove samples from the Easement Lands, and
 - (iv) examine and make copies of any documents or records relating to the Easement Lands and interview DWPI's employees as necessary; and
 - (d) promptly notify the County of the existence of any Pollutants on the County Lands, beyond those reasonably anticipated to be located on the County Lands as a result of their prior use as a rail corridor.
17. DWPI shall, during the Term and at all times thereafter, indemnify and hold the County, its elected officials and employees, harmless at all times from and against any and all losses, damages, penalties, fines, costs, fees and expenses (including legal fees on a solicitor and client or substantial indemnity basis and consultants' fees and expenses) resulting from:
- (a) any breach of or non-compliance with the environmental obligations and covenants of DWPI as set out in this Agreement; and
 - (b) any legal or administrative action commenced by, or claim made or notice from, any third party, including, without limitation, any governmental authority, to or against the County and pursuant to or under any Environmental Laws or concerning a release or alleged release of Pollutants at or on the Easement Lands into the environment and related to or as a result of the operations of DWPI or those acting under its authority or control on the Easement Lands or any other portion of the County Lands, and any and all costs associated with air quality issues, if any, relating to DWPI's use of the Easement Lands, and whether during the Term of this Agreement or any other agreement between DWPI and the County with respect to the Easement Lands or any other portion of the County Lands
18. DWPI shall obtain and provide the County with a pre-construction survey of the Easement Lands and adjacent lands to identify all wells located within 120 metres of the Easement Lands.
19. DWPI shall, at its own risk and expense, keep the Easement Lands free of combustible matter and, as required to ensure good and safe operation, to keep the Easement Lands clear of materials and obstructions in accordance with good utility practices.
20. DWPI covenants and agrees that:
- (a) it shall, at its expense, maintain throughout the Term and during any period thereafter when it may be permitted or required to have access to the Easement Lands, the insurance (the "Insurance") described below. Such Insurance shall: (1) be primary, non-contributing with and not in excess of other insurance available to the County; and (2) contain a prohibition against cancellation or material change that reduces or restricts the Insurance (except on thirty (30) days prior notice to the County). Prior to its initial access to or occupancy of the Easement Lands by DWPI, and thereafter at any time upon request from the County or upon renewal, amendment or extension of all or any part of the Insurance, DWPI shall immediately deliver to the County evidence of the Insurance satisfactory to the County. The Insurance is as follows:
 - (i) all risks property insurance, on the Works and on all chattels, equipment and other personal property owned or operated by DWPI or by others (other than the County) on behalf of DWPI in or upon the Easement Lands, insurance for all property owned by DWPI or for which DWPI is legally liable located within or near the County Lands. The Insurance shall (1) name the County, the County's property manager and the County's mortgagee(s) as additional insureds, and (2) contain a waiver of any subrogation rights that the insurers may have against the County and against those for whom the County is responsible in law,

- (ii) ■ Dollars (\$■) inclusive limits comprehensive general liability insurance. This insurance shall: (1) name the County as an additional insured; (2) contain a provision that precludes invalidation as respects the interest of the County by reason of any breach or violation of warranties, representations, declarations, or conditions; (3) shall protect and indemnify the County in respect of all Claims, including Claims by DWPI, as if the County was separately insured; and (4) such insurance shall include cross liability and severability of interest clauses, and
 - (iii) any other form of insurance that the County, acting reasonably requires, in amounts and for insurance risks against which a prudent user would insure;
 - (b) if it fails to take out or keep any such Insurance, the County has the right, without assuming any obligation in connection therewith and without prejudice to any other rights and remedies of the County under this Agreement, to effect the Insurance at the sole cost of DWPI, and all costs incurred by the County to effect such Insurance shall be paid by DWPI to the County on demand; and
 - (c) it hereby waives its right of recovery against the County, its employees and those for whom the County is in law responsible with respect to all Claims required to be insured against by DWPI hereunder. Any and all deductibles in DWPI's insurance policies shall be borne solely by DWPI and shall not be recovered or attempted to be recovered from the County. In addition, all such policies shall be non-contributing with, and will apply only as primary and not excess to, any insurance proceeds available to the County.
21. The County, its elected officials, agents, officers, employees, contractors and others for whom the County is legally responsible shall not be liable for any death or injury arising from or out of any occurrence in, upon, at or relating to the County Lands, or damage to the Works, the property of DWPI or of others located on the Easement Lands or elsewhere on the County Lands, nor shall it or they be responsible for any loss of or damage to any property of the County, DWPI or others from any cause whatsoever, other than any such death, injury, loss or damage which results from the willful misconduct or gross negligence of the County, its officers, employees, and others for whom the County is legally responsible.
22. To the fullest extent permitted by law, DWPI, and its successors and assigns, hereby release and agree to indemnify, defend and hold harmless the County, its elected officials and employees and its affiliates and the respective employees, officers, directors, shareholders, partners and members of each of the foregoing entities (the "**County Indemnified Party**") from and against any claim, liability, loss, damage, demand, lawsuit, cause of action, strict liability, penalty, fine, administrative law, action and order, expense including but limited to reasonable legal fees and expenses, and/or cost of every kind and character (collectively a "**Claim**") whether or not involving a Claim by, or of, a County Indemnified Party arising out of or in any way incident to: (a) the construction, erection, installation, operation, inspection, repair, replacement or maintenance of any Works associated with the use of the Easement Lands or any other matters related thereto being initiated, provided or performed by DWPI or its contractors, agents, employees or sub-contractors, or any of their respective employees or agents under this Agreement, including without limitation, on account of defective work, breach of agreement, failure of equipment, failure of methods employed, violation of law, personal injuries, death, damage to property, damage to the environment, or infringement of any patent, trademark, copyright or other property right, regardless of whether such harm is to DWPI its employees or officers, the County or any other person or entity; (b) damages and injuries occurring in or upon the Easement Lands or any portion of the County Lands outside the Easement Lands that relates to DWPI's operations, (c) any intentional act, or negligence of DWPI or DWPI's agents, employees, or contractors, (d) any breach or default in the performance of any obligations of DWPI to be performed under this Agreement. This indemnity shall survive the expiration or termination of this Agreement. Notwithstanding the foregoing, DWPI shall not be required to indemnify a County Indemnified Party if such Claim arises from an event caused solely by the gross negligence or wilful misconduct of the County.
23. The County shall, forthwith upon the request of DWPI, execute and deliver a registerable grant or transfer of easement in favour of DWPI, incorporating the terms herein and in a form acceptable to both parties, each acting reasonably (the "**Transfer of Easement**"). Any reference plan, survey or legal description required for the purposes of description

of the County Lands, the DWPI Lands or the Easement Lands shall be prepared or obtained by DWPI at its expense, and shall be subject to approval by the County. The County and DWPI will cause their respective legal counsel to register the Transfer of Easement on title at DWPI's cost (including applicable land transfer tax). The County covenants that at the time of registration of the Transfer of Easement, title to the Easement Lands will be free and clear of all encumbrances other than non-financial encumbrances which will not prevent or restrict DWPI's use of the Easement Lands for the Purposes. Upon expiry of the Term, DWPI agrees that it will, at its sole expense, discharge and delete from title the Transfer of Easement. If such registration is not discharged and withdrawn, the County shall have the right and is hereby appointed by DWPI as its agent to prepare, execute and register such documentation as is required to discharge and delete such registration.

24. This Agreement shall be conditional upon compliance with the provisions of the *Planning Act* (Ontario).
25. This Agreement shall be of the same force and effect as a covenant running with the County Lands and the rights hereunder shall be appurtenant to each and every part of the DWPI Lands. DWPI shall not enter into, consent to, or permit any Transfer (as such term is defined below) without the prior written consent of the County, which consent shall not be unreasonably withheld, conditioned or unduly delayed. With respect to such Transfer:
 - (a) if there is a permitted Transfer, the County may collect the Fee and, any other amounts due hereunder, from the transferee and apply the amount collected to the Fee payable under this Agreement but no acceptance by the County of any payments by a transferee shall be deemed to be a waiver of DWPI's covenants or any release of DWPI from the further performance by DWPI of its obligations under this Agreement. Any consent by the County shall be subject to DWPI and the transferee executing, prior to the Transfer being made, an agreement with the County agreeing that the transferee will be bound by all of the terms of this Agreement and that the transferee will be so bound as if it had originally executed this Agreement;
 - (b) notwithstanding any Transfer permitted or consented to by the County, DWPI shall remain liable under this Agreement and shall not be released from performing any of the terms of this Agreement;
 - (c) if the Transfer in respect of which consent has been given is not completed within one hundred and twenty (120) days of the date of such consent, or if DWPI is in default under this Agreement, then such consent shall, at the County's option, become void; and
 - (d) the agreements referred to in this Section 25 and any document evidencing the County's consent to any Transfer shall, at the County's option, be prepared by the County or its solicitors at DWPI's cost.

For the purposes of this Agreement "**Transfer**" means: (i) an assignment of this Agreement in whole or in part including an assignment by operation of law, (ii) a parting with or sharing of possession of all or part of the Easement Lands, (iii) any transaction by which any right of use or occupancy of all or any part of the Easement Lands is conferred upon anyone, (iv) any mortgage, charge or encumbrance of this Agreement or the Easement Lands or any part thereof, or other arrangement under which either this Agreement or the Easement Lands becomes security for any indebtedness or other obligations; and (v) any transaction or occurrence whatsoever which has changed or might change the identity of the person or persons having lawful use or occupancy of any part of the Easement Lands.

Notwithstanding the foregoing, DWPI shall be permitted to assign or charge its interest in this Agreement to: (i) an affiliate within the meaning of the *Ontario Business Corporations Act* or a partnership controlled by DWPI or an affiliate; and (ii) a *bona fide* lender providing financing to DWPI for construction of the proposed wind powered electrical generation, distribution and transmission facility on the DWPI Lands (the "**Project**") provided that such lender agrees to be bound by all of the terms and provisions of this Agreement if such lender enters into possession of the DWPI Lands. The County hereby agrees to execute and deliver an acknowledgement and consent agreement in favour of any of DWPI lenders substantially in the form attached hereto as Schedule "E".

26. In order to secure its obligations under Section 7 (decommissioning) and Section 12 (cost recovery) of this Agreement, DWPI shall file with the County, upon delivery and registration of the Transfer of Easement, an irrevocable letter of credit or other security satisfactory to the County acting reasonably, DWPI covenants and agrees that the letter of credit shall be kept in full force and effect and that it will pay all premiums as the letter of credit becomes due or until such time as the County returns the letter of credit. DWPI expressly agrees and authorizes the County to draw upon the letter of credit in whole or in part in case of default under this Agreement.
27. An “**Event of Default**” will be considered to have occurred when any one or more of the following happens:
- (a) DWPI fails to pay any monetary payment when it is due and the failure continues for ten (10) business days after written notice from the County to DWPI of specifying the failure;
 - (b) DWPI fails to observe or perform any other of the terms, covenants, conditions or agreements contained in this Agreement and DWPI fails to diligently commence to remedy the failure or default within 45 business days after written notice from the County to DWPI specifying the failure;
 - (c) the Term, the Works or any of the goods, chattels, or fixtures of DWPI on the Easement Lands or the DWPI Lands are seized or taken or exigible in execution or in attachment or if a writ of execution or enforcement is issued against DWPI, which is not satisfied, lifted or stayed within 45 business days of written notice from the County to DPWI specifying the failure;
 - (d) DWPI becomes insolvent or commits an act of bankruptcy or becomes bankrupt or takes the benefit of any statute that may be in force for bankrupt or insolvent debtors or becomes involved in voluntary or involuntary dissolution, winding up or liquidation proceedings or if a receiver is appointed for all or part of the business, property, affairs or revenues of DWPI, or if DWPI makes a proposal, arrangement or compromise with creditors which is not set aside or stayed within 45 business days of such event occurring;
 - (e) DWPI ceases or fails to commence the use of the Works on the Easement Lands on or prior to the date which is 60 months following the execution of this Agreement; or
 - (f) DWPI effects a Transfer that is not permitted by this Agreement.

Upon an occurrence of an Event of Default the County shall have the right to terminate this Agreement and the Easement and to pursue any other remedies available at law or in equity.

28. Upon expiry or earlier termination of the Term, DWPI, at its sole cost and expense, shall execute any and all documents required by the County to transfer, release and abandon the Easement and to register same on title to the County Lands.
29. Whenever, and to the extent that, either party is unable to fulfil or is delayed or restricted in the fulfillment of any obligation under any provision of this Agreement by reason of strikes, lock-outs, war or acts of military authority, rebellion or civil commotion, material or labour shortage not within their control, fire or explosion, flood, wind, water, earthquake or other casualty, any event or matter not wholly or mainly within their control (other than lack of funds or any financial condition of the parties hereto) or acts of God (in each case, a “**Force Majeure**”) not caused by the default or act of or omission by such party and not avoidable by the exercise or reasonable effort or foresight by it, then, so long as any such impediment exists, such party will be relieved from the fulfillment of such obligation and the other party will not be entitled to compensation for any damage, inconvenience, nuisance or discomfort thereby occasioned. Such party will be required and is entitled to perform such obligation within a period of time immediately following the discontinuance of such impediment that is equal to the period of time that such impediment existed. Such party shall promptly notify the other party of the occurrence of any Force Majeure, which might prevent or delay the doing or performance of acts or things required to be done or performed by such party. The parties will use reasonable efforts to remedy the occurrence and abridge the period of Force Majeure.

30. The parties hereby acknowledge and agree that the purpose of this Agreement and the Rights granted herein is for the transmission of electricity within the meaning of the *Electricity Act*, 1998. Nothing contained in this Agreement shall abrogate or prejudice any statutory rights under any applicable laws including the *Ontario Energy Board Act*, 1998, and the *Electricity Act*, 1998.
31. The parties acknowledge that the County Lands are comprised of lands previously used by CP Rail as a rail corridor. As of the date of this Agreement, registered title to three portions of the CP Rail corridor to be used by DWPI (as more particularly as PINS 34154-0072(LT), 34154-0082(LT) and 34053-0036(LT)) are registered in the names of parties other than the County (the "**Remaining Parcels**"). DWPI agrees to contact the respective owners of each of the Remaining Parcels to make financial offers to each of the said owners to incent their consent to the Notices of Application filed by CP Rail pursuant to which CP Rail is seeking to obtain registered title to the portions of the Remaining Parcels which comprise part of the prior CP Rail corridor.
32. If any notice is required to be provided by DWPI or the County under this Agreement to the other, such notice may be delivered by postage prepaid mail (which shall be deemed to be delivered five (5) days from the date of mailing), by personal delivery, by facsimile transmission or via e-mail as follows:
- (a) to DWPI:
- Dufferin Wind Power Inc.
- 161 Bay Street, Suite 4550
TD Canada Trust Tower
Toronto, Ontario, M5J 2S1
- Attention: President
Fax: (416) 551-3617
E-mail: <*>
- (b) to the County:
- County of Dufferin
55 Zina Street
Orangeville, ON L9W 1E5
- Attention: County Clerk
Fax: 519-941-4565
E-mail: clerk@dufferincounty.on.ca
33. Notwithstanding any other provision in this Agreement, DWPI agrees and acknowledges that this Agreement is not intended to operate, nor shall it have the effect of operating in any way to fetter the County Council or any of its successor councils in the exercise of any of Council's discretionary or legislative powers, duties or authorities.
34. The County and DWPI agree as follows:
- (a) all numbers, headings, subheadings and sections are inserted for convenience of reference only and shall not affect the construction or interpretation of this Agreement;
- (b) this Agreement shall be construed with all changes in number and gender as may be required by the context;
- (c) every provision of this Agreement by which the Owner is obligated in any way shall be deemed to include the words "at the expense of the Owner" unless the context otherwise requires, including the payment of any applicable taxes (including HST);
- (d) references herein to any statute or any provision thereof include such statute or provision thereof as amended, revised, re-enacted and/or consolidated from time to time and any successor statute thereto;
- (e) all obligations herein contained, although not expressed to be covenants, shall be deemed to be covenants;

- (f) whenever a statement or provision in this Agreement is followed by words denoting inclusion or example and then a list of or reference to specific items, such list or reference shall not be read so as to limit the generality of that statement or provision, even if words such as "without limiting the generality of the foregoing" do not precede such list or reference; and
- (g) that all covenants and conditions contained in this Agreement shall be severable, and that should any covenant or condition in this Agreement be declared invalid or unenforceable by a court of competent jurisdiction, the remaining covenants and conditions and the remainder of the Agreement shall remain valid and not terminate thereby.

35. This Agreement shall extend to, be binding upon and enure to the benefit of the respective heirs, executors, administrators, successors and permitted assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

THE CORPORATION OF THE COUNTY OF DUFFERIN

Per: _____
 Name: Walter Kolodziechuk
 Title: Warden

Per: _____
 Name: Pam Hillock
 Title: Clerk
 I/We have authority to bind the Corporation.

DUFFERIN WIND POWER INC.

Per: _____
 Name: Wu Hao
 Title: President

Per: _____
 Name: Jeff Hammond
 Title: Senior Vice-President
 I/We have authority to bind the Corporation.

SCHEDULE "A"

THE COUNTY LANDS

	PIN	Legal Description
1.	34153-0145(LT)	CONSOLIDATION OF VARIOUS PROPERTIES. PT LT 261 CON 1 SWTS AS IN MEL3218 ; MELANCTHON
2.	34153-0111(LT)	PT LT 262, CON 1 SWTS AS IN MEL3218; PT LT 263, CON 1 SWTS AS IN MEL546; PT LTS 264 & 265, CON 1 SWTS AS IN MEL410; PT LT 266, CON 1 SWTS AS IN MEL517; PT LTS 267 & 268, CON 1 SWTS AS IN MEL409; PT LT 269, CON 1 SWTS AS IN MEL547; PT LT 270, CON 1 SWTS AS IN MEL385 ; MELANCTHON
3.	34153-0110(LT)	PT LT 271, CON 1 SWTS AS IN MF85357; PT LT 272 & 273, CON 1 SWTS AS IN MEL392; MELANCTHON.
4.	34153-0126(LT)	PT LT 274-276 CON 1 SWTS MELANCTHON AS IN MF230831; MELANCTHON
5.	34153-0127(LT)	PT LT 277, CON 1 SWTS AS IN MEL526 ; MELANCTHON
6.	34153-0128(LT)	PT LT 278-280 CON 1 SWTS MELANCTHON AS IN MF230831; MELANCTHON
7.	34153-0080(LT)	PT LT 281, CON 1 SWTS AS IN MEL386 ; MELANCTHON
8.	34153-0071(R)	PT LTS 282 TO 290, CON 1 SWTS; MELANCTHON
9.	34154-0086(R)	PT LT 291, CON 1 SWTS; MELANCTHON
10.	34154-0087(R)	PT LT292, CON 1 SWTS; MELANCTHON
11.	34154-0072(LT)*	PT LT 293, CON 1 SWTS AS IN MF207807 ; MELANCTHON
12.	34154-0089(LT)	PT LTS 294 TO 296, CON 1 SWTS AS IN MEL363, MEL362 & MEL550; MELANCTHON.
13.	34154-0090(R)	PT LT 297, CON 1 SWTS; MELANCTHON
14.	34154-0081(LT)	PT LT 298, CON 1 SWTS AS IN *LTD26201; MELANCTHON ;
15.	34154-0082(LT)*	LT 299, CON 1 SWTS, EXCEPT MF110010; TOWNSHIP OF MELANCTHON
16.	34154-0091(LT)	PT LT 300, CON 1 SWTS AS IN MEL548; MELANCTHON.
17.	34154-0085(R)	PT LT 301, CON 2 SWTS; MELANCTHON
18.	34133-0431(LT)	PT LT 5, CON 4 OS, PT 6, 7R567 ; MELANCTHON
19.	34133-0432(R)	PT LT 4, CON 4 OS; MELANCTHON

	PIN	Legal Description
20.	34133-0417(LT)	PT LTS 3 & 4 CON 4 OS, AS IN MEL397 & MEL398 ; SHELBURNE
21.	34133-0433(R)	PT LT 3, CON 3, OS; MELANCTHON
22.	34133-0418(LT)	PT LTS 1 & 2, CON 3 OS, AS IN MEL396, MEL340, MEL364 ; SHELBURNE
23.	34133-0630(LT)	PT LT 1 CON 3 OS MELANCTHON AS IN MF230830; MELANCTHON
24.	34132-0022(LT)	PT LTS 31 & 32 CON 3 AS IN AM696 & AM752 ; SHELBURNE
25.	34129-0133(LT)	PT LT 31, CON 2 AS IN AM692 & AM693 ; SHELBURNE; S/T EASEMENT IN GROSS OVER PT 2, 7R5737 AS IN DC92752
26.	34053-0021(R)	PT LT 30, CON 2; AMARANTH
27.	34053-0020(LT)	PT LT 30, CON 2 AS IN AM694 ; AMARANTH
28.	34053-0036(LT)*	N1/2 OF W1/2 LT 29 CON 2 ; AMARANTH
29.	34053-0018(LT)	PT LTS 28 AND 29, CON 2 AS IN AM837 & AM691 ; AMARANTH
30.	34053-0016(R)	PT LT 27, CON 2; AMARANTH
31.	34053-0017(LT)	PT LTS 26 AND 27, CON 2 AS IN AM695 ; AMARANTH
32.	34052-0006(LT)	PT LT 25 CON 2 AS IN AM690; PT LT 24 CON 2 AS IN AM754; PT LT 23 CON 2 AS IN AM702 AND AM689; PT LTS 21 AND 22 CON 2 AS IN AM832; ; AMARANTH
33.	34052-0004(LT)	FIRSTLY: RDAL BTN CONS 2 AND 3 ABUTTING LTS 21 TO 25; PT LT 21, CON 2 AS IN MF49643; PT LT 21 CON 3 AS IN MF80138; PT LT 23 CON 3 AS IN AM16391; PT LT 24 CON 3 AS IN AM16449 AND AM16057; PT LT 22 CON 2 AS IN MF80134 AND MF80135; PT LT 23, CON 2 AS IN MF80136; PT LT 24, CON 2 AS IN MF80137. SECONDLY: PT LT 25 CON 3 AS IN AM16627; PT LT 22 CON 3 AS IN AM16372 ; S/T AM15202,AM16962 AMARANTH
34.	34052-0007(LT)	PT LT 21 CON 3 AS IN AM709 ; AMARANTH
35.	34047-0078(R)	PT LT 20, CON 3; AMARANTH
36.	34047-0077(LT)	PT LT 19, CON 3 AS IN AM697 & AM701 ; AMARANTH
37.	34047-0076(R)	PT LT 18, CON 3; AMARANTH
38.	34047-0085(LT)	PT LT 17 CON 3 AMARANTH PT 1, 7R4816; AMARANTH
39.	34047-0074(R)	PT LT 16, CON 3; AMARANTH

	PIN	Legal Description
40.	34163-0061(LT)	PT LT 15, CON 3 AS IN AM704 ; AMARANTH
41.	34163-0137(LT)	PT E 1/2 LOT 14, CON 3 DES AS PT 1, 7R4815; AMARANTH ; COUNTY OF DUFFERIN
42.	34163-0052(LT)	PT LT 13, CON 3 AS IN AM887 ; AMARANTH
43.	34163-0048(R)	PT LT 12, CON 3; AMARANTH
44.	34163-0040(LT)	PT LT 11, CON 3 AS IN AM703 ; AMARANTH
45.	34046-0023(LT)	PT LTS 9 & 10, CON 3 AS IN AM700, AM4344, AM10688, AM12905 & AM12906 ; AMARANTH
46.	34046-0019(R)	PT LT 8, CON 3; AMARANTH
47.	34046-0008(LT)	PT LTS 6 & 7, CON 3 AS IN AM822 & AM977 ; AMARANTH
48.	34038-0121(LT)	PT LT 2, CON 3 AS IN AM633, AM9311, AM698, AM5294, AM9874, PT LT 3 CON3 AS IN AM722, PT LT 4 CON 3 AS IN AM699, PT LT 5 CON 3 AS IN AM755, AM756 EXCEPT PT 1, 7R4644; AMARANTH
49.	34038-0007(LT)	PT LT 2 CON 2 AS IN AM543 AND AM559; PT LT 1 CON 2 AS IN AM542; ; AMARANTH

SCHEDULE "B"

DWPI LANDS

See attached
Dufferin Wind Farm
Preliminary Site Plan
General Project Map
Dufferin Wind
prepared by Dillon Consulting

SCHEDULE "C"

SKETCH OF EASEMENT LANDS

See attached
Dufferin Wind Farm
Preliminary Site Plan
230 kV Transmission Line Map
prepared by Dillon Consulting

SCHEDULE "D"
LIST OF POLLUTANTS

[to come]

SCHEDULE "E"

Acknowledgement and Consent Agreement

to an Agreement dated

between

THE CORPORATION OF THE COUNTY OF DUFFERIN

and



ACKNOWLEDGEMENT AND CONSENT AGREEMENT

This Owner's Acknowledgement and Consent Agreement ("**Acknowledgement**") made as of the • day of •, 2012 by and between THE CORPORATION OF THE COUNTY OF DUFFERIN (the "**Owner**") and •, as agent (the "**Agent**") pursuant to a credit agreement dated •, 2011 (as amended, supplemented, restated, extended, renewed or replaced from time to time, the "**Credit Agreement**") between, Dufferin Wind Power Inc. ("**Dufferin Wind**"), *inter alia*, _____ the Agent, • and the other financial institutions from time to time party thereto, as lenders (collectively, the "**Lenders**") and •, in its capacity as collateral agent, under the Agreement made as of •, 2012 (as amended, supplemented, restated, extended, renewed or replaced from time to time, the "**Collateral Agency Agreement**") between Dufferin Wind, the persons who are, and from time to time become, parties thereto as guarantors (including •) and • (the "**Collateral Agent**"), as agent for the Secured Creditors (as defined therein).

WHEREAS:

- A. Dufferin Wind entered into an Agreement to Grant Easement dated •, 2012 and the Transfer of Easement referred to therein which was registered against title to the lands described therein as the Easement Lands (the "**Lands**") on • as Instrument No. • (the Agreement to Grant Easement and the Transfer of Easement are hereinafter collectively called the "**Agreement**"), pursuant to which the Owner has granted to Dufferin Wind, *inter alia*, certain rights in the nature of an easement or right of way to accommodate an electrical transmission line (the "**Rights**") on the terms and conditions set out in the Agreement.
- B. Pursuant to, respectively, the Credit Agreement and the Collateral Agency Agreement (and documentation delivered in connection therewith), the Agent and Collateral Agent, respectively, have been granted charges, mortgages, assignments and security interests (collectively, the "**Security Interests**") in all of the property, undertaking, assets, interests, rights and benefits of Dufferin Wind, including without limitation, all of Dufferin Wind's right title, estate, interest and equity in the Lands, the Agreement, the Easement, all rights, privileges, benefits, agreements and interests therein, and all improvements, equipment, structures, chattels, personal property and appurtenance thereto in, on, under or appurtenant to the Lands (collectively, the "**Collateral**").
- C. The Owner has agreed to execute and deliver this Acknowledgement to the Agent and the Collateral Agent pursuant to the provisions of the Agreement.

NOW THEREFORE in consideration of the sum of Two Dollars (\$2) paid by each of the Agent and the Collateral Agent to the Owner and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Owner hereby acknowledges, covenants and confirms to each of the Agent and the Collateral Agent, as follows:

1. The Owner consents to the creation of the Security Interests and the registration thereof on the title to the Lands in the applicable land registry office(s).
2. The Owner acknowledges that, following an event of default by Dufferin Wind under the Credit Agreement or an event of default as defined in the Collateral Agency Agreement (each, and “**Event of Default**”), the Collateral Agent, the Lenders, the Agent or the Secured Creditors or any nominee or designee thereof or any receiver or receiver-manager (individual and collectively, an “**Agent Party**”) shall have the right to enforce the Security Interests, including, without limitation, the right to enjoy and enforce the rights of Dufferin Wind under the Agreement and, in the course of the enforcement of such rights, shall be entitled to sell, assign, transfer, negotiate or otherwise dispose of the Agreement provided that the Agent Party obtains the consent of the Owner which consent shall not be unreasonably withheld, delayed or unreasonably conditioned, provided that in exercising such rights the Agent Party shall assume all of the liabilities and obligations of Dufferin Wind
3. The Owner agrees:
 - (a) to give the Collateral Agent written notice (at the address below) of any default by Dufferin Wind under the Agreement, concurrent with the delivery of such notice to Dufferin Wind. The Owner shall not be in breach of its obligation under this Agreement if it fails to give notice to the Agent but the Owner shall not be entitled to terminate the Agreement without giving to the Agent in accordance with the same requirements as giving notice to Dufferin Wind pursuant to the Agreement;
 - (b) that, if Dufferin Wind fails to cure the breach or default identified in such notice, the Collateral Agent may, but shall be obliged to, cure such default and the Owner shall not terminate the Agreement or exercise any other remedy under the Agreement if the Collateral Agent, within 30 days of giving date of giving written notice referred to in section 3(a) above, is proceeding to cure such breach or default;
 - (c) that, if any default by Dufferin Wind under the Agreement is not of a curable nature, it shall not exercise any right to terminate if the Collateral Agent or its nominee (provided the Owner consents to such nominee which consent shall not be unreasonably or arbitrarily withheld or delayed) agrees to assume the rights and obligations of Dufferin Wind under the Agreement;
 - (d) that, if the Agreement is terminated or surrendered for any reason prior to the expiry of the term thereof, whether as a result of a default by Dufferin Wind thereunder or otherwise, the Owner shall offer to enter into a new or replacement agreement (the “**Replacement Agreement**”) with the Collateral Agent, or its nominee (provided the Owner consents to such nominee which consent shall not be unreasonably or arbitrarily withheld or delayed) which Replacement Agreement shall be upon the same terms and conditions as the Agreement; and
 - (e) that, if within 10 business days of the date of the notice referred to in section 3(d) above, the Collateral Agent requests a Replacement Agreement, the Owner shall enter into such Replacement Agreement with Collateral Agent. Notwithstanding any of the foregoing, the Collateral Agent confirms and acknowledges that the Owner shall not be liable to the Collateral Agent or its nominee for non-delivery of any notice pursuant to section 3(a) above.
 - (f) that the Owner and Dufferin Wind may modify the Agreement from time to time between themselves without the Collateral Agent’s prior written consent; and
 - (g) that the Owner will, at any time and from time to time, upon not less than five (5) business days’ prior request by the Collateral Agent, deliver to the Collateral Agent a statement in writing certifying that: (i) the Agreement is in full force and full effect unamended (or setting out any such amendments), (ii) all amounts owing and payable under the Agreement have been paid (or setting out any unpaid amounts), and (iii) to the Owner’s knowledge, Dufferin Wind is not in

default of its obligations under the Agreement in any material respect (or setting out any such defaults).

4. The Agent covenants and agrees with the Owner that during any period the Agent exercises its Security Interests and takes possession of Dufferin Wind’s interest in the Lands (either directly or indirectly through an Agent Party) or takes control of or manages Dufferin Wind’s interest in the Lands or the Collateral or any part thereof, or forecloses upon the Agreement, or succeeds to the interest of Dufferin Wind under the Agreement, it will assume all of the obligations of Dufferin Wind under or in connection with the Agreement during such period to the extent that they may be performed by the Collateral Agent, and thereafter observe and perform all of Dufferin Wind’s obligations under the Agreement to the extent that they may be performed by the Collateral Agent.
5. The Collateral Agent covenants and agrees with the Owner that during any period the Collateral Agent exercises its Security Interests and takes possession of Dufferin Wind’s interest in the Lands (either directly or indirectly through an Agent Party) or takes control of or manages Dufferin Wind’s interest in the Lands or the Collateral or any part thereof, or forecloses upon the Agreement, or succeeds to the interest of Dufferin Wind under the Agreement, it will assume all of the obligations of Dufferin Wind under or in connection with the Agreement during such period to the extent that they may be performed by the Collateral Agent, and thereafter observe and perform all of Dufferin Wind’s obligations under the Agreement.
6. The Owner confirms and acknowledges that in the event that the Collateral Agent or any other Agent Party assigns, transfers or otherwise disposes of its interest in the Agreement pursuant to its Security Interests (a “**Transfer**”), it will not unreasonably withhold, delay or unreasonably condition its consent to the Transfer, and, upon such assignee or transferee covenanting and agreeing in writing with the Owner to assume and perform all of the covenants and obligations of Dufferin Wind pursuant to the Agreement, each of the Collateral Agent and the other Agent Party shall, thereupon and without further agreement, be freed and relieved of all liability with respect to the Agreement from and after the effective date of such Transfer.
7. All notices hereunder shall be in writing, sent by registered mail, return receipt requested or by telecopy, to the respective parties and the addresses set forth on the signature page or at such other address as the receiving party shall designate in writing.
8. This Acknowledgement may be executed in any number of counterparts, shall be governed by the laws of the Province of Ontario and binds and enures to the benefit of the Agent Parties, and its successors and assigns and shall be binding upon the heirs, personal representatives, successors and assigns of the Owner.
9. Each of the parties hereto agrees to do, make and execute all such further documents, agreements, assurances, acts, matters and things and take such further action as may be reasonably required by any other party hereto in order to more effectively carry out the true intent of this Acknowledgement.
10. The provisions of this Acknowledgement shall continue in effect until the Owner shall have received the written certification of the Collateral Agent that all amounts advanced, and obligations arising, under the Credit Agreement and all Obligations (as defined in the Collateral Agency Agreement) have been paid and performed in full.

