

October 11, 2013

RESS & COURIER

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

Attention: Ms. K. Walli, Board Secretary

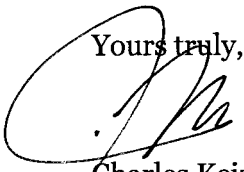
Dear Ms. Walli:

Re: Jericho Wind, Inc. - Application for Leave to Construct Transmission Facilities

We are counsel to Jericho Wind, Inc. (the "Applicant"). On behalf of the Applicant, 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 Municipality of Lambton Shores, Lambton County, and in the Municipality of North Middlesex, Middlesex County, for purposes of connecting the Applicant's renewable energy generation facility to the IESO-controlled grid (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,


for Charles Keizer

Tel 416.865.7512
ckeizer@torys.com

CK

cc: Mr. R. Groffman, Jericho Wind, Inc.
Mr. J. Myers, Torys LLP

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 Jericho Wind, 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 Municipality of Lambton Shores, Lambton County and the Municipality of North Middlesex, Middlesex County, Ontario.

APPLICATION FOR LEAVE TO CONSTRUCT

JERICHO WIND, INC.

October 11, 2013

EXHIBIT LIST

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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 Jericho Wind, 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 Municipality of Lambton Shores, Lambton County and the Municipality of North Middlesex, Middlesex County, Ontario.

APPLICATION

1. Jericho Wind, Inc. (“**Jericho**” or the “**Applicant**”) is a corporation established under the laws of the Province of New Brunswick and is a wholly-owned subsidiary of NextEra Energy Canada, ULC (“**NextEra Energy Canada**”).
2. NextEra Energy Canada, ULC is a corporation that was established in 2006 under the laws of the Province of Alberta and which has its executive offices in Toronto, Ontario. NextEra Energy Canada is a leading renewable energy developer in Canada that owns and operates wind and solar generation facilities in Ontario, Alberta, Quebec and Nova Scotia. In Ontario, NextEra Energy Canada currently operates two wind and two solar generation facilities, and is developing six additional wind energy generation facilities (including the project being developed by Jericho), pursuant to contracts under the Ontario Power Authority’s (“**OPA**”) Feed-in Tariff (“**FIT**”) Program.
3. NextEra Energy Canada is wholly owned by NextEra Energy Resources LLC. NextEra Energy Resources is a global leader in the generation of renewable energy and is the largest generator of both wind and solar power in North America. NextEra Energy Resources has over 18,200 MW of installed generation capacity from sources that include wind, natural gas, nuclear, hydroelectric and solar. NextEra Energy Resources has been operating wind energy facilities for over 20 years and currently operates approximately

100 wind facilities or projects in 19 states and 4 provinces, with more than 9,600 wind turbines providing over 10,000 MW or 55.5% of NextEra Energy Resources' total generation capacity. NextEra Energy Resources employs approximately 4,700 people across North America. NextEra Energy Resources is owned by NextEra Energy, Inc., a leading clean energy company with consolidated revenues of approximately \$14.3 billion, more than 42,000 megawatts of generating capacity, and nearly 15,000 employees in 26 states and four Canadian provinces as of year-end 2012. NextEra Energy, Inc. is headquartered in Juno Beach, Florida.

4. 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 granting leave to construct the following transmission and interconnection facilities:
 - (a) a collection substation located on Lot 16, Concession 7 in the Municipality of Lambton Shores, Lambton County, to be owned by Jericho, at which power from the 34.5 kV collection system associated with the Jericho Wind Energy Centre will be transformed from 34.5 kV to 121 kV by means of one 121/34.5 kV, 102/136/170 MVA transformer (the “**Jericho Collection Substation**”); and
 - (b) an approximately 15.7 km single circuit 115 kV class transmission line, to be owned by Jericho, in the Municipality of Lambton Shores, Lambton County and the Municipality of North Middlesex, Middlesex County, Ontario, connecting the Jericho Collection Substation to the Bornish Customer Switching Station as described below (the “**Transmission Line**”).
5. The facilities described in paragraph 4 are collectively referred to in this Application as the “**Proposed Transmission Facilities**”.
6. The Applicant further requests the approval of the Board pursuant to Section 97 of the Act for the forms of land agreements included in Exhibit F, Tab 4, Schedule 1.
7. Moreover, the Applicant requests the approval of the Board pursuant to Section 101 of the Act for authority to construct portions of the Proposed Transmission Facilities upon, under or over a highway, utility line or ditch, as further described in Exhibit F, Tab 1, Schedule 1.

8. The Applicant is developing and planning to construct and operate an approximately 149 MW wind generation facility, known as the Jericho Wind Energy Centre, in the Municipality of Lambton Shores and the Township of Warwick in Lambton County, Ontario, pursuant to a contract under the OPA's FIT Program (the "**Jericho Project**"). The Applicant requires the Proposed Transmission Facilities to enable it to convey electricity to the Independent Electricity System Operator ("**IESO**") controlled grid from the Jericho Project, consistent with its obligations under its FIT contract, the objectives of the FIT Program and the renewable energy policies of the Province of Ontario.
9. Under a separate application filed February 8, 2012 (EB-2013-0040), Jericho together with Bornish Wind, LP ("**Bornish**") and Kerwood Wind, Inc. ("**Kerwood**") as co-owners (together, the "**Co-owners**"), has sought leave to construct certain related transmission facilities that, in combination with the Proposed Transmission Facilities, will enable Jericho to convey electricity from the Jericho Project to the IESO-controlled grid (the "**Co-owners' LTC Application**"). The facilities that are the subject of the Co-owners' LTC Application include the Bornish Customer Switching Station to which the Proposed Transmission Facilities will connect, as well as the Parkhill Customer Transformer Station and a transmission line connecting the Bornish Customer Switching Station to the Parkhill Customer Transformer Station, each as described in the Co-owners' LTC Application.
10. The Applicant proposes to locate the Jericho Collection Substation on private lands. To this end, the Applicant has secured the necessary private land rights by entering into a lease for the relevant property. In addition, in order to provide flexibility, the applicant also holds an option to purchase this same property.
11. The Applicant proposes to locate certain sections of the Transmission Line within municipal road rights-of-way, with the remaining sections of the Transmission Line being located on easements acquired from private landowners for lands adjacent to other sections of the right-of-way, running generally from the Jericho Collection Substation east along Thomson Line and Elginfield Road to the Bornish Customer Switching

Station. With regard to the portions of the Transmission Line that are to be located within the municipal road rights-of-way, the Applicant intends to rely upon its rights under Section 41 of the *Electricity Act*. Notwithstanding its statutory rights, the Applicant has made efforts to engage in discussions with each of Middlesex County and Lambton County with a view to entering into road use agreements.

12. The Applicant received a final System Impact Assessment (“SIA”) Report from the IESO for the Jericho Project dated December 21, 2011. The Applicant also received an SIA Addendum Report on June 6, 2012 and an SIA 2nd Addendum Report on December 12, 2012. These reports conclude that, subject to certain requirements set out therein, the proposed connection is expected to have no material adverse impacts on the reliability of the integrated power system. The IESO therefore recommended that a Notification of Conditional Approval for Connection be issued concurrently with the final SIA Report, as well as that addenda to such Notification be issued concurrently with each of the addendum reports.
13. The Applicant received a final Customer Impact Assessment (“CIA”) Report from Hydro One dated December 20, 2011. The Applicant also received a CIA Addendum Report dated June 8, 2012 and a CIA 2nd Addendum Report on February 1, 2013 from Hydro One in respect of the Proposed Transmission Facilities. These reports conclude that the Jericho Project can be incorporated via the Proposed Transmission Facilities (and the facilities that are the subject of the Co-owners’ LTC Application) without adverse impacts on area customers, subject to the requirements set out in the CIA reports.
14. The Applicant is subject to the requirements of the Renewable Energy Approval (“REA”) process under Ontario Regulation 359/09 under the *Environmental Protection Act*. The final REA submission package for the Jericho Project was submitted to the Ministry of the Environment on February 15, 2013 and the application was deemed complete on July 17, 2013. The Applicant recently issued a Notice of Change to a Proposal and Notice of Public Meetings to advise stakeholders of the Applicant’s current intention to modify its REA application, which amendments would relate in part to the

Proposed Transmission Facilities. The public meetings are scheduled to take place in late October 2013.

15. The Applicant has carried out a comprehensive stakeholder consultation program in the context of its REA process. Through these consultations, the Applicant has provided notices and information to potentially interested stakeholders and held public meetings at which the Applicant received feedback and information from stakeholders. The Applicant has taken this input into consideration in planning and designing the Proposed Transmission Facilities. The Applicant has also engaged in a thorough consultation process with potentially affected First Nations through its REA process.
16. Subject to receipt of its REA, as well as other necessary permits and approvals, the Applicant plans to commence construction of the Proposed Transmission Facilities in Spring 2014. The Proposed Transmission Facilities would then be commissioned and would be expected to go into service by early Fall 2014 (subject to the Co-owners' transmission facilities being in-service).
17. The cost of the Proposed Transmission Facilities will be borne by the Applicant. As such, the Proposed Transmission Facilities will not affect electricity transmission rates in Ontario.
18. 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.
19. 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:

Jericho Wind, Inc.
c/o NextEra Energy Canada, ULC
390 Bay Street, Suite 1720
Toronto, ON M5H 2Y2

Attention: Mr. Ross Groffman
Tel: 416.364.9714
Fax: 416.364.2533
Email: ross.groffman@nee.com

(b) The Applicant's Counsel:

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

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

and

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

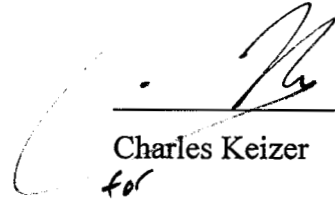
20. Additional written evidence, as required, may be filed in support of this Application, which may be amended from time to time prior to the Board's final decision.
21. The Applicant requests that the Board proceed by way of written hearing, pursuant to Section 34.01 of the Board's *Rules of Practice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

Dated at Toronto, Ontario, this 11th day of October, 2013.

JERICO WIND, INC.

By its counsel

Torys LLP ,



Charles Keizer
for

PROCEDURAL ORDERS, CORRESPONDENCE & 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.

SUMMARY OF THE APPLICATION

1 1. **The Applicant**

2 Jericho Wind, Inc. (“**Jericho**” or the “**Applicant**”) is a corporation established under the laws of
3 the Province of New Brunswick. Jericho is a wholly-owned subsidiary of NextEra Energy
4 Canada, ULC (“**NextEra Energy Canada**”), a leading renewable energy developer in Canada.
5 NextEra Energy Canada is in turn an indirect wholly owned subsidiary of NextEra Energy
6 Resources LLC, a global leader in the generation of renewable energy and the largest generator
7 of both wind and solar power in North America. Jericho was established for the purpose of
8 developing, constructing and operating the Jericho Wind Energy Centre (the “**Jericho Project**”).
9 The Jericho Project is an approximately 149 MW wind generation facility that the Applicant
10 plans to locate in the Municipality of Lambton Shores and the Township of Warwick in Lambton
11 County, Ontario.

12 2. **Approvals Sought**

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

- 16 • a collection substation located on Lot 16, Concession 7 in the Municipality of Lambton
17 Shores, Lambton County, to be owned by Jericho, at which power from the 34.5 kV
18 collection system associated with the Jericho Wind Energy Centre will be transformed
19 from 34.5 kV to 121 kV by means of one 121/34.5 kV, 102/136/170 MVA transformer
20 (the “**Jericho Collection Substation**”); and
- 21 • an approximately 15.7 km single circuit 115 kV class transmission line, to be owned by
22 Jericho, in the Municipality of Lambton Shores, Lambton County and the Municipality of
23 North Middlesex, Middlesex County, Ontario, connecting the Jericho Collection
24 Substation to the Bornish Customer Switching Station as described below (the
25 “**Transmission Line**”).

1 The Jericho Collection Substation and the Transmission Line are collectively referred to in this
2 Application as the “**Proposed Transmission Facilities**”.

3 The Applicant further requests approval of the Board pursuant to Section 97 of the Act for the
4 forms of land agreements included in Exhibit F, Tab 2, Schedule 1.

5 Moreover, the Applicant requests approval of the Board either pursuant to Section 101 of the Act
6 or pursuant to the Board’s powers under Section 92 of the Act for authority to construct portions
7 of the Proposed Transmission Facilities upon, under or over a highway, utility line or ditch, as
8 further described in Exhibit F, Tab 1, Schedule 1.

9 **3. Need for the Project**

10 In July 2011, the Ontario Power Authority awarded a contract under the Feed-in Tariff (“**FIT**”)
11 Program in respect of the Jericho Project. The Proposed Transmission Facilities are needed to
12 convey electricity from the Jericho Project to the Bornish Customer Switching Station, which
13 will in turn be connected to and allow for electricity from the Jericho Project to be conveyed to
14 the IESO-controlled grid. The Bornish Customer Switching Station and the transmission
15 facilities that will connect the Bornish Customer Switching Station to the IESO-controlled grid
16 are the subject of a separate Section 92 application (EB-2013-0040) that was filed with the Board
17 on February 8, 2013 by Jericho, together with Bornish Wind, LP and Kerwood Wind, Inc. as co-
18 owners. As the development of the Jericho Project promotes the use of renewable energy
19 sources in a manner consistent with the policies of the Government of Ontario, the Proposed
20 Transmission Facilities are in the public interest pursuant to paragraph 96(2)2 of the Act.

21 **4. Description of the Project**

22 The Jericho Project will include 92 General Electric 1.62 MW wind turbine generators, for a
23 total installed capacity of approximately 149 MW, on privately-owned agricultural lots in the
24 Municipality of Lambton Shores and the Township of Warwick in Lambton County, Ontario, as
25 well as a 34.5 kV collection system linking the turbines to the Jericho Collection Substation.
26 The Proposed Transmission Facilities, which are the subject of this Application, are comprised
27 of the Jericho Collection Substation and the Transmission Line.

1 The Jericho Collection Substation will be situated on private lands, for which the Applicant has
2 secured the necessary land rights, in the Municipality of Lambton Shores in close proximity to
3 the wind turbine generators. At the Jericho Collection Substation, the collector lines will
4 converge and the voltage will be stepped up from 34.5 kV to 121 kV. The 115 kV class single
5 circuit Transmission Line will generally run east from the Jericho Collection Substation for
6 approximately 15.7 km along Thompson Line in the Municipality of Lambton Shores and
7 Elginfield Road in the Municipality of North Middlesex, until reaching the Bornish Customer
8 Switching Station. The Transmission Line will be situated within a combination of private
9 easements and municipal road right-of-ways (“**ROW**”). In respect of the use of municipal road
10 ROWs, the Applicant relies upon the statutory rights granted under Section 41 of the *Electricity*
11 *Act* and in connection therewith the Applicant has provided, in significant detail, the specific
12 proposed locations of poles and structures associated with the Transmission line within the
13 public road ROW.

14 Pursuant to a separate Section 92 application filed by Jericho, together with Bornish Wind, LP
15 and Kerwood Wind, Inc. as co-owners (together, the “**Co-Owners**”), the Co-Owners are seeking
16 leave to construct the Bornish Customer Switching Station, the Parkhill Customer Transformer
17 Station, as well as a shared transmission line between these stations and related facilities. The
18 Proposed Transmission Facilities, together with the facilities that are the subject of the Co-
19 Owners’ Section 92 application, will enable the Applicant to convey electricity from the Jericho
20 Project to the IESO-controlled grid.

21 5. **Community and Stakeholder Consultations**

22 Jericho has carried out a thorough stakeholder consultation program, primarily in the context of
23 its REA process. Through these efforts, the Applicant has consulted with the public, affected
24 municipalities, potentially affected Aboriginal communities and relevant provincial and federal
25 regulatory authorities. The Applicant has provided notices and information to potentially
26 interested stakeholders and held a number of public meetings at which the Applicant received
27 feedback and information from stakeholders. The Applicant has taken this input into
28 consideration in planning and designing the Proposed Transmission Facilities.

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

2 Subject to receipt of its Renewable Energy Approval, as well as other necessary permits and
3 approvals, the Applicant plans to commence construction of the Proposed Transmission
4 Facilities in Spring 2014. The Proposed Transmission Facilities would then be commissioned
5 and would be expected to go into service by early Fall 2014 (subject to the Co-owners'
6 transmission facilities being in-service).

7 **7. Impact Assessments**

8 The Applicant received a final System Impact Assessment (“**SIA**”) Report from the IESO for the
9 Jericho Project in December 2011 and has subsequently received SIA addendum reports in June
10 2012 and December 2012. These reports conclude that, subject to certain requirements set out
11 therein, the proposed connection is expected to have no material adverse impacts on the
12 reliability of the integrated power system. The IESO therefore recommended that a Notification
13 of Conditional Approval for Connection be issued. Such notification was issued concurrently
14 with the final SIA Report and addenda to such notification were issued concurrently with each of
15 the SIA addendum reports.

16 The Applicant received a final Customer Impact Assessment (“**CIA**”) Report from Hydro One in
17 December 2011 and has subsequently received CIA addendum reports in June 2012 and
18 February 2013. These reports conclude that the Jericho Project can be incorporated via the
19 Proposed Transmission Facilities (together with the facilities that are the subject of the Co-
20 owners’ Section 92 application) without adverse impacts on area customers of Hydro One,
21 subject to the requirements set out in the CIA reports.

22 **8. Other Approvals**

23 A list of all approvals required or potentially required for the Proposed Transmission Facilities is
24 provided in Exhibit E, Tab 2, Schedule 1. Of particular note, Jericho filed its final Renewable
25 Energy Approval application with the Ministry of the Environment on February 15, 2013.
26 Although the application was deemed complete on July 17, 2013, the Applicant recently issued a
27 Notice of Change to a Proposal and Notice of Public Meetings to advise stakeholders of the

1 Applicant's current intention to modify its REA application, which amendments would relate in
2 part to the Proposed Transmission Facilities. The public meetings are scheduled to take place in
3 late October 2013.

4 9. **Project Costs**

5 The costs of the Proposed Transmission Facilities will be borne by the Applicant and, as such,
6 the Proposed Transmission Facilities will not affect electricity transmission rates in Ontario.

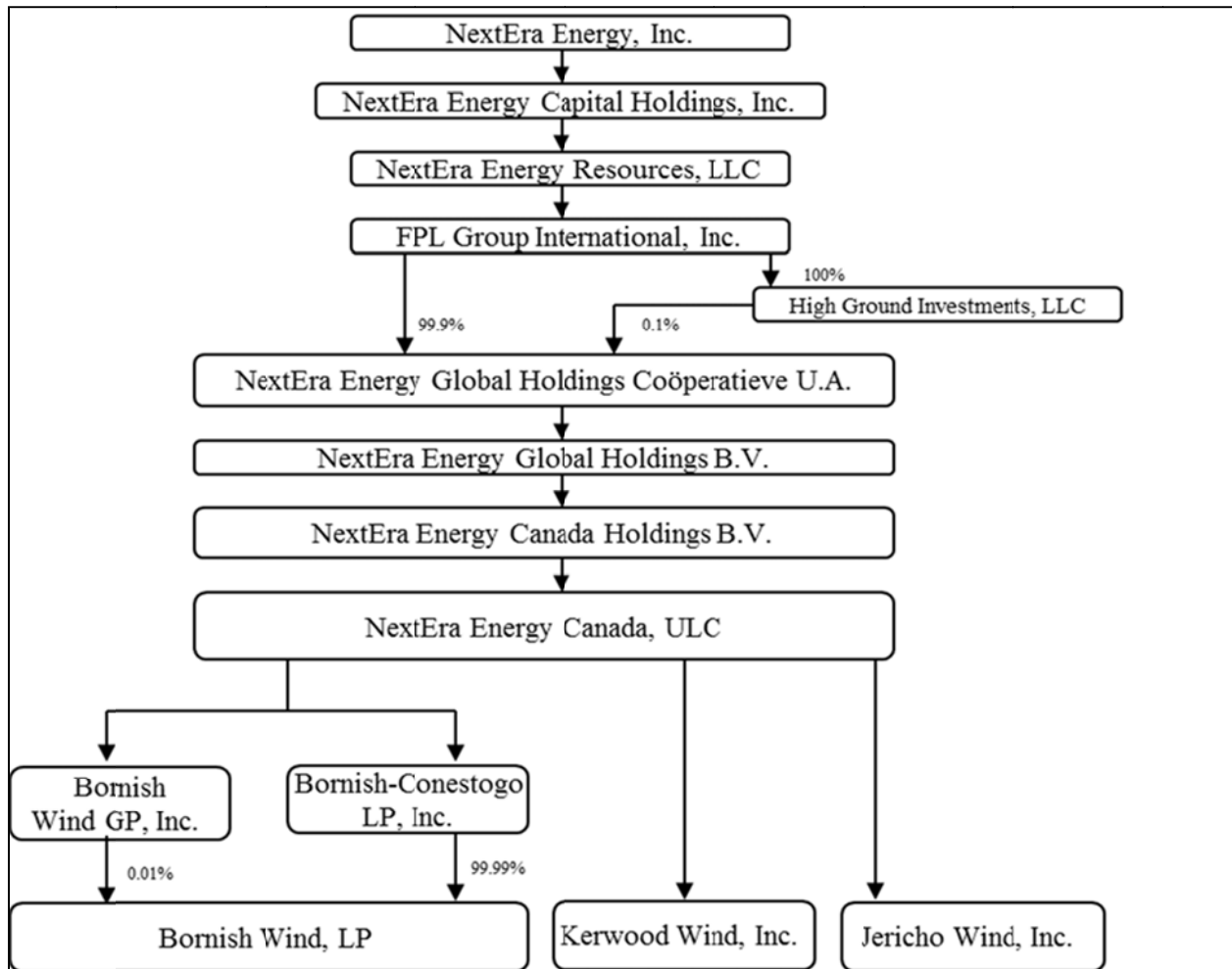
DESCRIPTION OF THE APPLICANT

1 Jericho Wind, Inc. (“**Jericho**” or the “**Applicant**”) is a corporation established under the laws of
2 the Province of New Brunswick. Jericho is a wholly-owned subsidiary of NextEra Energy
3 Canada, ULC (“**NextEra Energy Canada**”) which is in turn, an indirect wholly owned
4 subsidiary of NextEra Energy Resources LLC. Jericho was established for the purpose of
5 developing, constructing and operating the Jericho Project.

6 NextEra Energy Canada, which owns the Jericho Project, is a corporation established in 2006
7 under the laws of the Province of Alberta and has its executive offices in Toronto, Ontario.
8 NextEra Energy Canada is a leading renewable energy developer in Canada that owns and
9 operates the 124.4 MW Summerhaven Wind Energy Centre, the 22.9 MW Conestoga Wind
10 Energy Centre, the 40 MW Moore Solar Energy Centre and the 40 MW Sombra Solar Energy
11 Centre in Ontario; the 54 MW Mount Copper Wind Energy Centre and the 54 MW Mount Miller
12 Wind Energy Centre in the Province of Quebec; the 31 MW Pubnico Point Wind Energy Centre
13 in the Province of Nova Scotia; and the 82 MW Ghost Pine Wind Energy Centre in the Province
14 of Alberta. In addition, including the Jericho Project, NextEra Energy Canada is currently
15 developing six renewable energy generation facilities in Ontario pursuant to contracts under the
16 FIT Program.

17 A corporate organizational chart illustrating the structure of the Applicant and its affiliates is
18 provided in Figure 1, below.

Figure 1 - Corporate Organizational Chart



PROJECT LOCATION

1 As indicated in Exhibit B, Tab 1, Schedule 1, the Proposed Transmission Facilities are being
2 developed to serve the Jericho Project and to enable electricity from the Jericho Project to be
3 transmitted to the IESO-controlled grid. The discussion below is focused on the locations of the
4 Proposed Transmission Facilities. Also described, for purposes of providing context, are the
5 locations of certain facilities that are ancillary to the Proposed Transmission Facilities, including
6 (a) the Jericho Project, (b) certain transmission facilities that are the subject of the Co-owners'
7 LTC Application, and (c) certain transmission facilities that are to be constructed, owned and
8 operated by Hydro One.

9 1. **The Generation Project**

10 The approximately 149 MW Jericho Project will be located in the Municipality of Lambton
11 Shores and the Township of Warwick in Lambton County, which is generally situated in
12 southwestern Ontario between the City of London and the shore of Lake Huron, as shown in
13 Figure 1 of Exhibit B, Tab 2, Schedule 4. The Jericho Project will include 92 wind turbine
14 generators installed on privately-owned agricultural lots throughout the project site, as well as a
15 34.5 kV collection system connecting the wind turbine generators to a collection substation (the
16 "**Jericho Collection Substation**"), described below.

17 2. **The Proposed Transmission Facilities**

18 The main components of the Proposed Transmission Facilities are the Jericho Collection
19 Substation and the Transmission Line. The locations of these components are described below.

20 (a) **Jericho Collection Substation**

21 The Jericho Collection Substation will be located on Lot 16, Concession 7 in the Municipality of
22 Lambton Shores, Lambton County, of which is on the south side of Thomson Line between
23 Jericho Road and Northville Road, as shown in Figures 1 and 2(a) of Exhibit B, Tab 2, Schedule
24 4. The Jericho Collection Substation will have an area of approximately 2.38 acres. At the
25 Jericho Collection Substation, electricity conveyed from the Jericho Project along the collection

1 system will be transformed from 34.5 kV to 121 kV by means of a 121/34.5 kV, 102/136/170
2 MVA transformer.

3 (b) The Transmission Line

4 From the Jericho Collection Substation, an approximately 15.7 km single circuit 115 kV class
5 transmission line will run east along Thomson Line and Elginfield Road until it connects into the
6 Bornish Customer Switching Station, which is described below (the “**Transmission Line**”). The
7 Applicant plans to locate certain sections of the Transmission Line within municipal road rights-
8 of-way, with the remaining sections of the Transmission Line located on easements acquired
9 from private land owners as depicted in Figure 2 of Exhibit B, Tab 2, Schedule 4. A detailed
10 discussion of the proposed Transmission Line route, including with respect to how it was
11 determined by the Applicant and the specific placement of poles and structures, is provided in
12 Exhibit B, Tab 4, Schedule 1. The Transmission Line will be owned by the Applicant.

13 3. **The Co-owners’ Transmission Facilities**

14 The Transmission Line will connect to a 121 kV switching station that will be located on Part
15 Lot 9, Concession 16 in the Municipality of North Middlesex, Middlesex County, on the west
16 side of Kerwood Road between Elginfield Road and Cold Stream Road (the “**Bornish Customer**
17 **Switching Station**” or “**Bornish CSS**”), as shown in Figure 1 of Exhibit B, Tab 2, Schedule 4.
18 At the Bornish CSS, which will consist of a four breaker ring bus, the electricity conveyed along
19 the Proposed Transmission Facilities from the Jericho Project will converge with the electricity
20 conveyed from each of the Bornish Wind Energy Centre and the Adelaide Wind Energy Centre.
21 Accordingly, the Bornish CSS will be jointly owned by Jericho Wind, Inc., Bornish Wind, LP
22 and Adelaide Wind, Inc. (together, the “**Co-owners**”) as tenants in common and is the subject of
23 a separate application for leave to construct filed by the Co-owners in EB-2013-0040 (the “**Co-**
24 **owners’ LTC Application**”).

25 In addition to the Bornish CSS, the Co-owners’ LTC Application seeks leave to construct an
26 approximately 12.6 km, 115 kV class single circuit transmission line running from the Bornish
27 CSS to the north along Kerwood Road and then to the east, generally along Elginfield

1 Road/Nairn Road (the “**Shared Transmission Line**”) until it connects to a planned 500 kV
2 transformer station that will be located on Part Lot 18, Concession 17, in the Municipality of
3 North Middlesex (the “**Parkhill Customer Transformer Station**” or “**Parkhill CTS**”). Parkhill
4 CTS is also the subject of the Co-Owners’ LTC Application. At the Parkhill CTS, power
5 transmitted from the Bornish CSS along the Shared Transmission Line will be transformed by
6 means of two 525/121 kV 135/180/225 MVA transformers. As with the Bornish CSS and the
7 Shared Transmission Line, the Parkhill CTS will be jointly owned by the Co-owners as tenants
8 in common.

9 **4. Hydro One’s Transmission Facilities**

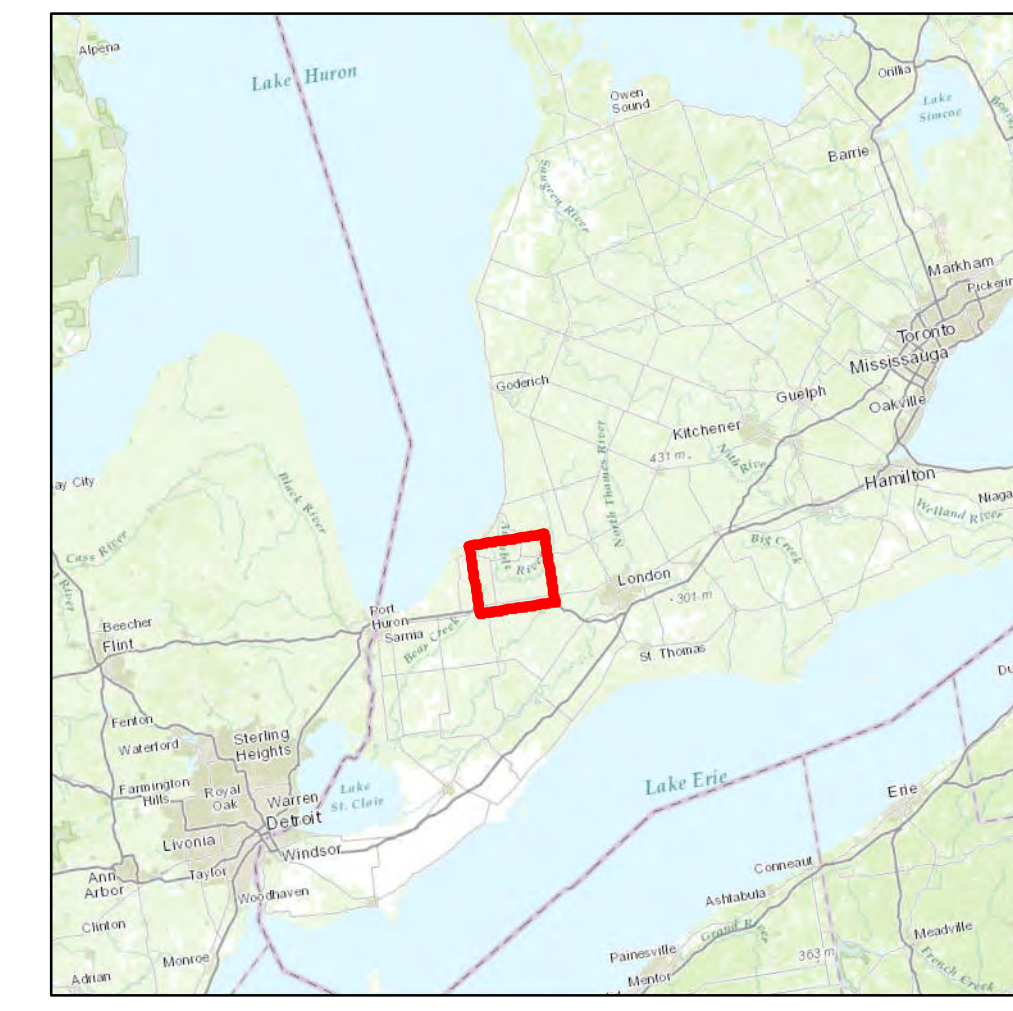
10 The Co-owners’ Parkhill CTS will be connected to a new 500 kV switching station that will be
11 constructed, owned and operated by Hydro One on Part Lot 18, Concession 17 in the
12 Municipality of North Middlesex (the “**Evergreen Switching Station**” or “**Evergreen SS**”), as
13 shown in Figure 1 of Exhibit B, Tab 2, Schedule 4. The Evergreen SS will include a 500 kV 3-
14 breaker ring bus that will split Hydro One’s existing 500 kV class circuit B562L from Bruce A
15 TS to Longwood TS into two sections: Bruce A TS x Evergreen SS and Evergreen SS x
16 Longwood TS. This sectionalizing will occur approximately 36.5 km from Longwood TS. The
17 Evergreen SS will be located adjacent to the proposed Parkhill CTS and to Hydro One’s existing
18 transmission ROW for circuit B562L. The Evergreen SS is ancillary to and does not form part of
19 either the Proposed Transmission Facilities or the facilities that are the subject of the Co-owners’
20 LTC Application.

MAPS

The following maps are provided in this schedule:











Figure 1	General Project Location Map
Figure 2(a)-(m)	Proposed Transmission Facilities Maps
Figure 3(a)-(n)	Transmission Plans and Profiles
Figure 4(a)-(h)	Transmission Pole Clear Zone Mitigation Maps

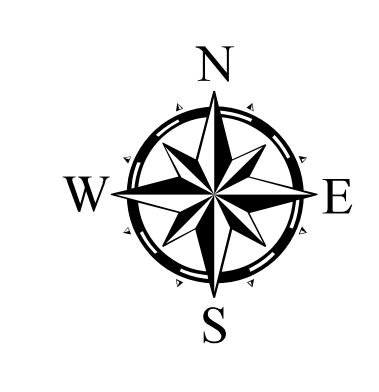
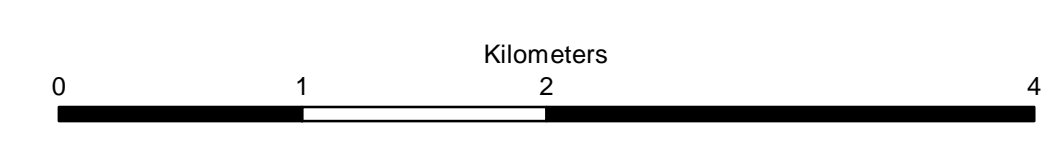
Figure 1 - General Project Location Map



Project Location Map

Lambton & Middlesex Counties,
 Ontario, Canada

-  Proposed Transmission Line
-  Shared Transmission Line
-  Adelaide Transmission Line
-  HONI Transmission
-  Adelaide Collector Substation
-  Bornish Collector Sub
-  Bornish Customer Switching Station
-  Jericho Collector Substation
-  Parkhill Customer Transformer Station
-  Evergreen Switching Station (HONI)



Date: 9/4/2013
PROPRIETARY AND CONFIDENTIAL

Projection: NAD_1983_UTM_Zone_17N
 Datum: NAD 83

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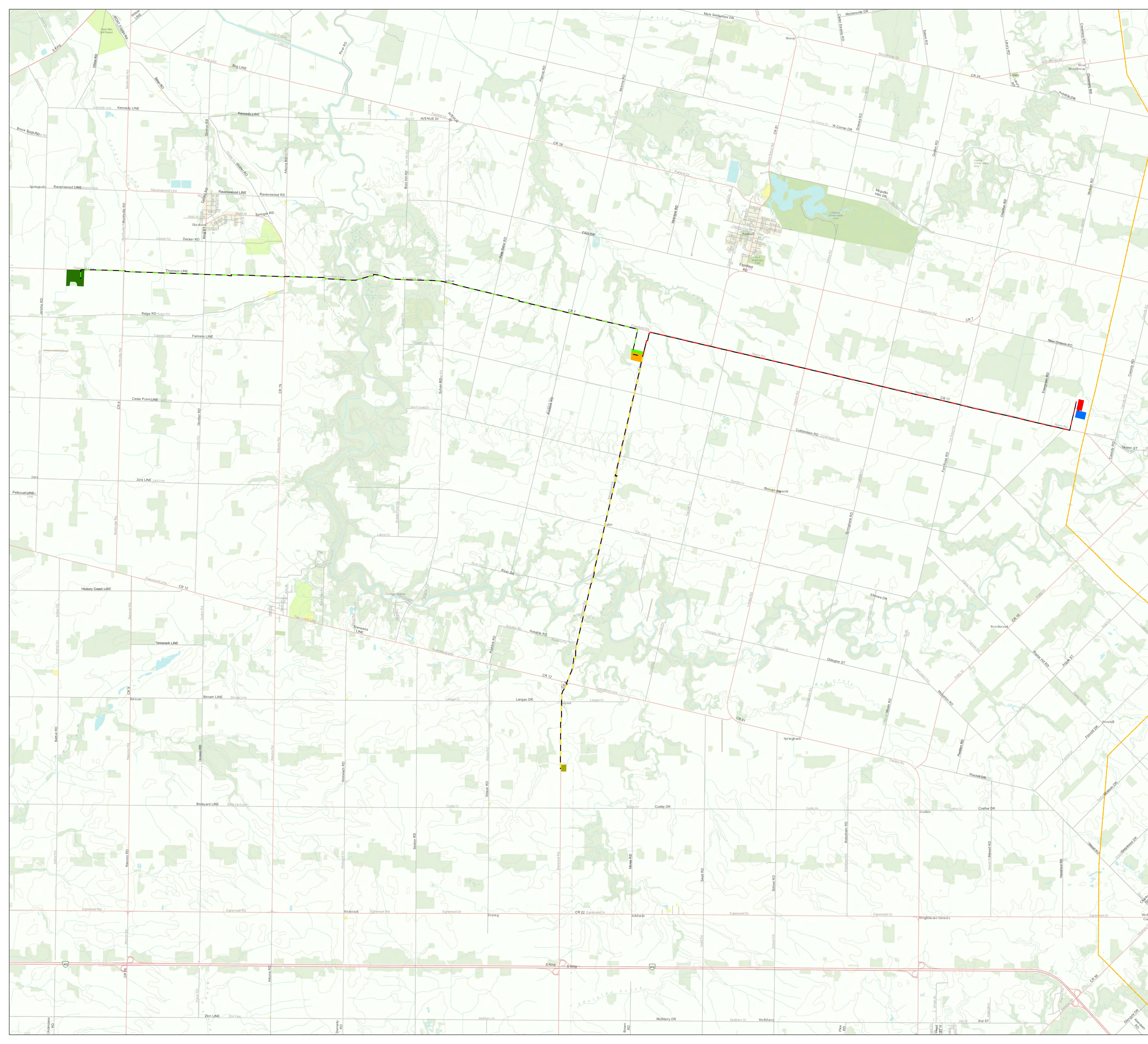
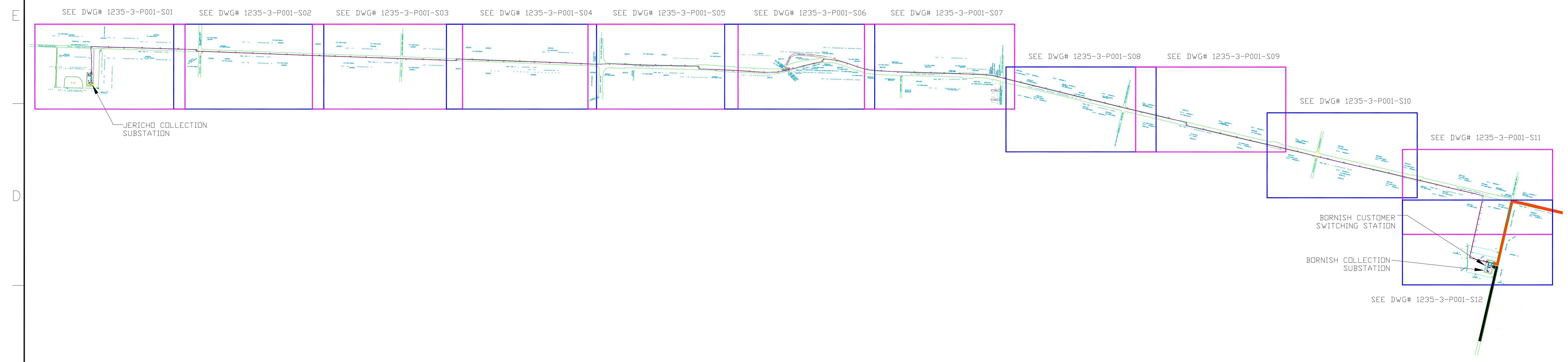
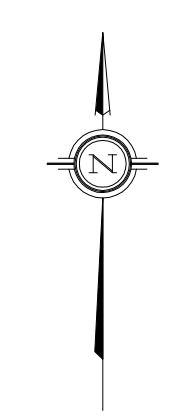
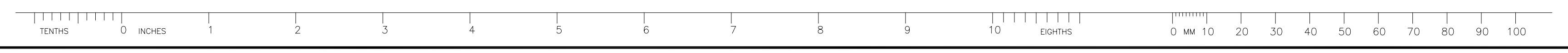


Figure 2 - Proposed Transmission Facilities

Map (a)



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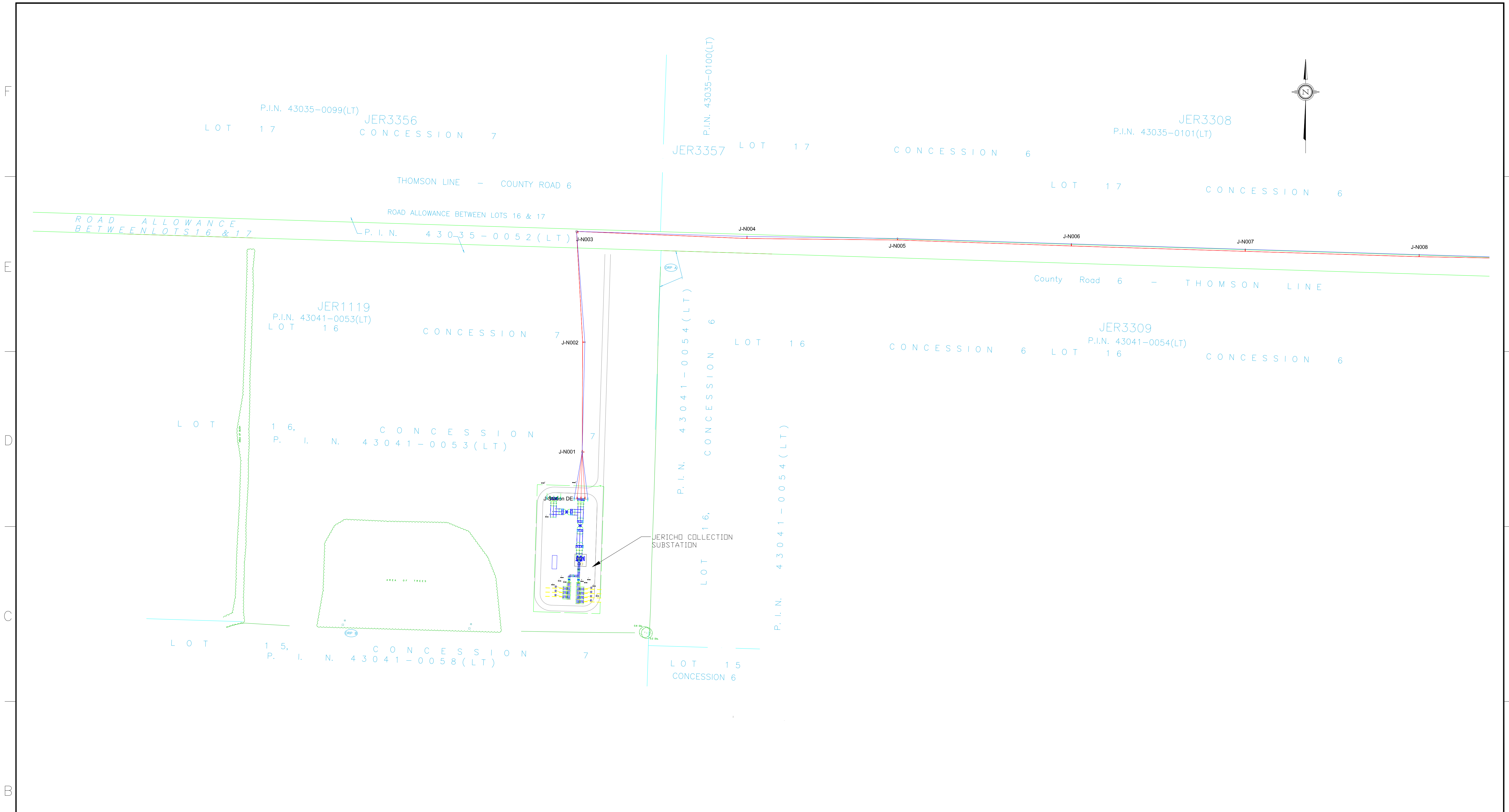
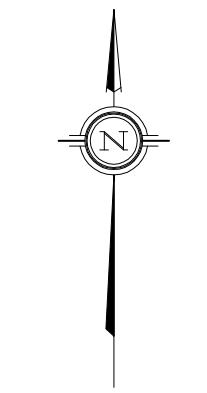
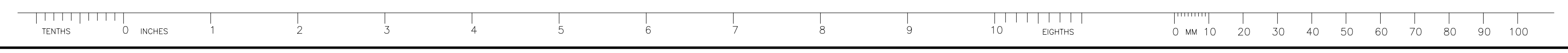
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		DRN	M.HUANG	21/01/13					
		CHK							
SCALE	PACKAGE CODE	APP							
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Figure 2 - Proposed Transmission Facilities

Map (b)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115KV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

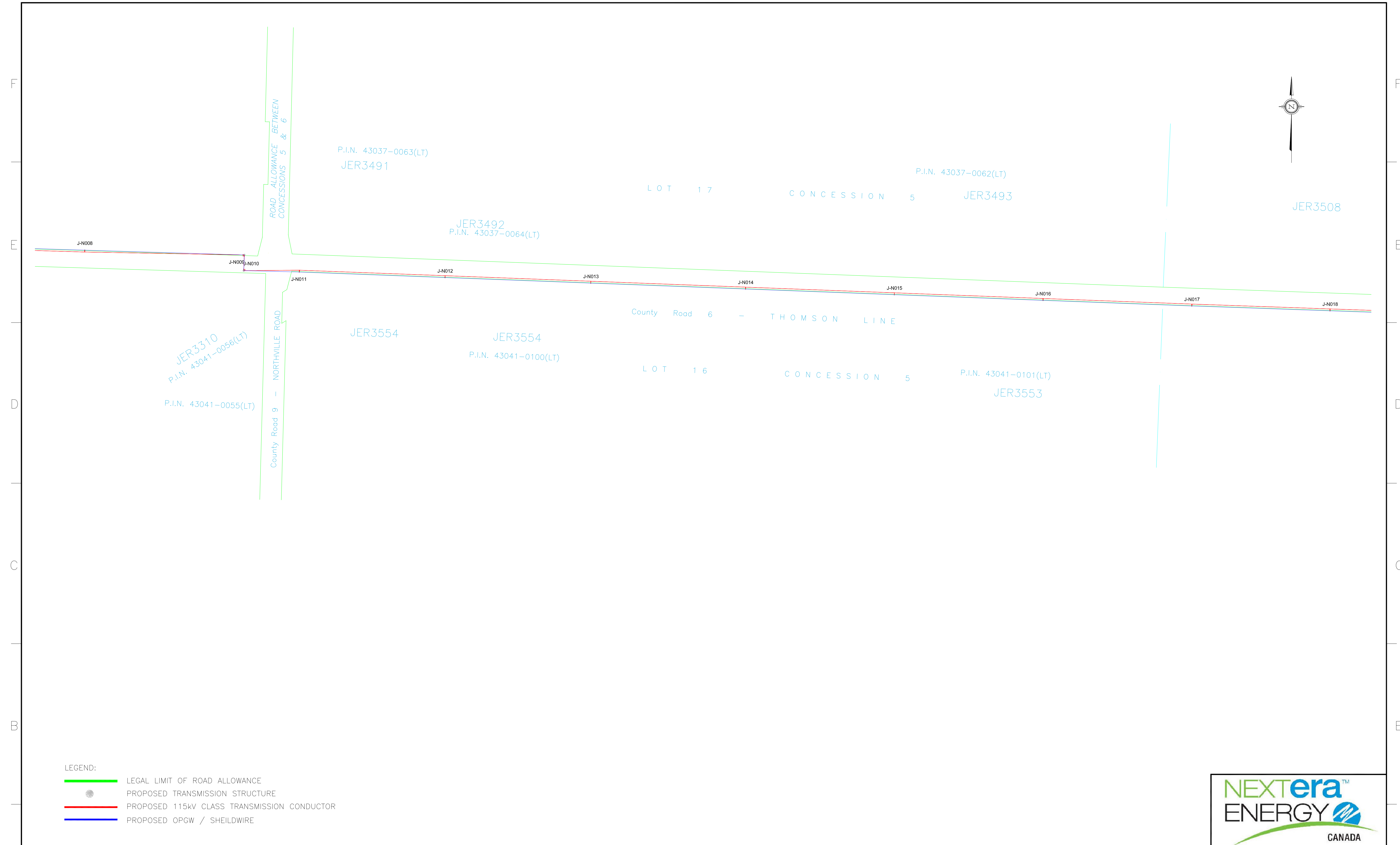
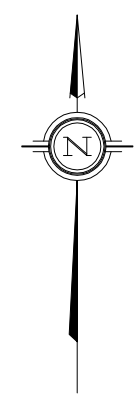
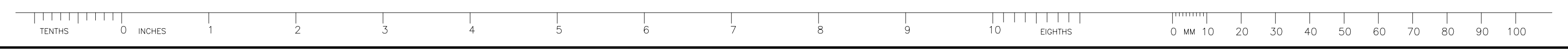


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Figure 2 - Proposed Transmission Facilities

Map (c)



- LEGEND:
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 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

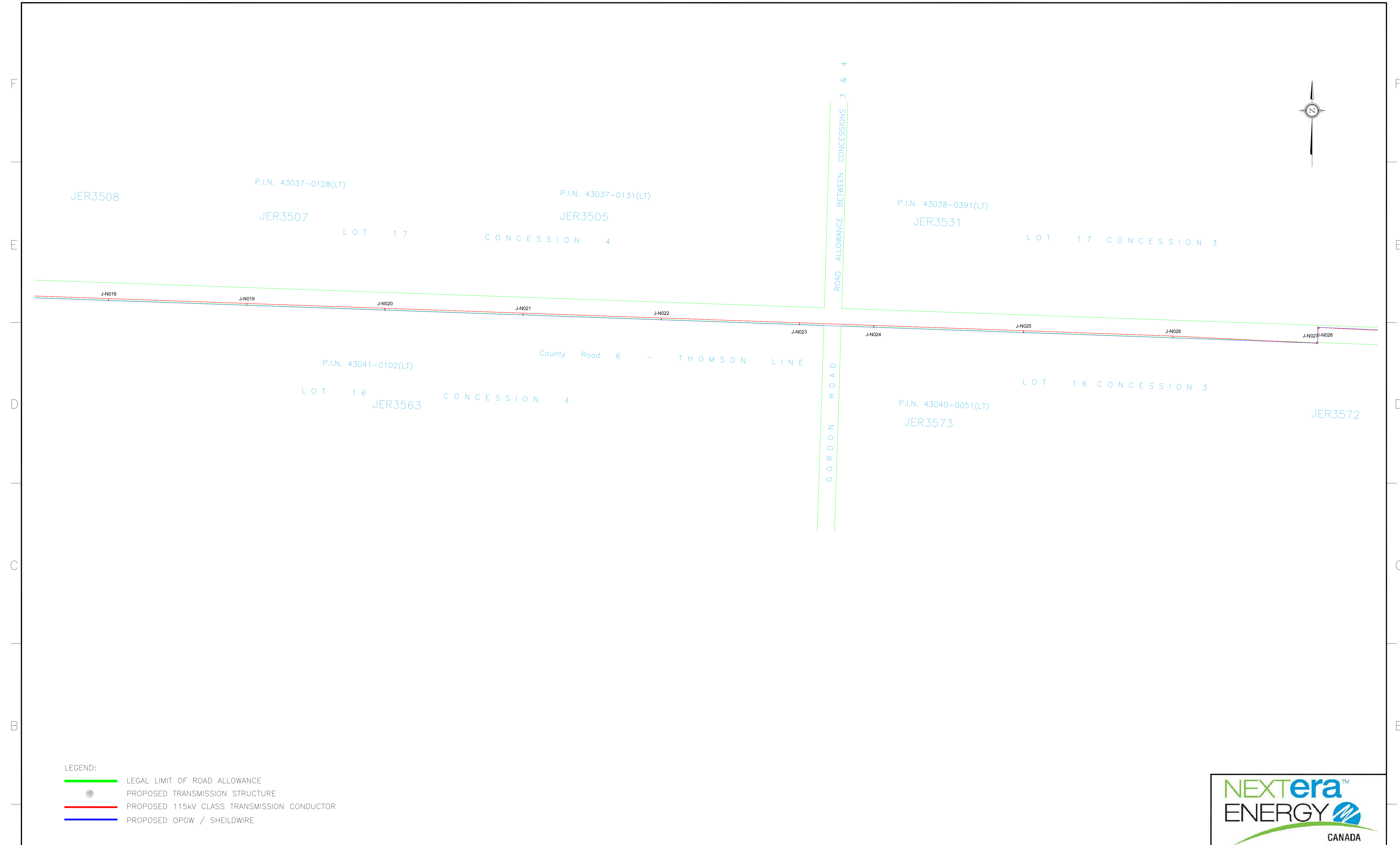
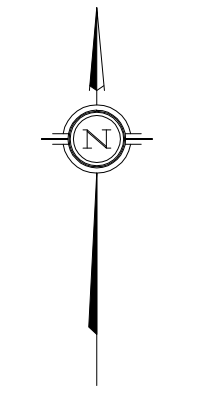
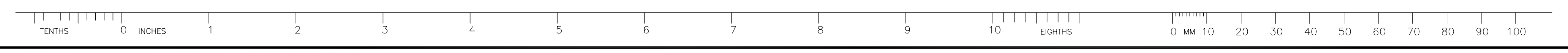


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Figure 2 - Proposed Transmission Facilities

Map (d)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

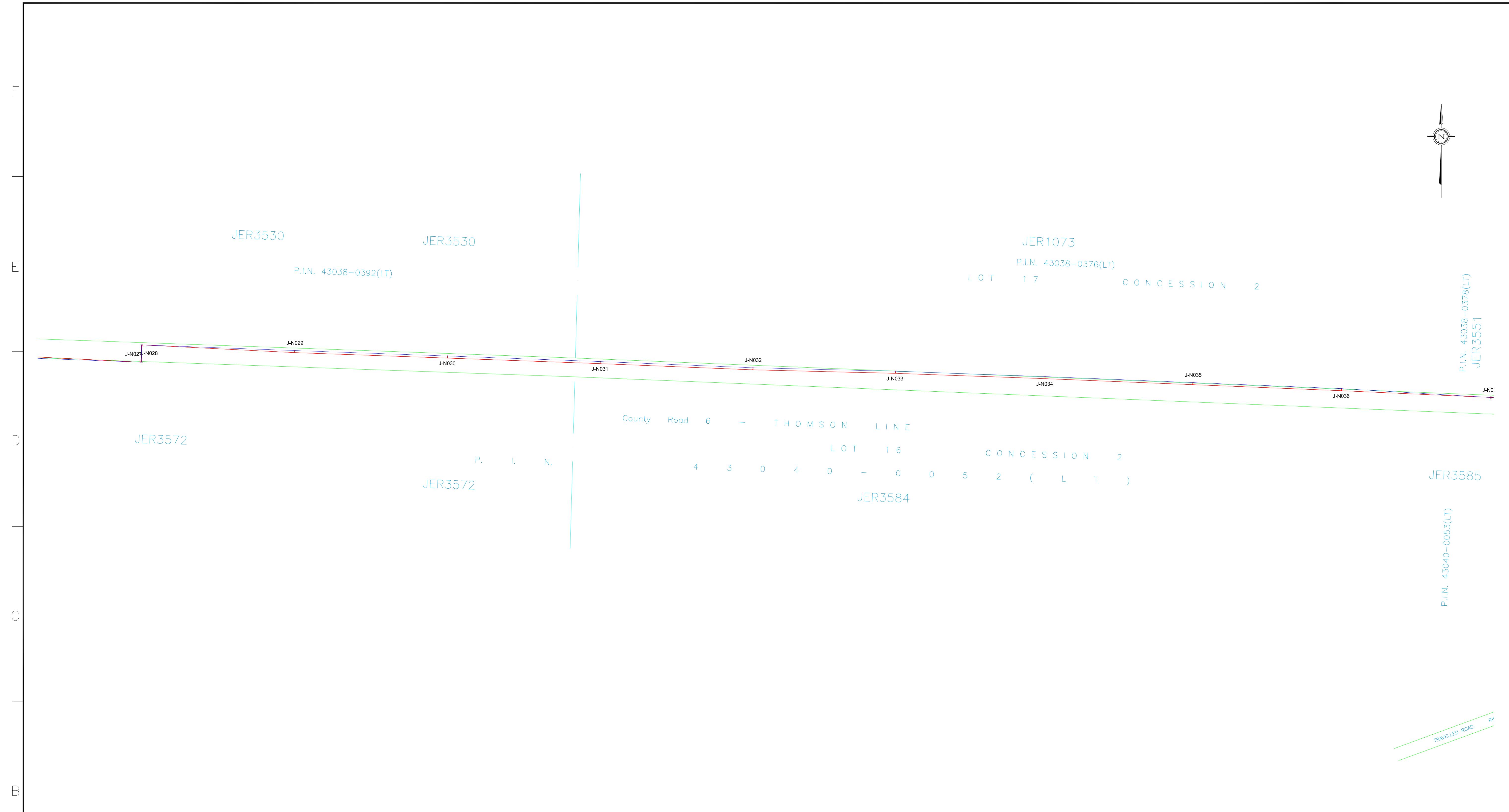
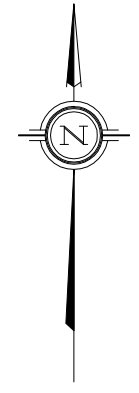
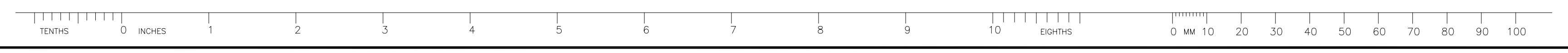


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Figure 2 - Proposed Transmission Facilities

Map (e)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

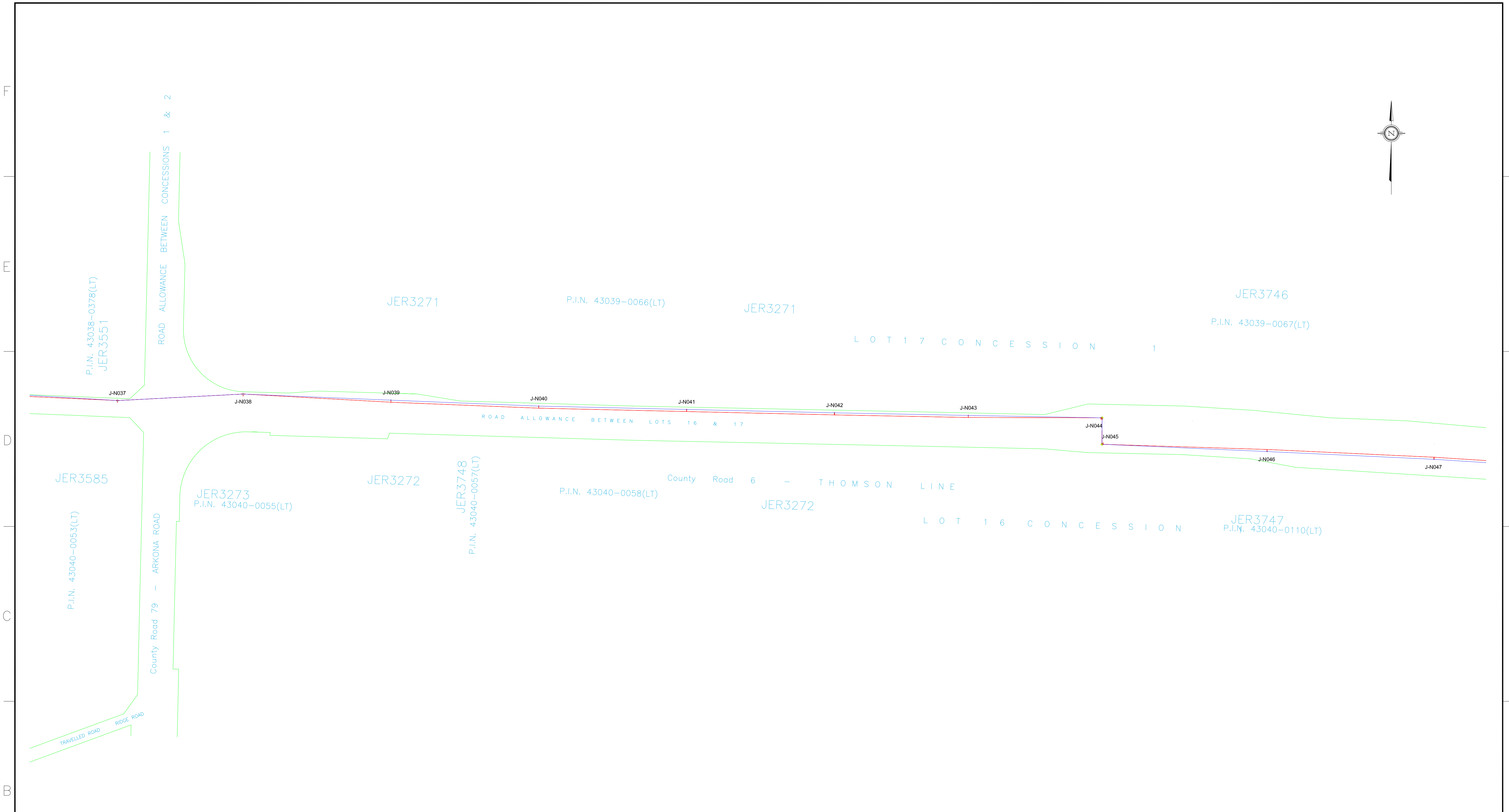
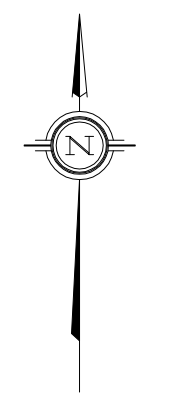
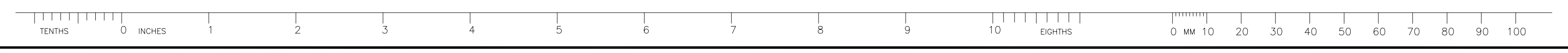


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Figure 2 - Proposed Transmission Facilities

Map (f)



- LEGEND:**
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

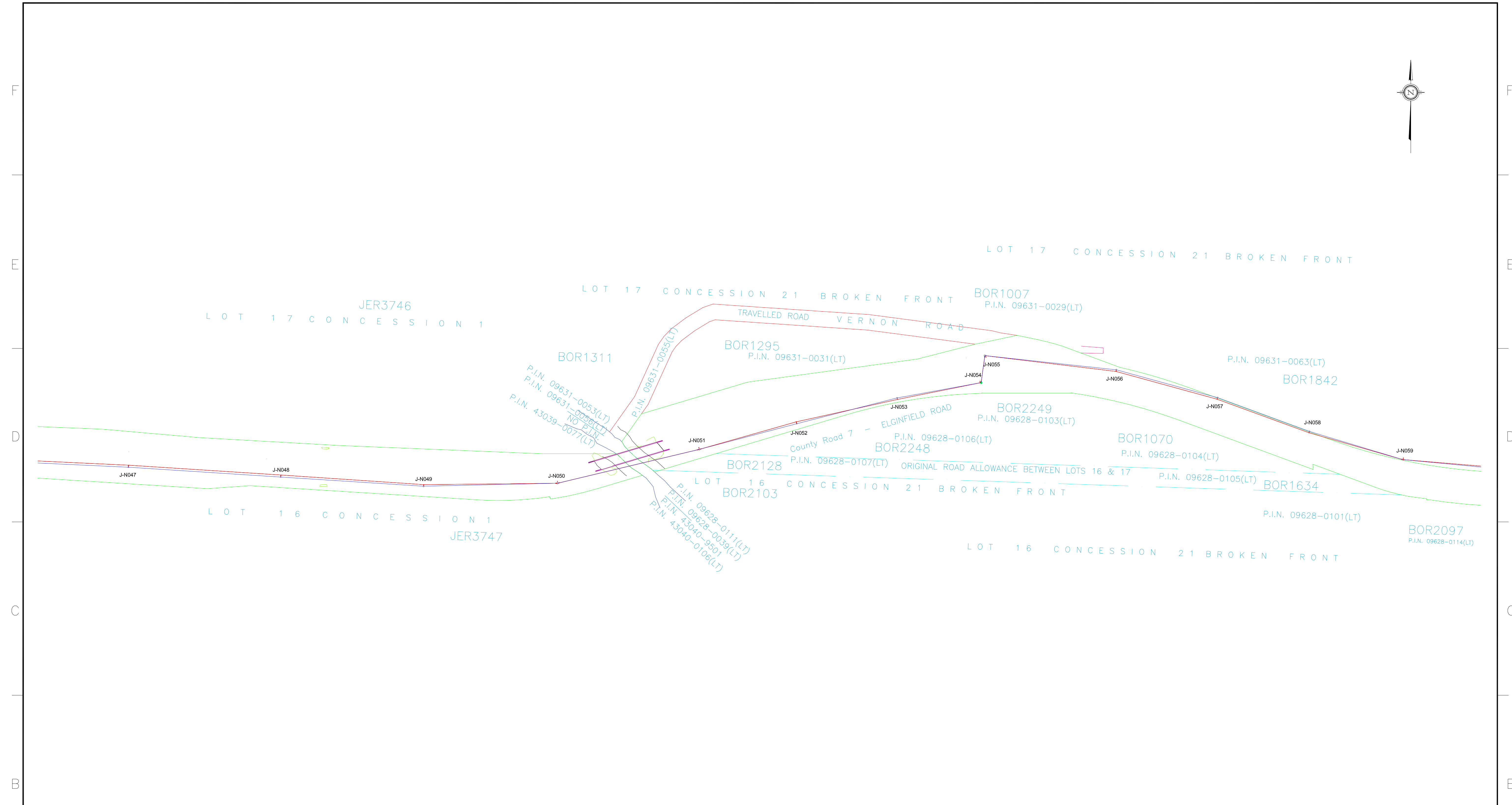
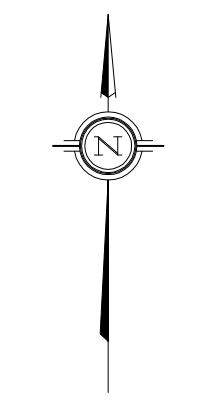
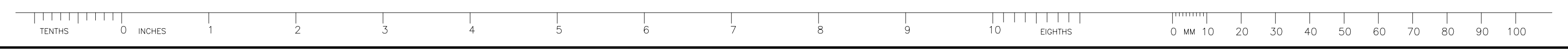