IN WITNESS WHEREOF, this Acknowledgement is executed by the parties.

ADDRESS FOR NOTICE

County of Dufferin
 55 Zina Street
 Orangeville, Ontario, L9W 1E5
 Attention: Clerk
 Fax: 1-519-941-4565
 E-mail: clerk@dufferincounty.ca

THE CORPORATION OF THE COUNTY OF DUFFERIN

By: _____
 Walter Kolodziechuk, Warden

By: _____
 Pam Hillock, Clerk

ADDRESS FOR NOTICE

■

[■]

By: _____
Name:
Title:

By: _____
Name:
Title

We have authority to bind the corporation.

12575431.1

**EXHIBIT G - COMMUNITY AND
STAKEHOLDER CONSULTATION**

Exhibit G, Tab 1, Schedule 1
Consultation Program and Process

CONSULTATION PROGRAM AND PROCESS

1 The community and stakeholder consultation undertaken by Dufferin Wind has been carried out
2 in the context of and has been guided by its Renewable Energy Approval (“**REA**”) process. The
3 focus of this Schedule will be on those consultation activities specifically related to the proposed
4 Transmission Project rather than the Wind Farm.

5 1. **Principles and Goals of the Consultation Program**

6 The approach to consultation taken by Dufferin Wind is based on its strong belief that the
7 purpose of consultation is to allow for a two-way exchange of information between it, as the
8 project proponent, and potentially affected stakeholders. These stakeholders include members of
9 the public, local groups, communities, Aboriginal communities, local municipalities and
10 governmental authorities. Consultation helps to ensure that the concerns of these stakeholders
11 regarding the Transmission Project are identified early in the project and in a transparent manner,
12 as well as that the project design ultimately takes into consideration and reflects to a reasonable
13 extent the information learned through those consultations.

14 The objectives of the consultation program undertaken by the Applicant have been (1) to provide
15 interested stakeholders with information about the Wind Farm, including the Applicant’s plans
16 and proposed approaches for interconnecting the Wind Farm to the IESO-controlled grid, (2) to
17 obtain information from such stakeholders that is relevant to the development, construction and
18 operation of the Wind Farm and the Transmission Project, and (3) to identify concerns about the
19 project and address those concerns by providing additional information, explanation and where
20 appropriate by making changes to the Wind Farm or its interconnection.

21 2. **Design of the Consultation Program**

22 The consultation methodology used by the Applicant has included a wide range of approaches,
23 including public notifications, media releases, public information centres and meetings,
24 consultations and meetings with governmental authorities at all levels, consultations with key

1 interest groups and consultations with Aboriginal communities and organizations. Not including
2 an initial open house to introduce the Wind Farm in April 2007, the Applicant's consultation
3 efforts commenced in March 2010. The first PIC at which the 230 kV transmission line was
4 presented as an option was held in April 2012 with notices being published in March. Prior to
5 this time, consultations were focused on the 69 kV Alternative. While the Applicant's
6 consultation efforts are documented in the Applicant's REA submission filed on August 13, 2012
7 and in this leave to construct Application, Dufferin Wind continues to consult with its
8 stakeholders and will continue to do so during the development, construction and operational
9 phases of the Wind Farm and Transmission Project. In particular, separate from any notice that
10 the Board requires to be provided in connection with this Application, the Applicant has:

- 11 • published multiple notices in five different newspapers;
- 12 • mailed multiple notices directly to land owners within and adjacent to the proposed
13 locations of the Transmission Project;
- 14 • carried out four rounds of Public Information Centres ("PICs"), for total of thirteen such
15 events in various locations across the community, as well as scheduled a further round of
16 three PICs in late October 2012 to present additional details and changes to the wind farm
17 layout design and the proposed Transmission Project since last presented to the public;
- 18 • participated in meetings with and delivered presentations to municipal staff and local
19 elected officials, including presentations to the Dufferin County Council's General
20 Government Services Committee in January and April 2012 concerning the proposed
21 transmission easement for the Rail Corridor;
- 22 • participated in meetings and consulted with potentially affected Aboriginal communities;
- 23 • consulted with a wide range of federal and provincial governmental authorities from
24 whom various permits and approvals were or were potentially required;

- 1 • engaged with and provided responses to concerns raised by interested non-participating
2 land owners and members of the general public;
- 3 • maintained and regularly updated a project website with copies of relevant notices,
4 reports and other information of potential interest to stakeholders; and
- 5 • maintained and provided responses to comments received through a project-specific
6 email address and toll-free phone number.

7 To facilitate its consultation activities, the Applicant established a stakeholder contact list early
8 in the process through attendance at PICs, direct communications and based on the evolving
9 location of project components. This assisted the Applicant in identifying, notifying and
10 following-up with potentially interested stakeholders. The stakeholder contact list changed
11 significantly in early 2011, at which time the Applicant first considered the proposed
12 Transmission Project as a potential option for interconnecting the Wind Farm. The list is
13 comprised of all landowners within 550 m of Wind Farm components and all landowners within
14 125 m of both the proposed Transmission Project and the 69 kV Alternative. The list also
15 includes other stakeholders that requested to be included in the contact list and landowners that
16 may have been affected by project components based on earlier project designs but whose
17 properties are no longer affected. In total, the contact list has over 1200 individual landowners
18 representing over 1600 properties. Of these, there are approximately 725 stakeholders whose
19 interest is primarily in the Wind Farm, approximately 700 stakeholders whose interest is
20 primarily in the proposed Transmission Project, and approximately 300 whose interest was
21 primarily in the 69 kV Alternative.

22 3. **Results of the Consultation Carried Out**

23 The first round of PICs was held in September 2011 at locations in Melancthon, Amaranth,
24 Mono and Mulmur. Whereas stakeholders in Melancthon and Mulmur were primarily focused
25 on impacts related to the Wind Farm and stakeholders in Amaranth expressed few concerns,

1 stakeholders in Mono expressed strong concerns about the 69 kV Alternative, including with
2 respect to its route and viewshed impacts.

3 A second round of PICs was held in April 2012 at locations in Melancthon, Shelburne and
4 Amaranth. At these sessions, the 230 kV transmission line was first presented as an option.
5 Stakeholders in Melancthon expressed concerns that included the location of the route in and
6 around the community of Corbetton. Stakeholders at the Amaranth session expressed a
7 preference for the lines to go underground due to concerns about viewshed impacts, noise,
8 property values and long-term system integrity. Stakeholders in Shelburne expressed concerns
9 about the proximity of the Rail Corridor route to certain buildings and amenities in their
10 community, as well as for potential health impacts, property value impacts and viewshed
11 impacts. Some stakeholders indicated a preference for the lines to be underground.

12 A further round of five PICs was held in July 2012 at locations in Melancthon, Amaranth,
13 Mulmur, Mono and Shelburne. At the Melancthon session, concerns were raised about the
14 Applicant's plans to locate the Project Substation in a non-significant woodlot for purposes of
15 noise mitigation and viewshed impacts. Stakeholders expressed a preference for reducing the
16 amount of necessary tree-cutting over noise and viewshed considerations. The sessions in
17 Amaranth and Shelburne had small turnouts and no comments were submitted. Stakeholders in
18 Mulmur raised concerns about the location of the Project Substation, property values and
19 potential health impacts. Stakeholders in Mono expressed a preference for the route along the
20 Rail Corridor rather than going through populated areas and inquired as to whether a more direct
21 route may be available, as well as concerning details about the proposed transformer equipment.

22 Taking into account the comments received at PICs and through other means, the principle issues
23 raised during the consultation process in respect of the 69 kV Alternative related to (1) viewshed
24 impacts to many residents, (2) property values, (3) health impacts from electromagnetic fields,
25 (4) route running in a 'stepped' route along local roads through four municipalities, (5)
26 preference for 230 kV route along former Rail Corridor, and (6) preference for underground

1 transmission. Ultimately, the Applicant responded to these concerns by investigating the
2 potential for the 230 kV option along the abandoned Rail Corridor, which has since been found
3 to address many of these areas of concern and which has become the preferred approach.

4 The principle issues raised in respect of the 230 kV option, being the proposed Transmission
5 Project, were (1) electromagnetic fields, (2) preference for the line to be underground, (3)
6 continued recreational use of abandoned Rail Corridor, (4) potential impacts on children at
7 school in Shelburne, and (5) preference for locating transmission line where there is existing
8 infrastructure.

9 With respect to the concerns raised about electromagnetic fields, the Applicant retained experts
10 to study the potential impacts of the proposed line with a focus on the most populated portion of
11 the route near Shelburne. The study was made available to stakeholders and confirmed that the
12 Transmission Project would be safe to the public.

13 With respect to the preference for underground installation, the Applicant explained that
14 overhead lines are the norm but that underground installation would be considered where
15 required to avoid environmental features. The Applicant nevertheless committed to installing a
16 portion of the Transmission Line within the Town of Shelburne underground due to the close
17 proximity of various buildings to the Rail Corridor in this area. This commitment addressed a
18 number of concerns expressed by the community, including as related to the proximity of
19 buildings, a preference for underground installation in that area and concerning potential health
20 risks in that area.

21 With respect to recreational use of the Rail Corridor, the Applicant has designed the
22 Transmission Line so that to the extent possible (having regard to safety and regulatory
23 requirements) the line will be located along the side of the Rail Corridor, which will permit
24 continued recreational use once construction is completed. This design also enables the Rail
25 Corridor to accommodate potential future rail redevelopment.

1 With respect to the expressed preference among some stakeholders for locating the Transmission
2 Line where there is existing infrastructure, on balance the Applicant concluded that the proposed
3 Transmission Line offers a number of important advantages and is the superior alternative. In
4 particular, the Rail Corridor offers a direct route to the point of interconnection at Orangeville
5 TS. It is zoned for and has historically been used for industrial purposes and future rail
6 redevelopment is being contemplated. The Rail Corridor runs through less populated areas than
7 the 69 kV Alternative and would require significantly fewer poles. Moreover, due to its
8 generally more remote location, longer spacing and fewer conductors, the Transmission Line
9 would have a significantly smaller viewshed impact.

10 Other changes made in response to stakeholder input included the relocation of the Project
11 Substation adjacent to the Operations and Maintenance Building to reflect a stakeholder
12 preference for reduced tree cutting over the potential noise and viewshed impacts that had driven
13 the initial siting of the station. As well, the route was modified so as bypass the town limits in
14 the area of the community of Corbetton.

EXHIBIT H - IMPACT ASSESSMENTS

Exhibit H, Tab 1, Schedule 1
Overview of Impact Assessments

OVERVIEW OF IMPACT ASSESSMENTS

1 The IESO issued a final SIA Report on December 2, 2011 concerning the 69 kV Alternative (the
2 “**Initial SIA Report**”). The Applicant applied to the IESO in February 2012 for a revised SIA
3 based upon the proposed Transmission Project. The IESO issued a its Draft SIA Report on the
4 proposed Transmission Project on July 25, 2012 and its SIA Addendum Report on August 31,
5 2012 (the “**SIA Addendum Report**”). In its SIA Addendum Report, the IESO concludes that
6 the proposed connection of the Wind Farm, by means of the Transmission Project and subject to
7 the requirements specified in the SIA Addendum Report and the Initial SIA Report (as
8 applicable), is expected to have no material adverse impacts on the reliability of the integrated
9 power system. The SIA Addendum Report was issued together with a Notification of
10 Conditional Approval for Connection of the Dufferin Wind Farm.

11 Hydro One issued a draft CIA Study Report to all potentially impacted customers on October 28,
12 2011 for a 30-day review period. Hydro One issued its Final CIA Study Report for the Dufferin
13 Wind Farm Project on December 6, 2011 concerning the 69 kV Alternative. The Applicant
14 applied to Hydro One in February 2012 for a new CIA based upon the proposed Transmission
15 Project. Hydro One issued its Draft CIA Report on the proposed Transmission Project on July
16 27, 2012 and its Final CIA Report on August 31, 2012 (the “**Final CIA Report**”). In its Final
17 CIA Report, Hydro One concludes that the proposed connection will not have any adverse
18 impact on existing Hydro One customers in the area.

Exhibit H, Tab 2, Schedule 1

Notification of Conditional Approval of Connection Proposal

NOTIFICATION OF CONDITIONAL APPROVAL OF CONNECTION PROPOSAL

1 The IESO issued a *Notification of Conditional Approval of Connection Proposal* to Dufferin
2 Wind on August 31, 2012 in which the IESO concludes that the proposed connection will not
3 result in material adverse impacts on the reliability of the integrated power system. In
4 accordance with the IESO's standard process, final approval will be granted upon completion of
5 the IESO Market Entry process and completion of the requirements set out in the addendum to
6 the System Impact Assessment report. A copy of the Notification of Conditional Approval of
7 Connection Proposal is provided in Appendix A to this Exhibit H, Tab 2, Schedule 1.

APPENDIX 'A'

NOTIFICATION OF CONDITIONAL APPROVAL OF CONNECTION PROPOSAL

August 31, 2012



Mr. Jeffrey Hammond
Senior Vice President – Dufferin Wind Power Inc.
TD Canada Trust Tower, 161 Bay Street, Suite 4550
Toronto, Ontario
M5J 2S1

Dear Mr.Hammond:

***Dufferin Wind Farm
Notification of Conditional Approval of Connection Proposal
CAA ID Number: 2010-396***

Thank you for the updated information regarding the proposed *Dufferin Wind Farm*.

From the new information provided, we have concluded that the proposed changes at *Dufferin Wind Farm* will not result in a material adverse impact on the reliability of the integrated power system.

The IESO is therefore pleased to grant **conditional approval** for the modification detailed in the attached addendum to the System Impact Assessment (SIA) report. Any material changes to your proposal may require re-assessment by the IESO in accordance with Market Manual 2.10, and may nullify your conditional approval.

Final approval to connect the facility to the IESO-controlled grid will be granted upon successful completion of the IESO Market Entry process including, without limitation, satisfactory completion of the requirements set out in the addendum to the SIA report. During this process you will be expected to demonstrate that you have fulfilled the requirements and that the facility you have installed is materially unchanged from the proposal assessed by the IESO. Please refer to the "**Market Entry: A Step-by-Step Guide**" attachment in your approval email for key steps in the Market Entry process. In order to initiate this process, please contact Market Entry at market.entry@ieso.ca at least eight months prior to your energization date.

For further information, please contact the undersigned.

Yours truly,



Michael Falvo
Manager – Market Facilitation
Telephone: (905) 855-6209
Fax: (905) 855-6319
E-mail: mike.falvo@ieso.ca
cc: IESO Records

All information submitted in this process will be used by the IESO solely in support of its obligations under the *Electricity Act, 1998*, the *Ontario Energy Board Act, 1998*, the *Market Rules* and associated policies, standards and procedures and in accordance with its licence. All information submitted will be assigned the appropriate confidentiality level upon receipt.

Exhibit H, Tab 2, Schedule 2
System Impact Assessment

SYSTEM IMPACT ASSESSMENT

1 Dufferin Wind applied for and on December 2, 2011 obtained a System Impact Assessment
2 Report concerning the connection of the Wind Farm to the IESO-controlled grid via Hydro
3 One's 230 kV Orangeville to Essa circuit E9V (the "**Initial SIA Report**"). As a result of
4 changes to the project configuration and the connection point, Dufferin Wind requested an
5 update to the Initial SIA Report in February 2012. On August 31, 2012, the IESO issued its
6 *System Impact Assessment - Final Addendum Report* in respect of the Dufferin Wind Farm (the
7 "**SIA Addendum Report**"). In the SIA Addendum Report, the IESO concludes that the
8 proposed changes to the project configuration and connection point are expected to have no
9 material adverse impacts on the reliability of the integrated power system. On this basis, it
10 recommends that a Notification of Conditional Approval for Connection be issued to Dufferin
11 Wind, subject to implementation of the requirements set out in the SIA Addendum Report and,
12 as applicable, certain of the requirements set out in the Initial SIA Report. Copies of the SIA
13 Addendum Report and the Initial SIA Report are provided in Appendix 'A' and 'B' to this
14 Exhibit H, Tab 2, Schedule 2, respectively.

APPENDIX 'A'

SYSTEM IMPACT ASSESSMENT - FINAL ADDENDUM REPORT

REPORT



Power to Ontario.
On Demand.

System Impact Assessment Report

CONNECTION ASSESSMENT & APPROVAL PROCESS

Final Addendum Report

CAA ID: 2010-396
Project: Dufferin Wind Farm
Applicant: Dufferin Wind Power Inc.

Market Facilitation Department
Independent Electricity System Operator

Date: August 31st 2012

Document Name	System Impact Assessment Report
Issue	Addendum Report
Reason for Issue	Revised connection configuration
Effective Date	August 31st 2012

System Impact Assessment Report

Acknowledgement

The IESO wishes to acknowledge the assistance of Hydro One in completing this assessment.

Disclaimers

IESO

This report has been prepared solely for the purpose of assessing whether the connection applicant's proposed connection with the IESO-controlled grid would have an adverse impact on the reliability of the integrated power system and whether the IESO should issue a notice of conditional approval or disapproval of the proposed connection under Chapter 4, section 6 of the Market Rules.

Conditional approval of the proposed connection is based on information provided to the IESO by the connection applicant and Hydro One at the time the assessment was carried out. The IESO assumes no responsibility for the accuracy or completeness of such information, including the results of studies carried out by Hydro One at the request of the IESO. Furthermore, the conditional approval is subject to further consideration due to changes to this information, or to additional information that may become available after the conditional approval has been granted.

If the connection applicant has engaged a consultant to perform connection assessment studies, the connection applicant acknowledges that the IESO will be relying on such studies in conducting its assessment and that the IESO assumes no responsibility for the accuracy or completeness of such studies including, without limitation, any changes to IESO base case models made by the consultant. The IESO reserves the right to repeat any or all connection studies performed by the consultant if necessary to meet IESO requirements.

Conditional approval of the proposed connection means that there are no significant reliability issues or concerns that would prevent connection of the proposed project to the IESO-controlled grid. However, the conditional approval does not ensure that a project will meet all connection requirements. In addition, further issues or concerns may be identified by the transmitter(s) during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with physical or equipment limitations, or with the Transmission System Code, before connection can be made.

This report has not been prepared for any other purpose and should not be used or relied upon by any person for another purpose. This report has been prepared solely for use by the connection applicant and the IESO in accordance with Chapter 4, section 6 of the Market Rules. The IESO assumes no responsibility to any third party for any use, which it makes of this report. Any liability which the IESO may have to the connection applicant in respect of this report is governed by Chapter 1, section 13 of the Market Rules. In the event that the IESO provides a draft of this report to the connection applicant, the connection applicant must be aware that the IESO may revise drafts of this report at any time in its sole discretion without notice to the connection applicant. Although the IESO will use its best efforts to advise you of any such changes, it is the responsibility of the connection applicant to ensure that the most recent version of this report is being used.

Hydro One

The results reported in this report are based on the information available to Hydro One, at the time of the study, suitable for a System Impact Assessment of this connection proposal.

The short circuit and thermal loading levels have been computed based on the information available at the time of the study. These levels may be higher or lower if the connection information changes as a result of, but not limited to, subsequent design modifications or when more accurate test measurement data is available.

This study does not assess the short circuit or thermal loading impact of the proposed facilities on load and generation customers.

In this report, short circuit adequacy is assessed only for Hydro One circuit breakers. The short circuit results are only for the purpose of assessing the capabilities of existing Hydro One circuit breakers and identifying upgrades required to incorporate the proposed facilities. These results should not be used in the design and engineering of any new or existing facilities. The necessary data will be provided by Hydro One and discussed with any connection applicant upon request.

The ampacity ratings of Hydro One facilities are established based on assumptions used in Hydro One for power system planning studies. The actual ampacity ratings during operations may be determined in real-time and are based on actual system conditions, including ambient temperature, wind speed and facility loading, and may be higher or lower than those stated in this study.

The additional facilities or upgrades which are required to incorporate the proposed facilities have been identified to the extent permitted by a System Impact Assessment under the current IESO Connection Assessment and Approval process. Additional facility studies may be necessary to confirm constructability and the time required for construction. Further studies at more advanced stages of the project development may identify additional facilities that need to be provided or that require upgrading.

Table of Contents

Table of Contents	i
Table of Figures	ii
Table of Tables	iii
Executive Summary	4
Notification of Conditional Approval.....	4
IESO Requirements for Connection	4
Study Findings	5
1. Data Verification	6
1.1 Connection Arrangement.....	6
1.1 Transformer Data	6
1.2 Collector System and Connection Lines	6
1.3 Voltage Ride-Through Capability	7
2. Short Circuit Assessment	8
3. System Impact Studies	9
3.1 Reactive Power Compensation.....	9
3.2 Thermal Analysis	11
3.3 Voltage Analysis	14
3.4 Transient Stability Performance.....	14
3.5 Voltage Ride-Through Capability	15
Appendix A: Figures	17

Table of Figures

Figure 1: Dufferin Wind Farm Single Line Diagram.....	17
Figure 2: Orangeville SLD after the incorporation of the Dufferin Wind Farm.....	17
Figure 3: Major generator angle response due to a LLG fault on circuits B560V and B561M at Bruce Junction – with reclosure.....	18
Figure 4: Voltage response due to a LLG fault on circuits B560V and B561M at BruceJunction – with reclosure.....	18
Figure 5: Major generator angle response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm	19
Figure 6: Voltage response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm	19
Figure 7: GE 1.6 MW WTG terminal voltages for studied contingencies.....	20
Figure 8: GE 2.75 MW WTG terminal voltages for studied contingencies.....	20

Table of Tables

Table 1: Main step-up transformer data.....	6
Table 2: Equivalent impedance of collectors.....	6
Table 3: Equivalent impedance of connection lines	7
Table 4: GE 1.6 MW and 2.75 MW WTG voltage ride-through specifications	7
Table 5: Fault levels at facilities near the Dufferin Wind Farm	8
Table 6: Reactive Power Performance at the PCC.....	10
Table 7: Reactive Power Performance at the PCC following 10% voltage change at the PCC	10
Table 8: Voltage Changes due to Reactor Switching.....	11
Table 9: Assumed Station Load.....	11
Table 10: Pre and Post-Contingency Thermal Assessment Results	13
Table 11: Voltage Performance after the integration of the Dufferin Wind Farm	14
Table 12: Simulated Contingencies for Transient Stability	15
Table 13: Simulated contingencies for LVRT.....	15

Executive Summary

Notification of Conditional Approval

Dufferin Wind Power Inc. (the “connection applicant”) is proposing to construct a 99.1 MW wind energy project named Dufferin Wind Farm (the “project”) in the township of Melancthon Ontario. The project will connect directly into the 230 kV Orangeville TS bus and is expecting to be in-service by December 31, 2013. An initial System Impact Assessment (SIA) was issued on December 2nd 2011. The original SIA examined the connection of the project to the IESO controlled grid via 230 kV Orangeville-to-Essa circuit E9V.

This Addendum addresses changes to requirements developed for the project as a result of the connection point change as well as internal project configuration changes proposed by the connection applicant. The internal changes include: a collector system comprised of four lines instead of three, various impedances changes, a requirement to install a reactor at the 34.5 kV Dufferin Wind Farm Generating Station (DWFGS) bus and elimination of the need for static capacitive compensation.

This assessment concludes that the proposed changes are expected to have no material adverse impact on the reliability of the integrated power system. Therefore, the IESO recommends that a *Notification of Conditional Approval for Connection* be issued for the Dufferin Wind Farm subject to implementation of the requirements outlined in this report and the original SIA report.

IESO Requirements for Connection

Applicant Requirements

Specific Requirements: In addition to the requirements specified in the original SIA, the following *specific* requirements are applicable for the incorporation of the project. Specific requirements pertain to the level of reactive compensation needed, operation restrictions, special protection system, upgrading of equipment and any project specific items not covered in the *general* requirements.

- (1) The project is required to have the capability to inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output.

Based on the equivalent connection and collector impedance parameters provided by the connection applicant, a 13 MVar reactor at 34.5kV installed at the 34.5 kV DWFTS bus would satisfy the reactive power requirement. It shall also be implemented as a part of wind farm control system that automatically controls switching to regulate the overall WTGs’ reactive output to around zero.

In addition, the wind farm is expected to inject or withdraw its full reactive power requirement for a 10% voltage change at the connection point, without provision for tap changer action. The response time is expected to be similar to that of a synchronous generator that meets the minimum Market Rules’ requirements, outlined in Appendix 4.2 of the Market Rules, which is in the order of a few seconds.

The connection applicant has the obligation to ensure that the wind farm has the capability to meet the Market Rules requirement at the connection point and be able to confirm this capability during the commission tests.

This requirement supersedes the applicant’s specific requirement (1) in the Executive Summary of the original SIA report.

- (2) The connection applicant is required to implement one of following two options to prevent Orangeville T4 transformer back-feed during Orangeville breaker outages:

- i) curtail the project's output when there is potential for back-feed through T4, i.e. Orangeville AH breaker open, or Orangeville HL5 and "NEW" breakers open; or
- ii) participate in a new SPS which would reject the project's output to prevent T4 back-feed when the project is connected radial to Orangeville T3.

Transmitter Requirements

In addition to the requirements specified in the original SIA, the following requirements are applicable to Hydro One for the incorporation of the project:

- (1) If the connection applicant chooses to participate in an SPS to mitigate the potential post-contingency back-feed through Orangeville T4, Hydro One is required to install an SPS capable to respond to the back-feed and send a generation rejection signal to the project. The SPS could be either power flow based or breaker status based. The breaker status based SPS should detect radial connection of the project to Orangeville T3 by monitoring the AH, HL5 and NEW breakers at Orangeville. Other methods to prevent unacceptable back-feed on the T4 transformer may be proposed for evaluation, and deployed upon IESO's approval.

Study Findings

The following conclusions were derived from the study results of this addendum and complement the conclusions from the original SIA:

- 1) Based on the proposed connection configuration at Orangeville, if the Orangeville AH breaker is on outage, the simultaneous loss of 230 kV Bruce-to-Orangeville circuits B4V and B5V results in the wind farm being radial onto load transformer Orangeville T3. Under this configuration, there is potential for unacceptable back-feed through the T4 transformer via the low voltage bus. The same issue also arises if any two of the Orangeville AH, HL5 or "NEW" breakers are open, with the opening of the third breaker resulting in the same radial condition.
- 2) The impact of the project on short circuit levels is expected to be acceptable with fault levels not exceeding breaker interrupting capability.
- 3) The reactive power capability of the WTGs along with the impedance between the WTGs and the IESO controlled grid results in a deficiency in the projects ability to withdraw 33% of its rated active power in reactive power at the connection point. A reactor is required to compensate.
- 4) Equipment loadings on the IESO-Controlled Grid with the project in service are expected to be acceptable under both pre-contingency and post-contingency operating conditions.
- 5) The voltage performance with the incorporation of the project is expected to be acceptable under both pre-contingency and post-contingency operating conditions.
- 6) The WTGs of the project and the power system are expected to be transiently stable following recognized fault conditions.
- 7) The proposed WTGs are expected to remain connected to the grid for recognized system contingencies which do not remove the project by configuration.
- 8) Protection adjustments identified by the Hydro One in the Protection Impact Assessment (PIA) to accommodate the project have no adverse impact on the reliability of IESO-controlled grid.

1. Data Verification

1.1 Connection Arrangement

The connection arrangement of the project as proposed is shown in Figure 1 and its connection configuration into Orangeville TS is shown in Figure 2.

With the Orangeville AH breaker on outage, the loss of B4V+B5V results in the project being radial on Orangeville T3 and potentially back-feeding through T4. The same post-contingency configuration also occurs when any two of the Orangeville AH, HL5 or “NEW” breakers are open pre-contingency, followed by the opening of the third breaker. There is also approximately 30 MW of embedded generation connected at Orangeville T3/T4 bus.

To prevent exceeding Orangeville T4’s max back-feed capability of 40 MVA, the connection applicant will be required to either curtail the project’s output when there is potential for back-feed through T4 or to participate in an SPS. The SPS would be normally armed and would reject the project’s output upon detection of the radial configuration, using breaker status (AH, HL5 and NEW breakers open).

Other methods to prevent unacceptable back-feed on the T4 transformer may be proposed for evaluation, and deployed upon IESO’s approval.

1.1 Transformer Data

Table 1: Main step-up transformer data

Unit	Transformation	Rating (MVA) (ONAN/ONAF/ONAF)	Pos. Sequence Impedance (pu) SB= 100MVA	Configuration			Taps
				HV-Side	LV-Side	Tertiary	
T1	240kV/34.5kV/Buried	66/88/110 MVA	0.0032+j0.106	Yg	Yg	Buried Δ	ULTC@ HV: +9/- 7 steps, 1.25% each

1.2 Collector System and Connection Lines

Table 2: Equivalent impedance of collectors

Circuit	Unit #	MW	Positive-Sequence Impedance (pu, $S_B=100\text{MVA}$, $V_B=34.5\text{ kV}$)		
			R	X	B
C1	G1	25.65	0.0182	0.0193	0.0074
C2	G2	25.4	0.0212	0.0208	0.0111
C3	G3	23.8	0.0298	0.0423	0.0102
C4	G4	24.25	0.0482	0.0907	0.0203

Table 3: Equivalent impedance of connection lines

Circuit	Length (km)	Positive-Sequence Impedance (pu, $S_B=100\text{MVA}$, $V_B=220\text{ kV}$)		
		R	X	B
L1-OH	43	0.00663	0.0420	0.0729
L1-UG	5	0.00081	0.0017	0.13120

(*) Zero-sequence impedance has not been provided. Typical data was assumed during the SIA. The connection applicant needs to provide these data during the IESO Market Entry process.

1.3 Voltage Ride-Through Capability

The GE 1.6 MW and 2.75 MW WTGs provide voltage ride through capability, including the ZVRT (Zero Voltage Ride Through) option. Table 4 summarizes the voltage ride through settings.

Table 4: GE 1.6 MW and 2.75 MW WTG voltage ride-through specifications

Voltage Range (% of base voltage)	Minimum time for WTGs to Remain Online (s)
$V < 15$	0.2
$15 < V < 30$	0.7
$30 < V < 50$	1.2
$50 < V < 75$	1.9
$110 < V < 115$	1.0
$V > 115$	0.1

-End of Section-

2. Short Circuit Assessment

Fault levels in the vicinity of the project were re-examined by the transmitter as a result of the changes in the project's internal network. Table 5 demonstrates that the interrupting capabilities of the lowest rated circuit breakers near the project remain sufficient after the incorporation of the project.

Table 5: Fault levels at facilities near the Dufferin Wind Farm

Station	Before DWF		After DWF		Lowest Rated Circuit Breaker (kA)
	3-Phase	L-G	3-Phase	L-G	
<i>Symmetrical Fault (kA)*</i>					
Orangeville 230 kV	18.14	16.84	18.64	19.82	46.2
Essa 230 kV	26.00	30.19	26.12	30.71	39.7
<i>Asymmetrical Fault (kA)*</i>					
Orangeville 230 kV	19.24	18.60	17.98	19.87	54.2
Essa 230 kV	30.58	37.58	30.30	37.70	46.2

* Based on a pre-fault voltage level of 250 kV.

-End of Section-

3. System Impact Studies

Based on the proposed changes to the DWF's internal network, studies were conducted to re-examine the project's performance with respect to the applicable Market Rules' requirements. The analysis was performed using the same scenarios as the initial SIA assessment. The re-examined performance includes:

- Reactive Power Compensation
- Thermal Assessment
- Voltage Analysis
- Transient Stability Performance
- Voltage Ride-Through Capability

3.1 Reactive Power Compensation

The Market Rules require generators to inject or withdraw reactive power continuously (i.e. dynamically) at a connection point equal to up to 33% of the generator's rated active power at all levels of active power output; except where a lesser continually available capability is permitted by the IESO. A generating unit with a power factor range of 0.90 lagging and 0.95 leading at rated active power connected via impedance between the generator and the connection point not greater than 13% based on rated apparent power provides the required range of dynamic reactive capability at the connection point.

Dynamic reactive compensation (e.g. D-VAR or SVC) is required for a generating facility which cannot provide a reactive power range of 0.90 lagging power factor and 0.95 leading power factor at rated active power. For a wind farm with an impedance between the generator and the connection point in excess of 13% based on rated apparent power, provided the WTGs have the capability to provide a reactive power range of 0.90 lagging power factor and 0.95 leading power factor at rated active power, the IESO accepts that the wind farm compensate for excessive reactive losses in the collector system of the project with fixed shunts (e.g. capacitors and reactors). In addition, the wind farm is expected to inject or withdraw its full reactive power requirement for a 10% voltage change at the connection point, without provision for tap changer action. The response time is expected to be similar to that of a synchronous generator that meets the minimum Market Rules' requirements, outlined in Appendix 4.2 of the Market Rules, which is in the order of a few seconds.

Dynamic Reactive Power Capability

The GE 1.6 MW and 2.75 MW WTGs have an optional power factor range of 0.9 inductive to 0.9 capacitive. The applicant has specified that the WTGs for this project will include this option. Thus, the dynamic reactive capability of Dufferin Wind Farm satisfies IESO's requirements.

Static Reactive Power Capability

In addition to the dynamic reactive power requirement identified above, the Dufferin Wind Farm has to ensure that it has the capability to inject or withdraw reactive power up to 33% of its rated active power at the connection point.

Load flow studies were performed to determine if any static reactive compensation is required to compensate for the reactive power losses within the project, based on the equivalent parameters provided by the connection applicant for the WF.

The reactive power capability in lagging p.f. of the project was assessed under the following assumptions:

- typical voltage of 244 kV at the connection point;
- maximum active power output from the equivalent WTG;

- maximum reactive power output (lagging power factor) from the equivalent WTG, unless limited by the maximum acceptable WTG terminal voltage;
- maximum acceptable WTG voltage of 1.1 pu, as per WTG voltage capability;
- main step-up transformer ULTCs are available to adjust the LV voltage as close as possible to 1 pu voltage.

The reactive power capability in leading p.f. of the project was assessed under the following assumptions:

- typical voltage of 244 kV at the connection point;
- minimum active power output from the equivalent WTG;
- reactive power consumption (leading power factor) as required to meet the Market Rules requirement from the equivalent WTG.
- minimum acceptable WTG voltage is 0.9 pu, as per WTG voltage capability;
- main step-up transformer ULTCs are available to adjust the LV voltage as close as possible to 1 pu voltage.

Similarly, the reactive power capability in lagging and leading p.f. was assessed under the aforementioned conditions with a 10% voltage change at the connection point, without provision for tap changer action.

The IESO's reactive power calculation used the equivalent electrical model for the WTG and collector feeders as provided by the connection applicant. It is important that the WF have a proper internal design to ensure that the WTGs are not limited in their capability to produce active and reactive power due to terminal or other internal project voltage limitations. For example, it is expected that the transformation ratio of the WTG step up transformers will be set in such a way that it will offset the voltage profile along the collector, and all the WTG would be able to contribute to the reactive power production of the WF in an equal amount.

Based on the equivalent parameters for the wind farm provided by the connection applicant, a 13 MVar at 34.5 kV reactor is required to meet the reactive power withdrawal requirement at the connection point. A detailed summary of the results is provided in Table 6 and Table 7.

Table 6: Reactive Power Performance at the PCC

Operation	13 MVar Reactor Status	DWF TS 230 kV Bus Voltage (kV)	Collector Bus Voltage (pu)	Generator Terminal Voltage (pu)	PCC Reactive Power
Lagging PF	Out of service	249.6	1.07*	1.09	52.2 MVar
Leading PF	In service	243.1	0.98	0.95	-33.4 MVar

*The applicant has indicated that voltages up to 1.1 pu are acceptable on the collector system.

Table 7: Reactive Power Performance at the PCC following 10% voltage change at the PCC

Operation	13 MVar Reactor Status	PCC Reactive Power
Lagging PF	Out of service	47.6 MVar
Leading PF	In service	-33 MVar

The 13 MVar at 34.5 kV reactor will need to be implemented as a part of wind farm control system that automatically controls the switching of devices to regulate the overall WTGs' reactive output to around zero.

Static Reactive Power Switching

The IESO requires the voltage change due to the switching of a single reactor to be no more than 4 % at the any point in the ICG. A switching study was carried out to investigate the effect of the new shunt reactor on the

voltage changes. To reflect a reasonably restrictive system condition, the voltage change study assumed one Bruce to Milton circuit out of service.

Table 8: Voltage Changes due to Reactor Switching

Capacitor at 34.5 kV bus	ICG connection point
Pre-switching	248.8 kV
Post-switching	248.4 kV
ΔV	0.16%

Table 8 shows that switching a single reactor of 13 MVAR results in less than 4 % voltage change at the connection point, therefore meeting the Market Rules' requirement.

3.2 Thermal Analysis

The *Ontario Resource and Transmission Assessment Criteria* requires that all line and equipment loads be within their continuous ratings with all elements in service, and within their long-term emergency ratings with any element out of service.

The thermal impact of the incorporation of the Dufferin Wind Farm is the following:

- increased flow east on the Essa-by-Orangeville line,
- increase flow west on the Detweiler-by-Orangeville line segments emanating from Orangeville, and
- reduced flow east on the Bruce-by-Orangeville line.

The most significant of these impacts is the increased flow east on the Essa-by-Orangeville line since there is typically a large eastward generation flow originating from West and Southwest of the line. By maximizing the flow from these generation centres, the resulting eastward flows on the 230 kV Essa-by-Orangeville line are increased, representing its most stressed thermal condition. Although both the peak and shoulder-load basecases adopted this dispatch philosophy, the shoulder case was used for thermal analysis as the resulting flow eastward on the line was higher due to the lower load levels in Southern and Southwestern Ontario.

The key Essa-by-Orangeville and Detweiler-by-Orangeville line section ratings are summarized in Table 10. Continuous ratings of circuits are obtained based on 35°C ambient temperature at 4 km/hr wind velocity, with 93°C maximum operating temperature or individual sag temperature if lower. Long term emergency (LTE) ratings are obtained based on 35°C ambient temperature at 4 km/hr wind velocity, with 127°C maximum operating temperature or individual sag temperature if lower.

The load on the Essa-by-Orangeville corridor is critical for assessing the thermal loading on its associated circuits. The assumed load in the thermal assessment can be found in Table 9. These values were obtained based on the average station load when the primary demand was between 20 000 MW and 22 000 MW during the months from May to September, over the past 5 years. This average was selected to reflect a shoulder load condition with the potential for 35°C temperature.

Table 9: Assumed Station Load

Station	Load (MW)
Everett T1/T2	27
Alliston T3/T4	60
Alliston T2	12

The following three contingencies were simulated for the thermal analysis:

- (1) **Simultaneous loss of 500 kV circuits B560V and B561M:** 500 kV circuits B560V and B561M are main arteries of the FETT interface to which circuit E9V belongs. The loss of these circuits results in higher transfers on the remaining circuits of the interface, including E8V and E9V.
- (2) **Simultaneous loss of 230 kV circuits D6V and D7V:** Detweiler-by-Orangeville 230 kV circuits D6V and D7V are characterized by having a heavy load, typically being fed from both the Detweiler and Orangeville ends. The loss of these circuits will result in additional flow on E8V and E9V due to the lost load.
- (3) **Loss of circuit 230 kV circuit E9V:** This contingency highlights the thermal impact of the Dufferin Wind Farm on the Essa-by-Orangeville corridor.

Line loading results are summarized in Table 10. These results demonstrate that there are no pre or post-contingency thermal concerns in the area.

Table 10: Pre and Post-Contingency Thermal Assessment Results

Circuit	Circuit Loading Pre-Contingency (A)	Summer Continuous Rating (A)	Percent of Continuous Rating (%)	Long Term Emergency Rating (A)	Loss of B560V+B561M		Loss of D6V+D7V		Loss of E9V	
					Circuit Loading Post (A)	% of LTE	Circuit Loading Post (A)	% of LTE	Circuit Loading Post (A)	% of LTE
E8V (ORxEV)	614	840	73.10	1040	851	81.83	744	71.54	888	85.38
E8V (EVxAL)	582	840	69.29	1090	818	75.05	712	65.32	830	76.15
E8V (ALxAL)	527	840	62.74	1090	757	69.45	655	60.09	731	67.06
E8V (ALxES)	525	840	62.50	1090	755	69.27	653	59.91	728	66.79
E9V (ORxEV)	615	840	73.21	1090	855	78.44	748	68.62	0	0.00
E9V (EVxAL)	587	840	69.88	1090	824	75.60	717	65.78	0	0.00
E9V (ALxAL)	533	840	63.45	1090	763	70.00	661	60.64	0	0.00
E9V (ALxES)	511	840	60.83	1090	738	67.71	638	58.53	0	0.00
D6V (FGxOR)	211	1100	19.18	1460	196	13.42	0	0.00	310	21.23
D6V (GNxFG)	174	840	20.71	1090	160	14.68	0	0.00	275	25.23
D7V (FGxOR)	212	1100	19.27	1460	198	13.56	0	0.00	312	21.37
D7V (GNxFG)	175	840	20.83	1090	161	14.77	0	0.00	276	25.32

3.3 Voltage Analysis

The *Ontario Resource and Transmission Assessment Criteria (ORTAC)* states that with all facilities in service pre-contingency, the following criteria shall be satisfied:

- The pre-contingency voltage on 230 kV buses must not be less than 220 kV and voltages on 115kV buses cannot be less than 113 kV;
- The post-contingency voltage on 230 kV buses must not be less than 207 kV and voltages on 115V buses cannot be less than 108 kV; and
- The voltage drop following a contingency must not exceed 10% pre-ULTC and 10% post-ULTC.

The voltage performance of the IESO-controlled grid was evaluated by examining if pre and post-contingency voltage declines remain within criteria at various facilities. Studies were conducted under both peak and light load conditions, however only results for the peak load simulation are provided as the simulations exhibited more limiting results. As the changes addressed by this addendum are connection based and only impact the local area, only the loss of the wind farm was considered.

The study results are summarized in Table 11 and demonstrate that both pre-ULTC and post-ULTC voltage decline values at Orangeville TS and Dufferin Wind Farm TS for the loss of the entire wind farm are within the IESO's criteria of 10%.

Table 11: Voltage Performance after the integration of the Dufferin Wind Farm

Monitored Busses		Pre-Cont Voltage kV	Loss of Dufferin Wind Farm with full MVar out			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Dufferin WF	220	247.0	242.4	-1.9	242.4	-1.9
Orangeville	220	241.5	240.6	-0.4	240.6	-0.4

Monitored Busses		Pre-Cont Voltage kV	Loss of Dufferin Wind Farm with full MVar in			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Dufferin WF	220	241.8	249.7	3.3	248.9	0.3
Orangeville	220	245.5	247.9	1.0	247.1	0.7

3.4 Transient Stability Performance

Transient stability simulations were performed to determine if the power system can be transiently stable for recognized fault conditions. In particular, rotor angles of generators at Bruce GS, Darlington GS, Pickering GS, Greenfield GS and Saunders GS were monitored. Simulations were performed under both the peak and shoulder load conditions, however only results for the shoulder load condition are provided as the simulations exhibited slightly more limiting results.

Transient stability analyses were performed considering recognized faults in Southwest area. Two contingencies were considered as shown in Table 12:

- (1) **Simultaneous loss of 500 kV circuits B560V and B561M:** simulated since it has the most severe impact on the generator rotor angles and system voltage stability.
- (2) **Un-cleared 3 phase fault within the Dufferin Wind Farm:** simulated to ensure that the failure of its internal protections will not adversely impact the stability of the IESO controlled grid.

Table 12: Simulated Contingencies for Transient Stability

Contingency	Location	Fault Type	Fault Clearing Time (ms)		BLRSS* (ms)	Reclosure Time
			Local	Remote		
B560V+B561M	Bruce	LLG	66	91	124	10s for B560V 15s for B561M
LV side of main step-up transformer	Dufferin WF	3 phase	Un-cleared		-	-

*BLRSS denotes the Bruce and Longwood Reactor Switching Scheme

Figure 3 to Figure 6 in Appendix A show the transient responses of rotor angles and bus voltages. The transient responses show that the generators remain synchronized to the power system and the oscillations are sufficiently damped following all simulated contingencies. It can be concluded that, with Dufferin Wind Farm on-line, none of the simulated contingencies caused transient instability or un-damped oscillations.

3.5 Voltage Ride-Through Capability

The IESO requires that the wind turbine generators and associated equipment within the project be able to withstand transient voltages and remain connected to the IESO-controlled grid following a recognized contingency unless the generators are removed from service by configuration. This requirement is commonly referred to as the voltage ride-through (VRT) capability.

The GE 1.6 MW and 2.75 MW WTGs to be installed will be equipped with the GE ZVRT option. The ZVRT capability of the wind turbines is shown in Table 4.

The LVRT capability of the WTGs was assessed based on the terminal voltages of the WTGs under simulated contingencies in Table 13. These contingencies result in the lowest transient voltages at the Dufferin Wind Farm.

Table 13: Simulated contingencies for LVRT

Contingency	Location	Fault Type	Fault Clearing Time (ms)		BLRSS (ms)
			Local	Remote	
E8V	Orangeville	3 phase	83	108	-
E8V	Orangeville	LG+BKF	177	202	-
B560V+B561M	Bruce	LLG	66	91	124

*BLRSS denotes the Bruce and Longwood Reactor Switching Scheme

Figure 7 and Figure 8 in Appendix A show the terminal voltages of both the GE 1.6 MW and 2.75 MW WTGs respectively. They illustrate that the terminal voltages of the WTGs dip, in the worst case, to 0 pu and remain below 0.25 pu for about 100 ms, and recover to 0.9 pu in less than 200 ms after the fault inception. As compared with the ZVRT/LVRT capability of the GE 1.6 MW and 2.75 MW models, the proposed WTGs are able to remain connected to the grid for recognized system contingencies that do not remove the project by configuration.

However, when the project is incorporated into the IESO-controlled grid, if actual operation shows that the WTGs trip for out of zone faults, the IESO will require the voltage ride-through capability be enhanced by the applicant to prevent such tripping.

The voltage ride-through capability must also be demonstrated during commissioning by either providing manufacturer test results or monitoring several variables under a set of IESO specified field tests and the results should be verifiable using the PSS/E model.

The connection applicant should be aware that there are high voltage shunt capacitors installed in the proximity of the project. For example, there are 245 MVAR 230 kV switchable shunt capacitor at Orangeville TS, Essa TS and Detweiler TS. The switching of the capacitors can result in transient voltage changes of approximately 3.3% in either direction. Wind turbine generators and associated equipment within the project must be able to withstand transient voltages and remain connected to the IESO-controlled grid during capacitor switching.

-End of Section-

Appendix A: Figures

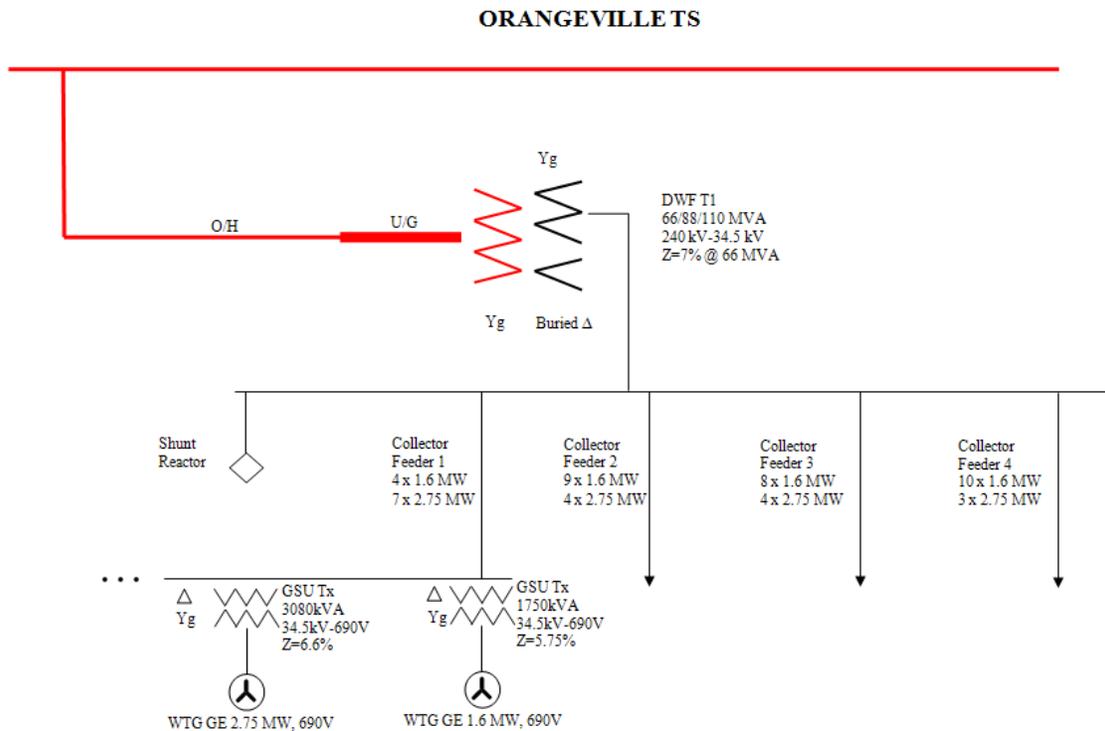


Figure 1: Dufferin Wind Farm Single Line Diagram

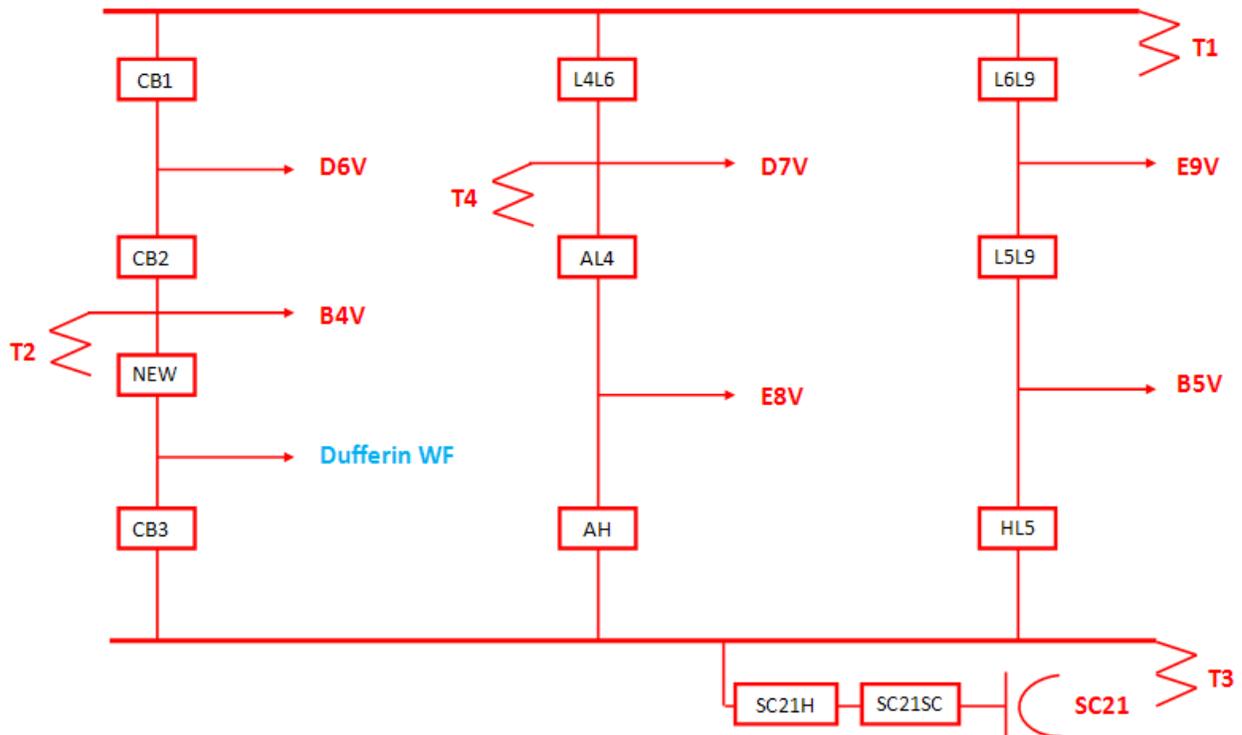


Figure 2: Orangeville SLD after the incorporation of the Dufferin Wind Farm

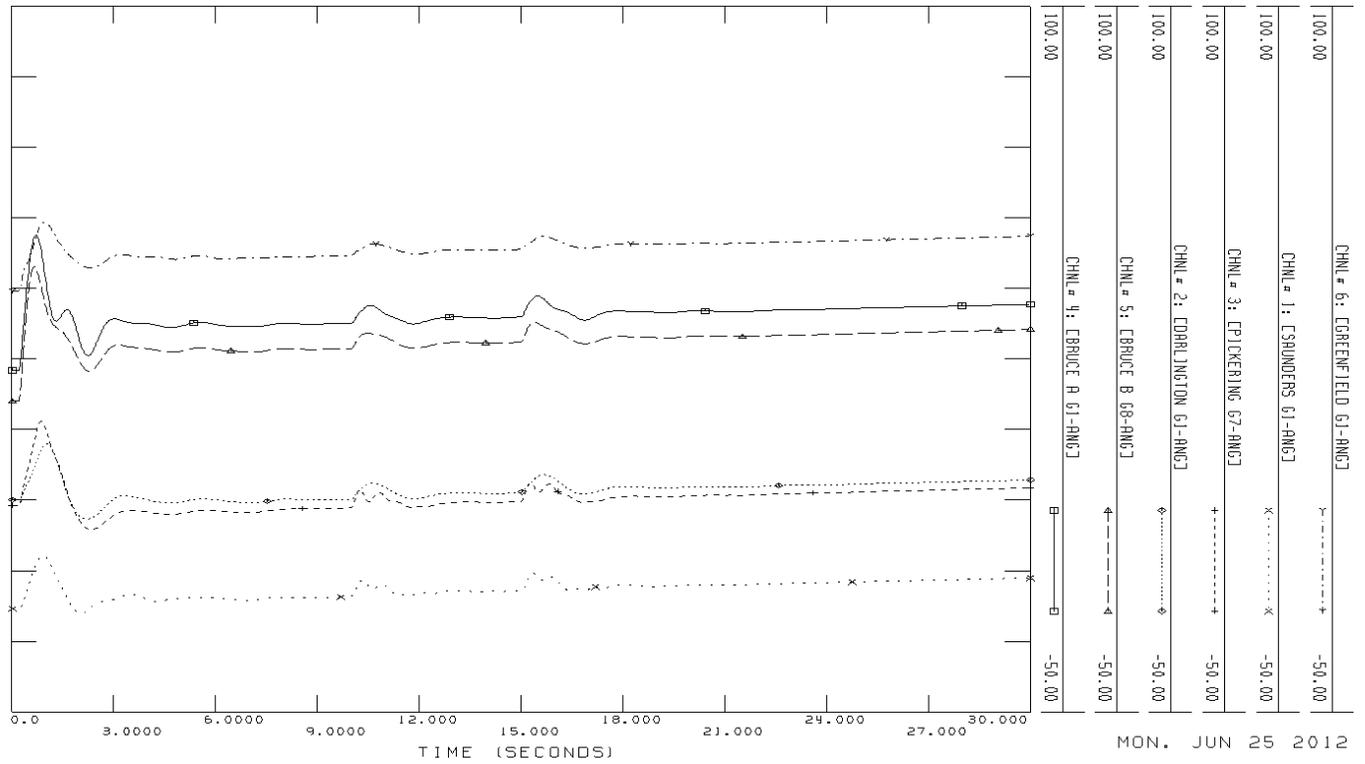


Figure 3: Major generator angle response due to a LLG fault on circuits B560V and B561M at Bruce Junction – with reclosure

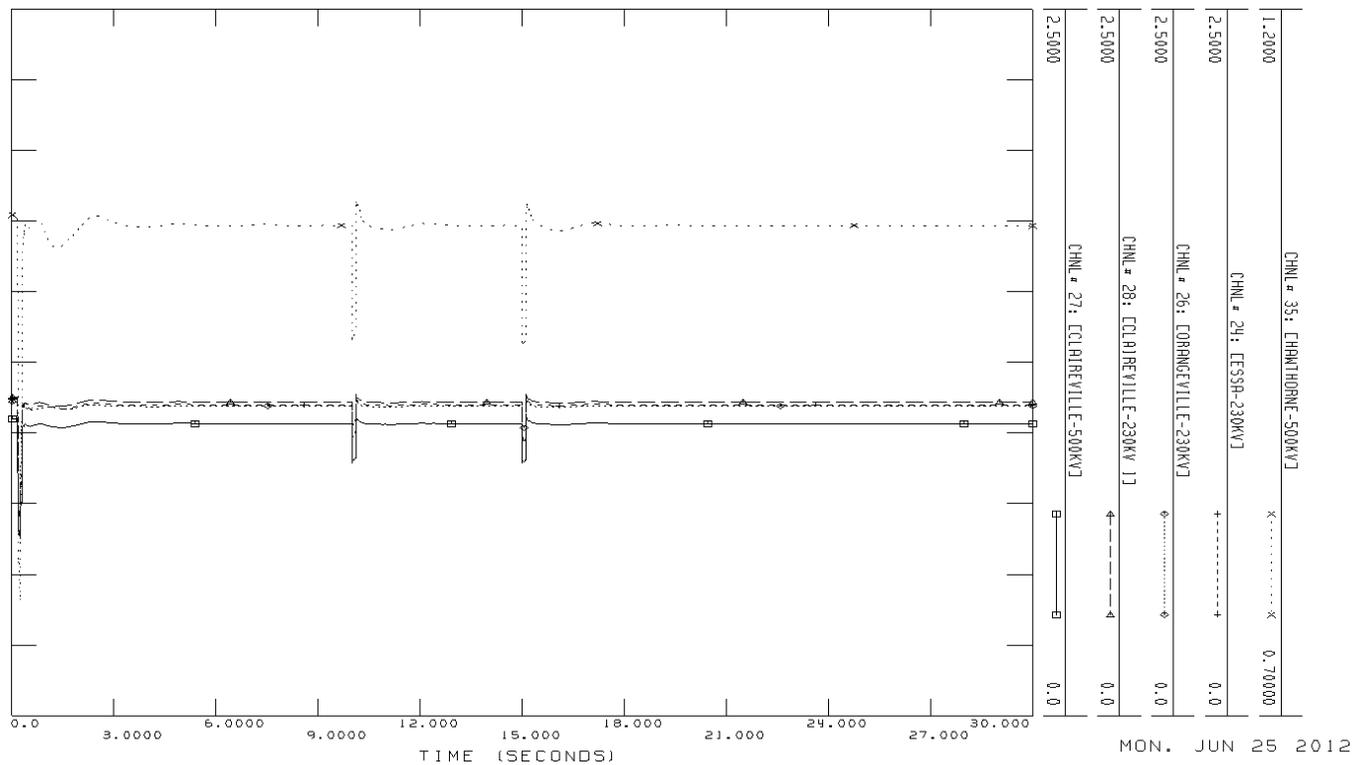


Figure 4: Voltage response due to a LLG fault on circuits B560V and B561M at Bruce Junction – with reclosure

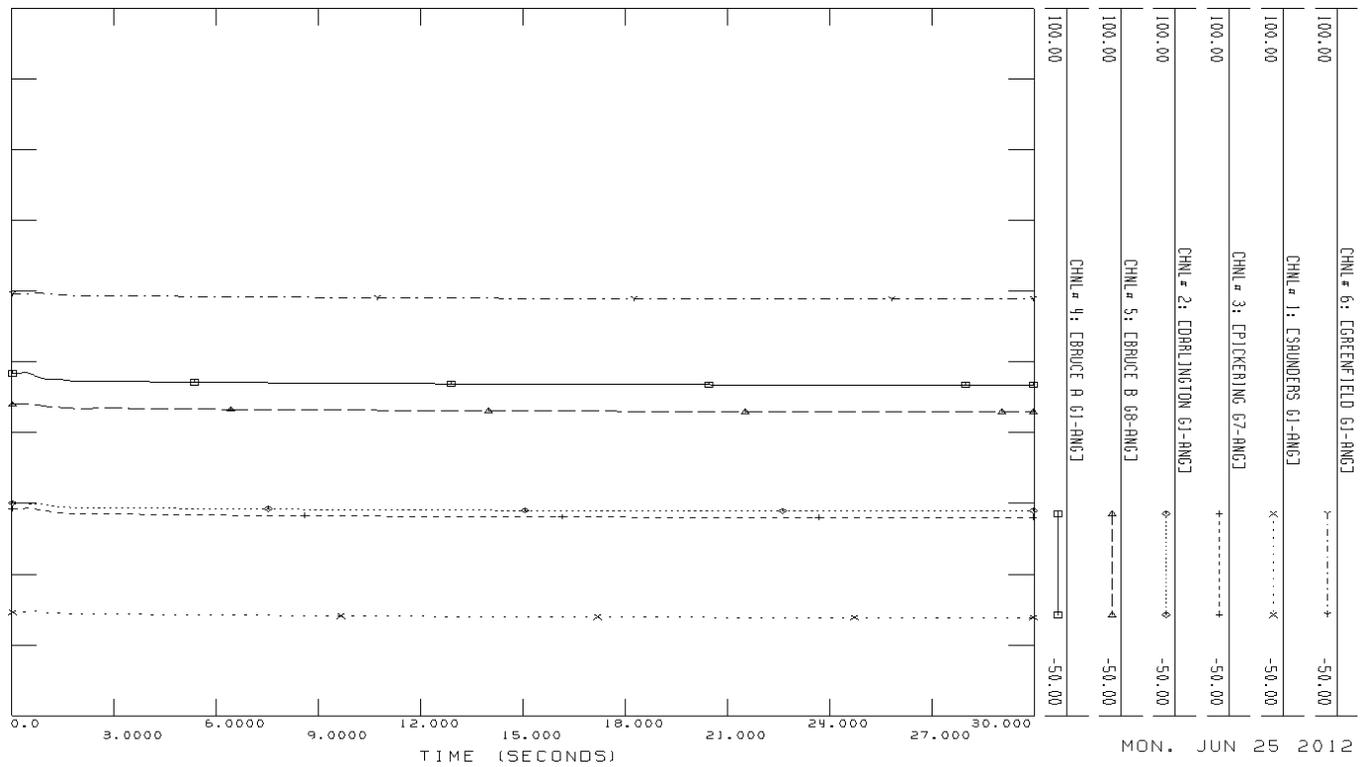


Figure 5: Major generator angle response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm