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REVISION		ISSUED FOR		REFERENCES	

Figure 2 - Proposed Transmission Facilities

Map (g)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

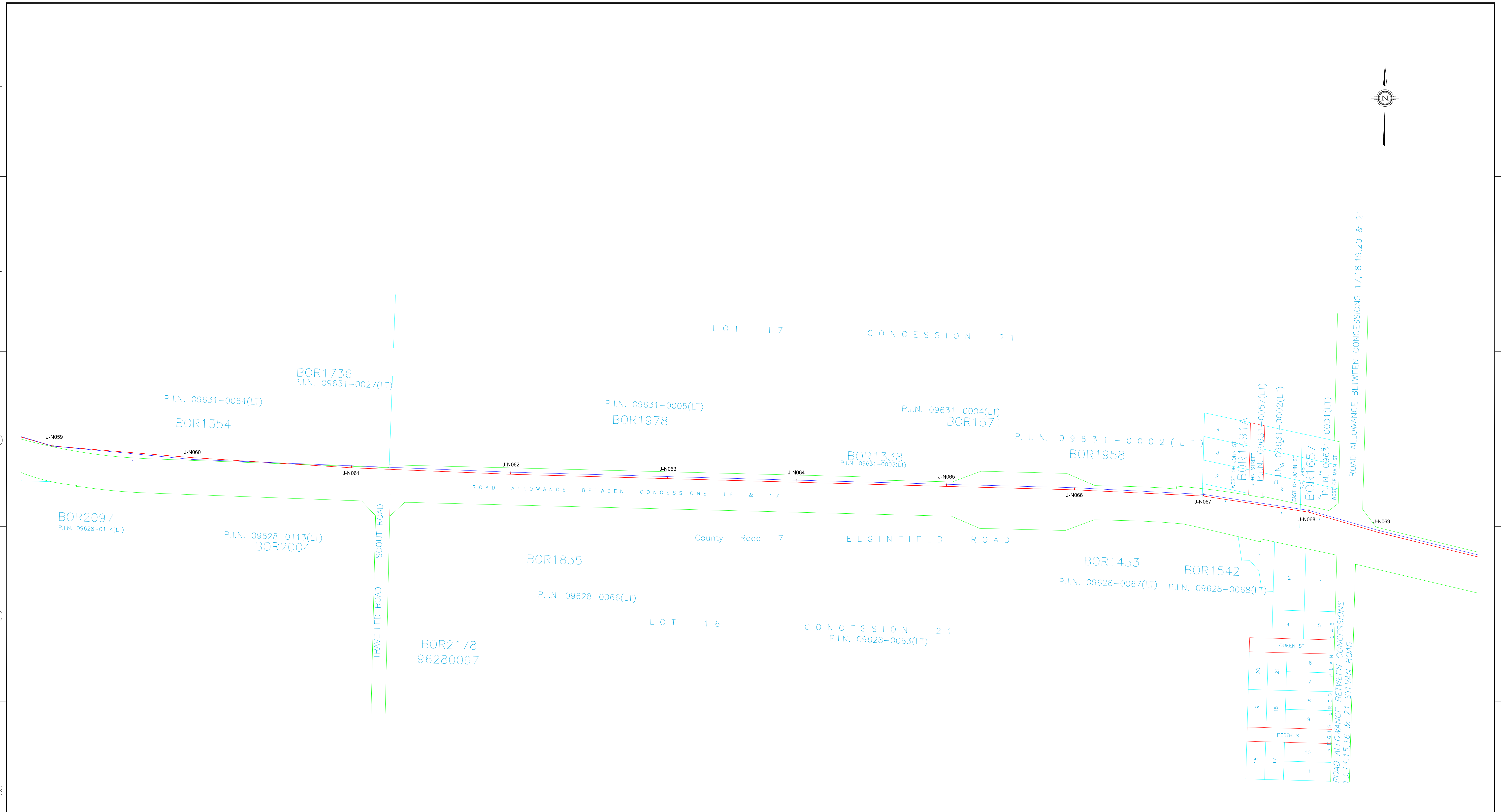
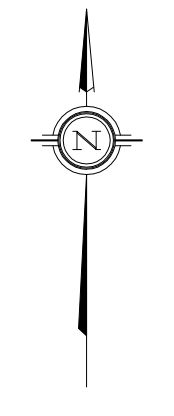
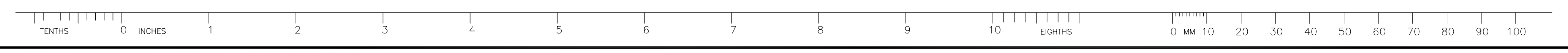


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Figure 2 - Proposed Transmission Facilities

Map (h)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

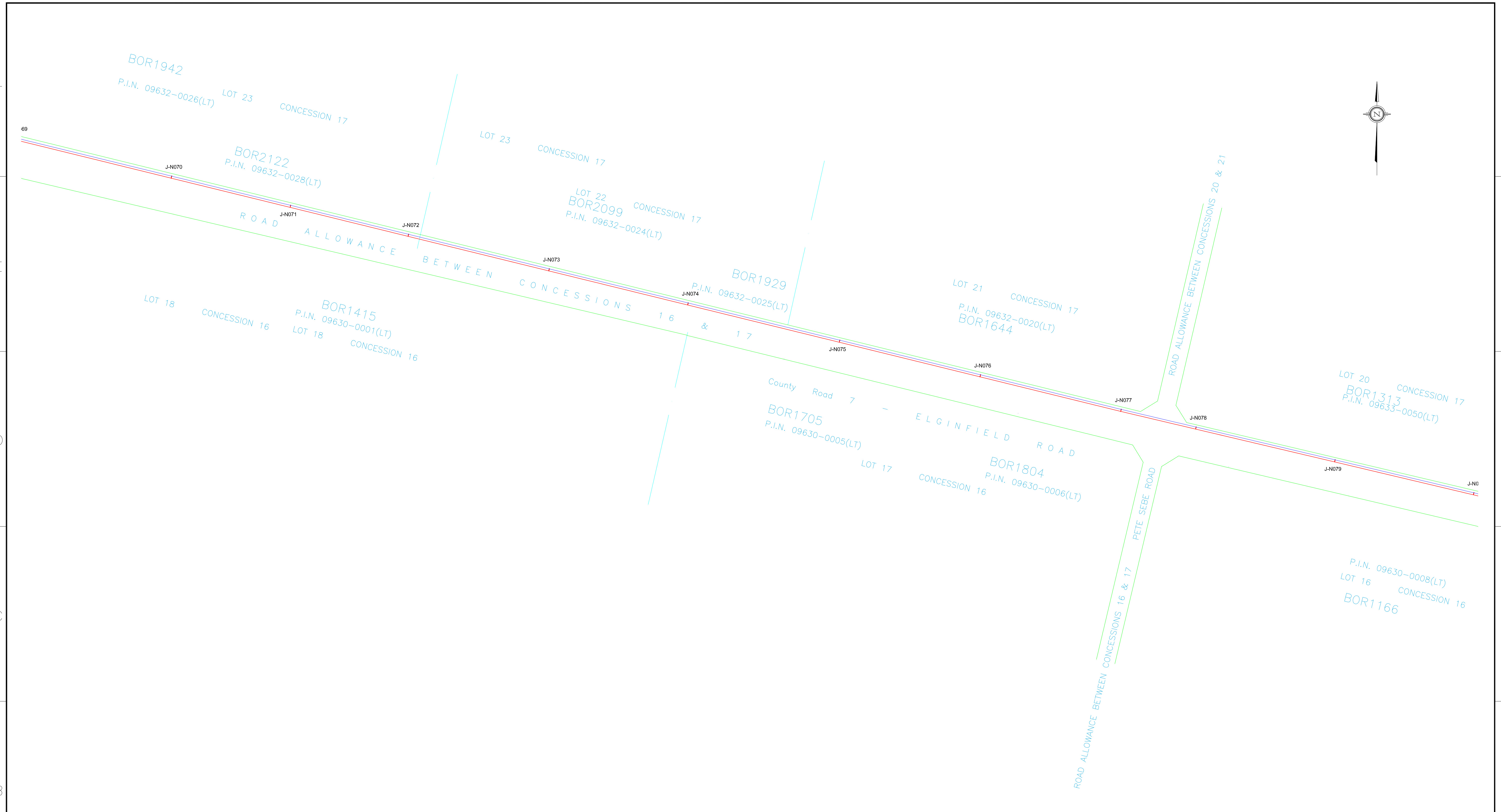
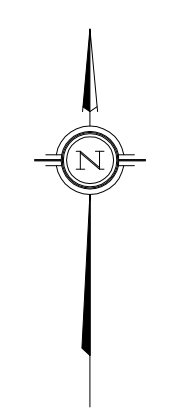
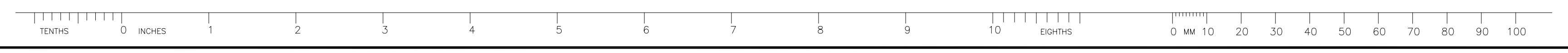


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Figure 2 - Proposed Transmission Facilities

Map (i)



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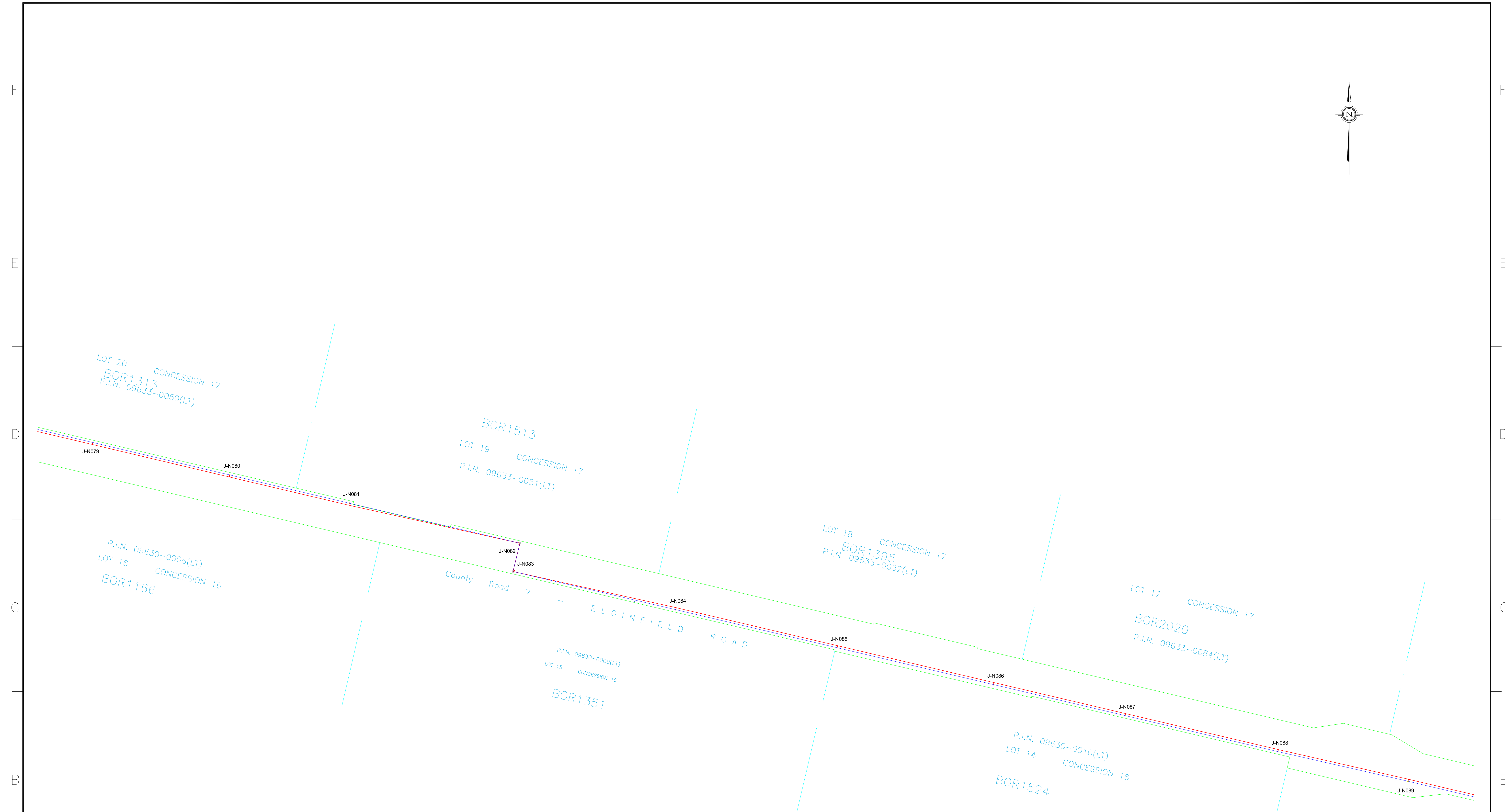
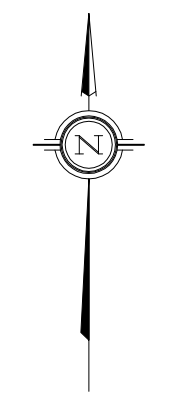
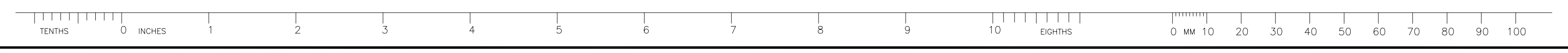
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Figure 2 - Proposed Transmission Facilities

Map (j)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE



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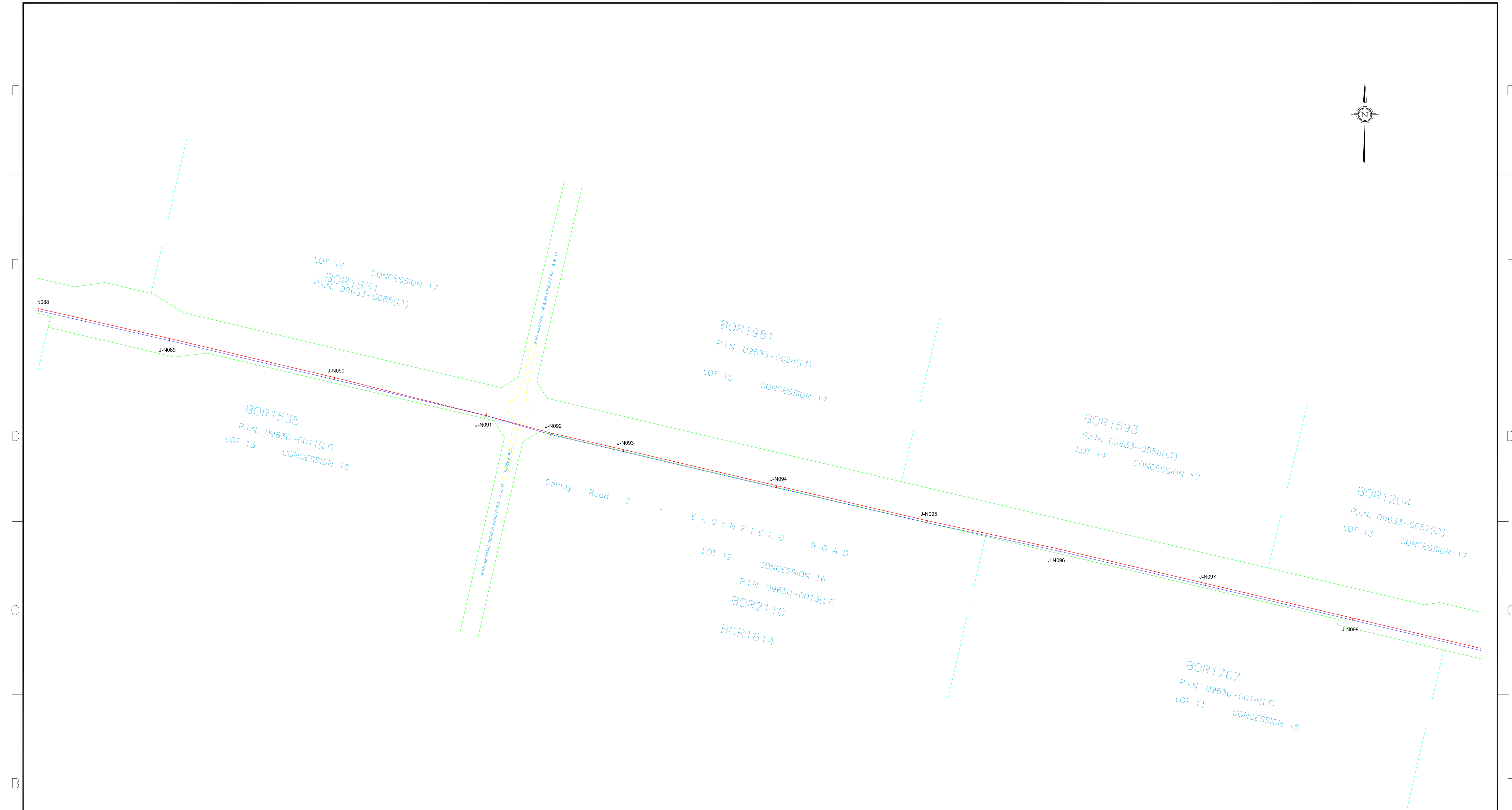
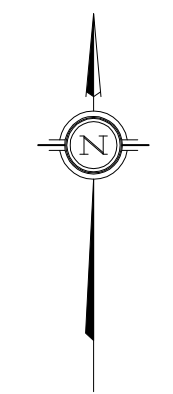
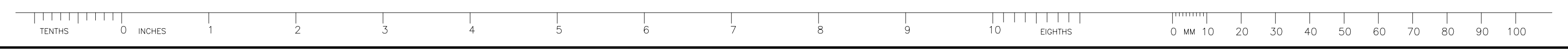
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Figure 2 - Proposed Transmission Facilities

Map (k)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE

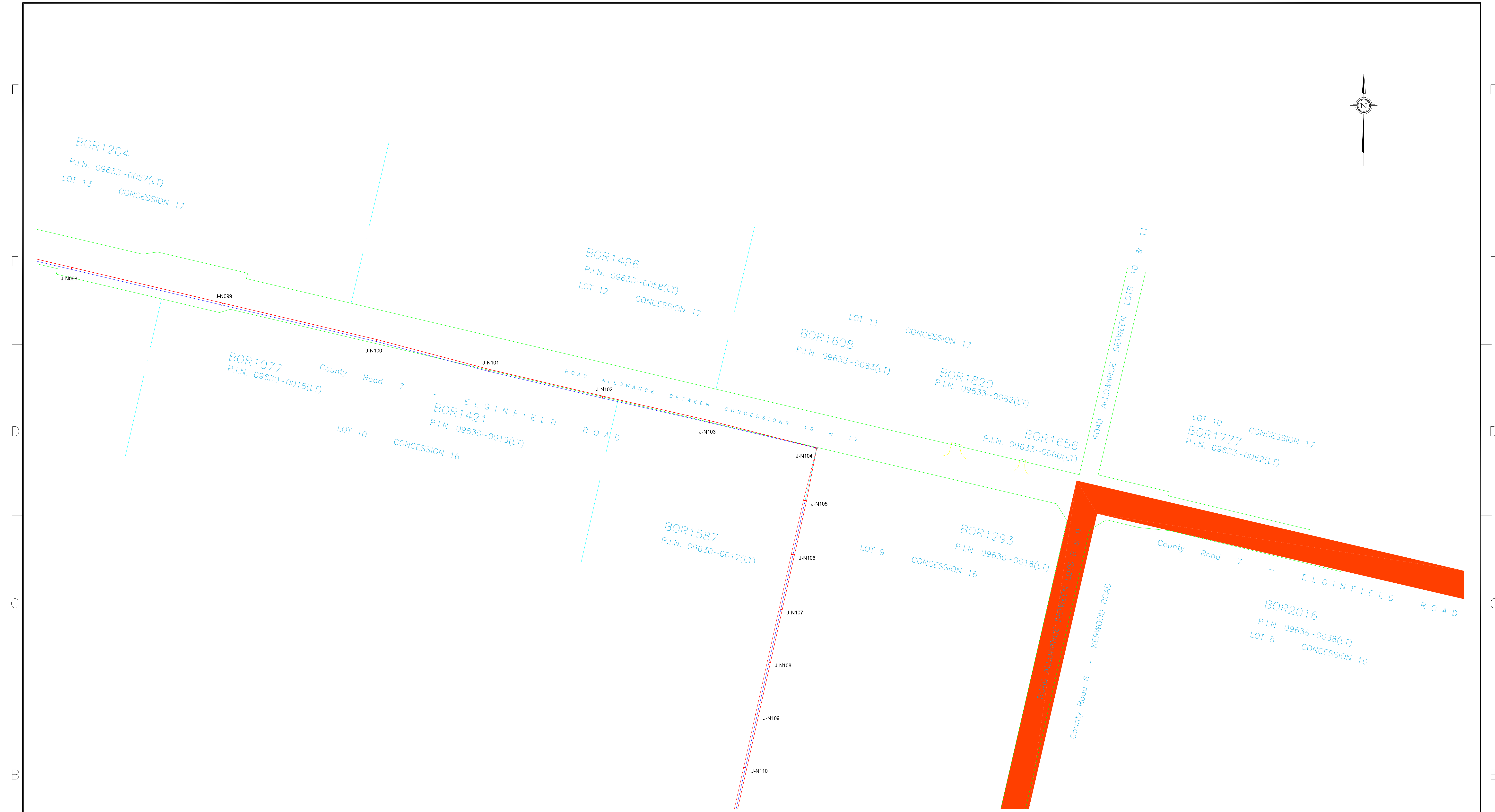
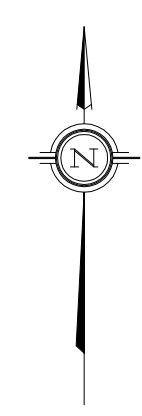
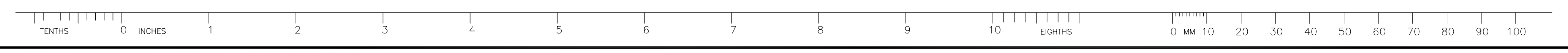


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PROJECT NO.		ACTIVITY NO.		BY		DDMMYY		1CCT 115kV TRANSMISSION LINE OVERALL SITE PLAN DRAWINGS SHEET 10								
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Figure 2 - Proposed Transmission Facilities

Map (1)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE
 - 115kV TL ROUTE (ADELAIDE TO BORNISH)
 - 115kV TL ROUTE (BORNISH TO PARKHILL)



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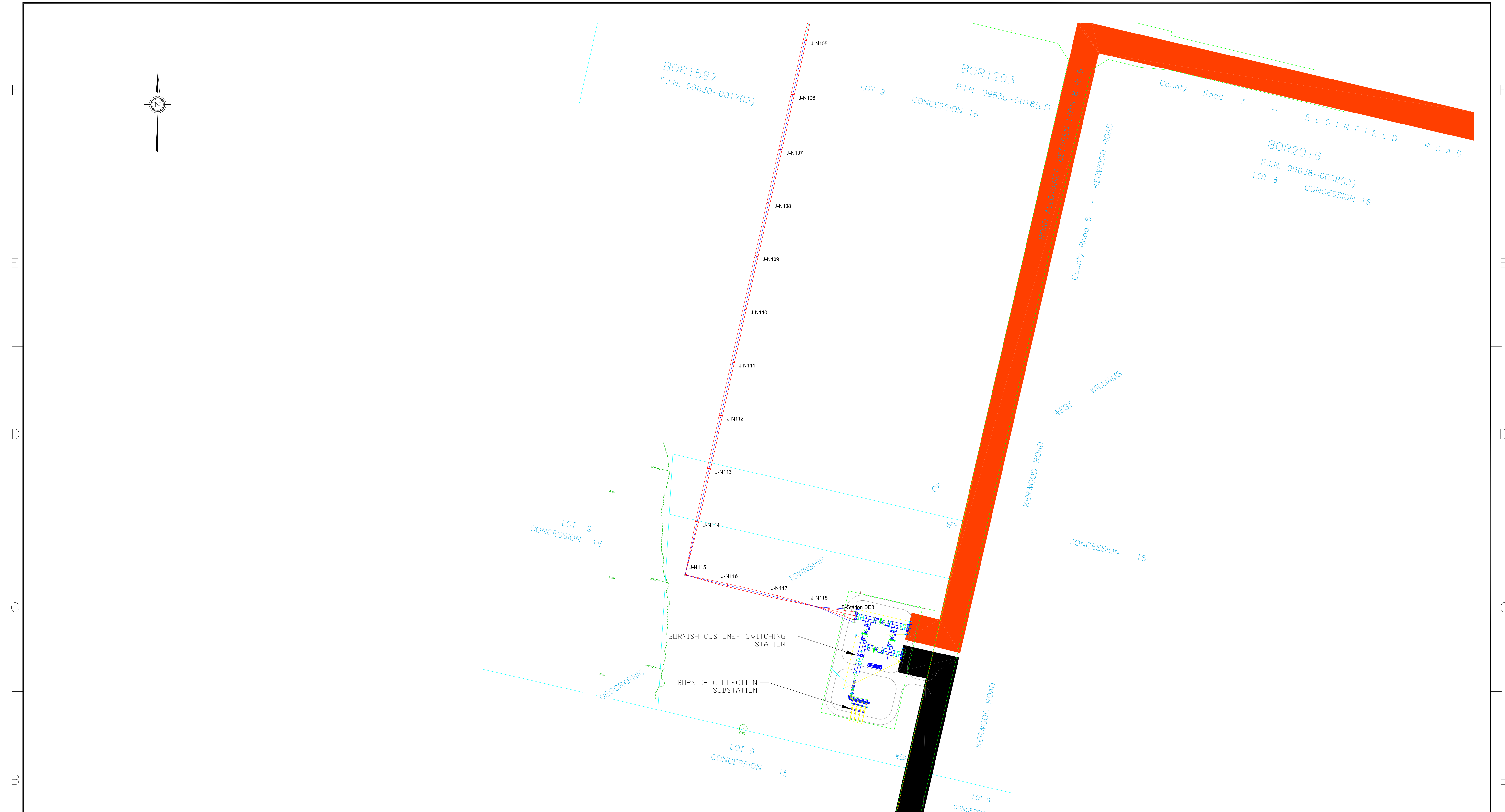
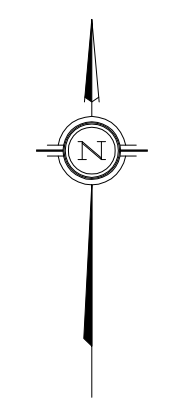
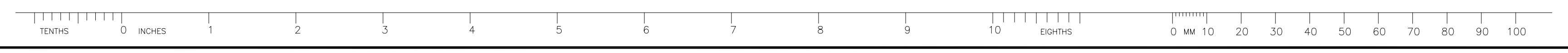
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DRN		M.HUANG		17/07/13				1CCT 115kV TRANSMISSION LINE OVERALL SITE PLAN DRAWINGS SHEET 11		DRAWING NO.		REV.							
CHK										1235-3-P001-S11		H							
APP										CAD FILE: 1235-3-P001-H									

H		30/09/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION		M.H		EK				H		30/09/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION		REF		NUMBER		TILE	
REV		DDMMYY		REVISION		DR		CHK		APP		APP		ISS		DDMMYY		APP		ISSUED FOR		REFERENCES	

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Figure 2 - Proposed Transmission Facilities

Map (m)



- LEGEND:
- LEGAL LIMIT OF ROAD ALLOWANCE
 - PROPOSED TRANSMISSION STRUCTURE
 - PROPOSED 115kV CLASS TRANSMISSION CONDUCTOR
 - PROPOSED OPGW / SHEILDWIRE
 - 115kV TL ROUTE (ADELAIDE TO BORNISH)
 - 115kV TL ROUTE (BORNISH TO PARKHILL)

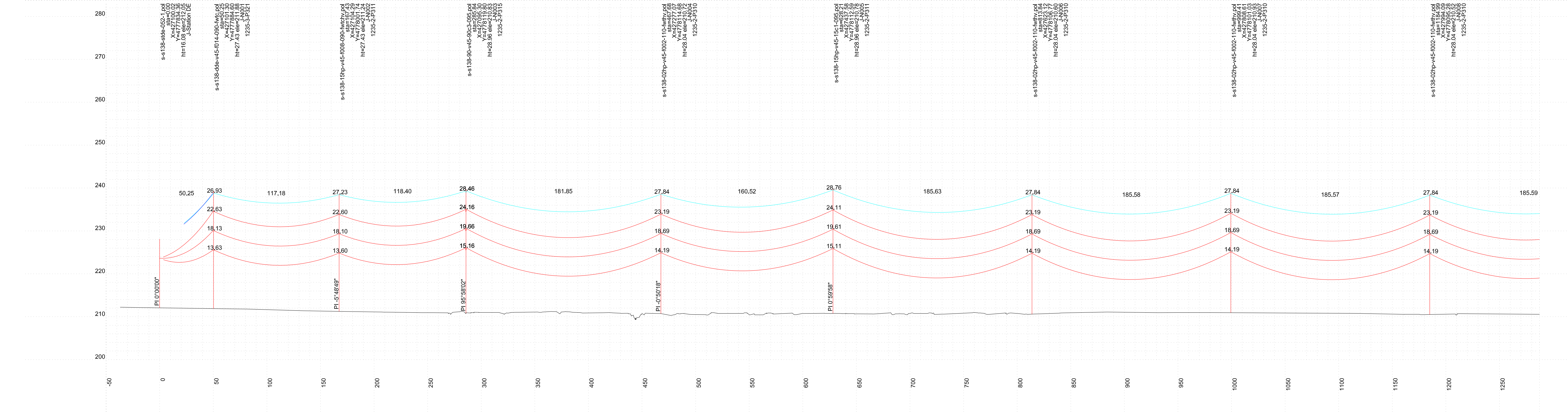
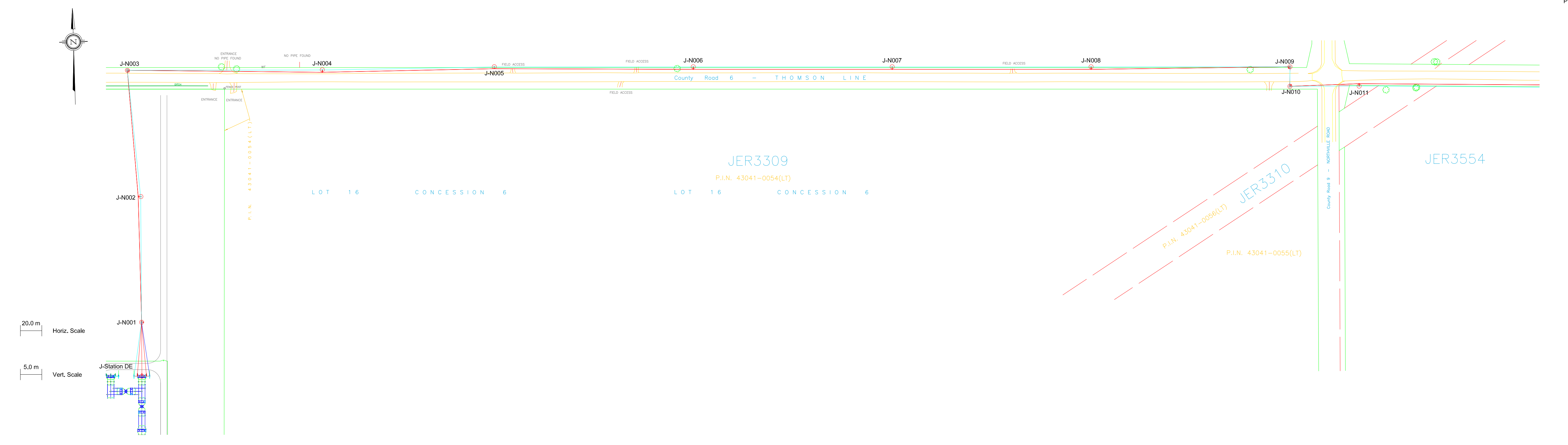
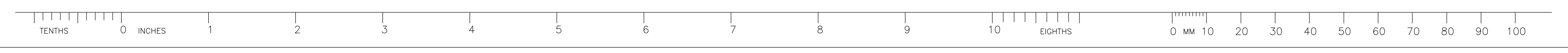


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										STAMP/SEAL		CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.		AREA		JERICO WIND PROJECT		SUBJECT		CLIENT DWG. NO.			
										PROPRIETARY INFORMATION: THIS DRAWING IS THE PROPERTY OF AMEC AMERICAS, INC. AND IS NOT TO BE LOANED OR REPRODUCED IN ANY WAY WITHOUT THE PERMISSION OF AMEC AMERICAS, INC.		PROJECT NO. ACTIVITY NO.		BY DDMYY		17/07/13		1CCT 115kV TRANSMISSION LINE OVERALL SITE PLAN DRAWINGS SHEET 12		DRAWING NO.		REV.	
										SCALE		PACKAGE CODE		CHK		1235-1-P001-S12				H			
										N.T.S.				APP									

Figure 3 - Transmission Plan and Profile

Plan (a)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

- s-s138-02hp-v45-110-d10.pol PLS-POLE FILE IDENTIFICATION
- sta STATION CHAINAGE
- X UTM EASTING
- Y UTM NORTHING
- ht STRUCTURE HEIGHT ABOVE GROUND (M)
- ele GROUND ELEVATION (M)
- J-N002 STRUCTURE NO.
- 1235-2-P310 FRAMING DRAWING NO.

NOTES:

1. CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
2. OPGW & SHIELD WIRE SAG AT 40°C.
3. ALL DIMENSIONS ARE IN METERS U.N.O.



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K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION		M.H.	E.K.					K	07/10/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

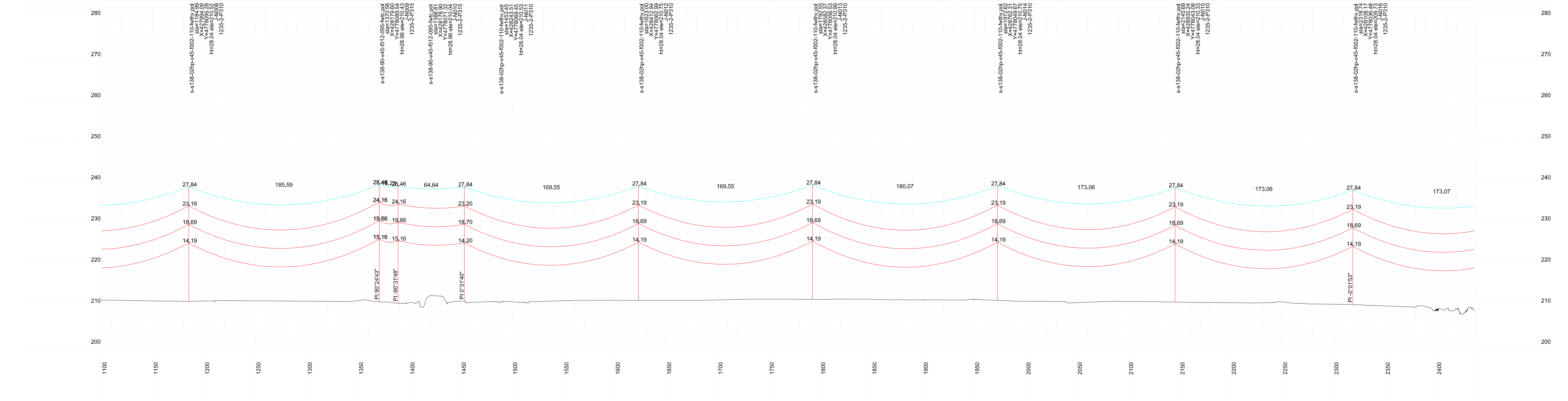
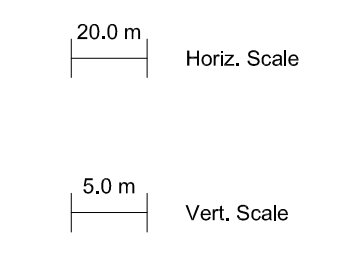
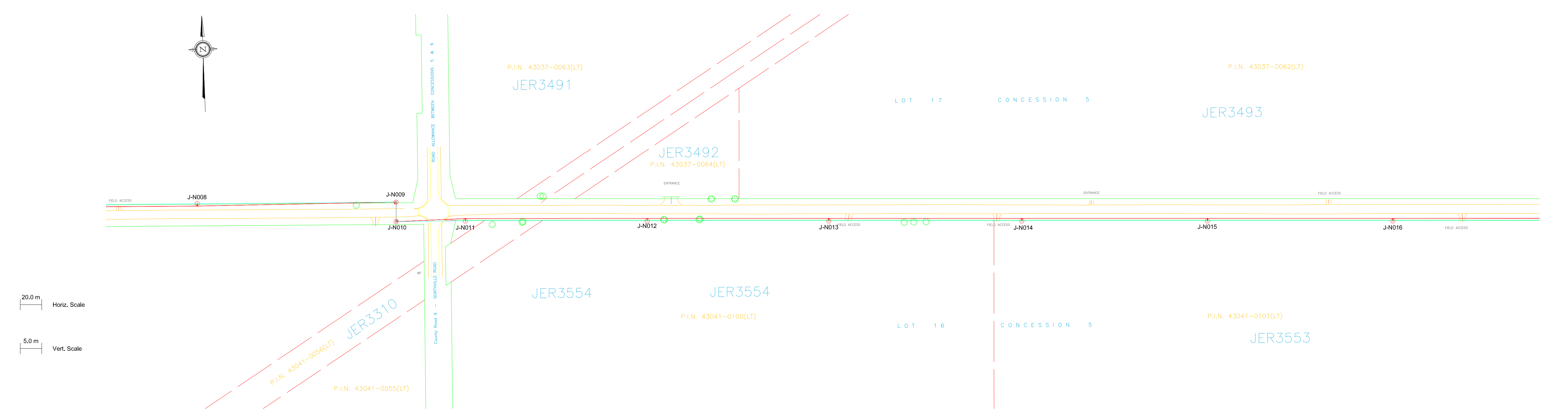
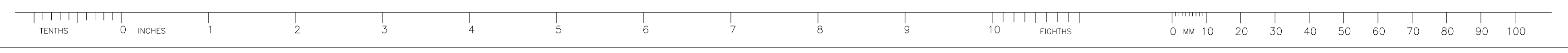
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PROJECT NO.		ACTIVITY NO.		BY		DDMMYY	
SCALE		PACKAGE CODE		DRN		M.HUANG	
N.T.S.				CHK		21/08/12	
				APP			
SUBJECT				JERICO WIND PROJECT 1CCT 115kV TRANSMISSION LINE			
STAMP/SEAL				STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 1 OF 14			

CLIENT DWG. NO.	
DRAWING NO.	REV.
1235-3-P012-S1	K

Figure 3 - Transmission Plan and Profile

Plan (b)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110d10.pod	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.



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7						
6						
5						

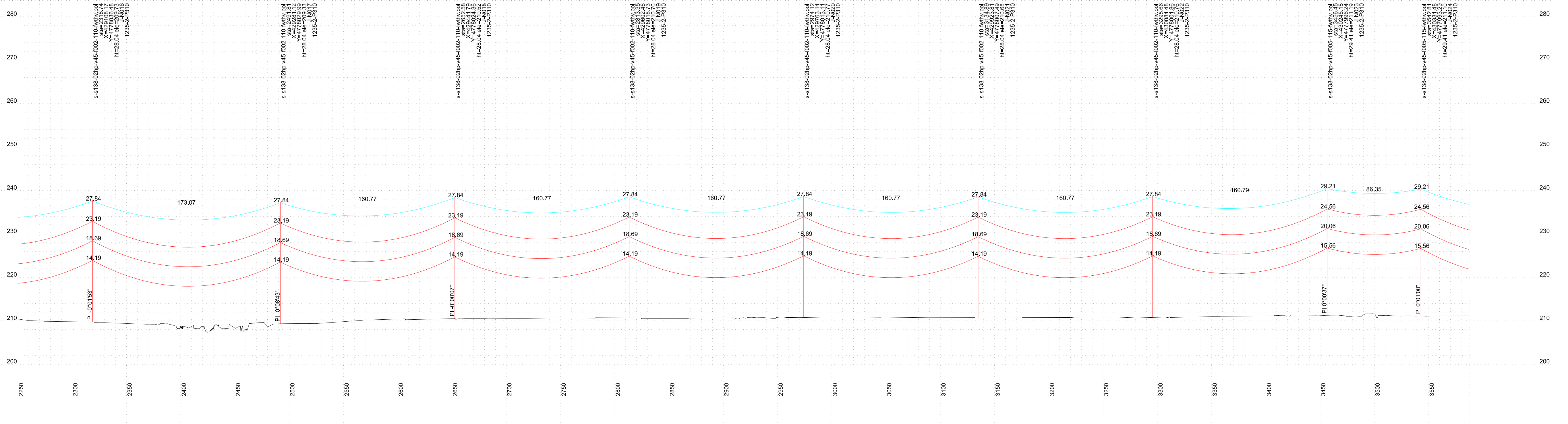
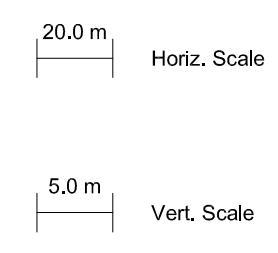
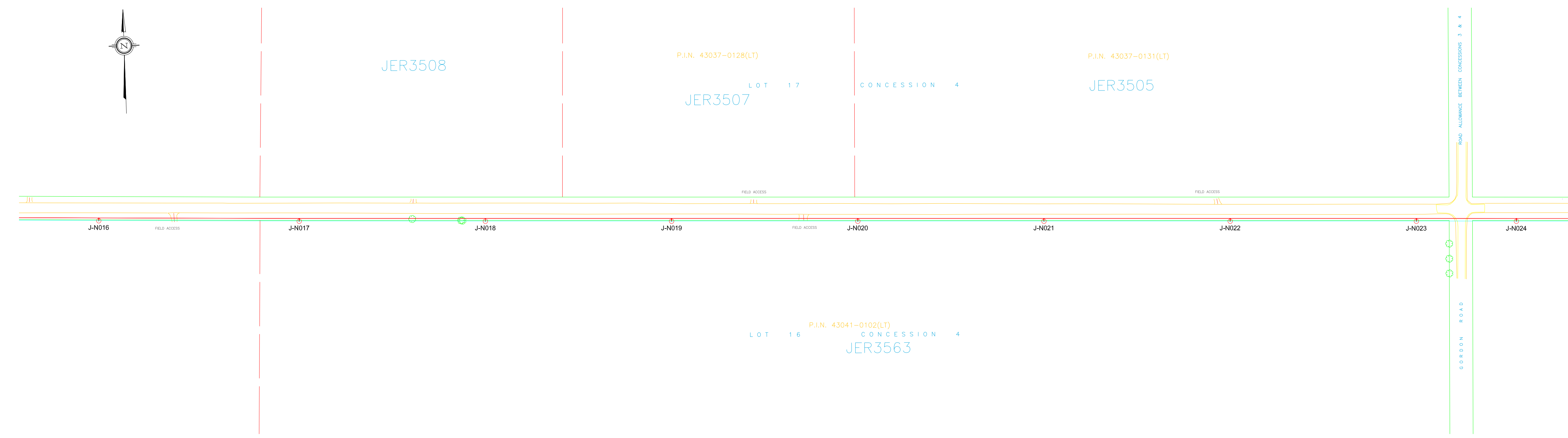
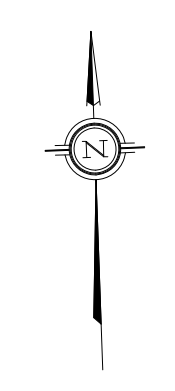
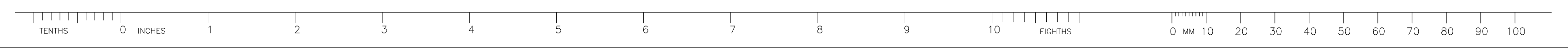
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PROJECT PHASE				AREA	
JERICO WIND PROJECT				1CCT 115kV TRANSMISSION LINE	
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT	
DRN	M.HUANG	E.XWONG	21/08/12	STEEL POLE DESIGN	
CHK			21/08/12	PLAN & PROFILE DRAWINGS	
APP				SHEET 2 OF 14	
SCALE	PACKAGE CODE				
N.T.S.					

CLIENT DWG. NO.	
DRAWING NO.	REV.
1235-3-P012-S2	K

Figure 3 - Transmission Plan and Profile

Plan (c)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

- s-s138-02hp-v45-110-d10.pol PLS-POLE FILE IDENTIFICATION
- sta STATION CHAINAGE
- X UTM EASTING
- Y UTM NORTHING
- ht STRUCTURE HEIGHT ABOVE GROUND (M)
- ele GROUND ELEVATION (M)
- J-N002 STRUCTURE NO.
- 1235-2-P310 FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	DDMMYY	ISSUED FOR	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
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PROJECT PHASE		DRN		BY		DDMMYY	
PROJECT NO.		ACTIVITY NO.		SCALE		SUBJECT	
SCALE		PACKAGE CODE		CHK		SUBJECT	
N.T.S.				APP		JERICO WIND PROJECT 1CCT 115kV TRANSMISSION LINE	

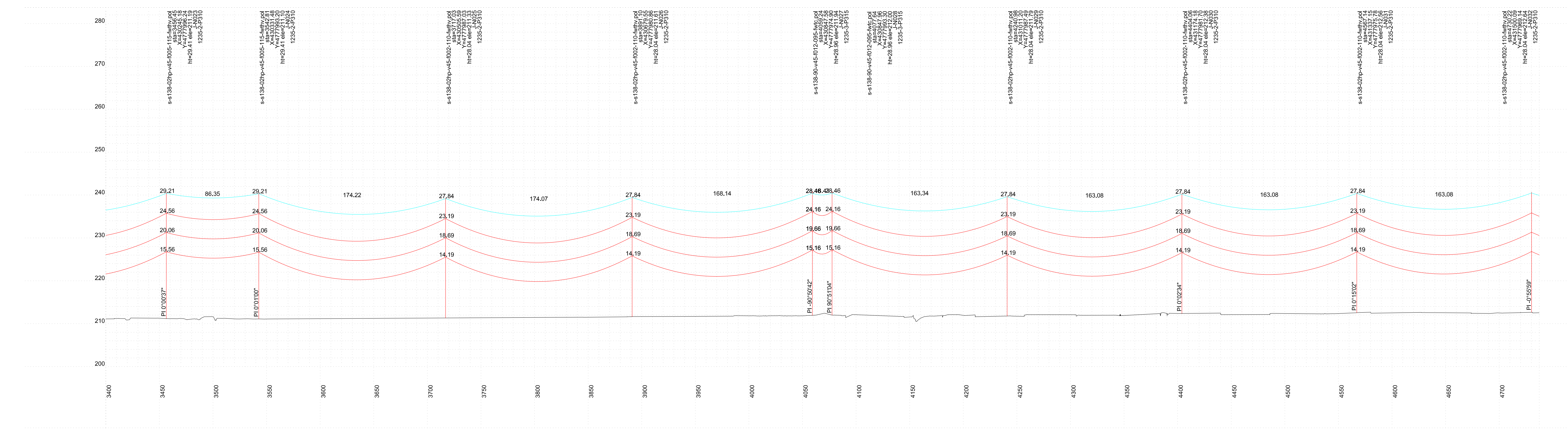
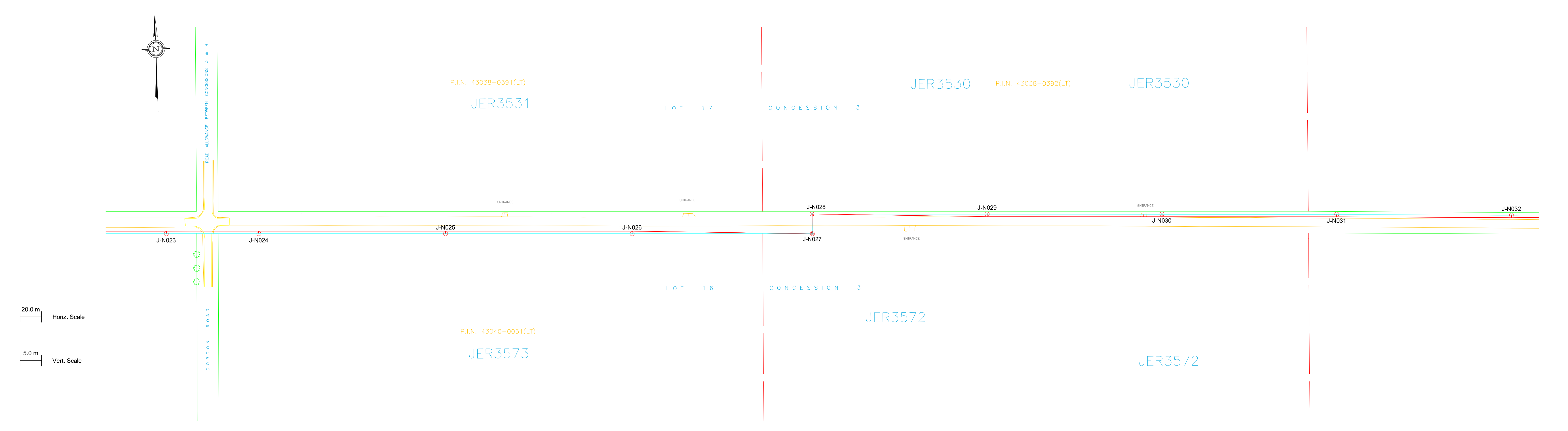
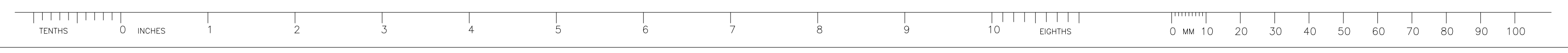


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DRAWING NO.		K	
1235-3-P012-S3			

Figure 3 - Transmission Plan and Profile

Plan (d)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	DDMMYY	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	M.H.	E.K.	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
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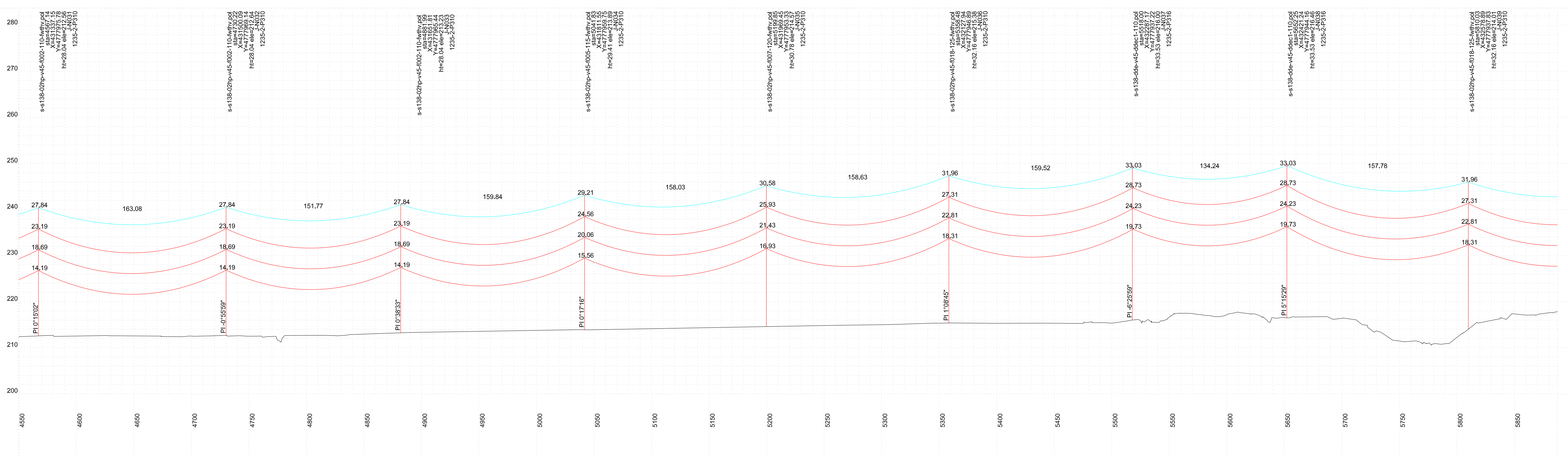
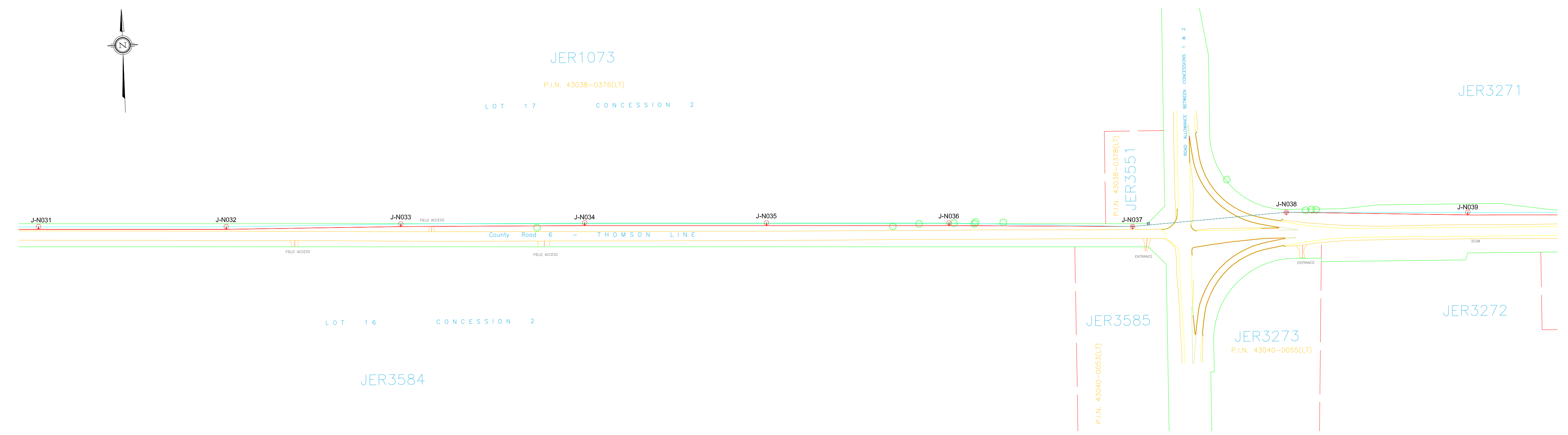
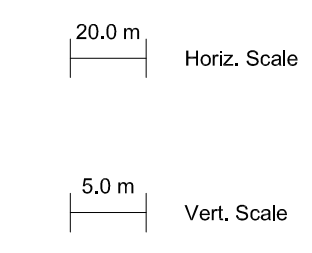
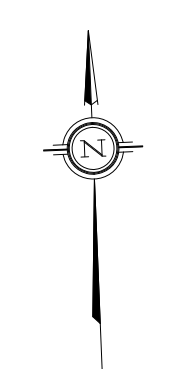
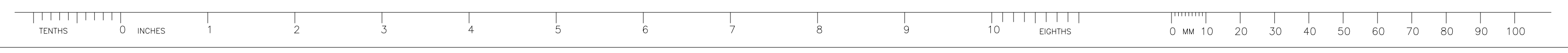
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PROJECT PHASE						JERICO WIND PROJECT 1CCT 115kV TRANSMISSION LINE			
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT					
DRN	M.HUANG	E.XWONG	21/08/12	STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 4 OF 14					
SCALE	PACKAGE CODE	CHK	DDMMYY	SUBJECT					
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Figure 3 - Transmission Plan and Profile

Plan (e)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	DDMMYY	ISSUED FOR	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
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PROJECT NO.		ACTIVITY NO.		BY	DDMMYY	SUBJECT	
SCALE		PACKAGE CODE		DSN	E.XKWONG	21/08/12	
N.T.S.				DRN	M.HUANG	21/08/12	
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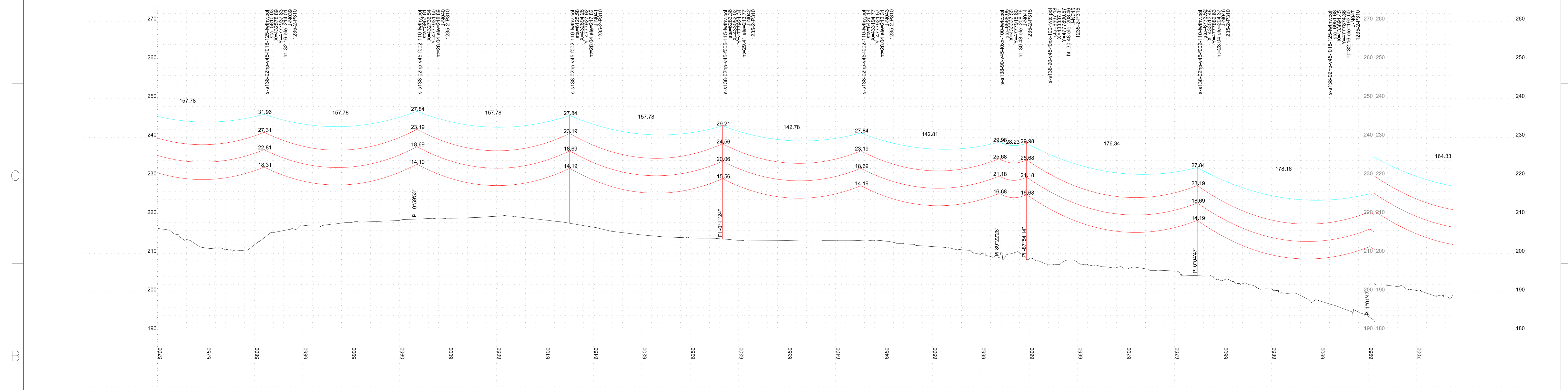
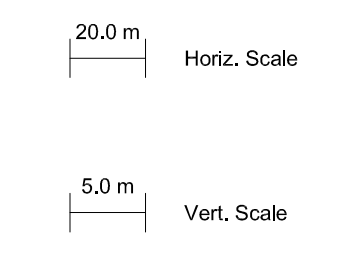
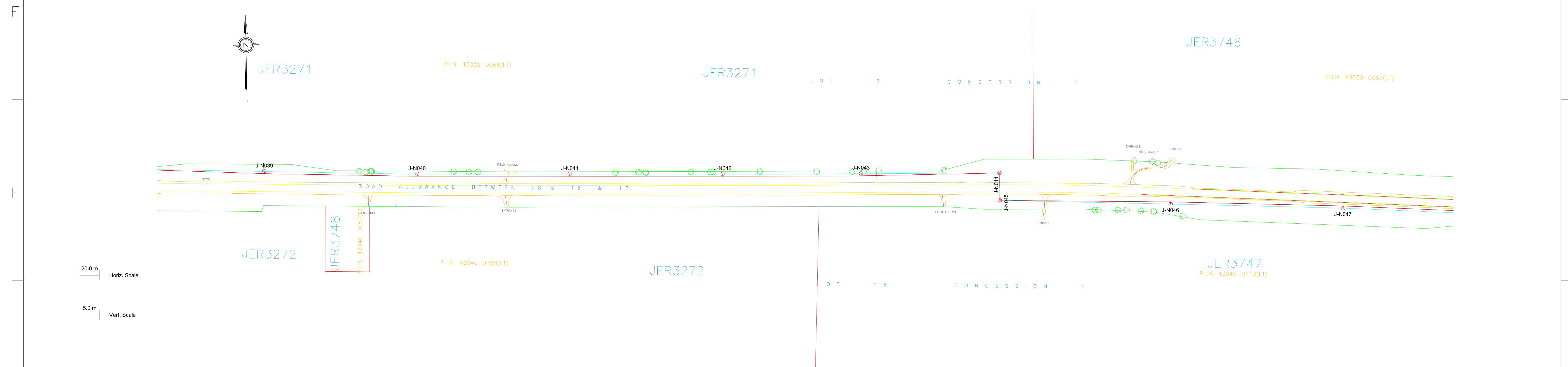
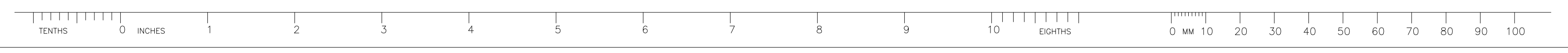
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**STEEL POLE DESIGN
 PLAN & PROFILE DRAWINGS
 SHEET 5 OF 14**

CLIENT DWG. NO.	
DRAWING NO.	REV.
1235-3-P012-S5	K

Figure 3 - Transmission Plan and Profile

Plan (f)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-ld10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-Z-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.