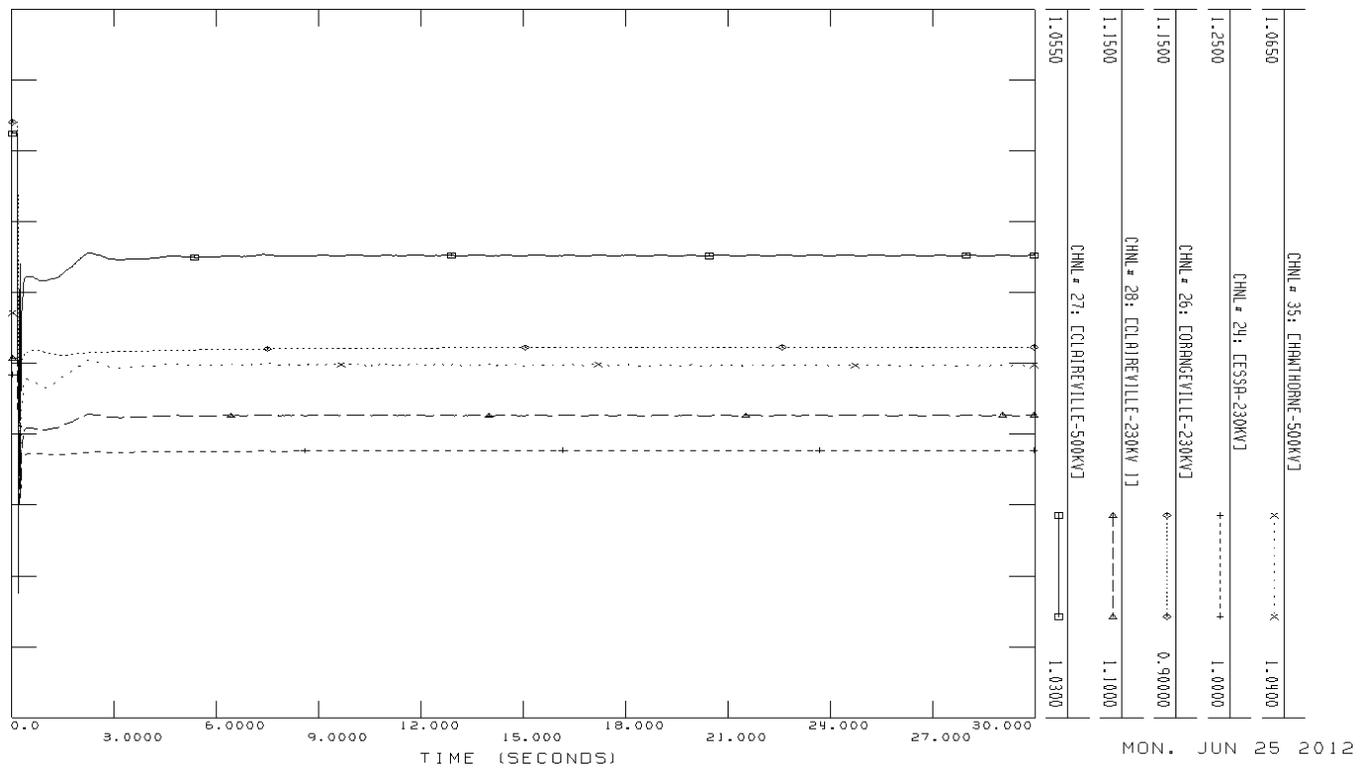


Figure 6: Voltage response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm

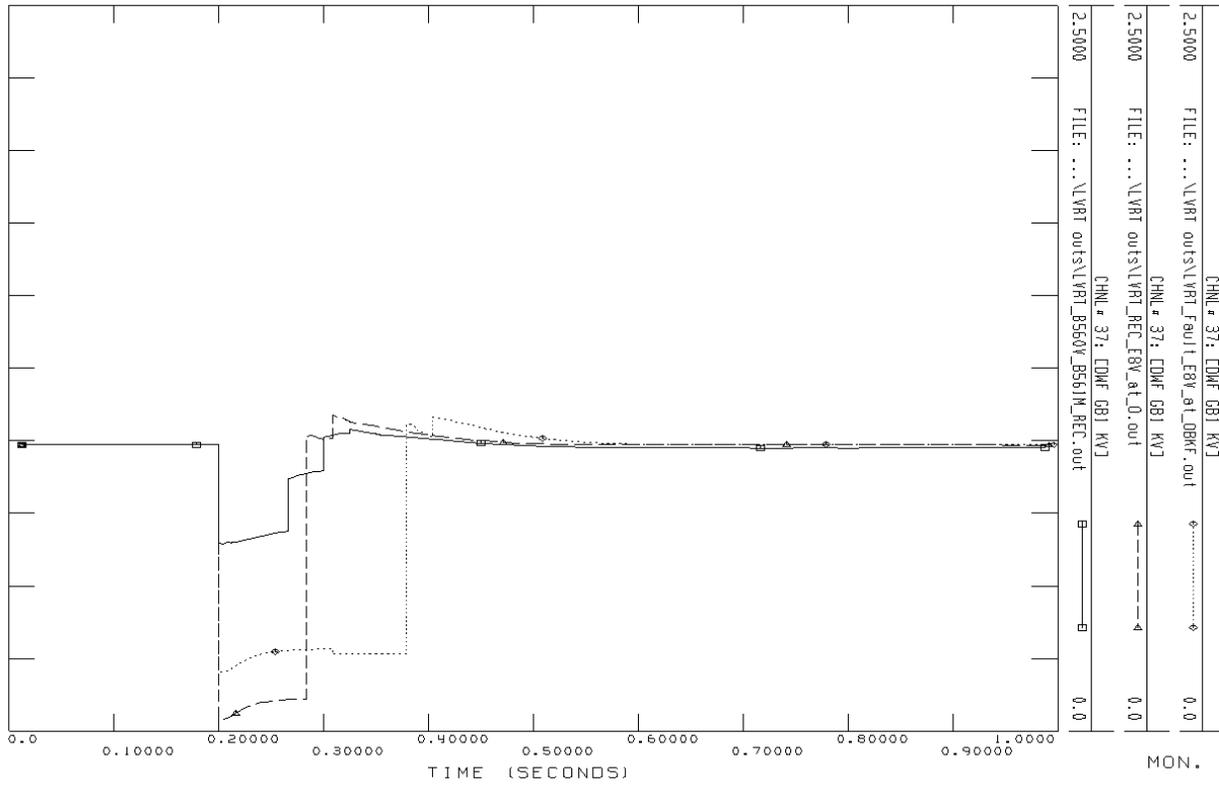


Figure 7: GE 1.6 MW WTG terminal voltages for studied contingencies

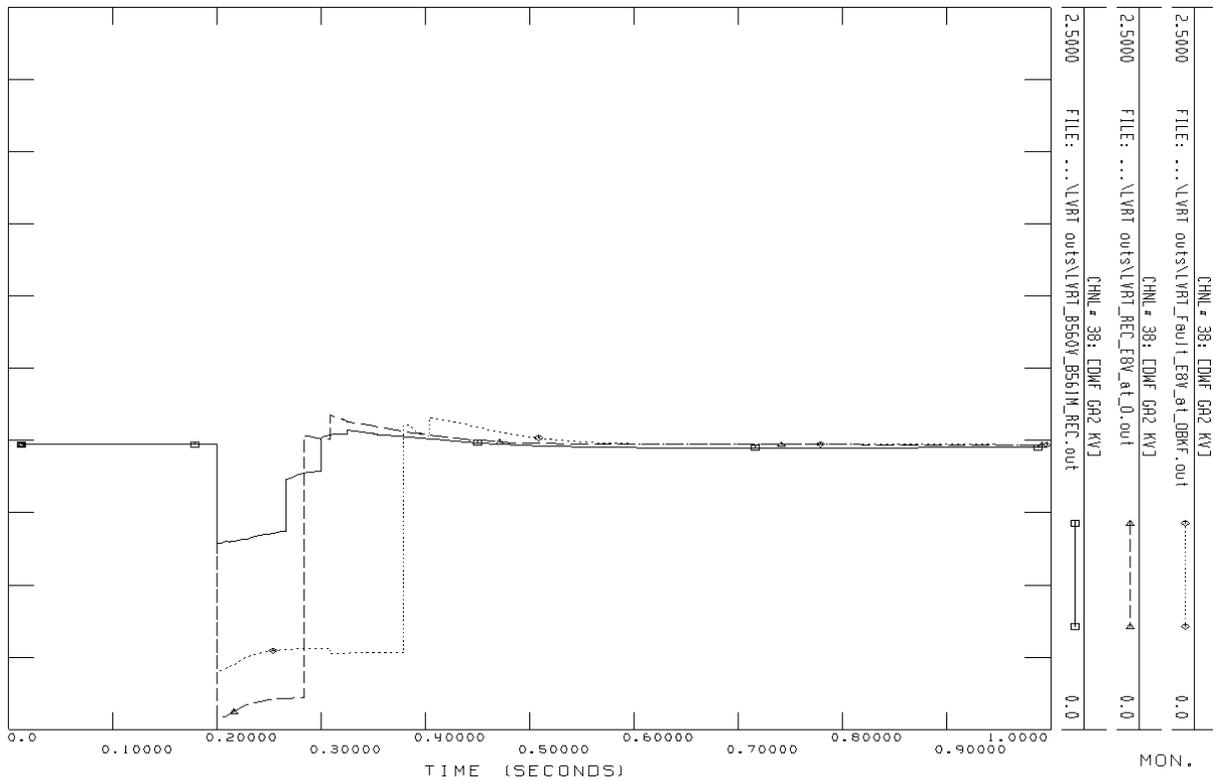


Figure 8: GE 2.75 MW WTG terminal voltages for studied contingencies

APPENDIX 'B'

INITIAL SYSTEM IMPACT ASSESSMENT REPORT



Power to Ontario.
On Demand.

System Impact Assessment Report

CONNECTION ASSESSMENT & APPROVAL PROCESS

Final Report

CAA ID: 2010-396
Project: Dufferin Wind Farm
Applicant: Dufferin Wind Power Inc.

Market Facilitation Department
Independent Electricity System Operator

Date: December 2nd 2011

REPORT

Document ID	IESO_REP_0758
Document Name	System Impact Assessment Report
Issue	Final Report
Reason for Issue	First Issue
Effective Date	December 2nd 2011

System Impact Assessment Report

Acknowledgement

The IESO wishes to acknowledge the assistance of Hydro One in completing this assessment.

Disclaimers

IESO

This report has been prepared solely for the purpose of assessing whether the connection applicant's proposed connection with the IESO-controlled grid would have an adverse impact on the reliability of the integrated power system and whether the IESO should issue a notice of conditional approval or disapproval of the proposed connection under Chapter 4, section 6 of the Market Rules.

Conditional approval of the proposed connection is based on information provided to the IESO by the connection applicant and Hydro One at the time the assessment was carried out. The IESO assumes no responsibility for the accuracy or completeness of such information, including the results of studies carried out by Hydro One at the request of the IESO. Furthermore, the conditional approval is subject to further consideration due to changes to this information, or to additional information that may become available after the conditional approval has been granted.

If the connection applicant has engaged a consultant to perform connection assessment studies, the connection applicant acknowledges that the IESO will be relying on such studies in conducting its assessment and that the IESO assumes no responsibility for the accuracy or completeness of such studies including, without limitation, any changes to IESO base case models made by the consultant. The IESO reserves the right to repeat any or all connection studies performed by the consultant if necessary to meet IESO requirements.

Conditional approval of the proposed connection means that there are no significant reliability issues or concerns that would prevent connection of the proposed project to the IESO-controlled grid. However, the conditional approval does not ensure that a project will meet all connection requirements. In addition, further issues or concerns may be identified by the transmitter(s) during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with physical or equipment limitations, or with the Transmission System Code, before connection can be made.

This report has not been prepared for any other purpose and should not be used or relied upon by any person for another purpose. This report has been prepared solely for use by the connection applicant and the IESO in accordance with Chapter 4, section 6 of the Market Rules. The IESO assumes no responsibility to any third party for any use, which it makes of this report. Any liability which the IESO may have to the connection applicant in respect of this report is governed by Chapter 1, section 13 of the Market Rules. In the event that the IESO provides a draft of this report to the connection applicant, the connection applicant must be aware that the IESO may revise drafts of this report at any time in its sole discretion without notice to the connection applicant. Although the IESO will use its best efforts to advise you of any such changes, it is the responsibility of the connection applicant to ensure that the most recent version of this report is being used.

Hydro One

The results reported in this report are based on the information available to Hydro One, at the time of the study, suitable for a System Impact Assessment of this connection proposal.

The short circuit and thermal loading levels have been computed based on the information available at the time of the study. These levels may be higher or lower if the connection information changes as a result of, but not limited to, subsequent design modifications or when more accurate test measurement data is available.

This study does not assess the short circuit or thermal loading impact of the proposed facilities on load and generation customers.

In this report, short circuit adequacy is assessed only for Hydro One circuit breakers. The short circuit results are only for the purpose of assessing the capabilities of existing Hydro One circuit breakers and identifying upgrades required to incorporate the proposed facilities. These results should not be used in the design and engineering of any new or existing facilities. The necessary data will be provided by Hydro One and discussed with any connection applicant upon request.

The ampacity ratings of Hydro One facilities are established based on assumptions used in Hydro One for power system planning studies. The actual ampacity ratings during operations may be determined in real-time and are based on actual system conditions, including ambient temperature, wind speed and facility loading, and may be higher or lower than those stated in this study.

The additional facilities or upgrades which are required to incorporate the proposed facilities have been identified to the extent permitted by a System Impact Assessment under the current IESO Connection Assessment and Approval process. Additional facility studies may be necessary to confirm constructability and the time required for construction. Further studies at more advanced stages of the project development may identify additional facilities that need to be provided or that require upgrading.

Table of Contents

Table of Contents	i
Table of Figures	iii
Table of Tables	iv
Executive Summary	1
Project Description	1
Findings	1
IESO Requirements for Connection	2
Notification of Conditional Approval.....	6
1. Project Description	7
2. General Requirements	8
2.1 Frequency/Speed Control	8
2.2 Reactive Power/Voltage Regulation.....	8
2.3 Voltage Ride Through Capability.....	9
2.4 Voltage	9
2.5 Connection Equipment Design	9
2.6 Disturbance Recording	9
2.7 Fault Level.....	10
2.8 Breaker Interrupting Time	10
2.9 Protection System	10
2.10 Telemetry	11
2.11 Revenue Metering	11
2.12 Reliability Standards.....	11
2.13 Restoration Participant	12
2.14 Facility Registration/Market Entry	12
2.15 More Connection Requirements	12
3. Data Verification	13
3.1 Connection Arrangement.....	13
3.2 GE 1.6 MW WTG.....	13
3.3 GE 2.75 MW WTG.....	14
3.4 Main Step-Up Transformers.....	15
3.5 Collector and Intermediate Transmission System	15

3.6	Connection Equipment	16
3.7	Wind Farm Control System.....	17
4.	Short Circuit Assessment.....	19
5.	Protection Impact Assessment	23
6.	System Impact Studies	24
6.1	Study Assumptions.....	24
6.2	Reactive Power Compensation.....	25
6.3	Thermal Analysis	28
6.4	Voltage Analysis	33
6.5	Transient Stability Performance	33
6.6	Voltage Ride-Through Capability	34
6.7	Relay Margin	35
	Appendix A: Figures.....	37
	Appendix B: PIA Report	47

Table of Figures

Figure 1: Dufferin Wind Farm Single Line Diagram.....	37
Figure 2: Location of Dufferin Wind Farm	37
Figure 3: Major generator angle response due to a LLG fault on circuits B560V and B561M at Willow Creek Junction – with reclosure	38
Figure 4: Voltage response due to a LLG fault on circuits B560V and B561M at Willow Creek Junction – with reclosure.....	38
Figure 5: Major generator angle response due to a 3 phase fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing.....	39
Figure 6: Voltage response due to a 3 phase fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing	39
Figure 7: Major generator angle response due to a LG+BKF fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing.....	40
Figure 8: Voltage response due to a LG+BKF fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing	40
Figure 9: Major generator angle response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm.....	41
Figure 10: Voltage response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm	41
Figure 11: GE 1.6 MW WTG terminal voltages for studied contingencies.....	42
Figure 12: GE 2.75 MW WTG terminal voltages for studied contingencies.....	42
Figure 13: E9V at Orangeville trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction	43
Figure 14: E9V at Essa trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction	43
Figure 15: E9V at Orangeville trajectory due to a LLG fault on circuits D6V and D7V at Orangeville.....	44
Figure 16: E9V at Essa trajectory due to a LLG fault on circuits D6V and D7V at Orangeville	44
Figure 17: E9V at Orangeville trajectory due to a 3 phase fault on circuit E8V at Orangeville	45
Figure 18: E9V at Essa trajectory due to a 3 phase fault on circuit E8V at Orangeville.....	45
Figure 19: E9V at Orangeville trajectory due to a 3 phase fault on circuit E8V at Essa.....	46
Figure 20: E9V at Orangeville trajectory due to a 3 phase fault on circuit E8V at Essa.....	46

Table of Tables

Table 1: Specifications of GE 1.6 MW WTG.....	13
Table 2: GE 1.6 MW WTG voltage ride-through specifications	13
Table 3: Specifications of GE 2.75MW WTG.....	14
Table 4: GE 2.75 MW WTG voltage ride-through specifications	14
Table 5: Main step-up transformer data.....	15
Table 6: Intermediate step-up transformer data.....	15
Table 7: Equivalent impedance of collectors.....	15
Table 8: Equivalent impedance of intermediate transmission line.....	15
Table 9: Specifications of 69 kV switches.....	16
Table 10: Specifications of 69 kV circuit breakers	16
Table 11: Specifications of 230 kV switches.....	16
Table 12: Specifications of 230 kV breakers.....	16
Table 13: Fault levels at facilities near the Dufferin Wind Farm	21
Table 14: Proposed Protection Changes to Circuit E9V	23
Table 15: System demand and primary interface flows for basecases (MW).....	24
Table 16: Reactive Power Performance at the PCC.....	26
Table 17: Voltage Changes due to Static Reactive Compensation Switching	27
Table 18: Circuit Section Ratings and Lengths.....	29
Table 19: Transformer Ratings.....	29
Table 20: Assumed Station Load.....	29
Table 21: Pre-Contingency Thermal Assessment Results with S2S Closed – Line Sections	30
Table 22: Pre-Contingency Thermal Assessment Results with S2S Closed – Transformer	30
Table 23: Pre-Contingency Thermal Assessment Results with S2S Open – Line Sections	31
Table 24: Pre-Contingency Thermal Assessment Results with S2S Open – Transformer	31
Table 25: Post-Contingency Thermal Assessment Results – Line Sections	32
Table 26: Voltage Performance after the integration of the Dufferin Wind Farm	33
Table 27: Simulated Contingencies for Transient Stability	34
Table 28: Simulated contingencies for LVRT.....	35
Table 29: Simulated contingencies for relay margin	35

Executive Summary

Project Description

Dufferin Wind Power Inc. (the “connection applicant”) is proposing to construct a 99.35 MW wind energy project named Dufferin Wind Farm (the “project”) in the township of Melancthon Ontario. The project will be connected to 230 kV circuit E9V. The project has been awarded a Power Purchase Agreement under the Feed-In Tariff (FIT) program with the Ontario Power Authority.

The project in-service date is December 31, 2012.

Findings

The following conclusions were derived from the study results.

1. The proposed connection arrangement and equipment for the project are acceptable to the IESO.
2. The asymmetrical fault current at Bruce A 230 kV before and after the incorporation of the project will exceed the interrupting capability of the existing breakers. To address this issue in the long term, Hydro One has planned to replace the Bruce 230 kV breakers to improve fault current interrupting capability. Before the circuit breakers are replaced, temporary operational mitigation measures have been developed by Hydro One in collaboration with the IESO.
3. For now, it is not necessary for the project to participate in the existing Bruce Special Protection Scheme (BSPS), or any new Special Protection Scheme (SPS).
4. The reactive power capability of the wind turbine generators (WTGs) along with the impedance between the WTGs and the IESO controlled grid results in a reactive power deficiency at the connection point which has to be compensated with additional reactive power devices. With the capacitor banks located at the 34.5 kV collector bus, voltages at the Dufferin Wind Farm Generating Station and along the collector lines reached up to 1.08 pu. The applicant has deemed this to be acceptable.
5. The features of the proposed wind farm control system meet the requirements in the Market Rules.
6. The voltage performance with the incorporation of the project is expected to be acceptable under both pre-contingency and post-contingency operating conditions.
7. To prevent thermal overloading under certain conditions, circuit S2S will be required to operate open-loop after the integration of the committed generation in the Bruce Area. This open-loop operation does not introduce any limitations.
8. The WTGs of the project and the power system are expected to be transiently stable following recognized fault conditions.
9. The proposed WTGs are expected to remain connected to the grid for recognized system contingencies which do not remove the project by configuration.
10. Protection adjustments identified by the Hydro One in the Protection Impact Assessment (PIA) to accommodate the project have no adverse impact on the reliability of IESO-controlled grid.

11. The relay margins on the affected circuits after the incorporation of the project conform to the Market Rules' requirements.

IESO Requirements for Connection

Transmitter Requirements

The following requirements are applicable for the transmitter for the incorporation of the project:

- (1) Hydro One is required to review the relay settings of the 230 kV circuit E9V and any other circuits affected by the project, as per solutions identified in the PIA.

Modifications to protection relays after this SIA is finalized must be submitted to IESO as soon as possible or at least six (6) months before any modifications are to be implemented. If those modifications result in adverse reliability impacts, the connection applicant and the transmitter must develop mitigation solutions.

Applicant Requirements

Specific Requirements: The following *specific* requirements are applicable for the incorporation of the project. Specific requirements pertain to the level of reactive compensation needed, operation restrictions, special protection system, upgrading of equipment and any project specific items not covered in the *general* requirements.

- (1) The project is required to have the capability to inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output.

Based on the equivalent collector impedance parameters provided by the connection applicant, a static compensation device of 33 MVAR at 34.5 kV installed at the 34.5 kV Dufferin Wind Farm Generating Station collector bus would satisfy the reactive power requirement. The required capacitive compensation would need to be arranged into at least 2 steps to allow for flexibility in adjustment of reactive power production. It shall also be implemented as a part of wind farm control system that automatically controls the switching of capacitor banks to regulate the overall WTGs' reactive output to around zero output.

With the capacitor banks located at the 34.5 kV collector bus, the voltage profile along the project's network greatly impacts its ability to provide full reactive support from the WTGs. The IESO recommends that project's internal system voltages be controlled via automatic ULTC such that voltages remain within acceptable ranges, ultimately facilitating the WTGs ability to provide full reactive support.

The connection applicant has the obligation to ensure that the wind farm has the capability to meet the Market Rules requirement at the connection point and be able to confirm this capability during the commission tests.

- (2) The connection applicant is required to provide a finalized copy of the functional description of the wind farm control systems for the IESO's approval before the project is allowed to connect.

General Requirements: The connection applicant shall satisfy all applicable requirements and standards specified in the Market Rules and the Transmission System Code. The following

requirements summarize some of the general requirements that are applicable to the proposed project, and presented in detail in section 2 of this report.

- (1) The connection applicant shall ensure that the project has the capability to operate continuously between 59.4Hz and 60.6Hz and for a limited period of time in the region above straight lines on a log-linear scale defined by the points (0.0s, 57.0Hz), (3.3s, 57.0Hz), and (300s, 59.0Hz).

The project shall respond to frequency increase by reducing the active power with an average droop based on maximum active power adjustable between 3% and 7% and set at 4%. Regulation deadband shall not be wider than $\pm 0.06\%$. The project shall respond to system frequency decline by temporarily boosting its active power output for some time (i.e. 10 s) by recovering energy from the rotating blades, if this technology is available.

- (2) The connection applicant shall ensure that the project has the capability to supply continuously all levels of active power output for 5% deviations in terminal voltage.

The project shall inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output except where a lesser continually available capability is permitted by the IESO.

The project shall have the capability to regulate automatically voltage within $\pm 0.5\%$ of any set point within $\pm 5\%$ of rated voltage at a point whose impedance (based on rated apparent power and rated voltage) is not more than 13% from the highest voltage terminal. If the AVR target voltage is a function of reactive output, the slope $\Delta V/\Delta Q_{\max}$ shall be adjustable to 0.5%. The response of the project for voltage changes shall be similar or better than that of a generation facility with a synchronous generation unit and an excitation system that meets the requirements of Appendix 4.2.

- (3) The project shall have the capability to ride through routine switching events and design criteria contingencies assuming standard fault detection, auxiliary relaying, communication, and rated breaker interrupting times unless disconnected by configuration.
- (4) The connection applicant shall ensure that the 230 kV equipment is capable of continuously operating between 220 kV and 250 kV. Protective relaying must be set to ensure that transmission equipment remains in-service for voltages between 94% of the minimum continuous value and 105% of the maximum continuous value specified in Appendix 4.1 of the Market Rules.
- (5) The connection applicant shall ensure that the connection equipment is designed to be fully operational in all reasonably foreseeable ambient temperature conditions. The connection equipment must also be designed so that the adverse effects of its failure on the IESO-controlled grid are mitigated. This includes ensuring that all circuit breakers fail in the open position.
- (6) The connection applicant shall install at the project a disturbance recording device with clock synchronization that meets the technical specifications provided by the transmitter.
- (7) The connection applicant shall ensure that the new equipment at the project is designed to sustain the fault levels in the area. If any future system enhancement results in fault levels exceeding the equipment's capability, the connection applicant is required to replace the equipment at its own expense with higher rated equipment capable of sustaining the increased fault level, up to maximum fault level specified in Appendix 2 of the Transmission System Code.

Fault interrupting devices must be able to interrupt fault currents at the maximum continuous voltage of 250 kV.

- (8) Appendix 2 of the Transmission System Code states that the maximum rated interrupting time for the 230 kV breakers must be less than 3 cycles. Thus, the connection applicant shall ensure that the installed breakers meet the required interrupting time specified in the Transmission System Code.
- (9) The connection applicant shall ensure that the new protection systems at the project are designed to satisfy all the requirements of the Transmission System Code and any additional requirements identified by the transmitter.

As currently assessed, the project is not part of the bulk power system (BPS). Therefore, it is not designated as essential to the power system by the IESO.

The connection applicant shall have adequate provision in the design of protections and controls at the project to allow for future installation of SPS equipment.

The protection systems within the project must only trip the appropriate equipment required to isolate the fault.

The auto-reclosure of the high voltage breakers at the connection point must be blocked. Upon its opening for a contingency, the high voltage breaker must be closed only after the IESO approval is granted.

Any modifications made to protection relays by the transmitter after this SIA is finalized must be submitted to the IESO as soon as possible or at least six (6) months before any modifications are to be implemented on the existing protection systems.

- (10) The connection applicant shall ensure that the telemetry requirements are satisfied as per the applicable Market Rules requirements. The determination of telemetry quantities and telemetry testing will be conducted during the IESO Facility Registration/Market Entry process.
- (11) If revenue metering equipment is being installed as part of the project, the connection applicant should be aware that revenue metering installations must comply with Chapter 6 of the IESO Market Rules. For more details the connection applicant is encouraged to seek advice from their Metering Service Provider (MSP) or from the IESO metering group.
- (12) The project must be compliant with applicable reliability standards set by the North American Electric Reliability Corporation (NERC) and the North East Power Coordinating Council (NPCC) that are in effect in Ontario as mapped in the following link: <http://www.ieso.ca/imoweb/ircp/orcp.asp>.
- (13) The connection applicant will be required to be a restoration participant. Details regarding restoration participant requirements will be finalized at the Facility Registration/Market Entry Stage.
- (14) The connection applicant must complete the IESO Facility Registration/Market Entry process in a timely manner before IESO final approval for connection is granted.

Models and data, including any controls that would be operational, must be provided to the IESO at least seven months before energization to the IESO-controlled grid. This includes both PSS/E and DSA software compatible mathematical models. The models may be shared with other reliability entities in North America as required under the IESO's obligations.

The connection applicant must also provide evidence to the IESO confirming that the equipment installed meets the Market Rules requirements and matches or exceeds the performance predicted in this assessment. This evidence shall be either type tests done in a controlled environment or commissioning tests done on-site. The evidence must be supplied to the IESO within 30 days after completion of commissioning tests. If the submitted models and

data differ materially from the ones used in this assessment, then further analysis of the project will need to be done by the IESO.

- (15) The Market Rules governing the connection of renewable generation facilities in Ontario are currently being reviewed through the SE-91 stakeholder initiative and, therefore, new connection requirements (in addition to those outlined in the SIA), may be imposed in the future. The connection applicant is encouraged to follow developments and updates through the following link: http://www.ieso.ca/imoweb/consult/consult_se91.asp.

Notification of Conditional Approval

The proposed connection of the Dufferin Wind Farm, operating up to 99.35 MW, subject to the requirements specified in this report, is expected to have no material adverse impact on the reliability of the integrated power system.

It is recommended that a *Notification of Conditional Approval for Connection* be issued for the Dufferin Wind Farm subject to the implementation of the requirements outlined in this report.

– End of Section –

1. Project Description

Dufferin Wind Power Inc. is proposing to construct a 99.35 MW wind energy project named Dufferin Wind Farm in the township of Melancthon Ontario, connected to 230 kV circuit E9V. The project has been awarded a Power Purchase Agreement under the Feed-In Tariff (FIT) program with the Ontario Power Authority. The project in-service date is December 31, 2012.

The project will consist of forty seven WTGs, more specifically twenty one GE 2.75-103 units and twenty six GE 1.6-100 units. The WTGs are doubly fed induction generator (GE1.6MW) and full converter interfaced generator (GE2.75MW), rated at 690 V and 60 Hz with the 690V to 34.5 kV Generator Step-Up (GSU) transformer installed beside the WTG tower.

Underground cables will collect power from each WTG and connect them to 34.5 kV circuit breakers at the Dufferin Wind Farm Generating Station (DWFGS) through overhead and underground collector lines. Capacitor banks will be installed on the 34.5 kV bus at DWFGS to provide reactive power compensation. DWFGS will subsequently step up the voltage to 69 kV using a power transformer Delta-connected on the 69 kV side and Wye-grounded on the 34.5 kV side. The transformer has ONAN/ONAF/ONAF ratings of 66/88/110 MVA and is sized to carry maximum generation from the wind farm. From the DWFGS, two overhead 35 km circuits, L1 and L2, will transmit power to the Dufferin Wind Farm Transformer Station (DWFTS).

At the DWFTS, the voltage will be stepped up from 69 kV to 230 kV using a power transformer Wye-Grounded on the 230 kV side and Delta-connected on the 69 kV side, rated at 66/88/110 MVA (ONAN/ONAF/ONAF). The DWFTS will be connected to the 230 kV circuit E9V using a short 100 m, 230 kV tap. The connection point is 10.9 km from Orangeville TS along circuit E9V.

The single line diagram and connection point of the project are illustrated in Appendix A in Figure 1 and Figure 2, respectively.

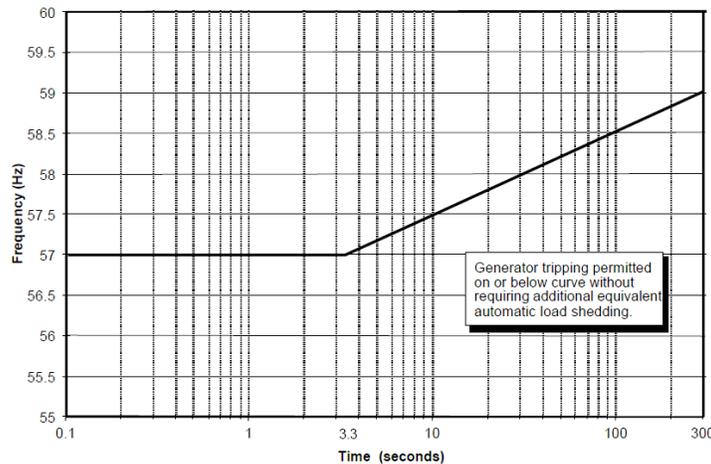
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2. General Requirements

The connection applicant shall satisfy all applicable requirements and standards specified in the Market Rules and the Transmission System Code. The following sections highlight some of the general requirements that are applicable to the proposed project.

2.1 Frequency/Speed Control

As per Appendix 4.2 of the Market Rules, the connection applicant shall ensure that the project has the capability to operate continuously between 59.4 Hz and 60.6 Hz and for a limited period of time in the region above straight lines on a log-linear scale defined by the points (0.0 s, 57.0 Hz), (3.3 s, 57.0 Hz), and (300 s, 59.0 Hz), as shown in the following figure.



The project shall respond to frequency increase by reducing the active power with an average droop based on maximum active power adjustable between 3% and 7% and set at 4%. Regulation deadband shall not be wider than $\pm 0.06\%$. The project shall respond to system frequency decline by temporarily boosting its active power output for some time (i.e. 10 s) by recovering energy from the rotating blades. This usually refers to “inertia emulation control” function within the wind farm control system. It is not required for wind facilities to provide a sustained response to system frequency decline. The connection applicant will need to indicate to the IESO whether the function of inertia emulation control is commercially available for the proposed type of wind turbine generator at the time when the wind farm comes into service. If this function is available, the connection applicant is required to implement it before the project can be placed in-service. If this function is commercially unavailable, the IESO reserves the right to ask the connection applicant to install this function in the future, once it is commercially available for the proposed type of wind turbine generator.

2.2 Reactive Power/Voltage Regulation

The project is directly connected to the IESO-controlled grid, and thus, the connection applicant shall ensure that the project has the capability to:

- supply continuously all levels of active power output for 5% deviations in terminal voltage. Rated active power is the smaller output at either rated ambient conditions (e.g. temperature,

- head, wind speed, solar radiation) or 90% of rated apparent power. To satisfy steady-state reactive power requirements, active power reductions to rated active power are permitted;
- inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output except where a lesser continually available capability is permitted by the IESO. If necessary, shunt capacitors must be installed to offset the reactive power losses within the project in excess of the maximum allowable losses. If generators do not have dynamic reactive power capabilities, dynamic reactive compensation devices must be installed to make up the deficient reactive power;
 - regulate automatically voltage within $\pm 0.5\%$ of any set point within $\pm 5\%$ of rated voltage at a point whose impedance (based on rated apparent power and rated voltage) is not more than 13% from the highest voltage terminal. If the AVR target voltage is a function of reactive output, the slope $\Delta V/\Delta Q_{\max}$ shall be adjusted to not more than 0.5%. The response of the project for voltage changes shall be similar to or better than the response of a generation facility with a synchronous generation unit and an excitation system that meets the requirements of Appendix 4.2.