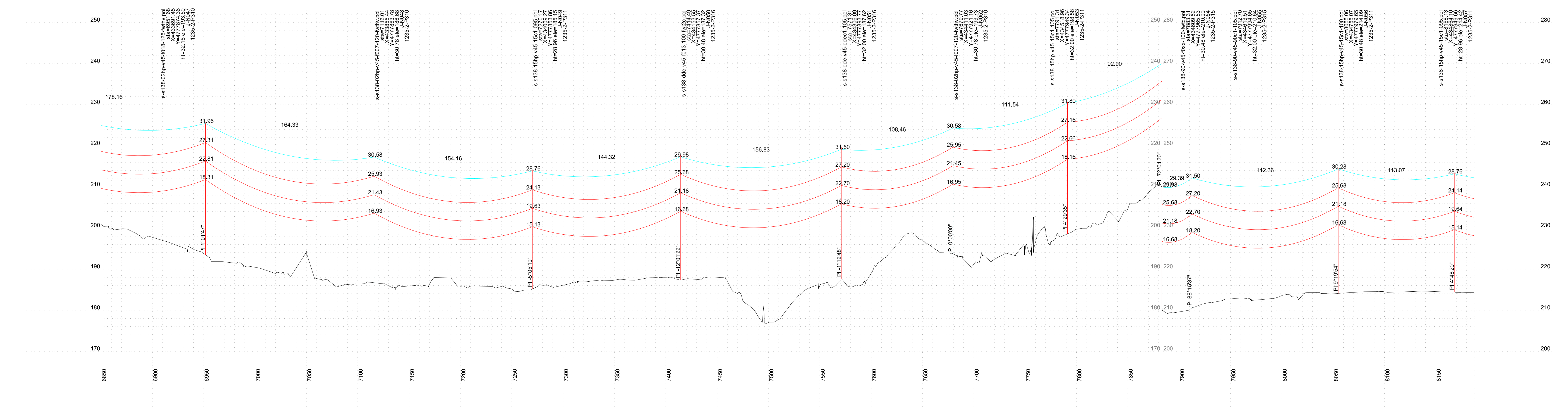
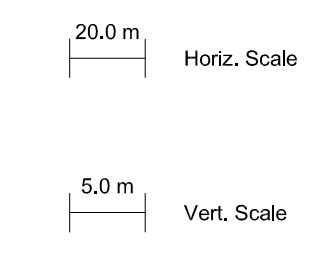
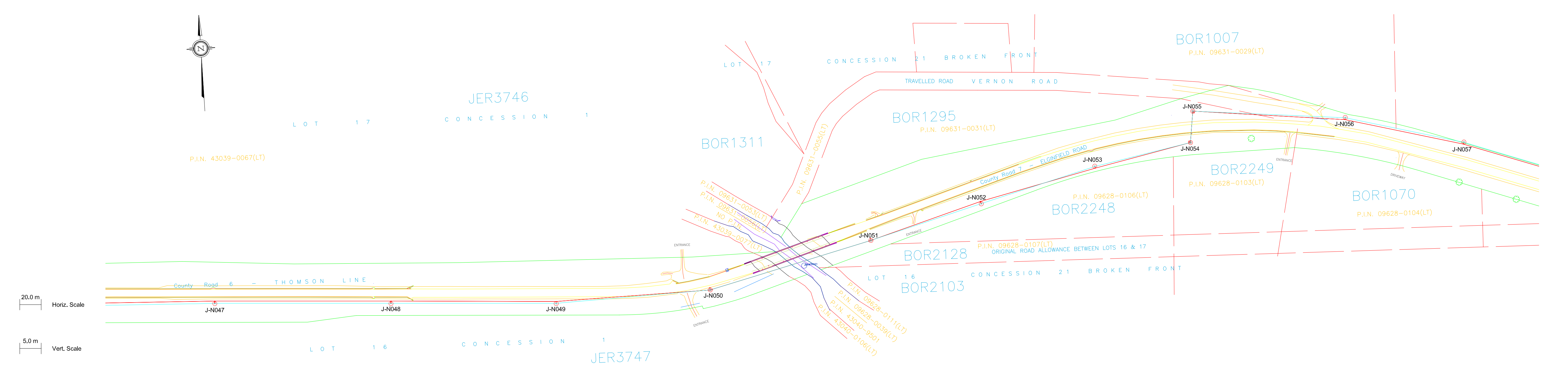
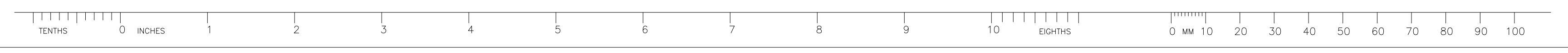
REV	DDMMYY	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	M.H.	E.K.	DR	CHK	APP	APP	APP	APP	K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
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8														5		
7														4		
6														3		
5														2		
4														1		

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PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT	
SCALE	PACKAGE CODE	DSN	E.KWONG	21/08/12	STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 6 OF 14
N.T.S.		DRN	M.HUANG	21/08/12	
		CHK			
				APP	
				CLIENT DWG. NO.	
				DRAWING NO.	1235-3-P012-S6
				REV.	K

Figure 3 - Transmission Plan and Profile

Plan (g)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-ld10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-Z-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	DDMMYY	ISSUED FOR	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION		M.H.	E.K.					K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE	
9			8										6			
			7										5			

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PROJECT NO.		ACTIVITY NO.		BY	DDMMYY	SUBJECT	
SCALE		PACKAGE CODE		DSN	E.KWONG	21/08/12	
N.T.S.				DRN	M.HUANG	21/08/12	
				CHK			
				APP			
STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 7 OF 14							

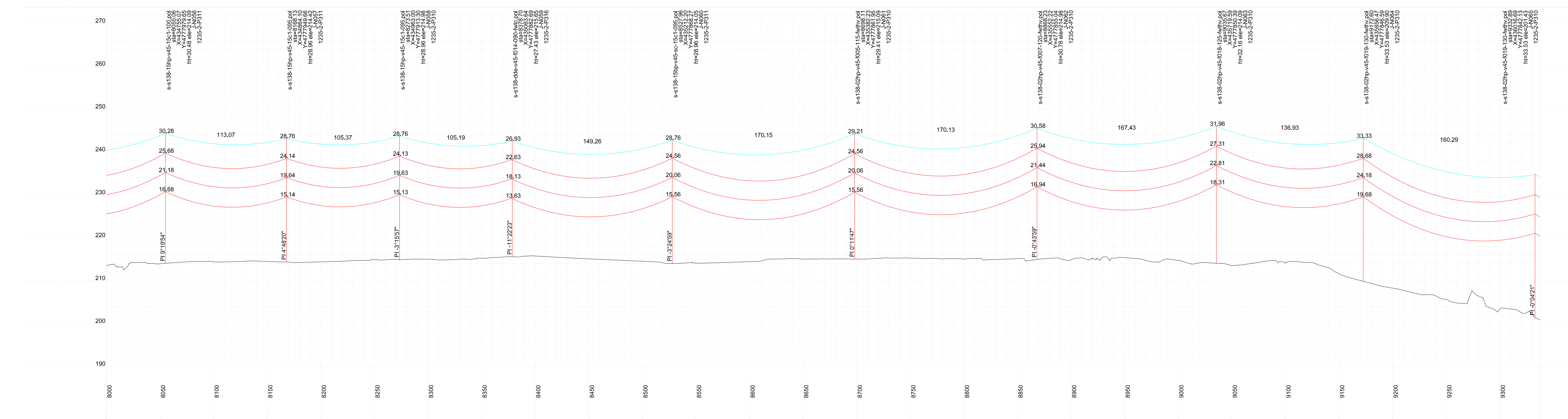
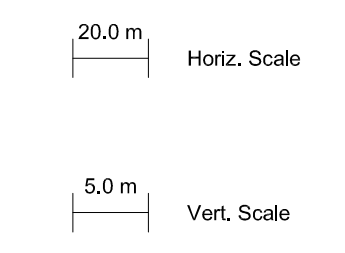
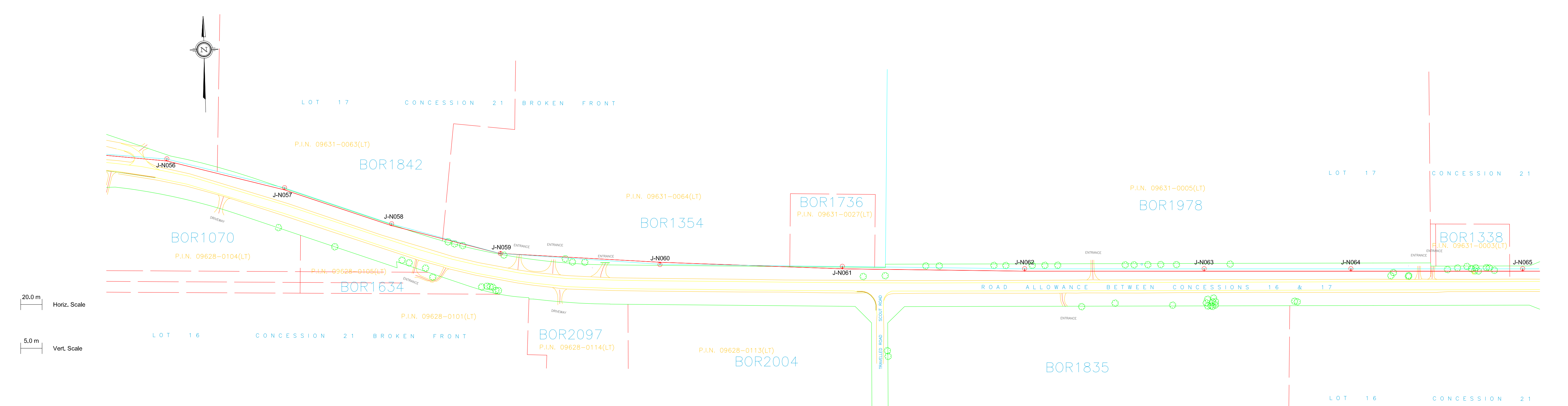
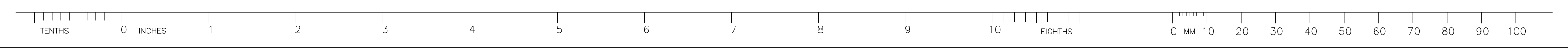


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DRAWING NO.	REV.
1235-3-P012-S7	K

Figure 3 - Transmission Plan and Profile

Plan (h)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.



REV	DDMMYY	ISSUED FOR	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
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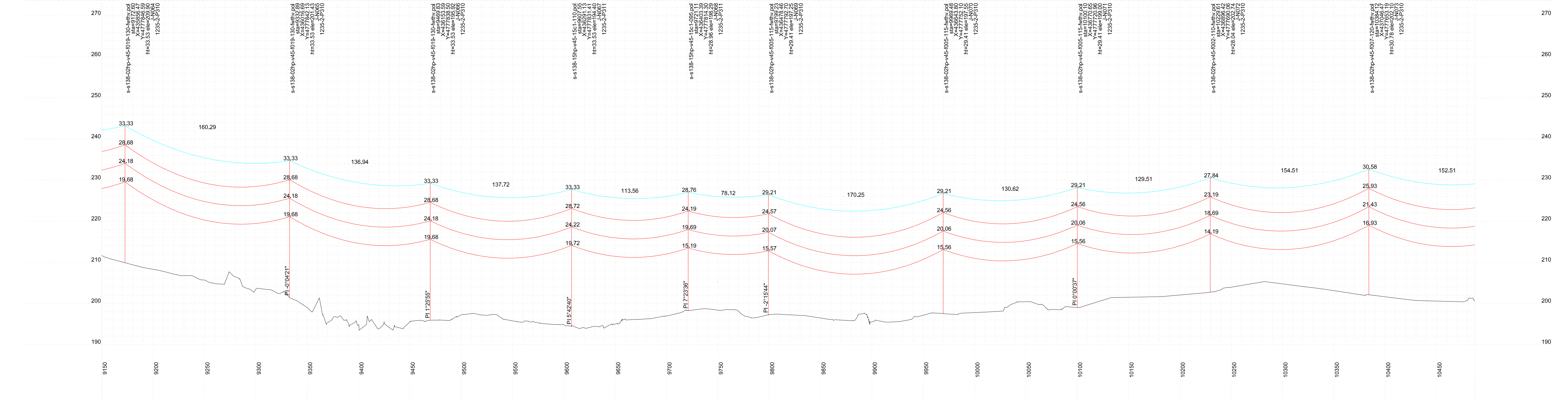
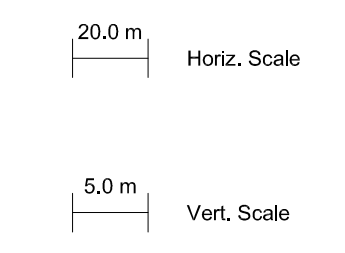
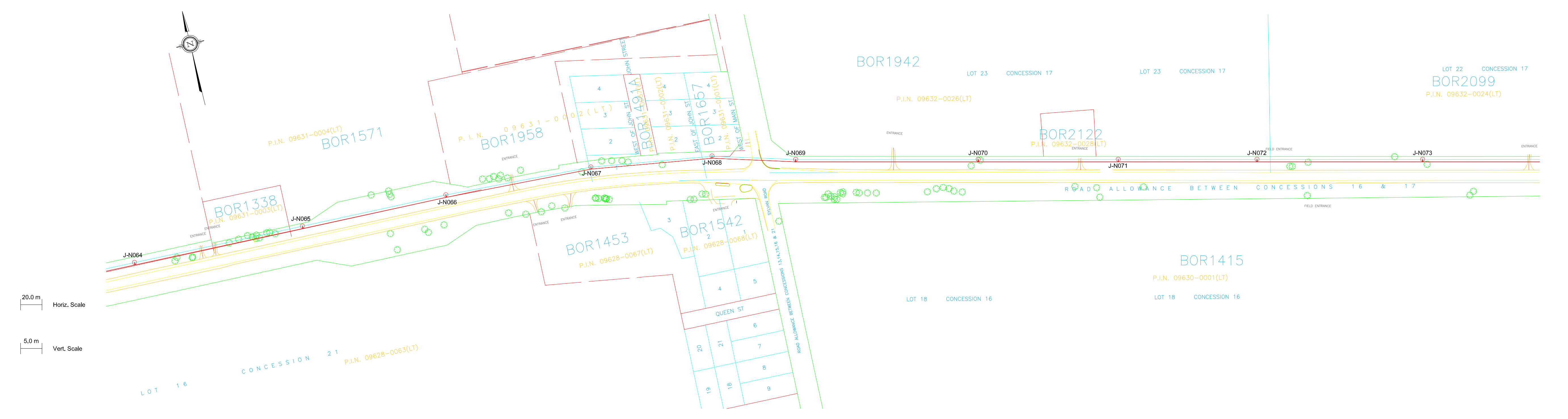
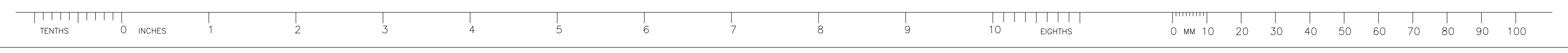
CLIENT PROJECT MGR.		DEPARTMENT MGR.		PROJECT MGR.		AREA	
PROJECT PHASE		DRN		BY		JERICO WIND PROJECT	
PROJECT NO.		ACTIVITY NO.		2108/12		1CCT 115kV TRANSMISSION LINE	
SCALE		PACKAGE CODE		CHK		SUBJECT	
N.T.S.				APP		STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 8 OF 14	

CLIENT DWG. NO.	
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Figure 3 - Transmission Plan and Profile

Plan (i)



PLAN & PROFILE LEGEND:

- 2 x 115kV GLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pd	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.



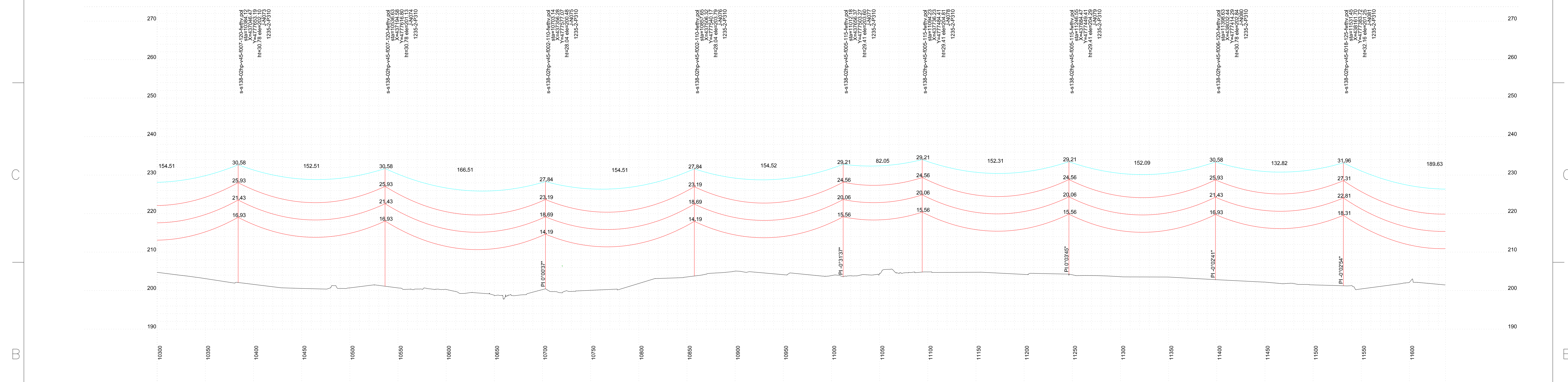
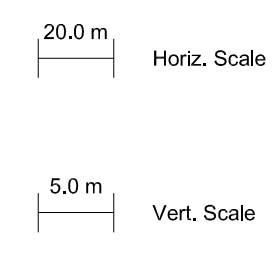
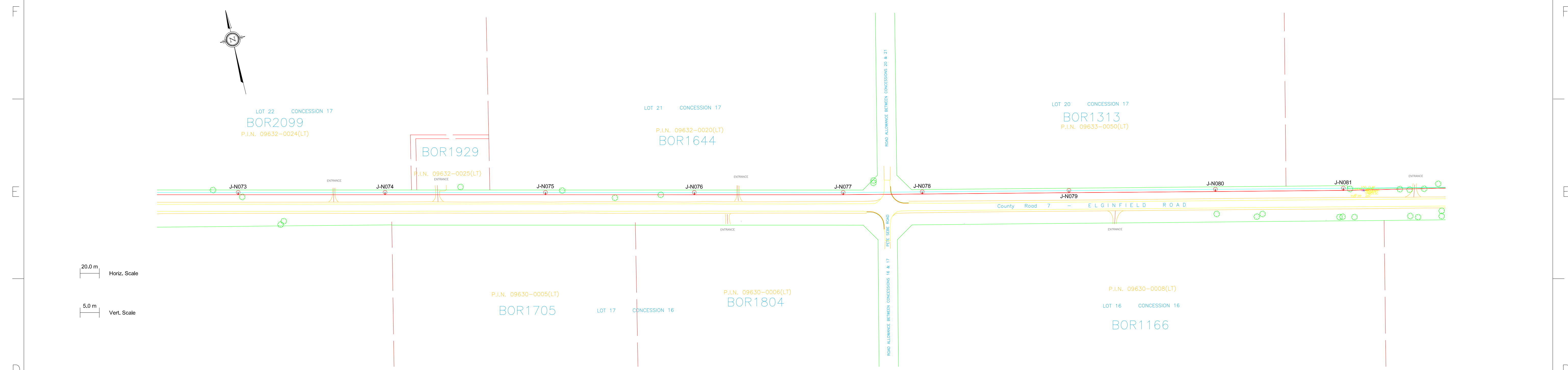
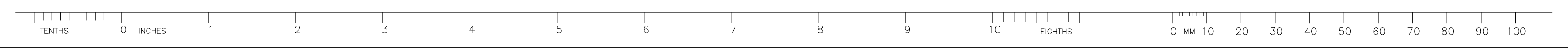
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PROJECT PHASE									JERICO WIND PROJECT 1CCT 115kV TRANSMISSION LINE					
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	DRN	M.HUANG	21/08/12								
SCALE	PACKAGE CODE	CHK		APP										
N.T.S.														
STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 9 OF 14									CLIENT DWG. NO.			DRAWING NO.		
									1235-3-P012-S9			REV. K		

Figure 3 - Transmission Plan and Profile

Plan (j)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	ID	DATE	ISSUED FOR	BY	CHK	APP	APP	APP	APP	ISS	DATE	ISSUED FOR	REF	NUMBER	TITLE
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PROJECT PHASE						JERICO WIND PROJECT 1CCT 115kV TRANSMISSION LINE				
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT						
		DSN	E.XWONG	21/08/12						
		DRN	M.HUANG	21/08/12						
SCALE	PACKAGE CODE	CHK								
N.T.S.		APP								
STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 10 OF 14										

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CAD FILE: PLS-Cadd 1235-3-P012-L1 (28-32 NORTH)

A

A

F

F

E

E

D

D

C

C

B

B

A

A

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7

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4

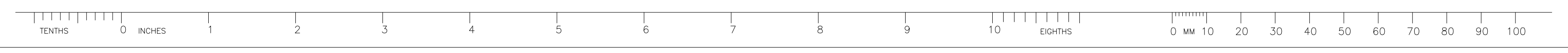
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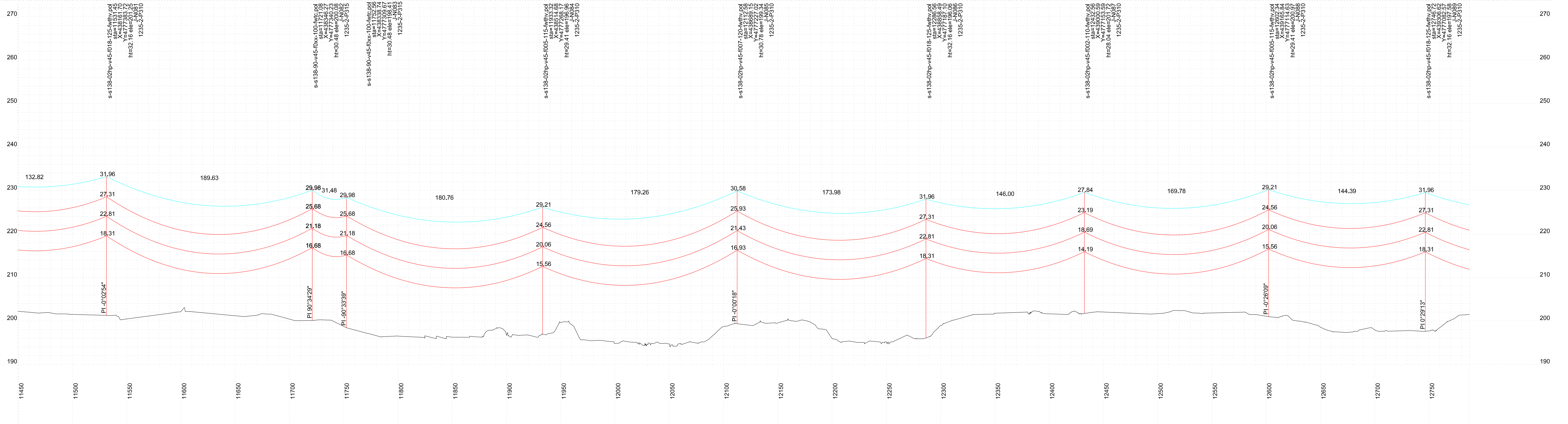
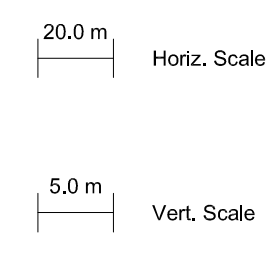
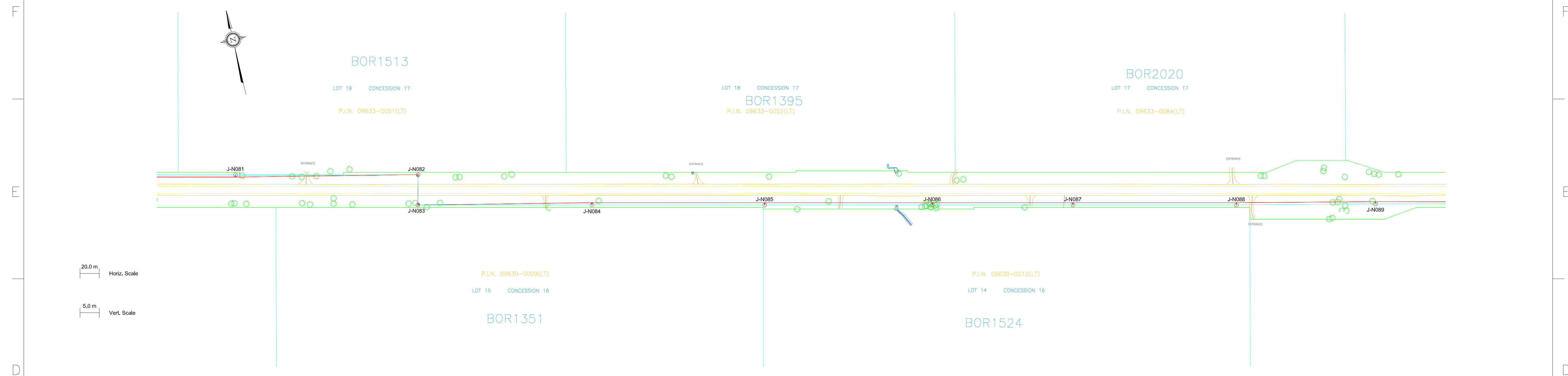
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Figure 3 - Transmission Plan and Profile

Plan (k)



PLS-CADD Drawing



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	DATE	ISSUED FOR	BY	CHK	APP	APP	APP	APP	ISS	DATE	ISSUED FOR	REF	NUMBER	TITLE
K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	M.H.	E.K.					K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
		REVISION	DR	CHK	APP	APP	APP	APP	ISS	DATE	ISSUED FOR			REFERENCES
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3														
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1														

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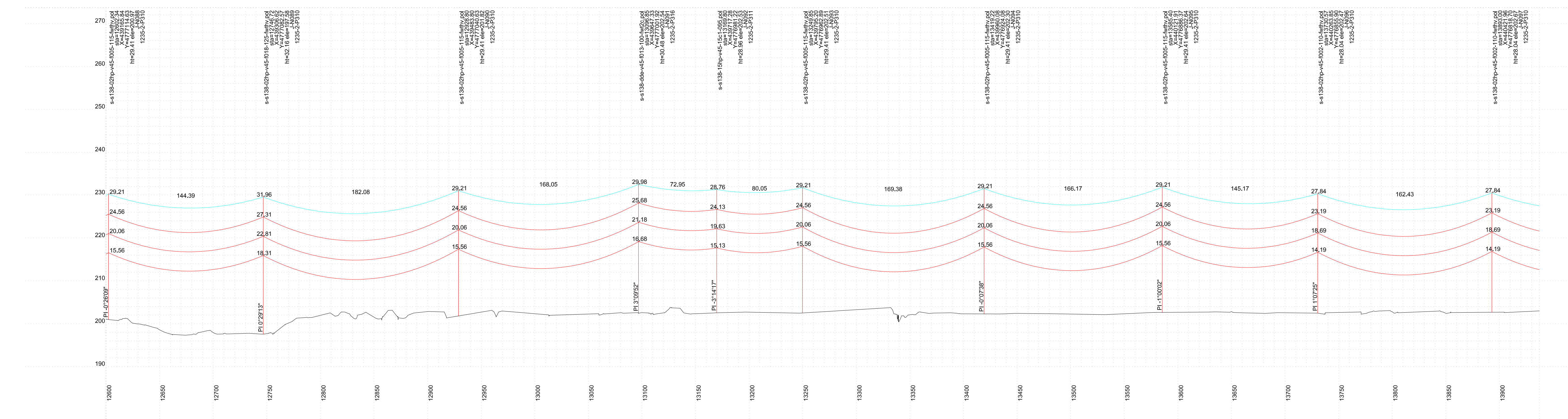
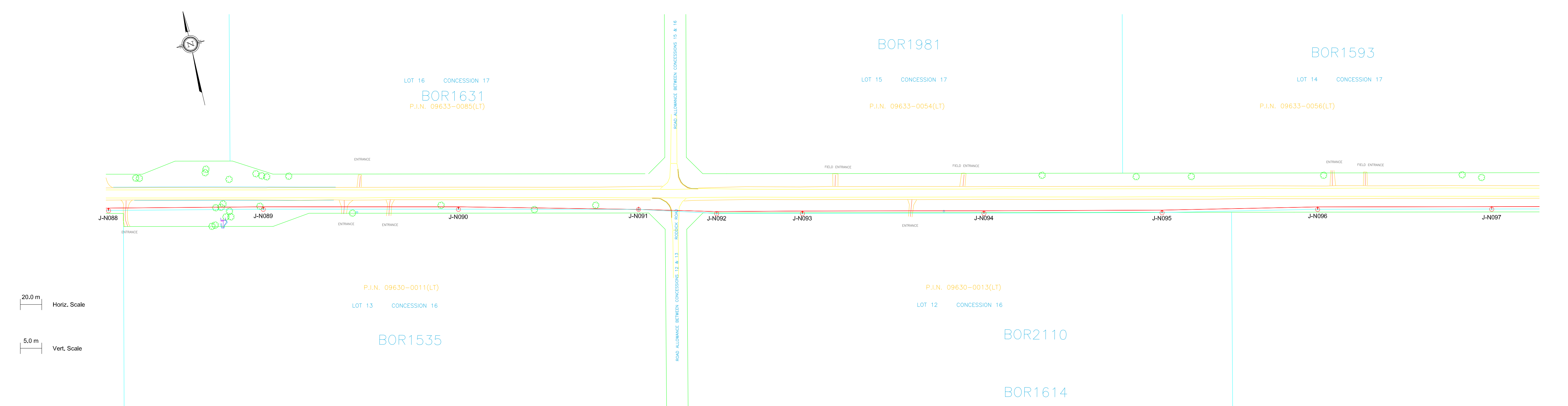
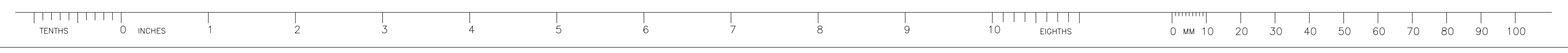
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PROJECT PHASE		DRN		BY		DATE		JERICO WIND PROJECT 1CCT 115KV TRANSMISSION LINE	
PROJECT NO.		ACTIVITY NO.		E.KWONG		21/08/12		SCALE	
SCALE		PACKAGE CODE		M.HUANG		21/08/12		N.T.S.	
CHK		APP						STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 11 OF 14	
APP								CLIENT DWG. NO.	
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								REV. K	



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Figure 3 - Transmission Plan and Profile

Plan (I)



PLAN & PROFILE LEGEND:

- 2 x 115kV GLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

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PROJECT PHASE						SUBJECT	
PROJECT NO.						JERICO WIND PROJECT 1CCT 115KV TRANSMISSION LINE	
ACTIVITY NO.		BY	DDMMYY	SCALE			
DRN		E.XWONG	21/08/12	N.T.S.			
CHK		M.HUANG	21/08/12				
APP							

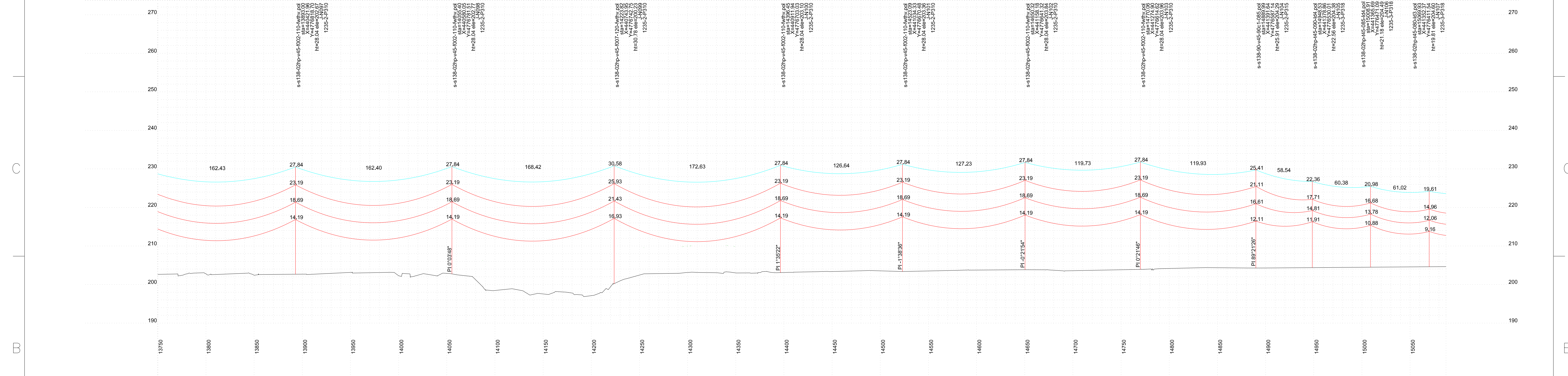
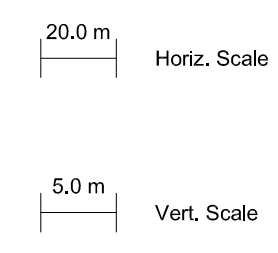
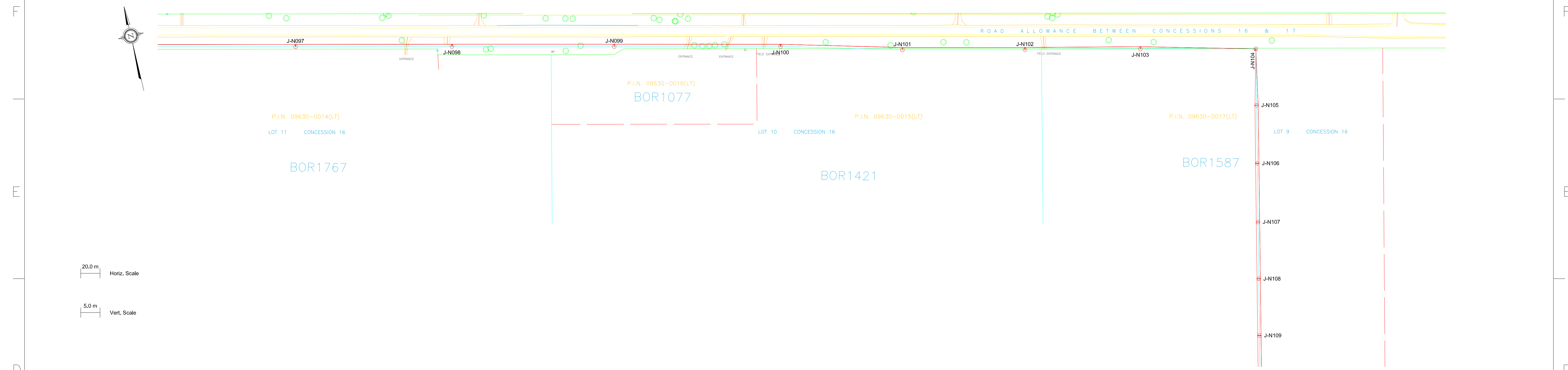
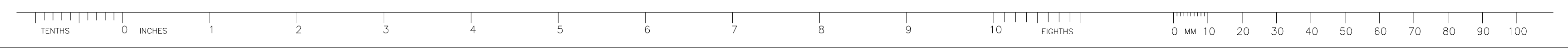


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1235-3-P012-S12	K

Figure 3 - Transmission Plan and Profile

Plan (m)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pod	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.



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K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION		M.H.	E.K.					K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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PROJECT PHASE		
PROJECT NO.	ACTIVITY NO.	BY
		DSN E.KWONG 21/08/12
		DRN M.HUANG 21/08/12
SCALE	PACKAGE CODE	CHK
N.T.S.		APP

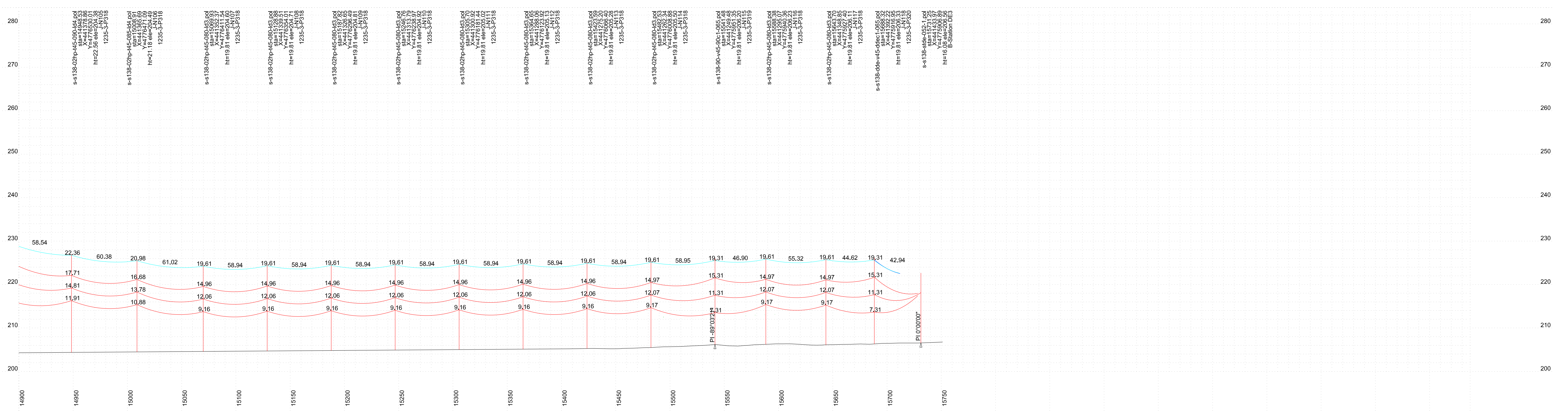
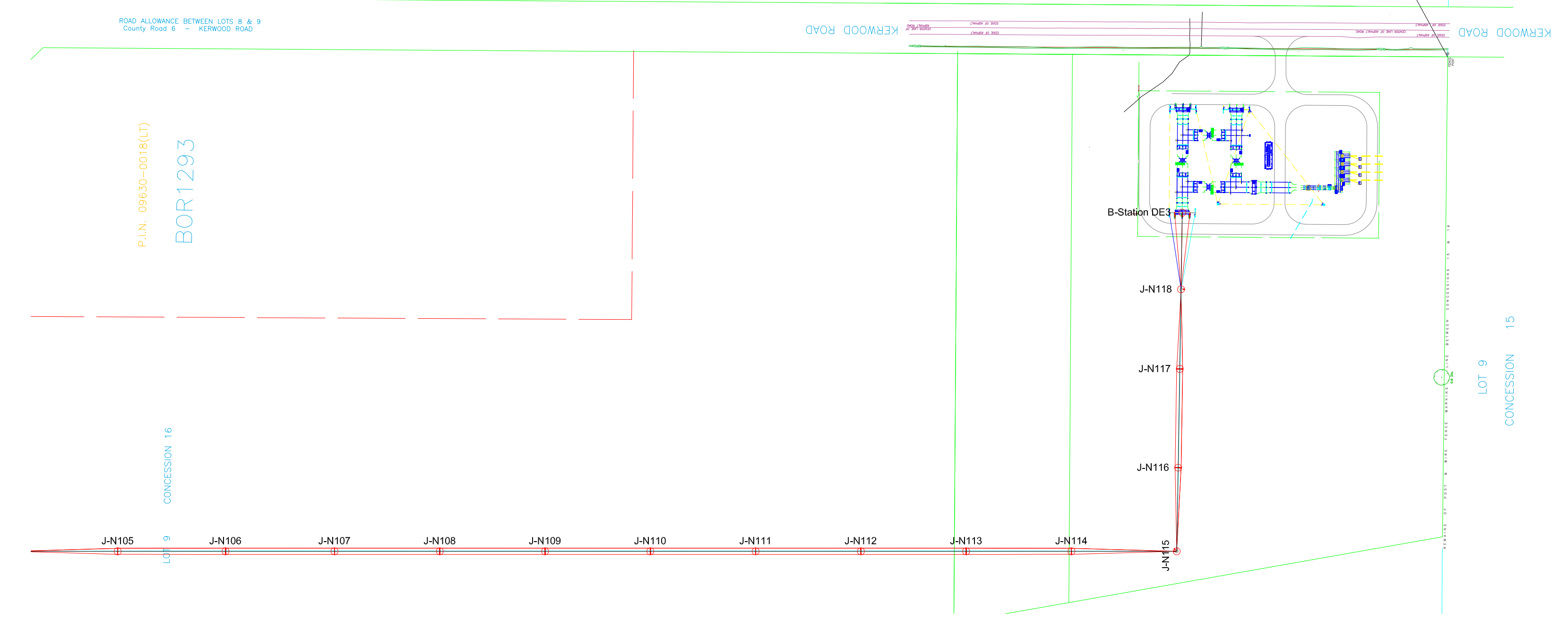
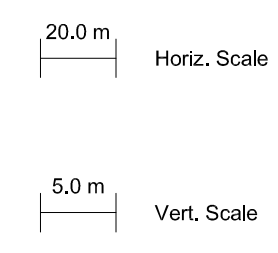
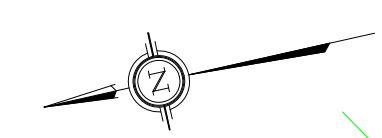
AREA
 JERICO WIND PROJECT
 1CCT 115kV TRANSMISSION LINE

SUBJECT
**STEEL POLE DESIGN
 PLAN & PROFILE DRAWINGS
 SHEET 13 OF 14**

CLIENT DWG. NO.	
DRAWING NO.	REV.
1235-3-P012-S13	K

Figure 3 - Transmission Plan and Profile

Plan (n)



PLAN & PROFILE LEGEND:

- 2 x 115kV CLASS TRANSMISSION LINE CONDUCTOR (1351.5MCM ACSR DIPPER)
- OPGW
- SHIELD WIRE
- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
- PROPOSED TRANSMISSION STRUCTURE

STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-d10.pd	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
Y	UTM NORTHING
ht	STRUCTURE HEIGHT ABOVE GROUND (M)
ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-2-P310	FRAMING DRAWING NO.

- NOTES:**
- CONDUCTOR (1351.5MCM ACSR DIPPER) SAG AT 100°C.
 - OPGW & SHIELD WIRE SAG AT 40°C.
 - ALL DIMENSIONS ARE IN METERS U.N.O.

REV	ID	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
K	07/10/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	M.H.	E.K.						K	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE

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CLIENT PROJECT MGR.		DEPARTMENT MGR.		PROJECT MGR.	
PROJECT PHASE				AREA	
				JERICO WIND PROJECT 1CCT 115KV TRANSMISSION LINE	
PROJECT NO.	ACTIVITY NO.	BY	DDMMYY	SUBJECT	
		DSN	E.XWONG	21/08/12	
		DRN	M.HUANG	21/08/12	
SCALE	PACKAGE CODE	CHK			
N.T.S.		APP			



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1235-3-P012-S14	K

Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (a)



JERICO TRANSMISSION LINE KEYPLAN
NOT TO SCALE

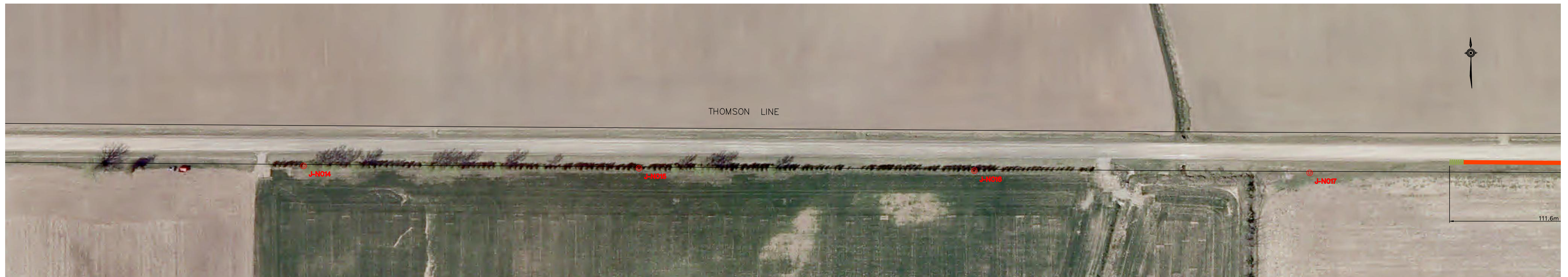
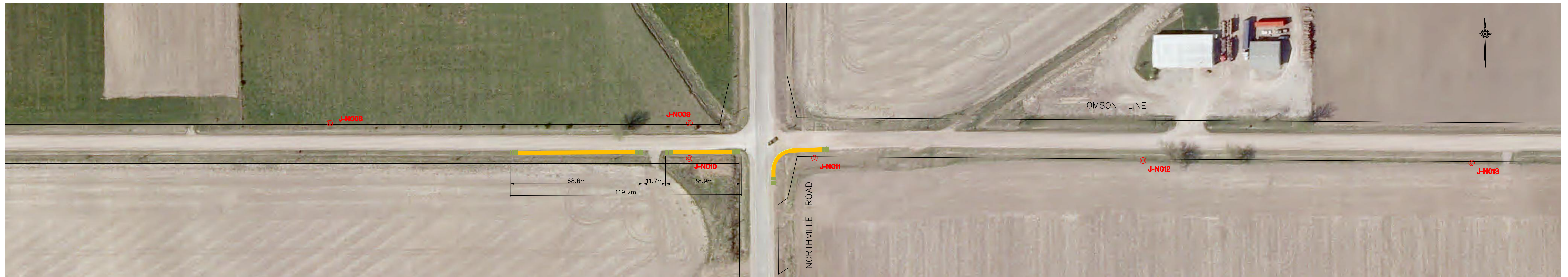
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- RIGHT OF WAY
 - EXISTING 3 CABLE GUIDE RAIL
 - PROPOSED 3 CABLE GUIDE RAIL
 - PROPOSED 3 CABLE GUIDE RAIL END TREATMENT (OPSD 913.130)
 - EXISTING STEEL BEAM GUIDE RAIL
 - PROPOSED STEEL BEAM GUIDE RAIL
 - PROPOSED STEEL BEAM GUIDE RAIL END TREATMENT (OPSD 922.530)
 - PROPOSED GRADING

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT	CONSULTANT OR DIVISION	ENGINEER'S STAMP	SCALE	TITLE	PROJECT No.
					DESIGN	RWC	1	ISSUE FOR LEAVE TO CONSTRUCT	2013-10-07	<p>IBI Group 203 - 350 Oxford Street West London ON N6H 1T3 Canada tel 519 472 7328 fax 519 472 9354</p>	<p>NEXT ERA ENERGY</p>	<p>SCALE 1:1000</p>	<p>JERICO WIND ENERGY CENTRE MUNICIPALITY OF N. MIDDLESEX AND LAMBTON COUNTY</p> <p>JTLSITE G&G - KEYPLAN</p>	34938
				DRAWN BY	MWB				SHEET No.					01
				CHECKED	RWC				PLAN FILE No.					
				APPROVED	RWC									
				DATE	2013-08-29									
					JTLsite G&G.dwg									

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Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (b)



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EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
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					CHECKED	RWC			
					APPROVED	RWC			
					DATE	2013-08-29			
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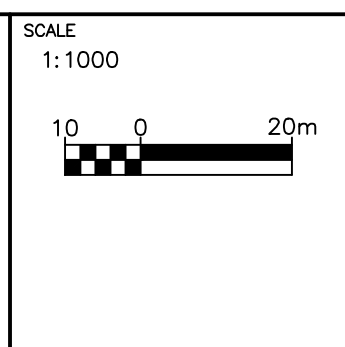
CONSULTANT OR DIVISION



IBI Group
 203 - 350 Oxford Street West
 London ON N6H 1T3 Canada
 tel 519 472 7328
 fax 519 472 9354

ENGINEER'S STAMP

NEXT ERA ENERGY



TITLE
 JERICHO WIND ENERGY CENTRE
 MUNICIPALITY OF N. MIDDLESEX AND LAMBTON COUNTY

JTLSITE G&G - 1
 J-N003 TO J-N017

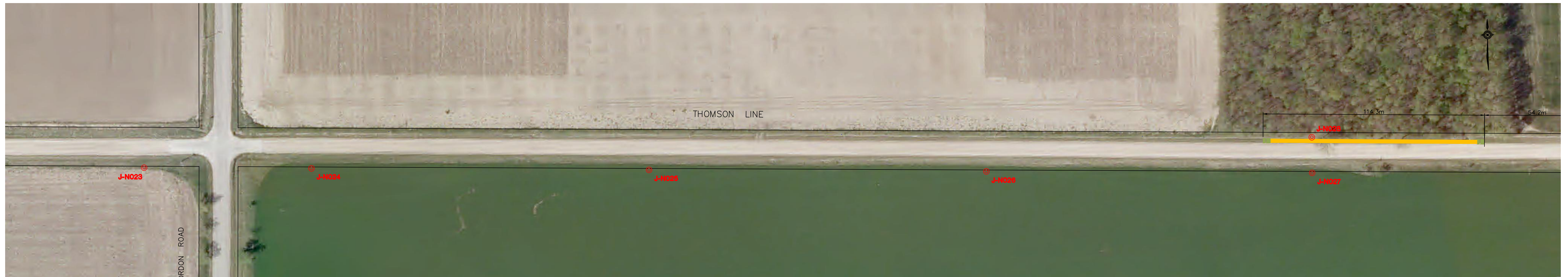
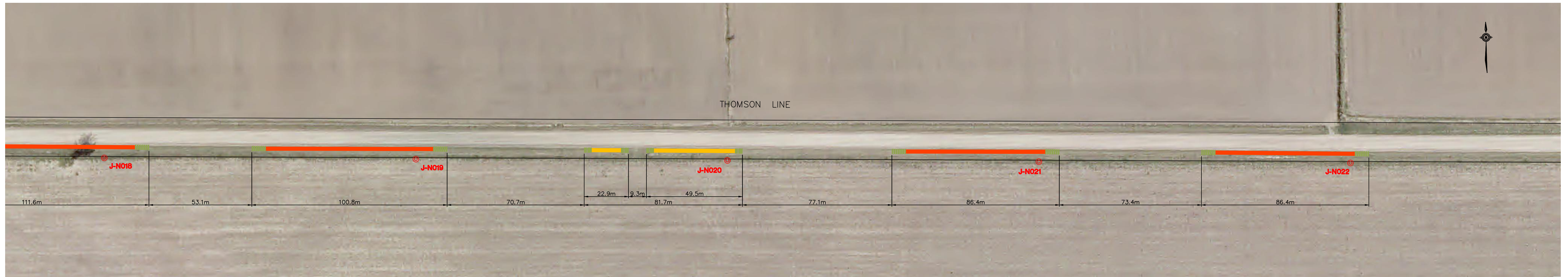
PROJECT No.
34938

SHEET No.
CZS-1

PLAN FILE No.

Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (c)



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					APPROVED RWC				
					DATE 2013-08-29				
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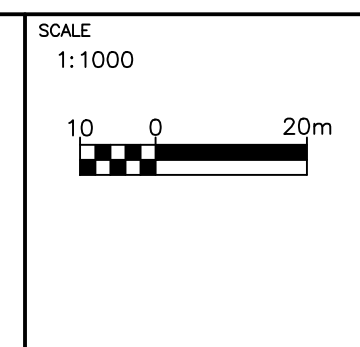
CONSULTANT OR DIVISION



IBI Group
 203 - 350 Oxford Street West
 London ON N6H 1T3 Canada
 tel 519 472 7328
 fax 519 472 9354

ENGINEER'S STAMP

NEXT ERA ENERGY



TITLE
 JERICO WIND ENERGY CENTRE
 MUNICIPALITY OF N. MIDDLESEX AND LAMBTON COUNTY

JTLSITE G&G - 2
 J-N018 TO J-N033

PROJECT No. 34938
 SHEET No. CZS-2
 PLAN FILE No.

Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (d)



J:\34938-jericho-trans\3.8 Drawings\G&G\Current\JTLsite G&G.dwg

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
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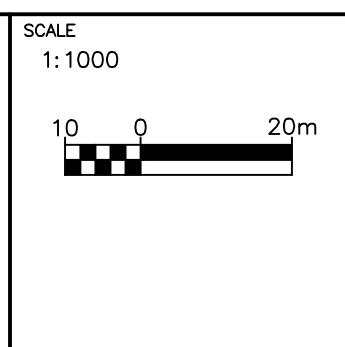
CONSULTANT OR DIVISION



IBI Group
 203 - 350 Oxford Street West
 London ON N6H 1T3 Canada
 tel 519 472 7328
 fax 519 472 9354

ENGINEER'S STAMP

NEXT ERA ENERGY



TITLE
 JERICHO WIND ENERGY CENTRE
 MUNICIPALITY OF N. MIDDLESEX AND LAMBTON COUNTY

JTLsite G&G - 3
 J-N034 TO J-N049

PROJECT No. 34938
 SHEET No. CZS-3
 PLAN FILE No.

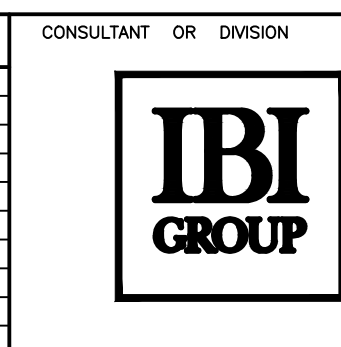
Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (e)



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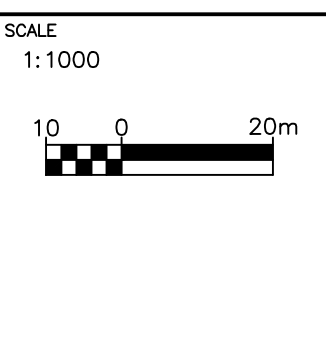
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					CHECKED	RWC			
					APPROVED	RWC			
					DATE	2013-08-29			
					JTLsite G&G.dwg				



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 tel 519 472 7328
 fax 519 472 9354

ENGINEER'S STAMP

NEXT ERA ENERGY



TITLE
 JERICHO WIND ENERGY CENTRE
 MUNICIPALITY OF N. MIDDLESEX AND LAMBTON COUNTY
 JTLsite G&G - 4
 J-N050 TO J-N067

PROJECT No. 34938
 SHEET No. CZS-4
 PLAN FILE No.

Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (f)

Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (g)



J:\34938-jericho-trans\3.8 Drawings\GIS\Current\JTLsite G&G.dwg

EXISTING SERVICES	DRAWING #, SOURCE	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE	CONSULTANT
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					DRAWN BY	MWB			
					CHECKED	RWC			
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					DATE	2013-08-29			
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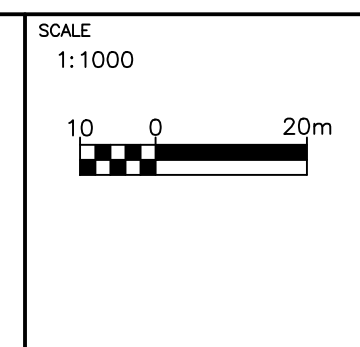
CONSULTANT OR DIVISION



IBI Group
 203 - 350 Oxford Street West
 London ON N6H 1T3 Canada
 tel 519 472 7328
 fax 519 472 9354

ENGINEER'S STAMP

NEXT ERA ENERGY



TITLE
 JERICHO WIND ENERGY CENTRE
 MUNICIPALITY OF N. MIDDLESEX AND LAMBTON COUNTY

JTLSITE G&G - 6
 J-N085 TO J-N100

PROJECT No. 34938
 SHEET No. CZS-6
 PLAN FILE No.

Figure 4 - Transmission Pole Clear Zone Mitigation Maps

Map (h)

DRAWINGS & ILLUSTRATIONS

The following drawings, station layouts and illustrations are included in this schedule:

Figure 1	Single Line Diagram
Figure 2	Station Layout - Jericho Collection Substation
Figures 3(a)-(l)	Pole Structures and Framing

Figure 1 - Single Line Diagram

Jericho Wind Energy Centre 150 MW Conceptual One Line Diagram

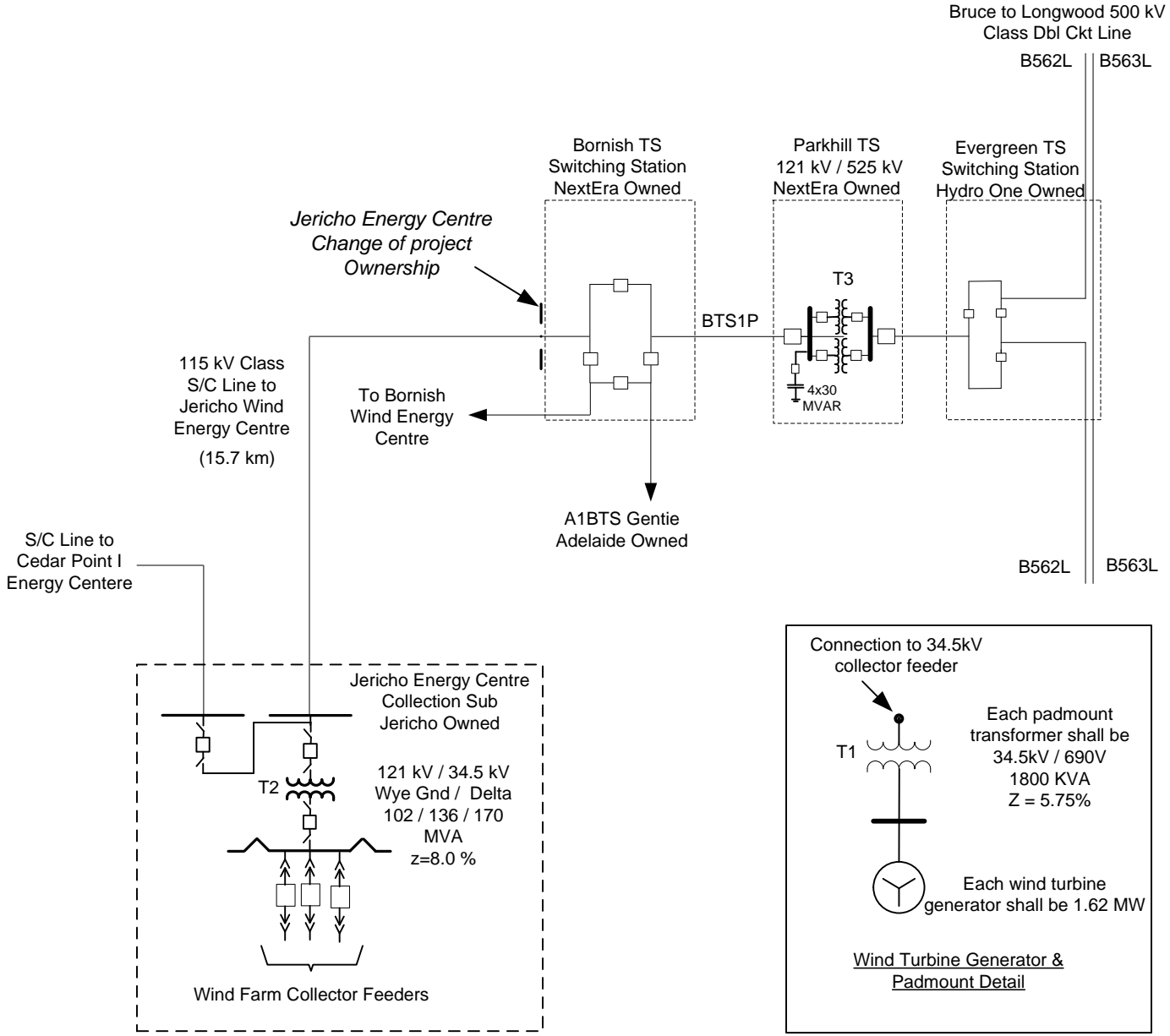
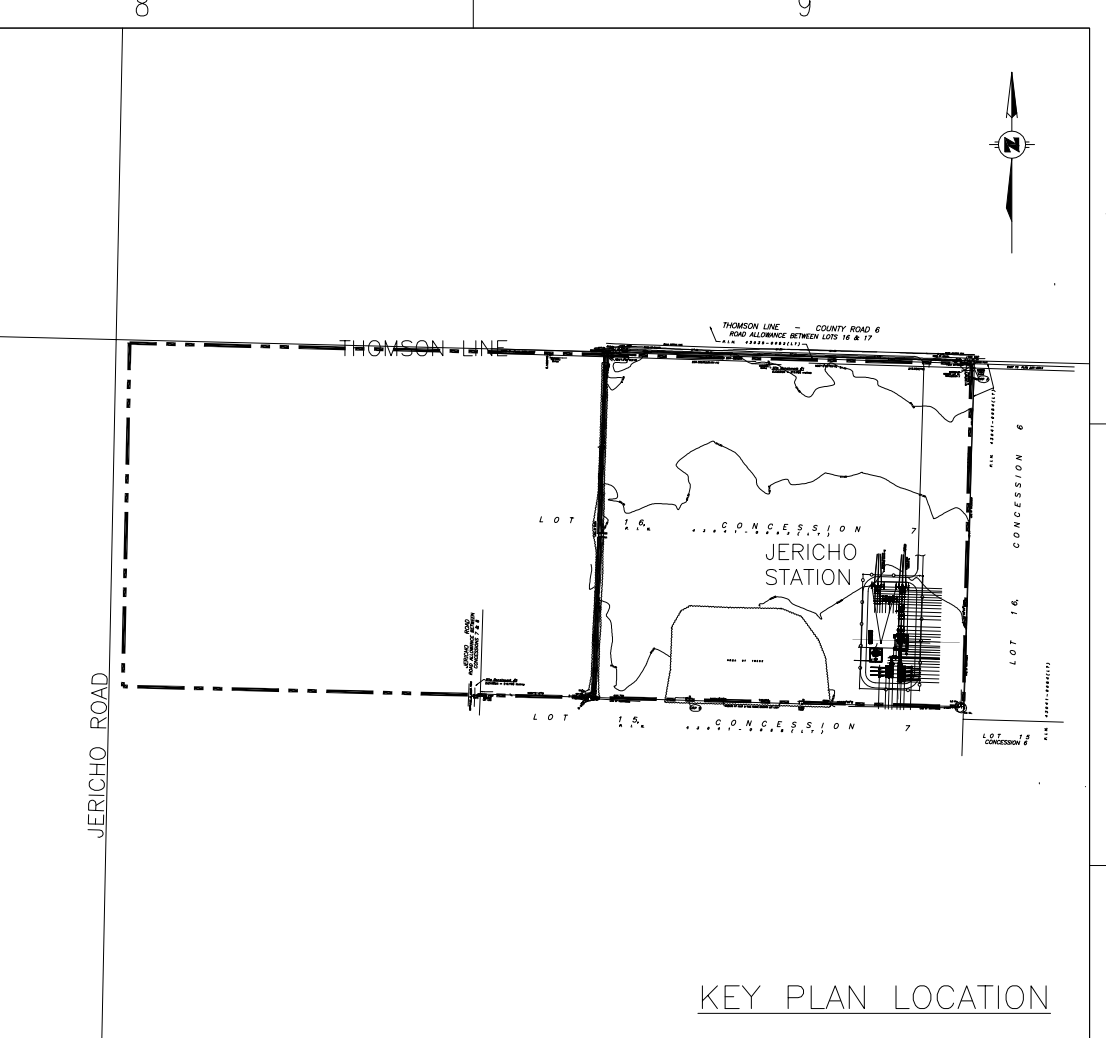
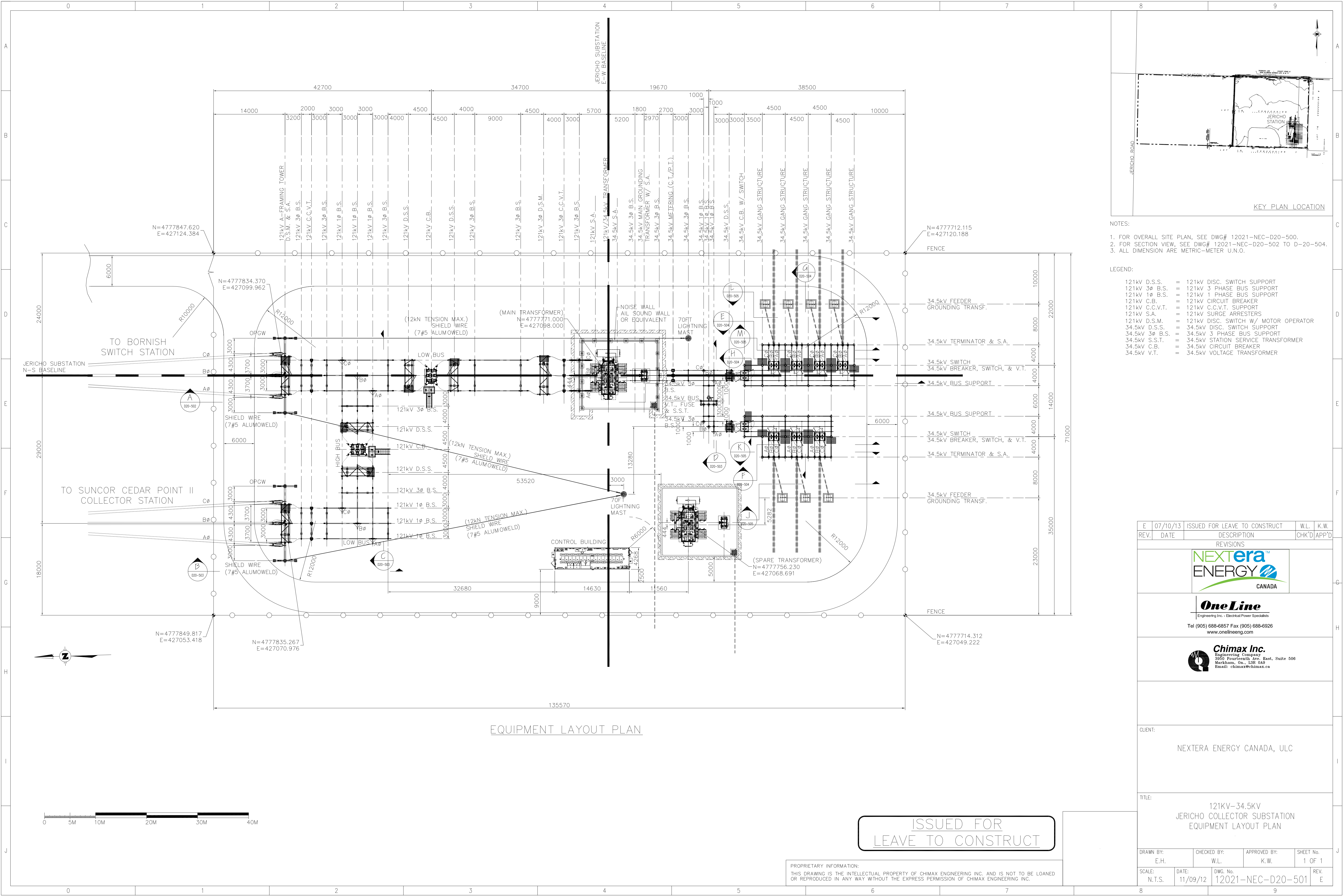


Figure 2 - Station Layout - Jericho Collection Substation

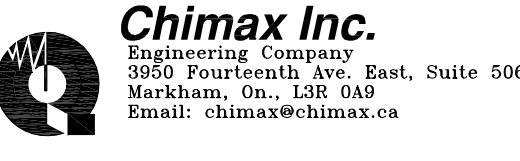


KEY PLAN LOCATION

NOTES:
 1. FOR OVERALL SITE PLAN, SEE DWG# 12021-NEC-D20-500.
 2. FOR SECTION VIEW, SEE DWG# 12021-NEC-D20-502 TO D-20-504.
 3. ALL DIMENSION ARE METRIC-METER U.N.O.

- LEGEND:
- 121kV D.S.S. = 121kV DISC. SWITCH SUPPORT
 - 121kV 3Ø B.S. = 121kV 3 PHASE BUS SUPPORT
 - 121kV 1Ø B.S. = 121kV 1 PHASE BUS SUPPORT
 - 121kV C.B. = 121kV CIRCUIT BREAKER
 - 121kV C.C.V.T. = 121kV C.C.V.T. SUPPORT
 - 121kV S.A. = 121kV SURGE ARRESTERS
 - 121kV D.S.M. = 121kV DISC. SWITCH W/ MOTOR OPERATOR
 - 34.5kV D.S.S. = 34.5kV DISC. SWITCH SUPPORT
 - 34.5kV 3Ø B.S. = 34.5kV 3 PHASE BUS SUPPORT
 - 34.5kV S.S.T. = 34.5kV STATION SERVICE TRANSFORMER
 - 34.5kV C.B. = 34.5kV CIRCUIT BREAKER
 - 34.5kV V.T. = 34.5kV VOLTAGE TRANSFORMER

E	07/10/13	ISSUED FOR LEAVE TO CONSTRUCT	W.L.	K.W.
REV.	DATE	DESCRIPTION	CHK'D	APP'D



CLIENT:
 NEXTERA ENERGY CANADA, ULC

TITLE:
 121KV-34.5KV
 JERICO COLLECTOR SUBSTATION
 EQUIPMENT LAYOUT PLAN

DRAWN BY: E.H.	CHECKED BY: W.L.	APPROVED BY: K.W.	SHEET No. 1 OF 1
SCALE: N.T.S.	DATE: 11/09/12	DWG. No. 12021-NEC-D20-501	REV. E

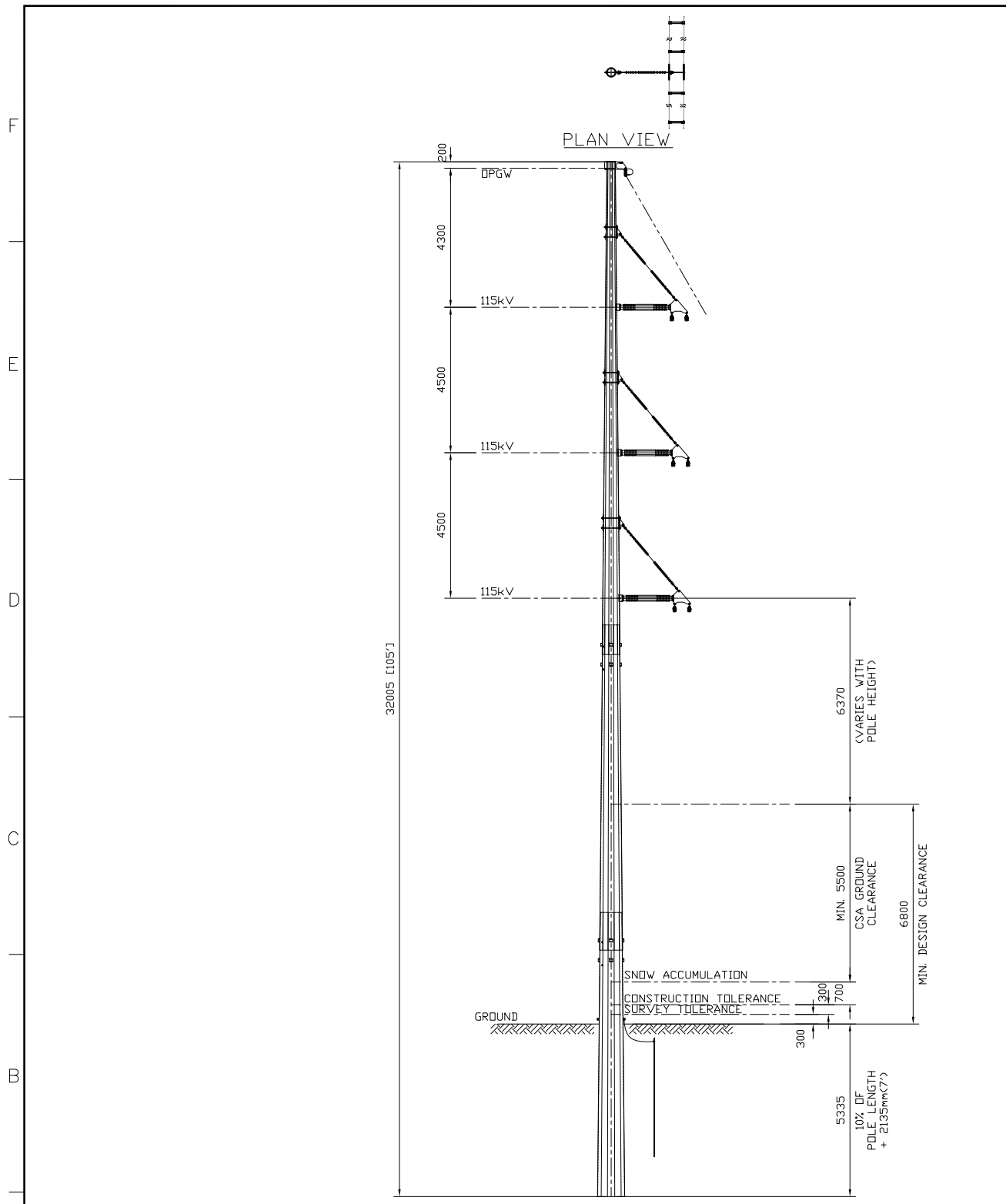
ISSUED FOR
 LEAVE TO CONSTRUCT

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EQUIPMENT LAYOUT PLAN

Figures 3(a)-(l) - Pole Structures and Framing



1CCT 115kV TRANSMISSION LINE
TANGENT (0 - 2°) CRITERIA DRAWING

DESIGN NOTES:

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

A. DESIGN CRITERIA

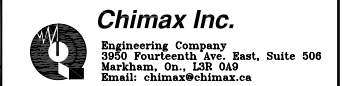
1. METEOROLOGICAL LOCATION: GODERICH
 2. MINIMUM DESIGN LOADING
 - 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - 2.2. CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - (i) IEC ICE (1/50): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.

B. CLEARANCE CRITERIA

1. MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
2. ADDITIONAL SURVEY TOLERANCE: 0.3 m
3. ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
4. VERTICAL GROUND CLEARANCE:
 - 4.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE
115kV / 138kV CONDUCTOR: 5.50 m
 - 4.2. DESIGN VERTICAL GROUND CLEARANCE
115kV / 138kV CONDUCTOR: 6.80 m
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): 12.5 mm (1/2")
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
6. PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")

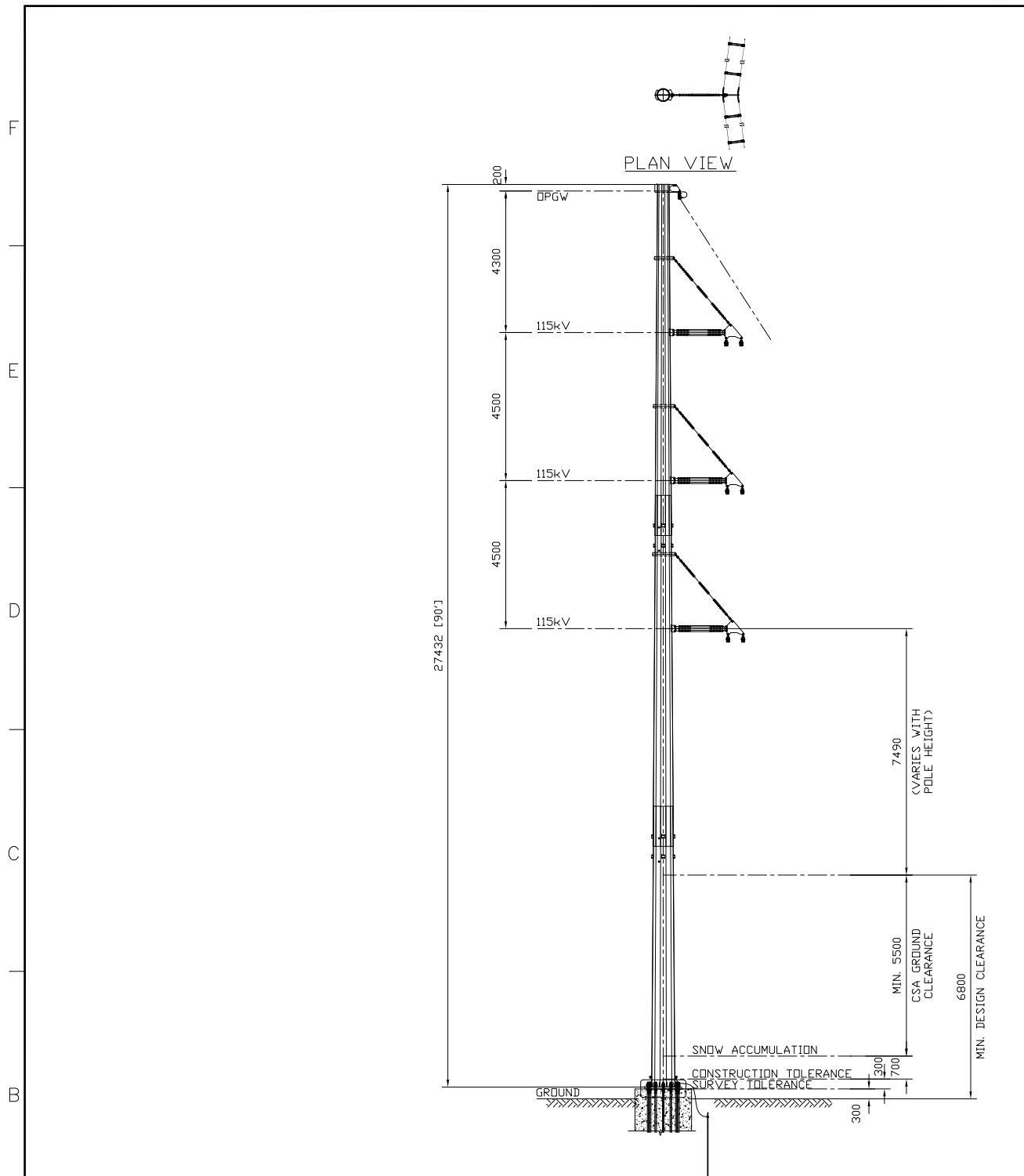
C. WIND POWER PROJECT CIRCUITS DATA

1. MERCHANT CIRCUIT(S)
 - 1.1. NOMINAL SYSTEM VOLTAGE: 121 kV
 - 1.2. NUMBER OF PHASES: 3 (THREE)
 - 1.3. SYSTEM FREQUENCY: 60 Hz
 - 1.4. NUMBER OF CIRCUIT: 1 (ONE)
 - 1.5. MAXIMUM CIRCUIT CURRENT: 2696A
 - 1.6. PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - 1.7. DESIGN CONDUCTOR TEMPERATURE: 100°C



REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				C	17/07/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.				B	22/11/12		ISSUED FOR REVIEW				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.				A	12/09/12		ISSUED FOR REVIEW				

APPROVED FOR CONSTRUCTION		CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.		AREA		NEXTERA 5-PACK TRANSMISSION LINE	
PROJECT PHASE		PROJECT NO.		ACTIVITY NO.		PACKAGE CODE	
SUBJECT		SCALE		BY		D/M/Y	
1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION TANGENT (0 - 2°) CRITERIA DRAWING		N.T.S. (11"x17")		D.SN. E.KWONG DRN. D.MAO		11/09/12	
CLIENT DWG. NO.		DRAWING NO.		REV.			
		1235-3-P310A		C			
CADD FILE ADDRESS		1235-3-P310A-C					



1CCT 115kV TRANSMISSION LINE
LIGHT ANGLE (2 - 15°) CRITERIA DRAWING

DESIGN NOTES:

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

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 20 mm @ -10°C
 - IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 12.5 mm (1/2")
 - RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.					C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.					B	22/11/12	ISSUED FOR REVIEW				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.					A	12/09/12	ISSUED FOR REVIEW				

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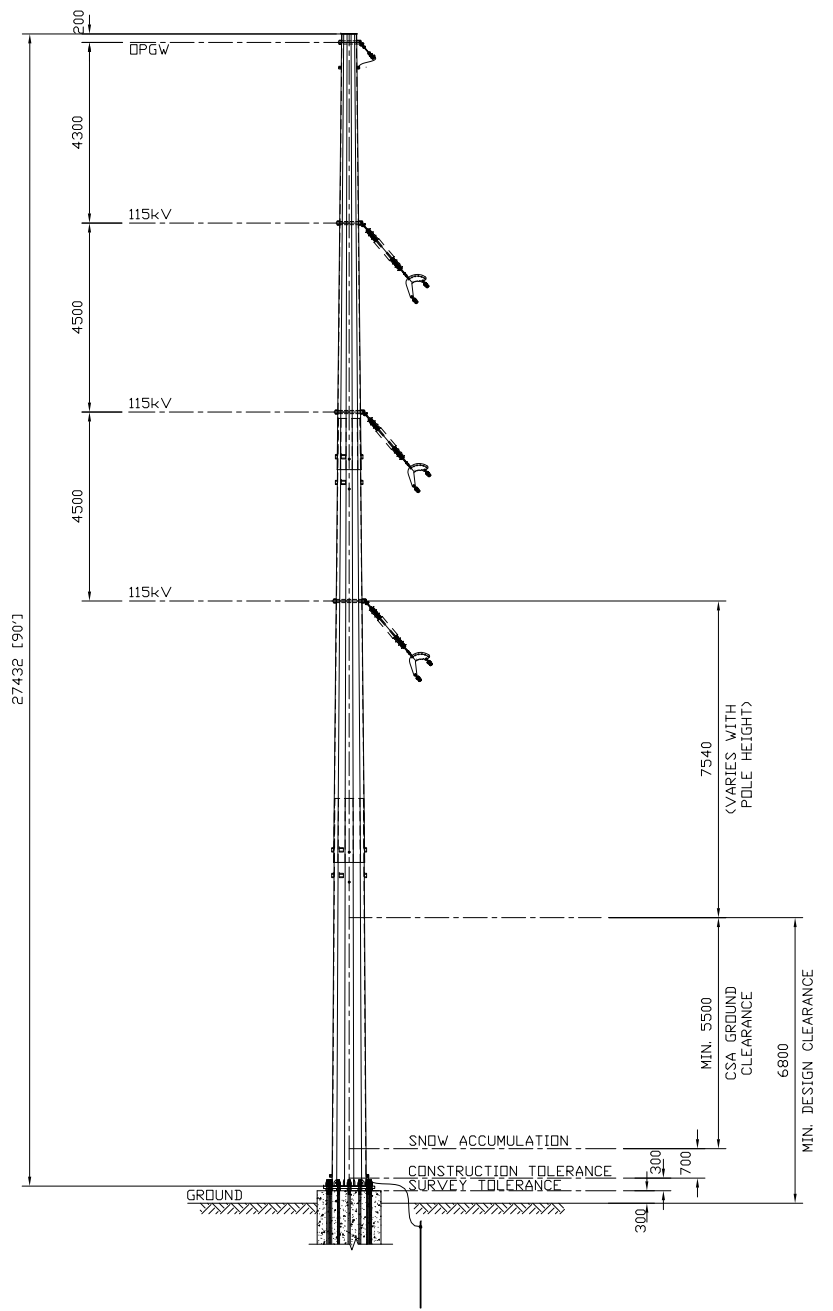
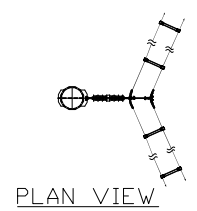
APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
		NEXTERA 5-PACK TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/M/Y
DSN.	E.KWONG	11/09/12
DRN.	D.MAO	11/09/12

SUBJECT	
1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION LIGHT ANGLE (2 - 15°) CRITERIA DRAWING	



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

CLIENT DWG. NO.	
DRAWING NO.	1235-3-P311A
REV.	C
CADD FILE ADDRESS	1235-3-P311A-C



1CCT 115kV TRANSMISSION LINE
MEDIUM ANGLE (15 - 45°) CRITERIA DRAWING

DESIGN NOTES:

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

A. DESIGN CRITERIA

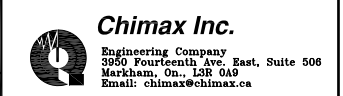
1. METEOROLOGICAL LOCATION: GODERICH
 2. MINIMUM DESIGN LOADING
 - 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - 2.2. CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - (i) IEC ICE (1/50): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.

B. CLEARANCE CRITERIA

1. MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
2. ADDITIONAL SURVEY TOLERANCE: 0.3 m
3. ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
4. VERTICAL GROUND CLEARANCE:
 - 4.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - 115kV / 138kV CONDUCTOR
 - 4.2. DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - 115kV / 138kV CONDUCTOR
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): 12.5 mm (1/2")
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
6. PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")

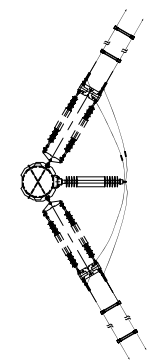
C. WIND POWER PROJECT CIRCUITS DATA

1. MERCHANT CIRCUIT(S)
 - 1.1. NOMINAL SYSTEM VOLTAGE: 121 kV
 - 1.2. NUMBER OF PHASES: 3 (THREE)
 - 1.3. SYSTEM FREQUENCY: 60 Hz
 - 1.4. NUMBER OF CIRCUIT: 1 (ONE)
 - 1.5. MAXIMUM CIRCUIT CURRENT: 2696A
 - 1.6. PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - 1.7. DESIGN CONDUCTOR TEMPERATURE: 100°C

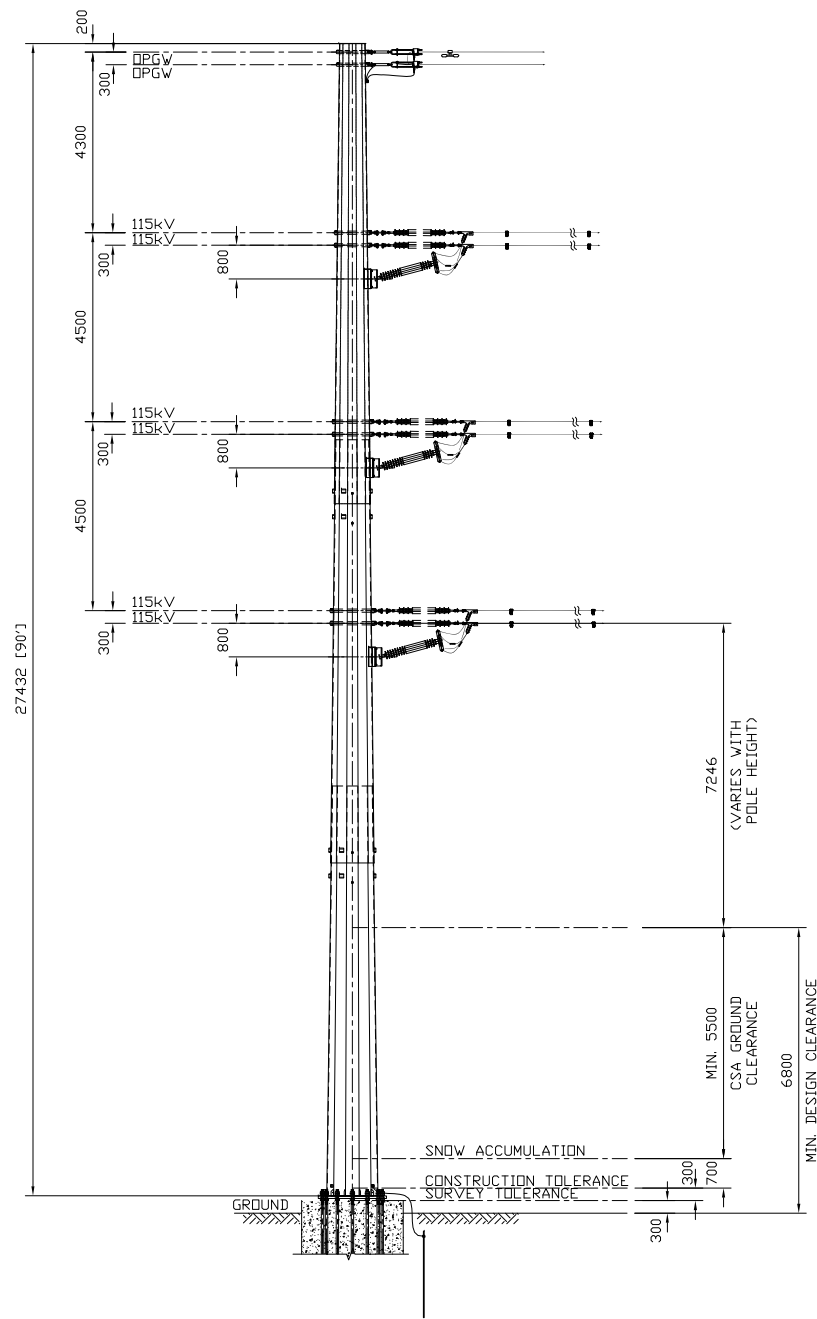


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B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.						B	22/11/12	ISSUED FOR REVIEW				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.						A	12/09/12	ISSUED FOR REVIEW				

APPROVED FOR CONSTRUCTION		CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.		AREA		NEXTERA 5-PACK TRANSMISSION LINE	
PROJECT PHASE		PROJECT NO.		ACTIVITY NO.		PACKAGE CODE	
SUBJECT		SCALE		BY		D/M/Y	
1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION MEDIUM ANGLE (15 - 45°) CRITERIA DRAWING		N.T.S. (11"x17")		D.SN. E.KWONG DRN. D.MAO		11/09/12 11/09/12	
STAMP/SEAL		CLIENT DWG. NO.		DRAWING NO.		REV.	
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.		1235-3-P313A		1235-3-P313A		C	
CADD FILE ADDRESS		1235-3-P313A-C					



PLAN VIEW



1CCT 115kV TRANSMISSION LINE
HEAVY ANGLE (45 - 60°) CRITERIA DRAWING

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: GODERICH
 - 2. MINIMUM DESIGN LOADING
 - 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 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): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
 - 1. MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - 2. ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - 3. ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - 4. VERTICAL GROUND CLEARANCE:
 - 4.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - 115kV / 138kV CONDUCTOR
 - 4.2. DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - 115kV / 138kV CONDUCTOR
 - 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): 100°C
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - 6. PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
 - 1. MERCHANT CIRCUIT(S)
 - 1.1. NOMINAL SYSTEM VOLTAGE: 121 kV
 - 1.2. NUMBER OF PHASES: 3 (THREE)
 - 1.3. SYSTEM FREQUENCY: 60 Hz
 - 1.4. NUMBER OF CIRCUIT: 1 (ONE)
 - 1.5. MAXIMUM CIRCUIT CURRENT: 2696A
 - 1.6. PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - 1.7. DESIGN CONDUCTOR TEMPERATURE: 100°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.					C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.					B	22/11/12	ISSUED FOR REVIEW				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.					A	12/09/12	ISSUED FOR REVIEW				

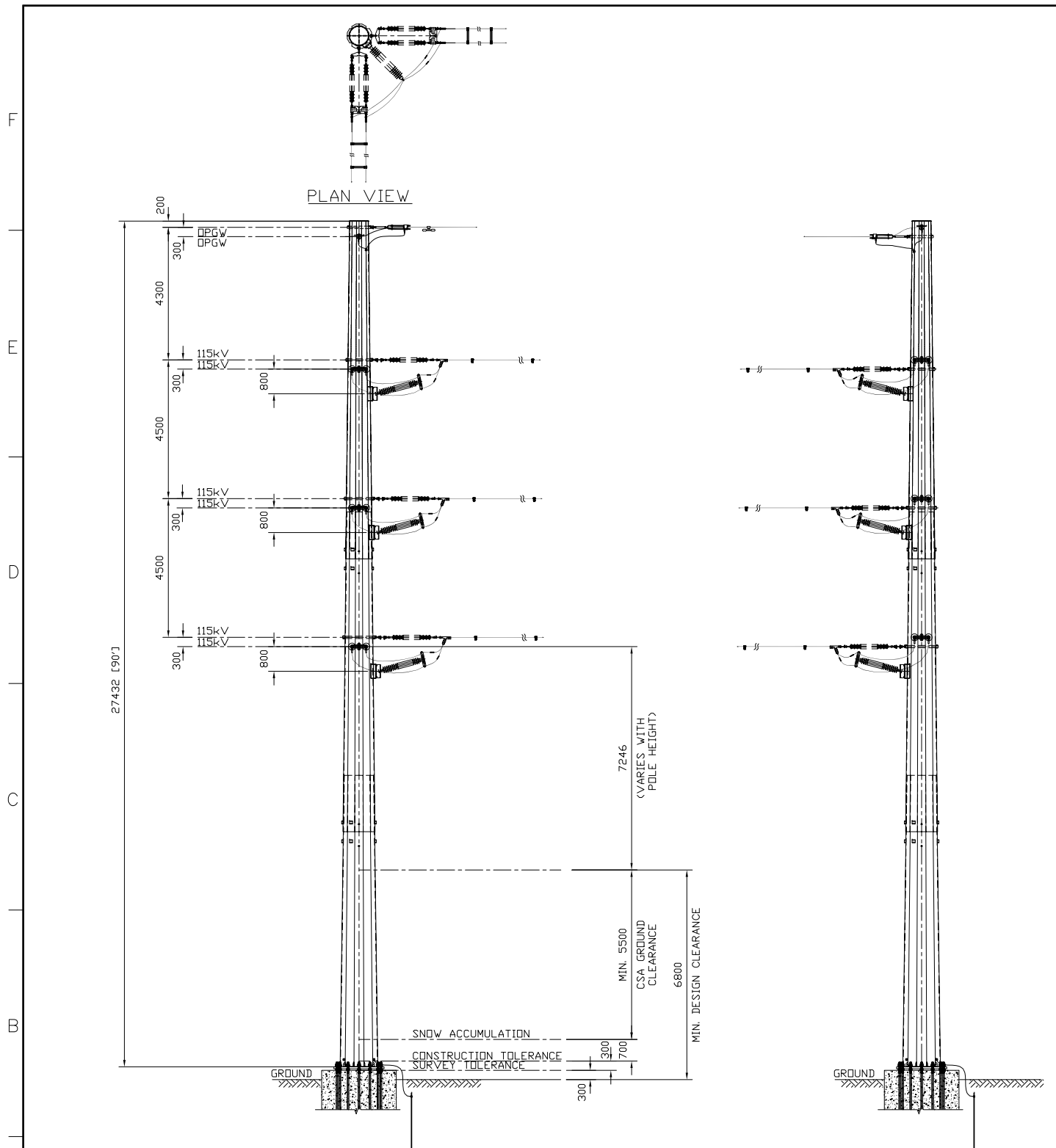
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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SCALE		BY
N.T.S. (11"x17")		D/M/Y
DSN.	E.KWONG	11/09/12
DRN.	D.MAO	11/09/12

SUBJECT	
1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION HEAVY ANGLE (45 - 60°) CRITERIA DRAWING	



CLIENT DWG. NO.	
DRAWING NO.	1235-3-P314A
REV.	C
CADD FILE ADDRESS	1235-3-P314A-C



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

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 20 mm @ -10°C
 - IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 12.5 mm (1/2")
 - RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.						C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.						B	22/11/12	ISSUED FOR REVIEW				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.						A	12/09/12	ISSUED FOR REVIEW				

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA	NEXTERA 5-PACK TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT	
			1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION HEAVY ANGLE (60 - 90°) CRITERIA DRAWING	
SCALE	BY		D/M/Y	
N.T.S. (11"x17")	DSN. E.KWONG	11/09/12		
	DRN. D.MAO	11/09/12		

STAMP/SEAL

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

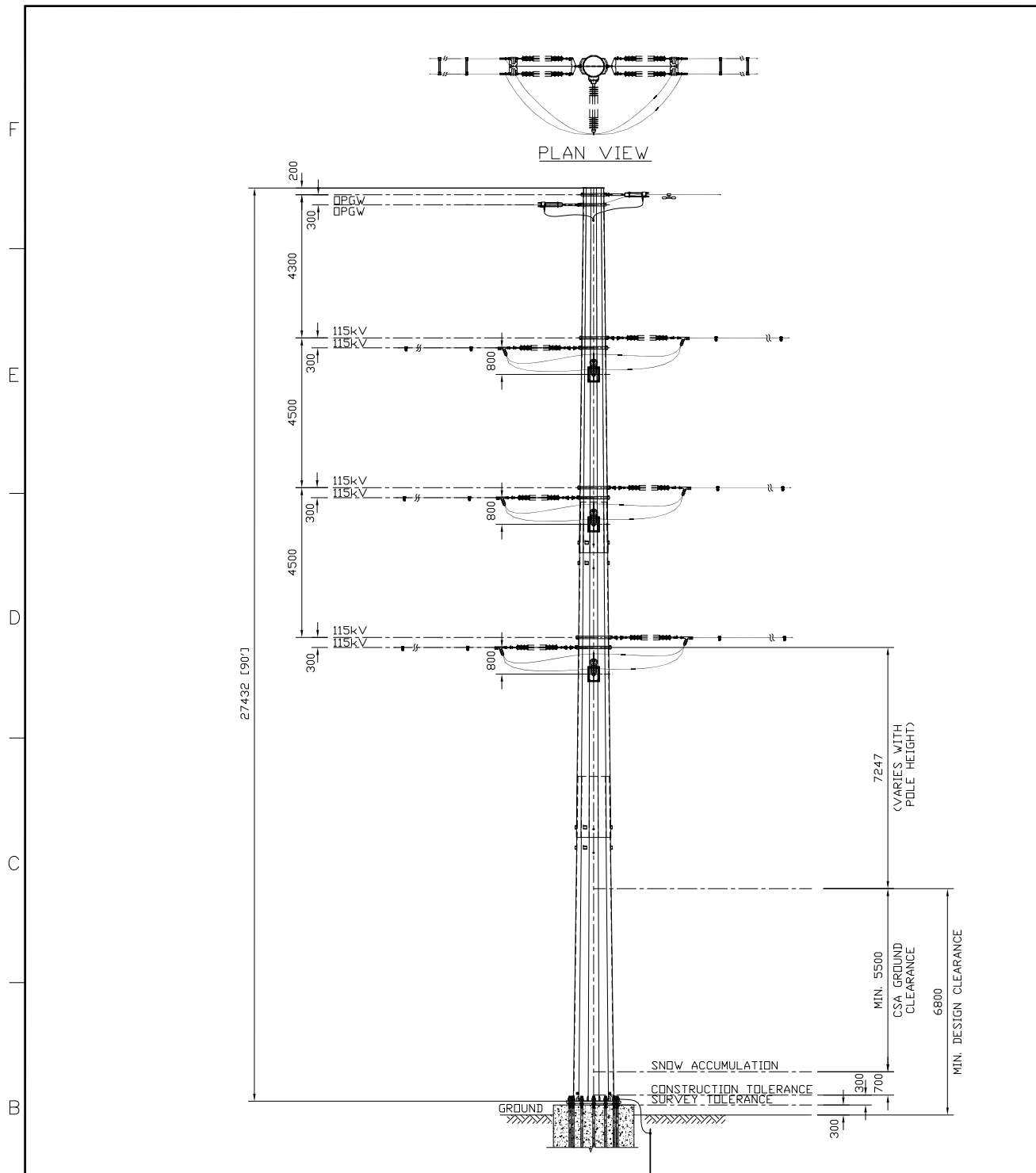
CLIENT DWG. NO.

DRAWING NO.
1235-3-P315A

REV. C

CADD FILE ADDRESS
1235-3-P315A-C





1CCT 115kV TRANSMISSION LINE
DOUBLE DEADEND CRITERIA DRAWING

- DESIGN NOTES:**
- THE PROPOSED STRUCTURE FRAMING, POLE REQUIREMENT AND RECOMMENDATION STANDARD SPAN ARE BASED ON THE FOLLOWING DESIGN DATA:
- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 20 mm @ -10°C
 - IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 12.5 mm (1/2")
 - RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

REV	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION										17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

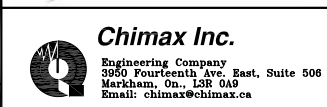
APPROVED FOR CONSTRUCTION

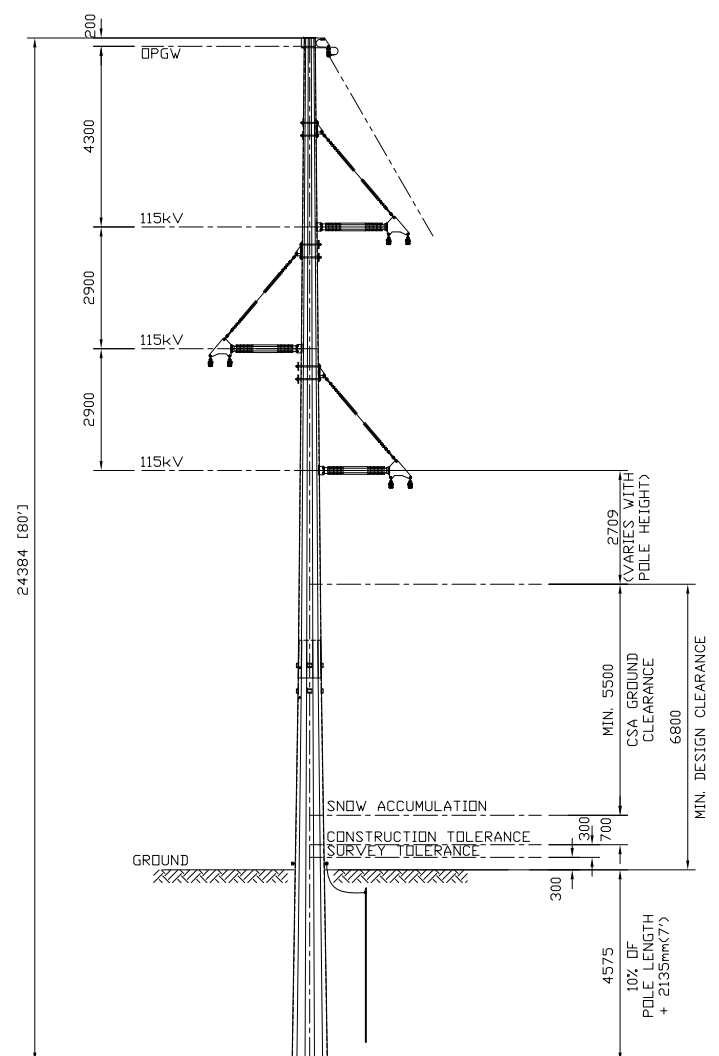
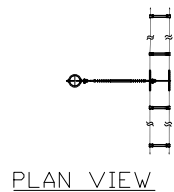
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA	NEXTERA 5-PACK TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT 1CCT 115kV TRANSMISSION LINE DOUBLE DEADEND CRITERIA DRAWING	
SCALE N.T.S. (11"x17")	BY DSN. E.KWONG DRN. J.CHEN	D/M/Y 15/07/13 15/07/13	CLIENT DWG. NO. DRAWING NO. 1235-3-P316A	

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CADD FILE ADDRESS
1235-3-P316A-A





1CCT 115kV TRANSMISSION LINE
TANGENT (0 - 2°) TRIANGULAR CONFIGURATION CRITERIA DRAWING

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

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 20 mm @ -10°C
 - IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE 115kV / 138kV CONDUCTOR: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE 115kV / 138kV CONDUCTOR: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 12.5 mm (1/2")
 - RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

REV	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.R.	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION									A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

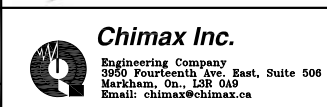
APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA	NEXTERA 5-PACK TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION TANGENT (0 - 2°) TRIANGULAR CONFIGURATION CRITERIA DRAWING	
SCALE N.T.S. (11"x17")	BY DSN. E.KWONG DRN. J.CHEN	D/M/Y 15/07/13 15/07/13	CLIENT DWG. NO. DRAWING NO. 1235-3-P318A	

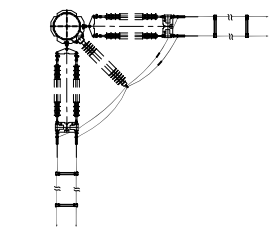
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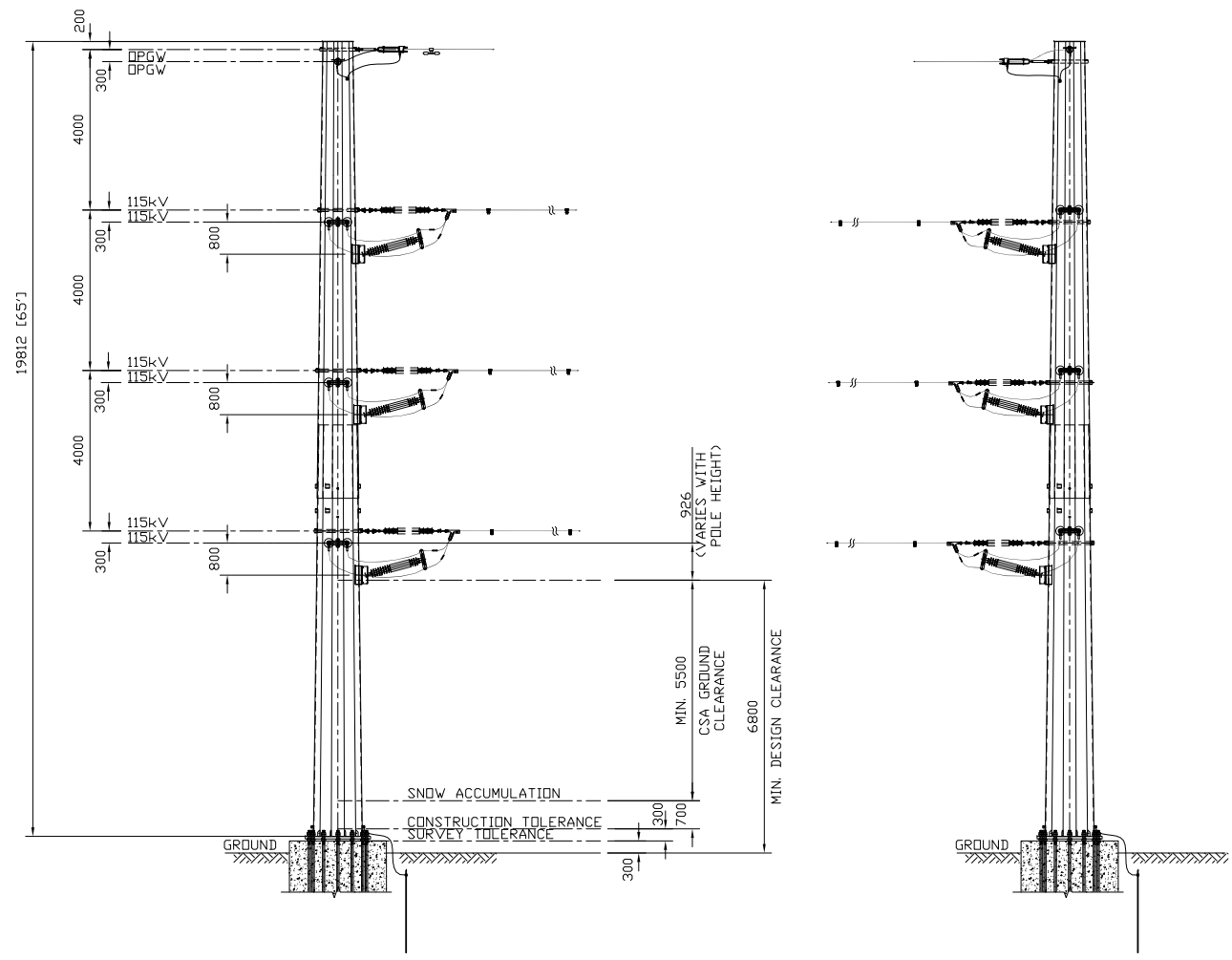
CADD FILE ADDRESS
1235-3-P318A-A



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PLAN VIEW



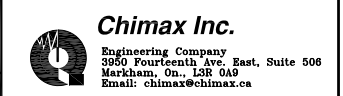
1CCT 115kV TRANSMISSION LINE
HEAVY ANGLE (60 - 90°) CRITERIA DRAWING
(4M SEPARATION)

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: GODERICH
 2. MINIMUM DESIGN LOADING
 - 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 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): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- B. CLEARANCE CRITERIA**
1. MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 2. ADDITIONAL SURVEY TOLERANCE: 0.3 m
 3. ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 4. VERTICAL GROUND CLEARANCE:
 - 4.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - 4.2. DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 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): 12.5 mm (1/2")
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 6. PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (-108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (-103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
1. MERCHANT CIRCUIT(S)
 - 1.1. NOMINAL SYSTEM VOLTAGE: 121 kV
 - 1.2. NUMBER OF PHASES: 3 (THREE)
 - 1.3. SYSTEM FREQUENCY: 60 Hz
 - 1.4. NUMBER OF CIRCUIT: 1 (ONE)
 - 1.5. MAXIMUM CIRCUIT CURRENT: 2696A
 - 1.6. PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - 1.7. DESIGN CONDUCTOR TEMPERATURE: 100°C

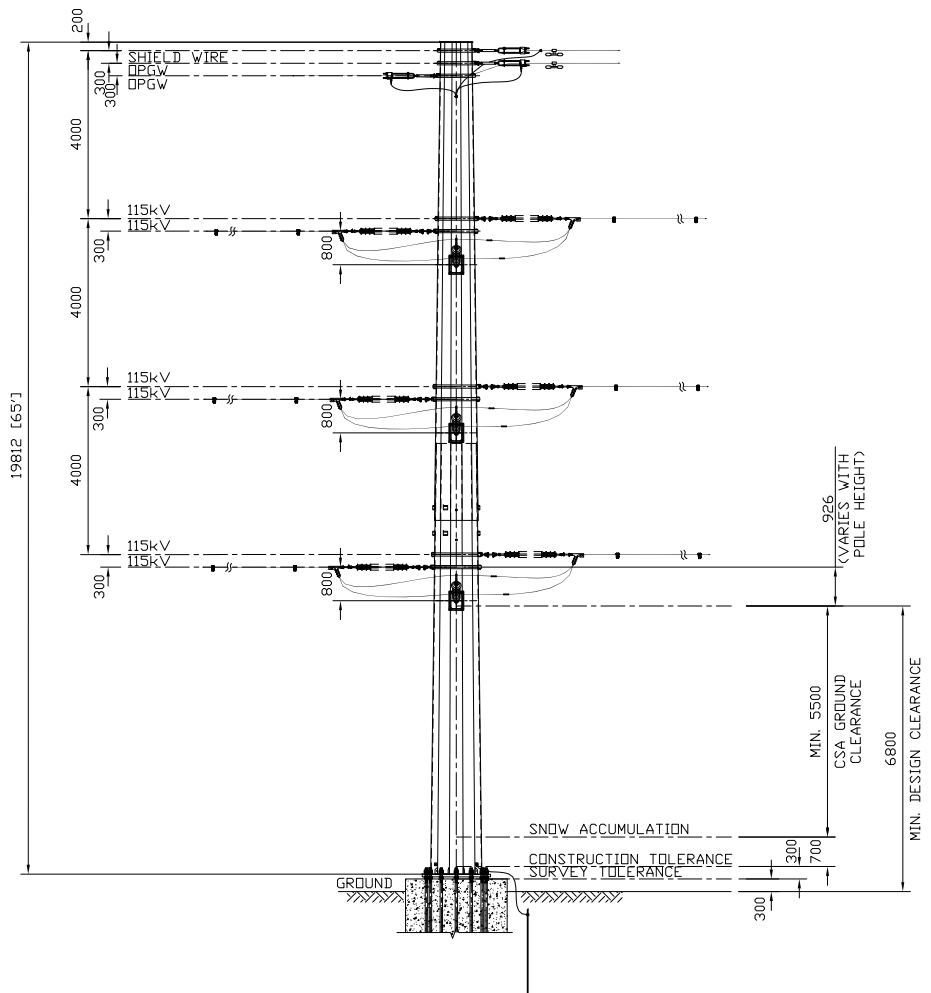
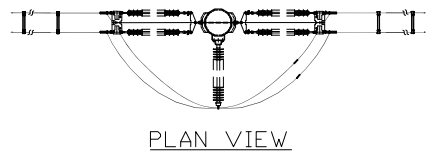
F
E
D
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B
A



REV	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION										17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			
		REVISION											ISSUED FOR			

APPROVED FOR CONSTRUCTION				CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.		AREA NEXTERA 5-PACK TRANSMISSION LINE	
PROJECT PHASE				PROJECT NO.		ACTIVITY NO.	
PROJECT NO.				PACKAGE CODE		SUBJECT	
SCALE N.T.S. (11"x17")				BY DSN. E.KWONG		D/M/Y 17/05/13	
STAMP/SEAL				DRN. J.CHEN		17/05/13	
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				REV. A		CADD FILE ADDRESS 1235-2-P319A-A	

9 8 7 6 5 4 3 2 1



1CCT 115kV TRANSMISSION LINE
DOUBLE DEADEND CRITERIA DRAWING
(FOR BORNISH STATION TAP)

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: GODERICH
 2. MINIMUM DESIGN LOADING
 - 2.1. CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 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): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
 - WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
1. MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 2. ADDITIONAL SURVEY TOLERANCE: 0.3 m
 3. ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 4. VERTICAL GROUND CLEARANCE:
 - 4.1. MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE
115kV / 138kV CONDUCTOR: 5.50 m
 - 4.2. DESIGN VERTICAL GROUND CLEARANCE
115kV / 138kV CONDUCTOR: 6.80 m
 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): 100°C
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 6. PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
1. MERCHANT CIRCUIT(S)
 - 1.1. NOMINAL SYSTEM VOLTAGE: 121 kV
 - 1.2. NUMBER OF PHASES: 3 (THREE)
 - 1.3. SYSTEM FREQUENCY: 60 Hz
 - 1.4. NUMBER OF CIRCUIT: 1 (ONE)
 - 1.5. MAXIMUM CIRCUIT CURRENT: 2696A
 - 1.6. PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - 1.7. DESIGN CONDUCTOR TEMPERATURE: 100°C

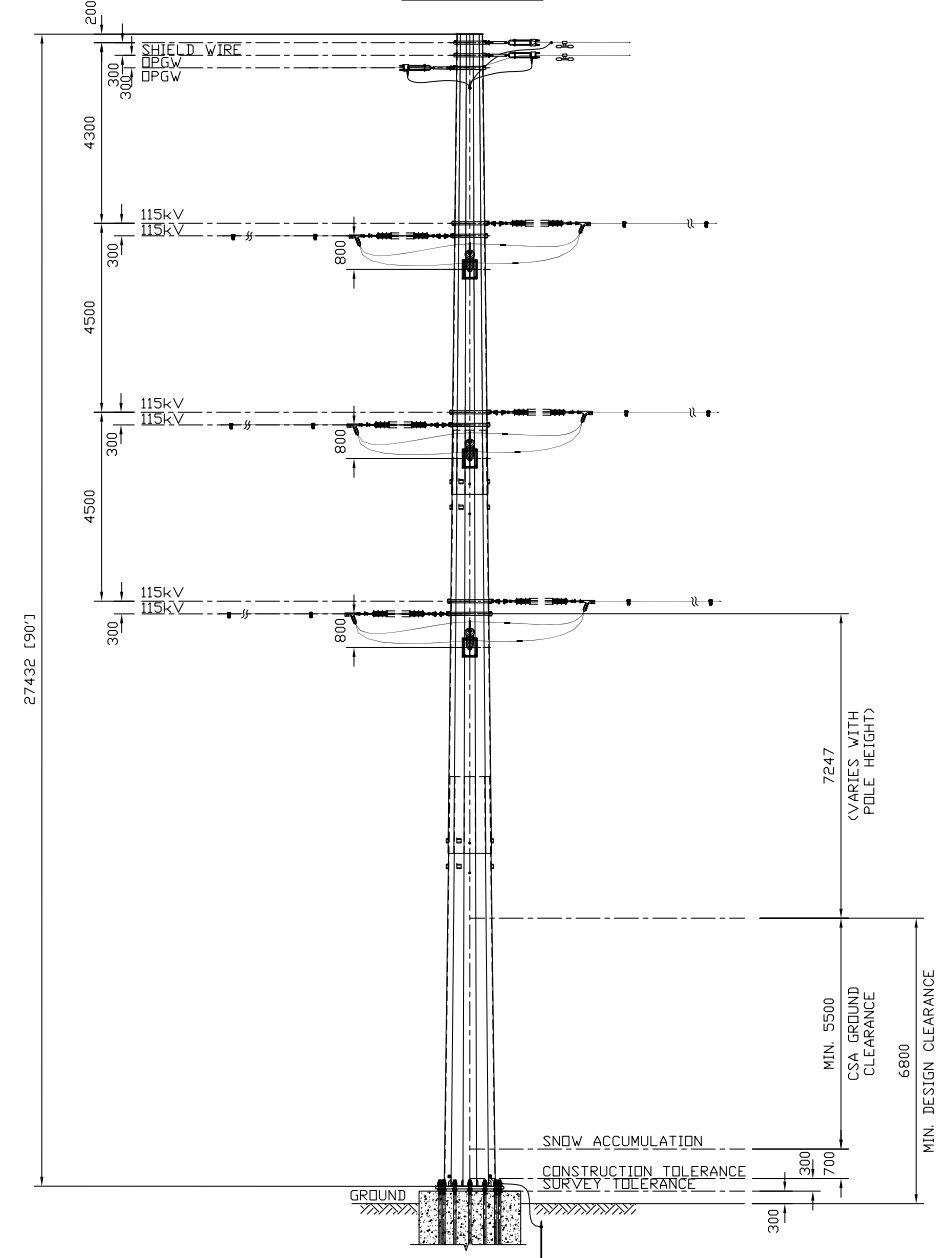
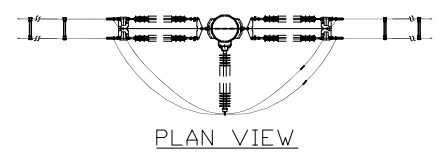


REV	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.	DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION									A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	AREA	NEXTERA 5-PACK TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION DOUBLE DEADEND CRITERIA DRAWING (FOR BORNISH STATION TAP)	
SCALE N.T.S. (11"x17")	BY DSN. E.KWONG DRN. J.CHEN	D/M/Y 15/07/13 15/07/13	CLIENT DWG. NO.	
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			REV. A	

CADD FILE ADDRESS
1235-3-P320A-A



1CCT 115kV TRANSMISSION LINE
DOUBLE DEADEND CRITERIA DRAWING
(FOR JERICHO STATION TAP)

DESIGN NOTES:

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

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - IEC ICE (1/50): 20 mm @ -10°C
 - IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 100°C
 - RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - GALLOPING:
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

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REV	D/M/Y	ISS	D/M/Y	APP	APP	APP	APP	APP	APP	ISS	D/M/Y	APP	REF	NUMBER	TITLE
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION		J.C.	M.H.						17/07/13				ISSUED FOR LEAVE TO CONSTRUCT APPLICATION
		REVISION		DR	CHK	APP	APP	APP	APP	ISS	D/M/Y	APP			REFERENCES

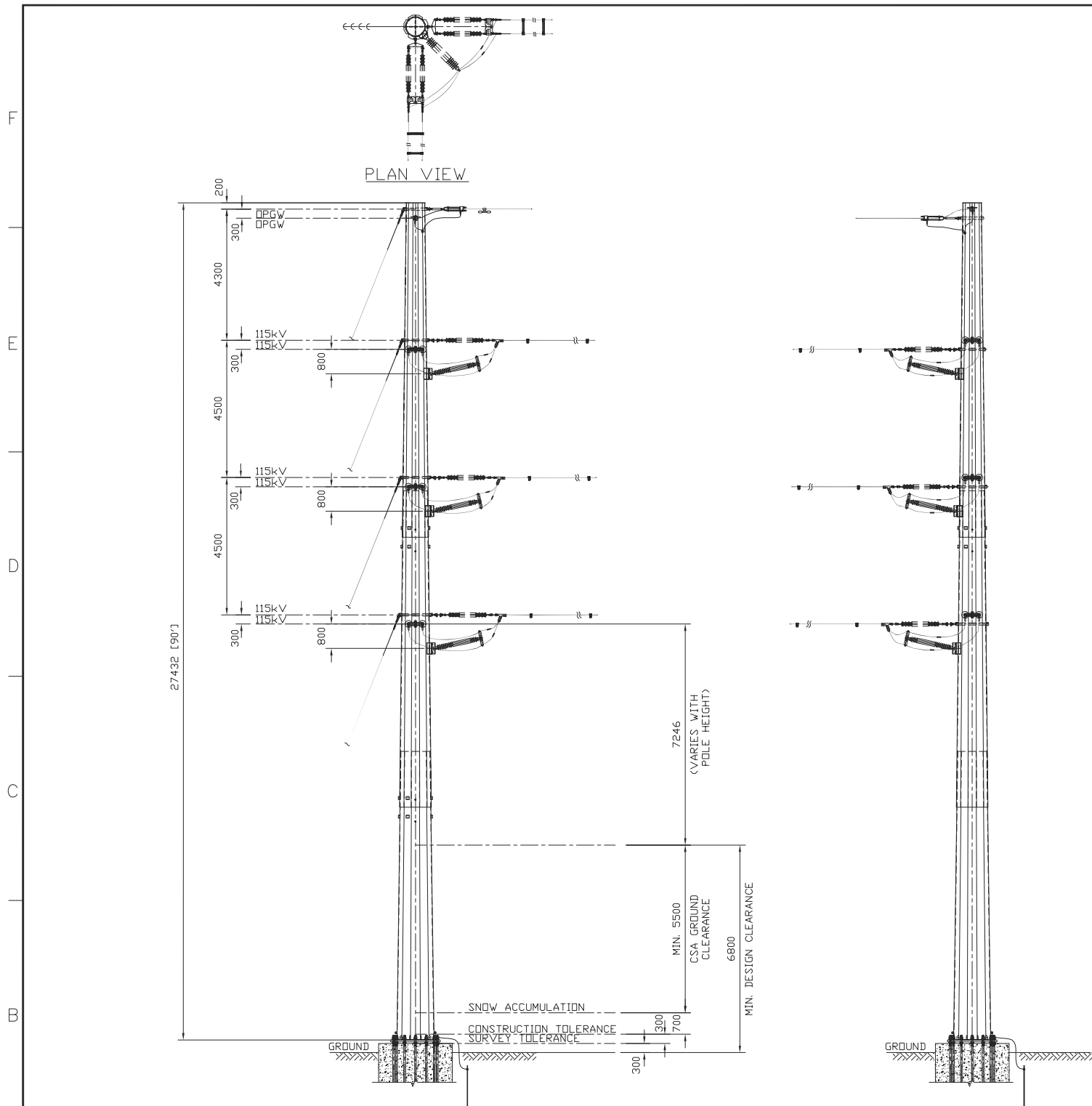
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APPROVED FOR CONSTRUCTION	
CLIENT PROJECT MGR.	DEPARTMENT MGR. PROJECT MGR.
PROJECT PHASE	
PROJECT NO.	ACTIVITY NO. PACKAGE CODE
SCALE	BY D/M/Y
N.T.S. (11"x17")	DSN. E.KWONG 15/07/13 DRN. J.CHEN 15/07/13

AREA	NEXTERA 5-PACK TRANSMISSION LINE
SUBJECT	1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION DOUBLE DEADEND CRITERIA DRAWING (FOR JERICHO STATION TAP)



CLIENT DWG. NO.	
DRAWING NO.	1235-3-P321A
REV.	A
CADD FILE ADDRESS	1235-3-P321A-A



1CCT 115kV TRANSMISSION LINE
HEAVY ANGLE (60 - 90°) CRITERIA DRAWING
(WITH DOWN GUY)

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

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - (i) IEC ICE (1/50): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- WIRE ADJUSTMENT MODELS & MATERIAL FACTORS AS PER CSA 22.3 No. 60826.
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - (i) MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - (ii) DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 100°C
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETER, U.N.O.

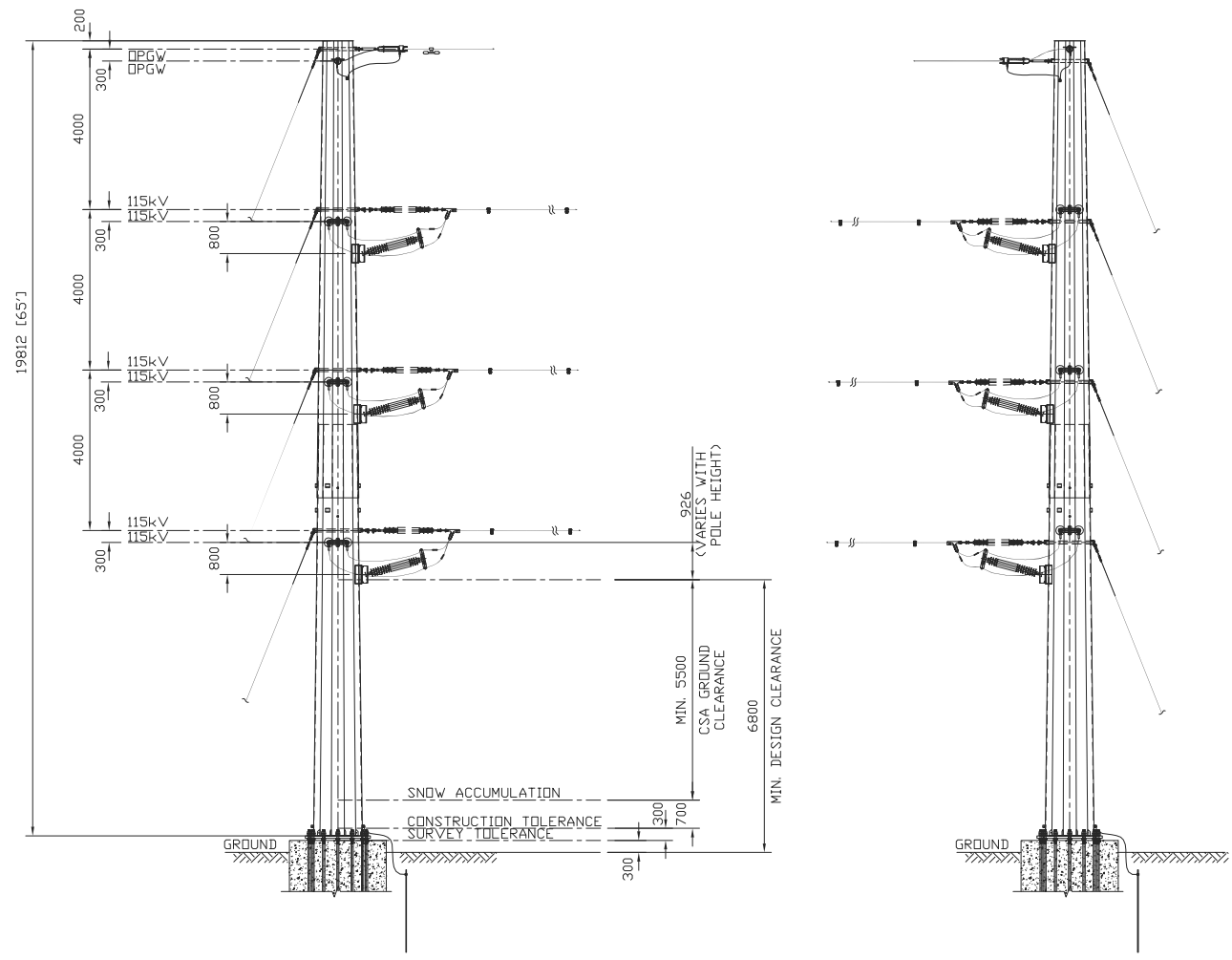
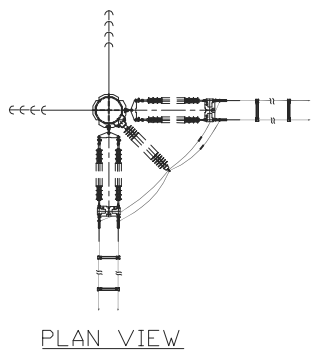
REV	D/M/Y	REVISION	J.C.	M.R.	DR	CHK	APP	APP	APP	ISS	D/M/Y	APP	ISSUED FOR	REF	NUMBER	TITLE	REFERENCES
A	22/08/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION								A	22/08/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION				

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APPROVED FOR CONSTRUCTION		AREA: NEXTERA 5-PACK TRANSMISSION LINE	
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.	
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE	SUBJECT: 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION HEAVY ANGLE (60 - 90°) CRITERIA DRAWING (WITH DOWN GUY)
SCALE: N.T.S. (11"x17")	BY: DSN, E.KWONG	D/M/Y: 21/08/13	CLIENT DWG. NO.: 1235-3-P322A
	DRN, J.CHEN	D/M/Y: 21/08/13	DRAWING NO.: 1235-3-P322A
			REV: A



CADD FILE ADDRESS
1235-3-P322A-A



1CCT 115kV TRANSMISSION LINE
HEAVY ANGLE (60 - 90°) CRITERIA DRAWING
(4M SEPARATION WITH DOWN GUY)

DESIGN NOTES:

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

- A. DESIGN CRITERIA**
- METEOROLOGICAL LOCATION: GODERICH
 - MINIMUM DESIGN LOADING
 - CSA 22.3 No.1 (LIMIT STATE DESIGN) - CSA HEAVY CONDITION
 - HOURLY WIND: 400 Pa
 - RADIAL ICE THICKNESS: 12.5 mm (1/2")
 - CONDUCTOR TEMPERATURE: -20°C
 - CSA 22.3 No.60826 (IEC RELIABILITY DESIGN) - 1/50 PERIOD
 - (i) IEC ICE (1/50): 20 mm @ -10°C
 - (ii) IEC WIND (1/50): 111 km/h (582.77 Pa) @ -10°C
 - (iii) COMBINED ICE (85%) & WIND (60%): 17 mm & 349.66 Pa @ -10°C
- B. CLEARANCE CRITERIA**
- MEAN ANNUAL SNOW ACCUMULATION: 0.7 m
 - ADDITIONAL SURVEY TOLERANCE: 0.3 m
 - ADDITIONAL CONSTRUCTION TOLERANCE: 0.3 m
 - VERTICAL GROUND CLEARANCE:
 - MINIMUM CSA 22.3 No.1 VERTICAL GROUND CLEARANCE 115kV / 138kV CONDUCTOR: 5.50 m
 - DESIGN VERTICAL GROUND CLEARANCE 115kV / 138kV CONDUCTOR: 6.80 m
 - VERTICAL GROUND CLEARANCE LOADING CONDITIONS
 - PHASE CONDUCTOR
 - (i) MAXIMUM CONDUCTOR TEMPERATURE: 100°C
 - (ii) DESIGN CONDUCTOR TEMPERATURE (AS PER IEEE STD. 738): 100°C
 - (iii) RADIAL ICE THICKNESS (CLEARANCE): 12.5 mm (1/2")
 - PHASE CLEARANCE CONDITIONS:
 - (i) HOURLY WIND (NATIONAL BUILDING CODE 1/50): 550 Pa (~108 km/hr)
 - (ii) HOURLY WIND (NATIONAL BUILDING CODE 1/30): 500 Pa (~103 km/hr)
 - (iii) GALLOPING
 - GALLOPING SWING: 290 Pa
 - GALLOPING ICE: 12.5 mm (1/2")
- C. WIND POWER PROJECT CIRCUITS DATA**
- MERCHANT CIRCUIT(S)
 - NOMINAL SYSTEM VOLTAGE: 121 kV
 - NUMBER OF PHASES: 3 (THREE)
 - SYSTEM FREQUENCY: 60 Hz
 - NUMBER OF CIRCUIT: 1 (ONE)
 - MAXIMUM CIRCUIT CURRENT: 2696A
 - PHASE CONDUCTOR SIZE: 2 x 1351.5MCM ACSR (DIPPER)
 - DESIGN CONDUCTOR TEMPERATURE: 100°C

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETER, U.N.O.