2.3 Voltage Ride Through Capability

The project shall have the capability to ride through routine switching events and design criteria contingencies assuming standard fault detection, auxiliary relaying, communication, and rated breaker interrupting times unless disconnected by configuration.

2.4 Voltage

Appendix 4.1 of the Market Rules states that under normal operating conditions, the voltages in the 230 kV system are maintained within the range of 220 kV to 250 kV. Thus, the IESO requires that the 230 kV equipment in Ontario must have a maximum continuous voltage rating of at least 250 kV.

2.5 Connection Equipment Design

The connection applicant shall ensure that the connection equipment is designed to be fully operational in all reasonably foreseeable ambient temperature conditions. The connection equipment must also be designed so that the adverse effects of its failure on the IESO-controlled grid are mitigated. This includes ensuring that all circuit breakers fail in the open position.

2.6 Disturbance Recording

The connection applicant is required to install at the project a disturbance recording device with clock synchronization that meets the technical specifications provided by the transmitter. The device will be used to monitor and record the response of the project to disturbances on the 230 kV system in order to verify the dynamic response of generators. The quantities to be recorded, the sampling rate and the trigger settings will be provided by the transmitter.

2.7 Fault Level

The Transmission System Code requires the new equipment to be designed to sustain the fault levels in the area where the equipment is installed. Thus, the connection applicant shall ensure that the new equipment at the project is designed to sustain the fault levels in the area. If any future system enhancement results in an increased fault level higher than the equipment's capability, the connection applicant is required to replace the equipment at its own expense with higher rated equipment capable of sustaining the increased fault level, up to maximum fault level specified in the Transmission System Code. Appendix 2 of the Transmission System Code establishes the maximum fault levels for the transmission system. For the 230 kV system, the maximum 3 phase symmetrical fault level is 63 kA and the maximum single line to ground symmetrical fault level is 80 kA (usually limited to 63 kA).

Fault interrupting devices must be able to interrupt fault currents at the maximum continuous voltage of 250 kV.

2.8 Breaker Interrupting Time

Appendix 2 of the Transmission System Code states that the maximum rated interrupting time for the 230 kV breakers must be ≤ 3 cycles. Thus, the connection applicant shall ensure that the installed breakers meet the required interrupting time specified in the Transmission System Code.

2.9 Protection System

The connection applicant shall ensure that the protection systems are designed to satisfy all the requirements of the Transmission System Code as specified in Schedules E, F and G of Appendix 1 and any additional requirements identified by the transmitter. New protection systems must be coordinated with the existing protection systems.

Facilities that are essential to the power system must be protected by two redundant protection systems according to section 8.2.1a of the TSC. These redundant protection systems must satisfy all requirements of the TSC, and in particular, they must not use common components, common battery banks or common secondary CT or PT windings. As currently assessed by the IESO, this project is not on the current Bulk Power System list, and therefore, is not considered essential to the power system. In the future, as the electrical system evolves, this project may be placed on the BPS list.

The connection applicant is required to have adequate provision in the design of protections and controls at the project to allow for future installation of Special Protection Scheme (SPS) equipment. Should a future SPS be installed to improve the transfer capability in the area or to accommodate transmission reinforcement projects, the project will be required to participate in the SPS system and to install the necessary protection and control facilities to affect the required actions.

The protection systems within the project must only trip the appropriate equipment required to isolate the fault. After the project begins commercial operation, if an improper trip of the 230 kV circuit E9V occurs due to events within the project, the project may be required to be disconnected from the IESO-controlled grid until the problem is resolved.

The auto-reclosure of the high voltage breakers at the connection point must be blocked. Upon its opening for a contingency, the high voltage breaker must be closed only after the IESO approval is granted.

Any modifications made to protection relays by the transmitter after this SIA is finalized must be submitted to the IESO as soon as possible or at least six (6) months before any modifications are to be implemented on the existing protection systems. If those modifications result in adverse impacts, the connection applicant and the transmitter must develop mitigation solutions

2.10 Telemetry

If applicable according to Section 7.3 of Chapter 4 of the Market Rules, the connection applicant shall provide to the IESO the applicable telemetry data listed in Appendix 4.15 of the Market Rules on a continual basis. The data shall be provided in accordance with the performance standards set forth in Appendix 4.19, subject to Section 7.6A of Chapter 4 of the Market Rules. The data is to consist of certain equipment status and operating quantities which will be identified during the IESO Facility Registration/Market Entry Process.

To provide the required data, the connection applicant must install at this project monitoring equipment that meets the requirements set forth in Appendix 2.2 of Chapter 2 of the Market rules. As part of the IESO Facility Registration/Market Entry process, the connection applicant must also complete end to end testing of all necessary telemetry points with the IESO to ensure that standards are met and that sign conventions are understood. All found anomalies must be corrected before IESO final approval to connect any phase of the project is granted.

2.11 Revenue Metering

If revenue metering equipment is being installed as part of this project, the connection applicant should be aware that revenue metering installations must comply with Chapter 6 of the IESO Market Rules. For more details the connection applicant is encouraged to seek advice from their Metering Service Provider (MSP) or from the IESO metering group.

2.12 Reliability Standards

Prior to connecting to the IESO controlled grid, the project must be compliant with the applicable reliability standards established by the North American Electric Reliability Corporation (NERC) and reliability criteria established by the Northeast Power Coordinating Council (NPCC) that are in effect in Ontario. A mapping of applicable standards, based on the proponent's/connection applicant's market role/OEB license can be found here: <http://www.ieso.ca/imoweb/ircp/orcp.asp>

This mapping is updated periodically after new or revised standards become effective in Ontario.

The current versions of these NERC standards and NPCC criteria can be found at the following websites:

<http://www.nerc.com/page.php?cid=2|20>

<http://www.npcc.org/documents/regStandards/Directories.aspx>

The IESO monitors and assesses market participant compliance with a selection of applicable reliability standards each year as part of the Ontario Reliability Compliance Program. To find out more about this program, write to orcp@ieso.ca or visit the following webpage:

<http://www.ieso.ca/imoweb/ircp/orcp.asp>

Also, to obtain a better understanding of the applicable reliability compliance obligations and engage in the standards development process, we recommend that the proponent/ connection applicant join

the IESO's Reliability Standards Standing Committee (RSSC) or at least subscribe to their mailing list by contacting rssc@ieso.ca. The RSSC webpage is located at: http://www.ieso.ca/imoweb/consult/consult_rssc.asp.

2.13 Restoration Participant

Based on the SIA application, the connection applicant meets the restoration participant criteria. Please refer to the Market Manual 7.8 to determine its applicability to the project. Details regarding restoration participant requirements will be finalized at the Facility Registration/Market Entry Stage.

2.14 Facility Registration/Market Entry

The connection applicant must complete the IESO Facility Registration/Market Entry process in a timely manner before IESO final approval for connection is granted.

Models and data, including any controls that would be operational, must be provided to the IESO. This includes both PSS/E and DSA software compatible mathematical models representing the new equipment for further IESO, NPCC and NERC analytical studies. The models and data may be shared with other reliability entities in North America as needed to fulfill the IESO's obligations under the Market Rules, NPCC and NERC rules. The connection applicant may need to contact the software manufacturers directly, in order to have the models included in their packages. This information should be submitted at least seven months before energization to the IESO-controlled grid, to allow the IESO to incorporate this project into IESO work systems and to perform any additional reliability studies.

As part of the IESO Facility Registration/Market Entry process, the connection applicant must provide evidence to the IESO confirming that the equipment installed meets the Market Rules requirements and matches or exceeds the performance predicted in this assessment. This evidence shall be either type tests done in a controlled environment or commissioning tests done on-site. In either case, the testing must be done not only in accordance with widely recognized standards, but also to the satisfaction of the IESO. Until this evidence is provided and found acceptable to the IESO, the Facility Registration/Market Entry process will not be considered complete and the connection applicant must accept any restrictions the IESO may impose upon this project's participation in the IESO-administered markets or connection to the IESO-controlled grid. The evidence must be supplied to the IESO within 30 days after completion of commissioning tests. Failure to provide evidence may result in disconnection from the IESO-controlled grid.

If the submitted models and data differ materially from the ones used in this assessment, then further analysis of the project will need to be done by the IESO.

2.15 More Connection Requirements

The Market Rules governing the connection of renewable generation facilities in Ontario are currently being reviewed through the SE-91 stakeholder initiative and, therefore, new connection requirements (in addition to those outlined in the SIA), may be imposed in the future. The connection applicant is encouraged to follow developments and updates through the following link: http://www.ieso.ca/imoweb/consult/consult_se91.asp

-End of Section-

3. Data Verification

3.1 Connection Arrangement

The connection arrangement of the project as shown in Figure 1, Appendix A, will not reduce the level of reliability of the integrated power system and is, therefore, acceptable to the IESO.

3.2 GE 1.6 MW WTG

The GE 1.6 MW WTG is a variable pitch and speed doubly-fed induction generator with a power converter interfacing the rotor to the grid. Its specifications are shown in Table 1.

Table 1: Specifications of GE 1.6 MW WTG

Type	Rated Voltage	Rated MVA	Rated MW	Transformer			Q _{max} (MVar)	Q _{min} (MVar)	X _d '' (pu)
				MVA	R	X			
GE 1.6 MW	690 V	1.78	1.6	1.75	0.52%	5.75%	0.78	-0.78	0.33

Voltage Ride-Through Capability

The GE 1.6 MW WTG provides voltage ride through capability, including the ZVRT (Zero Voltage Ride Through) option. Table 2 summarizes the voltage ride through settings.

Table 2: GE 1.6 MW WTG voltage ride-through specifications

Voltage Range (% of base voltage)	Minimum time for WTGs to Remain Online (s)
V < 15	0.2
15 < V < 30	0.7
30 < V < 50	1.2
50 < V < 75	1.9
110 < V < 115	1.0
V > 115	0.1

The low voltage ride-through (LVRT) capability of the proposed WTGs was verified by performing transient stability studies as detailed in Section 6.6.

Frequency Ride-Through Capability

The GE 1.6 MW WTG is able to operate continuously for a frequency range of $\pm 5\%$ (57 to 63 Hz).

The Market Rules state that the generation facility directly connecting to the IESO-controlled grid shall operate continuously between 59.4Hz and 60.6Hz and for a limited period of time in the region above straight lines on a log-linear scale defined by the points (0.0s, 57.0Hz), (3.3s, 57.0Hz), and (300s, 59.0Hz).

Therefore, the frequency ride-through capability of the proposed WTGs meets the Market Rules' requirements.

3.3 GE 2.75 MW WTG

The GE 2.75 MW WTG is a variable pitch and speed full conversion wind turbine generator system. Its specifications are shown in Table 3.

Table 3: Specifications of GE 2.75MW WTG

Type	Rated Voltage	Rated MVA	Rated MW	Transformer			Q _{max} (MVar)	Q _{min} (MVar)	X _d ' (pu)
				MVA	R	X			
GE 2.75MW	690 V	3.076	2.75	3.08	0.52%	6.6%	1.33	1.33	0.64

Voltage Ride-Through Capability

The GE 2.75 MW WTG provides voltage ride through capability, including the ZVRT (Zero Voltage Ride Through) option. Table 4 summarizes the voltage ride through settings

Table 4: GE 2.75 MW WTG voltage ride-through specifications

Voltage Range (% of base voltage)	Minimum time for WTGs to Remain Online (s)
V<15	0.2
15<V<30	0.7
30<V<50	1.2
50<V<75	1.9
110 < V < 115	1.0
V>115	0.1

The adequacy of the low voltage ride-through (LVRT) capability of the proposed WTGs was verified by performing transient stability studies as detailed in Section 6.6.

Frequency Ride-Through Capability

The GE 2.75 MW WTG is able operate continuously for a frequency range of $\pm 5\%$ (57 to 63 Hz).

The Market Rules state that the generation facility directly connecting to the IESO-controlled grid shall operate continuously between 59.4Hz and 60.6Hz and for a limited period of time in the region

above straight lines on a log-linear scale defined by the points (0.0s, 57.0Hz), (3.3s, 57.0Hz), and (300s, 59.0Hz).

Therefore, the frequency ride-through capability of the proposed WTGs meets the Market Rules' requirements.

3.4 Main Step-Up Transformers

Table 5: Main step-up transformer data

Unit	Transformation	Rating (MVA) (ONAN/ONAF/ONAF)	Positive Sequence Impedance (pu) SB= 66 MVA	Configuration		Tap
				HV-Side	LV-Side	
T1	240kV/69kV	66/88/110 MVA	0.0015+j0.07	Yg	Δ	ULTC@ HV: 17 steps, 1.25% each

Table 6: Intermediate step-up transformer data

Unit	Transformation	Rating (MVA) (ONAN/ONAF/ONAF)	Positive Sequence Impedance (pu) SB= 66 MVA	Configuration		Tap
				HV-Side	LV-Side	
T2	69kV/34.5kV	66/88/110 MVA	0.0015+j0.07	Δ	Yg	ULTC@ HV: 33 steps, 0.625% each

3.5 Collector and Intermediate Transmission System

Table 7: Equivalent impedance of collectors

Circuit	Unit	MW	Positive-Sequence Impedance (pu, $S_B=100\text{MVA}$)			Zero-Sequence Impedance* (pu, $S_B=100\text{MVA}$)		
			R	X	B	R	X	B
C1	G1	31.6	0.0394	0.1448	0.0059	-	-	-
C2	G2	28.8	0.0201	0.0647	0.0095	-	-	-
C3	G3	38.95	0.0464	0.1622	0.0059	-	-	-

(*) Zero-sequence impedance has not been provided. Typical data was assumed during the SIA. The connection applicant needs to provide these data during the IESO Market Entry process.

Table 8: Equivalent impedance of intermediate transmission line

Circuit 69 kV	Positive-Sequence Impedance (pu, $S_B=100\text{MVA}$)			Zero-Sequence Impedance (pu, $S_B=100\text{MVA}$)		
	R	X	B	R	X	B
L1/L2*	0.0272	0.1254	0.000005	0.1339	0.9	0.0000017

*Data is for equivalent of double circuit

3.6 Connection Equipment

3.6.1 69 kV Switches

Table 9: Specifications of 69 kV switches

Identifier	Voltage Rating	Continuous Current Rating	Short Circuit Symmetrical Rating
T2L1-B1	72.5 kV	1200 A	31.5 kA
T2L2-B1	72.5 kV	1200 A	31.5 kA
L1B1	72.5 kV	1200 A	31.5 kA
L2B2	72.5 kV	1200 A	31.5 kA

3.6.2 69 kV Circuit Breakers

Table 10: Specifications of 69 kV circuit breakers

Identifier	Voltage Rating	Interrupting time	Continuous Current Rating	Short Circuit Symmetrical Rating
T2L12	72.5 kV	50 ms	2000 A	31.5 kA
B1T1	72.5 kV	50 ms	2000 A	31.5 kA

3.6.3 230 kV Switches

Table 11: Specifications of 230 kV switches

Identifier	Voltage Rating	Continuous Current Rating	Short Circuit Symmetrical Rating
T1H1-E9V	250 kV	1200 A	63 kA

All switches meet the maximum continuous voltage rating requirement of 250 kV.

3.6.4 230 kV Circuit Breakers

Table 12: Specifications of 230 kV breakers

Identifier	Voltage Rating	Interrupting time	Continuous Current Rating	Short Circuit Symmetrical Rating
T1H1	250 kV	50 ms	2000 A	63 kA

All circuit breakers meet the maximum continuous voltage rating requirement of 250 kV. The interrupting time and short circuit symmetrical duty ratings meet the requirements of the Transmission System Code (TSC).

3.6.5 Tap Line

The tap line from the project to the connection point at the 230 kV circuit E9V consists of a short overhead circuit about 100 m long. Due to its short length, it was modeled as a zero impedance line.

3.7 Wind Farm Control System

The proposed wind farm will be equipped with the GE WindCONTROL System. This control system is designed to interface with each WTG in the wind farm for regulating system voltage, system power factor and real and actual power for the entire wind farm. It has also the capability to coordinate and control fixed reactor and capacitor banks when the total reactive requirements for the farm cannot be supplied by the reactive capability of the WTGs.

Voltage Control

The WindCONTROL System has the following functions related to the voltage control:

- Voltage, VAR and Power Factor Control

The WindCONTROL System has a voltage or power factor closed loop regulator controlling voltage at the connection point or reactive power injected by the wind farm at the connection point by regulating the reactive output of the WTGs.

- Fixed Reactor and Cap Bank Control and Coordination

The WindCONTROL System is able to control and coordinate the insertion of up to 4 fixed capacitor or reactor banks. These banks may be operated automatically in conjunction with the voltage or power factor regulator.

- Line Drop Compensation / Voltage Droop Compensation

The voltage regulator and the power factor regulator can implement line drop-compensating logic to correct for voltage drops and VAR losses on the line. The voltage regulator can be configured with voltage droop compensation, which allows tightly coupled adjacent voltage regulators to share in the voltage regulation of a point that is common to all the adjacent regulators.

The voltage control functions enable the proposed wind farm to operate in voltage control mode and control voltage at a point whose impedance (based on rated apparent power and voltage of the project) is not more than 13% from the connection point. Thus, it is acceptable to the IESO.

The function of voltage control meets the requirements of the Market Rules.

Frequency Control and Inertia Emulation

The WindCONTROL System has a function of frequency droop control which controls the wind farm power output based upon the grid frequency. This function is similar to governor droop control for a conventional rotating generator.

The WindCONTROL System has also a feature of WindINERTIA for both GE 1.6MW units and 2.75MW units. This feature supports the grid during under-frequency events by providing a temporary increase in power production for a short duration, contributing towards frequency

recovery. The response is equivalent to that of a synchronous generator with an inertia constant of 3.5 sec.

The function of frequency control meets the requirements of the Market Rules.

-End of Section-

4. Short Circuit Assessment

Fault level studies were completed by the transmitter to examine the fault levels at existing facilities in the area. Studies were performed to analyze the fault levels after incorporating the Dufferin Wind Farm, FIT Phase 1 projects and other committed projects in the surrounding area.

The short circuit study was carried out with the following primary system assumptions:

(1) Generation Facilities In-Service

East

Lennox	G1-G4	Chenau	G1-G8
Kingston Cogen	G1-G2	Mountain Chute	G1-G2
Wolf Island	300 MW	Stewartville	G1-G5
Arnprior	G1-G2	Brockville	G1
Barrett Chute	G1-G4	Havelock	G1
Chats Falls	G2-G9	Saunders	G1-G16
Cardinal Power	G1, G2		

Toronto

Pickering units	G1, G4-G8	Sithe Goreway	G11-13, G15
Darlington	G1-G4	TransAlta Douglas	G1-G3
Portlands GS	G1-G3	GTAA	G1-G3
Algonquin Power	G1, G2	Brock west	G1
Whitby Cogen	G1		

Niagara

Thorold GS	GTG1, STG2	Beck 2	G11-G26
Beck 1	G3-G10	Beck 2 PGS	G1-G6
Decew	G1, G2, ND1		

South West

Nanticoke	G1, G2, G5-G8	Kingsbridge WGS	39.6 MW
Halton Hills GS	G1-G3	Amaranth WGS	199.5 MW

Bruce

Bruce A	G1-G4	Ripley WGS	76 MW
Bruce B	G5-G8	Underwood WGS	198 MW
Bruce A Standby	SG1		

West

Lambton units	G3-G4	Kruger Port Alma WGS	101.2 MW
Brighton Beach	G1, G1A, G1B	Gosfield Wind Project	50.6 MW
Greenfield Energy Centre	G1-G4	Kruger Energy Chatham WF	101 MW
St. Clair Energy Centre	CTG3, STG3, CTG4, STG4	Raleigh Wind Energy Centre	78 MW
East Windsor Cogen	G1-G2	Talbot Wind Farm	98.9 MW
TransAlta Sarnia	G861, G871, G881, G891	Dow Chemicals	G1, G2, G5
Ford Windsor CTS	STG5	Port Burwell WGS	99 MW
TransAlta Windsor	G1, G2	Fort Chicago London Cogen	23 MVA
West Windsor Power	G1, G2	Great Northern Tri-Gen Cogen	15 MVA
Imperial Oil	G1		

(2) Committed Transmission Connected Generation Facilities – Including FIT Phase 1

- Bruce G1, G2
- Big Eddy GS and Half Mile Rapids GS
- White Pines Wind Farm
- Amherst Island
- York Energy Centre
- Conestogo Wind Energy Centre 1
- Dufferin Wind Farm
- Summerhaven Wind Farm
- Port Dover and Nanticoke
- Grand Renewable Energy
- Greenfield South
- Comber East C24Z
- Comber West C23Z
- Pointe-Aux-Roches Wind
- South Kent Wind Farm

(3) Existing and Committed Embedded Generation

- Essa area: 264 MW
- Ottawa area: 90 MW
- East area: 580 MW
- Toronto area: 168 MW
- Niagara area: 52 MW
- Southwest area: 348 MW
- Bruce area: 26 MW
- West area: 585 MW

(4) Transmission System Upgrades

- Leaside - Bridgman reinforcement: Leaside TS to Birch JCT: build new 115 kV circuit and birch to Bayfield: replace 115 kV cables (CAA2006-238);
- St. Catherines 115 kV circuit upgrade: circuits D9HS, D10S and Q11S (CAA2007-257);
- Tilbury West DS second connection point for DESN arrangement using K2Z and K6Z (CAA2008-332);
- Second 500kV Bruce-Milton double-circuit line (CAA2006-250);
- Woodstock Area transmission reinforcement (CAA2006-253);
 - Karn TS in service and connected to M31W & M32W at Ingersol TS
 - W7W/W12W terminated at LaFarge CTS
 - Woodstock TS connected to Karn TS
- Rodney (Duart) TS DESN connected to W44LC and W45LS 230 kV circuits (CAA2007-260)

(5) System Operation Conditions

- Lambton TS 230 kV operated *open*
- Claireville TS 230 kV operated *open*
- Leaside TS 230 kV operated *open*
- Leaside TS 115 kV operated *open*
- Middleport TS 230 kV bus operated
- Hearn SS 115 kV bus operated *open*
- Napanee TS 230 kV operated *open*
- Cherrywood TS north & south 230kV buses operated *open*
- Richview TS 230 kV bus operated *open*
- All tie-lines in service and phase shifters on neutral
- Maximum voltages on the buses

Table 13 summarizes the projected fault levels at facilities near the Dufferin Wind Farm.

Table 13: Fault levels at facilities near the Dufferin Wind Farm

Station	Before DWF		After DWF		Lowest Rated Circuit Breaker (kA)
	3-Phase	L-G	3-Phase	L-G	
<i>Symmetrical Fault (kA)*</i>					
Orangeville 230 kV	17.75	16.04	18.22	16.29	46.2
Essa 230 kV	25.25	29.49	26.02	30.18	39.7
Bruce 230 kV	42.15	53.49	42.97	54.36	60***
Detweiler 230 kV	22.32	19.49	22.79	19.73	40
Dufferin WF 230 kV	-	-	13.71	10.16	63
Dufferin WF 69 kV	-	-	8.00	7.19	31.5
<i>Asymmetrical Fault (kA)*</i>					
Orangeville 230 kV	19.97	19.04	20.49	19.35	54.2
Essa 230 kV	32.34	39.75	33.32	40.69	46.2
Bruce 230 kV	56.64	77.34**	57.65	78.45**	72.6***
Detweiler 230 kV	26.05	24.74	26.59	25.06	42.1
Dufferin WF 230 kV	-	-	15.23	11.08	63****
Dufferin WF 69 kV	-	-	9.75	8.79	31.5****

* Based on a pre-fault voltage level of 550 kV for 500 kV buses, 250 kV for 230 kV buses, and 127 kV for 115 kV buses.

**The asymmetrical fault level is based on a breaker contact parting time of 44 ms.

***Three lower rated Bruce A 230 kV breakers (D1L81, K1L82 and L23T25) are scheduled to be replaced by December 2012 (see CAA ID#2010-EX511). The listed lowest rated circuit breaker value for Bruce A 230 kV is based on these breakers being replaced.

****The symmetrical rating was used as an asymmetrical rating was not provided by the applicant.

Table 13 shows the interrupting capability of the 230 kV and 69 kV circuit breakers of the project are adequate for the anticipated fault levels.

The results also show that the line-to-ground asymmetrical fault current at Bruce A 230 kV before and after the incorporation of the project will exceed the interrupting capability of the existing breakers. To address this issue in the long term, Hydro One has planned to replace the Bruce 230 kV breakers to improve fault current interrupting capability. Before the circuit breakers are replaced, temporary operational mitigation measures have been developed by Hydro One in collaboration with the IESO to limit the fault level at Bruce A 230 kV within the interrupting capability of the existing breakers. The developed mitigation measures will primarily include:

- 1) removing one Bruce 500 kV autotransformer from service, or
- 2) splitting the Bruce 230 kV bus, or
- 3) removing circuit B569B from service, after the new 500 kV Bruce-to-Milton lines are in service.

With the exception of Bruce A 230 kV, the interrupting capability of the lowest rated circuit breakers near the project will not be exceeded after the incorporation of the project.

-End of Section-

5. Protection Impact Assessment

A Protection Impact Assessment (PIA) was completed by Hydro One, included in Appendix B of this report, to examine the impact of the project on existing transmission system protections. The summary of the PIA report is presented below.

Protection Changes

The changes to the existing transmission protection systems required to incorporate the project, which were included in the system impact studies, are summarized in Table 14 below.

Table 14: Proposed Protection Changes to Circuit E9V

Station	Zone	Existing Reach (km)	Revised Reach (km)	Comments
Orangeville TS	1	46	10	Set at 80% of the line segment impedance to Dufferin HV tap.
	2	72.5	86.5	Set at 125% of the maximum apparent impedance seen for a fault at Essa TS.
Essa TS	1	46	36	Set at 80% of the line segment impedance to Dufferin HV tap.
	2	75	78	Set at 125% of the maximum apparent impedance seen for a fault at Orangeville TS.

Telecommunication Requirements

New communications will be required between the project and Orangeville TS, as well as between the project and Essa TS. The connection applicant is responsible to establish a dual telecommunication link to transmit protection signals among all stations that are required for reliable fault clearing, including potential protection coordination with Everett TS and Alliston TS.

The PIA concluded that it is feasible to connect the Dufferin Wind Farm at the proposed location as long as the PIA proposed changes to the transmission configuration, protection hardware, protection settings, and telecommunications are made.

-End of Section-

6. System Impact Studies

The technical studies focused on identifying the impact of the new project on the reliability of the IESO-controlled grid. They include a thermal loading assessment of transmission lines, system voltage performance assessment, transient stability assessment of the proposed and major surrounding generation units, ride-through capability of the project and relay margin evaluation for transmission circuits. This chapter also investigates the performance of the proposed control systems and the reactive power capability of the project in comparison to the Market Rules' requirements.

6.1 Study Assumptions

In this assessment, the 2014 summer base cases were used with the following assumptions:

- (1) **Transmission facilities:** All existing and committed major transmission facilities with 2013 in-service dates or earlier were assumed in service. The committed facilities primarily include:
 - New 500kV Bruce-Milton double-circuit line (CAA2006-250);
 - Buchanan TS: one 250 MVar shunt capacitor;
 - Nanticoke and Detweiler SVCs;
 - Series capacitors at Nobel SS in each of the 500 kV circuits X503E & X504E;
 - Essa TS: one 250 MVar shunt capacitor;
- (2) **Generation facilities:** All existing and committed major generation facilities with 2013 in-service dates or earlier were assumed in service. The committed facilities primarily include:

<ul style="list-style-type: none"> • Bruce G1, G2 • Big Eddy GS and Half Mile Rapids GS • White Pines Wind Farm • Amherst Island • York Energy Centre • Conestogo Wind Energy Centre 1 • Dufferin Wind Farm • Summerhaven Wind Farm • Dundalk 	<ul style="list-style-type: none"> • Port Dover and Nanticoke Wind Project • Grand Renewable Energy Park • Greenfield South • Comber East C24Z • Comber West C23Z • Pointe-Aux-Roches Wind • South Kent Wind Farm • Beaverton • Armow
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- (3) **Basecases:** Three basecases were used for the SIA studies: peak load, shoulder load, and light load. The generation dispatch philosophy for the peak and shoulder basecases was to maximize the flows emanating from Bruce and West of London areas using nuclear, renewable and gas generation in order to stress the Southern Ontario system. The system demand and the primary interface flows after the incorporation of the proposed project are listed in Table 15.

Table 15: System demand and primary interface flows for basecases (MW)

Basecase	System Demand	NBLIP	FABC	FETT	QFW	FS	FIO
Peak Load	26880	2030	6412	5927	1067	2000	1585
Shoulder Load	20716	1960	6412	6186	956	-489	1309
Light Load	11621	643	3845	906	34	-1048	746

6.2 Reactive Power Compensation

The Market Rules require generators to inject or withdraw reactive power continuously (i.e. dynamically) at a connection point equal to up to 33% of the generator's rated active power at all levels of active power output; except where a lesser continually available capability is permitted by the IESO. A generating unit with a power factor range of 0.90 lagging and 0.95 leading at rated active power connected via impedance between the generator and the connection point not greater than 13% based on rated apparent power provides the required range of dynamic reactive capability at the connection point.

Dynamic reactive compensation (e.g. D-VAR or SVC) is required for a generating facility which cannot provide a reactive power range of 0.90 lagging power factor and 0.95 leading power factor at rated active power. For a wind farm with an impedance between the generator and the connection point in excess of 13% based on rated apparent power, provided the WTGs have the capability to provide a reactive power range of 0.90 lagging power factor and 0.95 leading power factor at rated active power, the IESO accepts that the wind farm compensate for excessive reactive losses in the collector system of the project with fixed shunts (e.g. capacitors and reactors).

The SIA proposed a solution for the Dufferin Wind Farm to meet the reactive power capability requirements in the Market Rules. However, the applicant can deploy any other solutions which result in its compliance with the Market Rules. The applicant must be able to confirm this capability during the commission tests.

Dynamic Reactive Power Capability

The GE 1.6 MW and 2.75 MW WTGs have an optional power factor range of 0.9 inductive to 0.9 capacitive. The WTGs for this project will use this option. Thus, the dynamic reactive capability of Dufferin Wind Farm satisfies IESO's requirements.

Static Reactive Power Capability

In addition to the dynamic reactive power requirement identified above, the Dufferin Wind Farm has to compensate for the reactive power losses within the project to ensure that it has the capability to inject or withdraw reactive power up to 33% of its rated active power at the connection point. As mentioned above, the IESO accepts this compensation to be made with switchable shunt admittances.

Load flow studies were performed to calculate the static reactive compensation, based on the equivalent parameters provided by the connection applicant for the WF.

The reactive power capability in lagging p.f. of the project was assessed under the following assumptions:

- typical voltage of 244 kV at the connection point;
- maximum active power output from the equivalent WTG;
- maximum reactive power output (lagging power factor) from the equivalent WTG, unless limited by the maximum acceptable WTG terminal voltage;
- maximum acceptable WTG voltage of 1.1 pu, as per WTG voltage capability;
- main and intermediate level step-up transformer ULTCs are available to adjust the LV voltage as close as possible to 1 pu voltage; while ensuring the intermediate transmission and collector bus voltages do not exceed 1.05 pu.

The reactive power capability in leading p.f. of the project was assessed under the following assumptions:

- typical voltage of 244 kV at the connection point;
- minimum (zero) active power output from the equivalent WTG;
- reactive power consumption (leading power factor) as required to meet the Market Rules requirement from the equivalent WTG.
- minimum acceptable WTG voltage is 0.9 pu, as per WTG voltage capability;
- main and intermediate level step-up transformer ULTCs are available to adjust the LV voltage as close as possible to 1 pu voltage; while ensuring the intermediate transmission and collector bus voltages do not fall below 0.95 pu.

The IESO's reactive power calculation used the equivalent electrical model for the WTG and collector feeders as provided by the connection applicant. It is important that the WF have proper internal design to ensure that the WTGs are not limited in their capability to produce active and reactive power due to terminal voltage limits or other project internal limitations. For example, it is expected that the transformation ratio of the WTG step up transformers will be set in such a way that it will offset the voltage profile along the collector, and all the WTG would be able to contribute to the reactive power production of the WF in an equal amount.

Based on the equivalent parameters for the wind farm provided by the connection applicant, a static reactive power compensation rated 33 MVar at 34.5 kV is required to be installed at the DWFGS 34.5 kV collector bus to meet the reactive power injection requirement at the connection point. No reactor is required to meet the reactive power withdrawal requirement. A detailed summary of the results with reactive power compensation is provided in Table 16.