REV	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.R.	DR	CHK	APP	APP	APP	ISS	D/M/Y	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	REF	NUMBER	TITLE
A	22/08/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION									22/08/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION			

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APPROVED FOR CONSTRUCTION		
CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		AREA
		NEXTERA 5-PACK TRANSMISSION LINE
PROJECT NO.	ACTIVITY NO.	PACKAGE CODE
SUBJECT		
1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION HEAVY ANGLE (60 - 90°) CRITERIA DRAWING (4M SEPARATION WITH DOWN GUY)		
SCALE	BY	D/M/Y
N.T.S. (11"x17")	DSN. E.KWONG	17/05/13
	DRN. J.CHEN	17/05/13



CLIENT DWG. NO.	
DRAWING NO.	1235-3-P323A
REV.	A
CADD FILE ADDRESS	1235-3-P323A-A

NEED FOR THE PROJECT

1 In July 2011, the OPA awarded a contract under the FIT Program in respect of the Jericho
2 Project.¹ The Jericho Project will further the Government of Ontario's policy objective of
3 increasing the amount of renewable energy generation that forms part of Ontario's energy supply
4 mix. In particular, the Jericho Project will contribute approximately 149 MW of renewable
5 energy capacity towards this objective. The Proposed Transmission Facilities are needed to
6 connect the Jericho Project to the Bornish CSS, which will in turn be connected to the IESO-
7 controlled grid. As the development of the Jericho Project promotes the use of renewable energy
8 sources in a manner consistent with the policies of the Government of Ontario, the Proposed
9 Transmission Facilities are in the public interest pursuant to paragraph 96(2)2 of the *Ontario*
10 *Energy Board Act, 1998*, which provides as follows:

11 **96. (2)** In an application under section 92, the Board shall only consider the
12 following when, under subsection (1), it considers whether the construction,
13 expansion or reinforcement of the electricity transmission line or electricity
14 distribution line, or the making of the interconnection, is in the public interest:

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

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

¹ See OPA announcement and list of projects for which FIT Contract offers were made on July 4, 2011 at <http://fit.powerauthority.on.ca/program-updates/newsroom/projects-enabled-bruce-milton-transmission-line-offered-contracts>. Although the application for a FIT contract in respect of the Jericho Project was initially filed by Boulevard Associates Canada Inc., a reorganization occurred during the application period and the FIT contract in respect of this project was in fact issued directly to Jericho Wind, Inc. on July 13, 2011 (FIT Contract #F-002172-WIN-130-601). The FIT Application was assigned by Boulevard to Jericho on May 31, 2011. The listing on the OPA's website, as referenced above, refers to the name of the initial FIT contract applicant rather than the FIT contract recipient.

TRANSMISSION ROUTE & ALTERNATIVES CONSIDERED

1 The Applicant employed a range of criteria in selecting the route for connecting the Jericho
2 Project to the Bornish Customer Switching Station. This Schedule discusses the process that the
3 Applicant undertook in selecting the route for the Proposed Transmission Facilities, as well as in
4 reviewing potential alternative routes that were ultimately rejected.

5 **1. Selection Process**

6 The route and specific locations for the Proposed Transmission Facilities were selected by the
7 Applicant as the preferred means of connecting the Jericho Project to the Bornish Customer
8 Switching Station following consultation with members of the community, municipal officials,
9 Hydro One and other stakeholders, as well as based on comprehensive technical and
10 environmental reviews. In particular, as part of its Renewable Energy Approval (“**REA**”)
11 process, the Applicant issued notices, delivered presentations, participated in meetings with local
12 government officials and held public meetings. A detailed discussion of the Applicant’s
13 community and stakeholder consultations is set out in Exhibit G, Tab 1, Schedule 1. During the
14 course of these consultations, the Applicant shared information concerning the potential route for
15 the transmission facilities needed to connect the Jericho Project.

16 Through its technical review of options and environmental considerations, the Applicant
17 identified a number of constraints on the range of potential transmission routes. In addition to
18 addressing these constraints, the Applicant has made refinements along the route corridor to the
19 extent feasible in order to address routing concerns.

20 **2. Rationale for Selecting the Proposed Transmission Route**

21 The Proposed Transmission Facilities include a single circuit 115 kV class overhead
22 transmission line that runs approximately 15.7 km from the proposed Jericho Collection
23 Substation in the Municipality of Lambton Shores to the Bornish Customer Switching Station in
24 the Municipality of North Middlesex.

1 Early in its development process, the Applicant recognized that the range of potential route
2 options for connecting the Jericho Project to the Bornish Customer Switching Station would be
3 fundamentally constrained by the limited number of available crossings along the Ausable River
4 and the environmentally sensitive area that surrounds the river in the project area. The Ausable
5 River runs north to south through the study area and ultimately discharges into Lake Huron.
6 Given that the transmission line route must commence at the Jericho Collection Substation,
7 which needs to be located in close proximity to the wind turbines that are associated with the
8 Jericho Project, and that it must terminate at the proposed Bornish Customer Switching Station,
9 it is unavoidable that the transmission line route must cross the Ausable River at some point.

10 For crossing the Ausable River, the Applicant determined that it would be less disruptive to use
11 an existing river crossing rather than establish a new crossing. A new crossing would necessitate
12 the clearing of trees and vegetation in, and construction activities to be carried out upon, natural
13 areas on either side of the river. Natural areas within the Ausable River valley contain several
14 environmentally sensitive features including provincially significant Life Science Areas of
15 Natural and Scientific Interest and provincially significant wetlands. Using an existing river
16 crossing would avoid or minimize impacts to these features.

17 A review of the existing river crossings in the vicinity of the Jericho Project found that there are
18 a very limited number of crossings. The Applicant determined that the Thompson
19 Line/Elginfield Road river crossing provides the most direct transmission line route from the
20 Jericho Collection Substation to the Bornish Customer Switching Station. The use of the next-
21 closest available river crossings would result in transmission line route lengths that are
22 significantly greater than the length of the Proposed Transmission Line. To the north, the next-
23 closest crossing is on Bog Line and to the south the next-closest crossing is on Townsend Line.
24 It is estimated that, using ROWs, a route that uses the Bog Line river crossing would be close to
25 25 km in length while a route that uses the Townsend Line river crossing would be
26 approximately 30 km in length. This is compared to the approximately 15.7 km length of the
27 Proposed Transmission Line. Moreover, the use of these alternative crossing locations would
28 provide no identifiable advantages over the route selected for the Proposed Transmission

1 Facilities. Rather, the increased length of transmission line would result in a greater number of
2 properties being affected as compared to the route selected for the Proposed Transmission
3 Facilities.

4 Given the additional length of transmission line that would be required to connect the Jericho
5 Collection Substation to the Bornish Customer Switching Station via these alternative river
6 crossings, and the conclusion that the Thompson Line/Elginfield Road crossing would facilitate
7 the most direct route while minimizing the potential for negative environmental effects, the
8 Applicant determined that the Thompson Line/Elginfield Road crossing is the preferred location
9 for crossing the Ausable River and that any transmission route selected would need to pass
10 through this location. Moreover, given the proximity of both the Jericho Collection Substation
11 and the Bornish Customer Switching Station to Thompson Line and Elginfield Road, it became
12 clear to the Applicant that a transmission line route running along Thompson Line and Elginfield
13 Road would be the preferred transmission line route.

14 3. **Proposed Transmission Line Route**

15 Accordingly, the Applicant's proposed Transmission Line route runs along Thompson Line and
16 Elginfield Road from the site of the Jericho Collection Substation on the south side of Thomson
17 Line between Jericho Road and Northville Road in the Municipality of Lambton Shores,
18 Lambton County, to the site of the Bornish Customer Switching Station on the west side of
19 Kerwood Road between Elginfield Road and Cold Stream Road in the Municipality of North
20 Middlesex, Middlesex County. The route is shown in the maps provided in Exhibit B, Tab 2,
21 Schedule 4, Figure 2.

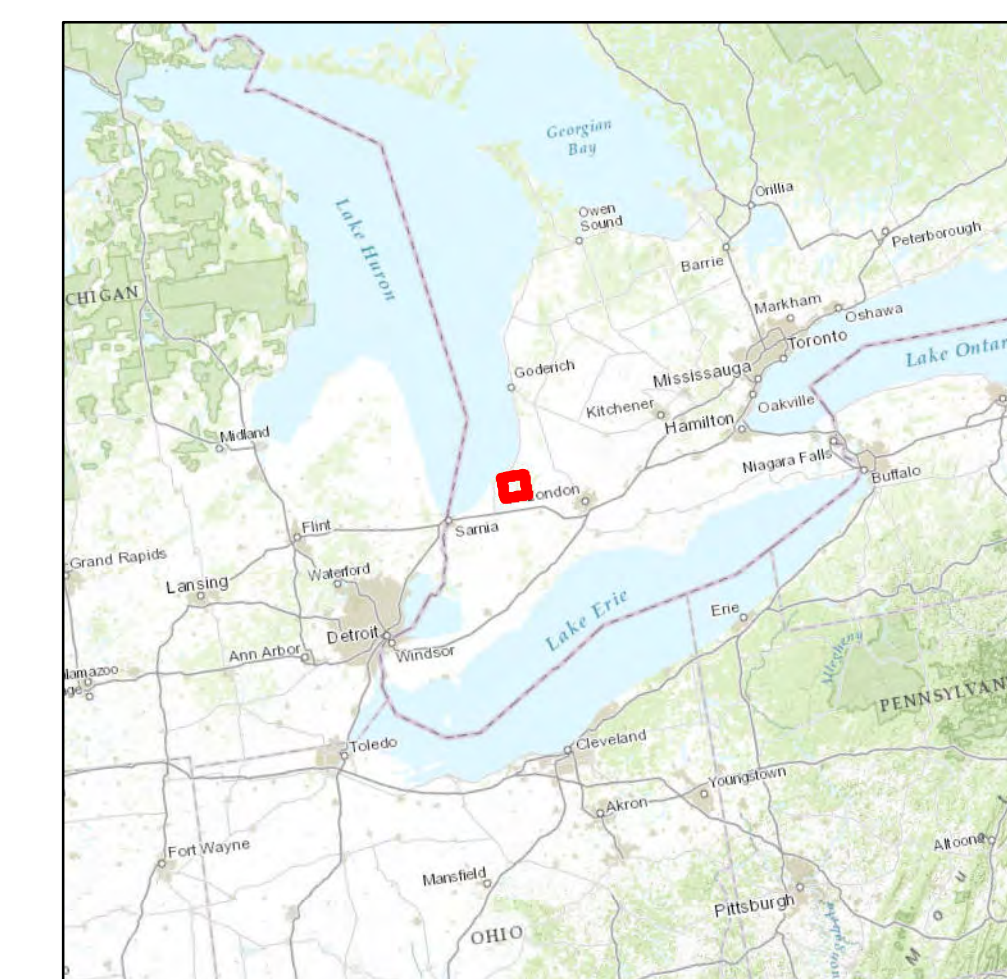
22 With the exception of 1.8 km of the proposed route, there are existing Hydro One distribution
23 facilities located along the ROWs that the proposed route follows. These areas are marked on
24 the existing utilities map provided in **Appendix 'A'** to this Exhibit B, Tab 4, Schedule 1. For
25 approximately four months, the Applicant consulted extensively with Hydro One concerning the
26 Applicant's interest in co-locating the Proposed Transmission Line along Hydro One's existing
27 distribution poles and structures to the extent possible through a joint use arrangement. The

1 outcome of these consultations was that Hydro One advised that it has instituted an internal
2 policy under which it will not accommodate requests to co-locate transmission and distribution
3 lines on the same poles.

4 Consequently, along the majority of the route where there are existing Hydro One distribution
5 facilities, the Applicant is planning to construct the Transmission Line on the opposite side of the
6 ROW from the Hydro One facilities, either within the municipal road ROW or on adjacent
7 private properties pursuant to easements. The Applicant's specific proposed locations for poles
8 and structures, both within the ROW and on adjacent private properties, are shown in Exhibit B,
9 Tab 2, Schedule 4, Figures 2, 3 and 4. Although the Applicant has also identified the presence of
10 Bell Canada facilities along the Proposed Transmission Line route, the Applicant has confirmed
11 that there are no conflicts between such facilities and the Proposed Transmission Line design and
12 routing. All Bell Canada facilities along the route are underground except at the Ausable River
13 crossing, where the Bell Canada facilities are instead co-located with the existing Hydro One
14 distribution lines to the north of the bridge.






APPENDIX 'A'

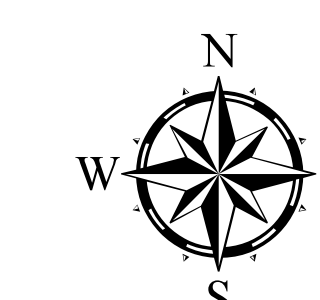
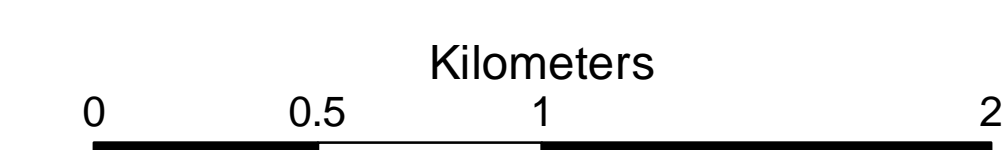
EXISTING UTILITIES MAP



Jericho Existing Utilities Map

Lambton & Middlesex Counties,
 Ontario, Canada

-  HydroOne-Overhead Distribution
- Telecom Infrastructure**
-  Bell
-  Jericho Collector Substation
-  Bornish Collector Substation
-  Bornish Customer Switching Station



Date: 9/4/2013
PROPRIETARY AND CONFIDENTIAL

Projection: NAD_1983_UTM_Zone_17N
 Datum: NAD 83

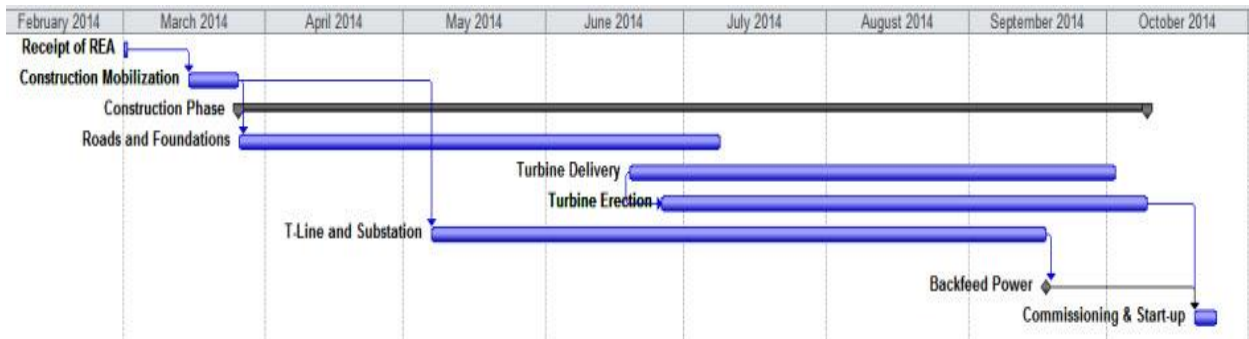
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CONSTRUCTION & IN-SERVICE SCHEDULE

- 1 The timing for construction of the Proposed Transmission Facilities will depend in part upon the
- 2 timing of the Board’s decision in this Application and in the Co-owners’ LTC Application, as
- 3 well as on the timing of the Renewable Energy Approval for Jericho. It is currently expected
- 4 that construction of the Transmission Line and the Jericho Collection Substation will commence
- 5 in the Spring of 2014 and would then be commissioned and would be expected to go into service
- 6 by early Fall 2014.

- 7 A Gantt Chart setting out the planned construction schedule is provided in Figure 1.

Figure 1 - Gantt Chart



PHYSICAL DESIGN FEATURES

1 As indicated, the Proposed Transmission Facilities are required to connect the Jericho Project to
2 the Bornish Customer Switching Station. The Bornish Customer Switching Station is the subject
3 of the Co-owners' LTC Application, under which the Co-owners have also sought leave to
4 construct a transmission line and a customer transformer station that are necessary to connect the
5 Bornish Customer Switching Station to the IESO-controlled grid at the planned Evergreen
6 Switching Station, which is to be constructed, owned and operated by Hydro One.

7 1. **Wind Generation Facilities**

8 The Jericho Project will be the source of electricity that will be conveyed along the Proposed
9 Transmission Facilities. The Jericho Project will consist of 92 General Electric 1.62 MW wind
10 turbine generators, for a total installed capacity of approximately 149 MW, on privately-owned
11 agricultural lots at the Jericho Project site, along with a 34.5 kV collection system as described in
12 Exhibit B, Tab 2, Schedule 3. The Jericho Project site is in the vicinity of the Jericho Collection
13 Substation, as shown in Figure 1 of Exhibit B, Tab 2, Schedule 4.

14 2. **Ancillary Co-owned Transmission Facilities**

15 The Applicant, Bornish and Adelaide will be the beneficial owners, as tenants in common and
16 not as joint tenants, of the certain transmission facilities that are the subject of the Co-owners'
17 LTC Application which, together with the Proposed Transmission Facilities under this
18 Application will enable the Applicant to convey electricity from the Jericho Project to the IESO-
19 controlled grid. These co-owned transmission facilities are described below.

20 (a) **Co-owners' LTC Application**

21 The Co-owners' LTC Application, which was filed on February 8, 2013 (EB-2013-0040), seeks
22 leave to construct certain transmission facilities, the following of which are relevant to this
23 Application:

1 (i) *Bornish Customer Switching Station (CSS)*

2 As shown in Figure 1 of Exhibit B, Tab 2, Schedule 4, the Bornish Customer Switching Station
3 will be located on Part Lot 9, Concession 16 in the Municipality of North Middlesex, which is on
4 the west side of Kerwood Road between Elginfield Road and Cold Stream Road. The station
5 will have an area of approximately 1.5 acres. The Bornish CSS will consist of a four breaker
6 ring bus and is the facility at which the electricity transmitted from the Jericho Project along the
7 Proposed Transmission Facilities will converge with the electricity conveyed from each of the
8 Bornish Project and the Adelaide Project.

9 (ii) *Shared Transmission Line*

10 From the Bornish CSS, a three phase, single circuit, overhead 115 kV class transmission line,
11 approximately 12.6 km in length, will run north along Kerwood Road and then east along
12 Elginfield Road and continuing along Nairn Road until a point just west of the intersection of
13 Nairn Road and Macintosh¹, at which point it crosses over Nairn Road and connects into the
14 proposed Parkhill Customer Transformer Station (the “**Shared Transmission Line**”). The
15 Shared Transmission Line is shown in Figure 1 of Exhibit B, Tab 2, Schedule 4.

16 (iii) *Parkhill Customer Transformer Station*

17 As shown in Figure 1 of Exhibit B, Tab 2, Schedule 4, the Parkhill Customer Transformer
18 Station is a proposed 500 kV transformer station to be located on Part Lot 18, Concession 17 in
19 the Municipality of North Middlesex. The station will have an area of approximately 13 acres.
20 At the Parkhill CTS, electricity transmitted from the Bornish CSS along the Shared Transmission
21 Line will be transformed by means of two 525/121 kV 135/180/225 MVA transformers. The
22 500 kV bus at Parkhill CTS will in turn be connected by means of a single circuit 500 kV class
23 transmission line of less than 100 m in length to the Evergreen Switching Station, which will be
24 constructed, owned and operated by Hydro One and which is further described below.

¹ Macintosh is also referred to as Queens.

1 **3. Proposed Transmission Facilities**

2 The Proposed Transmission Facilities that are the subject of this Application are comprised of
3 the following:

4 (a) Jericho Collection Substation

5 The Jericho Collection Substation will be located on Lot 16, Concession 7 in the Municipality of
6 Lambton Shores, Lambton County, which is on the south side of Thompson Line between
7 Jericho Road and Northville Road, as shown in Figure 1 of Exhibit B, Tab 2, Schedule 4. The
8 Jericho Collection Substation will be an open-air facility, surrounded by a security fence, with an
9 area of approximately 2.38 acres. At the Jericho Collection Substation, electricity conveyed
10 from the Jericho Project along the collection system will be transformed from 34.5 kV to 121 kV
11 by means of a 121/34.5 kV, 102/136/170 MVA transformer, which will be surrounded on three
12 sides by sound walls. The location of the Jericho Collection Substation was determined based on
13 its proximity to the wind turbines associated with the Jericho Project and so as to facilitate the
14 connection with the Bornish CSS, as discussed in Exhibit B, Tab 4, Schedule 1.

15 The main components of the Jericho Collection Substation will be a 121/34.5 kV three-phase
16 power transformer and a control house. Bus work, pull-off towers, disconnect switches and
17 circuit breakers will also be on the premises, as further described in an illustration of the layout
18 for the Jericho Collection Substation, provided in Exhibit B, Tab 2, Schedule 5 at Figure 2.

19 (b) Transmission Line

20 From the Jericho Collection Substation, an approximately 15.7 km single circuit 115 kV class
21 transmission line will first run north for a short distance on the substation parcel until it reaches
22 the road allowance for Thompson Line, where it will then run east along Thompson Line and
23 Elginfield Road until it connects into the Bornish Customer Switching Station (the
24 “**Transmission Line**”). The Transmission Line will run along a combination of private
25 easements and municipal road ROWs, as depicted in Figures 2 and 3 of Exhibit B, Tab 2,
26 Schedule 4, which show the specific proposed locations of poles and structures relative to the

1 ROW. A detailed description of the route along with a discussion of the rationale for selecting
2 the proposed Transmission Line route is provided in Exhibit B, Tab 4, Schedule 1.

3 The Transmission Line will be constructed using steel monopole structures with a nominal
4 height of 65 to 110 ft. above ground. Some angled poles may require guying and anchoring.
5 Nominal pole spacing will be approximately 150 m, with an estimated total of approximately
6 118 poles being required along the entire length of the Transmission Line. Strung along the
7 poles will be single circuit lines of 115 kV class power conductors, as well as optical ground
8 wire for lightening protection and communication. Illustrations of the proposed pole structures
9 and framing designs are provided in Figure 3 of Exhibit B, Tab 2, Schedule 5.

10 4. **Ancillary Hydro One Transmission Facilities**

11 As noted, certain Hydro One transmission facilities, which are ancillary to the Proposed
12 Transmission Facilities, are required to enable the Jericho Project to connect, through the
13 Proposed Transmission Facilities and the Shared Transmission Facilities, to the IESO-controlled
14 grid. In particular, Hydro One will construct, own and operate a new 500 kV switching station,
15 which will be located on Part Lot 18, Concession 17 in the Municipality of North Middlesex (the
16 **“Evergreen Switching Station”** or **“Evergreen SS”**), as shown in Figure 1 of Exhibit B, Tab 2,
17 Schedule 4. Evergreen SS will consist of a 500 kV 3-breaker ring bus that will split Hydro
18 One’s existing 500 kV class circuit B562L from Bruce A TS to Longwood TS into two sections:
19 Bruce A TS x Evergreen SS and Evergreen SS x Longwood TS. This sectionalizing will occur
20 approximately 36.5 km from Longwood TS, near tower #563 on Hydro One’s existing circuit
21 B562L. Parkhill CTS and Evergreen SS will be located adjacent to Hydro One’s existing
22 transmission right-of-way for circuit B562L.

23 5. **Potential Interconnection of Third Party Renewable Generator**

24 Suncor Energy Products Inc. (**“Suncor”**) is the proponent of a proposed renewable energy
25 generation facility of up to 100 MW located in Lambton County (the **“Suncor Energy Cedar
26 Point Wind Power Project”**). The planned location for the Suncor Energy Cedar Point Wind
27 Power Project is in close proximity and to the west of the Jericho Project site. As such, there is a

1 possibility that Suncor may connect the Suncor Energy Cedar Point Wind Power Project to the
2 IESO-controlled grid through the Proposed Transmission Facilities that will be owned by the
3 Applicant, together with the Bornish Customer Switching Station, the Shared Transmission Line
4 and the Parkhill Customer Transformer Station, which will each be owned by the Co-Owners
5 and are the subject of the Co-owners' LTC Application. The potential connection of the Suncor
6 Energy Cedar Point Wind Power Project has been considered in the SIA Addendum Report
7 provided in Exhibit H, Tab 2, Schedule 1, Appendix C, as well as in the CIA Addendum Report
8 provided in Exhibit H, Tab 3, Schedule 1, Appendix B. The Applicant does not intend for
9 Suncor to become a co-owner of any of the Proposed Transmission Facilities and the Applicant
10 will continue to be exempt under Ontario Regulation 161/99 with respect to the requirement to
11 obtain a licence to own or operate transmission facilities. To the extent Suncor utilizes the
12 Proposed Transmission Facilities, they will do so as a licensee.

OPERATIONAL DETAILS

1 The Jericho Project will include the construction of a permanent operations and maintenance
2 ("O&M") facility, or the use of a suitable existing facility in close proximity to the project. Staff
3 at the O&M facility will be responsible for operational issues related to the Project and the
4 Proposed Transmission Facilities. The O&M facility will be staffed, or have someone on-call, at
5 all times.

6 The Proposed Transmission Facilities will include maintenance, protection and control systems
7 capable of minimizing the severity and extent of disturbances to the Transmission Line. Facilities
8 will be monitored from the O&M building as well as remotely from an operations center owned
9 by the Applicant's parent company, NextEra Energy Resources, LLC in Juno Beach, Florida.
10 Visual transmission line inspections will be scheduled at least once every year to ensure
11 continued compliance with all applicable codes and standards. Detailed thermography scans will
12 be conducted on critical connection points immediately after energization as well as at least once
13 every year during the operational life of the Transmission Facilities.

14 While the metering plan is still under development, it is anticipated that there will be a meter at
15 the Jericho Collection Substation. While there is the potential for a meter at the Parkhill CTS,
16 this has not yet been determined.

CODES, STANDARDS & OTHER REGULATORY APPROVALS

1 **1. Codes and Standards**

2 The Proposed Transmission Facilities will be constructed in accordance with applicable technical
3 codes and standards, including the Canadian Electrical Code, Part III (which incorporates by
4 reference CSA Standard C22.3), as well as applicable IEEE transmission line design and
5 construction standards. The Proposed Transmission Facilities will also comply, as required, with
6 applicable requirements of the Transmission System Code and the Market Rules for the Ontario
7 Electricity Market, including with respect to metering. Moreover, the design and construction of
8 the Transmission Line will be in accordance with applicable road safety standards, including the
9 clear zone policy of the Ministry of Transportation’s Roadside Safety Manual. To meet the
10 applicable standards, the Applicant plans to locate poles and structures as far from the travelled
11 portion of the road as possible, having regard to the land rights it has secured, the total width of
12 the road allowance and relevant topographic or environmental features. Where such
13 considerations do not allow for pole setbacks in accordance with the standards, the Applicant
14 intends to implement mitigation measures, such as roadside grading or the installation of safety
15 barriers, to ensure the overall design and construction meets the relevant standards. Maps
16 showing the Applicant’s planned clear zone mitigation measures are presented in Exhibit B, Tab
17 2, Schedule 4, Figure 4.

18 **2. Renewable Energy Approval**

19 Renewable energy projects (other than waterpower projects) are no longer subject to the
20 *Environmental Assessment Act*. Rather, the environmental protections that are built into the
21 environmental assessment process have been incorporated into the Renewable Energy Approval
22 (“**REA**”) process. Also significant is that renewable energy projects are no longer subject to
23 land use planning instruments under the *Planning Act*.

24 Most renewable energy projects in Ontario now require an REA from the Ministry of the
25 Environment. As a Class 4 wind facility (pursuant to subsection 6(1) of the REA Regulation, O.
26 Reg. 359/09 under the *Environmental Protection Act*), the Jericho Project is no exception.

1 Jericho filed its REA submission with the Ministry of the Environment on February 15, 2013 and
 2 it was deemed complete on July 17, 2013. The Applicant recently issued a Notice of Change to a
 3 Proposal and Notice of Public Meetings to advise stakeholders of the Applicant's current
 4 intention to modify its REA application, which amendments would relate in part to the Proposed
 5 Transmission Facilities. The public meetings are scheduled to take place in late October 2013.

6 **3. Licences**

7 Although the Proposed Transmission Facilities will be used for the transmission of electricity
 8 generated by the Jericho Project, by application of Ontario Regulation 161/99 under the Act, the
 9 Applicant will be exempt from the requirement to obtain a license to own or operate transmission
 10 facilities pursuant to Section 57(b) of the Act. This is because the Applicant will be a transmitter
 11 that is also a generator and the Proposed Transmission Facilities will be used to transmit
 12 electricity only for the purpose of conveying electricity to the IESO-controlled grid. Moreover,
 13 the Applicant will not charge a price, or will not charge a price greater than its cost, for
 14 transmitting electricity on the Proposed Transmission Facilities.

15 The Applicant will apply for a generator license in respect of its generation facility in due course,
 16 promptly upon receipt of Notice to Proceed from the OPA pursuant to its FIT Contract.

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

18 In addition to the codes, standards and REA requirements set out above, a number of other
 19 permits, licenses and approvals from other governmental authorities may be required before the
 20 Proposed Transmission Facilities can be constructed and operated. These are set out in Table 1,
 21 below.

Table 1 - Potentially Applicable Permits, Approvals and Authorizations

Government	Authority	Potentially Required Permit or Approval
Federal	Fisheries and Oceans Canada	Authorization under Subsection 35(2) of the <i>Fisheries Act</i> for watercourse crossings (or Letter of Advice)
Federal	Transport Canada	Authorization or clearance under the

Government	Authority	Potentially Required Permit or Approval
		Navigable Waters Protection Act for watercourse crossings.
Provincial	Ministry of Natural Resources	Approval and permitting requirements under the Renewable Energy Approval process
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	Land Use Permit
Provincial	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 Permit), Crossing Permits
Provincial	Ontario Energy Board	Notice of Proposal under Section 81 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	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 and Municipal Governments	Building Permits and Entrance Permits (as applicable)

LAND MATTERS

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

2 The land area required for the Proposed Transmission Facilities consists of (a) the lands required
3 for the Jericho Collection Substation, (b) the lands required for the Transmission Line, and (c)
4 any other lands that may be required either on a temporary basis for construction purposes or on
5 an ongoing basis for access purposes. These land requirements are described in the sections
6 below.

7 (a) Jericho Collection Substation

8 As described in Exhibit B, Tab 2, Schedule 3, the Jericho Collection Substation will have a
9 footprint of approximately 2.38 acres and will be situated on Lot 16, Concession 7 in the
10 Municipality of Lambton Shores, Lambton County. This location is on the south side of
11 Thomson Line, approximately 1 km east of the intersection of Thomson Line and Jericho Road,
12 as shown in Figures 1 and 2(a) at Exhibit B, Tab 2, Schedule 4. This property is comprised of a
13 single, privately owned parcel. The Applicant has secured the necessary private land rights by
14 entering into a lease for the relevant property. In addition, in order to provide flexibility, the
15 applicant also holds an option to purchase this same property

16 (b) Transmission Line

17 Also as described in Exhibit B, Tab 2, Schedule 3, the Transmission Line will be approximately
18 15.7 km in length and will run from the Jericho Collection Substation on Lot 16, Concession 7 in
19 the Municipality of Lambton Shores, Lambton County east along Thomson Line/Elginfield Road
20 to the Bornish Customer Switching Station at Part Lot 9, Concession 16 in the Municipality of
21 North Middlesex, Middlesex County, on the west side of Kerwood Road between Elginfield
22 Road and Cold Stream Road. The Applicant plans for the Transmission Line to run in part
23 within the municipal road right-of-way along Thomson Line and Elginfield Road and in part
24 within easements acquired from private land owners, as more particularly described below and
25 shown in Figure 2 at Exhibit B, Tab 2, Schedule 4.

1 As indicated in Exhibit B, Tab 4, Schedule 1, the Applicant is planning to construct the
2 Transmission Line on the opposite side of the ROW from where existing Hydro One distribution
3 facilities are located, either within the municipal ROW or within easements acquired from
4 adjacent private land owners. Consequently, it is the Applicant's current plan that, commencing
5 from the Jericho Collector Substation, the Transmission Line will:

- 6 (i) run from the northeast corner of the substation on private lands, and then
7 across Thomson Line, for a distance of approximately 0.3 km,
- 8 (ii) turn east and run along the north side of Thomson Line, within the
9 municipal ROW, for a distance of approximately 0.2 km,
- 10 (iii) continue east along the north side of Thomson Line, within private
11 easements, for a distance of approximately 0.9 km,
- 12 (iv) cross over Thomson Line to the south and then cross Northville Road to
13 the east and continue east along the south side of Thomson Line, past
14 Gordon Road within private easements, for a distance of approximately
15 2.6 km,
- 16 (v) cross Thomson Line to the north and continue east along the north side of
17 Thomson Line, within the municipal ROW, for a distance of
18 approximately 0.8 km,
- 19 (vi) continue east along the north side of Thomson Line, within private
20 easements, until just before Arkona Road, for a distance of approximately
21 0.5 km,
- 22 (vii) continue past Arkona Road along the north side of Thomson Line, within
23 the municipal ROW, for a distance of approximately 1.2 km,

- 1 (viii) cross Thomson Line to the south, and continue east along the south side of
2 Thomson Line, within the municipal ROW, for a distance of
3 approximately 0.9 km,
- 4 (ix) cross the Ausable River and continue east, along the south side of
5 Elginfield Road, within the municipal ROW, for a distance of
6 approximately 0.4 km,
- 7 (x) cross Elginfield Road to the north and continue eastbound along the north
8 side of Elginfield Road, within the municipal ROW, for a distance of
9 approximately 0.3 km,
- 10 (xi) continue eastbound along the north side of Elginfield Road, within private
11 easements, for a distance of approximately 0.5 km,
- 12 (xii) continue east along the north side of Elginfield Road, within the municipal
13 ROW, for a distance of approximately 3.0 km,
- 14 (xiii) cross Elginfield Road to the south and continue along the south side of
15 Elginfield road, within the municipal ROW, for a distance of
16 approximately 1.4 km,
- 17 (xiv) cross Roddick Road and continue along the south side of Elginfield Road,
18 within private easements, for a distance of approximately 0.4 km,
- 19 (xv) continue along the south side of Elginfield road, within the municipal
20 ROW, for a distance of approximately 0.9 km,
- 21 (xvi) continue along the south side of Elginfield Road, within private
22 easements, and then turn south and continue on private property for a
23 distance of approximately 1.0 km, then turning east on the same private
24 property and continuing for approximately 0.2 km before terminating at

1 the Bornish Customer Switching Station on Part Lot 9, Concession 16, in
2 the Municipality of North Middlesex.

3 Maps and profile drawings illustrating the proposed routing, consistent with the above
4 description and including specific locations of poles and structures, are provided in Exhibit B,
5 Tab 2, Schedule 4, Figures 2 and 3. In planning the route, the Applicant has considered the
6 options available to it with respect to the potential for using adjacent private easements on either
7 side of the road, as well as the with respect to the use of the municipal road allowance, having
8 regard to existing utilities within the road allowance and road safety. The proposed
9 Transmission Line route has been designed based on thorough analysis of these considerations as
10 well as consultations with affected landowners and stakeholders.

11 With respect to those portions of the Transmission Line that will run within private lands
12 adjacent to the municipal road allowance along Thomson Line and Elginfield Road, the
13 Applicant has offered the applicable landowners the relevant form of land rights agreement as set
14 out in Exhibit F, Tab 2, Schedule 1. Agreements were negotiated with and have been entered
15 into with each such landowner on whose property the Applicant proposes to construct portions of
16 the Proposed Transmission Facilities.

17 With respect to those portions of the Transmission Line that will run within the municipal road
18 allowance along Thomson Line and Elginfield Road, the Applicant does not anticipate that it will
19 require any land rights beyond those which are provided by legislation under Section 41 of the
20 *Electricity Act*. The present Application under Section 92 of the *OEB Act* is subject to the
21 Applicant's rights under Section 41 of the *Electricity Act*. Section 41 provides significant rights,
22 available exclusively to transmitters and distributors, with respect to the construction of
23 electricity transmission and distribution systems under, over or on any public street or highway.
24 Section 2(1) of the *Electricity Act*, defines a transmitter to mean "a person who owns or operates
25 a transmission system". As the Applicant will own and operate a transmission system, the
26 Applicant is a transmitter for purposes of Section 41.

1 Section 41(1) of the *Electricity Act* provides that a transmitter may, over, under or on any public
2 street or highway, construct or install such structures, equipment and other facilities as it
3 considers necessary for the purpose of its transmission system, including poles and lines.
4 Subsection (2) provides that the transmitter may inspect, maintain, repair, alter, remove or
5 replace any structure, equipment or facilities constructed or installed under subsection (1), and
6 subsections (3) and (4) grant rights of entry for transmitters and their employees and agents.
7 Subsection (5) provides that the exercise of such powers by a transmitter does not require the
8 consent of the owner of or any other person having an interest in the street or highway.
9 Subsection (8) provides that other than providing compensation for damages, the transmitter is
10 not required to pay any compensation to exercise its powers under this section. These are
11 significant and exclusive rights granted to transmitters such as the Applicant.

12 Subsection 41(9) of the *Electricity Act* states that the location of any structures, equipment or
13 facilities constructed or installed under subsection (1) shall be agreed on by the transmitter and
14 the owner of the street or highway and, in the case of disagreement, shall be determined by the
15 Board. However, because Section 92 of the *OEB Act* already provides a statutory process to
16 establish a transmission line's location, subsection 41(10) provides that subsection (9) does not
17 apply if Section 92 of the *OEB Act* applies so as to require leave to construct. It is important to
18 note that subsection 41(10) of the *Electricity Act* in the case of transmission lines only makes
19 inapplicable the process under subsection (9) because subsection (9) would otherwise be
20 redundant. Subsection 41(10) does not amend the application of subsections (1) to (8), or render
21 those provisions inapplicable. As such, the application of Section 92 of the *OEB Act* does not
22 diminish the Applicant's right to be in the road allowance. Like subsection 41(9), the
23 consideration before the Board under Section 92 will be the location of the transmission line
24 within the road allowance and not whether the Applicant has a right to be in the road allowance.
25 Notwithstanding these rights, the Applicant has made efforts to engage in discussions with each
26 of Middlesex County and Lambton County with a view to entering into road use agreements.

27 It is also important to recognize that the regulatory framework established by Section 41 of the
28 *Electricity Act*, in concert with Sections 92 and 96 of the *OEB Act*, is consistent with the

1 regulatory framework concerning the scope of municipal powers to regulate matters associated
2 with roads and highways, as set out in the *Municipal Act, 2001* (the “*Municipal Act*”). Broadly
3 speaking, this framework provides that (a) electricity transmitters have a statutory right to
4 construct transmission-related facilities within road allowances, (b) it is within the Board’s
5 jurisdiction to determine the location of such facilities within the road allowances and to ensure
6 construction is in accordance with applicable standards, including road safety standards, and (c)
7 the powers of a municipality that owns a road, to regulate activities within its road allowances,
8 including with respect to road safety, do not apply to electricity transmission facilities. Under
9 the *Municipal Act*, a municipality has no power to make by-laws or to otherwise regulate the
10 location within its public road rights-of-way in respect of electricity transmission systems,
11 including poles, structures, equipment, road safety mitigation measures and other facilities
12 associated with such transmission system. Rather, the *Municipal Act* restricts municipalities
13 from establishing by-laws in respect of matters relating to electricity, transmitters and
14 transmission systems, as these terms are defined under Section 2 of the *Electricity Act*.

15 Part III of the *Municipal Act* provides that a municipality may pass by-laws in respect of
16 highways over which it has jurisdiction,¹ and that a highway is deemed to be owned by the
17 municipality that has jurisdiction over it. However, a municipality’s ownership of a highway is
18 not absolute and is subject to any rights reserved by a person who dedicated the highway or any
19 interest in the land held by any other person.² Pursuant to the statutory powers granted under
20 Section 41 of the *Electricity Act*, an electricity transmitter that plans to construct transmission-
21 related facilities in a municipality’s highway will have an interest in the land comprising the
22 highway and can exercise its rights in such lands without the municipality’s consent.
23 Accordingly, a municipality’s ownership of a highway is subject to the rights of a transmitter
24 under Section 41 of the *Electricity Act*.

25 Although Section 78 of the *Municipal Act* provides that a municipality may regulate activities
26 associated with the provision of public utilities on its highway in a reasonable manner, the scope

¹ Municipal Act, s. 27.

² Municipal Act, s. 30.

1 of this power to regulate the activities of public utilities is limited by the scope of the term
2 “public utility” as defined in the *Municipal Act*, which definition expressly *excludes* electricity-
3 related systems. In summary, neither the general nor the specific powers granted to
4 municipalities under the *Municipal Act* permit municipalities to regulate the activities of an
5 electricity transmitter in a municipal highway.

6 Sections 135 and 142 of the *Municipal Act* are of note as they further define the relevant
7 legislative framework. Section 135 of the *Municipal Act* provides that a municipality may
8 prohibit or regulate the destruction or injuring of trees. However, Subsection 135 (12) provides
9 that a bylaw made under Section 135 does not apply to “the injuring or destruction of trees by a
10 transmitter or distributor, as those terms are defined in Section 2 of the *Electricity Act, 1998*, for
11 the purpose of constructing and maintaining a transmission system or a distribution system, as
12 those terms are defined in that section”. Likewise under Section 142 of the *Municipal Act*, a
13 municipality may,

- 14 (a) prohibit or regulate the placing or dumping of fill;
- 15 (b) prohibit or regulate the removal of topsoil;
- 16 (c) prohibit or regulate the alteration of the grade of the land;
- 17 (d) require that a permit be obtained for the placing or dumping of fill, the
18 removal of topsoil or the alteration of the grade of the land; and
- 19 (e) impose conditions to a permit, including requiring the preparation of plans
20 acceptable to the municipality relating to grading, filling or dumping, the removal
21 of topsoil and the rehabilitation of the site.

22 However, a bylaw made under this section does not apply to “the placing or dumping of fill,
23 removal of topsoil or alteration of the grade of land undertaken by a transmitter or distributor, as
24 those terms are defined in Section 2 of the *Electricity Act, 1998*, for the purpose of constructing
25 and maintaining a transmission system or a distribution system, as those terms are defined in that
26 section”.

1 Also consistent with this statutory regime is Section 9 of Ontario Regulation 584/06 under the
2 *Municipal Act*, which provides that a municipality does not have power to impose a fee or charge
3 on a transmitter, as defined in Section 2 of the *Electricity Act*, for services or activities, costs
4 payable or the use of property with respect to wires, cables, poles, conduits, pipes, equipment,
5 machinery or other works that are or will be located on a municipal highway and that are or will
6 be used as part of the business of the transmitter.

7 (c) Temporary Working Rights

8 In addition to the land rights required for the structures, equipment and ongoing operation and
9 maintenance of the Proposed Transmission Facilities, certain temporary working rights may be
10 required to allow for construction activities. These could include road crossings, drain crossings,
11 construction access and equipment or material laydown areas. To the extent such rights may be
12 required in connection with the construction or operation of the Jericho Collection Substation or
13 the portions of the Transmission Line that will be situated on lands subject to private easements,
14 the Applicant intends to rely upon the temporary construction and working rights that are
15 included within the relevant forms of land agreement provided in Exhibit F, Tab 2, Schedule 1.
16 With respect to the any temporary working rights or access rights required for construction or
17 operation of the portions of the Transmission Line that will be situated within the municipal road
18 right-of-way, the Applicant intends to rely upon the statutory rights granted under Section 41 of
19 the *Electricity Act*.

20 2. **Widths of Required ROWs**

21 The municipal road ROWs along which the Transmission Line will run are generally 20 meters
22 in width along Thomson line from Jericho Road to Arkona Road, and wider in the vicinity of
23 road crossings. From Arkona Road until the route reaches the Bornish Customer Switching
24 Station, the width of the municipal road ROWs along Thomson Line and Elginfield Road ranges
25 from approximately 36.6 to 61 meters in width. In areas where the Transmission Line will run
26 along private easements, generally the easements acquired are 50 feet (15.2 meters) in width,
27 however pole setbacks are restricted on certain properties based on terms agreed to with the

1 relevant landowners. Illustrations of the proposed pole structures and framing designs within a
2 ROW with typical dimensions are provided in Figure 3 of Exhibit B, Tab 2, Schedule 5.

3 **3. Land Rights Acquisition Process**

4 The Applicant's land agents have been working in the area since January 2012 to secure the
5 necessary private land rights. The Applicant currently has land agreements in place with all
6 private landowners on whose properties the Proposed Transmission Facilities are expected to be
7 situated. As noted, notwithstanding the Applicant's rights under Section 41 of the *Electricity*
8 *Act*, the Applicant has made efforts to engage in discussions with each of Middlesex County and
9 Lambton County with a view to entering into road use agreements.

APPENDIX 'A' - LANDOWNER LINE LIST

1 The following Landowner Line List is organized geographically commencing at the Jericho
2 Collection Substation and ending at (but not including) the Bornish Customer Switching Station.
3 The Landowner Line List includes those parcels upon which the Proposed Transmission
4 Facilities will be situated.

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

FORMS OF LAND AGREEMENTS

This schedule includes copies of the forms of land agreements that the Applicant has used and/or intend to use for the acquisition of the land rights required to construct, own, operate and maintain the Proposed Transmission Facilities. These include the following:

- | | |
|--------------|---|
| Appendix 'A' | Transmission Overhang Easement (Transfer of Overhang Easement) |
| Appendix 'B' | Transmission Easement Option Agreement |
| Appendix 'C' | Guy Wire Easement (Construction, Maintenance and Access Easement Agreement) |
| Appendix 'D' | Substation Lease Agreement |
| Appendix 'E' | Option to Purchase Agreement for Substation |

Appendix 'A' - Transmission Overhang Easement

TRANSFER OF OVERHANG EASEMENT

THIS OVERHANG EASEMENT (IN GROSS) (“Grant”), is executed and made effective this ____ day of _____, 2013, (“Effective Date”) by and between _____ (“Grantor”) and **Jericho Wind, Inc.**, whose mailing address is 390 Bay Street, Suite 1720, Toronto ON M5H 2Y2, Canada (“Grantee”).

PREMISES

A. Grantor is the registered owner of an estate in fee simple composed of certain parcels or tracts of land and premises more particularly described on **Exhibit A** attached hereto and made a part hereof (“Property”);

B. Grantee is or in the future will become the holder of certain easement and other related rights covering lands and premises located adjacent to and/or in the vicinity of the Property and as more particularly described on **Exhibit B** attached hereto (collectively, the “Benefited Property”); and

C. Grantor desires to grant and convey to Grantee a permanent, exclusive easement for the right to overhang a portion of the Property; and

IN CONSIDERATION of the foregoing and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. Grant. Grantor does hereby grant and transfer unto Grantee, for the benefit of the Benefited Property, a permanent, exclusive easement (“Overhang Easement”) for the right and privilege to permit the above ground electric transmission facilities, including wires, cables and appurtenant equipment, (collectively “Facilities”) located on adjacent properties, including the Benefited Property, to overhang a portion of the Grantor’s Property as more particularly identified and shown on the Reference Plan attached hereto and made a part hereof as **Exhibit C** (“Overhang Easement Property”) Grantor shall not interfere with the operation of lines that overhang the Overhang Easement Property. The easement granted herein is for air rights exclusively. Grantee shall have no use of any ground areas except as specifically set forth herein. Once the final reference plan describing the extent of the Overhang Easement Property has been prepared and deposited by Grantee on title to the Property, Grantor confirms that Grantee is irrevocably authorized and directed to insert the Part No(s). and Reference Plan No. into the attached Exhibit C without the requirement of any further approval or action by Grantor.

2. Authority. Grantor hereby represents and warrants to Grantee that it is the registered owner of the Property in fee simple with a good and marketable title thereto subject to no liens, encumbrances, rights or interests in priority to this Overhang Easement and is fully authorized and empowered to grant the rights and benefits granted to Grantee in this Grant.

3. Payment. Grantee shall pay Grantor the amounts set forth in Exhibit D as the consideration for the Grant. The parties acknowledge and agree that the registration copy of this Grant will not contain the payment provisions set forth in **Exhibit D**, and it is understood and

agreed that the deletion of such payment provisions does not and will not in any way affect the validity of this Grant.

4. Assignment by Grantee; Mortgage Rights.

(a) Right to Mortgage & Assign. Grantee, upon notice to Grantor, but without Grantor's consent or approval shall have the right to mortgage, assign, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in this Overhang Easement or the Overhang Easement Property, or the Facilities (collectively, its "**Facilities Assets**"). These various security interests in all or a part of the Facilities Assets are collectively referred to as "**Mortgages**" and the holders of the Mortgages, their designees, successors and assigns are referred to as "**Mortgagees**." Grantee's notice to Grantor shall include the name and address of each Mortgagee and/or Assignee (as hereinafter defined). Grantee shall also have the right without Grantor's consent to sell, convey, lease, sublease, grant or assign all or any portion of its Facilities Assets on either an exclusive or a non-exclusive basis, or to grant sub-easements, co-easements, separate easements, leases, licenses or similar rights; however denominated (collectively, "**Assignment**"), to one or more persons or entities (collectively, "**Assignees**"). Assignees and Mortgagees shall use the Facilities Assets only for the uses permitted under this Grant. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Grantee, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Overhang Easement Property than the rights granted to Grantee in this Grant.

(b) Grantor Obligations. Grantor agrees to consent in writing to and to execute financing documents, including customary three party lender agreements, as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Grant, Grantor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. Subject to the following sentence, each Mortgagee and Assignee shall have the same amount of time to cure the default as to Grantee's entire interest or its partial interest in the Facilities Assets as is given to Grantee and the same right to cure any default as Grantee. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Grantee in this Grant, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Grantor to give a Mortgagee or Assignee notice of default shall not diminish Grantor's rights against Grantee, but shall preserve all rights of the Mortgagee or Assignee to cure any default.

(c) Mortgagee/Assignee Obligations. Any Mortgagee or Assignee that does not directly hold an interest in the Facilities Assets, or whose interest is held solely for security purposes, shall have no obligation or liability under this Grant prior to the time the Mortgagee or Assignee directly holds an interest in this Grant, or succeeds to absolute title to Grantee's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Grant only for and during the period it directly holds such interest or absolute title. Any Assignment permitted under this Grant shall release Grantee or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

(d) Right to Cure Defaults/Notice of Defaults/Right to New Overhang Easement.

(1) To prevent Grantor's exercise of any remedies available to it in respect of a default by Grantee under this Grant, the Overhang Easement, or any partial interest in this Grant and the Overhang Easement, Grantee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the exercise of Grantor's remedies in respect of a default by Grantee under this Grant or any interest in the Facilities Assets.

(2) In the event of an uncured default by the holder of Grantee's entire interest in this Grant, or in the event of a termination of this Grant by agreement, by operation of law or otherwise, each Mortgagee or Assignee of a partial interest in the Facilities Assets shall have the right to have Grantor either recognize the Mortgagee's or Assignee's interest or, in the event of a termination, grant a new easement substantially identical to this Grant and the Overhang Easement. Under the new easement, the Mortgagee or Assignee shall be entitled to, and Grantor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the term.

(e) Extended Cure Period. If any default by Grantee under this Grant cannot be cured without obtaining possession of all or part of the Facilities Assets, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Grantor as set forth in Section 4(b), acquires possession of all or part of the Facilities Assets, or begins appropriate judicial or non-judicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Facilities Assets cures defects that are reasonably capable of being cured and not otherwise personal to Grantor and performs all other obligations as and when the same are due in accordance with the terms of this Grant. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

(f) Certificates. Grantor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Grant, if such be the case), consents to assignment, direct lender agreements and non-disturbance agreements as Grantee or any Mortgagee or Assignee may reasonably request from time to time. Grantor and Grantee shall cooperate in amending this Grant from time to time to include any provision that may be reasonably requested by Grantee or any Mortgagee or Assignee to implement the provisions contained in this Grant or to preserve a Mortgagee's security interest in the Facilities Assets.

5. Mortgagee Protection. Any Mortgagee, upon delivery to Grantor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Grant:

(a) Mortgagee's Right to Possession, Right to Acquire and Right to Assign. A Mortgagee shall have the absolute right without Grantor's consent: (a) to assign its Mortgage; (b) to enforce its lien, including, to acquire title to all or any portion of the Facilities Assets by any

lawful means; (c) to take possession of and operate all or any portion of the Facilities Assets and to perform all obligations to be performed by Grantee under this Grant, or to cause a receiver or a receiver and manager to be appointed to do so; and (d) to acquire all or any portion of the Facilities Assets by foreclosure, by an assignment in lieu of foreclosure or by quit claim and thereafter without Grantor's consent to assign or transfer all or any portion of the Facilities Assets to a third party. A Mortgagee which assigns or transfers the Facilities Assets to a third party shall notify Grantor of the name and address of the Assignee or transferee.

(b) Opportunity to Cure.

(1) During any period of possession of the Overhang Easement Property by a Mortgagee (or a receiver or receiver and manager requested by a Mortgagee) and/or while any foreclosure, power of sale or other enforcement proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges, if any, payable by Grantee under this Grant which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Facilities Assets by the Mortgagee as a result of either foreclosure, acceptance of an assignment in lieu of foreclosure, quit claim or by a purchaser under a power of sale or judicial sale, this Grant shall continue in full force and effect and the Mortgagee or party acquiring title to the Facilities Assets shall, as promptly as reasonably possible, commence the cure of all defaults under this Grant and thereafter diligently process such cure to completion, whereupon Grantor's rights relating to such default shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to the Facilities Assets shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Grantor upon completion of foreclosure proceedings or acquisition of Grantee's interest in this Grant under a power of sale or judicial sale.

(2) Any Mortgagee or other party who acquires Grantee's interest in the Facilities Assets pursuant to foreclosure, assignment in lieu of foreclosure, quit claim, under a power of sale or judicial sale or otherwise shall not be liable to perform the obligations imposed on Grantee by this Grant incurred or accruing after the party no longer has ownership or possession of the Facilities Assets.

(c) New Easement.

(1) If this Grant is terminated for any reason, if the Facilities Assets are foreclosed, or if this Grant is rejected, repudiated, resiliated or disaffirmed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Grantee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Grantor for the payment of all fees or other charges due and payable by Grantee as of the date of such event, then Grantor shall execute and deliver to Grantee or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, a new easement to the Overhang Easement Property which (i) shall be for a term equal to the remainder of the term before giving effect to such rejection, repudiation, resiliation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Grant (except for any requirements that have been fulfilled by Grantee or any Mortgagee or Assignee prior to rejection,

repudiation, resiliation or termination of this Grant); and, (iii) shall include that portion of the Overhang Easement Property in which Grantee or such other Mortgagee or Assignee had an interest on the date of rejection, repudiation, resiliation or termination.

(2) After the termination, repudiation, resiliation, rejection or disaffirmation of this Grant and during the period thereafter during which any Mortgagee shall be entitled to enter into a new easement for the Overhang Easement Property, Grantor will not terminate the rights of any Assignee unless in default under its Assignment.

(3) If more than one Mortgagee makes a written request for a new easement pursuant to this provision, the new easement shall be delivered to the Mortgagee requesting such new easement whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

(4) The provisions of this Section shall survive the termination, rejection, repudiation, resiliation or disaffirmation of this Grant and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Grantor, Grantee and each Mortgagee, and, from the effective date of such termination, rejection, repudiation, resiliation or disaffirmation of this Grant to the date of execution and delivery of such new easement, such Mortgagee may use and enjoy the Overhang Easement Property without hindrance by Grantor or any person claiming by, through or under Grantor; provided that all of the conditions for the new easement as set forth above are complied with.

(d) Mortgagee's Consent to Amendment, Termination or Surrender. Notwithstanding any provision of this Grant to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Grant shall not be modified or amended, and Grantor shall not accept a surrender, abandonment, cancellation or release of all or any part of the Overhang Easement Property from Grantee, prior to expiration of the term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Grant.

(e) No Merger. There shall be no merger of this Grant or of the Overhang Easement with the fee estate in the Overhang Easement Property by reason of the fact that this Grant or any interest in the Overhang Easement may be held, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Overhang Easement Property and all persons (including each Mortgagee) having an interest in this Grant or in the estate of Grantor and Grantee shall sign and record a written instrument effecting such merger.

(f) Liens. On the Effective Date, title to the Overhang Easement Property shall be free and clear of all monetary liens other than those expressly approved by Grantee. With respect to any such liens approved by Grantee, Grantor shall nevertheless obtain either non-disturbance agreements or postponements from the holders of such liens in favour of Grantee and this Overhang Easement, such agreements or postponements, as the case may be, to be reasonably satisfactory to Grantee. Thereafter, any mortgage, deed of trust or other monetary lien registered against Grantor's interest in the Property shall be subject to and subordinate to this Grant, to any Assignment or Mortgage then in existence on the Facilities Assets. Grantor agrees

to cause any monetary liens registered against Grantor's interest in the Property in the future to incorporate the conditions of this Section.

(g) Further Amendments. At Grantee's request, Grantor shall amend this Grant to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Grantor's rights under this Grant or increase the burdens or obligations of Grantor under this Grant. Upon the request of any Mortgagee, Grantor shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Grant.

6. Legal Fees. In the event of any controversy, claim or dispute arising out of or relating to the Overhang Easement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and solicitor's fees (including but not limited to those incurred at trial or on appeal).

7. Binding Effect; Governing Law. This Grant shall be binding upon and shall inure to the benefit of both Grantor and Grantee, and their respective heirs, successors and assigns, and shall be deemed a covenant running with the Property for all purposes. The provisions hereof shall be governed by and construed in accordance with the laws of the Province of Ontario. Grantee agrees that this Overhang Easement and the rights, privileges and easements granted pursuant thereto shall be declared to be for the purposes of electricity transmission lines or electricity distribution lines within the meaning of Part VI of the Ontario Energy Board Act, 1998, and (ii) an easement in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution within the meaning of Section 42.1 of the Electricity Act, 1998.

8. Family Law Act. Grantor represents and warrants to Grantee that if Grantor is an individual, Grantor is either not married, or if married, his or her spouse either comprises a Grantor hereunder or such spouse has consented to the grant of the Overhang Easement to Grantee pursuant to the terms herein by executing a copy of this Overhang Easement, and if Grantor is a corporation, the Overhang Easement Property has never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the Overhang Easement Property does not comprise a family residence within the meaning of the Family Law Act.

9. Grantee's Statutory Rights. This Overhang Easement shall not affect or prejudice Grantee's statutory rights to acquire the Overhang Easement Property under any laws, including, without limitation, Grantee's statutory rights under the Ontario Energy Board Act, 1998, which rights may be exercised at Grantee's discretion, in the event, Grantor being unable or unwilling for any reason to perform this Overhang Easement, or, give to Grantee a clear and unencumbered title to the easement and right-of-way herein granted.

10. Registration. Grantee shall be entitled, at its cost and expense, to register this Overhang Easement or a notice in respect thereof, and any required reference plans in the applicable Land Registry Office, and, Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

11. Setback Waiver. To the extent that (a) Grantor now or in the future owns or leases any land adjacent to the Overhang Easement Property, or (b) Grantee leases or holds an easement/license or a lease over land adjacent to Overhang Easement Property, and has installed or constructed or desires to install or construct any Facilities on said land at and/or near the common boundary between the Overhang Easement Property and said land, Grantor hereby waives any and all setbacks and setback requirements, whether imposed by law or by any person or entity, including, without limitation, any setback requirements described in the zoning by-laws of the County and/or the Province of Ontario or in any governmental entitlement or permit heretofore or hereafter issued to Grantee. If so requested by Grantee, Grantor shall promptly, without demanding additional consideration therefore, execute, and if appropriate cause to be acknowledged, any setback waiver, setback elimination or other document or instrument required by any governmental authority or that Grantee deems necessary or convenient to the obtaining of any entitlement or permit.

12. Termination. Grantee shall have the right to terminate this Grant at any time upon 30 days written notice to Grantor. Upon full or partial termination of the Overhang Easement, Grantee shall remove all physical material pertaining to the Facilities, if any, which may be overhanging the Overhang Easement Property. In the event of termination, Grantee has no right to recover any amounts previously paid to Grantor as consideration for this Grant.

13. Planning Act. This Overhang Easement and the provisions hereof which create, or, are intended to create an interest in the Overhang Easement Property shall be effective to create such an interest only if the subdivision control provisions of The Planning Act, R.S.O. 1990 c. P. 13, as amended are complied with.

14. Notices. All notices to be given hereunder shall be in writing and all such notices and any payments to be made hereunder may be made or served personally or by registered letter addressed to Grantor at:

To Grantor:

Attention: _____
Telephone: _____
Facsimile: _____

To Grantee:

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON M5H 2Y2, Canada
Attention: Business Management
Telephone: (416) 364-9714

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd.
Juno Beach, FL 33408
Attention: Business Management
Telephone: (561) 691-7171
Facsimile: (561) 691-7307

or such other address, as Grantor or Grantee respectively may from time to time advise and any such notices or payments shall be deemed to be given and received by the addressee upon personal service or, if served by registered letter, fourteen (14) days after mailing thereof, postage prepaid. In the event of a postal interruption, all notices to be given and all payments to be made hereunder may be made or served personally or delivered to the intended recipient at the address of the recipient set out above. Grantee shall also be permitted to make any payment to Grantor electronically at Grantee's discretion and subject to Grantor's consent.

15. Counterparts. This Grant may be executed in two or more counterparts, each of which will be deemed an original, but all of which together shall constitute one and the same instrument.

[Remainder of page intentionally left blank, signature page follows]

EXECUTED effective the day and year first hereinabove written.

Grantor:

Witness: Per: _____
Name: _____

Per: _____
Name: _____

Grantee:

JERICO WIND, INC.

Per: _____
John DiDonato, Vice President

EXHIBIT A

Legal Description of Property

EXHIBIT B
Benefited Property

EXHIBIT C

Legal Description of Overhang Easement Property

(Insert description from reference plan)

PT ___LT ___, CON ___, DESIGNATED AS PART(S) _____ ON PLAN 25R - _____,

BEING PART OF PIN NO.

EXHIBIT D

Compensation

In consideration for granting the Overhang Easement to Jericho Wind, Inc. (“**Grantee**”),
_____ (“**Grantor**”) shall receive the following compensation:

_____ within sixty days following the completion of construction of the
Facilities on the Benefited Property.

Payment shall be distributed as follows:

(Street Address, City, Province & Postal Code)

Phone: _____

Signature required for each payee:

Date

Date

STATUTORY DECLARATION

RE: PLANNING ACT

FLORIDA)
)
 COUNTY OF PALM BEACH)
)
)
)
)
)

IN THE MATTER OF the easement (the “**Easement**”) in favour of Jericho Wind, Inc., (the “**Grantee**”), with respect to the lands more particularly described in Exhibit “A” hereto (the “**Overhang Easement Property**”)

I, John DiDonato, of the Town of Juno Beach, in the State of Florida, DO SOLEMNLY DECLARE, in my capacity as Vice President of Jericho Wind, Inc., and without personal liability that:

1. I am the Vice President of Jericho Wind, Inc., the Grantee, and as such, am aware of the matters herein deposed to save where same are stated to be upon information and belief, and where so stated, I verily believe same to be true.

2. The Overhang Easement Property being acquired by the Grantee pursuant to the Easement are being acquired for the purpose of an electricity distribution line, electricity transmission line, hydrocarbon distribution line or hydrocarbon transmission line within the meaning of Part VI of the *Ontario Energy Board Act*, 1998, in respect of which this Statutory Declaration has been made pursuant to sub-clause 50(3)(d) of the *Planning Act* (Ontario), as amended.

AND I MAKE THIS SOLEMN DECLARATION conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath.

John DiDonato, Vice President

STATE OF FLORIDA)
) ss:
 COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this _____ day of _____, 2013 by John DiDonato, as Vice President of Jericho Wind, Inc.

In witness whereof, I hereunto set my hand and official seal.

(Seal)

Notary Public
My Commission Expires: _____

Appendix 'B' - Transmission Easement Option Agreement

TRANSMISSION EASEMENT OPTION AGREEMENT

THIS TRANSMISSION EASEMENT OPTION AGREEMENT (“Agreement”) is made as of the _____ day of _____ 2013 (hereinafter referred to as the “**Effective Date**”) by and between **Jericho Wind, Inc.**, a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario (hereinafter, referred to as “**Developer**”) and _____, (hereinafter, referred to as “**Owner**”), who are sometimes individually referred to herein as a “**Party**” and collectively, as “**Parties**”.

WHEREAS, Owner is the registered and beneficial owner of the lands and premises legally described in **Schedule A** attached hereto (the “**Property**”); and

AND WHEREAS, Developer is a wind power developer and operator and is currently developing a wind power project known as the **Jericho Wind Energy Centre** wind project (the “**Project**”) in the vicinity of the Property; and

AND WHEREAS, Developer and Owner have agreed to enter into this Agreement for the purpose of granting to Developer an exclusive option to acquire an easement and right-of-way over, along, across and through a portion of the Property for the purposes of erecting, constructing, replacing, relocating, improving, enlarging, removing, maintaining, operating and utilizing, from time to time, a line of transmission structures or poles (which may include lattice or truss towers or structures on the Property, but only with Owner’s consent which shall not be unreasonably withheld, conditioned or delayed), with such wires, guy wires, and/or cables (whether above ground or buried), for the transmission of electrical energy, and all necessary and proper foundations, footings, cross arms and other appliances, facilities and fixtures for use in connection therewith (collectively, the “**Transmission Facilities**”);

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the mutual covenants and obligations contained herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Parties covenant and agree as follows:

1. Option to Enter Into Easement and Right-Of-Way

1.1 Subject to the terms and conditions set out herein, Owner hereby grants Developer the exclusive option (“**Option**”) to acquire an easement and right-of-way in respect of any portion of the Property (the “**Optioned Property**”), for the purposes of constructing, owning and/or operating the Transmission Facilities on the Optioned Property. For greater certainty, the Optioned Property excludes certain portions of the Property identified in **Schedule B** attached hereto (the “**Excluded Property**”) and Developer acknowledges and agrees that it shall not be permitted to exercise the Option in respect of any portion of the Excluded Property with respect to the Transmission Facilities. The Option shall be exercisable by Developer upon its sole, absolute and subjective discretion. If, at the time Developer exercises the Option, the owner of the Property is the Owner as first named above, then Developer is irrevocably authorized and directed by the Owner to finalize the transmission easement attached hereto as **Schedule E** (hereinafter referred to as “**Easement**”) by completing any missing information such as the Commencement Date and the description of the

Easement Area (including, without limitation, the reference plan number and the parts identified thereon) and thereafter, Developer shall execute the Easement and provide the completed and fully executed Easement to Owner. If, at the time Developer exercises the Option, the owner of the Property is not the Owner as first named above, then such Owner agrees that it shall duly execute and deliver to Developer on such date as is specified by Developer to Owner, the Easement substantially in the form attached hereto as **Schedule E** upon the terms and conditions provided therein. In the event such Owner fails to execute and deliver to Developer the Easement by the date specified by Developer to Owner, then such Owner hereby irrevocably constitutes and appoints Developer the true and lawful attorney of such Owner to execute the Easement and all other instruments, approvals and documents as provided for in the Easement. The Option shall be exercised by Developer by providing written notice to Owner (the “**Exercise Notice**”) at any time prior to the expiry of the Option Term (as herewith defined). Accompanying the Exercise Notice shall be a draft or final reference plan identifying the portion of the Optioned Property that will be the subject of the Easement. Owner hereby authorizes Developer to deposit the reference plan on title to the Property.

1.2 The Option shall be exercisable by Developer at any time from the Effective Date up to and including the date which is the third anniversary of the Effective Date (“**Option Term**”). Notwithstanding anything to the contrary herein, however, if Developer shall give written notice to the Owner prior to the expiry of the Option Term that Developer has submitted, or is in the process of submitting, an application to the Ontario Energy Board (or equivalent government or public authority) for approval to transmit or distribute energy pursuant to the Transmission Facilities and such application references this Option and/or the Optioned Property, then Developer may, in its sole discretion, elect to extend the Option Term for an additional period of two (2) years (“**Extended Option Term**”) on the same terms, conditions and privileges as set forth hereunder, at the payment then being paid as herein provided, by providing written notice to Owner of such extension, which shall accompany payment pursuant to **Schedule D**, no less than sixty (60) days prior to the expiration of the Option Term. The Option Term and the Extended Option Term may sometimes be collectively referred to herein as the “**Term**”.

1.3 Developer shall pay Owner the amounts set forth in **Schedule D** as the consideration for the Option Term (“**Option Payment**”) within sixty (60) days after the Effective Date. The Parties acknowledge and agree that the registration copy of this Agreement will not contain the payment provisions set forth in **Schedule D**, and it is understood and agreed that the deletion of such payment provisions does not and will not in any way affect the validity of this Agreement.

1.4 Owner hereby grants to Developer, during the Term, the right to enter upon the Optioned Property, at such times as are agreed to by the Parties, acting reasonably, to allow Developer to undertake studies and tests on, above and below the Optioned Property and to construct and install scientific equipment and any other equipment necessary to perform required studies and tests (collectively “**Scientific Equipment**”). In the event any Scientific Equipment are located within the cultivated Optioned Property of Owner, and in the event any of the above materially interferes with Owner’s farming practices, Developer shall pay Owner a one-time payment for crop damage resulting from the construction or installation of the hereinabove described transmission structures and/or poles, or equipment. Owner shall provide written notice to Developer outlining the basis for Owner’s assertion of damage to the Optioned Property, the exact nature of damage, the

source of the assertion that the alleged damage is the result of the exercise by Developer of the rights, privileges and license granted by this Agreement and satisfactory evidence of the damage including documentation showing the extent of the damage and the financial impact of such damage. In the event that the Parties cannot agree at any time on the amount of damage payable to Owner for such crop damage, the compensation paid by Developer to Owner for that use shall be the damages for the crops lost or destroyed in the area damaged as calculated below; in consideration of this payment, no additional damages shall be paid in future years for that episode of damage. Damages will be calculated by the following formula: Unit Price x Unit Yield Per Acre x Acres Damaged = Damages. Prices for damaged or destroyed crops will be based on the average of the previous March 1st and September 1st using the prices for the crop provided by the local grain elevator. Yield will be the average of the previous three (3) years' yields according to Owner's records for the smallest parcel of land that includes the damaged area. If Owner does not have yield records available, the Parties will use commonly used yield information available for the area. The Parties shall try in good faith to agree to the extent of damage and acreage affected. If they cannot agree, they shall have the area measured and extent of damage assessed by an impartial party such as a crop insurance adjuster or extension agent. Any costs for such assessment shall be paid by Developer. Payment shall be made within sixty (60) days after determining the extent of the damage. In the event that Developer requests that Owner move livestock located on the Optioned Property, Owner shall promptly move the livestock to a mutually acceptable location and Developer shall reimburse Owner for the reasonable cost of moving the livestock.

2. Covenants, Representations & Warranties.

2.1 Owner represents and warrants that, as of the Effective Date, Owner is:

(a) at least eighteen (18) years of age and either not a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended; or

(b) at least eighteen (18) years of age and if a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended, then this Agreement has been executed by both spouses together comprising Owner or consented to in writing by Owner's spouse as is evidenced by the signature of the spouse on the Consent attached hereto as **Schedule C**; or

(c) if a corporation, then no building(s) located on the Optioned Property has been ordinarily occupied by any officer, director or shareholder of the corporation or by any of their spouses as a family residence or matrimonial home within the meaning of the *Family Law Act*, R.S.O. 1990, c.F-3, as amended.

2.2 Developer hereby represents and warrants that it is duly organized, validly existing and in good standing under the laws of New Brunswick, is authorized to conduct business in the Province of Ontario and has the right, power and privilege to execute and deliver this Agreement and to perform its obligations hereunder.

2.3 Owner acknowledges that Owner has had the full opportunity to obtain independent legal representation or advice in connection with this Agreement.

2.4 Owner hereby agrees and covenants:

(a) that subsequent to the execution and delivery of this Agreement and without any additional consideration made or cost to Owner, Owner will execute and deliver or cause to be executed and delivered any further legal instruments, including, without limitation, any required consents or acknowledgements in favour of Developer's lenders, and perform any acts which are or may become necessary to effectuate the purposes of this Agreement and to complete the transactions contemplated hereunder;

(b) that Owner will appoint Developer to act as Owner's agent for the purpose of executing such consents or authorizations as may be necessary for Developer to make any application for re-zoning or site plan approval pursuant to this Agreement, and agrees to cooperate in any such applications; and

(c) that any information which Owner has access to or which comes into Owner's possession relating to Developer's activities, including any wind assessment data or the terms and conditions of this Agreement (including the Easement) (collectively, the "**Confidential Information**") shall be held in the strictest confidence by Owner, and Owner shall not disclose any Confidential Information to any third party except as may be required by law, or on the same confidential basis as provided herein and then only to Owner's prospective purchasers or legal and financial advisors who have a bona fide and actual need to know same ("**Authorized Agents**"); (ii) Owner or the Authorized Agents will not use any such Confidential Information, other than as may be required or permitted to perform any of its obligations under this Agreement; and (iii) Owner or its Authorized Agents will not exploit (whether for commercial or other purposes) or otherwise use any such Confidential Information. Owner acknowledges that a breach of any of the provisions contained herein would cause Developer to suffer loss which could not be adequately compensated for by damages and Developer may, in addition to any other remedy or relief, enforce the performance of the provisions of this Section by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage. Upon the expiration or earlier termination of this Agreement, all Confidential Information will continue to be kept confidential by Owner.

2.5 Developer hereby covenants that should it elect to exercise the Option, it shall, at its sole cost and expense and prior to accessing the Optioned Property for any purpose related to the assessment or construction of the Transmission Facilities contemplated to be erected by Developer herein, provide and maintain in full force and effect with financially responsible insurance carriers, insurance with commercially reasonable coverages, which shall remain in effect during the term of the Easement or any extension thereof or as otherwise specified herein and which shall, if applicable, include (but not be limited to):

(a) automobile liability insurance covering owned, non-owned, hired, leased and rented automobiles and automotive equipment providing coverage for injury, death, or property damage;

(b) commercial general liability insurance covering bodily injury, death, personal injury and damage to property; and

(c) workers compensation as required by the Ontario *Workplace Safety and Insurance Act* (Ontario) or similar legislation covering all persons employed by Developer or subcontractors for work performed under this Agreement,

2.6 Title Search

(a) If, after the Effective Date, Developer conducts a title search and such search reveals that Owner is not the legal and beneficial owner of the Optioned Property or does not have the legal right and authority to grant to Developer, its employees, servants, agents, consultants, contractors and sub-contractors, the rights under this Agreement or has granted an easement, right-of-way, lease, financial encumbrance or other property right(s) related to the Optioned Property (“**Prior Encumbrance**”) to any other person that would interfere with the rights granted to Developer hereunder, Developer may, in its sole discretion, terminate this Agreement effective immediately. If Developer elects not to terminate this Agreement, Owner agrees to cooperate with Developer to obtain from the holder of such Prior Encumbrance any non-disturbance agreement, postponement, mutual co-existence agreement or related agreements, that Developer or its lender(s) may reasonably require. Without limiting the generality of the foregoing, Owner covenants and agrees to use its best efforts to obtain from any prior mortgagee of the Property, either a postponement of such mortgage to this Agreement and any Easement or a non-disturbance agreement in favour of Developer.

(b) If the title search reveals a Prior Encumbrance, Developer, in its sole and absolute discretion, may decide to consult with the holder of such Prior Encumbrance and Owner shall cooperate with Developer to resolve any issues that may arise out of the exercise of the Option vis-à-vis the Prior Encumbrance with the goal of determining whether the Prior Encumbrance and the Easement can co-exist over the Optioned Property.

(c) Notwithstanding Section 2.6(b), Developer may choose to terminate this Agreement at any time pursuant to Section 2.6(a).

2.7 Owner hereby represents and warrants that it is the legal and beneficial owner[s] in fee simple of the Property and has the legal right and authority to grant to Developer, its servants, employees, agents, consultants, contractors and sub-contractors the rights under this Agreements on the terms and conditions set out herein and has not and will not grant an option, easement, lease or any other property rights related to the Optioned Property to any other person that would interfere with the rights granted to Developer hereunder, save and except for any easements, rights-of-way, petroleum or natural gas leases or any other property rights granted by the Owner prior to the Effective Date.

2.8 Owner covenants and agrees to execute all applications, consents, permissions, agreements, postponements, partial discharges and any other documents which Developer may require in connection with obtaining any and all approvals including, but not limited to, rezoning, governmental approvals, consents, permits or variances (collectively, “**Approvals**”) and in connection with entering into by Developer of any agreements with such governmental and public authorities as may be necessary to give due force and effect to and in furtherance of Developer’s

applications, and the Owner shall produce all other documents and information which may be required in connection with such applications. All applications for Approvals shall be made by Developer, at its sole cost and expense and any costs associated with such Approvals shall be borne by Developer. Developer agrees that the obligation of the Owner pursuant to this paragraph shall be restricted to execution of documents and production of documents and information and shall not impose upon the Owner any financial obligation whatsoever.

2.9 Mutual Indemnities

(a) Developer shall indemnify and hold harmless the Owner against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with or as a result of:

(i) the negligence or wilful misconduct of Developer; or

(ii) any breach by Developer of the terms and conditions of this Agreement; or

provided that Developer shall not be liable under this Section to the extent to which such loss, damage or injury is caused or contributed to by the negligence or default of Owner, its servants or agents. For greater certainty, Developer shall not be liable to Owner for the actions of Owner, its agents, employees, invitees or representatives who enter upon the Optioned Property.

(b) Owner shall indemnify and hold harmless Developer against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with, or as a result of the negligence or wilful misconduct of Owner, as well as, in respect of any loss, injury or damage arising out of or in connection with, any breach by Owner of the terms and conditions of this Agreement; provided that Owner shall not be liable under this Section to the extent to which such loss, damage or injury is caused or contributed to, by the negligence or default of Developer, its servants or agents. For greater certainty, Owner shall not be liable to Developer for the actions of: (i) Developer, its agents, employees, or representatives who enter upon the Optioned Property, or (ii) any trespasser or unauthorized person who enters upon the Optioned Property.

(c) Notwithstanding the foregoing, the Parties hereto shall only be liable for reasonably anticipated and foreseeable damages.

3. Termination

3.1 Except as otherwise stipulated herein, this Agreement shall terminate at the earlier of:

(a) failure by Developer to pay the requisite payments provided for hereunder, after written demand by the Owner, unless otherwise agreed to by the Parties;

(b) receipt by the Owner of notice from Developer of Developer's desire to terminate the Agreement at any time during the Term;

(c) termination by Developer pursuant to Section 2.6; or

(d) the expiry of the Term of the Option as set out in Section 1.2.

3.2 The representations, warranties, covenants and agreements contained in Section 2 hereof shall survive the termination of this Agreement and remain in full force and effect.

3.3 In the event that this Agreement is terminated on the date stipulated in Section 3.1(b) (the “**Early Termination Date**”), Developer shall be released from having to pay any further Option Payment under this Agreement.

4. Notices

4.1 Any notice or other writing required or permitted to be given under this Agreement or for the purposes of this Agreement (referred to in this Section as a “**Notice**”) to the other Party shall be sufficiently given if delivered personally, or if sent by prepaid registered mail or if transmitted by fax or other form of recorded communication tested prior to transmission to such other Party:

In the case of Notice to Developer, to:

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON M5H 2Y2
Attention: Business Management
Telephone: (416) 364-9714

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd.
Juno Beach, FL 33408
Attention: Business Management
Telephone: (561) 691-7171
Facsimile: (561) 691-7307

In the case of the Owner, to:

or at such other address as the Party to whom such writing is to be given shall have last notified to the Party giving the same in the manner provided in this Section. Any notice personally delivered to the Party to whom it is addressed as provided in this Section shall be deemed to have been given and received on the day it is so delivered at such address, provided that if such day is not a Business Day then the notice shall be deemed to have been given and received on the Business Day next following such day. Any notice mailed to the address and in the manner provided for in this Section shall be deemed to have been given and received on the fifth Business Day next following the date of its mailing in Ontario. Any notice transmitted by fax shall be deemed to have been given and received on the first Business Day after its transmission.

4.2 For the purposes of this Section, the term “**Business Day**” means every day except Saturdays, Sundays and statutory holidays in the Province of Ontario.

5. General Provisions

5.1 This Agreement shall be governed by the laws of the Province of Ontario and the federal laws of Canada applicable therein.

5.2 All matters in dispute between the Parties pursuant to this Agreement shall be resolved by good-faith negotiation. If the Parties are unable to resolve amicably any dispute arising out of or in connection with this Agreement, each shall have all remedies available at law or in equity. **Each Party waives all right to trial by jury and specifically agrees that trial of suits or causes of action arising out of this Agreement shall be to the Court.** Time is of the essence with regard to the terms and conditions of this Agreement.

5.3 Assignment

(a) Subject to Subsection 5.3(c) below, this Agreement may be assignable by Owner to a successor in title.

(b) Subject to Subsection 5.3(c) below, Developer shall be able to assign this Agreement or any portion of its interest in the Optioned Property derived under the Agreement and the Easement to be granted thereunder to one or more persons or entities without the prior consent of Owner to any persons, including to its lender(s) as security for Developer's obligations to such lender(s). Owner shall execute and deliver any consent and acknowledgement reasonably requested by such lender.

(c) No assignment by Owner shall be effective unless and until the assignee executes an assumption agreement (“**Assumption Agreement**”) with respect to this Agreement agreeing to be bound by the terms hereof to the same extent as if it had been an original party hereto. For greater certainty, Owner covenants and agrees that in the event Owner transfers or conveys the Property or any portion that comprises the Optioned Property, Owner will obtain from any such transferee or purchaser an Assumption Agreement in favour of Developer.

5.4 This Agreement shall be binding upon and inure to the benefit of the Parties hereto, their respective heirs, executors, administrators and other legal representatives and, to the extent permitted hereunder, their respective successors and permitted assigns.

5.5 If any provision of this Agreement is determined to be invalid or unenforceable in whole or in part, such invalidity or unenforceability shall attach only to such provision (or part thereof) and everything else in this Agreement shall continue in full force and effect.

5.6 No change or modification of this Agreement shall be valid unless it is in writing and signed by each Party hereto.

5.7 This Agreement constitutes the entire agreement between the Parties hereto with respect to the subject matter of this Agreement. The Parties hereto acknowledge that there is no

representation, warranty, and agreement or understanding between them, whether express or implied, which has induced any of the Parties hereto to enter into this Agreement except as expressly stated herein.

5.8 No failure on the part of any Party to exercise, and no delay by any Party in exercising, any right under this Agreement shall operate as a waiver of such right, unless the Party gives written notice to the other Party of its intention to waive such right.

5.9 This Agreement shall commence on the Effective Date.

5.10 Time shall be of the essence of this Agreement.

5.11 The section headings herein have been inserted for ease of reference only and shall not affect the construction or the interpretation of this Agreement.

5.12 This Agreement may be executed in several counterparts, each of which so executed shall be deemed to be an original, and such counterparts together shall constitute but one and the same instrument.

5.13 Delivery of this Agreement by facsimile transmission shall constitute valid and effective delivery.

5.14 Any monies to be paid pursuant to this Agreement shall be in Canadian funds.

5.15 This Agreement shall be effective to create an interest in the Optioned Property for the Term.

5.16 Developer shall be entitled, at its cost and expense, to register this Agreement or a notice in respect thereof and any required reference plans in the Land Registry Office for the area in which the Property is situated and Owner agrees to execute, at no cost to Developer, all necessary instruments, plans and documentation for that purpose.

5.17 This Agreement shall be effective to create an interest in the Optioned Property only if the subdivision control provisions of the *Planning Act* (Ontario) are complied with.

[Remainder of page intentionally left blank, signature page follows]

IN WITNESS WHEREOF the Parties hereto have executed this Agreement on the date first above written.

Owner:

Witness:

Name: _____

Address: _____

Date: _____

Witness:

Name: _____

Address: _____

Date: _____

Developer:

Jericho Wind, Inc.
a New Brunswick company

Per: _____
John DiDonato, Vice President
“I have the authority to bind the corporation”

SCHEDULE A

TO TRANSMISSION EASEMENT OPTION AGREEMENT

DESCRIPTION OF PROPERTY

BEING THE WHOLE OF PIN NO.

Stipulated Acreage:

SCHEDULE B

TO TRANSMISSION EASEMENT OPTION AGREEMENT

DEPICTION OF PROPERTY AND EXCLUDED PROPERTY

SCHEDULE C

TO TRANSMISSION EASEMENT OPTION AGREEMENT

CONSENT OF SPOUSE

I, _____, being the spouse of _____,
do hereby give my consent to the grant of the option made in the Transmission Easement Option
Agreement dated _____, 20____ in respect of the following property:

DATED this _____ day of _____, 20____.

WITNESS:

SPOUSE OF OWNER

Name:
Address:

Name:
Address:

SCHEDULE "D"

TO TRANSMISSION EASEMENT OPTION AGREEMENT

Compensation

Payment terms available upon request by a person who has an interest in the subject lands.

In consideration for granting a Transmission Option to **Jericho Wind, Inc.**, a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario ("**Developer**"), _____ ("**Owner**") shall receive the following compensation:

1. The greater of (a) a lump sum payment of _____, or (b) _____ per acre for the number of acres depicted as the Optioned Property, less the Excluded Property, on Schedule "B", for the Option Term.
2. The greater of (a) a lump sum payment of _____, or (b) _____ per acre for the number of acres depicted as the Optioned Property, less the Excluded Property, on Schedule "B", for the Extended Option Term, if applicable.
3. All payments shall include harmonized sales tax ("**HST**"), if applicable.

Payment shall be distributed as follows:

100% to

Address

Signature required for each payee:

Date

Date

SCHEDULE E

TO TRANSMISSION EASEMENT OPTION AGREEMENT

FORM OF TRANSMISSION EASEMENT

(See Attached)

TRANSMISSION EASEMENT
(in Gross)

THIS TRANSMISSION EASEMENT (IN GROSS) (“**Grant**”), is executed and made effective this ____ day of _____, 20____ (“**Effective Date**”) by and between _____ (“**Grantor**”) and **Jericho Wind, Inc.**, a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario (“**Grantee**”).

PREMISES

A. Grantor is the registered owner of an estate in fee simple composed of certain parcels or tracts of land and premises more particularly described on **Exhibit A** attached hereto and made a part hereof (“**Property**”); and

B. Grantor desires to grant, convey and transfer to Grantee an exclusive easement and right-of-way in perpetuity for the erection, installation and maintenance of certain facilities for the transmission of electric power over and across a certain portion of the Property.

IN CONSIDERATION of the foregoing and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. **Grant**. Grantor does hereby grant, convey and transfer to Grantee, an exclusive easement and right-of-way in perpetuity (the “**Transmission Easement**”) in, on, over, across, along and under that portion of the Property more particularly described on **Exhibit B** (“**Easement Area**”), with such persons, vehicles and equipment necessary for the purposes of erecting, constructing, replacing, relocating, improving, enlarging, removing, maintaining, operating and utilizing, from time to time, a line of transmission structures or poles (which may include lattice or truss towers or structures in the Easement Area, but only with Owner’s consent which shall not be unreasonably withheld, conditioned or delayed), with such wires, guy wires, and/or cables (whether above ground or buried), for the transmission of electrical energy, and all necessary and proper foundations, footings, cross arms and other appliances, facilities and fixtures for use in connection therewith (collectively, the “**Transmission Facilities**”) in, on, over, across, along and under the Easement Area; together with (i) the right of ingress to and egress from the Transmission Facilities over and along the Property; and (ii) a temporary non-exclusive easement and right-of-way in, over, across, along and under the Property during the initial construction and installation of the Transmission Facilities (the “**Construction Easement**”). Once the final reference plan describing the extent of the Easement Area has been prepared and deposited by Grantee on title to the Property, Grantor confirms that Grantee is irrevocably authorized and directed to insert the Part No(s). and Reference Plan No. into the attached **Exhibit B** without the requirement of any further approval or action by Grantor.

2. **No Interference**. Grantor covenants and agrees that it shall not construct, install, or permit to be constructed or installed, any improvements, fences, structures, buildings, foliage or vegetation, utility lines or other improvements of any type whatsoever upon or near the Easement Area which would inhibit or impair any of Grantee’s rights or benefits as set forth in this Grant. Grantee shall have the right, without compensation to Grantor, to cut, prune and remove or otherwise dispose of any foliage or vegetation on or near the Easement Area that Grantee deems a threat or potential

threat to Grantee's Transmission Facilities or its rights hereunder. Grantor shall not grant or permit any person or person(s) claiming through Grantor, other than Grantee, any right-of-way, encumbrance, easement or other right or interest in, to or affecting the Easement Area, without the prior written consent of Grantee in each instance, which consent Grantee may grant, withhold or deny in its sole, absolute and subjective discretion.

3. **Term**. The term of this Grant shall commence on the Effective Date and continue in perpetuity (the "**Term**").

4. **Authority**. Grantor hereby represents and warrants to Grantee that it is the sole registered owner of the Property in fee simple, subject to no liens or encumbrances registered in priority to this Transmission Easement, except as may be disclosed by registered title to the Property on or before the Effective Date, and is fully authorized and empowered to grant the rights, privileges and benefits granted to Grantee in this Grant.

5. **Compensation**. Grantee shall pay Grantor the amounts set forth in **Exhibit C** as the consideration for the Grant. The parties acknowledge and agree that the registration copy of this Grant will not contain the payment provisions set forth in **Exhibit C**, and it is understood and agreed that the deletion of such payment provisions does not and will not in any way affect the validity of this Grant.

6. **Crop Compensation**. Crop damage that can be reasonably demonstrated to have been caused by Grantee as a result of performing the activities authorized in this Grant, shall be paid for by Grantee according to the established yield per acre as documented in crop insurance documentation for the Property and using the price provided by the local grain elevator. Each time Grantee exercises its rights under the Transmission Easement, Grantee shall compensate Grantor for all crops lost or damaged by reason of the use.

7. **Indemnification and Insurance**. Grantee shall maintain general liability insurance insuring Grantee and Grantor against loss caused by Grantee's use of the Property. The amount of insurance shall be not less than \$3,000,000.00 of combined single limit liability coverage. Grantee shall indemnify and at its expense defend Grantor against liability for injuries and claims for direct damage to the extent that they are caused by Grantee's exercise of rights granted in this Grant. This indemnity does not cover losses of rent, business opportunities, crop production, and profits that may result from Grantor's loss of use of the Property and for greater certainty, Grantee shall only be liable for reasonably anticipated and foreseeable damages.

8. **Grantee's Property**. Notwithstanding that in constructing, maintaining and operating the Transmission Facilities, Grantee may install equipment and appurtenances in, on, over, along, under or across the Easement Area in such a manner that it or they become affixed to the Easement Area, the title to such equipment and appurtenances shall at all times remain the personal property of Grantee.

9. **Assignment by Grantor**. It will be a condition to any transfer or conveyance of the whole or any part of the Property by Grantor that Grantor shall cause the purchaser of any portion of the Property to execute an agreement in favour of Grantee agreeing to be bound by the terms hereof to

the same extent as if such purchaser had been an original party hereto. The purchaser shall also agree to extract a similar covenant from any future purchaser of any portion of the Property.

10. **Assignment by Grantee; Mortgage Rights.**

(a) **Right to Mortgage & Assign.** Grantee, upon notice to Grantor, but without Grantor's consent or approval shall have the right to mortgage, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in this Transmission Easement or the Easement Area, or the Transmission Facilities (collectively, its "**Facilities Assets**"). These various security interests in all or a part of the Facilities Assets are collectively referred to as "**Mortgages**" and the holders of the Mortgages, their designees, successors and assigns are referred to as "**Mortgagees**". Grantee's notice to Grantor shall include the name and address of each Mortgagee and/or Assignee. Grantee shall also have the right without Grantor's consent to sell, convey, lease, sublease, grant or assign all or any portion of its Facilities Assets on either an exclusive or a non-exclusive basis, or to grant sub-easements co-easements, separate easements, leases, licenses or similar rights, however denominated (collectively, "**Assignment**"), to one or more persons or entities (collectively, "**Assignees**"). Assignees and Mortgagees shall use the Facilities Assets only for the uses permitted under this Grant. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Grantee, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Property than the rights granted to Grantee in this Grant.

(b) **Grantor Obligations:** Grantor agrees to consent in writing to and to execute financing documents, including customary three party lender agreements, as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Grant, Grantor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. Each Mortgagee and Assignee shall have the same amount of time to cure the default as to Grantee's entire interest or its partial interest in the Facilities Assets as is given to Grantee and the same right to cure any default as Grantee or to remove any property of Grantee, Mortgagees or Assignees located on the Easement Area. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Grantee in this Grant, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Grantor to give a Mortgagee or Assignee notice of default shall not diminish Grantor's rights against Grantee, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Grantee, the Mortgagee or Assignee located on the Easement Area.

(c) **Mortgagee/Assignee Obligations.** Any Mortgagee or Assignee that does not directly hold an interest in the Facilities Assets, or whose interest is held solely for security purposes, shall have no obligation or liability under this Grant prior to the time the Mortgagee or Assignee directly holds an interest in this Grant, or succeeds to absolute title to Grantee's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Grant only for and during the period it directly holds such interest or absolute title. Any Assignment permitted under this Grant shall release Grantee or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

(d) Right to Cure Defaults/Notice of Defaults/Right to New Transmission Easement.

(1) To prevent Grantor's exercise of any remedies available to it in respect of a default by Grantee under this Grant, the Transmission Easement, or any partial interest in this Grant and the Transmission Easement, Grantee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the exercise of Grantor's remedies in respect of a default by Grantee under this Grant or any interest in the Facilities Assets.

(2) In the event of an uncured default by the holder of Grantee's entire interest in this Grant, or in the event of a termination of this Grant by agreement, by operation of law or otherwise, each Mortgagee or Assignee of a partial interest in the Facilities Assets shall have the right to have Grantor either recognize the Mortgagee's or Assignee's interest or, in the event of a termination, grant new easements substantially identical to this Grant and the Transmission Easement. Under the new easements, the Mortgagee or Assignee shall be entitled to, and Grantor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the Term.

(e) Extended Cure Period. If any default by Grantee under this Grant cannot be cured without obtaining possession of all or part of the Facilities Assets, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Grantor as set forth in Section 10(b), acquires possession of all or part of the Facilities Assets, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Facilities Assets cures defects that are reasonably capable of being cured and not otherwise personal to Grantor and performs all other obligations as and when the same are due in accordance with the terms of this Grant. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

(f) Certificates. Grantor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Grant, if such be the case), consents to assignment, direct lender agreements and non-disturbance agreements as Grantee or any Mortgagee or Assignee may reasonably request from time to time. Grantor and Grantee shall cooperate in amending this Grant from time to time to include any provision that may be reasonably requested by Grantee or any Mortgagee or Assignee to implement the provisions contained in this Grant or to preserve a Mortgagee's security interest in the Facilities Assets.

11. **Mortgage Protection.** Any Mortgagee, upon delivery to Grantor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Grant:

(a) Mortgagee's Right to Possession, Right to Acquire and Right to Assign. A Mortgagee shall have the absolute right without Grantor's consent: (a) to assign its Mortgage; (b) to enforce its lien, including, to acquire title to all or any portion of the Facilities Assets by any lawful means; (c) to take possession of and operate all or any portion of the Facilities Assets and to perform all

obligations to be performed by Grantee under this Grant, or to cause a receiver or a receiver and manager to be appointed to do so; and (d) to acquire all or any portion of the Facilities Assets by foreclosure, by an assignment in lieu of foreclosure or by quit claim and thereafter without Grantor's consent to assign or transfer all or any portion of the Facilities Assets to a third party. A Mortgagee which assigns or transfers the Facilities Assets to a third party shall notify Grantor of the name and address of the Assignee or transferee.

(b) Opportunity to Cure.

(1) During any period of possession of the Easement Area by a Mortgagee (or a receiver or receiver and manager requested by a Mortgagee) and/or while any foreclosure, power of sale or other enforcement proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges, if any, payable by Grantee under this Grant which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Facilities Assets by the Mortgagee as a result of either foreclosure, acceptance of an assignment in lieu of foreclosure, quit claim or by a purchaser under a power of sale or judicial sale, this Grant shall continue in full force and effect and the Mortgagee or party acquiring title to the Facilities Assets shall, as promptly as reasonably possible, commence the cure of all defaults under this Grant and thereafter diligently process such cure to completion, whereupon Grantor's rights relating to such default shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to the Facilities Assets shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Grantor upon completion of foreclosure proceedings or acquisition of Grantee's interest in this Grant under a power of sale or judicial sale.

(2) Any Mortgagee or other party who acquires Grantee's interest in the Facilities Assets pursuant to foreclosure, assignment in lieu of foreclosure, quit claim, under a power of sale or judicial sale or otherwise shall not be liable to perform the obligations imposed on Grantee by this Grant incurred or accruing after the party no longer has ownership or possession of the Facilities Assets.

(c) New Easement.

(1) If this Grant is terminated for any reason, if the Facilities Assets are foreclosed, or if this Grant is rejected, repudiated, resiliated or disaffirmed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Grantee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Grantor for the payment of all fees or other charges due and payable by Grantee as of the date of such event, then Grantor shall execute and deliver to Grantee or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, a new easement to the Easement Area which (i) shall be for a term equal to the remainder of the Term before giving effect to such rejection, repudiation, resiliation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Grant (except for any requirements that have been fulfilled by Grantee or any Mortgagee or Assignee prior to rejection, repudiation, resiliation or termination of this Grant); and, (iii) shall include that portion of the Easement Area in which Grantee or such other Mortgagee or Assignee had an interest on the date of rejection, repudiation, resiliation or termination.

(2) After the termination, repudiation, resiliation, rejection or disaffirmation of this Grant and during the period thereafter during which any Mortgagee shall be entitled to enter into new easements for the Easement Area, Grantor will not terminate the rights of any Assignee unless in default under its Assignment.

(3) If more than one Mortgagee makes a written request for a new easement pursuant to this provision, the new easements shall be delivered to the Mortgagee requesting such new easement whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

(4) The provisions of this Section shall survive the termination, rejection, repudiation, resiliation or disaffirmation of this Grant and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Grantor, Grantee and each Mortgagee, and, from the effective date of such termination, rejection, repudiation, resiliation or disaffirmation of this Grant to the date of execution and delivery of such new easements, such Mortgagee may use and enjoy the Easement Area without hindrance by Grantor or any person claiming by, through or under Grantor; provided that all of the conditions for the new easements as set forth above are complied with.

(d) Mortgagee's Consent to Amendment, Termination or Surrender. Notwithstanding any provision of this Grant to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Grant shall not be modified or amended, and Grantor shall not accept a surrender, abandonment, cancellation or release of all or any part of the Easement Area from Grantee, prior to expiration of the Term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Grant.

(e) No Merger. There shall be no merger of this Grant or of the Transmission Easement with the fee estate in the Easement Area by reason of the fact that this Grant or any interest in the Transmission Easement may be held, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Easement Area and all persons (including each Mortgagee) having an interest in this Grant or in the estate of Grantor and Grantee shall sign and record a written instrument effecting such merger.

(f) Liens. On the commencement of the Term, title to the Easement Area shall be free and clear of all monetary liens other than those expressly approved by Grantee. With respect to any such liens approved by Grantee, Grantor shall nevertheless obtain either non-disturbance agreements or postponements from the holders of such liens in favour of Grantee and this Transmission Easement, such agreements or postponements, as the case may be, to be reasonably satisfactory to Grantee. Thereafter, any assignment of this Grant, mortgage, deed of trust or other monetary lien placed on the Easement Area by Grantor, or permitted by Grantor to be placed or to remain on the Easement Area, shall be subject to and subordinate to this Grant, to any Assignment or Mortgage then in existence on the Facilities Assets as permitted by this Grant, to Grantee's right to encumber the Facilities Assets, and to any and all documents executed or to be executed by Grantor in connection with Grantee's development of all or any part of the Easement Area. Grantor agrees to

cause any monetary liens placed on the Easement Area by Grantor in the future to incorporate the conditions of this Section.

(g) **Further Amendments.** At Grantee's request, Grantor shall amend this Grant to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Grantor's rights under this Grant or increase the burdens or obligations of Grantor under this Grant. Upon the request of any Mortgagee, Grantor shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Grant.

12. **Legal Fees.** In the event of any controversy, claim or dispute arising out of or relating to the Transmission Easement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and legal fees.

13. **Binding Effect; Governing Law.** This Grant shall be binding upon and shall inure to the benefit of both Grantor and Grantee, and their respective heirs, successors and assigns, and shall be deemed a covenant running with the land for all purposes. The provisions hereof shall be governed by and construed in accordance with the laws of the Province of Ontario. Grantee agrees that this Transmission Easement and the rights, privileges and easements granted pursuant thereto shall be declared to be: (i) for the purposes of electricity transmission lines or electricity distribution lines within the meaning of Part VI of the *Ontario Energy Board Act*, 1998, and (ii) an easement in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution within the meaning of Section 42.1 of the *Electricity Act*, 1998.

14. **Termination.** Grantee shall have the right to terminate this agreement at any time upon 30 days written notice to Grantor. Upon full or partial termination of the Transmission Easement, Grantee shall remove all physical material pertaining to the Transmission Facilities and restore the area formerly occupied by the Transmission Easement to substantially the same physical condition that existed immediately before the installation of the Transmission Facilities. In the event of termination, Grantee has no right to recover any amounts previously paid to Grantor as consideration for this Grant.

15. **Notices.**

All notices to be given hereunder shall be in writing and all such notices and any payments to be made hereunder may be made or served personally or by registered letter addressed to Grantor at:

To Grantor:

To Grantee:

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON M5H 2Y2, Canada
Attention: Business Management
Telephone: (416) 364-9714

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd.
Juno Beach, FL 33408
Attention: Business Management
Telephone: (561) 691-7171
Facsimile: (561) 691-7307

or such other address, as Grantor or Grantee respectively may from time to time advise and any such notices or payments shall be deemed to be given and received by the addressee upon personal service or, if served by registered letter, fourteen (14) days after mailing thereof, postage prepaid. In the event of a postal interruption, all notices to be given and all payments to be made hereunder may be made or served personally or delivered to the intended recipient at the address of the recipient set out above. Grantee shall also be permitted to make any payment to Grantor electronically at Grantee's discretion and subject to Grantor's consent.

16. **Severability.** If any term or provision of this Transmission Easement, or the application thereof to any person or circumstances shall, to any extent, be determined by judicial order or decision to be invalid or unenforceable, the remainder of this Transmission Easement or the application of such term or provision to persons or circumstances other than those as to which it is held to be invalid, shall be enforced to the fullest extent permitted by law.

17. **Counterparts.** This Transmission Easement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together shall constitute one and the same instrument.

18. **Family Law Act.** Grantor represents and warrants to Grantee that if Grantor is an individual, Grantor is either not married, or if married, his or her spouse either comprises a Grantor hereunder or such spouse has consented to the grant of the Transmission Easement to Grantee pursuant to the terms herein by executing a copy of this Transmission Easement, and if Grantor is a corporation, the Easement Area has never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the Easement Area does not comprise a family residence within the meaning of the *Family Law Act*.

19. **Grantee's Statutory Rights.** This Transmission Easement shall not affect or prejudice Grantee's statutory rights to acquire the Easement Area under any laws, including, without limitation, Grantee's statutory rights under the *Ontario Energy Board Act*, 1998, which rights may be exercised at Grantee's discretion, in the event, Grantor being unable or unwilling for any reason to perform this Transmission Easement, or, give to Grantee a clear and unencumbered title to the easement and right-of-way herein granted.

20. **Planning Act.** This Transmission Easement and the provisions hereof which create, or, are intended to create an interest in the Easement Area shall be effective to create such an interest only if the subdivision control provisions of the *Planning Act*, R.S.O. 1990 c. P. 13, as amended are complied with.

21. **Registration.** Grantee shall be entitled, at its cost and expense, to register this Transmission Easement or a notice in respect thereof, and any required reference plans in the applicable Land Registry Office, and, Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

22. **Setback Waiver.** To the extent that (a) Grantor now or in the future owns or leases any land adjacent to the Easement Area, or (b) Grantee leases or holds an easement/license or a lease over land adjacent to Easement Area, and has installed or constructed or desires to install or construct any Transmission Facilities on said land at and/or near the common boundary between the Easement Area and said land, Grantor hereby waives any and all setbacks and setback requirements, whether imposed by law or by any person or entity, including, without limitation, any setback requirements described in the zoning by-laws of the County and/or Province or in any governmental entitlement or permit heretofore or hereafter issued to Lessee. If so requested by Grantee, Grantor shall promptly, without demanding additional consideration therefore, execute, and if appropriate cause to be acknowledged, any setback waiver, setback elimination or other document or instrument required by any governmental authority or that Grantee deems necessary or convenient to the obtaining of any entitlement or permit.

23. **Removal of Debris.** Within 120 days of the Commercial Operations Date, Grantee shall remove all debris from Property. For purposes of this Agreement “Commercial Operations Date” shall mean the date that the Transmission Facilities at the Project are commercially operational and delivering energy, as determined by the Grantee.

24. **Drainage Tile.** If any drainage tiles on or under the Easement area have been damaged as a direct result of Grantee’s activities in connection with the construction of the Transmission Facilities, Grantee shall pay to Grantor the cost to repair or replace the drainage tiles.

25. **Fencing.** Grantee shall not fence the Easement Area or any part thereof, with the exception of transformer stations, without the written consent of the Grantor.

[Remainder of page intentionally left blank, signature page follows]

IN WITNESS WHEREOF the Parties hereto have executed this Agreement on the date first above written.

Owner:

Witness:

Name: _____

Address: _____

Date: _____

Witness:

Name: _____

Address: _____

Date: _____

Developer:

Jericho Wind, Inc.
a New Brunswick company

Per: _____
John DiDonato, Vice President
"I have the authority to bind the corporation"

EXHIBIT A

TO TRANSMISSION EASEMENT

Legal Description of Property

BEING THE WHOLE OF PIN NO.

Stipulated Acreage:

EXHIBIT B

TO TRANSMISSION EASEMENT

Legal Description of Easement Area

(Insert description from reference plan)

PT ____ LT ____, CON _____, DESIGNATED AS PART(S) _____ ON PLAN ●- _____,
BEING PART OF PIN NO. _____

EXHIBIT C

TO TRANSMISSION EASEMENT

Compensation

Payment terms available upon request by a person who has an interest in the subject lands.

In consideration for granting a Transmission Easement to **Jericho Wind, Inc.**, a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario ("**Grantee**"), _____ ("**Grantor**") shall receive the following compensation:

1. A one-time payment, the greater of (a) a lump sum payment of _____, or (b) _____ per acre for the number of acres depicted as the Easement Area on Exhibit "B".
2. A one-time payment of _____ per pole constructed on the Property.
3. A one-time payment of _____ per guy wire anchor constructed upon the Property.
4. All payments shall include harmonized sales tax ("**HST**"), if applicable.

Payment shall be made to Grantor as follows: Fifty percent (50%) of the total amount due shall be paid within sixty (60) days of the Effective Date. Fifty percent (50%) shall be paid within thirty (30) days after completion of a final survey of the entire transmission line. Said survey shall determine the exact lineal footage/acreage upon which payment shall be made from Grantee to Grantor.

Payment shall be distributed as follows:

100% to

Address

Signature required for each payee:

Name:

Date: _____

Name:

Date: _____

EXHIBIT D
TO TRANSMISSION EASEMENT
CONSENT OF SPOUSE

I, _____, being the spouse of _____,
do hereby give my consent to the grant of the lands made in the Transmission Easement the _____
day of _____, 20____ in respect of the following property:

DATED this _____ day of _____, 20____.

WITNESS:

SPOUSE OF GRANTOR

Name:
Address:

Name:
Address:

STATUTORY DECLARATION

RE: PLANNING ACT

FLORIDA) IN THE MATTER OF the easement (the “**Easement**”) in
) favour of **Jericho Wind, Inc.** (the “**Grantee**”), with respect
) to the lands more particularly described in Exhibit “A”
COUNTY OF PALM BEACH) hereto (the “**Easement Lands**”)

I, John DiDonato, of the Town of Juno Beach, in the State of Florida, DO SOLEMNLY DECLARE, in my capacity as Vice President of Jericho Wind, Inc. a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario, and without personal liability that:

1. I am the Vice President of Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario,(the “Grantee”) and, as such, am aware of the matters herein deposed to save where same are stated to be upon information and belief, and where so stated, I verily believe same to be true.

2. The Easement Lands being acquired by the Grantee pursuant to the Easement are being acquired for the purpose of an electricity distribution line, electricity transmission line, hydrocarbon distribution line or hydrocarbon transmission line within the meaning of Part VI of the *Ontario Energy Board Act*, 1998, in respect of which this Statutory Declaration has been made pursuant to sub-clause 50(3)(d) of the *Planning Act* (Ontario), as amended.

AND I MAKE THIS SOLEMN DECLARATION conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath.

STATE OF FLORIDA)
) ss:
COUNTY OF PALM BEACH)

John DiDonato, Vice President
“I have the authority to bind the corporation”

The foregoing instrument was acknowledged before me this ____ day of _____, 20__ by John DiDonato, as Vice President of Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario,.

In witness whereof I hereunto set my hand and official seal.

(Seal)

Notary Public: _____

My Commission Expires: _____

**Appendix 'C' - Guy Wire Easement (Construction, Maintenance and
Access Easement Agreement)**

CONSTRUCTION, MAINTENANCE and ACCESS EASEMENT AGREEMENT

THIS CONSTRUCTION MAINTENANCE AND ACCESS EASEMENT Agreement (IN GROSS) (“**Agreement**”), is executed and made effective this _____ day of _____, 2013, (“**Effective Date**”) by and between • (“**Grantor**”) and **Jericho Wind, Inc.**, whose mailing address is 390 Bay Street, Suite 1720, Toronto, ON, M5H 2Y2, Canada (“**Grantee**”).

PREMISES

A. Grantor is the registered owner of an estate in fee simple composed of certain parcels or tracts of land and premises more particularly described on **Exhibit A** attached hereto and made a part hereof (“**Property**”); and

B. Grantee intends to construct (i) Transmission Facilities, which shall mean all improvements whose purpose is to deliver electrical power to an electrical power grid or other system, including without limitation transformers and overhead and underground electrical transmission and distribution lines and interconnection facilities and (ii) Telecommunication Facilities, which shall mean all improvements whose purpose is to provide telecommunication services, including telephone, closed-circuit television, microwave, internet, computer data and other telecommunication services related to the operation of the Transmission Facilities, the said Transmission Facilities and Telecommunication Facilities to be constructed over certain lands adjacent to the Property (“**Transmission and Telecommunication Easement**”); and

C. Grantor agrees to grant to Grantee certain easements over a portion of the Property as depicted on the attached Exhibit B on the terms and conditions contained in this Agreement;

IN CONSIDERATION of the foregoing and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. Grants.

(a) Construction Easement and Guy Easement. Grantor hereby grants to Grantee, for the benefit of Grantee and its successors and assigns, a temporary, exclusive easement (“**Construction Easement**”) on, over, along and under that portion of the Property as depicted on the attached **Exhibit B** (“**Construction Easement Area**”) for the purposes of: (1) the construction and installation of guy stub(s), anchors and necessary guy wires (collectively “**Guy Facilities**”) to support the Transmission Facilities and Telecommunication Facilities to be constructed on the Transmission and Telecommunication Easement adjacent to the Construction Easement Area; (2) the storage of materials and equipment during construction of the Guy Facilities and during construction of the Transmission Facilities and Telecommunication Facilities; and (3) the construction and installation of the Transmission Facilities and Telecommunication Facilities to be constructed on the Transmission and Telecommunication Easement adjacent to the Construction Easement Area. The Construction Easement shall terminate upon completion of construction of the Guy Facilities and the Transmission Facilities and Telecommunication Facilities constructed on the Transmission and Telecommunication

Easement adjacent to the Construction Easement Area, provided that for greater certainty, the term of the Construction Easement shall not, in any event exceed 2 years from the Effective Date. Grantor hereby grants to Grantee, for the benefit of Grantee and its successors and assigns, an exclusive easement in perpetuity (“**Guy Easement**”) on, over, along and under that portion of the Property located within the one hundred and sixty-five foot (165’) area as measured from the point of intersection of the center line of the Transmission and Telecommunication Facilities as depicted on the attached **Exhibit B (“Guy Easement Area”)** for the purposes of maintaining, using, operating, repairing, replacing, relocating and removing the Guy Facilities. Grantee agrees to prepare an “as built” survey or reference plan of the actual Guy Easement Area, and the parties agree to execute and register on title to the Property an amendment to this Agreement which references the “as built” survey or reference plan identifying the actual Guy Easement Area. Once the final reference plan describing the extent of the Construction Easement Area and Guy Easement Area has been prepared and deposited by Grantee on title to the Property, Grantor confirms that Grantee is irrevocably authorized and directed to insert the Part No(s). and Reference Plan No. into the attached Exhibit B without the requirement of any further approval or action by Grantor.

(b) Access Easement. Grantor grants to Grantee a permanent non-exclusive easement (the “**Access Easement**”) for vehicular and pedestrian ingress and egress over, across and along the Property to and from the Construction Easement Area and Guy Easement Area by means of any existing roads or lanes thereon, or otherwise by such route or routes as Grantee or Grantor may construct from time to time. If Grantee needs to construct a road on the Property, it shall have the right to remove trees and clear the portion of the Property reasonably necessary to construct the road and shall coordinate the location of the road with Grantor. Grantee agrees to maintain and repair all roadway improvements constructed by Grantee on the Property for the joint use thereof by Grantor and Grantee for ingress and egress over, across, and along the Property; provided, however, Grantor shall reimburse Grantee for any costs and expenses incurred by Grantee to repair any damage or perform any special maintenance of the roadway caused by any person using the roadway with Grantor's permission. The Telecommunications Easement, Construction Easement, Guy Easement and Access Easement shall hereinafter be referred to collectively herein as “**Easements**”.

2. Ownership. Grantor represents and warrants that it is the registered owner, in fee simple, of the Property with a good and marketable title thereto, and has the right, without the joinder of any other party, to enter into this Agreement and grant Grantee the Easements. Grantor agrees to warrant and defend its ownership of fee simple title to, or an easement over, the Property and Grantee's interest in this Agreement against any other party claiming to have any ownership interest in the Property.

3. Interference. Grantor shall not construct, erect or place or permit to be constructed, erected or placed any buildings, improvements, structures, plants, or other obstructions on or in the vicinity of the Construction Easement Area and Guy Easement Area which would interfere with the operation and maintenance of the Guy Facilities. In addition, Grantor shall not excavate within a twenty-five (25’) radius of the Guy Easement Area. Grantee is granted the right to remove existing trees and other vegetation located on the Construction Easement Area and Guy Easement Area, the mature height of which exceeds fourteen feet (14’) and to remove existing trees on adjacent portions of the Property in order to be able to have

access to the Construction Easement Area and Guy Easement Area for construction and maintenance purposes. There shall be no replacement of trees except that which has been specifically agreed upon in writing between Grantor and Grantee prior to execution of this Agreement. Grantee shall also have the right and privilege to trim, cut down, or control the growth of trees or any other vegetation on the Property, as in the sole judgment of Grantee may interfere with maintenance, operation, use of, or which in falling might touch any Guy Facilities.

4. Payment. Grantee shall pay Grantor the amounts set forth in **Exhibit C** as the consideration for the Easements. The parties acknowledge and agree that the registration copy of this Agreement will not contain the payment provisions set forth in **Exhibit C**, and it is understood and agreed that the deletion of such payment provisions does not and will not in any way affect the validity of this Agreement.

5. Assignment by Grantee; Mortgage Rights.

(a) Right to Mortgage & Assign. Grantee, upon notice to Grantor, but without Grantor's consent or approval shall have the right to mortgage, assign, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in this Agreement, the Easements, or the Guy Facilities (collectively, its "**Facilities Assets**"). These various security interests in all or a part of the Facilities Assets are collectively referred to as "**Mortgages**" and the holders of the Mortgages, their designees, successors and assigns are referred to as "**Mortgagees**." Grantee's notice to Grantor shall include the name and address of each Mortgagee and/or Assignee (as hereinafter defined). Grantee shall also have the right without Grantor's consent to sell, convey, lease, sublease, grant or assign all or any portion of its Facilities Assets on either an exclusive or a non-exclusive basis, or to grant sub-easements co-easements, separate easements, leases, licenses or similar rights, however denominated (collectively, "**Assignment**"), to one or more persons or entities (collectively, "**Assignees**"). Assignees and Mortgagees shall use the Facilities Assets only for the uses permitted under this Agreement. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Grantee, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Property or portions thereof than the rights granted to Grantee in this Agreement.

(b) Grantor Obligations: Grantor agrees to consent in writing to and to execute financing documents, including customary three party lender agreements, as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Agreement, Grantor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. Subject to the following sentence, each Mortgagee and Assignee shall have the same amount of time to cure the default as to Grantee's entire interest or its partial interest in the Facilities Assets as is given to Grantee and the same right to cure any default as Grantee or to remove any property of Grantee, Mortgagees or Assignees located on the Construction Easement Area of Guy Easement Area. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Grantee in this Agreement, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Grantor to give a Mortgagee or Assignee notice of default shall not diminish Grantor's rights against

Grantee, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Grantee, the Mortgagee or Assignee located on the Construction Easement Area or Guy Easement Area.

(c) Mortgagee/Assignee Obligations. Any Mortgagee or Assignee that does not directly hold an interest in the Facilities Assets, or whose interest is held solely for security purposes, shall have no obligation or liability under this Agreement prior to the time the Mortgagee or Assignee directly holds an interest in this Agreement, or succeeds to absolute title to Grantee's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Agreement only for and during the period it directly holds such interest or absolute title. Any Assignment permitted under this Agreement shall release Grantee or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

(d) Right to Cure Defaults/Notice of Defaults/Right to New Agreement.

(1) To prevent Grantor's exercise of any remedies available to it in respect of a default by Grantee under this Agreement, or any partial interest in this Agreement, Grantee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the exercise of Grantor's remedies in respect of a default by Grantee under this Agreement or any interest in the Facilities Assets.

(2) In the event of an uncured default by the holder of Grantee's entire interest in this Agreement, or in the event of a termination of this Agreement by operation of law or otherwise, each Mortgagee or Assignee of a partial interest in the Facilities Assets shall have the right to have Grantor either recognize the Mortgagee's or Assignee's interest or, in the event of a termination, grant new easements substantially identical to this Agreement. Under the new easements, the Mortgagee or Assignee shall be entitled to, and Grantor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the term.

(e) Extended Cure Period. If any default by Grantee under this Agreement cannot be cured without obtaining possession of all or part of the Facilities Assets, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Grantor as set forth in Section 5(b), acquires possession of all or part of the Facilities Assets, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Facilities Assets cures defects that are reasonably capable of being cured and not otherwise personal to Grantor and performs all other obligations as and when the same are due in accordance with the terms of this Agreement. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

(f) Certificates. Grantor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Agreement, if such be the case), consents to assignment, direct lender agreements and non-disturbance agreements as Grantee or any Mortgagee or Assignee may reasonably request from time to time. Grantor and Grantee shall cooperate in amending this Agreement from time to time to include any provision

that may be reasonably requested by Grantee or any Mortgagee or Assignee to implement the provisions contained in this Agreement or to preserve a Mortgagee's security interest in the Facilities Assets.

6. Mortgagee Protection. Any Mortgagee, upon delivery to Grantor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Agreement:

(a) Mortgagee's Right to Possession, Right to Acquire and Right to Assign. A Mortgagee shall have the absolute right without Grantor's consent: (a) to assign its Mortgage; (b) to enforce its lien, including, to acquire title to all or any portion of the Facilities Assets by any lawful means; (c) to take possession of and operate all or any portion of the Facilities Assets and to perform all obligations to be performed by Grantee under this Agreement, or to cause a receiver or a receiver and manager to be appointed to do so; and (d) to acquire all or any portion of the Facilities Assets by foreclosure, by an assignment in lieu of foreclosure or by quit claim and thereafter without Grantor's consent to assign or transfer all or any portion of the Facilities Assets to a third party. A Mortgagee which assigns or transfers the Facilities Assets to a third party shall notify Grantor of the name and address of the Assignee or transferee.

(b) Opportunity to Cure.

(1) During any period of possession of the Construction Easement Area, the Guy Easement Area or the Property by a Mortgagee (or a receiver or receiver and manager requested by a Mortgagee) and/or while any foreclosure, power of sale or other enforcement proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges, if any, payable by Grantee under this Agreement which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Facilities Assets by the Mortgagee as a result of either foreclosure, acceptance of an assignment in lieu of foreclosure, quit claim or by a purchaser under a power of sale or judicial sale, this Agreement shall continue in full force and effect and the Mortgagee or party acquiring title to the Facilities Assets shall, as promptly as reasonably possible, commence the cure of all defaults under this Agreement and thereafter diligently process such cure to completion, whereupon Grantor's rights relating to such default shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to the Facilities Assets shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Grantor upon completion of foreclosure proceedings or acquisition of Grantee's interest in this Agreement under a power of sale or judicial sale.

(2) Any Mortgagee or other party who acquires Grantee's interest in the Facilities Assets pursuant to foreclosure, assignment in lieu of foreclosure, quit claim, under a power of sale or judicial sale or otherwise shall not be liable to perform the obligations imposed on Grantee by this Agreement incurred or accruing after the party no longer has ownership or possession of the Facilities Assets.

(c) New Easement.

(1) If this Agreement is terminated for any reason, if the Facilities Assets are foreclosed, or if this Agreement is rejected, repudiated, resiliated or disaffirmed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Grantee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Grantor for the payment of all fees or other charges due and payable by Grantee as of the date of such event, then Grantor shall execute and deliver to Grantee or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, new easements to the Construction Easement Area, the Guy Easement Area and the Property which (i) shall be for a term equal to the remainder of the term before giving effect to such rejection, repudiation, resiliation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Agreement (except for any requirements that have been fulfilled by Grantee or any Mortgagee or Assignee prior to rejection, repudiation, resiliation or termination of this Agreement); and, (iii) shall include that portion of the Construction Easement Area, the Guy Easement Area and the Property in which Grantee or such other Mortgagee or Assignee had an interest on the date of rejection, repudiation, resiliation or termination.

(2) After the termination, repudiation, resiliation, rejection or disaffirmation of this Agreement and during the period thereafter during which any Mortgagee shall be entitled to enter into new easements for the Construction Easement Area, the Guy Easement Area and the Property, Grantor will not terminate the rights of any Assignee unless in default under its Assignment.

(3) If more than one Mortgagee makes a written request for new easements pursuant to this provision, the new easements shall be delivered to the Mortgagee requesting such new easements whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

(4) The provisions of this Section shall survive the termination, rejection, repudiation, resiliation or disaffirmation of this Agreement and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Grantor, Grantee and each Mortgagee, and, from the effective date of such termination, rejection, repudiation, resiliation or disaffirmation of this Agreement to the date of execution and delivery of such new easements, such Mortgagee may use and enjoy the Construction Easement Area, the Guy Easement Area and the Property without hindrance by Grantor or any person claiming by, through or under Grantor; provided that all of the conditions for the new easements as set forth above are complied with.

(d) Mortgagee's Consent to Amendment, Termination or Surrender. Notwithstanding any provision of this Agreement to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Agreement shall not be modified or amended, and Grantor shall not accept a surrender, abandonment, cancellation or release of all or any part of the Construction Easement Area, the Guy Easement Area and the Property from Grantee, prior to expiration of the term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Agreement.

(e) No Merger. There shall be no merger of this Agreement or of the Agreement with the fee estate in the Property by reason of the fact that this Agreement or any interest in the Agreement may be held, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Property and all persons (including each Mortgagee) having an interest in this Agreement or in the estate of Grantor and Grantee shall sign and record a written instrument effecting such merger.

(f) Liens. On the Effective Date, title to the Property shall be free and clear of all monetary liens other than those expressly approved by Grantee. With respect to any such liens approved by Grantee, Grantor shall nevertheless obtain either non-disturbance agreements or postponements from the holders of such liens in favour of Grantee and this Agreement, such agreements or postponements, as the case may be, to be reasonably satisfactory to Grantee. Thereafter, any mortgage, deed of trust or other monetary lien registered against Grantor's interest in the Property, shall be subject to and subordinate to this Agreement, to any Assignment or Mortgage then in existence on the Facilities Assets as permitted by this Agreement, and to Grantee's right to encumber the Facilities Assets. Grantor agrees to cause any monetary liens registered against Grantor's interest in the Property in the future to incorporate the conditions of this Section.

(g) Further Amendments. At Grantee's request, Grantor shall amend this Agreement to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Grantor's rights under this Agreement or increase the burdens or obligations of Grantor under this Agreement. Upon the request of any Mortgagee, Grantor shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Agreement.

6. Legal Fees. In the event of any controversy, claim or dispute arising out of or relating to the Agreement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and solicitors' fees (including but not limited to those incurred at trial, or on appeal).

7. Binding Effect; Governing Law. This Agreement shall be binding upon and shall inure to the benefit of both Grantor and Grantee, and their respective heirs, successors and assigns, and shall be deemed a covenant running with the Property for all purposes. The provisions hereof shall be governed by and construed in accordance with the laws of the Province of Ontario. Grantee agrees that this Agreement and the rights, privileges and easements granted pursuant thereto shall be declared to be an easement in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution within the meaning of Section 42.1 of the *Electricity Act*, 1998.

8. Family Law Act. Grantor represents and warrants to Grantee that if Grantor is an individual, Grantor is either not married, or if married, his or her spouse either comprises a Grantor hereunder or such spouse has consented to the grant of Easements to Grantee pursuant to the terms herein by executing a copy of this Agreement, and if Grantor is a corporation, the portions of the Property subject to the Easements have never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or

shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the portions of the Property subject to the Easements do not comprise a family residence within the meaning of the *Family Law Act*.

9. Grantee's Right to Assign. Grantee shall have the right, but without the need for Grantor's consent or approval, to assign or convey all or any portion of the Agreement to an assignee or assignees, on an exclusive or nonexclusive basis.

10. Grantee's Statutory Rights. This Agreement shall not affect or prejudice Grantee's statutory rights to acquire the portions of the Property subject to the Easements under any laws, including, without limitation, Grantee's statutory rights under the *Ontario Energy Board Act*, 1998, which rights may be exercised at Grantee's discretion, in the event, Grantor being unable or unwilling for any reason to perform this Agreement, or, give to Grantee a clear and unencumbered title to the easement and right-of-way herein granted.

11. Planning Act. This Agreement and the provisions hereof which create, or, are intended to create an interest in the Property shall be effective to create such an interest only if the subdivision control provisions of The Planning Act, R.S.O. 1990 c. P. 13, as amended are complied with. Grantee hereby declares that the interest in the Property being acquired by Grantee pursuant to this Agreement is for the purposes of a renewable energy generation facility or a renewable energy project in accordance with Section 50 (3)(d.1) or 50 (5)(c.1) of the *Planning Act* (Ontario).

12. Registration. Grantee shall be entitled, at its cost and expense, to register this Agreement or a notice in respect thereof, and any required reference plans or survey in the applicable Land Registry Office, and, Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

13. Setback Waiver. To the extent that (a) Grantor now or in the future owns or leases any other land adjacent to the Property, or (b) Grantee leases or holds an easement/license or a lease over other land adjacent to Property, and has installed or constructed or desires to install or construct any Transmission Facilities on said land at and/or near the common boundary between the portions of the Property subject to the Easements and said land, Grantor hereby waives any and all setbacks and setback requirements, whether imposed by law or by any person or entity, including, without limitation, any setback requirements described in the zoning by-laws of the County and/or the Province of Ontario or in any governmental entitlement or permit heretofore or hereafter issued to Grantee. If so requested by Grantee, Grantor shall promptly, without demanding additional consideration therefore, execute, and if appropriate cause to be acknowledged, any setback waiver, setback elimination or other document or instrument required by any governmental authority or that Grantee deems necessary or convenient to the obtaining of any entitlement or permit.

14. Termination. Grantee shall have the right to terminate this Agreement at any time upon 30 days written notice to Grantor. Upon full or partial termination of the Agreement, Grantee shall remove all physical material pertaining to the Guy Facilities and restore the portions of the Property previously subject to the Easements to substantially the same physical condition that existed immediately before the installation of the Guy Facilities. In the event of

termination, Grantee has no right to recover any amounts previously paid to Grantor as consideration for this Agreement.

15. Notices. All notices to be given hereunder shall be in writing and all such notices and any payments to be made hereunder may be made or served personally or by registered letter addressed to Grantor at:

To Grantor:

Attention: _____
Telephone: _____
Facsimile: _____

To Grantee:

Jericho Wind, Inc.
390 Bay Street, Suite 1720
Toronto, ON M5H 2Y2, Canada
Attention: Business Management
Telephone: (416) 364-9714

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd.
Juno Beach, FL 33408
Attention: Business Management
Telephone: (561) 691-7171
Facsimile: (561) 691-7307

or such other address, as Grantor or Grantee respectively may from time to time advise and any such notices or payments shall be deemed to be given and received by the addressee upon personal service or, if served by registered letter, fourteen (14) days after mailing thereof, postage prepaid. In the event of a postal interruption, all notices to be given and all payments to be made hereunder may be made or served personally or delivered to the intended recipient at the address of the recipient set out above. Grantee shall also be permitted to make any payment to Grantor electronically at Grantee's discretion and subject to Grantor's consent.

16. Counterparts. This Agreement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together shall constitute one and the same instrument.

17. Ownership of Guy Facilities. Notwithstanding any rule of law or equity, all property and equipment placed or operated on the Guy Easement Area by or on behalf of

Grantee shall, at all times, remain the personal property of Grantee even though the same maybe attached to the Guy Easement Area.

EXECUTED effective the day and year first hereinabove written.

Grantor:

Witness:

Per: _____
Name: _____

Per: _____
Name: _____

Grantee:

Jericho Wind, Inc.

Per: _____
John DiDonato, Vice President

EXHIBIT A

Legal Description of Property

EXHIBIT B

**Legal Description of Construction Easement Area
and Guy Easement Area**

(Insert description from reference plan)

PT ___LT ___, CON ___, DESIGNATED AS PART(S) _____ ON PLAN 25R - _____,

BEING PART OF PIN NO.