Table 16: Reactive Power Performance at the PCC

Operation	DWFGS 69 kV Bus Voltage (pu)	Collector Bus Voltage (pu)	Generator Terminal Voltage (pu)	PCC Reactive Power (Mvar)	PCC Voltage (kV)
Lagging PF	1.08*	1.03*	1.092	+33.8 Mvar	244 kV
Leading PF	1.00	0.98	0.942	-34.8 Mvar	244 kV

*The applicant has indicated that voltages up to 1.08 pu are acceptable at the DWFGS as well as on the collector lines.

The required capacitive compensation will need to be arranged into at least 2 steps to allow for flexibility in adjustment of reactive power production. It shall also be implemented as a part of wind farm control system that automatically controls the switching of capacitor banks to regulate the overall WTGs' reactive output to around zero.

Static Reactive Power Switching

The IESO requires the voltage change on a single capacitor switching to be no more than 4 % at the any point in the ICG. A switching study was carried out to investigate the effect of the new shunt capacitor banks on the voltage changes. It was assumed that the largest capacitor step size is 16.5 MVar. To reflect a reasonably restrictive system condition, the voltage change study assumed one Bruce to Milton circuit out of service.

Table 17: Voltage Changes due to Static Reactive Compensation Switching

Capacitor at 34.5 kV bus	ICG connection point
Pre-switching	245.8 kV
Post-switching	246.4 kV
ΔV	0.24%

Table 17 shows that switching a single capacitor of 16.5 MVAR results in less than 4 % voltage change at the connection point, therefore meeting the Market Rules' requirement.

6.3 Thermal Analysis

The *Ontario Resource and Transmission Assessment Criteria* requires that all line and equipment loads be within their continuous ratings with all elements in service, and within their long-term emergency ratings with any element out of service.

The return of Bruce G1 and G2 combined with the addition of new Southern Ontario generation can result in a strong flow eastward from the Bruce Area. This additional generation can produce pre-contingency thermal overloads on Owen Sound-by-Stayner circuit S2S. This finding and its mitigation measure are presented in the analysis; however they are not attributed to the Dufferin Wind Farm.

The thermal impact of the incorporation of the Dufferin Wind Farm is the following:

- increased flow east on the Essa-by-Orangeville line,
- increase flow west on the Detweiler-by-Orangeville line segments emanating from Orangeville, and
- reduced flow east on the Bruce-by-Orangeville line.

The most significant of these impacts is the increased flow east on the Essa-by-Orangeville line since there is typically a large eastward generation flow originating from West and Southwest of the line. By maximizing the flow from these generation centres, the resulting eastward flows on the 230 kV Essa-by-Orangeville line are increased, representing its most stressed thermal condition. Although both the peak and shoulder-load basecases adopted this dispatch philosophy, the shoulder case was used for thermal analysis as the resulting flow eastward on the line was higher due to the lower load levels in Southern and Southwestern Ontario.

The key Essa-by-Orangeville, Meaford-by-Stayner and Detweiler-by-Orangeville line section ratings and lengths are summarized in Table 18. Continuous ratings of circuits are obtained based on 35°C ambient temperature at 4 km/hr wind velocity, with 93°C maximum operating temperature or individual sag temperature if lower. Long term emergency (LTE) ratings are obtained based on 35°C ambient temperature at 4 km/hr wind velocity, with 127°C maximum operating temperature or individual sag temperature if lower.

The transformer ratings are summarized in Table 19. Both the continuous and 10 Day ratings are obtained based on 35°C ambient temperature.

Table 18: Circuit Section Ratings and Lengths

Circuit	From	To	Length (km)	Summer Continuous Rating (A)	Summer Long Term Emergency Rating (A)
E8V (<i>ORxEV</i>)	Orangeville TS	Everett JCT	36.32	840	1030
E8V (<i>EVxAL</i>)	Everett JCT	Alliston JCT	9.2	840	1090
E8V (<i>ALxAL</i>)	Alliston JCT	Alliston JCT	0.05	840	1090
E8V (<i>ALxES</i>)	Alliston JCT	Essa TS	11.25	840	1090
E9V (<i>ORxDF</i>)	Orangeville TS	Dufferin WF	10.9	840	1090
E9V (<i>DFxEV</i>)	Dufferin WF	Everett JCT	25.42	840	1090
E9V (<i>EVxAL</i>)	Everett JCT	Alliston JCT	9.2	840	1090
E9V (<i>ALxAL</i>)	Alliston JCT	Alliston JCT	0.05	840	1090
E9V (<i>ALxES</i>)	Alliston JCT	Essa TS	11.25	840	1090
D6V (<i>FGxOR</i>)	Fergus JCT	Orangeville TS	27.5	1110	1460
D6V (<i>GNxFG</i>)	Guelph North JCT	Fergus JCT	9.43	840	1090
D7V (<i>FGxOR</i>)	Fergus JCT	Orangeville TS	27.5	1110	1460
D7V (<i>GNxFG</i>)	Guelph North JCT	Fergus JCT	9.43	840	1090
S2S (<i>MExST</i>)	Meaford TS	Stayner TS	35.57	590	770

Table 19: Transformer Ratings

Transformer	Summer Continuous Rating (MVA)	Summer 10 Day Long Term Emergency Rating (MVA)
Stayner T1	125	196.7

The load on the Essa-by-Orangeville corridor is critical for assessing the thermal loading on its associated circuits. The assumed load in the thermal assessment can be found in Table 20. These values were obtained based on the average station load when the primary demand was between 20 000 MW and 22 000 MW during the months from May to September, over the past 5 years. This average was selected to reflect a shoulder load condition with the potential for 35°C temperature.

Table 20: Assumed Station Load

Station	Load (MW)
Everett T1/T2	27
Alliston T3/T4	60
Alliston T2	12

Table 21 and Table 22 show the pre-contingency flows on various circuits in the local area. It can be observed that circuit S2S and Stayner transformer T1 are overloaded pre-contingency. To address this issue, circuit S2S will be required to operate open loop. Hydro One has investigated this control action and did not identify any limitations with it.

Table 23 and Table 24 show the resulting pre-contingency flows with S2S open at Owen Sound, all of which are within limits.

Table 21: Pre-Contingency Thermal Assessment Results with S2S Closed – Line Sections

Circuit	Circuit Loading Pre-Contingency (A)	Summer Continuous Rating (A)	Percent of Continuous Rating (%)
E8V (ORxEV)	616	840	73.33
E8V (EVxAL)	565	840	67.26
E8V (ALxAL)	527	840	62.74
E8V (ALxES)	524	840	62.38
E9V (ORxDF)	441	840	52.50
E9V (DFxEV)	668	840	79.52
E9V (EVxAL)	618	840	73.57
E9V (ALxAL)	578	840	68.81
E9V (ALxES)	533	840	63.45
D6V (FGxOR)	213	1110	19.19
D6V (GNxFG)	181	840	21.55
D7V (FGxOR)	214	1110	19.28
D7V (GNxFG)	182	840	21.67
S2S (MExST)	640	590	108.47

Table 22: Pre-Contingency Thermal Assessment Results with S2S Closed – Transformer

Transformer	Transformer Loading Pre-Contingency (MVA)	Summer Continuous Rating (MVA)	Percent of Continuous Rating (%)
Stayner T1	135.60	125	108.48

Table 23: Pre-Contingency Thermal Assessment Results with S2S Open – Line Sections

Circuit	Circuit Loading Pre-Contingency (A)	Summer Continuous Rating (A)	Percent of Continuous Rating (%)
E8V (ORxEV)	621	840	73.93
E8V (EVxAL)	591	840	70.36
E8V (ALxAL)	539	840	64.17
E8V (ALxES)	537	840	63.93
E9V (ORxDF)	440	840	52.38
E9V (DFxEV)	667	840	79.40
E9V (EVxAL)	638	840	75.95
E9V (ALxAL)	584	840	69.52
E9V (ALxES)	563	840	67.02
D6V (FGxOR)	211	1110	19.01
D6V (GNxFG)	180	840	21.43
D7V (FGxOR)	212	1110	19.10
D7V (GNxFG)	181	840	21.55
S2S (MExST)	505	590	85.59

Table 24: Pre-Contingency Thermal Assessment Results with S2S Open – Transformer

Transformer	Transformer Loading Pre-Contingency (MVA)	Summer Continuous Rating (MVA)	Percent of Continuous Rating (%)
Stayner T1	107	125	85.82

Due to the pre-contingency overloads with S2S closed and the fact that the opening of S2S results in increased flows on the Essa-by-Orangeville line, the post-contingency thermal assessment was performed with S2S open at Owen Sound. The following three contingencies were simulated for the thermal analysis:

- (1) **Simultaneous loss of 500 kV circuits B560V and B561M:** 500 kV circuits B560V and B561M are main arteries of the FETT interface to which circuit E9V belongs. The loss of these circuits results in higher transfers on the remaining circuits of the interface, including E8V and E9V.
- (2) **Simultaneous loss of 230 kV circuits D6V and D7V:** Detweiler-by-Orangeville 230 kV circuits D6V and D7V are characterized by having a heavy load, typically being fed from both the Detweiler and Orangeville ends. The loss of these circuits will result in additional flow on E8V and E9V due to the lost load.
- (3) **Loss of the companion 230 kV circuit E8V:** This contingency highlights the thermal impact of the Dufferin Wind Farm on the Essa-by-Orangeville corridor.

Line loading results are summarized in Table 25. With S2S open, there are no post-contingency thermal concerns on Stayner T1 and circuit S2S, therefore these elements were no longer monitored. Table 25 shows that there are no pre-contingency or post-contingency thermal concerns in the area with S2S open.

Table 25: Post-Contingency Thermal Assessment Results – Line Sections

Circuit	Circuit Loading Pre-Contingency (A)	Summer Continuous Rating (A)	Percent of Continuous Rating (%)	Long Term Emergency Rating (A)	Loss of B560V+B561M		Loss of D6V+D7V		Loss of E8V	
					Circuit Loading Post (A)	% of LTE	Circuit Loading Post (A)	% of LTE	Circuit Loading Post (A)	% of LTE
E8V (<i>ORxEV</i>)	621	840	73.93	1030	872	84.66	750	72.82	0	0.00
E8V (<i>EVxAL</i>)	591	840	70.36	1090	841	77.16	719	65.96	0	0.00
E8V (<i>ALxAL</i>)	539	840	64.17	1090	783	71.83	666	61.10	0	0.00
E8V (<i>ALxES</i>)	537	840	63.93	1090	781	71.65	664	60.92	0	0.00
E9V (<i>ORxDF</i>)	440	840	52.38	1090	694	63.67	570	52.29	722	66.24
E9V (<i>DFxEV</i>)	667	840	79.40	1090	920	84.40	796	73.03	948	86.97
E9V (<i>EVxAL</i>)	638	840	75.95	1090	888	81.47	766	70.28	894	82.02
E9V (<i>ALxAL</i>)	584	840	69.52	1090	828	75.96	711	65.23	798	73.21
E9V (<i>ALxES</i>)	563	840	67.02	1090	804	73.76	689	63.21	779	71.47
D6V (<i>FGxOR</i>)	211	1110	19.01	1460	193	13.22	0	0.00	310	21.23
D6V (<i>GNxFG</i>)	180	840	21.43	1090	165	15.14	0	0.00	279	25.60
D7V (<i>FGxOR</i>)	212	1110	19.10	1460	194	13.29	0	0.00	311	21.30
D7V (<i>GNxFG</i>)	181	840	21.55	1090	165	15.14	0	0.00	279	25.60

6.4 Voltage Analysis

The *Ontario Resource and Transmission Assessment Criteria (ORTAC)* states that with all facilities in service pre-contingency, the following criteria shall be satisfied:

- The pre-contingency voltage on 230 kV buses must not be less than 220 kV and voltages on 115kV buses cannot be less than 113 kV;
- The post-contingency voltage on 230 kV buses must not be less than 207 kV and voltages on 115V buses cannot be less than 108 kV; and
- The voltage drop following a contingency must not exceed 10% pre-ULTC and 10% post-ULTC.

The voltage performance of the IESO-controlled grid was evaluated by examining if pre and post-contingency voltage declines remain within criteria at various facilities. Contingencies were simulated under both peak and light load conditions, however only results for the peak load simulation are provided as the simulations exhibited more limiting results.

The following two contingencies were simulated:

- (1) **Simultaneous loss of 500 kV circuits B560V and B561M:** 500 kV circuits B560V and B561M are main arteries of the FETT (Flow East to Toronto) interface which feeds the load centre in the Greater Toronto Area (GTA). This contingency is the most severe contingency on the GTA voltage profile.
- (2) **Loss of the whole wind farm:** As a generating station helps control voltage pre-contingency, loss of the generating station when supporting voltages may result in a significant voltage change.

The study results are summarized in Table 26 which demonstrates that both pre-ULTC and post-ULTC voltage decline values in the GTA for the loss of B560V and B561M as well as in the vicinity of the Dufferin Wind Farm for the loss of the whole wind farm are within the IESO's criteria of 10%.

Table 26: Voltage Performance after the integration of the Dufferin Wind Farm

Monitored Busses		Pre-Cont Voltage kV	Loss of B560V + B561M			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Claireville	500	526.1	510.6	-3.0	513.9	-2.3
Claireville	220	247.8	241.0	-2.7	243.3	-1.8
Richview	220	248.3	241.1	-2.9	243.7	-1.9

Monitored Busses		Pre-Cont Voltage kV	Loss of Dufferin Wind Farm			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Dufferin WF	220	247.1	245	-0.8	245	-0.8
Orangeville	220	246.7	245.4	-0.5	248.8	0.8
Essa 230 kV	220	246.4	245.8	-0.2	247	0.2

6.5 Transient Stability Performance

Transient stability simulations were performed to determine if the power system can be transiently stable for recognized fault conditions. In particular, rotor angles of generators at Bruce GS, Darlington GS, Pickering GS, Greenfield GS and Saunders GS were monitored. Simulations were performed under both the peak and shoulder

load conditions, however only results for the shoulder load condition are provided as the simulations exhibited slightly more limiting results.

Transient stability analyses were performed considering recognized faults in Southwest area. Four contingencies were simulated as shown in Table 27.

The protection changes proposed in the PIA were part of the assumptions for this analysis. Namely, simulations were performed to ensure that faults relying on protection Zone 2 clearing would not cause the system to become unstable due to the additional fault clearing time.

The simultaneous loss of B560V + B561M was simulated since it has the most severe impact on the generator rotor angles and system voltage stability.

Finally the un-cleared 3 phase fault within the Dufferin Wind Farm was simulated to ensure that the failure of its internal protections does not adversely impact the stability of the IESO controlled grid.

Table 27: Simulated Contingencies for Transient Stability

Contingency	Location	Fault Type	Fault Clearing Time (ms)		LRSS* (ms)	Reclosure Time
			Local	Remote		
B560V+B561M	Bruce	LLG	66	91	124	10s for B560V 15s for B561M
E9V	Dufferin WF	3 phase	83	133	-	5s
E9V	Dufferin WF	LG+BKF	83	252	-	-
LV side of main step-up transformer	Dufferin WF	3 phase	Un-cleared		-	-

*LRSS denotes the Longwood Reactor Switching Scheme

Figure 3 to Figure 10, Appendix A show the transient responses of rotor angles and bus voltages. The transient responses show that the generators remain synchronized to the power system and the oscillations are sufficiently damped following all simulated contingencies. It can be concluded that, with Dufferin Wind Farm on-line, none of the simulated contingencies causes transient instability or un-damped oscillations.

It can be also concluded that the protection changes proposed in the PIA report do not have materially adverse impact on the transient stability of the IESO-controlled grid.

6.6 Voltage Ride-Through Capability

The IESO requires that the wind turbine generators and associated equipment within the project be able to withstand transient voltages and remain connected to the IESO-controlled grid following a recognized contingency unless the generators are removed from service by configuration. This requirement is commonly referred to as the voltage ride-through (VRT) capability.

The GE 1.6 MW and 2.75 MW WTGs to be installed will be equipped with the GE ZVRT option. The ZVRT capability of the wind turbines is shown in Table 2 and Table 4.

The LVRT capability of the WTGs was assessed based on the terminal voltages of the WTGs under simulated contingencies in Table 28. These contingencies result in the lowest transient voltages at the Dufferin Wind Farm.

Table 28: Simulated contingencies for LVRT

Contingency	Location	Fault Type	Fault Clearing Time (ms)		LRSS (ms)
			Local	Remote	
E8V	Orangeville	3 phase	83	108	-
E8V	Orangeville	LG+BKF	177	202	-
B560V+B561M	Bruce	LLG	66	91	124

*LRSS denotes the Longwood Reactor Switching Scheme

Figure 11 and Figure 12 in Appendix A show the terminal voltages of both the GE 1.6 MW and 2.75 MW WTGs respectively. They illustrate that the terminal voltages of the WTGs dip, in the worst case, below 0.3 pu and remain below 0.5 pu for about 100 ms, and recover to 0.9 pu in less than 200 ms after the fault inception. As compared with the ZVRT/LVRT capability of the GE 1.6 MW and 2.75 MW models, the proposed WTGs are able to remain connected to the grid for recognized system contingencies that do not remove the project by configuration.

However, when the project is incorporated into the IESO-controlled grid, if actual operation shows that the WTGs trip for out of zone faults, the IESO will require the voltage ride-through capability be enhanced by the applicant to prevent such tripping.

The voltage ride-through capability must also be demonstrated during commissioning by either providing manufacturer test results or monitoring several variables under a set of IESO specified field tests and the results should be verifiable using the PSS/E model.

6.7 Relay Margin

The Market Manual 7.4 Appendix B.3.2 requires that, following fault clearance or the loss of an element without a fault, the margin on all instantaneous and timed distance relays that affect the integrity of the IESO-controlled grid, including generator loss of excitation and out-of-step relaying at major generating stations, must be at least 20 and 10 percent, respectively.

Relay margin analysis was performed to determine if circuit E9V will trip for out of zone faults due to the incorporation of project. The contingencies listed in Table 29 were simulated with the results shown in Figure 13 to Figure 20 in Appendix A of this report.

Table 29: Simulated contingencies for relay margin

Contingency	Location	Fault Type	Fault Clearing Time (ms)		LRSS (ms)	Reclosure Time
			Local	Remote		
B560V+B561M	Bruce	LLG	66	91	124	10s for B560V 15s for B561M
E8V	Orangeville	3 phase	83	108	-	5s
E8V	Essa	3 phase	83	108	-	5s
D6V+D7V	Orangeville	LLG	83	108	-	10s

*LRSS denotes the Longwood Reactor Switching Scheme

The relay margin plots show that the impedance trajectory at both ends of circuit E9V does not penetrate the relay characteristics with a margin of greater than 20%, thereby meeting the Market Manual requirement and verifying that circuit E9V will not trip for out of zone faults.

It can be also concluded that the protection adjustments proposed in the PIA report have no material adverse impact on the IESO-controlled grid with respect to relay margins.

-End of Section-

Appendix A: Figures

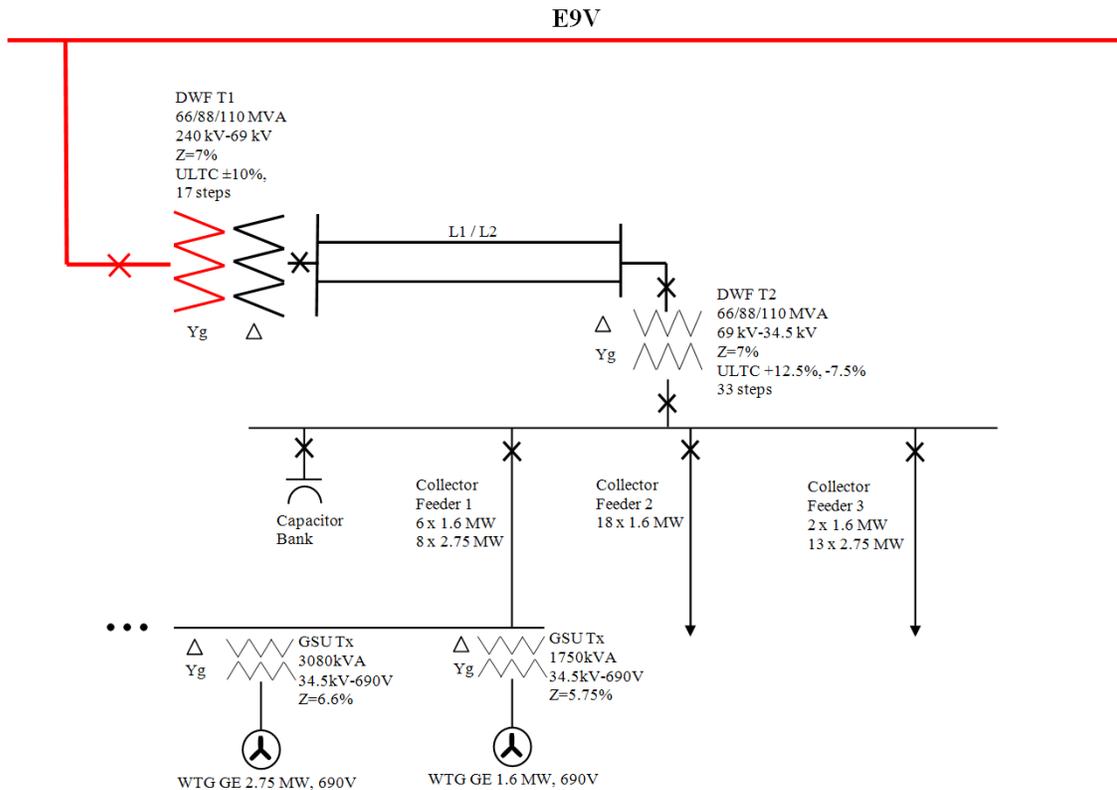


Figure 1: Dufferin Wind Farm Single Line Diagram

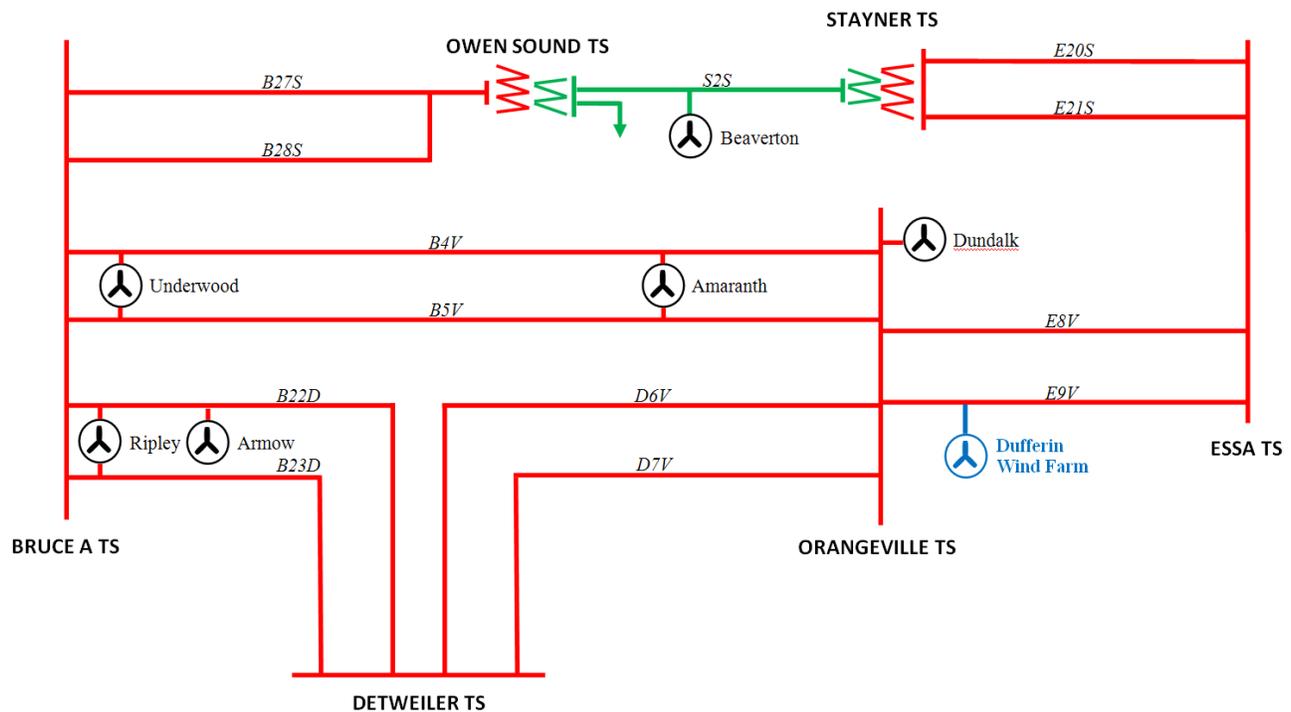


Figure 2: Location of Dufferin Wind Farm

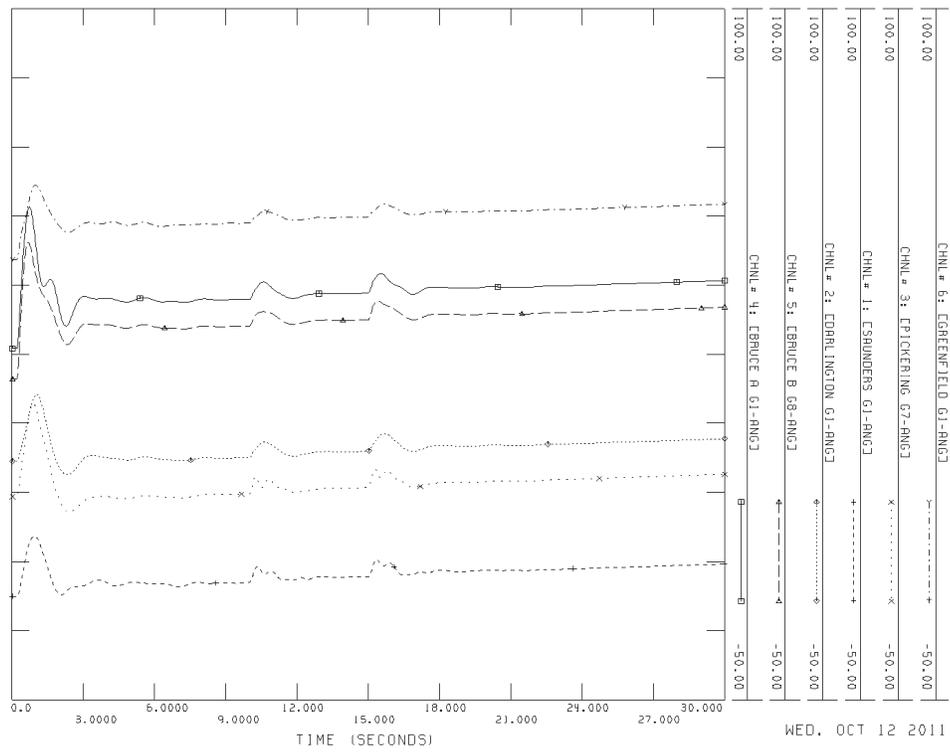


Figure 3: Major generator angle response due to a LLG fault on circuits B560V and B561M at Willow Creek Junction – with reclosure

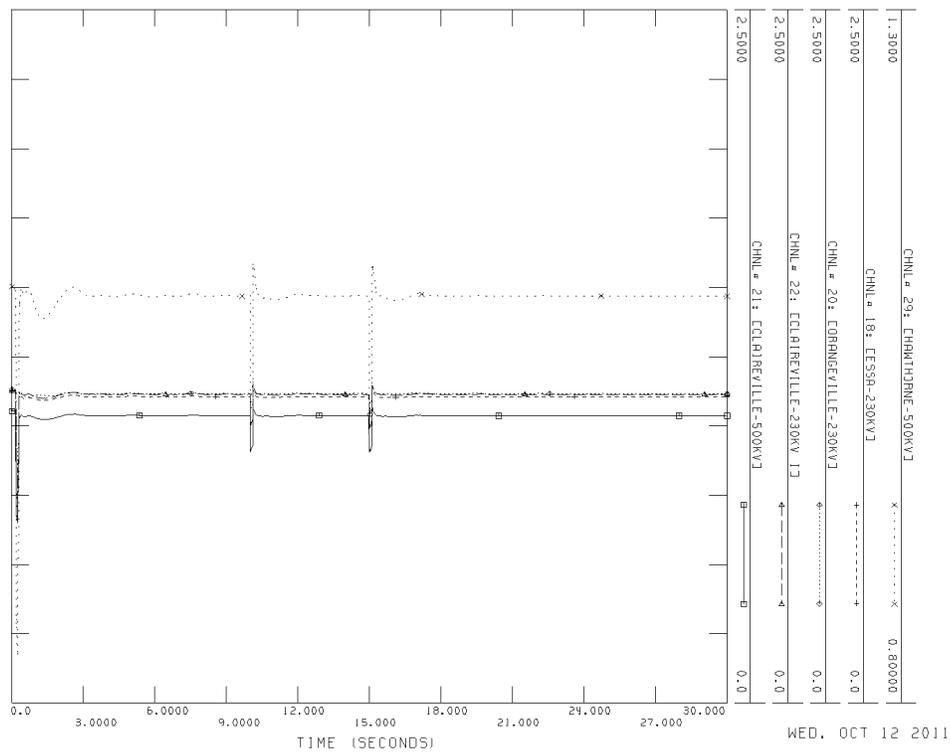


Figure 4: Voltage response due to a LLG fault on circuits B560V and B561M at Willow Creek Junction – with reclosure

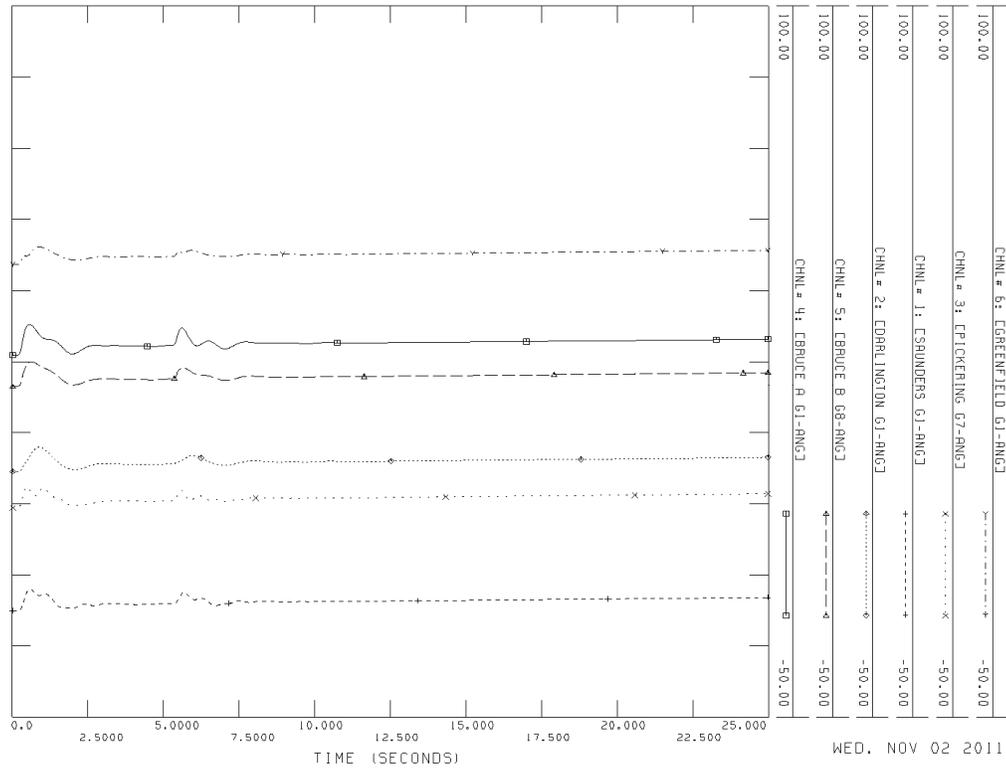


Figure 5: Major generator angle response due to a 3 phase fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing

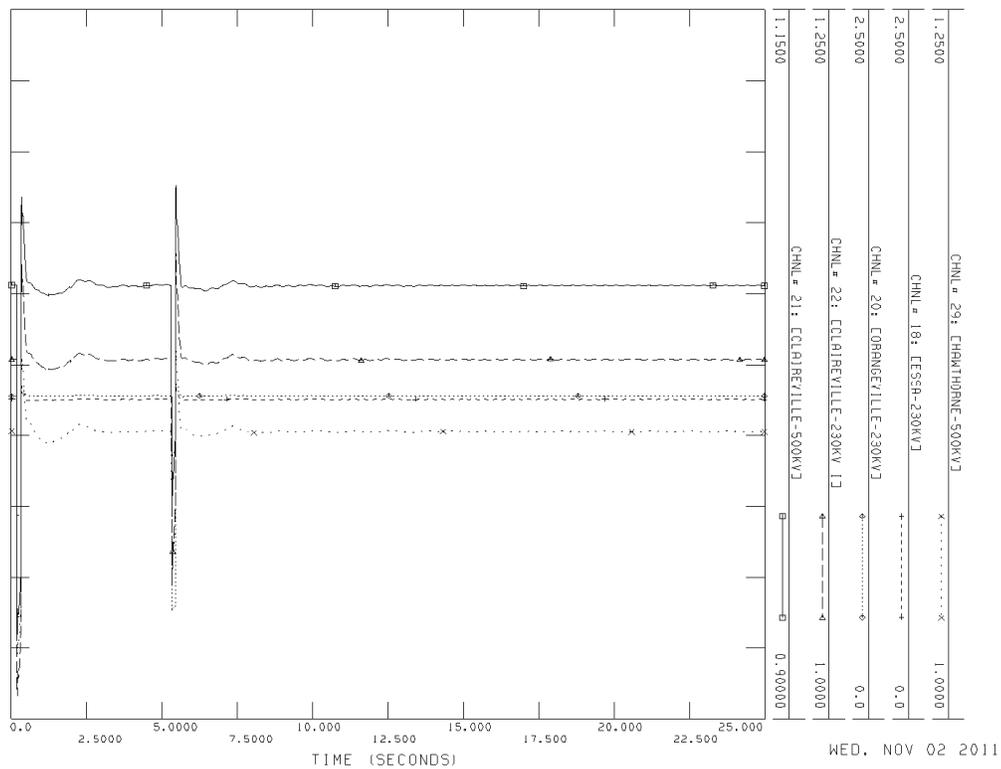


Figure 6: Voltage response due to a 3 phase fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing

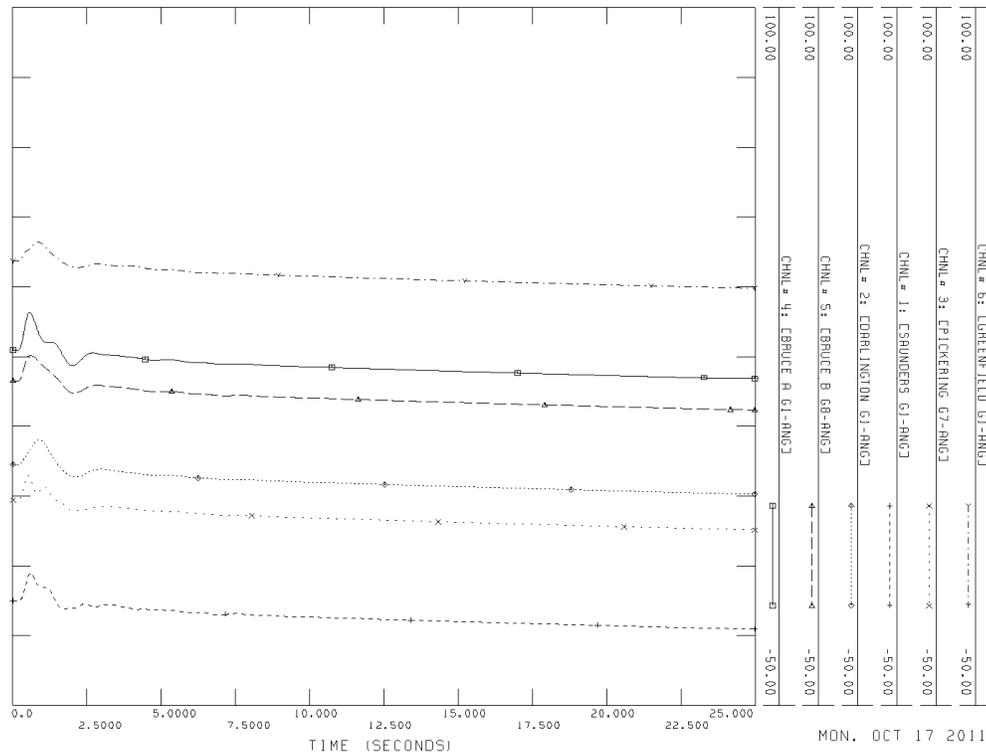


Figure 7: Major generator angle response due to a LG+BKF fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing

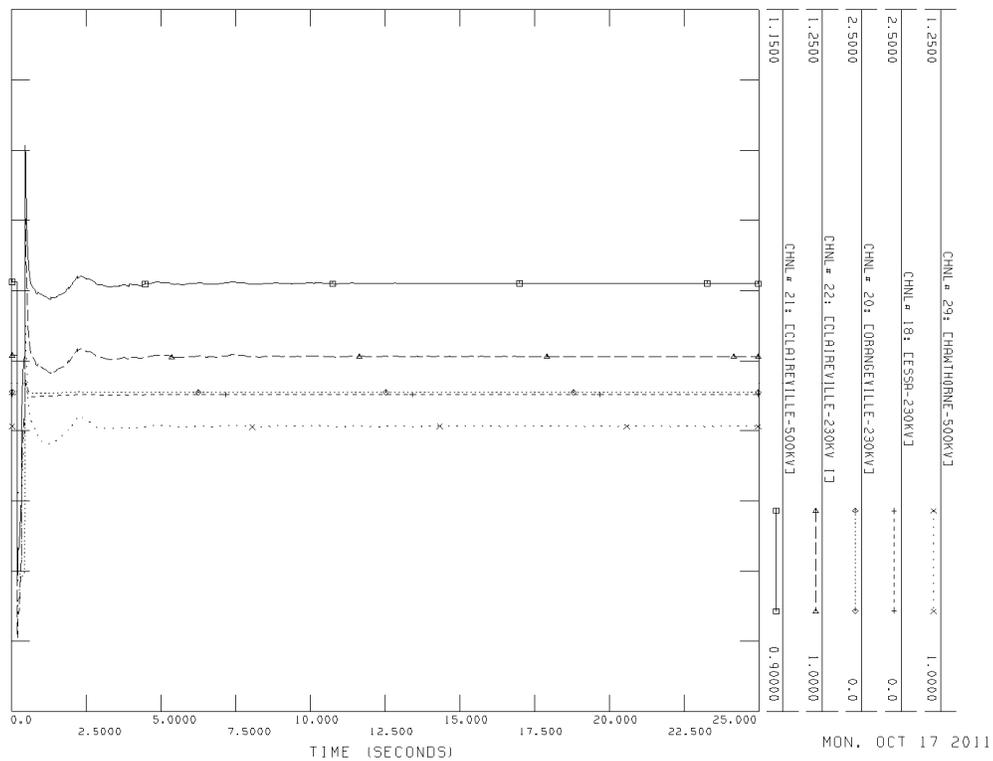


Figure 8: Voltage response due to a LG+BKF fault on circuit E9V at Dufferin Wind Farm - Zone 2 clearing

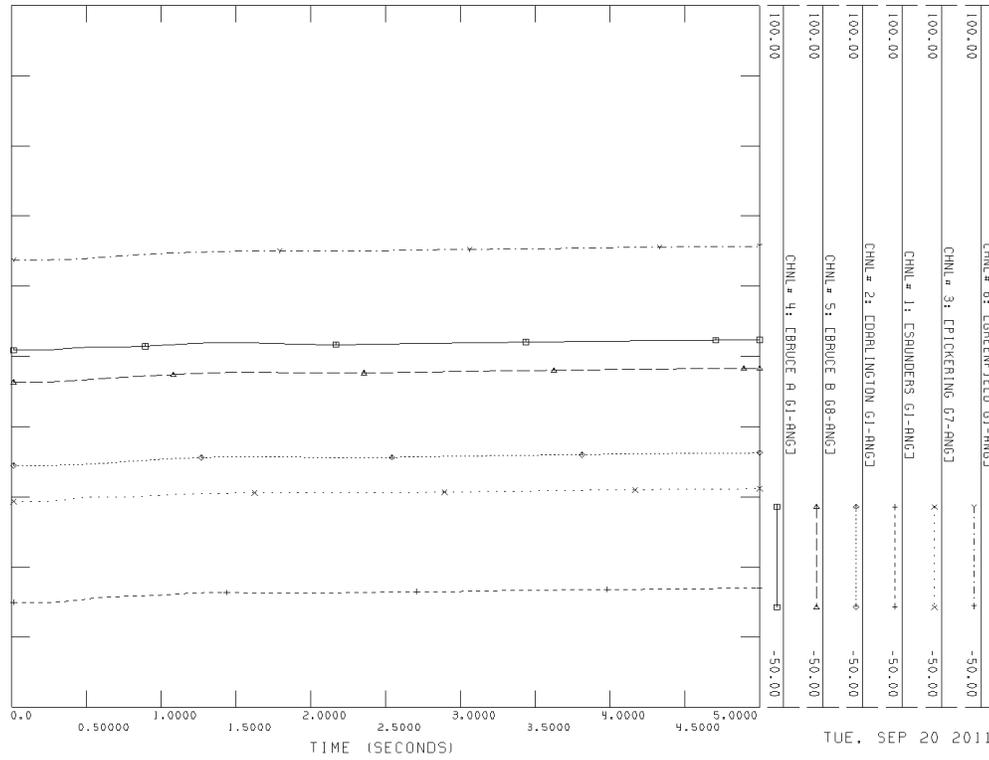


Figure 9: Major generator angle response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm

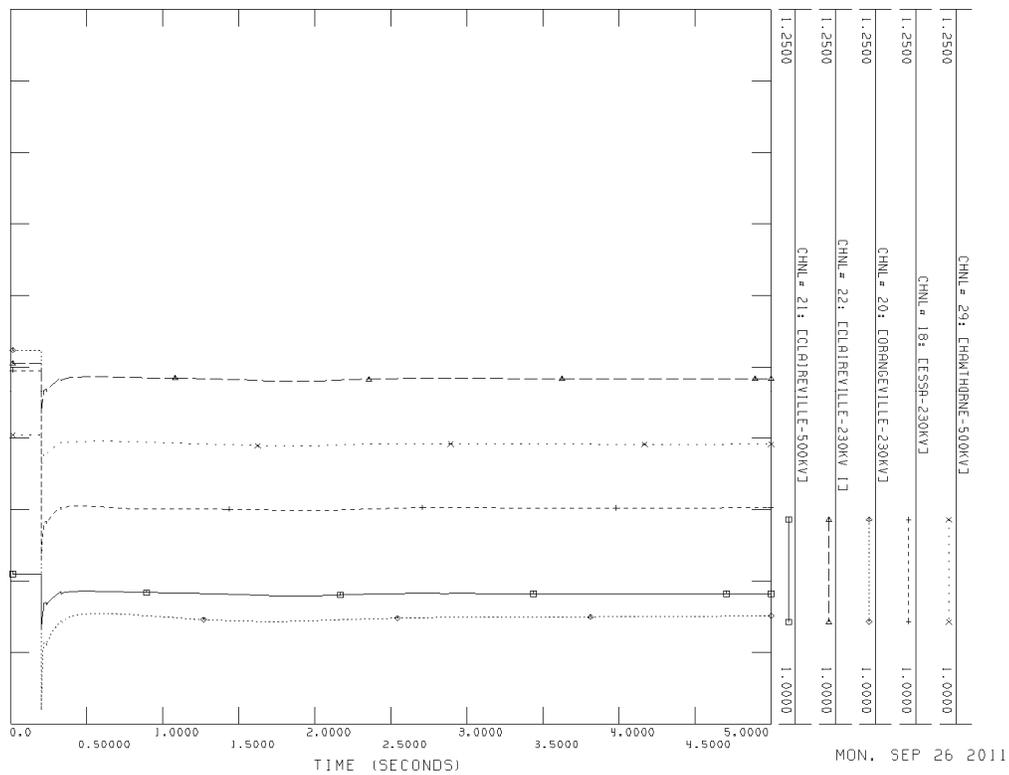


Figure 10: Voltage response due to an un-cleared 3 phase fault inside the Dufferin Wind Farm

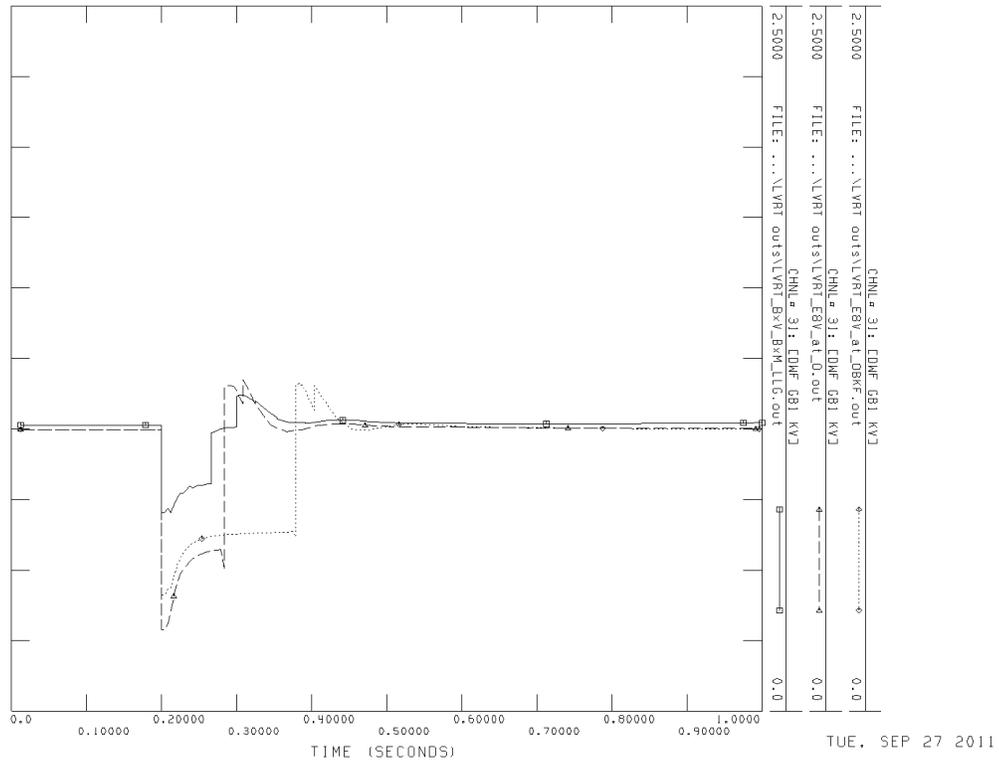


Figure 11: GE 1.6 MW WTG terminal voltages for studied contingencies

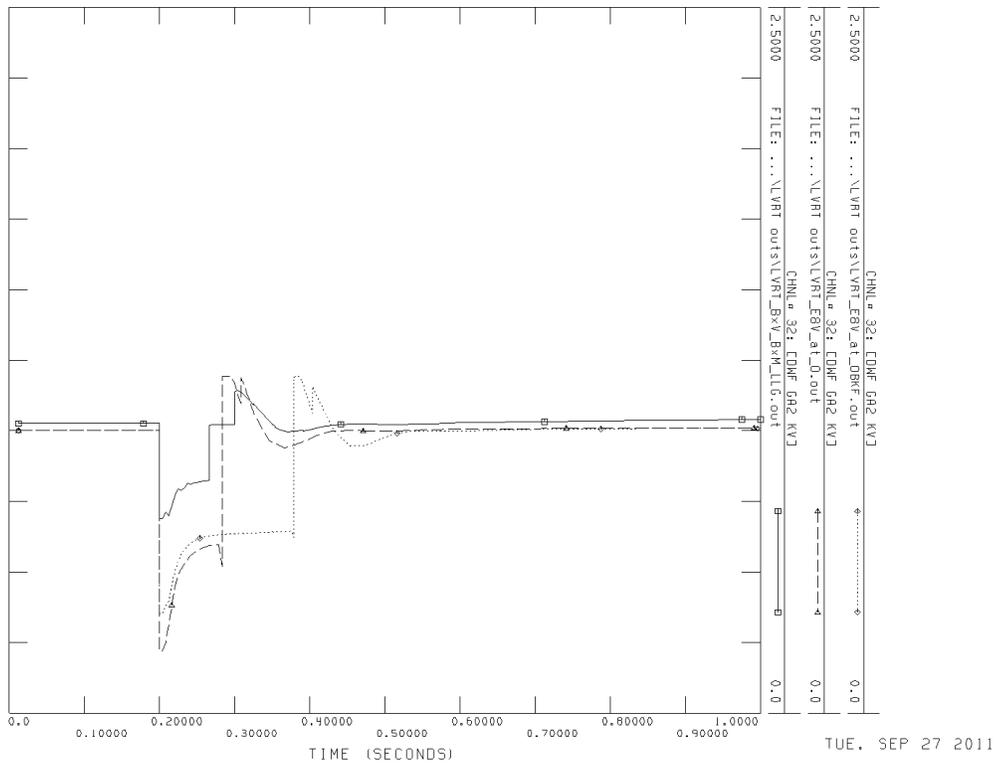


Figure 12: GE 2.75 MW WTG terminal voltages for studied contingencies

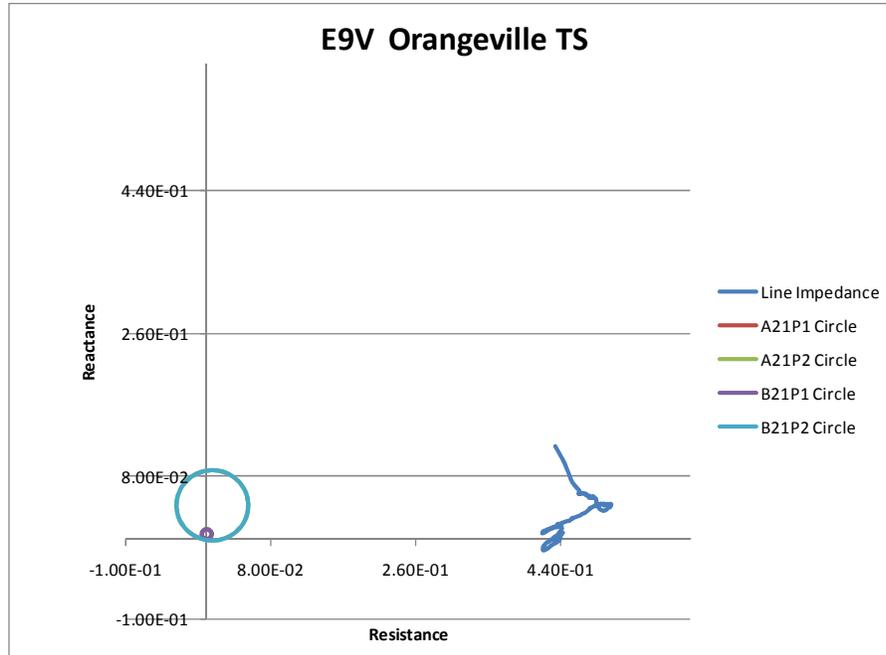


Figure 13: E9V at Orangeville trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction

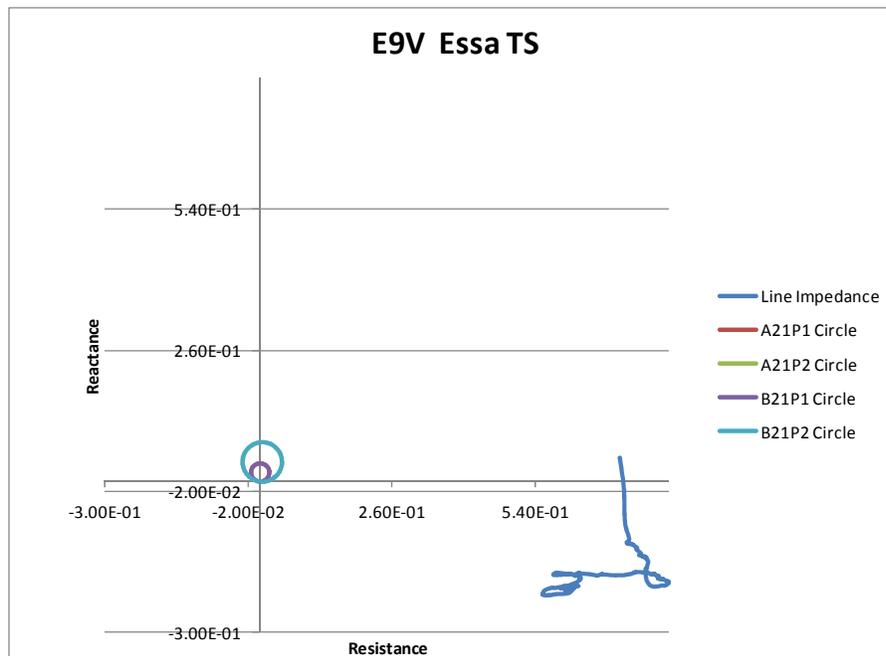


Figure 14: E9V at Essa trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction

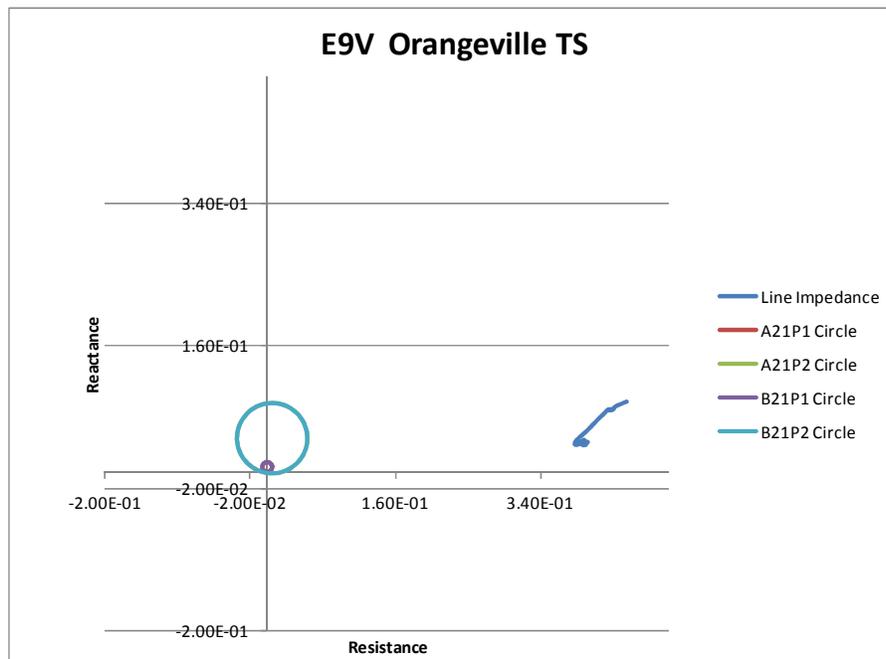


Figure 15: E9V at Orangeville trajectory due to a LLG fault on circuits D6V and D7V at Orangeville

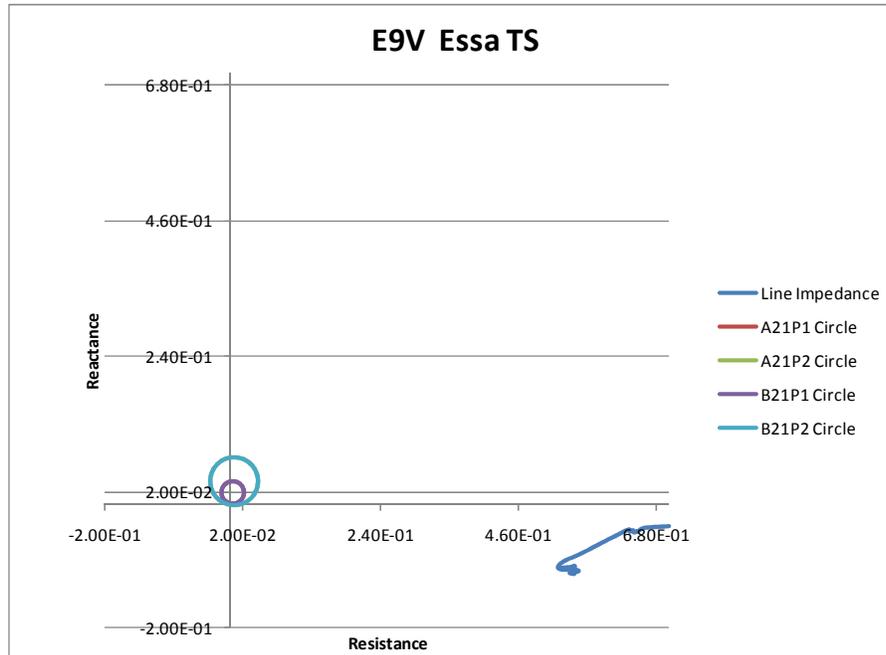


Figure 16: E9V at Essa trajectory due to a LLG fault on circuits D6V and D7V at Orangeville

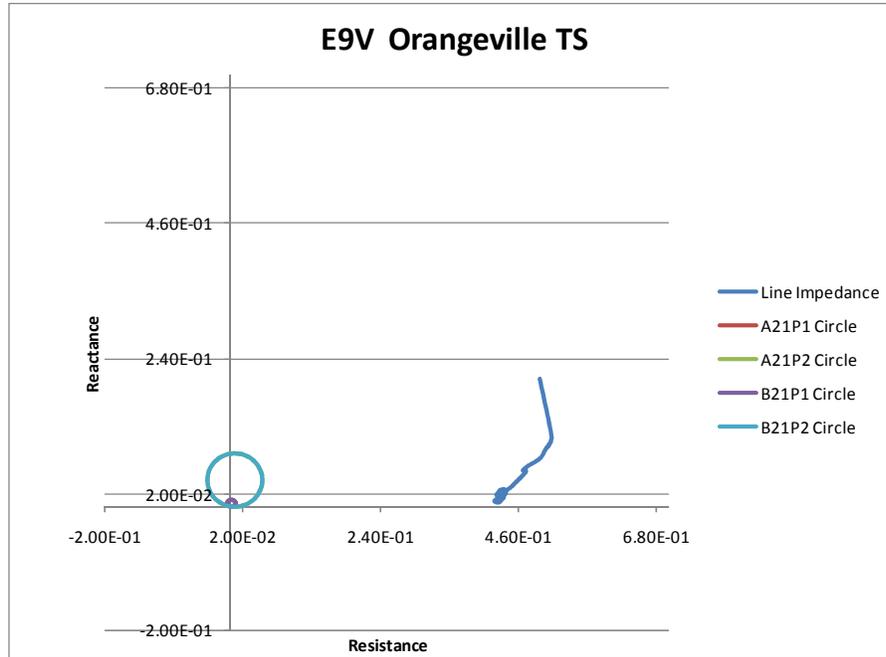


Figure 17: E9V at Orangeville trajectory due to a 3 phase fault on circuit E8V at Orangeville

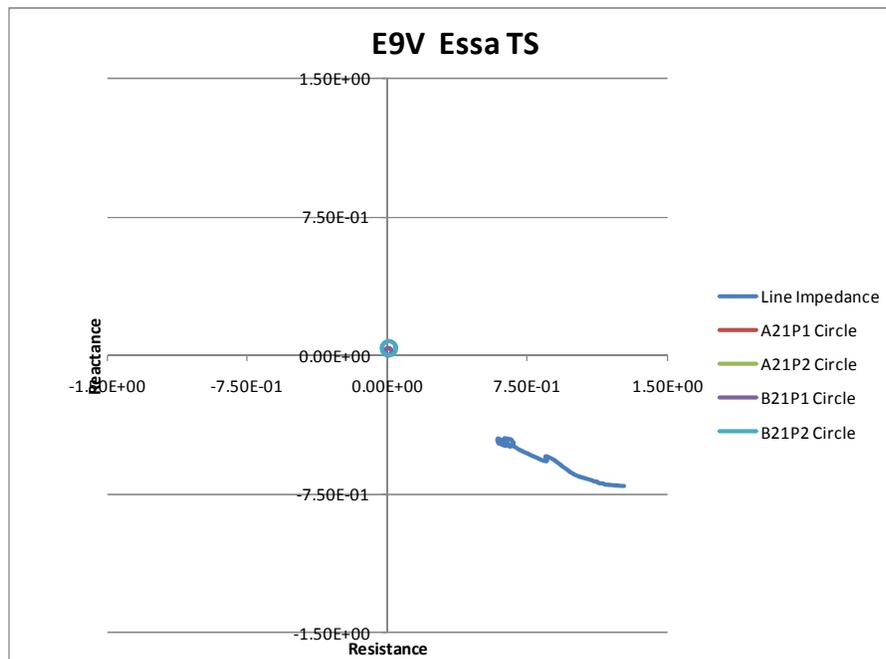


Figure 18: E9V at Essa trajectory due to a 3 phase fault on circuit E8V at Orangeville

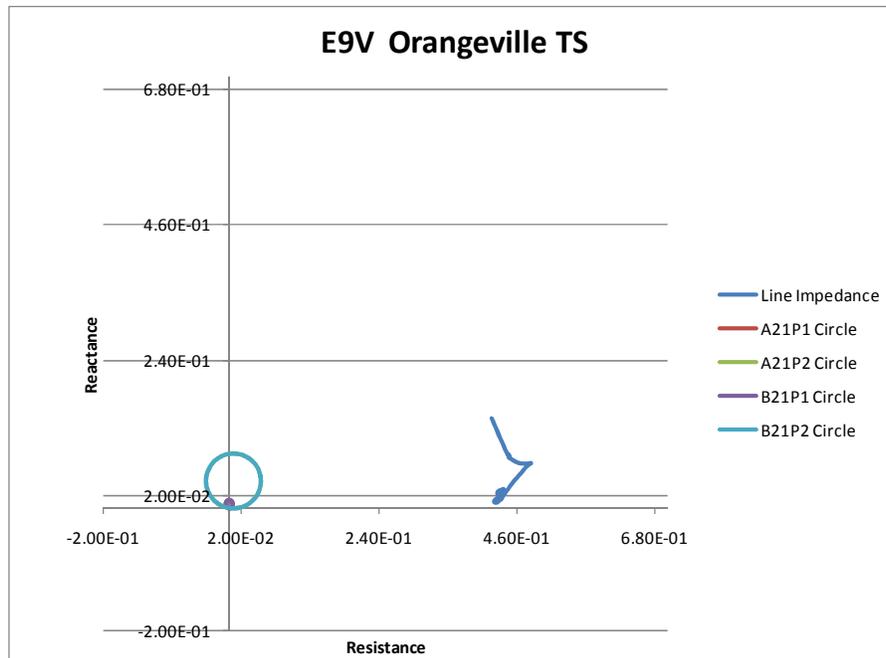


Figure 19: E9V at Orangeville trajectory due to a 3 phase fault on circuit E8V at Essa

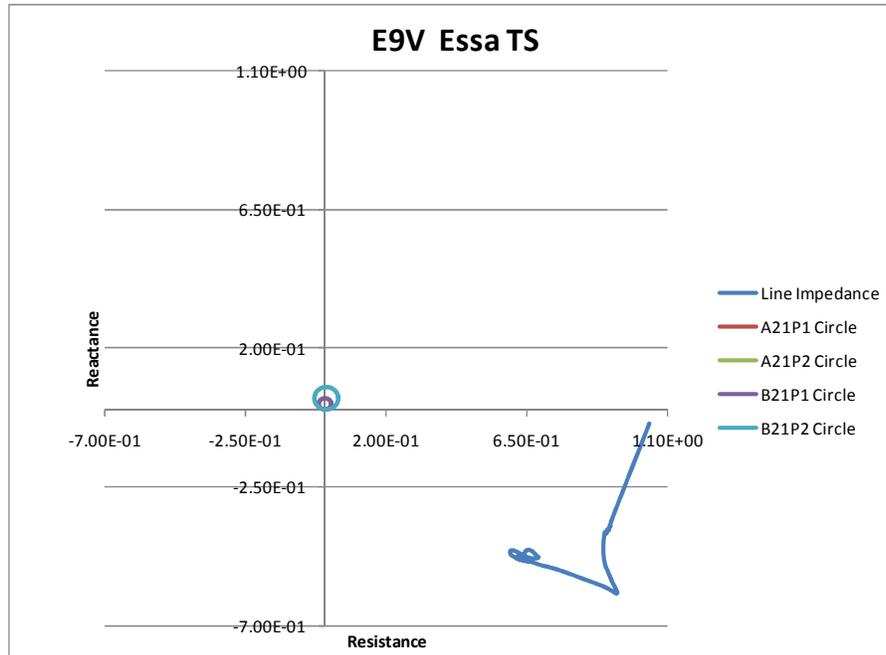


Figure 20: E9V at Orangeville trajectory due to a 3 phase fault on circuit E8V at Essa

Appendix B: PIA Report

Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5



PROTECTION IMPACT ASSESSMENT

DUFFERIN WIND FARM

111 MVA WIND FARM

Date: July 15, 2011
P&C Planning Group Project #: PCT-283-PIA

Prepared by
Hydro One Networks Inc.

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Disclaimer

This Protection Impact Assessment has been prepared solely for the IESO for the purpose of assisting the IESO in preparing the System Impact Assessment for the proposed connection of the proposed generation facility to the IESO-controlled grid. This report has not been prepared for any other purpose and should not be used or relied upon by any person, including the connection applicant, for any other purpose.