COMPENSATION

In consideration for granting the Easements to Jericho Wind, Inc. (“**Grantee**”),
_____ (“**Grantor**”), within thirty (30) days following a final ALTA
Survey depicting the Final Easements and Guy Facilities, shall receive the following payment:

_____ Dollars (\$ _____)

Payment shall be distributed as follows:

(Street Address, City, Province & Postal Code)

Phone: _____

Signature required for each payee:

Date

Date

STATUTORY DECLARATION

RE: PLANNING ACT

STATE OF FLORIDA)
)
COUNTY OF PALM BEACH)

**DECLARATION REQUIRED UNDER SECTION
50 OF THE PLANNING ACT, R.S.O. 1990, as amended**

I, John DiDonato, of the Town of Juno Beach, in the State of Florida, DO SOLEMNLY
DECLARE THAT

1. I am the Vice President of Jericho Wind, Inc. (“Grantee”) and as such have knowledge of
the matters herein deposed to.

2. The use of or right in the land described in the Construction, Maintenance and Access
Easement Agreement to which is this declaration is attached is being acquired by Grantee, for a
period of 21 or more years but not more than 50 years for the purpose of a renewable energy
generation facility or renewable energy project in accordance with Section 50(3)(d.1) or
50(5)(c.1) of the *Planning Act* (Ontario) and I hereby make this declaration that it is being
acquired for such purpose.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is
of the same force and effect as if made under oath, and by virtue of *The Canada Evidence Act*.

John DiDonato, Vice President

STATE OF FLORIDA)
) ss:
COUNTY OF PALM BEACH)

The foregoing instrument was acknowledged before me this _____ day of
_____, 2013 by John DiDonato, as Vice President of Jericho Wind, Inc.

In witness whereof, I hereunto set my hand and official seal.

(Seal)

Notary Public
My Commission Expires: _____

Appendix 'D' - Substation Lease Agreement

PREPARED BY AND RETURN TO

Lisa Quarrie, Esquire
Jericho Wind, Inc.
700 Universe Blvd. LAW/JB
Juno Beach, FL 33408

SUBSTATION LEASE AGREEMENT

THIS SUBSTATION LEASE AGREEMENT (this “**Agreement**”) is made as of the ____ day of _____, 2013 (hereinafter referred to as the “**Effective Date**”) by and between _____, whose mailing address is _____ (“**Owner**”) and **Jericho Wind, Inc.**, a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario, whose mailing address is 390 Bay Street, Suite 1720, Toronto, ON, M5H 2Y2, Canada (“**Operator**”), who are sometimes individually referred to herein as a “**Party**” and collectively, as “**Parties.**”

RECITALS

A. Owner is the registered and beneficial owner of an estate in fee simple, subject, however, to the exceptions, conditions, encumbrances, liens and interests contained in or noted upon the existing parcel register attached hereto as **Schedule “A,”** of and in that certain parcel or tract of land situate, lying and being in the Province of Ontario as more particularly described in the attached Schedule “A” (“**Owner’s Property**”), and Operator desires to construct and operate a substation on a portion of Owner’s Property to serve a wind energy project, all or a portion of which wind energy project will be located on Owner’s Property and/or within the vicinity of Owner’s Property (“**Wind Energy Center**”); and

B. Owner desires to grant and convey to Operator a lease for the construction, operation and maintenance of a substation, laydown area, operation and maintenance building and appurtenant facilities (collectively, “**Substation**”) on up to an approximately forty-five (45) acre portion of Owner’s Property as more particularly described and depicted in the preliminary plan attached hereto as **Schedule A-1** (“**Lease Lands**”), as well as, use a portion of the Lease Lands as temporary laydown area(s) (“**Laydown Areas**”) in order to serve the Wind Energy Center.

IN CONSIDERATION of Ten Dollars and No Cents (\$10.00) and other good and valuable consideration, as well as, the mutual benefits derived herefrom, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Grant of Lease.

Owner does hereby grants, transfers to Operator, its licensees, sublessee, successors and assigns, the exclusive right, liberty and privilege of a lease and right-of-way (“**Lease**”) upon, above, under, over and across the Lease Lands for the purposes set out herein, including but not limited to:

1.1 Operator shall have the exclusive right and privilege to use the Lease Lands for the purposes of, inter alia, erection, installation, construction, operation, inspection, repair, replacement, patrol and maintenance of an electric Substation, an operation and maintenance building, one or more electric transmission and distribution lines (either below or above ground) and equipment associated therewith, attachments and appurtenant equipment for an electric substation and any and all other uses consistent with the operation of an electric substation (all of the foregoing hereinafter collectively referred to as "**Facilities**"), together with the right and privilege from time to time to reconstruct, inspect, alter, improve, change the voltage, as well as the nature or physical characteristics of, replace, remove or relocate such Facilities or any part of them upon, across, over or under the Lease Lands with all rights and privileges necessary or convenient for the full enjoyment or the use thereof for the herein described purposes and solely for the use, transmission and delivery of electrical energy produced by the Wind Energy Center; and shall include the right of access, ingress and egress by Operator, its contractors, employees, agents and invitees to the Lease Lands, as well as, use the Lease Lands, for the purposes of storing vehicles, equipment and materials in connection with the operation, construction, maintenance, modification or removal of the Facilities in the Laydown Areas as more fully depicted on Schedule A-1.

1.2 Operator shall have the right to enter upon the Lease Lands to undertake studies and tests on, above and below the Lease Lands.

1.3 The use of the Lease Lands by Operator shall be at the sole risk and expense of Operator. Operator agrees to warn its employees, agents, contractors and invitees of the fact that the Facilities and appurtenances installed or to be installed within the Lease Lands are of high voltage electricity and agrees to use, or cause to be used, reasonable safety and precautionary measures when working under or near the Facilities.

1.4 The rights and privileges hereby granted shall include, without limiting the generality of the foregoing, the right to erect, install, construct, operate, maintain, inspect, patrol, remove, replace, reconstruct, relocate, alter and repair on the Lease Lands, the Facilities as Operator may deem necessary for the full enjoyment of any or all of the rights and privileges herein granted.

1.5 Operator, its tenants, officers, agents, servants, employees, contractors and licensees, with or without vehicles, tools, equipment, apparatus and materials of whatsoever nature and kind, shall have the full, free and uninterrupted right to enter upon, use and occupy the Lease Lands for all purposes connected with, or incidental to, the rights and privileges herein granted including, without limitation, the right to make and keep the Lease Lands free from brush, trees, damaging growths, water in dangerous quantities and other obstructions. Where Operator reasonably considers it necessary by reason of the nature or condition of Owner's Property or the circumstances then existing, Operator shall have the right to go on or across any part of Owner's Property for the purpose of gaining access to the Lease Lands.

1.6 Operator will erect, install and construct the Facilities within, upon or over the Lease Lands in a proper and workmanlike manner so as to do as little injury as possible to Owner's Property and will keep and maintain the same in good repair.

2. Lease Term.

2.1 Further to the Declaration attached hereto as **Schedule “B,”** Operator shall have and hold the Lease Lands for a term of fifty (50) years minus one day (the “**Lease Term**”) which Lease Term shall be allocated as follows:

(a) the period commencing on the Effective Date up to and including the Construction Commencement Date (the “**Development Phase**”); plus

(b) the period commencing on the expiration of the Development Phase and expiring fifty (50) years minus one day from the Effective Date (the “**Operational Phase**”).

2.2 The Lease Term shall be subject to Operator’s right to terminate as hereinafter provided.

2.3 As used herein, “**Construction Commencement Date**” means the date the energy, procurement and construction contractor has begun construction of the Facilities on the Lease Lands. For greater clarity, environmental and preliminary assessment work associated with procuring the Renewable Energy Approval and archaeological work, including tractor and other machinery work associated with the Renewable Energy Approval process does not trigger the Construction Commencement Date

2.4 In the event that the Owner permits Operator to continue to use the Lease Lands after the expiration of the Lease Term (but Operator shall have no right to continue use the Lease Lands after the Lease Term and this overholding shall not be considered to be an option to renew) Operator shall be deemed to be a tenant from year to year (the “**Yearly Tenancy**”) paying an annual Rent equal to the amount of annual Rent paid by Operator during the last year of the Lease Term, payable by annual installments and otherwise upon and subject to all the covenants, conditions and agreements of this Agreement applicable to a yearly tenancy. The Yearly Tenancy may be terminated by either the Owner or Operator effective the day preceding the anniversary date of the commencement of the Yearly Tenancy by written notice given to the other party not less than twelve (12) months prior to the termination date.

3. Covenants, Representations & Warranties.

3.1 Owner represents and warrants that, as of the Effective Date, Owner is:

(a) at least eighteen (18) years of age and either not a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended; or

(b) at least eighteen (18) years of age and if a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended, then this Agreement has been executed by both spouses together comprising Owner or consented to in writing by Owner’s spouse as is evidenced by the signature of the spouse on the Consent attached hereto as **Schedule C**; or

(c) if a corporation, then no building(s) located on Owner’s Property has been ordinarily occupied by any officer, director or shareholder of the corporation or by any of their spouses as a family residence or matrimonial home within the meaning of the *Family Law Act*, R.S.O. 1990, c.F-3, as amended.

3.2 Operator hereby represents and warrants that it is a company, duly organized, validly existing and in good standing under the laws of New Brunswick, is authorized to conduct business in the Province of Ontario and has the right, power and privilege to execute and deliver this Agreement and to perform its obligations hereunder.

3.3 Owner acknowledges that Owner has had the full opportunity to obtain independent legal representation or advice in connection with this Agreement.

3.4 Owner hereby agrees and covenants:

(a) that subsequent to the execution and delivery of this Agreement and without any additional consideration made or cost to Owner, Owner will execute and deliver or cause to be executed and delivered any further legal instruments, including, without limitation, any required consents, certificates or acknowledgements in favour of Operator's lenders, and perform any acts which are or may become necessary to effectuate the purposes of this Agreement and to complete the transactions contemplated hereunder;

(b) that Owner will appoint Operator to act as Owner's agent for the purpose of executing such consents or authorizations as may be necessary for Operator to make any application for re-zoning or site plan approval pursuant to this Agreement, and agrees to cooperate in any such applications; and

(c) that any information which Owner has access to or which comes into Owner's possession relating to Operator's activities, including any wind assessment data or the terms and conditions of this Agreement (collectively, the "**Confidential Information**"), shall be held in the strictest confidence by Owner, and Owner shall not disclose any Confidential Information to any third party except as may be required by law, or on the same confidential basis as provided herein and then only to Owner's prospective purchasers or legal and financial advisors who have a bona fide and actual need to know same ("**Authorized Agents**"); (ii) Owner or the Authorized Agents will not use any such Confidential Information, other than as may be required or permitted to perform any of its obligations under this Agreement; and (iii) Owner or its Authorized Agents will not exploit (whether for commercial or other purposes) or otherwise use any such Confidential Information. Owner acknowledges that a breach of any of the provisions contained herein would cause Operator to suffer loss which could not be adequately compensated for by damages and Operator may, in addition to any other remedy or relief, enforce the performance of the provisions of this section by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage. Upon the expiration or earlier termination of this Agreement, all Confidential Information will continue to be kept confidential by Owner.

3.5 Operator hereby covenants it shall, at its sole cost and expense and prior to accessing Owner's Property for any purpose related to the siting, assessment or construction of the Facilities contemplated to be erected by Operator herein, provide and maintain in full force and effect with financially responsible insurance carriers, insurance with commercially reasonable coverages, which shall remain in effect during the term of this Agreement or any extension thereof or as otherwise specified herein and which shall, if applicable, include (but not be limited to):

(a) automobile liability insurance covering owned, non-owned, hired, leased and rented automobiles and automotive equipment providing coverage for injury, death, or property damage;

(b) commercial general liability insurance in an amount not less than Five Million Dollars (\$5,000,000.00) covering bodily injury, death, personal injury and damage to property; and

(c) worker's compensation as required by the Ontario *Workplace Safety and Insurance Act* (Ontario) or similar legislation covering all persons employed by Operator or subcontractors for work performed under this Agreement.

Operator shall, prior to starting work on the Lease Lands, supply Owner with a certificate of insurance outlining the applicable coverages and indicating that the coverages will not be cancelled, non-renewed, nor materially changed by endorsement or through issuance of other policies of insurance which restricts or reduces coverage, without ninety (90) days' advance written notice to Owner.

3.6 Title Search.

(a) If, after the Effective Date, Operator conducts a title search and such search reveals that Owner is not the legal and beneficial owner of Owner's Property or does not have the legal right and authority to grant to Operator, its employees, servants, agents, consultants, contractors and sub-contractors, the rights under this Agreement or has granted an easement, lease, financial encumbrance or other property right(s) related to Owner's Property ("**Prior Encumbrance**") to any other person that would interfere with the rights granted to Operator hereunder, Operator may, in its sole discretion, terminate this Agreement effective immediately. If Operator elects not to terminate this Agreement, Owner agrees to obtain from the holder of such Prior Encumbrance any non-disturbance agreement, postponement, mutual co-existence agreement or related agreements, that Operator or its lender(s) may reasonably require. Without limiting the generality of the foregoing, Owner covenants and agrees to obtain from any prior mortgagee of Owner's Property, either a postponement of such mortgage to this Agreement or a non-disturbance agreement in favour of Operator.

(b) If the title search reveals a Prior Encumbrance, Operator, in its sole and absolute discretion, may decide to consult with the holder of such Prior Encumbrance and Owner shall cooperate with Operator to resolve any issues that may arise under this Agreement vis-à-vis the Prior Encumbrance with the goal of determining whether the Prior Encumbrance and that this Agreement can co-exist over the Lease Lands.

(c) Notwithstanding Section 3.6(b), Operator may choose to terminate this Agreement at any time pursuant to Section 3.6(a).

3.7 Owner hereby represents and warrants that it is the legal and beneficial owner in fee simple of Owner's Property and has the legal right and authority to grant to Operator, its servants, employees, agents, consultants, contractors and sub-contractors the rights under this Agreements on the terms and conditions set out herein and has not and will not grant an option, easement, lease or any other property rights related to Owner's Property to any other person that would interfere with the rights granted to Operator hereunder, save and except for any easements, petroleum or natural gas leases or any other property rights granted by Owner prior to the Effective Date.

4. Termination.

4.1 Except as otherwise stipulated herein, the Agreement shall terminate at the earlier of:

- (a) failure by Operator to pay the requisite payments provided for hereunder, within thirty (30) days after written demand by Owner, unless otherwise agreed to by the Parties;
- (b) receipt by Owner of notice from Operator of Operator's desire to terminate the Agreement;
- (c) termination by Operator pursuant to Section 3.6; or
- (d) the expiry of the Lease Term subject to the agreement of the parties to extend.

4.2 The representations, warranties, covenants and agreements contained in Section 3 hereof shall survive the termination of this Agreement and remain in full force and effect.

4.3 In the event that the Agreement is terminated on the date stipulated in Section 4.1 (b) or (c) (the "**Early Termination Date**"), Operator shall be released from having to pay any further Rent under this Agreement.

5. Rent.

Operator shall pay Owner, or any person or entity Owner directs in writing from time to time, the amounts set forth in **Schedule "D"** as the consideration for the rights under this Agreement.

6. Assignment.

6.1 Subject to Subsection 6.3 below, this Agreement may be assignable by Owner to a successor in title.

6.2 Subject to Subsection 6.3 below, Operator shall be able to sell, convey, sub-lease, or assign this Agreement or any portion of its interest in the Lease Lands derived under the Agreement or grant sub-leases, co-leases, separate leases, licenses or similar rights, however denominated (collectively, "**Assignments**"), to one or more persons or entities (collectively, "**Assignees**") without the prior consent of Owner, including to its lender(s) as security for Operator's obligations to such lender(s). Owner shall execute and deliver any consent and acknowledgement reasonably requested by such lender.

6.3 No assignment by either Operator (except in the case of an assignment of this Agreement to its lender(s)) or Owner shall be effective unless and until the assignee executes an assumption agreement ("**Assumption Agreement**") with respect to this Agreement agreeing to be bound by the terms hereof to the same extent as if it had been an original party hereto. For greater certainty, Owner covenants and agrees that in the event Owner transfers or conveys Owner's Property or any portion thereof, Owner will obtain from any such transferee or purchaser an Assumption Agreement in favour of Operator.

7. Indemnification.

7.1 Operator shall indemnify and hold harmless Owner against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with or as a result of:

7.1.1 the negligence or wilful misconduct of Operator;

7.1.2 any breach by Operator of the terms and conditions of this Agreement; or

7.1.3 the property of Operator or the operation of the property of Operator, provided that Operator shall not be liable under this Section to the extent to which such loss, damage or injury is caused by the negligence or default of Owner or Owner's servants, agents and invitees. For greater certainty, Operator shall not be liable to Owner for the actions of (i) Owner, its agents, employees, or representatives who enter upon Owner's Property, or (ii) any trespasser or unauthorized person who enters upon Owner's Property.

7.2 Owner shall indemnify and hold harmless Operator against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with, or as a result of the negligence or wilful misconduct of Owner, as well as in respect of any loss, injury or damage arising out of or in connection with, any breach by Owner of the terms and conditions of this Agreement; provided that Owner shall not be liable under this Section to the extent to which such loss, damage or injury is caused by the negligence or default of Operator, its servants or agents. For greater certainty, Owner shall not be liable to Operator for the actions of (i) Operator, its agents, employees, or representatives who enter upon Owner's Property, or (ii) any trespasser or unauthorized person who enters upon Owner's Property.

7.3 All accrued and undischarged obligations under this Section shall survive the expiration or termination of this Agreement for the applicable statute of limitations period.

7.4 Notwithstanding the foregoing, the Parties hereto shall only be liable for reasonably anticipated and foreseeable damages.

8. Environmental Representations.

Owner represents and warrants that, to the best of Owner's knowledge, Owner's Property is not and has not been in violation of any Environmental Laws (defined below), and Owner has not received any notice or other communication from any governmental authorities alleging that Owner's Property is in violation of any Environmental Laws. "**Environmental Laws**" shall mean and refer to any statute, law, decree, ordinance or regulation which relates to or deals with human health or the environment, including, without limitation, all regulations promulgated by a regulatory body pursuant to any statute, law, ordinance or regulation. "**Hazardous Materials**" shall mean any asbestos containing materials, petroleum, explosives, toxic materials, or substances regulated as hazardous wastes, hazardous materials, hazardous substances, or toxic substances under any federal, provincial, or local law or regulation. Owner represents and warrants that, except as disclosed to Operator in writing, to the best of Owner's knowledge, no underground storage tanks and no Hazardous Materials are or were located on Owner's Property during or prior to Owner's ownership of Owner's Property. Owner shall not violate in a material way any Environmental Laws relating to Owner's Property. All accrued and undischarged obligations under this clause shall survive the expiration or termination of this Agreement.

9. Roads.

Owner agrees that Operator may construct new or improve existing roads from time to time for the purposes of access, ingress and egress to the Lease Lands.

10. Taxes.

Operator shall pay any increase in the real property taxes on the Lease Lands that is directly attributable to the installation of Facilities or to a reclassification of the Lease Lands because of the rights and privileges created under this Agreement. If the Facilities are subject to real property taxes, Operator shall request that the Facilities be separately assessed and that taxing authorities bill Operator directly for taxes attributable to the Facilities. Operator shall not be liable for taxes attributable to any other facilities or other installations of any kind installed by Owner or others on the Lease Lands or for any increase due to any other cause. Operator agrees to reimburse Owner for any taxes paid by Owner that are properly payable by Operator under the terms of this Agreement. To receive reimbursement, Owner must submit the real property tax bill payable by Owner to Operator for reimbursement within a reasonable time after Owner receives the bill from a taxing authority. The parties agree to fully cooperate to obtain any available tax refunds or tax abatements.

11. Drainage Tile; Restoration; Crop Compensation

11.1 Drainage Tile and Crop Compensation.

Operator will repair any drainage tiles damaged by its activities on the Owner's Property and will pay crop damage if any crops are damaged due to tiles broken by Operator's activities. Lessor will notify Operator within two (2) crop years if they believe drainage tiles are broken as a result of Operator's activities and have not been properly repaired by Operator. In the event of a drought and sufficient rainfall has not been received in the first two (2) crop years from the date of installation of the improvements, then Operator will extend the yearly time period within which Lessor must notify Operator until the earlier of such time that sufficient rainfall has been received or four (4) years from the date of installation of the improvements. Sufficient rainfall shall be based on the average amount of yearly rainfall received by the Township or Municipality in which the Property is located for the four (4) year period preceding the date of installation of the improvements. In the event Lessor fails to notify Operator that they believe drainage tiles remain broken as provided in this paragraph, then Operator shall have no further responsibility to repair said drainage tiles.

In the event that the Parties cannot agree at any time on the amount of damage payable to Owner for crop damage, the compensation paid by Operator to Owner for that use shall be the damages for the crops lost or destroyed in the area compacted as calculated below; in consideration of this payment, no additional damages shall be paid in future years for that episode of compaction. Damages will be calculated by the following formula: $\text{Unit Price} \times \text{Unit Yield Per Acre} \times \text{Acres Damaged} = \text{Damages}$. Prices for damaged or destroyed crops will be based on the average of the previous March 1st and September 1st using the prices for the crop provided by the local grain elevator. Yield will be the average of the previous three (3) years' yields according to Owner's records for the smallest parcel of land that includes the damaged area. If Owner does not have yield records available, the Parties will use commonly used yield information available for the area. The Parties shall try in good faith to agree to the extent of damage and acreage affected. If they cannot agree, they shall have the area measured and extent of damage assessed by an impartial party such as a crop insurance adjuster or extension agent. Any costs for such assessment shall be paid by Operator. Payment shall be made within sixty (60) days after determining the extent of the damage.

11.2 Restoration.

(a) After Operator no longer needs the Laydown Areas for the purposes set forth herein, Operator shall restore the Laydown Areas within ninety (90) days, which may be extended due to weather delays, and at its expense any fences, cattle guards, terraces, or other property damaged by Operator's agents, to the extent such restoration is practical, to the condition they were in before Operator's use.

(b) After Operator no longer needs the Lease Lands for the use of the Facilities, Operator shall remove all Facilities from the Lease Lands and shall restore the Lease Lands to the same condition, to the extent such restoration is practical, as the Lease Lands was prior to entry thereon and use thereof by Operator, and Operator shall remove and discharge any instrument or encumbrance registered against title to the Lease Lands and related to its interest in the Lease Lands.

12. Mortgage Rights.

12.1 Operator, upon notice to Owner, but without Owner's consent or approval, may mortgage, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in the Agreement and the Lease Lands. These various security interests in all or a part of this Agreement and the Lease Lands are collectively referred to as "**Mortgages**" and the holders of the Mortgages, their designees and assigns are referred to as "**Mortgagees.**" Operator's notice to Owner shall include the name and address of each Mortgagee and/or Assignee. Assignees and Mortgagees shall use the Lease Lands only for the uses permitted under the Agreement. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Operator, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Lease Lands than the rights granted to Operator in the Agreement.

12.2 Owner agrees to consent in writing to financing documents as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Operator under this Agreement, Owner shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Operator, specifying in detail the alleged event of default and the required remedy. Each Mortgagee and Assignee shall have the same amount of time to cure the default as to Operator's entire interest or its partial interest in the Lease Lands as is given to Operator and the same right to cure any default as Operator or to remove any property of Operator, Mortgagees or Assignees located on the Lease Lands. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Operator in the Agreement, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Owner to give a Mortgagee or Assignee notice of default shall not diminish Owner's rights against Operator, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Operator, the Mortgagee or Assignee located on the Lease Lands.

12.3 Any Mortgagee or Assignee that does not directly hold an interest in the Lease Lands, or whose interest is held solely for security purposes, shall have no obligation or liability under this Agreement prior to the time the Mortgagee or Assignee directly holds an interest in this Agreement, or succeeds to absolute title to Operator's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Agreement only for and during the period it directly holds such

interest or absolute title. Any Assignment provided for under this Agreement shall release Operator or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

12.4 To prevent termination of this Agreement, or any partial interest in this Agreement, Operator, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the termination of this Agreement or any interest in the Agreement and Owner agrees to accept the rectification of any default by any Mortgagee or Assignee as if it was rectified by Operator.

12.5 In the event of an uncured default by the holder of Operator's entire interest in this Agreement, or in the event of a termination of this Agreement by agreement, by operation of law or otherwise, each Mortgagee or Assignee of an interest in the Agreement that is not in default of its obligations, shall have the right to have Owner either recognize the Mortgagee's or Assignee's interest or grant a new agreement substantially identical to this Agreement. Under the new Lease, the Mortgagee or Assignee shall be entitled to, and Owner shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the Term and any renewal period, or such shorter term as an Assignee may otherwise be entitled pursuant to its Assignment.

12.6 If any default by Operator under this Agreement cannot be cured without obtaining possession of all or part of the Lease Lands, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Owner acquires possession of all or part of the Lease Lands, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Lease Lands cures defects that are capable of being remedied and performs all other obligations as and when the same are due in accordance with the terms of this Agreement. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

12.7 Owner shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Agreement, if such be the case), consents to assignment and non-disturbance agreements as Operator or any Mortgagee or Assignee may reasonably request from time to time, which may incorporate the provisions contained in this Section 12. Owner and Operator shall cooperate in amending this Agreement from time to time to include any provision that may be reasonably requested by Operator or any Mortgagee or Assignee to implement the provisions contained in this Agreement or to preserve a Mortgagee's security interest in the Lease Lands.

12.8 Any Mortgagee, upon delivery to Owner of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Agreement:

(a) A Mortgagee shall have the absolute right: (a) to assign its Mortgage; (b) to amend, renew, extend, restate or supplement its Mortgage; (c) to enforce its lien and acquire title to all or any portion of the Lease Lands by any lawful means; (d) to take possession of and operate all or any portion of the Lease Lands and to perform all obligations to be performed by Operator under this Agreement, or to cause a receiver to be appointed to do so; and (e) to acquire all or any portion of the

Lease Lands by foreclosure or a quit claim in lieu of foreclosure and thereafter without Owner's consent to assign or transfer all or any portion of the Lease Lands to a third party. A Mortgagee which assigns or transfers Lease Lands to a third party shall notify Owner of the name and address of the Assignee or Transferee.

12.8.1 During any period of possession of the Lease Lands by a Mortgagee (or a receiver requested by a Mortgagee) and/or while any foreclosure proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges payable by Operator under this Agreement which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Lease Lands by the Mortgagee as a result of either foreclosure or a quit claim in lieu of foreclosure, or by a purchaser under a private or judicial power of sale, this Agreement shall continue in full force and effect and the Mortgagee or party acquiring title to the Lease Lands shall, as promptly as reasonably possible, commence the cure of all defaults under this Agreement and thereafter diligently process such cure to completion, whereupon Owner's right to terminate this Agreement based upon such defaults shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to Operator's interests shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Owner upon completion of foreclosure proceedings or a quit claim in lieu of foreclosure or acquisition of Operator's interest in this Agreement by such party.

12.8.2 Any Mortgagee or other party who acquires Operator's interest in the Lease Lands pursuant to foreclosure or a quit claim in lieu of foreclosure shall not be liable to perform the obligations imposed on Operator by this Agreement incurred or accruing after the party no longer has ownership or possession of the Lease Lands.

12.8.3 If this Agreement terminates because of Operator's default, as a result of a foreclosure, or if this Agreement is rejected, disaffirmed, resiliated, repudiated or disclaimed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Operator or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Owner for the payment of all fees or other charges due and payable by Operator as of the date of such event, then Owner shall execute and deliver to Operator or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, a new agreement to the Lease Lands which (i) shall be for a term equal to the remainder of the Lease Term, including any renewal period before giving effect to such rejection, resiliation, disclaimer, repudiation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Agreement (except for any requirements that have been fulfilled by Operator or any Mortgagee or Assignee prior to rejection, resiliation, disclaimer, repudiation or termination of this Agreement); and, (iii) shall include that portion of the Lease Lands in which Operator or such other Mortgagee or Assignee had an interest on the date of rejection, resiliation, disclaimer, repudiation or termination.

12.8.4 After the termination, resiliation, repudiation, rejection, disclaimer or disaffirmation of this Agreement and during the period thereafter during which any Mortgagee shall be entitled to enter into a new agreement for the Lease Lands, Owner will not terminate the rights of any Assignee unless in default under its Assignment.

12.8.5 If more than one Mortgagee makes a written request for a new agreement pursuant to this provision, the new agreement shall be delivered to the Mortgagee requesting such new agreement whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

12.8.6 The provisions of this Section shall survive the termination, rejection, disclaimer, rescission, repudiation or disaffirmation of this Agreement and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Owner, Operator and each Mortgagee, and, from the effective date of such termination, rejection, disclaimer, rescission, repudiation or disaffirmation of this Agreement to the date of execution and delivery of such new agreement, such Mortgagee may use and enjoy the Lease Lands without hindrance by Owner or any person claiming by, through or under Owner; provided that all of the conditions for the new agreement as set forth above are complied with.

12.8.7 Notwithstanding any provision of this Agreement to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Agreement shall not be modified or amended, and Owner shall not accept a surrender, cancellation or release and abandonment of all or any part of this Agreement or the Lease Lands from Operator, prior to expiration of the Lease Term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Agreement.

12.8.8 There shall be no merger of this Agreement with the fee estate in the Lease Lands by reason of the fact that this Agreement, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Lease Lands and all persons (including each Mortgagee) having an interest in this Agreement or in the estate of Owner and Operator shall sign and register a written instrument effecting such merger.

12.8.9 On the Effective Date, the Lease Lands shall be free and clear of all monetary liens other than those expressly approved by Operator. Thereafter, any assignment of this Agreement, mortgage, charge, deed of trust or other monetary lien placed on the Lease Lands by Owner, or permitted by Owner to be placed or to remain on the Lease Lands, shall be subject to this Agreement, to any Assignment or Mortgage then in existence on the Lease Lands, to Operator's right to encumber the Lease Lands, and to any and all documents executed or to be executed by Owner in connection with Operator's development of all or any part of the Lease Lands. Owner agrees to cause any monetary liens placed on the Lease Lands by Owner in the future to incorporate the conditions of this Section.

12.8.10 At Operator's request, Owner shall amend this Agreement to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Owner's rights under this Agreement or increase the burdens or obligations of Owner under this Agreement. Upon the request of any Mortgagee, Owner shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Agreement.

13. Governing Law.

This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario, Canada, without reference to the conflict of laws principles thereof. The Parties agree that any rule of construction to the effect that ambiguities are to be resolved in favor of any particular Party shall not be employed in the interpretation hereof, and is hereby waived. Any references herein to specific legislation shall be deemed a reference to amending or successor legislation thereto once same is enacted and in force.

14. Registration.

Operator shall be entitled, at its cost and expense, to register this Agreement or a notice in respect thereof and any required reference plans in the applicable Land Registry Office having jurisdiction over the Lease Lands, and Owner agrees to execute, at no cost to Operator, all necessary instruments, plans and documentation for that purpose.

15. Income Tax Act.

Prior to the Effective Date, Owner shall deliver to Operator a certificate issued under the provisions of Section 116 of the Income Tax Act (Canada) or satisfactory evidence by way of statutory declaration that Owner is not then a non-resident of Canada within the meaning of the *Income Tax Act* (Canada). In the event that Owner's residency status changes at any time during the Lease Term, Owner shall provide prompt written notice of same to Operator.

16. Default.

Notwithstanding anything herein contained to the contrary, Operator shall not be in default in the performance of any of its covenants or obligations under this Agreement, including the payment of compensation or Rent, unless and until Owner has notified Operator of such default in writing and Operator has failed to commence action to remedy the same within forty-five (45) days of receipt of such notice and thereafter fails to diligently continue to complete such remedial action.

17. Notice.

All notices, communications, payments and deliveries (collectively called the "Notices") to be given hereunder shall be given in writing. All such Notices and all payments to be tendered hereunder may be given personally via overnight mail or by registered letter addressed to the party to whom the Notice is to be given. When delivered personally, such Notice shall be deemed received on the day of delivery, and when mailed, such Notice shall be deemed to be given to, and received by, the addressee four (4) days after the mailing thereof, postage prepaid, if sent by registered letter or the next day, if sent by overnight mail provided however, that if a Notice is mailed and a disruption of postal services occurs before the date of deemed receipt of such Notice, such Notice shall not be deemed to be received until following the resumption of postal service.

18. Addresses.

Unless changed by written notice the addresses of the parties hereto shall be:

In the case of Notice to Operator, to:

Jericho Wind, Inc.
390 Bay Street, Suite 1720,
Toronto, ON, M5H 2Y2, Canada
Attention: Business Management
Telephone: (416) 364-9714

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd. LAW/JB
Juno Beach, FL 33408
Attention: General Counsel
Telephone: (561) 691-2359
Facsimile: (561) 691-7791

In the case of Owner, to:

Telephone: _____

19. Severability.

If, and to the extent that, any court of competent jurisdiction determines that it is impossible to construe any provision of this Agreement and as a consequence holds that provision to be invalid, such holding shall not affect the validity of the other provisions of this Agreement, which shall remain in full force and effect.

20. Enurement.

This Agreement and everything herein contained shall enure to the benefit of and be binding upon Owner, his/her heirs, executors, administrators, successors and assigns and upon Operator, its successors and assigns.

21. Discharge of Encumbrances.

Operator may at its option pay or discharge all or part of any balance owing under any agreement for sale or mortgage, or of any withholding or other tax, charge, lien or encumbrance of any kind or nature whatsoever which may now or hereafter exist on or against or in any way affect the Lease Lands, in which event Operator shall be subrogated to the rights of the holder or holders thereof, and may in addition thereto, at its option, reimburse itself by applying on account of repayment of the amount so paid by it the rentals or other sums accrued or accruing to Owner under the terms of this Agreement. Any sums so applied shall, for all purposes of this Agreement, be deemed to have been paid to and received by Owner in payment of such rentals or other sums accrued or accruing to Owner under the terms of this Agreement. Owner also agrees to obtain from

any prior mortgagee of Owner's Property, either a postponement of such mortgage or charge to this Agreement or a non-disturbance agreement in favour of Operator.

22. Approvals.

Owner covenants and agrees to execute all applications, consents, permissions, agreements, postponements, site plan control agreements, partial discharges and any other documents which Operator may require in connection with obtaining any renewable energy approvals, rezoning, governmental approvals, consents, permits or variances (collectively, "**Approvals**") and in connection with entering into by Operator of any agreements with such governmental and public authorities as may be necessary to give due force and effect to and in furtherance of Operator's applications, and Owner shall produce all other documents and information which may be required in connection with such applications. All applications for Approvals shall be made by Operator, at its sole cost and expense, and any costs to Owner associated with such Approvals shall be borne by Operator. Operator agrees that the obligation of Owner pursuant to this section shall be restricted to execution of documents and production of documents and information and shall not impose upon Owner any financial obligation whatsoever.

23. Fencing and Access.

Operator shall have the full, free and exclusive right to fence the Lease Lands or so much thereof as it, in its sole and absolute discretion, may deem necessary in the exercise of any of its rights and privileges herein granted. Owner, and all persons claiming by, through or under Owner, may be denied access to, and use of, the Lease Lands or so much thereof as Operator, in its sole and absolute discretion, may deem necessary from time to time for the safe and efficient use and operation of the Facilities.

24. Equity.

Owner covenants with Operator that upon Operator, its successors and assigns, performing and observing the covenants and conditions on its part to be performed and observed, Operator, its successors and assigns, shall peaceably hold and enjoy the rights, liberties, privileges and Lease hereby granted during the period as aforesaid. Notwithstanding any rule of law or equity, all property, improvements and equipment placed or operated on the Lease Lands by or on behalf of Operator shall, at all times, remain the personal property of Operator even though attached to Owner's Property.

25. Sale.

Owner shall notify Operator promptly and in writing of any change in ownership of Owner's Property and Operator shall be entitled to continue to make payments to the existing Owner until satisfied of the status of the new Owner. Owner will obtain an assumption agreement in favour of Operator from any transferee or purchaser of Owner's interest in Owner's Property, pursuant to which such transferee or purchaser agrees to be bound by the terms of this Agreement.

26. Covenant.

This Agreement is and shall be the same force and effect, to all intents and purposes, as a covenant running with the Lease Lands and these presents, including all of the covenants and

conditions herein contained, shall extend, be binding upon and inure to the benefit of the parties hereto, their executors, administrators, successors and assigns, as the case may be. Operator agrees that this Agreement and the rights, privileges and Leases granted pursuant thereto is a Lease in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution in accordance with Section 42.1 of the *Electricity Act*, 1998 (Ontario). Operator shall have the right from time to time, in its sole discretion to grant franchises, licenses or assignments of its rights acquired hereunder, in whole or in part, to third parties, without further consideration becoming payable to Owner herein.

27. No Affect on Statutory Rights.

Nothing in this Agreement shall adversely affect Operator's ability to exercise any rights or powers authorized under any instrument issued by the Ontario Energy Board pursuant to the *Ontario Energy Board Act*, 1998 (and any other successor legislation).

28. Planning Act.

This Agreement and the provisions hereof, which create or are intended to create an interest in Owner's Property and the Lease Lands, shall be effective to create such an interest only if the subdivision control provisions of the *Planning Act*, as amended, are complied with. Notwithstanding the foregoing, Operator hereby declares that the interests in Owner's Property and the Lease Lands being acquired by Operator pursuant to this Agreement are for the purposes of a renewable energy generation facility or renewable energy generation project in accordance with Section 50(3)(d.1) or 50(5)(c.1) of the *Planning Act*.

29 General Provisions.

29.1 The titles or headings inserted herein are for convenience of reference only and shall not affect the interpretation or construction of this Agreement. In the event of any conflict between a metric and imperial expression of measurement in this Agreement, the metric expression of measurement shall govern. Wherever the singular or masculine is used throughout this Agreement, the same shall be construed as meaning plural, or feminine, or a body corporate, where the context or the parties hereto so admit or require.

29.2 All matters in dispute between the Parties pursuant to this Agreement shall be resolved by good-faith negotiation. If the Parties are unable to resolve amicably any dispute arising out of or in connection with this Agreement, each shall have all remedies available at law or in equity. Each Party waives all right to trial by jury and specifically agrees that trial of suits or causes of action arising out of this Agreement shall be to the Court. Time is of the essence with regard to the terms and conditions of this Agreement.

29.3 No change or modification of this Agreement shall be valid unless it is in writing and signed by each Party hereto.

29.4 This Agreement constitutes the entire agreement between the Parties hereto with respect to the subject matter of this Agreement. The Parties hereto acknowledge that there is no representation, warranty, and agreement or understanding between them, whether express or implied, which has induced any of the Parties hereto to enter into this Agreement except as expressly stated herein.

29.5 No failure on the part of any Party to exercise, and no delay by any Party in exercising, any right under this Agreement shall operate as a waiver of such right, unless the Party gives written notice to the other Party of its intention to waive such right.

29.6 This Agreement may be executed in several counterparts, each of which so executed shall be deemed to be an original, and such counterparts together shall constitute but one and the same instrument.

29.7 Delivery of this Agreement by facsimile transmission shall constitute valid and effective delivery.

29.8 Any monies to be paid pursuant to this Agreement shall be in Canadian funds.

29.9 This Agreement shall be effective to create an interest in the Owner's Property for the Lease Term.

[Remainder of page intentionally left blank, signature page follows]

IN WITNESS WHEREOF Owner has affixed his/her/their hand(s) and seal(s) and Operator has affixed its corporate seal duly attested to by the hands of its proper officers, all as of the day and year first above written.

SIGNED, SEALED AND DELIVERED

in the presence of:

Witness

Per: _____

Jericho Wind, Inc.,
a New Brunswick company

Per: _____
John DiDonato, Vice President
“I have authority to bind the corporation.”

SCHEDULE "A"

Legal Description of Owner's Property

SCHEDULE A-1
Lease Lands

(See attached)

SCHEDULE "B"

**DECLARATION REQUIRED UNDER SECTION
50 OF THE PLANNING ACT, R.S.O. 1990, as amended**

I, JOHN DIDONATO, of the City of JUNO BEACH, in the State of FLORIDA,

DO SOLEMNLY DECLARE THAT

1. I am the Vice-President of Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario, the Operator in the attached Agreement and as such have knowledge of the matters herein deposed to.

2. The use of or right in the land described in the said Lease Lands is being acquired by Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario, for a period of 21 or more years but not more than 50 years for the purpose of a renewable energy generation facility or renewable energy project in accordance with Section 50(3)(d.1) or 50(5)(c.1) of the *Planning Act* (Ontario) and I hereby make this declaration that it is being acquired for such purpose.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of *The Canada Evidence Act*.

Jericho Wind, Inc.

a New Brunswick company

Per: John DiDonato, Vice President
"I have authority to bind the corporation."

DECLARED before me at the Town of Juno Beach, in the State of Florida this ___ day of _____, 20___, by John DiDonato, as Vice President of Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario. He is personally known to me or provided _____ as identification.

(Seal)

Notary Public in and for the State of Florida

SCHEDULE "C"

Consent of Spouse

I, _____, being the spouse of _____,
do hereby give my consent to the transfer and grant of Lease and right-of-way made in this
Agreement dated _____, 20____ in respect of the following property:

DATED this _____ day of _____, 20____.

WITNESS:

SPOUSE OF OWNER

Name:

Name:

Address:

Address:

SCHEDULE "D"

Compensation

In consideration for granting this Agreement to Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario, ("**Operator**"), _____ ("**Owner**") shall receive the following payment as "**Rent**":

Rent During the Development Phase

During the Development Phase, Operator shall make an annual payment to Owner in the amount of _____, plus all applicable harmonized sales taxes and any other applicable sales or value added taxes (the "**Minimum Rent**"), provided that the first and last annual Minimum Rent shall consist of a pro-rata portion of the Minimum Rent otherwise due and payable for both the first and last calendar year of the Development Phase, as the case may be. The first annual pro-rata portion of the Minimum Rent, plus the full annual Minimum Rent for the next two (2) calendar years in the Development Phase, shall be made by Operator to Owner within sixty (60) days of the Effective Date. Thereafter, during the Development Phase, the Minimum Rent shall be paid annually in advance on or before January 15th of each calendar year. The pro-rata portion of the first and last annual Minimum Rent shall be calculated by dividing the number of days remaining in the first or last payment period, as the case may be, by 365 and multiplying that number by the annual Minimum Rent amount. The Minimum Rent shall terminate at the conclusion of the Development Phase.

Rent During the Operational Phase

Number of acres of Lease: _____

Annual Rent: \$ _____

Total Annual Rent for Lease Lands: \$ _____

The first Annual Rent for the Lease Lands shall be made on the **Construction Commencement Date**, and subsequent payments of the Annual Rent for the Lease Lands shall be payable on each anniversary of the Construction Commencement Date during the Operational Phase which shall be subject to a two percent (2%) increases annually, provided however that the first and last Annual Rent for the Lease Lands shall consist of a pro-rata portion of the Annual Rent for the Lease Lands otherwise due and payable for both the first and last calendar year of the Operational Phase, as the case may be. The pro-rata portion of the first and last Annual Rent for the Lease Lands shall be calculated by dividing the number of days remaining in the first or last payment period, as the case may be, by 365 and multiplying that number by the Annual Rent for the Lease Lands.

Operator may, in its sole discretion, release portions of the Lease Lands from this Agreement, in which case the Annual Rent for the Lease Lands will be pro-rata reduced accordingly.

Annual Rental for the Lease Lands will be distributed as follows: _____

Appendix 'E' - Option to Purchase Agreement for Substation

OPTION TO PURCHASE AGREEMENT

THIS OPTION TO PURCHASE AGREEMENT (this "Option Agreement") is made as of [REDACTED] by and between [REDACTED] (hereinafter referred to as "Grantor" or "Seller") and Jericho Wind, Inc., a company incorporated pursuant to the laws of the Province of New Brunswick and authorized to conduct business in the Province of Ontario, ("Grantee" or "Buyer"). Grantee and Grantor are sometimes referred to herein individually as a "Party" or collectively as the "Parties."

RECITALS

A. Grantor is the registered and beneficial owner of an estate in fee simple of and in that certain parcel or tract of land situate, lying and being in the Province of Ontario as more particularly described in the attached Exhibit "A" ("Property");

B. Grantee desires to obtain an option to purchase a portion of the Property, together with the right to obtain certain license and/or easement rights over a portion of the Property for ingress and egress in order to construct and operate Substation Facilities, as defined herein, on a portion of the Property to serve a wind energy project, such project to be located on the Property and/or within the vicinity of the Property ("Wind Energy Project"). For the purposes of this Option Agreement, "Substation Facilities" shall include any one or more of the following: an electric substation, an operations and maintenance building, parking area, one or more electric transmission and distribution lines (either below or above ground), transformer(s), switchyard and equipment and vehicles associated therewith, attachments and appurtenant equipment and other buildings required for an electric substation and any and all other uses consistent with the operation of an electric substation.

C. Grantor desires to grant and convey to Grantee an option for the exclusive right to purchase a portion of the Property comprising approximately 40 acres ("Substation Facilities Parcel"), all as more particularly described and depicted in the preliminary plan attached hereto as Exhibit "A-1" (the "Draft Plan"). The Substation Facilities Parcel is identified as Part _____ on the Draft Plan.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Grantee and Grantor hereby agree as follows:

1. **Grant of Option.** Grantor hereby grants to Grantee and its successors and assigns, subject to the terms and conditions set forth in this Option Agreement, an exclusive, irrevocable option to purchase and acquire from Grantor, the Substation Facilities Parcel, together with such additional rights as are more fully described herein (the "Option"), for the payments and on the terms and conditions hereinafter set forth.

2. **Grant of License.** Grantor hereby grants and conveys to Grantee an irrevocable license on over, and across the Property to come upon the Property and to install, operate, and maintain such equipment as may be necessary to conduct studies of wind energy, wind profiles, transmission interconnection, soils, and other meteorological and geotechnical data (including measurement devices, controls, and instrumentation) (the "License"). This License shall be effective throughout the entire Option Term (as defined below). The License also includes the right to construct, use,

repair, replace, relocate, transport and remove said equipment and appropriate vehicles over existing roads and pathways on the Property and the right to carry out, at Grantee's expense and without liability to Grantor, such tests, including but not limited to environmental audits, surveys and inspections of the Property as Grantee may deem necessary. Grantee agrees to repair any damage caused by any such tests at Grantee's expense in a good and workmanlike manner. The License may be exercised by Grantee and by Grantee's employees, agents, contractors, permittees and invitees. Grantee will consult with Grantor to schedule and coordinate Grantee's activities on the Property. The location of any equipment to be installed on the Property shall be agreed to by the parties acting reasonably and without undue delay taking into consideration the purpose of the studies to be conducted and the need for certain studies to be conducted in specific locations. Once determined, the location of the equipment shall not be changed save by the agreement of the parties who shall act reasonably and without undue delay.

3. **Term.** This Option will become effective when all Parties have signed this Option Agreement (the "Effective Date") and will end three (3) years after the Effective Date unless earlier terminated in accordance with the provisions herein (the "Option Term").

4. **Option Payment.** On the Effective Date, Grantee shall pay Grantor [REDACTED] plus all harmonized sales tax applicable thereon ("HST"); and on the first and second anniversaries of the Effective Date, respectively, unless this Option has been earlier terminated in accordance with the provisions herein, Grantee shall pay Grantor a further sum of [REDACTED] plus all applicable HST ("Option Payment"). All Option Payments shall be credited to the Purchase Price as defined in the Purchase Agreement attached to this Option as Exhibit "C".

5. **Grantor's Authority.** Grantor represents and warrants to Grantee that Grantor is the sole legal and beneficial owner in fee simple of the Property with a good and marketable title thereto and has the unrestricted right, power, privilege and authority to execute and deliver this Option; to grant Grantee the rights granted in this Option; and, to complete the transactions contemplated by the Purchase Agreement (as defined below) if Grantee exercises this Option.

6. **Status of Grantor.**

6.1 Grantor represents and warrants to Grantee that if Grantor is an individual, Grantor is either not married, or if married, his or her spouse either comprises a Grantor hereunder or such spouse has consented to the grant of the Option to Grantee pursuant to the terms herein by executing a copy of this Option Agreement, and if Grantor is a corporation, the Property has never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the Property does not comprise a family residence within the meaning of the *Family Law Act*.

6.2 Grantor acknowledges that Grantor has had the full opportunity to obtain independent legal representation or advice in connection with this Option Agreement and the Purchase Agreement and has arranged for the completion and execution of the Certificate included as Exhibit "B".

7: **Exercise of Option.** At any time during the Option Term, Grantee may exercise this Option by delivering to Grantor a notice of exercise of the Option ("**Exercise Notice**"). The Exercise Notice shall reference this Option and shall state that Grantee is exercising its right to purchase the Substation Facilities Parcel in accordance with the terms and conditions contained in the agreement of purchase and sale attached hereto as Exhibit "C" (the "**Purchase Agreement**") and accompanying such Exercise Notice shall be a copy of the deposited Draft Plan, to the extent the same has been deposited on title. Upon the delivery of the Exercise Notice to Grantor, a binding agreement of purchase and sale pursuant to which Grantor shall sell and Grantee shall purchase the Substation Facilities Parcel, shall be created without the necessity of any further action on behalf of Grantor or Grantee, subject however to the terms and conditions contained in the Purchase Agreement. Further, in the event Grantee does not use all of the purchased Property referenced in Exhibit A, Grantor leases and accepts from Grantee all such unused portions (the "**Leased Lands**") to be held by Grantor as tenant, in exchange for payment of a rental amount in the sum of [REDACTED] per acre, per year.

8. **Effect of Option Agreement; Interest in Real Property.** The Parties intend that this Option Agreement create a valid and present interest in the Property in favour of Grantee. Therefore, the Option shall be deemed an interest in and encumbrance upon the Property which shall run with the land and shall be binding upon the Substation Facilities Parcel and Grantor and its successors and assigns and shall inure to the benefit of each of the Parties hereto and their respective successors and assigns. Grantor covenants and agrees that during the Option Term, Grantor shall not, except as otherwise provided herein, convey the Property and the Substation Facilities Parcel or any interest therein or permit any lien or encumbrance to attach to the Property and the Substation Facilities Parcel.

9. **Grantee's Right to Assign.** Grantee may, without the consent of Grantor, sell, assign or transfer all or any portion of its interest in the Option and/or this Option Agreement ("**Assignment**"). Upon an Assignment, Grantee shall have no further liability to Grantor. Any such transfer shall be subject to the terms and requirements of this Option Agreement.

10. **Early Termination.** Grantee shall have the right, at any time during the Option Term, and on written notice to Grantor, to terminate this Option and surrender to Grantor all of Grantee's right, title and interest in and to the Property by executing and delivering to Grantor, or registering against title to the Property, a quitclaim deed, surrender or release respecting the Property. This Option shall terminate on delivery of any such notice of termination, and Grantee shall have no further obligation for any Option Payments hereunder.

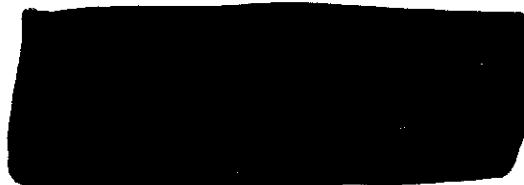
11. **Notice**

12.1 **Writing.** All notices given or permitted to be given hereunder shall be in writing; provided, however, that no writing other than the cheque or other instrument representing the Option payment itself need accompany such payment.

12.2 **Delivery.** Where this Option Agreement or the Purchase Agreement requires notice to be delivered by one Party to the other, such notice shall be given in writing and delivered either personally or by prepaid registered post, or by printed electronic transmission by the Party wishing to give such notice, or by the solicitor acting for such Party, to the other Party

or to the solicitor acting for the other Party at the addresses noted below. Such notice shall be deemed to have been given, in the case of personal delivery, on the date of delivery, where given by post, on the third business day following the posting thereof and, where given on a business day by printed electronic transmission prior to 5:00 p.m., on the date of transmission and after 5:00 p.m. on the first business day following such transmission. It is understood that in the event of a threatened or actual postal disruption in the postal service in the postal area through which such notice must be sent, notice must be given, on a business day, personally as aforesaid or by means of printed electronic or printed telephonic communication in which case notice shall be deemed to have been given on the date of transmission thereof:

Notice to Grantor:



Notice to Grantee:

Jericho Wind, Inc.
5500 North Service Road, Suite 205
Burlington, ON L7L 6W6, Canada
Attention: Business Management
Telephone: (905) 335-4904
Facsimile: (905) 335-5731

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd. LAW/JB
Juno Beach, FL 33408
U.S.A.
Attention: General Counsel
Telephone: (561) 691-2359
Facsimile: (561) 691-7103

12. **Further Assurances.** Each Party agrees to cooperate with the other Party and to execute any additional documents reasonably necessary or proper to carry out the provisions and spirit of this Option Agreement. Without limiting the generality of the foregoing, Grantor hereby agrees and covenants that subsequent to the execution and delivery of this Option Agreement and, without any additional consideration, it shall execute and deliver or cause to be executed and delivered any further legal instruments, including, without limitation, any required consents (including, without limitation, those required under Section 24 below), acknowledgements or lender agreements in favour of Grantee's lenders, and perform any acts which are or may become necessary to effectuate the purposes of this Option Agreement and to complete the transactions contemplated hereunder and if applicable, under the Purchase Agreement. Grantee agrees to reimburse Grantor its actual,

reasonable costs incurred in the consideration of, or response to, a request by Grantee to execute any additional documents (as described above) reasonably necessary or proper to carry out the provisions and spirit of this Option Agreement. Grantee will obtain all governmental permits, licenses, certificates, approvals, variances and other entitlements for use ("**Permits**") necessary for the construction, installation and operation of the Substation Facilities. Grantor hereby gives its consent to any action taken by Grantee in applying for any and all Permits Grantee finds necessary or desirable for the construction, installation or operation of the Substation Facilities. Grantor agrees to assist and reasonably cooperate with Grantee in obtaining the Permits, and Grantor hereby appoints Grantee its agent for applying for such Permits. Grantee will carry out the activities set forth in this Section 12 in accordance with all applicable laws, rules, codes and ordinances.

13. **Construction of Agreement**

14.1 **Governing Law.** The laws of the Province of Ontario and the federal laws of Canada applicable therein shall govern the interpretation and enforcement of this Option Agreement and the rights and covenants granted hereunder. The venue for any application to interpret or enforce the provisions of this Option Agreement shall be Toronto, Ontario, Canada.

14.2 **Interpretation.** The Parties agree that the terms and provisions of this Option Agreement embody their mutual intent and that such terms and conditions are not to be construed more liberally in favour, nor more strictly against, either Party.

14.3 **Partial Invalidity.** If any term or provision of this Option Agreement, or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, a provision shall be added to this Option Agreement as similar in terms to such invalid or unenforceable provision as may be possible, and be legal, valid and enforceable, and the remainder of this Option Agreement or the application of such term or provision to persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby.

14. **Solicitors' Fees.** In the event of a dispute arising out of or relating to this Option Agreement and resulting in litigation or arbitration between or affecting the Parties hereto, the prevailing Party shall be entitled to recover reasonable solicitors' fees and costs.

15. **Registration of Option Agreement.** Grantee shall be entitled, at its cost and expense, to register this Option Agreement or a notice thereof and any required reference plans, in the applicable Land Registry Office having jurisdiction over the Property, and Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

16. **Counterparts.** This Option Agreement may be executed and recorded in counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same instrument.

17. **Time of the Essence.** Time shall be of the essence in this Option Agreement.

18. **Currency.** Any monies to be paid pursuant to this Option Agreement shall be in Canadian funds.

19. **Planning Act.** This Option Agreement shall be effective to create an interest in the Property only if the subdivision control provisions of the *Planning Act* (Ontario) are complied with.

20. **Additional Requirements of Grantor.** Within thirty (30) days following the execution of this Option Agreement by both Parties, Grantor will deliver to Grantee, to the extent in Grantor's possession or control, the following:

20.1 all current surveys, easement plans, servicing plans, grading plans and other plans (collectively the "**Plans**") relating to the Property and the buildings, if any buildings are located thereon (the "**Buildings**");

20.2 copies of all contracts, leases or other obligations, (including, without limitation, maintenance, servicing, management and equipment contracts) deed restrictions, subdivision agreements and site plan agreements, development agreements and any other agreements with any governmental authorities, if any, relating to the Property and the Buildings other than those registered on title to the Property;

20.3 copies of all tests, inspections, studies and reports thereof relating to the Property and the Buildings, if any, including, without limitation, environmental, geotechnical, soil quality and bore hole reports as well as any and all studies;

20.4 any current governmental notices relating to the Property and the Buildings, including, without limitation, tax bills and assessments, work order or deficiency notices, stop work orders and any notices relating to the zoning of the Property for the last 3 years, and any expropriation notices, any notices or decisions pertaining to any development charges, special assessments, levies or fees from the Municipality of Lambton Shores relating to the Property and the Buildings; and

20.5 any and all historical information, not covered above, relating to the Property and Buildings, including, but not limited to, all annual maintenance requirements of the Property and Buildings, all capital upgrades, renovations and investments made in the Property and Buildings over the last 3 years.

21. **Additional Representations of Grantor.** Grantor represents and warrants to Grantee that as of the Effective Date:

21.1 there are no outstanding work orders, directions or notices relating to any defects in the state of the Property or the Buildings or any notice or direction requiring or recommending any alteration, repair, improvement or other work to be done with respect to the Property or the Buildings or relating to any non-compliance with any building permit, building restriction, by-law, regulation or municipal agreement or any threatened or pending expropriation, save as disclosed in writing by Grantor to Grantee prior to the Effective Date;

21.2 that (1) Grantor, previous to the time of execution of this Option Agreement, has not leased the Property, or any part thereof, under any lease or other instrument that is currently effective except for any lease that is registered against title to the Property as of the date of this Option Agreement; (2) this Option Agreement and the Purchase Agreement created hereby with respect to the Substation Facilities Parcel is free from encumbrances done,

made, or suffered by Grantor, or any person claiming under Grantor, except for such encumbrances that are registered against title to the Substation Facilities Parcel as of the date of this Option Agreement; and (3) all persons having any ownership interest in the Property and Buildings (including spouses) have consented to the execution of this Option Agreement;

21.3 to the best of the knowledge of Grantor, Grantor knows of no physical conditions of the Property which would prevent or significantly restrict Grantee's development of the Substation Facilities Parcel for the purposes of connecting the Wind Energy Project from the proposed Substation Facilities or which could, with the passage of time, or the giving of notice, constitute a violation of any governmental law, ordinance, order, rule or regulation;

21.4 to the best of the knowledge of Grantor, the Property and Buildings comply with the provisions of the *Environmental Protection Act* and, each has never been used as a landfill or waste disposal site or for underground fuel storage;

21.5 Grantor has the power and authority to enter into this Option Agreement and to carry out the transaction contemplated herein;

21.6 Grantor is not aware of any litigation, expropriation, change in zoning or other judicial or administrative proceeding existing, pending or threatened relating to the Property or the Buildings;

21.7 Grantor has not withheld any material document or information in its possession or control relating to the Property or the Buildings;

21.8 the Substation Facilities Parcel contains an area of approximately forty (40) acres; and

21.9 no person has an option or right of first refusal to purchase the Property or any part thereof or the Buildings.

22. **Insurance.** At all times during which Grantee or any of its consultants are conducting any activities on the Property, Grantee or such consultants shall, at their own cost and expense, obtain and maintain in effect commercial general liability insurance, including bodily injury coverage with minimum limits of [REDACTED] per occurrence.

23. **Indemnification.** Grantee shall save Grantor harmless from any expense arising as a result of any damage to the Property; where such damage is caused by Grantee or any of its representatives or consultants.

24. **Severance of Substation Facilities Parcel.** Grantor covenants and agrees with Grantee as follows:

24.1 at any time following the Effective Date, Grantee shall have the right to make an application to the local land division committee or Committee of Adjustment for the Municipality of Lambton Shores (the "**Committee**") to have the Substation Facilities Parcel severed from the Property, together with any necessary minor variance applications

associated with the creation of the Substation Facilities Parcel, all at Grantee's sole cost and expense (the "**Severance/Minor Variance Applications**"). Notwithstanding the foregoing, Grantee shall not be required to appeal the decision of the Committee in the event that the Severance/Minor Variance Applications are not successful, nor shall Grantee be required to proceed with the transactions contemplated by this Option Agreement and the Purchase Agreement if the decisions provide for conditions that are not satisfactory to Grantee, in its sole, absolute and subjective discretion. In the event the Committee does not approve the Severance/Minor Variance Applications during the Option Term and Grantee does not wish to appeal the decisions or in the event the decisions are successful but Grantee is not satisfied with the conditions relating to the severance and/or the minor variances, then this Option Agreement shall be at end and it is agreed that neither Party shall have any further rights or obligations hereunder.

24.2 Grantor agrees, at Grantee's sole cost and expense, to assist with the satisfaction of all reasonable conditions imposed by the Committee, if any, as a pre-condition to the issuance of the severance consent and/or minor variances and Grantor hereby agrees to authorize and appoint and does hereby authorize and appoint Grantee as its agent in connection with any Severance/Minor Variance Applications and Grantor further agrees that it shall execute any and all documentation required in order to confirm the appointment of Grantee as aforesaid and shall further cooperate with Grantee in connection with the Severance/Minor Variance Applications and delivery of any required information reasonably required by the Committee in connection with the consideration of the severance and minor variances and satisfying any conditions related thereto. Notwithstanding anything to the contrary contained in this Option Agreement or the Purchase Agreement, in the event that the consent and decision in a final, binding and unappealable form is not obtained by Jericho Wind, Inc., then save as the Parties may otherwise agree in writing, this Option Agreement and any Purchase Agreement resulting from the exercise of the Option shall be null and void and of no further force and effect.

[Remainder of page intentionally left blank, signature page follows]

IN WITNESS WHEREOF, the Parties have executed this Option Agreement as of the Effective Date.

"GRANTOR"

Witness:

[Redacted]

[Redacted]
Name: [Redacted]

Per: [Redacted]

"I have the authority to bind the corporation"

Address:

Date: [Redacted]

"GRANTEE"

Jericho Wind, Inc.
a New Brunswick company

Per: [Redacted]

Dean R. Gosselin, Vice President
"I have the authority to bind the corporation"

EXHIBIT "A" TO OPTION AGREEMENT
LEGAL DESCRIPTION OF THE PROPERTY

ALL AND SINGULAR that certain parcel or tract of land and premises, situate, lying and being in the Municipality of Lambton Shores, and the Province of Ontario, being composed of:

[REDACTED]

BEING THE WHOLE OF PIN [REDACTED]

Approximately: [REDACTED]

**EXHIBIT "A-1" TO OPTION AGREEMENT
PRELIMINARY PLAN AND LEGAL DESCRIPTION OF
THE SUBSTATION FACILITIES PARCEL**



(See attached)

EXHIBIT "B" TO OPTION AGREEMENT

GRANTOR'S CERTIFICATE OF INDEPENDENT LEGAL ADVICE

I, _____, of the Town of _____, in the Province of Ontario, Solicitor, do hereby certify that I was consulted in my professional capacity by _____ (the "Grantor") named in the Option Agreement and the associated Exhibits, dated _____, 2011 with Jericho Wind, Inc., as to its obligations and rights under the said agreement, that I acted solely for and explained fully to the Grantor the nature and effect of the said agreement and the Grantor did acknowledge and declare that the Grantor fully understood the nature and effect thereof and did execute the said documents in my presence and did acknowledge and declare and it appeared to me that the Grantor was executing the said documents of its own violation and without fear, threats, compulsion or influence by Grantee or any other person.

DATED at _____, Ontario this ____ day of _____, 2011.

_____, Solicitor

EXHIBIT "C" TO OPTION AGREEMENT
PURCHASE AGREEMENT



Agreement of Purchase and Sale
Commercial



BUYER, Jericho Wind, Inc. (the "Buyer") agrees to purchase from

SELLER, [Redacted] (the "Seller"), the following

REAL PROPERTY:

Address: [Redacted] fronting on the [Redacted] side of [Redacted] in the [Redacted] and having a frontage of [Redacted] more or less by a depth of [Redacted] more or less and legally described as See Schedule "C" [Redacted] (the "property").

PURCHASE PRICE: [Redacted]

DEPOSIT: Buyer submits [Redacted] Dollars (CDN\$) by negotiable cheque payable to [Redacted] to be held in trust without interest pending completion or other termination of this Agreement and to be credited toward the Purchase Price on completion, Buyer agrees to pay the balance as more particularly set out in Schedule A attached.

SCHEDULE(S) A, B and C attached hereto form(s) part of this Agreement.

1. CHATELS INCLUDED:

2. FIXTURES EXCLUDED: All

3. RENTAL ITEMS: The following equipment is rented and not included in the Purchase Price. The Buyer agrees to assume the rental contract(s), if assumable:

4. IRREVOCABILITY: This Offer shall be irrevocable by [Redacted] until [Redacted] p.m. on the [Redacted] day of [Redacted] after which time, if not accepted, this Offer shall be null and void and the deposit shall be returned to the Buyer in full without interest.