This Protection Impact Assessment was prepared based on information provided to the IESO and Hydro One by the connection applicant in the application to request a connection assessment at the time the assessment was carried out. It is intended to highlight significant impacts, if any, to affected transmission protections early in the project development process. The results of this Protection Impact Assessment are also subject to change to accommodate the requirements of the IESO and other regulatory or legal requirements. In addition, further issues or concerns may be identified by Hydro One during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with the Transmission System Code legal requirements, and any applicable reliability standards, or to accommodate any changes to the IESO-controlled grid that may have occurred in the meantime.

Hydro One shall not be liable to any third party, including the connection applicant, which uses the results of the Protection Impact Assessment under any circumstances, whether any of the said liability, loss or damages arises in contract, tort or otherwise.

REVISION HISTORY

Revision	Date	Change
R0	July 15, 2011	First draft

EXECUTIVE SUMMARY

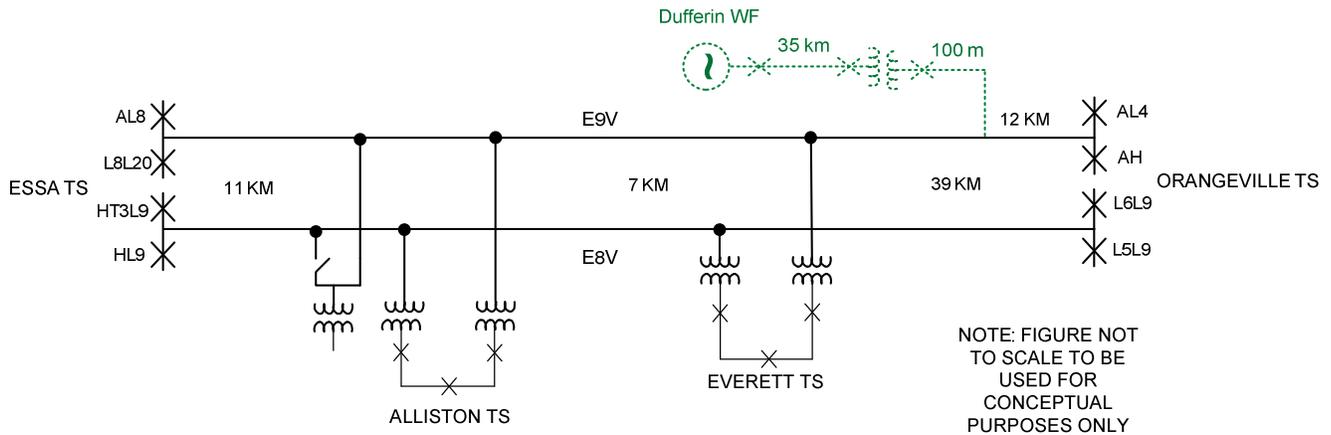


Figure 1: Dufferin WF Generation Connection to HONI Transmission System

It is feasible for Dufferin Wind Farm Inc to connect the proposed generation project (111 MVA) at the location shown in Figure 1 so long as the proposed changes are made:

PROTECTION HARDWARE

The existing Permissive Overreaching Scheme between Essa TS and Orangeville TS shall be modified to accept a blocking signal from the new Dufferin WF from protection sensing faults in their facility. Hardware addition may be required to accept blocking, GEO and breaker failure signals from the new Dufferin WF plant to be incorporated into the existing scheme, as well as to transmit transfer trip to the customer.

PROTECTION SETTING

The existing Zone 1 reaches at Orangeville TS and at Essa TS will be shortened to prevent reaching into the Dufferin WF HV tap. The existing Zone 2 reach at Orangeville TS and at Essa TS will be adjusted to cover the new maximum apparent impedance due to the connection of the new Wind Farm. An intentional 50ms Zone 2 time delay shall be introduced for the purpose of anticipation to receiving the blocking signal.

TELECOMMUNICATIONS

The proponent is responsible to establish dual telecommunication link to transmit protection signals among all stations that are required for reliable fault clearing. Path diversity is recommended for consideration but not mandatory.

DUFFERIN WIND POWER INC RESPONSIBILITIES

The customer shall provide a redundant distance protection scheme to cover faults on E9V and shall be responsible to reliably disconnect their equipment for a fault on the line in case of a single contingency in their equipment. The customer is responsible for transmitting transfer trip and GEO signals. Conversely, the customer shall accept transfer trip signals from HONI terminal station and initiate its protection breaker failure in the event of line protection operation, terminal station breaker failure operation, and/or receive of transfer trip cascading from any existing tapped stations.

Exhibit H, Tab 3, Schedule 1

Customer Impact Assessment

CUSTOMER IMPACT ASSESSMENT

1 Dufferin Wind applied for and on December 6, 2011 obtained from Hydro One a Customer
2 Impact Assessment report concerning the proposed connection of the Wind Farm to the IESO-
3 controlled grid via Hydro One's 230 kV Orangeville to Essa circuit E9V, east of Orangeville. As
4 a result of changes to the project configuration and the connection point, Dufferin Wind
5 requested an update to the Customer Impact Assessment in February 2012. To assess the impact
6 of the proposed new connection point, Hydro One prepared a new study report and on August
7 31, 2012 issued its *Customer Impact Assessment - Final Report* in respect of the Dufferin Wind
8 Farm (the "**Final CIA**"). In the Final CIA, Hydro One concludes and confirms that the proposed
9 connection of the Wind Farm can be incorporated into Hydro One's system at the proposed
10 connection point without any adverse impacts on Hydro One customers. A copy of the Final
11 CIA is provided in Appendix 'A' to this Exhibit H, Tab 2, Schedule 2.

APPENDIX 'A'

CUSTOMER IMPACT ASSESSMENT - FINAL REPORT



Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5

CUSTOMER IMPACT ASSESSMENT

Proposed 99.1 MW DUFFERIN WIND FARM – ORANGEVILLE TS CONNECTION

Revision: **Final**

Date: **August 31st, 2012**

Issued by: **Transmission System Department
Transmission Projects Division
Hydro One Networks Inc.**

Prepared by:

A handwritten signature in black ink, appearing to read "Kennan Ip", written over a horizontal line.

Kennan Ip
Asst Network Management Engineer
Transmission System Development
Hydro One Networks Inc.

Approved by:

A handwritten signature in black ink, appearing to read "John Sabiston", written over a horizontal line.

John Sabiston, P.Eng
Manager Transmission Planning
Transmission System Development
Hydro One Networks Inc.

Disclaimer

This Customer Impact Assessment was prepared based on information available about the connection of the proposed Dufferin Wind Farm Orangeville Connection Project. It is intended to highlight significant impacts, if any, to affected transmission customers early in the project development process and thus allow an opportunity for these parties to bring forward any concerns that they may have. Subsequent changes to the required modifications or the implementation plan may affect the impacts of the proposed connection identified in Customer Impact Assessment. The results of this Customer Impact Assessment are also subject to change to accommodate the requirements of the IESO and other regulatory or municipal authority requirements.

Hydro One shall not be liable to any third party which uses the results of the Customer Impact Assessment under any circumstances whatsoever for any indirect or consequential damages, loss of profit or revenues, business interruption losses, loss of contract or loss of goodwill, special damages, punitive or exemplary damages, whether any of the said liability, loss or damages arises in contract, tort or otherwise. Any liability that Hydro One may have to Dufferin Wind Power Inc. in respect of the Customer Impact Assessment is governed by the Agreement between Dufferin Wind Power Inc. and Hydro One dated April 17, 2012.

CUSTOMER IMPACT ASSESSMENT

PROPOSED 99.1 MW DUFFERIN WIND FARM – ORANGEVILLE TS CONNECTION

1.0 INTRODUCTION

On June 22, 2011, IESO and Hydro One issued SIA and CIA study reports for the Dufferin Wind Farm with a proposed connection on to the 230 kV E9V circuit east of Orangeville. This is the connection for which they were granted a FIT contract. In February 2012, the proponent informed IESO and Hydro One that they were considering changing their connection point to a new 230 kV breaker position at Hydro One's Orangeville TS. This CIA study report was conducted to assess the impact of this proposed connection point.

1.1 Scope of the Study

This Customer Impact Assessment (CIA) study assesses the potential impacts of the proposed Dufferin Wind Farm on the load customers and generators in the local vicinity. This study is intended to supplement the Draft System Impact Assessment Addendum "CAA ID 2010-396" issued by the IESO on June 29th, 2012.

This study covers the impact of the generation addition of the Dufferin Wind Farm on the Hydro One Networks Inc. (Hydro One) system in the area. The primary focus of this study is to identify the impact on the transmission customer connected facilities and operating constraints based on facility voltage performance. The study also assists to determine if any transmission system upgrade will be required to integrate the proposed interconnection during possible system conditions.

This study does not evaluate the overall impact of the Dufferin Wind Farm on the bulk system. The impact of the new generator on the bulk system is the subject of the System Impact Assessment (SIA) which is issued by the Independent Electricity System Operator (IESO).

This study does not evaluate the impact of the Dufferin Wind Farm on the existing network Protection and Control facilities. Protection and Control aspects are reviewed under the Protection Impact Assessment, which is part of the SIA.

1.2 Background

Dufferin Wind Power Inc. (Dufferin) is proposing to develop a wind farm near Melancthon, Ontario. The new development will provide a total installed capacity of 99.1MW. This customer impact assessment (CIA) will address the connection to the Hydro One grid via the 230kV bus at Orangeville TS.

The Dufferin Wind Farm is comprised of 49 wind turbines connected to four (4) collector circuits. These circuits will be stepped up via a new 34.5/230kV substation. The Dufferin Wind Farm substation will be connected through a privately owned 230kV circuit approximately 5 km underground and 42 km overhead in length into the 230kV bus at Hydro One's Orangeville TS. The facility has a commercial contractual in-service date of December 31, 2013.

Dufferin previously submitted a CIA application for an alternate point of connection onto 230 kV circuit E9V. That connection configuration was studied separately in the Draft CIA titled "Proposed 99.35 MW Dufferin Wind Farm Project" dated June 22nd, 2012.

An overview geographical diagram is provided in Figure 1. A single line diagram of the connection is provided in Figure 2.

METHODOLOGY & CRITERIA

1.3 Voltage Performance - Planning Criteria

To establish the impact of incorporating the proposed Dufferin Wind Farm facilities, the following post-fault voltage decline criteria would have to be observed:

- At the Bulk Electricity System level (115kV and up): The loss of a single transmission circuit should not result in a voltage decline greater than 10% for pre- and post- transformer tap-changer action
- The maximum and minimum phase-to-phase voltages given in the IESO's Transmission Assessment Criteria and Canadian Standard Association document CAN-3-C235-83 were considered. In Northern Ontario, the maximum continuous voltage for the 230 and 115kV systems can be as high as 260kV and 132kV respectively. [from IESO document IESO_REQ_0041 Issue 2.0]
- With all planned facilities in service pre-contingency, system voltage changes in the period immediately following a contingency shall not result in a voltage decline greater than 10% for pre-transformer tap-changer action (including station loads less than 50kV) and 10% post transformer tap-changer action (5% for station loads less than 50kV). In addition, the steady state voltage at station loads less than 50kV are to remain within 6% of the nominal voltage.

The voltage performance on Hydro One customers supplied by circuits in the area has to meet the above standard subsequent to the addition of the Dufferin Wind Farm Project.

1.4 Customers Connected

The primary focus of this study is on transmission customers supplied by stations directly connected to circuits B4V, B5V, D6V, D7V, E8V, and E9V. The affected customers are shown below.

Station	Customer
Orangeville TS	Hydro One Distribution
Everett TS	Hydro One Distribution
Alliston TS	Hydro One Distribution
Fergus TS	Hydro One Distribution
Guelph Campbell TS	Guelph HES
Scheifele MTS	Waterloo North Hydro Inc.
Waterloo North MTS	Waterloo North Hydro Inc.
Amaranth CTS	Canadian Hydro Developers Inc.
Hanover TS	Hydro One Distribution

2.0 POWER SYSTEM ANALYSIS

Power System Analysis is an integral part of the transmission planning process. It is used by Hydro One to evaluate the capability of the existing network to deliver power and energy from generating stations to provide a reliable supply to customers. Two relevant aspects of Power System Analysis were used for this assessment, namely:

- Short-circuit Studies: A Short Circuit Analysis program was used to determine the impact on customers. Due to the unavailability of some of the data, typical values were used when necessary.
- Load Flow Studies: An AC load flow program was used to set up a base case with the Dufferin Wind Farm generating facility.

SHORT- CIRCUIT STUDIES

Short-circuit studies were carried out to assess the fault contribution when the Dufferin Wind Farm generators are placed in-service. The impact of the new facility on the fault levels of the Hydro One customers supplied in the Orangeville TS area was analyzed.

The study results are summarized in Table 1 below showing both symmetric and asymmetric fault currents in kA. Table 1 shows the fault levels based on the following assumptions:

- All existing generating facilities in-service in the area. The study assumptions are identical to the IESO System Impact Assessment Report for this project, which include committed generation.
- The maximum pre-fault voltage considered for the voltage levels is shown on the table below for fault levels at critical buses near the new generation.

Fault Location	Bus	Present				Present + Dufferin WF				FIT3 + Samsung			
	Voltage (kV)	3 Phase Fault		L-G Fault		3 Phase Fault		L-G Fault		3 Phase Fault*		L-G Fault	
		(kA)		(kA)		(kA)		(kA)		(kA)		(kA)	
		Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym
Orangeville 230kV	249.9	18.1	19.2	16.8	18.6	18.6	19.8	18.0	19.9	19.8	21.3	21.3	23.8
Orangeville BY 44kV	46.0	12.2	14.8	16.1	20.5	12.2	14.9	16.2	20.6	11.5	14.3	15.4	19.9
Orangeville JQ 44kV	46.0	9.2	11.1	8.9	11.4	9.2	11.1	8.9	11.5	9.8	12.0	9.5	12.2
Orangeville EZ 27.6kV	29.0	13.4	16.4	10.6	13.7	13.4	16.5	10.6	13.8	13.5	16.7	10.6	13.9
Everett E9V 230kV	249.9	13.1	14.0	9.7	10.0	13.2	14.1	9.7	10.0	13.5	14.3	9.9	10.2
Everett E8V 230kV	249.9	13.2	14.1	9.8	10.2	13.3	14.2	9.9	10.3	13.5	14.3	9.9	10.2
Everett BY 44kV	46.0	11.9	14.4	6.3	8.5	11.9	14.4	6.3	8.5	11.9	14.5	6.3	8.5
Alliston E9V 230kV	249.9	15.7	16.9	12.6	13.1	15.8	17.0	12.7	13.2	16.0	17.2	12.9	13.4
Alliston E8V 230kV	249.9	15.8	17.0	12.8	13.3	15.9	17.1	12.8	13.3	16.0	17.3	12.9	13.4
Alliston HT2 230kV	249.9	15.7	16.9	12.7	13.2	15.8	17.0	12.7	13.2	16.0	17.2	12.9	13.4
Alliston BY 44kV	46.0	12.1	15.3	6.4	9.0	12.1	15.3	6.4	9.0	12.2	15.4	6.4	9.0
Alliston LT2 44kV	46.0	6.4	8.2	3.3	4.5	6.4	8.2	3.3	4.5	6.4	8.2	3.3	4.5
Amaranth B4V 230kV	249.9	12.5	13.3	11.6	12.7	12.7	13.5	11.9	13.0	13.3	14.3	13.0	14.2
Amaranth B5V 230kV	249.9	12.6	13.4	11.8	12.9	12.8	13.6	12.1	13.2	13.3	14.2	12.9	14.1
Hanover B4V 230kV	249.9	9.7	10.7	8.0	9.2	9.8	10.7	8.0	9.2	10.0	11.0	8.2	9.4
Hanover B5V 230kV	249.9	9.8	10.7	8.1	9.3	9.8	10.7	8.1	9.3	10.1	11.1	8.3	9.5
Hanover 115kV	127.0	11.4	13.2	12.7	15.3	11.4	13.2	12.7	15.3	12.3	14.3	13.4	16.3
Hanover 44kV	46.0	11.4	13.9	16.6	21.0	11.4	13.9	16.6	21.1	13.3	16.5	19.3	24.9
Underwood B4V 230kV	249.9	20.2	23.1	18.5	21.4	20.2	23.2	18.5	21.4	20.8	23.7	18.9	21.8
Underwood B5V 230kV	249.9	20.2	23.1	18.5	21.4	20.3	23.2	18.5	21.4	20.8	23.7	18.8	21.7
Fergus D6V 230kV	249.9	11.7	12.5	9.8	10.8	11.8	12.6	9.9	10.9	12.1	13.0	10.2	11.3
Fergus D7V 230kV	249.9	11.7	12.5	9.8	10.8	11.8	12.6	9.9	10.9	12.2	13.0	10.2	11.3
Fergus BY 44kV	46.0	14.8	17.9	6.9	9.6	14.8	18.0	7.0	9.6	14.5	17.9	6.9	9.6
Cambell D7V 230kV	249.9	8.3	8.9	6.4	6.8	8.4	8.9	6.4	6.8	8.6	9.2	6.5	7.0
Cambell D6V 230kV	249.9	8.3	8.9	6.4	6.8	8.4	8.9	6.4	6.8	8.6	9.2	6.5	7.0
Cambell EZ 13.8kV	14.2	16.9	20.8	8.3	11.5	16.9	20.8	8.3	11.5	16.9	20.9	8.3	11.5
Cambell JQ 13.8kV	14.2	16.9	20.8	8.3	11.5	16.9	20.9	8.3	11.5	17.0	21.0	8.3	11.6
Cambell BY 13.8kV	14.2	16.8	20.7	8.3	11.5	16.8	20.7	8.3	11.5	17.4	21.7	8.4	11.7
Scheffle MTS D6V 230kV	249.9	15.8	16.9	12.7	13.6	15.9	17.0	12.8	13.6	16.3	17.5	13.0	13.9
Scheffle MTS D7V 230kV	249.9	15.8	16.9	12.7	13.5	15.9	17.0	12.7	13.6	16.3	17.5	13.0	13.8
Waterloo North D6V 230kV	249.9	18.2	19.5	15.1	16.4	18.2	19.6	15.2	16.5	18.9	20.3	15.6	16.9
Waterloo North D7V 230kV	249.9	18.1	19.4	15.1	16.3	18.2	19.5	15.1	16.4	18.8	20.2	15.5	16.8

Table 1 – Short Circuit Levels of Buses at Neighbouring Stations/Junctions with Dufferin WF

Maximum symmetrical fault levels are identified in Appendix 2 of the *Transmission System Code (TSC)* [2] and reproduced below.

Nominal Voltage (kV)	Max. 3-Phase Fault (kA)	Max. SLG Fault (kA)
230	63	80 ⁽¹⁾
115	50	50
44	20	19 ⁽²⁾
27.6 (4-wire)	17 ⁽³⁾	12 ⁽³⁾
13.8	21 ⁽³⁾	10 ⁽³⁾

Notes :

(1) – Usually limited to 63 kA

(2) – Usually limited to 8 kA

(3) – Effective September 1, 2010, Hydro One requires a 5 % margin on the acceptable TSC limits at voltage levels of <50kV to account for other sources of fault current on the distribution system such as unmodelled synchronous motors and data inaccuracies.

2.1 Impact at Stations Mitigated for Fault Level

The results of the fault levels studies shown on these tables above show that the Dufferin Wind Farm does not have a measureable ($\geq 0.01\text{kA}$) impact at the fault level at any of the stations (Windsor Walker #1 TS, Kingsville TS, Caledonia TS & Martindale TS) where mitigation measures are necessary to limit fault levels to acceptable values.

LOAD FLOW STUDIES

Load flow studies were carried out to analyze the impact of the new facilities on the voltage performance of Hydro One customers in the affected area. The load flow model used for the load flow analysis performed by Hydro One was based on information supplied by the IESO.

2.2 Base Case and Study Assumptions

The 2012 Summer Peak load conditions within operating limits in the area were used in the load flow analysis. The Dufferin Wind Farm generation was modeled into the base case prior to performing contingency studies.

The Dufferin Wind Farm supplied 99.1MW with the worst case scenario of 0.9 PF to the surrounding area.

2.3 Contingency Analysis

The following single transmission element contingencies were considered for this local impact assessment with Dufferin Wind Farm operating at maximum output.

- 1) Loss of D6V and D7V
- 2) Loss of Dufferin Wind Farm GS

The studies indicated that under this contingency the voltage change on the HV customer connections are well within the acceptable range of the voltage performance criteria mentioned in Section 1.3. The results are tabulated in Table 2.

Bus	Base kV	Loss of D6V & D7V				Loss of Dufferin WF			
		pre ULTC	%	post ULTC	%	pre ULTC	%	post ULTC	%
Orangeville 230kV	243.1	245.0	0.8	245.0	0.8	243.9	0.3	243.8	0.3
Orangeville BY 44kV	44.7	43.4	2.9	44.5	0.4	44.9	0.3	44.8	0.3
Orangeville JQ 44kV	45.8	46.1	0.8	46.1	0.8	45.9	0.3	45.9	0.3
Orangeville EZ 27.6kV	29.0	29.2	0.8	29.2	0.8	29.1	0.3	29.1	0.3
Everett E9V 230kV	242.9	243.7	0.3	243.7	0.3	243.4	0.2	243.4	0.2
Everett E8V 230kV	243.2	244.0	0.3	244.0	0.3	243.7	0.2	243.6	0.2
Everett BY 44kV	45.4	45.5	0.3	45.5	0.3	45.5	0.2	45.5	0.2
Alliston E9V 230kV	243.1	243.7	0.2	243.7	0.2	243.5	0.2	243.5	0.2
Alliston E8V 230kV	243.4	244.0	0.2	244.0	0.2	243.8	0.2	243.8	0.2
Alliston HT2 230kV	243.1	243.7	0.2	243.7	0.2	243.5	0.2	243.5	0.2
Alliston BY 44kV	45.5	45.6	0.3	45.6	0.3	45.5	0.2	45.5	0.2
Alliston LT2 44kV	44.7	44.8	0.3	44.8	0.3	44.8	0.2	44.8	0.2
Amaranth B4V 230kV	242.2	243.9	0.7	244.0	0.7	242.8	0.2	242.8	0.2
Amaranth B5V 230kV	241.9	243.7	0.7	243.7	0.7	242.5	0.2	242.5	0.2
Hanover B4V 230kV	241.8	243.1	0.6	243.2	0.6	242.0	0.1	241.9	0.1
Hanover B5V 230kV	241.4	242.8	0.6	242.8	0.6	241.6	0.1	241.6	0.1
Hanover 115kV	121.6	122.3	0.6	122.3	0.6	121.6	0.1	121.6	0.0
Hanover 44kV	45.5	45.8	0.6	45.8	0.6	45.6	0.1	45.6	0.0
Underwood B4V 230kV	243.7	244.4	0.3	244.5	0.3	243.7	0.0	243.7	0.0
Underwood B5V 230kV	243.5	244.3	0.3	244.3	0.3	243.5	0.0	243.5	0.0
Fergus D6V 230kV	242.1	*OOS*	-	*OOS*	-	242.6	0.2	242.5	0.2
Fergus D7V 230kV	242.1	*OOS*	-	*OOS*	-	242.6	0.2	242.6	0.2
Fergus BY 44kV	45.1	*OOS*	-	*OOS*	-	45.2	0.2	45.2	0.2
Cambell D7V 230kV	241.3	*OOS*	-	*OOS*	-	241.7	0.2	241.7	0.2
Cambell D6V 230kV	241.2	*OOS*	-	*OOS*	-	241.6	0.2	241.6	0.2
Cambell EZ 13.8kV	14.0	*OOS*	-	*OOS*	-	14.0	0.2	14.0	0.2
Cambell JQ 13.8kV	14.3	*OOS*	-	*OOS*	-	14.3	0.2	14.3	0.2
Cambell BY 13.8kV	14.3	*OOS*	-	*OOS*	-	14.3	0.2	14.3	0.2
Waterloo North D6V 230kV	243.8	*OOS*	-	*OOS*	-	244.0	0.1	244.0	0.1
Waterloo North D7V 230kV	243.9	*OOS*	-	*OOS*	-	244.1	0.1	244.1	0.1

Table 2: Voltage Levels in the Surrounding Area

3.0 CUSTOMER RELIABILITY

The proposed Dufferin Wind Farm will add another position in the existing 230 kV bus at Orangeville TS. Faults along the HV and LV station bus of the project will be cleared by the breakers at Orangeville TS and have minimum impact on the customers supplied by circuits emanating from Orangeville TS.

3.1 Preliminary Outage Impact Assessment

Exact outage schedule will be made available during the detailed engineering phases of the project development and established in consultation with load customers in the area. The outage duration will be minimized and risk managed with proper outage planning and co-ordination.

CONCLUSIONS AND RECOMMENDATIONS

The Customer Impact Assessment (CIA) Report presents the results of short circuit, and voltage performance study analyses.

The overall findings of this CIA provided that the above recommendations implemented are:

- The results of the short circuit analysis showed that some area's stations encountered small increases in fault level at the connection points. The largest increase observed was at Orangeville TS with an increase of approx 2.5%.
- These increases were within the capability of the existing Hydro One facilities. However, the customers connected in the area should review the fault levels at their connection points to confirm their equipment is capable of withstanding the increased fault and voltage levels.
- When in operation, the Dufferin Wind Farm will assist in supporting the voltages seen by the connected customers under system disturbances and will not adversely impact the local voltage performance in the local area

The study has confirmed that the proposed 99.1 MW Generation at the Dufferin Wind Farm can be incorporated without any adverse impact on Hydro One customers.

References

[1] System Impact Assessment – Dufferin Wind Farm Draft Addendum “CAA ID 2010-396” issued by the IESO on June 29th, 2012.

[2] Independent Electricity System Operator (IESO), *IESO Transmission Assessment Criteria*, Issue 2.0.

[3] Ontario Energy Board, *Transmission System Code*, June 10, 2010

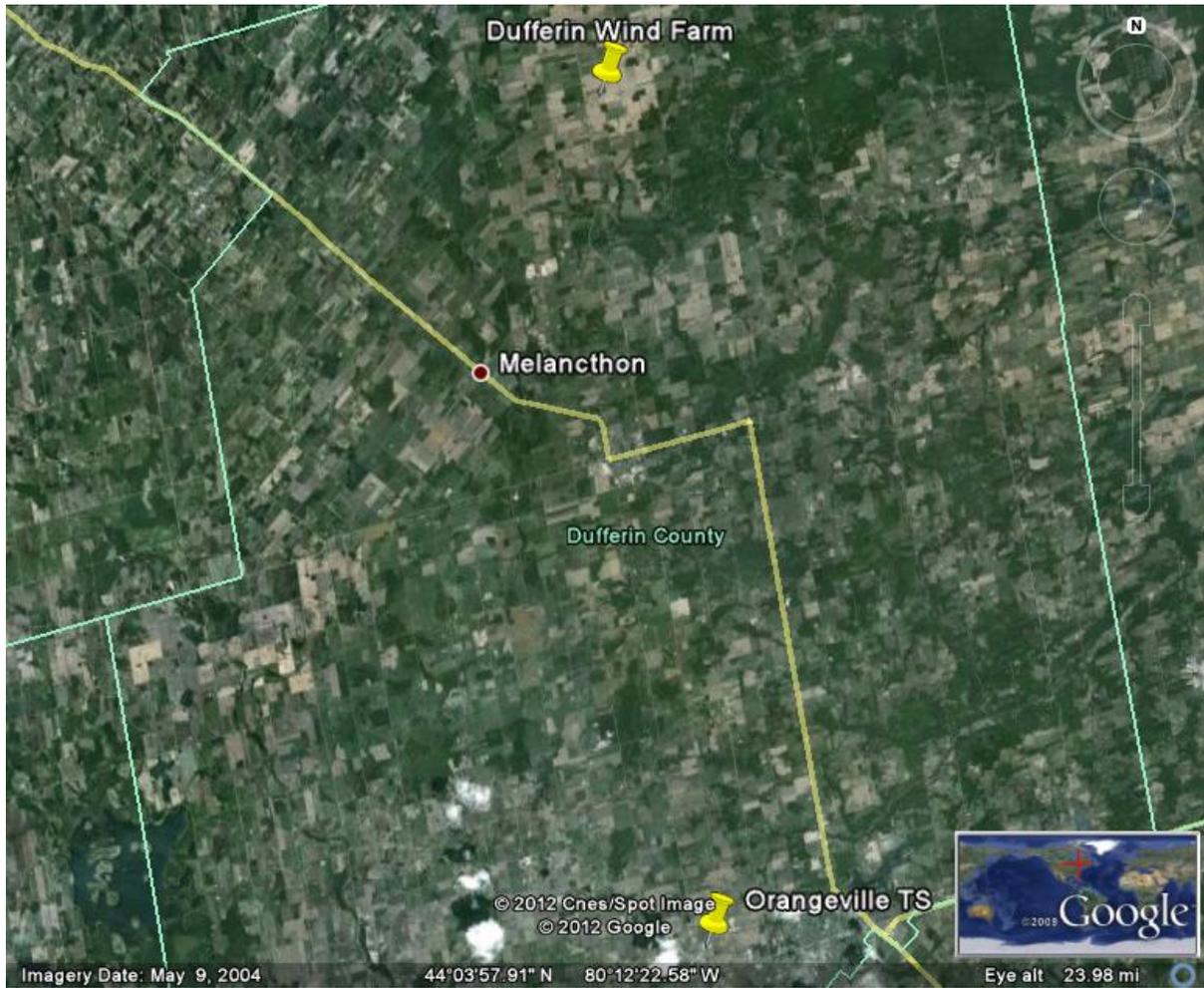


Figure 1: Geographical Map for the Dufferin Wind Farm

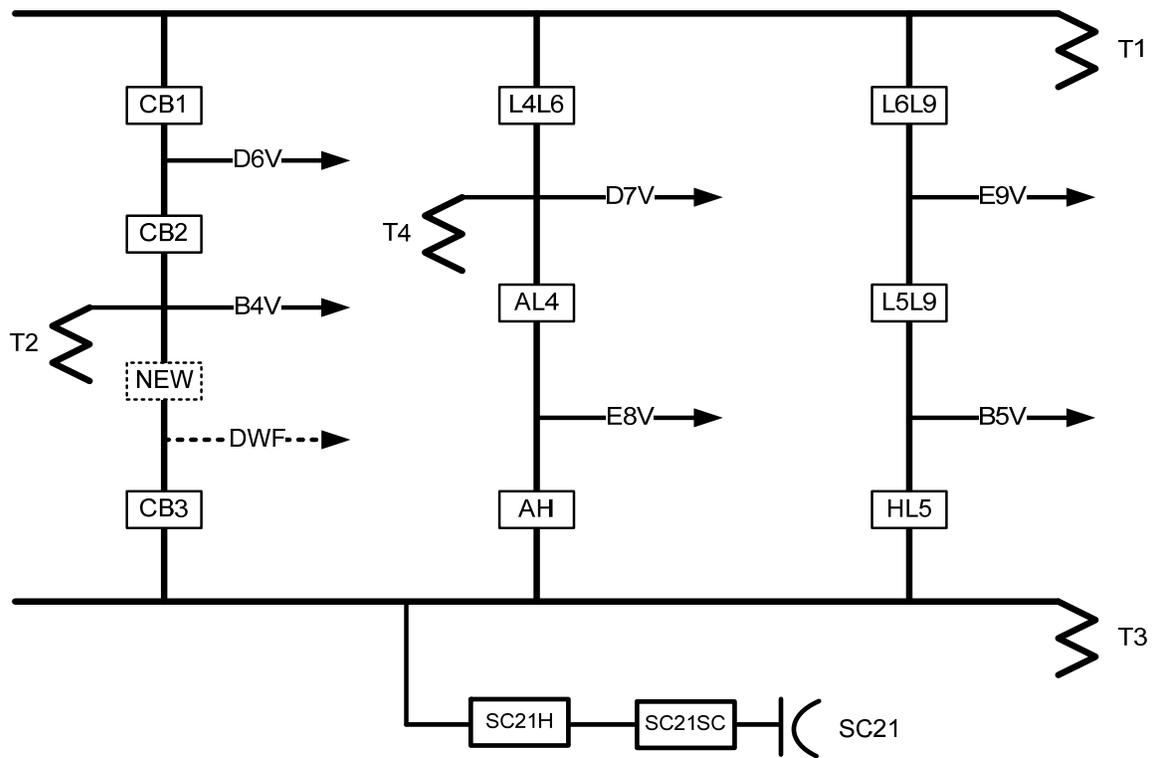


Figure 2: Single Line Diagram for the Dufferin Wind Farm