5. COMPLETION DATE: This Agreement shall be completed by no later than 6:00 p.m. on the [Redacted] day of [Redacted], 20[Redacted]. Upon completion, vacant possession of the property shall be given to the Buyer unless otherwise provided for in this Agreement.

6. NOTICES: Seller hereby appoints the Listing Broker as Agent for the purpose of giving and receiving notices pursuant to this Agreement. Only if the Co-operating Broker represents the interests of the Buyer in this transaction, the Buyer hereby appoints the Co-operating Broker as Agent for the purpose of giving and receiving notices pursuant to this Agreement. Any notice relating hereto or provided for herein shall be in writing. This offer, any counter offer, notice of acceptance thereof, or any notice shall be deemed given and received, when 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.

FAX No. [Redacted] (For delivery of notices to Seller) FAX No. [Redacted] (For delivery of notices to Buyer)

7. GST: If this transaction is subject to Goods and Services Tax (GST), then such tax shall be in addition to the Purchase Price. The Seller will not collect GST if the Buyer provides to the Seller a warranty that the Buyer is registered under the Excise Tax Act ("ETA"), together with a copy of the Buyer's ETA registration, a warranty that the Buyer shall self-assess and remit the GST payable and file the prescribed form and shall indemnify the Seller in respect of any GST payable. The foregoing warranties shall not merge but shall survive the completion of the transaction. If this transaction is not subject to GST, Seller agrees to certify on or before closing, that the transaction is not subject to GST.

8. TITLE SEARCH: Buyer shall be allowed until 6:00 p.m. on the [Redacted] day of [Redacted], 20[Redacted], (Requisition Date) to examine the title to the property at his own expense and until the earlier of: (i) thirty days from the later of the Requisition Date or the date on which the conditions in this Agreement are fulfilled or otherwise waived or; (ii) five days prior to completion, to satisfy himself that there are no outstanding work orders or deficiency notices affecting the property, that its present use [Redacted] may be lawfully continued and that the principal building may be insured against risk of fire. Seller hereby consents to the municipality or other governmental agencies releasing to Buyer details of all outstanding work orders affecting the property, and Seller agrees to execute and deliver such further authorizations in this regard as Buyer may reasonably require.

9. FUTURE USE: Seller and Buyer agree that there is no representation or warranty of any kind that the future intended use of the property by Buyer is or will be lawful except as may be specifically provided for in this Agreement.

INITIALS OF BUYER(S): [Redacted] INITIALS OF SELLER(S): [Redacted]



10. **TITLE:** Provided that the title to the property is good and free from all registered restrictions, charges, liens, 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 providing that such are complied with; (b) any registered municipal agreements and registered agreements with publicly regulated utilities providing such have been complied with, or security has been posted to ensure compliance and completion, as evidenced by a letter from the relevant municipality or regulated utility; (c) any minor easements for the supply of domestic utility or telephone services to the property or adjacent properties; and (d) any easements for drainage, storm or sanitary sewers, public utility lines, telephone lines, cable television lines or other services which do not materially affect the present use of the property. If within the specified times referred to in paragraph 8 any valid objection to title or to any outstanding work order or deficiency notice, or to the fact 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 Seller and which Seller is unable or unwilling to remove, remedy or satisfy or obtain insurance save and except against risk of fire in favour of the Buyer and any mortgagee, (with all related costs at the expense of the Seller), and which Buyer will not waive, this Agreement notwithstanding any intermediate acts or negotiations in respect of such objections, shall be at an end and all monies paid shall be returned without interest or deduction and Seller, Listing Broker and Co-operating Broker shall not be liable for any costs or damages. Save as to any valid objection so made by such day and except for any objection going to the root of the title, Buyer shall be conclusively deemed to have accepted Seller's title to the property.
11. **CLOSING ARRANGEMENTS:** Where each of the Seller and Buyer retain a lawyer to complete the Agreement of Purchase and Sale of the Property, and where the transaction will be completed by electronic registration pursuant to Part III of the Land Registration Reform Act, R.S.O. 1990, Chapter L4 and the Electronic Registration Act, S.O. 1991, Chapter 44, and any amendments thereto, the Seller and Buyer acknowledge and agree that the exchange of closing funds, non-registrable documents and other items (the "Requisite Deliveries") and the release thereof to the Seller and Buyer will (a) not occur at the same time as the registration of the transfer/deed (and any other documents intended to be registered in connection with the completion of this transaction) and (b) be subject to conditions whereby the lawyer(s) receiving any of the Requisite Deliveries will be required to hold same in trust and not release same except in accordance with the terms of a document registration agreement between the said lawyers, the form of which is as recommended from time to time by the Law Society of Upper Canada. Unless otherwise agreed to by the lawyers, such exchange of the Requisite Deliveries will occur in the applicable Land Titles Office or such other location agreeable to both lawyers.
12. **DOCUMENTS AND DISCHARGE:** Buyer 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 Seller. If requested by Buyer, Seller will deliver any sketch or survey of the property within Seller's control to Buyer 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 Buyer on completion, is not available in registrable form on completion, Buyer agrees to accept Seller'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 Seller shall provide to Buyer 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 Seller directing payment to the mortgagee of the amount required to obtain the discharge out of the balance due on completion.
13. **INSPECTION:** Buyer acknowledges having had the opportunity to inspect the property and understands that upon acceptance of this Offer there shall be a binding agreement of purchase and sale between Buyer and Seller.
14. **INSURANCE:** All buildings on the property and all other things being purchased shall be and remain until completion at the risk of Seller. Pending completion, Seller 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, Buyer may either terminate this Agreement and have all monies 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 Seller is taking back a Charge/Mortgage, or Buyer is assuming a Charge/Mortgage, Buyer shall supply Seller with reasonable evidence of adequate insurance to protect Seller's or other mortgagee's interest on completion.
15. **PLANNING ACT:** This Agreement shall be effective to create an interest in the property only if Seller complies with the subdivision control provisions of the Planning Act by completion and Seller covenants to proceed diligently at his expense to obtain any necessary consent by completion.
16. **DOCUMENT PREPARATION:** The Transfer/Deed shall, save for the Land Transfer Tax Affidavit, be prepared in registrable form at the expense of Seller, and any Charge/Mortgage to be given back by the Buyer to Seller at the expense of the Buyer. If requested by Buyer, Seller covenants that the Transfer/Deed to be delivered on completion shall contain the statements contemplated by Section 50(22) of the Planning Act, R.S.O. 1990.
17. **RESIDENCY:** Buyer shall be credited towards the Purchase Price with the amount, if any, necessary for Buyer to pay to the Minister of National Revenue to satisfy Buyer's liability in respect of tax payable by Seller under the non-residency provisions of the Income Tax Act by reason of this sale. Buyer shall not claim such credit if Seller delivers on completion the prescribed certificate or a statutory declaration that Seller is not then a non-resident of Canada.
18. **ADJUSTMENTS:** 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 Buyer.
19. **TIME LIMITS:** 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 Seller and Buyer or by their respective lawyers who may be specifically authorized in that regard.
20. **TENDER:** Any tender of documents or money hereunder may be made upon Seller or Buyer or their respective lawyers on the day set for completion. 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.
21. **FAMILY LAW ACT:** Seller warrants that spousal consent is not necessary to this transaction under the provisions of the Family Law Act, R.S.O. 1990 unless Seller's spouse has executed the consent hereinafter provided.
22. **UFFH:** Seller represents and warrants to Buyer that during the time Seller has owned the property, Seller has not caused any building on the property to be insulated with insulation containing ureaformaldehyde, and that to the best of Seller'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.
23. **LEGAL, ACCOUNTING AND ENVIRONMENTAL ADVICE:** The parties acknowledge that any information provided by the broker is not legal, tax or environmental advice, and that it has been recommended that the parties obtain independent professional advice prior to signing this document.
24. **CONSUMER REPORTS:** The Buyer is hereby notified that a consumer report containing credit and/or personal information may be referred to in connection with this transaction.
25. **AGENCY:** It is understood that the brokers involved in the transaction represent the parties as set out in the Confirmation of Representation below.
26. **AGREEMENT IN WRITING:** If there is conflict or discrepancy between any provision added to this Agreement (including any Schedule attached hereto) and any provision in the standard pre-set portion hereof, the added provision shall supersede the standard pre-set provision to the extent of such conflict or discrepancy. This Agreement including any Schedule attached hereto, shall constitute the entire Agreement between Buyer and Seller. There is no representation, warranty, collateral agreement or condition, which affects this Agreement other than as expressed herein. For the purposes of this Agreement, Seller means vendor and Buyer means purchaser. This Agreement shall be read with all changes of gender or number required by the context.

INITIALS OF BUYER(S):

INITIALS OF SELLER(S):



27. **SUCCESSORS AND ASSIGNS:** The heirs, executors, administrators, successors and assigns of the undersigned are bound by the terms herein.

DATED at.....this..... day of....., 2011.....

SIGNED, SEALED AND DELIVERED in the presence of: IN WITNESS whereof I have hereunto set my hand and seal:
Jericho Wind, Inc.

Per: [Seal] DATE....., 2011
(Witness) (Buyer/Authorized Signing Officer) Vice President (Seal)
"I have the authority to bind the Corporation" DATE....., 2011
(Witness) (Buyer/Authorized Signing Officer) (Seal)

I, the Undersigned Seller, agree to the above Offer. I hereby irrevocably instruct my lawyer to pay directly to the Listing Broker the unpaid balance of the commission together with applicable Goods and Services Tax (and any other taxes as may hereafter be applicable), from the proceeds of the sale; prior to any payment to the undersigned on completion, as advised by the Listing Broker to my lawyer.

DATED at.....this..... day of....., 20.....

SIGNED, SEALED AND DELIVERED in the presence of: IN WITNESS whereof I have hereunto set my hand and seal:

Per: [Seal] DATE....., 2011
(Witness) (Seller/Authorized Signing Officer) (Seal)
"I have the authority to bind the Corporation" DATE.....
(Witness) (Seller/Authorized Signing Officer) (Seal)

SPOUSAL CONSENT: The Undersigned Spouse of the Seller hereby consents to the disposition evidenced herein pursuant to the provisions of the Family Law Act, R.S.O. 1990, and hereby agrees with the Buyer that he/she will execute all necessary or incidental documents to give full force and effect to the sale evidenced herein.

(Witness) (Spouse) [Seal] DATE.....

CONFIRMATION OF EXECUTION: Notwithstanding anything contained herein to the contrary, I confirm this Agreement with all changes both typed and written was finally executed by all parties at.....a.m./p.m. this.....day of....., 20.....
[Signature of Seller or Buyer]

CONFIRMATION OF REPRESENTATION

Listing Broker..... Tel.No..... Represents.....

Co-op/Buyer Broker..... Tel.No..... Represents.....

ACKNOWLEDGEMENT

I acknowledge receipt of my signed copy of this accepted Agreement of Purchase and Sale and I authorize the Agent to forward a copy to my lawyer. DATE.....
(Seller) (Buyer)
I acknowledge receipt of my signed copy of this accepted Agreement of Purchase and Sale and I authorize the Agent to forward a copy to my lawyer. DATE.....
(Seller) (Buyer)
Address for Service..... Tel.No.....
Address for Service..... Tel.No.....
Seller's Lawyer.....
Buyer's Lawyer.....
Address.....
Address.....
Tel.No. FAX No. Tel.No. FAX No.

FOR OFFICE USE ONLY **COMMISSION TRUST AGREEMENT**
To: Co-operating Broker shown on the foregoing Agreement of Purchase and Sale;
In consideration for the Co-operating Broker procuring the foregoing Agreement of Purchase and Sale, I hereby declare that all moneys received or receivable by me in connection with the Transaction contemplated in the MLS Rules and Regulations of my Real Estate Board shall be receivable and held in trust. This agreement shall constitute a Commission Trust Agreement as defined in the MLS Rules and shall be subject to and governed by the MLS Rules pertaining to Commission Trust.
DATED as of the date and time of the acceptance of the foregoing Agreement of Purchase and Sale. Acknowledged by:
Signature of Listing Broker or authorized representative Signature of Co-operating Broker or authorized representative



Schedule A

Agreement of Purchase and Sale – Commercial

This Schedule is attached to and forms part of the Agreement of Purchase and Sale between:

BUYER, Jericho Wind, Inc., and

SELLER, [REDACTED]

for the purchase and sale of: the property legally described in Schedule "C" hereto

Buyer agrees to pay the balance as follows:

- (I) Buyer agrees to pay the balance of the Purchase Price by certified cheque, bank draft or wire transfer on Closing subject to the adjustments set forth herein.

This form must be initialed by all parties to the Agreement of Purchase and Sale.

INITIALS OF BUYER(S):

INITIALS OF SELLER(S):



SCHEDULE "B" TO PURCHASE AGREEMENT

forming part of an agreement of purchase and sale between Jericho Wind, Inc., as Buyer, and [REDACTED] as Seller, for the lands legally described in Schedule "C" (the "Property")

ARTICLE 1 – DEFINITIONS

1.01 The terms defined herein shall have, for all purposes of this Agreement, the following meanings, unless the context expressly or by necessary implication otherwise requires:

"Agreement" means this agreement of purchase and sale and the schedules attached hereto, as amended from time to time; "Article", "Section" and "Subsection" mean and refer to the specified article, section and subsection of this Agreement.

"Commercial Operation Date" has the meaning ascribed thereto in Article 6.

"Committee" has the meaning ascribed thereto in Article 6.

"date of this Agreement" shall mean the date of receipt by the Seller of the Exercise Notice (as defined in the Option Agreement).

"Draft Plan" means the preliminary reference plan attached hereto as Schedule "C-1".

"Substation Facilities" shall include any one or more of the following: an electric substation, an operations and maintenance building, parking area, one or more electric transmission and distribution lines (either below or above ground), transformer(s), switchyard and any equipment and vehicles associated therewith, attachments and appurtenant equipment and other buildings required for an electric substation and any and all other uses consistent with the operation of an electric substation..

"License" has the meaning ascribed thereto in Article 7.

"Option Agreement" means the option agreement dated _____, 2011 between the Buyer and the Seiler to which this Agreement is attached.

"Seller's Property" means [REDACTED]

"Severance/Minor Variance Applications" has the meaning ascribed thereto in Article 6.

"Wind Energy Project" means the wind energy project to be located on the Property and/or within the vicinity of the Property.

ARTICLE 2 – INSPECTION PERIOD

2.01 Within five (5) days following the date of this Agreement, the Seller will deliver to the Buyer, to the extent in the Seller's possession or control and to the extent not previously delivered to the Buyer, the following:

- (a) all current surveys, easement plans, servicing plans, grading plans and other plans (collectively the "Plans") relating to the Property;
- (b) copies of all contracts, leases or other obligations, (including, without limitation, maintenance, servicing, management and equipment contracts) deed restrictions, subdivision agreements and site plan agreements, development agreements and any other agreements with any governmental authorities, if any, relating to the Property other than those registered on title to the Property;
- (c) copies of all tests, inspections, studies and reports thereof relating to the Property, including, without limitation, environmental, geotechnical, soil quality and bore hole reports as well as any and all studies;
- (d) any current governmental notices relating to the Property, including, without limitation, tax bills and assessments, work order or deficiency notices, stop work orders and any notices relating to the zoning of the Property for the last 3 years, and any expropriation notices, any notices or decisions pertaining to any development charges, special assessments, levies or fees from Municipality of Lambton Shores relating to the Property; and
- (e) any and all historical information, not covered above, relating to the Property, including, but not limited to, all annual maintenance requirements of the Property, all capital upgrades, renovations and investments made in or to the Property over the last 3 years.

2.02 The Buyer's obligations in this Agreement are conditional upon the following conditions being satisfied or waived, which conditions (the "Buyer's Conditions") are for the sole benefit of the Buyer and which Buyer's Conditions or any one of them may, at any time up to and including the Condition Date (as hereinafter defined), by notice in writing to the Seller, be waived or declared satisfactory in whole or in part by the Buyer, namely that:

- (a) all the items provided to the Buyer pursuant to Section 2.01 of this Schedule "B" are satisfactory to the Buyer, in its sole, absolute and subjective discretion;
- (b) the Buyer is satisfied in its sole, absolute and subjective discretion as to the physical and environmental condition and state of repair of the Property, the buildings and the location and nature of all easements and rights-of-way which affect the Property. The Seller shall permit the Buyer access to the Property and buildings at all reasonable times up to and including the date of Closing for the purpose of examining, testing and inspecting the Property and buildings, provided that the Buyer covenants to restore the Property and buildings to its present state and condition following such

examinations, tests and inspections in the event that the Buyer does not complete this transaction;

- (c) the Buyer is satisfied in its sole, absolute and subjective discretion that the Property and buildings comply with all the provisions of all environmental laws and contains no polychlorinated biphenyls, hazardous substances or toxic wastes;
- (d) the Buyer is satisfied in its sole, absolute and subjective discretion, with the economic viability or feasibility of purchasing the Property; and
- (e) the Buyer is satisfied in its sole, absolute and subjective discretion that the zoning of the Property will permit the Buyer's intended use thereof.
- (f) Any and all leases or agreements affecting the Property shall be released prior to closing.

If the Buyer's Conditions or any of them are not satisfied or waived by notice on or before that date which is one hundred and eighty (180) days following the date of this Agreement (the "Condition Date" or "Requisition Date"), the Buyer may in its discretion, by notice in writing at any time up to and including the Condition Date, declare this Agreement null and void in which event, the deposit shall be returned to the Buyer with interest and without deduction and the Seller hereby irrevocably instructs the Deposit Holder holding the deposit to release same as herein provided. If no notice of waiver or satisfaction of the Buyer's Conditions is given by the Buyer, the Buyer's Conditions shall, notwithstanding any intermediate negotiations, be deemed to have not been satisfied, this Agreement shall be declared null and void and the deposit shall be returned to the Buyer as described in this paragraph.

ARTICLE 3 – REPRESENTATIONS

3.01 The Seller represents and warrants to the Buyer that as of the date of this Agreement and as of Closing:

- (a) there are no outstanding work orders, directions or notices relating to any defects in the state of the Property or any notice or direction requiring or recommending any alteration, repair, improvement or other work to be done with respect to the Property or relating to any non-compliance with any building permit, building restriction, by-law, regulation or municipal agreement or any threatened or pending expropriation, save as disclosed in writing by the Seller to the Buyer prior to the expiry of the Condition Date;
- (b) to the best of the knowledge of the Seller, but without independent inquiry, the Seller knows of no unregistered leases or agreements affecting the Property and, Seller knows of no physical conditions of the Property which would constitute a violation of any governmental law, ordinance, order, rule or regulation.
- (c) to the best of the knowledge of the Seller, the Property complies with the provisions of the *Environmental Protection Act* and has never been used as a landfill or waste disposal site or for underground fuel storage;

- (d) the Seller is the owner of the Property in fee and has the power and authority to enter into this Agreement and to carry out the transaction contemplated herein;
- (e) the Seller is not aware of any litigation, expropriation, change in zoning or other judicial or administrative proceeding existing, pending or threatened relating to the Property or any buildings thereon;
- (f) the Seller has not withheld any material document or information in its possession or control relating to the Property or any buildings thereon;
- (g) the Property contains an area of approximately forty (40) acres;
- (h) vacant possession to the Property shall be given to the Buyer on Closing free from any claims of any person; and
- (i) no person has an option or right of first refusal to purchase the Property or any part thereof or any buildings thereon.

ARTICLE 4 – SELLER’S COVENANTS

4.01 The Seller covenants and agrees with the Buyer that:

- (a) on Closing, there will be no leases, agreements, contracts, written or oral, granted in connection with the operation, management or maintenance of the Property. The Buyer will not be responsible for any of the Seller’s staff relating to the Property or the buildings as of and from Closing and the Seller will terminate all staff in respect of the Property or the buildings on or before Closing;
- (b) all amounts for labour and/or materials in respect of construction or improvements supplied to or in connection with the Property prior to Closing will be fully paid on Closing and no one shall have the right to claim a construction lien in respect of the Property or the buildings;
- (c) from and after the date of this Agreement, the Seller shall not enter into any contract or agreement or lease in any way relating to the Property or the buildings without the written consent of the Buyer;
- (d) it will discharge at its own expense, on or prior to Closing, all construction liens, charges, mortgages and encumbrances affecting the Property;
- (e) it will ensure that its use of the Property is not altered from the use as of the date of this Agreement;
- (f) it will ensure that Property is cleaned of any of the Seller’s scrap, garbage, fuel storage tanks;
- (g) at all times prior to Closing, a reasonable level of insurance is maintained on the Property covering common insurable events; and

- (h) at all times prior to Closing, it will permit the Buyer to make site plan, building permit and other development applications to the Municipality of Lambton Shores, and will consent to, and if necessary, execute same provided all costs related thereto are borne by the Buyer.
- (i) Seller will sign all necessary agreements required by Buyer to conduct the operation of the Wind Energy Project and to ensure the operation of the Substation Facilities on the remainder of Seller's Property, including but not limited to, any and all necessary Transmission Easements the form of which is attached hereto as Schedule "D" and any other documents as may be required by Hydro One Networks Inc. and Buyer. All reasonable costs incurred by the Seller in compliance with this subsection shall be paid by the Buyer.

The provisions within this Section 4.01 shall survive and not merge with the Closing.

ARTICLE 5 – CLOSING DOCUMENTS

- 5.01 On or before Closing, the Seller shall deliver to the Buyer the following:
- (a) a transfer in registerable form in favour of the Buyer, or as the Buyer may direct, for the Property.
 - (b) a statement of adjustments which, notwithstanding anything contained to the contrary, shall be delivered at least five (5) days prior to Closing;
 - (c) a mutual undertaking to re-adjust items of adjustment after Closing;
 - (d) a certificate of the Seller confirming that the covenants of the Seller have been performed and that the representation and warranties of the Seller set forth in this Agreement are true and accurate on Closing and do not merge but survive Closing for a period of one (1) year from Closing;
 - (e) a general conveyance of all right, title and interest in and to all reports, studies, drawings and specifications prepared by or for the Seller to date relating to the Property;
 - (f) an indemnity in respect of liens under the *Construction Lien Act*, as amended arising after Closing relating to services or materials supplied to the Property prior to Closing; and
 - (g) such other documents as may be usual for transactions of this nature, including, without limitation, a statutory declaration of possession in respect of the Property.
- 5.02 On or before Closing, the Buyer shall deliver to the Seller the following:
- (a) the balance of the Purchase Price;

ARTICLE 6 – SEVERANCE OF PROPERTY

6.01 **SEVERANCE OF PROPERTY**

The Seller covenants and agrees with the Buyer as follows:

- (a) at any time following the date of this Agreement, the Buyer shall have the right to make an application to the local land division committee or Committee of Adjustment for the Municipality of Lambton Shores (the “**Committee**”) to have the Property severed from the balance of the Seller’s Property together with any necessary minor variance applications associated with the creation of Property, all at the Buyer’s sole cost and expense (the “**Severance/Minor Variance Applications**”). Notwithstanding the foregoing, the Buyer shall not be required to appeal the decision of the Committee in the event that the Severance/Minor Variance Applications are not successful, nor shall the Buyer be required to proceed with the transactions contemplated by this Agreement if the decisions provide for conditions that are not satisfactory to the Buyer, in its sole, absolute and subjective discretion.
- (b) the Seller agrees, at the Buyer’s sole cost and expense, to assist with the satisfaction of all reasonable conditions imposed by the Committee, if any, as a pre-condition to the issuance of the severance consent and/or minor variances and the Seller hereby agrees to authorize and appoint and does hereby authorize and appoint the Buyer as its agent in connection with any Severance/Minor Variance Applications and the Seller further agrees that it shall execute any and all documentation required in order to confirm the appointment of the Buyer as aforesaid and shall further cooperate with the Buyer in connection with the Severance/Minor Variance Applications and delivery of any required information reasonably required by the Committee in connection with the consideration of the severance and minor variances and satisfying any conditions related thereto.

ARTICLE 7 – GENERAL PROVISIONS

7.01 **GRANT OF LICENSE**

The Seller hereby grants and conveys to the Buyer an irrevocable license on over, and across the Seller’s Property to come upon Seller’s Property and to install, operate, and maintain such equipment as may be necessary to conduct studies of wind energy, wind profiles, transmission interconnection, soils, and other meteorological and geotechnical data (including measurement devices, controls, and instrumentation) (the “**License**”). This License shall be effective commencing on the date of this Agreement until Closing. The License also includes the right to construct, use, repair, replace, relocate, transport and remove said equipment and appropriate vehicles over existing roads and pathways on the Property and the right to carry out, at the Buyer’s expense and without liability to the Seller, such tests, including but not limited to environmental audits, surveys and inspections of the Property as the Buyer may deem necessary. The Buyer agrees to repair any damage caused by any such tests at the Buyer’s expense in a good and workmanlike manner. The License may be exercised by the Buyer and by the Buyer’s employees, agents, contractors, permittees and invitees. The Buyer will consult with the Seller to schedule and coordinate the

Buyer's activities on the Property. The location of any equipment to be installed on the Property shall be agreed to by the parties acting reasonably and without undue delay taking into consideration the purpose of the studies to be conducted and the need for certain studies to be conducted in specific locations. Once determined, the location of the equipment shall not be changed save by the agreement of the parties who shall act reasonably and without undue delay.

7.02 CLOSING

This Agreement shall be completed on the thirtieth (30th) day following the later of: (a) the Condition Date; and (b) Buyer obtaining: (i) the consent of the Committee to the severance of the Property from the balance of the Seller's Property, and (ii) approval from the Committee with respect to any necessary minor variances, with all applicable appeal periods having lapsed with no appeals having been filed, provided that if such date falls on a date that is not a business day, it shall take place on the next business day thereafter (herein referred to as the "**Closing Date**" or "**Closing**" or "**Date of Closing**" or "**Completion Date**"). Notwithstanding anything to the contrary contained in this Agreement, if such consent and decision with respect to the minor variances, in a final, binding form, have not been obtained in accordance with Section 6.01 by August 30, 2015 ("**Final Closing Date**"), then save as the parties may otherwise agree in writing, this Agreement shall be null and void, further force and effect and the Deposit shall be forthwith returned to the Buyer and neither party shall have any further obligations to the other. If, however, Buyer's consent and severance application is conditioned upon the receipt of a final Renewable Energy Approval, then the Final Closing date shall automatically extend ten days after that final condition is satisfied but in any event shall not be later than December 30, 2015.

7.03 ADJUSTMENTS

There shall be adjusted on Closing all usual items of income and expense in transactions of this nature including realty taxes, utility charges, local improvement charges and other similar allowances. Where applicable, each of the adjustments shall be apportioned and allowed up to the date of Closing (it being understood that the date of Closing itself is to be apportioned to the Buyer who shall bear the responsibility for and receive the benefit of that date).

7.04 NOTICES

Where this Agreement requires notice to be delivered by one party to the other, such notice shall be given in writing and delivered either personally or by prepaid registered post, or by printed electronic transmission by the party wishing to give such notice, or by the solicitor acting for such party, to the other party or to the solicitor acting for the other party at the addresses noted below. Such notice shall be deemed to have been given, in the case of personal delivery, on the date of delivery, where given by post, on the third business day following the posting thereof and, where given on a business day by printed electronic transmission prior to 5:00 p.m., on the date of transmission and after 5:00 p.m. on the first business day following such transmission. It is understood that in the event of a threatened or actual postal disruption in the postal service in the postal area through which such notice must be sent, notice must be given, on a business day, personally as aforesaid or by means of printed electronic or printed telephonic communication in which case notice shall be deemed to have been given on the date of transmission thereof:

To the Buyer:

Jericho Wind, Inc.
5500 North Service Road, Suite 205
Burlington, ON L7L 6W6, Canada
Attention: Business Management
Telephone: (905) 335-4904
Facsimile: (905) 335-5731

With a copy to:

Jericho Wind, Inc.
700 Universe Blvd. LAW/JB
Juno Beach, FL 33408
U.S.A.
Attention: General Counsel
Telephone: (561) 691-2359
Facsimile: (561) 691-7103

To the Seller:



7.05 LAWS OF ONTARIO

This Agreement shall be construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein and shall be treated in all respects as an Ontario contract.

7.06 ASSIGNMENT

The Buyer shall be entitled to assign its rights and obligations under this Agreement to one or more persons or entities without the consent of the Seller. Upon effecting such assignment, the Buyer shall be released from its covenants and obligations set forth herein. The Buyer shall deliver notice of any such assignment to the Seller.

7.07 COMMISSIONS

Each of the Buyer and the Seller represent and warrant to the other (which representation and warranty shall survive Closing) that it has not dealt with any agent or broker in connection with the purchase of the Property or buildings.

REIMBURSEMENT OF SELLER'S LEGAL EXPENSES

The Buyer agrees to reimburse the Seller up to a maximum of [REDACTED] on account of legal fees incurred by the Seller in connection with this Agreement.

7.10 ENUREMENT

This Agreement shall run with the Seller's Property and shall enure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, successors and assigns, as the case may be.

7.11 CONFIDENTIALITY

For the purposes of this Agreement. "Confidential Information" means the terms and conditions of this Agreement, including but not limited to the Purchase Price, which are not a matter of public record. Seller agrees that Confidential Information shall not, without Purchaser's prior written consent, be disclosed, divulged, or communicated to any other person other than the Seller's professional advisors and any lenders, bona fide third party purchasers or potential purchasers who shall have a "need to know" the Confidential Information, it being understood that such parties shall be informed at the time of disclosure of the confidential nature of such Confidential Information and shall be directed to treat the Confidential Information as such.

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SCHEDULE "C" TO PURCHASE AGREEMENT

LEGAL DESCRIPTION OF THE PROPERTY



**SCHEDULE "C-1" TO PURCHASE AGREEMENT
DRAFT PLAN**

SCHEDULE "D" TO PURCHASE AGREEMENT
Form of Transmission Easement

THIS TRANSMISSION EASEMENT (IN GROSS) ("Grant"), is executed and made effective this ● day of ●, 20●, ("Effective Date") by and between ● ("Grantor") and ● ("Grantee").

PREMISES

A. Grantor is the registered owner of an estate in fee simple composed of certain parcels or tracts of land and premises more particularly described on **Exhibit A** attached hereto and made a part hereof ("Property"); and

B. Grantor desires to grant, convey and transfer to Grantee an exclusive easement and right-of-way in perpetuity for the erection, installation and maintenance of certain facilities for the transmission of electric power over and across a certain portion of the Property.

IN CONSIDERATION of the foregoing and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. **Grant.** Grantor does hereby grant, convey and transfer to Grantee, an exclusive easement and right-of-way in perpetuity (the "Transmission Easement") in, on, over, across, along and under that portion of the Property more particularly described on **Exhibit B** ("Easement Area"), with such persons, vehicles and equipment necessary for the purposes of erecting, constructing, replacing, relocating, improving, enlarging, removing, maintaining, operating and utilizing, from time to time, a line of towers and/or poles, with such wires, guy wires, and/or cables (whether above ground or buried), for the transmission of electrical energy, and all necessary and proper foundations, footings, cross arms and other appliances, facilities and fixtures for use in connection therewith (collectively, the "Transmission Facilities") in, on, over, across, along and under the Easement Area; together with (i) the right of ingress to and egress from the Transmission Facilities over and along the Property; and (ii) a temporary non-exclusive easement and right-of-way in, over, across, along and under the Property during the initial construction and installation of the Transmission Facilities (the "Construction Easement"). Once the final reference plan describing the extent of the Easement Area has been prepared and deposited by Grantee on title to the Property, Grantor confirms that Grantee is irrevocably authorized and directed to insert the Part No(s) and Reference Plan No. into the attached **Exhibit B** without the requirement of any further approval or action by Grantor.

2. **No Interference.** Grantor covenants and agrees that it shall not construct, install, or permit to be constructed or installed, any improvements, fences, structures, buildings, foliage or vegetation, utility lines or other improvements of any type whatsoever upon or near the Easement Area which would inhibit or impair any of Grantee's rights or benefits as set forth in this Grant. Grantee shall have the right, without compensation to Grantor, to cut, prune and remove or otherwise dispose of any foliage or vegetation on or near the Easement Area that Grantee deems a threat or potential threat to Grantee's Transmission Facilities or its rights hereunder. Grantor shall not grant or permit any person or person(s) claiming through Grantor, other than Grantee, any right-of-way, encumbrance, easement or other right or interest in, to or affecting the Easement Area, without the prior written consent of Grantee in each instance, which consent Grantee may grant, withhold or deny in its sole, absolute and subjective discretion.

3. **Term.** The term of this Grant shall commence on the Effective Date and continue in perpetuity (the "Term").

4. **Authority.** Grantor hereby represents and warrants to Grantee that it is the sole registered owner of the Property in fee simple, subject to no liens or encumbrances registered in priority to this Transmission Easement, except as may be disclosed by registered title to the Property on or before the Effective Date, and is fully authorized and empowered to grant the rights, privileges and benefits granted to Grantee in this Grant.

5. **Compensation.** Grantee shall pay Grantor the amounts set forth in **Exhibit C** as the consideration for the Grant. The parties acknowledge and agree that the registration copy of this Grant will not contain the payment provisions set forth in **Exhibit C**, and it is understood and agreed that the deletion of such payment provisions does not and will not in any way affect the validity of this Grant.

6. **Crop Compensation.** Crop damage that can be reasonably demonstrated to have been caused by Grantee as a result of performing the activities authorized in this Grant, shall be paid for by Grantee according to the established yield per acre as documented in crop insurance documentation for the Property and using the price provided by the local grain elevator. Each time Grantee exercises its rights under the Transmission Easement, Grantee shall compensate Grantor for all crops lost or damaged by reason of the use.

7. **Indemnification and Insurance.** Grantee shall maintain general liability insurance insuring Grantee and Grantor against loss caused by Grantee's use of the Property. The amount of insurance shall be not less than [REDACTED] of combined single limit liability coverage. Grantee shall indemnify and at its expense defend Grantor against liability for injuries and claims for direct damage to the extent that they are caused by Grantee's exercise of rights granted in this Grant. This indemnity does not cover losses of rent, business opportunities, crop production, and profits that may result from Grantor's loss of use of the Property and for greater certainty, Grantee shall only be liable for reasonably anticipated and foreseeable damages.

8. **Grantee's Property.** Notwithstanding that in constructing, maintaining and operating the Transmission Facilities, Grantee may install equipment and appurtenances in, on, over, along, under or across the Easement Area in such a manner that it or they become affixed to the Easement Area, the title to such equipment and appurtenances shall at all times remain the personal property of Grantee.

9. **Assignment by Grantor.** It will be a condition to any transfer or conveyance of the whole or any part of the Property by Grantor that Grantor shall cause the purchaser of any portion of the Property to execute an agreement in favour of Grantee agreeing to be bound by the terms hereof to the same extent as if such purchaser had been an original party hereto. The purchaser shall also agree to extract a similar covenant from any future purchaser of any portion of the Property.

10. **Assignment by Grantee; Mortgage Rights.**

(a) **Right to Mortgage & Assign.** Grantee, upon notice to Grantor, but without Grantor's consent or approval shall have the right to mortgage, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in this Transmission Easement or the Easement Area, or the Transmission Facilities (collectively, its "**Facilities Assets**"). These various security interests in all or a part of the Facilities Assets are collectively referred to as

"Mortgages" and the holders of the Mortgages, their designees, successors and assigns are referred to as "Mortgagees". Grantee's notice to Grantor shall include the name and address of each Mortgagee and/or Assignee. Grantee shall also have the right without Grantor's consent to sell, convey, lease, sublease, grant or assign all or any portion of its Facilities Assets on either an exclusive or a non-exclusive basis, or to grant sub-easements co-easements, separate easements, leases, licenses or similar rights, however denominated (collectively, "Assignment"), to one or more persons or entities (collectively, "Assignees"). Assignees and Mortgagees shall use the Facilities Assets only for the uses permitted under this Grant. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Grantee, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Property than the rights granted to Grantee in this Grant.

(b) Grantor Obligations: Grantor agrees to consent in writing to and to execute financing documents, including customary three party lender agreements, as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Grant, Grantor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. Each Mortgagee and Assignee shall have the same amount of time to cure the default as to Grantee's entire interest or its partial interest in the Facilities Assets as is given to Grantee and the same right to cure any default as Grantee or to remove any property of Grantee, Mortgagees or Assignees located on the Easement Area. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Grantee in this Grant, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Grantor to give a Mortgagee or Assignee notice of default shall not diminish Grantor's rights against Grantee, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Grantee, the Mortgagee or Assignee located on the Easement Area.

(c) Mortgagee/Assignee Obligations. Any Mortgagee or Assignee that does not directly hold an interest in the Facilities Assets, or whose interest is held solely for security purposes, shall have no obligation or liability under this Grant prior to the time the Mortgagee or Assignee directly holds an interest in this Grant, or succeeds to absolute title to Grantee's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Grant only for and during the period it directly holds such interest or absolute title. Any Assignment permitted under this Grant shall release Grantee or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

(d) Right to Cure Defaults/Notice of Defaults/Right to New Transmission Easement.

(i) To prevent Grantor's exercise of any remedies available to it in respect of a default by Grantee under this Grant, the Transmission Easement, or any partial interest in this Grant and the Transmission Easement, Grantee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the exercise of Grantor's remedies in respect of a default by Grantee under this Grant or any interest in the Facilities Assets.

(ii) In the event of an uncured default by the holder of Grantee's entire interest in this Grant, or in the event of a termination of this Grant by agreement, by operation of law or otherwise, each Mortgagee or Assignee of a partial interest in the Facilities Assets shall have the right to have Grantor either recognize the Mortgagee's or Assignee's interest or, in the event of a termination, grant new easements substantially identical to this Grant and the Transmission Easement. Under the new easements, the Mortgagee or Assignee shall be entitled to, and Grantor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the Term.

(e) Extended Cure Period. If any default by Grantee under this Grant cannot be cured without obtaining possession of all or part of the Facilities Assets, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Grantor as set forth in Section 10(b), acquires possession of all or part of the Facilities Assets, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Facilities Assets cures defects that are reasonably capable of being cured and not otherwise personal to Grantor and performs all other obligations as and when the same are due in accordance with the terms of this Grant. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

(f) Certificates. Grantor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Grant, if such be the case), consents to assignment, direct lender agreements and non-disturbance agreements as Grantee or any Mortgagee or Assignee may reasonably request from time to time. Grantor and Grantee shall cooperate in amending this Grant from time to time to include any provision that may be reasonably requested by Grantee or any Mortgagee or Assignee to implement the provisions contained in this Grant or to preserve a Mortgagee's security interest in the Facilities Assets.

11. Mortgagee Protection. Any Mortgagee, upon delivery to Grantor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Grant:

(a) Mortgagee's Right to Possession, Right to Acquire and Right to Assign. A Mortgagee shall have the absolute right without Grantor's consent: (a) to assign its Mortgage; (b) to enforce its lien, including, to acquire title to all or any portion of the Facilities Assets by any lawful means; (c) to take possession of and operate all or any portion of the Facilities Assets and to perform all obligations to be performed by Grantee under this Grant, or to cause a receiver or a receiver and manager to be appointed to do so; and (d) to acquire all or any portion of the Facilities Assets by foreclosure, by an assignment in lieu of foreclosure or by quit claim and thereafter without Grantor's consent to assign or transfer all or any portion of the Facilities Assets to a third party. A Mortgagee which assigns or transfers the Facilities Assets to a third party shall notify Grantor of the name and address of the Assignee or transferee.

(b) Opportunity to Cure.

(i) During any period of possession of the Easement Area by a Mortgagee (or a receiver or receiver and manager requested by a Mortgagee) and/or while any foreclosure, power of sale or other enforcement proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges, if any, payable by Grantee under this Grant which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Facilities Assets by the Mortgagee as a result of either foreclosure, acceptance of an assignment in lieu of foreclosure, quit claim or by a purchaser under a power of sale or judicial sale, this Grant shall continue in full force and effect and the Mortgagee or party acquiring title to the Facilities Assets shall, as promptly as reasonably possible, commence the cure of all defaults under this Grant and thereafter diligently process such cure to completion, whereupon Grantor's rights relating to such default shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to the Facilities Assets shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Grantor upon completion of foreclosure proceedings or acquisition of Grantee's interest in this Grant under a power of sale or judicial sale.

(ii) Any Mortgagee or other party who acquires Grantee's interest in the Facilities Assets pursuant to foreclosure, assignment in lieu of foreclosure, quit claim, under a power of sale or judicial sale or otherwise shall not be liable to perform the obligations imposed on Grantee by this Grant incurred or accruing after the party no longer has ownership or possession of the Facilities Assets.

(c) New Easement.

(i) If this Grant is terminated for any reason, if the Facilities Assets are foreclosed, or if this Grant is rejected, repudiated, resiliated or disaffirmed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Grantee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Grantor for the payment of all fees or other charges due and payable by Grantee as of the date of such event, then Grantor shall execute and deliver to Grantee or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, a new easement to the Easement Area which (i) shall be for a term equal to the remainder of the Term before giving effect to such rejection, repudiation, resiliation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Grant (except for any requirements that have been fulfilled by Grantee or any Mortgagee or Assignee prior to rejection, repudiation, resiliation or termination of this Grant); and, (iii) shall include that portion of the Easement Area in which Grantee or such other Mortgagee or Assignee had an interest on the date of rejection, repudiation, resiliation or termination.

(ii) After the termination, repudiation, resiliation, rejection or disaffirmation of this Grant and during the period thereafter during which any Mortgagee shall be entitled to enter into new easements for the Easement Area, Grantor will not terminate the rights of any Assignee unless in default under its Assignment.

(iii) If more than one Mortgagee makes a written request for a new easement pursuant to this provision, the new easements shall be delivered to the Mortgagee requesting such

new easement whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

(iv) The provisions of this Section shall survive the termination, rejection, repudiation, rescission or disaffirmation of this Grant and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Grantor, Grantee and each Mortgagee, and, from the effective date of such termination, rejection, repudiation, rescission or disaffirmation of this Grant to the date of execution and delivery of such new easements, such Mortgagee may use and enjoy the Easement Area without hindrance by Grantor or any person claiming by, through or under Grantor; provided that all of the conditions for the new easements as set forth above are complied with.

(d) Mortgagee's Consent to Amendment, Termination or Surrender. Notwithstanding any provision of this Grant to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Grant shall not be modified or amended, and Grantor shall not accept a surrender, abandonment, cancellation or release of all or any part of the Easement Area from Grantee, prior to expiration of the Term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Grant.

(e) No Merger. There shall be no merger of this Grant or of the Transmission Easement with the fee estate in the Easement Area by reason of the fact that this Grant or any interest in the Transmission Easement may be held, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Easement Area and all persons (including each Mortgagee) having an interest in this Grant or in the estate of Grantor and Grantee shall sign and record a written instrument effecting such merger.

(f) Liens. On the commencement of the Term, title to the Easement Area shall be free and clear of all monetary liens other than those expressly approved by Grantee. With respect to any such liens approved by Grantee, Grantor shall nevertheless obtain either non-disturbance agreements or postponements from the holders of such liens in favour of Grantee and this Transmission Easement, such agreements or postponements, as the case may be, to be reasonably satisfactory to Grantee. Thereafter, any assignment of this Grant, mortgage, deed of trust or other monetary lien placed on the Easement Area by Grantor, or permitted by Grantor to be placed or to remain on the Easement Area, shall be subject to and subordinate to this Grant, to any Assignment or Mortgage then in existence on the Facilities Assets as permitted by this Grant, to Grantee's right to encumber the Facilities Assets, and to any and all documents executed or to be executed by Grantor in connection with Grantee's development of all or any part of the Easement Area. Grantor agrees to cause any monetary liens placed on the Easement Area by Grantor in the future to incorporate the conditions of this Section.

(g) Further Amendments. At Grantee's request, Grantor shall amend this Grant to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Grantor's rights under this Grant or increase the burdens or obligations of Grantor under this Grant. Upon the request of any Mortgagee, Grantor shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Grant.

12. **Legal Fees.** In the event of any controversy, claim or dispute arising out of or relating to the Transmission Easement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and legal fees.

13. **Binding Effect; Governing Law.** This Grant shall be binding upon and shall inure to the benefit of both Grantor and Grantee, and their respective heirs, successors and assigns, and shall be deemed a covenant running with the land for all purposes. The provisions hereof shall be governed by and construed in accordance with the laws of the Province of Ontario. Grantee agrees that this Transmission Easement and the rights, privileges and easements granted pursuant thereto shall be declared to be: (i) for the purposes of electricity transmission lines or electricity distribution lines within the meaning of Part VI of the *Ontario Energy Board Act*, 1998, and (ii) an easement in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution within the meaning of Section 42.1 of the *Electricity Act*, 1998.

14. **Termination.** Grantee shall have the right to terminate this agreement at any time upon 30 days written notice to Grantor. Upon full or partial termination of the Transmission Easement, Grantee shall remove all physical material pertaining to the Transmission Facilities and restore the area formerly occupied by the Transmission Easement to substantially the same physical condition that existed immediately before the installation of the Transmission Facilities. In the event of termination, Grantee has no right to recover any amounts previously paid to Grantor as consideration for this Grant.

15. **Notices.**

All notices to be given hereunder shall be in writing and all such notices and any payments to be made hereunder may be made or served personally or by registered letter addressed to Grantor at:

To Grantor:

Attention:
Telephone:
Facsimile:

To Grantee:

Attention:
Telephone:
Facsimile:

With a copy to:

Attention:
Telephone:
Facsimile:

or such other address, as Grantor or Grantee respectively may from time to time advise and any such notices or payments shall be deemed to be given and received by the addressee upon personal service or, if served by registered letter, fourteen (14) days after mailing thereof, postage prepaid. In

the event of a postal interruption, all notices to be given and all payments to be made hereunder may be made or served personally or delivered to the intended recipient at the address of the recipient set out above. Grantee shall also be permitted to make any payment to Grantor electronically at Grantee's discretion and subject to Grantor's consent.

16. **Severability.** If any term or provision of this Transmission Easement, or the application thereof to any person or circumstances shall, to any extent, be determined by judicial order or decision to be invalid or unenforceable, the remainder of this Transmission Easement or the application of such term or provision to persons or circumstances other than those as to which it is held to be invalid, shall be enforced to the fullest extent permitted by law.

17. **Counterparts.** This Transmission Easement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together shall constitute one and the same instrument.

18. **Family Law Act.** Grantor represents and warrants to Grantee that if Grantor is an individual, Grantor is either not married, or if married, his or her spouse either comprises a Grantor hereunder or such spouse has consented to the grant of the Transmission Easement to Grantee pursuant to the terms herein by executing a copy of this Transmission Easement, and if Grantor is a corporation, the Easement Area has never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the Easement Area does not comprise a family residence within the meaning of the *Family Law Act*.

19. **Grantee's Statutory Rights.** This Transmission Easement shall not affect or prejudice Grantee's statutory rights to acquire the Easement Area under any laws, including, without limitation, Grantee's statutory rights under the *Ontario Energy Board Act*, 1998, which rights may be exercised at Grantee's discretion, in the event, Grantor being unable or unwilling for any reason to perform this Transmission Easement, or, give to Grantee a clear and unencumbered title to the easement and right-of-way herein granted.

20. **Planning Act.** This Transmission Easement and the provisions hereof which create, or, are intended to create an interest in the Easement Area shall be effective to create such an interest only if the subdivision control provisions of the *Planning Act*, R.S.O. 1990 c. P. 13, as amended are complied with.

21. **Registration.** Grantee shall be entitled, at its cost and expense, to register this Transmission Easement or a notice in respect thereof, and any required reference plans in the applicable Land Registry Office, and, Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

22. **Setback Waiver.** To the extent that (a) Grantor now or in the future owns or leases any land adjacent to the Easement Area, or (b) Grantee leases or holds an easement/license or a lease over land adjacent to Easement Area, and has installed or constructed or desires to install or construct any Transmission Facilities on said land at and/or near the common boundary between the Easement Area and said land, Grantor hereby waives any and all setbacks and setback requirements, whether imposed by law or by any person or entity, including, without limitation, any setback requirements

described in the zoning by-laws of the County and/or Province or in any governmental entitlement or permit heretofore or hereafter issued to Lessee. If so requested by Grantee, Grantor shall promptly, without demanding additional consideration therefore, execute, and if appropriate cause to be acknowledged, any setback waiver, setback elimination or other document or instrument required by any governmental authority or that Grantee deems necessary or convenient to the obtaining of any entitlement or permit.

23. **Removal of Debris.** Within 120 days of the Commercial Operations Date, Grantee shall remove all debris from Property. For purposes of this Agreement "Commercial Operations Date" shall mean the date that the Transmission Facilities at the Project are commercially operational and delivering energy, as determined by the Grantee.

24. **Drainage Tile.** If any drainage tiles on or under the Easement area have been damaged as a direct result of Grantee's activities in connection with the construction of the Transmission Facilities, Grantee shall pay to Grantor the cost to repair or replace the drainage tiles.

25. **Fencing.** Grantee shall not fence the Easement Area or any part thereof, with the exception of transformer stations, without the written consent of the Grantor.

[Remainder of page intentionally left blank, signature page follows]

EXECUTED effective the day and year first hereinabove written.

Grantor:

Witness

{PRINT GRANTOR'S NAME}

Witness

{PRINT GRANTOR'S NAME}

[Spouse of Grantor:]

Witness

{PRINT SPOUSE OF GRANTOR'S NAME}

[Grantee:]

•

Per: _____

Name:

Title:

EXHIBIT A
TO TRANSMISSION EASEMENT
Legal Description of Property

{INSERT LEGAL DESCRIPTION OF PROPERTY}.

EXHIBIT B

TO TRANSMISSION EASEMENT

Legal Description of Easement Area

(Insert description from reference plan)

PT ___ LT ___, CON _____, DESIGNATED AS PART(S) _____ ON PLAN ●-_____,
BEING PART OF PIN NO. _____

EXHIBIT C
TO TRANSMISSION EASEMENT
Compensation

Payment terms available upon request by a person who has an interest in the subject lands.

In consideration for granting a Transmission Easement to • (“Grantee”), • (“Grantor”) shall receive the following compensation:

1. The greater of (a) a lump sum payment of • (\$•), or (b) • (\$•) per acre for the number of acres depicted as the Easement Area on Exhibit “B”.
2. A one time payment of • (\$•) per pole constructed on the Property.
3. A one time payment of • (\$•) per guy wire anchor constructed upon the Property.
4. All payments shall include harmonized sales tax (“HST”), if applicable.

Payment shall be made to Grantor as follows: Fifty percent (50%) of the total amount due shall be paid within sixty (60) days of the Effective Date. Fifty percent (50%) shall be paid within thirty (30) days after completion of a final survey of the entire transmission line. Said survey shall determine the exact lineal footage/acreage upon which payment shall be made from Grantee to Grantor.

Payment shall be distributed as follows:

100% to {INSERT NAME OF PAYEE}

Phone: _____

Signature required for each payee:

{PRINT GRANTOR'S NAME}

Date: ●

{PRINT GRANTOR'S NAME}

Date: ●

STATUTORY DECLARATION

RE: PLANNING ACT

FLORIDA) IN THE MATTER OF the easement (the "Easement") in
) favour of • (the "Grantee"), with respect to the lands
COUNTY OF PALM BEACH) more particularly described in Exhibit "A" hereto (the
) "Easement Lands")

I, Dean R. Gosselin, of the Town of Juno Beach, in the Florida, DO SOLEMNLY DECLARE, in my capacity as Vice President of the Grantee, and without personal liability that:

1. I am the Vice President of •, the Grantee and, as such, am aware of the matters herein deposed to save where same are stated to be upon information and belief, and where so stated, I verily believe same to be true.

2. The Easement Lands being acquired by the Grantee pursuant to the Easement are being acquired for the purpose of an electricity distribution line, electricity transmission line, hydrocarbon distribution line or hydrocarbon transmission line within the meaning of Part VI of the Ontario Energy Board Act, 1998, in respect of which this Statutory Declaration has been made pursuant to sub-clause 50(3)(d) of the Planning Act (Ontario), as amended.

AND I MAKE THIS SOLEMN DECLARATION conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath.

STATE OF FLORIDA)
) ss:
COUNTY OF PALM BEACH)

Dean R. Gosselin, Vice President

The foregoing instrument was acknowledged before me this ____ day of _____, 2011 by Dean R. Gosselin, as Vice President of •.

In witness whereof I hereunto set my hand and official seal.

(Seal)

Notary Public
My Commission Expires: _____

COMMUNITY & STAKEHOLDER CONSULTATION

1 The community and stakeholder consultation undertaken by the Applicant has been carried out in
2 the context of the Renewable Energy Approval (“**REA**”) process. The focus of this schedule is
3 on those consultation activities that are related to the Proposed Transmission Facilities, rather
4 than the related generation facilities associated with the Jericho Project. A full account of the
5 consultation program undertaken for the Jericho Wind Energy Project can be reviewed in the
6 Consultation Report prepared for the project and submitted to the Ministry of the Environment as
7 part of the Renewable Energy Approval Application.¹

8 The Applicant classifies its consultation activities as (a) public consultation, (b) municipal
9 consultation, (c) agency consultation, and (d) Aboriginal consultation.

10 With respect to public consultation, the Applicant held public meetings in accordance with the
11 requirements of Ontario Regulation 359/09, the regulation governing renewable energy
12 approvals, on the following dates:

- 13 • First Public Meeting – Municipality of Lambton Shores: June 30, 2010
- 14 • First Public Meeting – Municipality of North Middlesex: November 10, 2011
- 15 • First Public Meeting – Township of Warwick: July 17, 2012
- 16 • Final Public Meeting – Township of Warwick: February 6, 2013
- 17 • Final Public Meeting – Municipality of North Middlesex: February 7, 2012
- 18 • Final Public Meeting – Municipality of Lambton Shores: February 8, 2013

19 The purpose of the first public meetings was to introduce the project, communicate any changes
20 to the project design, and discuss the project with and receive input from stakeholders. It should
21 be noted that the November 2011 public meeting was common to the Adelaide Project, the

¹ See http://www.nexteraenergycanada.com/pdf/jericho/FinalReports/Consultation_Report.pdf

1 Bornish Project and the Jericho Project, including the Shared Transmission Facilities. Through
2 these consultations, the Applicant received numerous comments and questions. In respect of the
3 Proposed Transmission Facilities, the main issues raised were in respect of transmission line
4 siting, health concerns including as related to electromagnetic fields, stray voltage and co-
5 location with existing Hydro One distribution facilities.

6 The purpose of the final public meetings was to present the final proposed turbine and
7 Transmission Line locations, review the findings of the various studies completed and to answer
8 questions and receive feedback from stakeholders. In addition to the public meetings required by
9 the regulation, the Applicant elected to carry out extra consultation initiatives intended to provide
10 additional opportunities for stakeholders receive project updates, discuss the Project with the
11 Applicant, and provide input. Additional consultation initiatives for the project included:

- 12 • Landowner Workshop: February 17, 2011
- 13 • Three Project Newsletters: May 2011, October 2011 and May 2012
- 14 • Round Table Meeting: July 20, 2011
- 15 • Landowner Dinner: March 28, 2012
- 16 • Telephone Town Hall: January 22, 2012

17 As noted in Exhibit E, Tab 2, Schedule 1, the Applicant recently issued a Notice of Change to a
18 Proposal and Notice of Public Meetings to advise stakeholders of the Applicant's current
19 intention to modify its REA application, which amendments would relate in part to the Proposed
20 Transmission Facilities. These public meetings are scheduled to take place in late October 2013.

21 The Applicant also initiated individual meetings with landowners along the proposed
22 Transmission Line route from February 2012 to present day to discuss plans for the 115 kV
23 Transmission Line. The Applicant has met with approximately 60 landowners to share
24 information about the proposed Transmission Line, answer questions and discuss siting the

1 Transmission Line. The topics associated with the landowners' questions and comments were
2 consistent with those received at public meetings throughout the planning process, and included:

- 3 • Property values;
- 4 • Visual effects;
- 5 • Health effects;
- 6 • Stray voltage;
- 7 • Electric and magnetic fields;
- 8 • Potential "build out" of the Transmission Line;
- 9 • Location of the Transmission Line in proximity to homes; and
- 10 • Renewable energy development and approval requirements.

11 Responses to these questions and comments are summarized in the REA Consultation Report for
12 the Jericho Wind Energy Project, a link to which is provided at footnote 3. The Applicant has
13 also regularly used its project website to provide information related to the Jericho Project and
14 the Proposed Transmission Facilities.

15 With respect to municipal consultation the Applicant has maintained ongoing consultation with
16 the Municipality of Lambton Shores, the Township of Warwick, Lambton County and the
17 Municipality of North Middlesex and Middlesex County since 2007. As documented in the
18 project's Consultation Report, numerous meetings were held with and presentations were made
19 to municipal representatives to provide status updates on the project and discuss matters relating
20 to municipal interests.

21 The Municipal Consultation Form, which is intended to aid in highlighting key municipal
22 concerns associated with the Project, was provided to the Municipality of Lambton Shores and
23 Lambton County, as well as to the Municipality of North Middlesex and Middlesex County,

1 together with the updated Project Description Report on October 21, 2011. Updated Municipal
2 Consultation Forms were sent to the Municipalities of Lambton Shores and North Middlesex, the
3 Township of Warwick and Lambton and Middlesex Counties on November 8, 2012 along with
4 the draft REA reports to commence the municipal consultation period. The Applicant has
5 recently received completed Municipal Consultation Forms from the Municipality of Lambton
6 Shores and the Township of Warwick. NextEra will continue to consult with Lambton Shores in
7 addition to the remaining municipalities throughout the permitting process.

8 With respect to agency consultation, the Applicant has consulted with a wide range of
9 governmental authorities having relevant or potentially relevant jurisdiction over permits and
10 approvals potentially required for the planned generation and proposed transmission facilities.
11 This includes consultation related to the heritage, archaeological and natural heritage studies
12 prepared as part of the REA process, the scope of which included the Proposed Transmission
13 Facility locations. No significant feedback specifically related to the Proposed Transmission
14 Facilities was received through agency consultations.

15 With respect to Aboriginal consultations, the Applicant notes that it has undertaken a thorough
16 program of consultation with Aboriginal communities. These consultations are described in
17 detail in Appendix B of the Consultation Report filed by the Applicant as part of its REA
18 Submission to the Ministry of the Environment. The Applicant notes that, as explained in the
19 Board's *Filing Requirements for Transmission and Distribution Applications*, the Board does not
20 consider issues relating to the Crown's duty to consult with Aboriginal peoples in Section 92
21 applications.²

² See p. 17 of the Board's Filing Requirements.

OVERVIEW OF IMPACT ASSESSMENTS

1 The IESO issued a System Impact Assessment (“SIA”) Final Report in respect of the Jericho
2 Project on December 21, 2011. Subsequently, the IESO issued an SIA Addendum Report on
3 June 6, 2012 and an SIA 2nd Addendum Report on December 12, 2012. Each of these SIA
4 reports are provided in Exhibit H, Tab 2, Schedule 1. The purposes of the June 6, 2012
5 Addendum Report were (a) to consider connection requirements needed for the Bornish,
6 Adelaide and Jericho projects together with the Suncor Energy Cedar Point Wind Power Project,
7 and (b) to address changes to the means by which potential over-voltage will be mitigated. The
8 purpose of the December 12, 2012 2nd Addendum Report was to consider the potential
9 implications of the proposal to connect to the 500 kV system via two separate autotransformers
10 rather than a single autotransformer. In these SIA reports, the IESO concludes that the proposed
11 connection, by means of the Proposed Transmission Facilities and subject to the requirements
12 specified in each of the SIA reports, is expected to have no material adverse impacts on the
13 reliability of the integrated power system. The SIA Final Report was issued together with a
14 Notification of Conditional Approval, and each of the addendum reports were issued together
15 with addendums to this Notification of Conditional Approval. These are provided in Exhibit H,
16 Tab 2, Schedule 1.

17 Hydro One issued a Customer Impact Assessment (“CIA”) Final Report dated December 20,
18 2011 in respect of the Jericho Project. Subsequently, Hydro One issued a CIA Addendum
19 Report on June 8, 2012 and a 2nd CIA Addendum Report on February 1, 2013. These CIA
20 reports are provided in Exhibit H, Tab 3, Schedule 1. The purpose of the June 8, 2012
21 Addendum Report was to consider the incorporation of the Suncor Energy Cedar Point Wind
22 Power Project into the proposed connection to the Hydro One system and to address changes to
23 the means by which potential over-voltage will be mitigated. The purpose of the 2nd Addendum
24 Report was to consider the potential implications of the proposal to connect to the 500 kV system
25 via two separate autotransformers rather than a single autotransformer. In these CIA reports,
26 Hydro One concludes that the proposed connection, by means of the Proposed Transmission

- 1 Facilities and subject to the requirements specified in each of the CIA reports, will not have any
- 2 adverse impact on existing Hydro One customers in the area.

SYSTEM IMPACT ASSESSMENT

- 1 The following are provided with this schedule:
- 2 Appendix 'A' - Notification of Conditional Approval of Connection Proposal
- 3 Appendix 'B' - Final SIA Report
- 4 Appendix 'C' - Final SIA Report - Addendum
- 5 Appendix 'D' - Final SIA Report - Addendum #2

APPENDIX 'A'

NOTIFICATION OF CONDITIONAL APPROVAL OF CONNECTION PROPOSAL

June 6, 2012

Laura Cantave
Project Director – NextEra Energy Canada ULC
5500 North Service Road Suite 205
Burlington, Ontario
L7L 6W6



Dear Laura Cantave:

Jericho Wind Energy Centre
Notification of Addendum of Conditional Approval to Connection Proposal
CAA ID Number: 2011-441

Thank you for the updated information regarding the proposed *Jericho Wind Energy Centre*.

From the new information provided, we have concluded that the proposed changes at *Jericho Wind Energy Centre* 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.

December 12, 2012



Laura Cantave
Project Director – NextEra Energy Canada ULC
5500 North Service Road Suite 205
Burlington, Ontario
L7L 6W6

Dear Laura Cantave:

Jericho Wind Energy Centre
Notification of Addendum of Conditional Approval to Connection Proposal
CAA ID Number: 2011-441

Thank you for the updated information regarding the proposed *Jericho Wind Energy Centre*.

From the new information provided, we have concluded that the proposed changes at *Jericho Wind Energy Centre* 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.

If you have any questions or require further information, please contact me.

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.

December 21st 2011

Laura Cantave
Project Director – NextEra Energy Canada ULC
5500 North Service Road Suite 205
Burlington, Ontario
L7L 6W6



Dear Laura Cantave:

**RE: Jericho Wind Energy Centre
Notification of Conditional Approval of Connection Proposal
CAA ID Number: 2011-441**

The IESO has now had an opportunity to review and assess your company's proposed connection of the Jericho Wind Energy Centre as described in your System Impact Assessment application. The IESO has concluded that the proposed connection 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 as detailed in the attached System Impact Assessment report. Please note that any further material change to your proposed connection may require a re-assessment by the IESO and may result in a nullification of the conditional approval.

You may now initiate the IESO's "Market Entry" process. To do so, please contact Registration & Compliance Support at market.entry@ieso.ca at least eight months prior to your expected energization date. The SIA report, attached hereto, details the requirements that your company must fulfill during this process, including demonstrating that the facility *as installed* will not be materially different from the facility *as approved* by the IESO. The document entitled "Market Entry: A Step-by-Step Guide" provided in the approval email describes the key steps in the Market Entry process.

Please also be advised that 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 attached SIA), may be imposed in the future. More details can be found through the following link:
http://www.ieso.ca/imoweb/consult/consult_se91.asp

When your company has successfully completed the IESO's "Facility Registration/Market Entry" process, the IESO will provide you with a "final" approval, thereby confirming that the facility is fully authorized to connect to the IESO-controlled grid.

If you have any questions or require further information, please contact me.

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.

APPENDIX 'B'

FINAL SYSTEM IMPACT ASSESSMENT REPORT



Power to Ontario.
On Demand.

System Impact Assessment Report

CONNECTION ASSESSMENT & APPROVAL PROCESS

Final Report

CAA ID: 2011-441
Project: Jericho Wind Energy Centre
Applicant: Jericho Wind Inc

Market Facilitation Department
Independent Electricity System Operator

Date: December 21st 2011

REPORT

Document ID	IESO_REP_0773
Document Name	System Impact Assessment Report
Issue	Final Report
Reason for Issue	First Issue
Effective Date	December 21 st 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.

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Executive Summary

Project Description

Jericho Wind Inc (the “connection applicant”) is proposing to construct a 150 MW wind energy project named Jericho Wind Energy Centre (the “project”) in Thedford, Ontario. The project will connect to Hydro One’s 500 kV circuit B562L via a 121 kV network to which two other projects, Bornish and Adelaide Wind Energy Centres, will also be connected. The System Impact Assessment (SIA) study was performed as a cluster, with requirements being developed for the combination of the Jericho, Bornish and Adelaide Wind Energy Centres (the “projects”).

The Jericho Wind Energy Centre 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 1, 2013.

Findings

The following conclusions were derived from the study results:

1. The proposed connection arrangement and equipment for the projects are acceptable to the IESO.
2. The asymmetrical fault current at Bruce A 230 kV switchyard before and after the incorporation of the project will exceed the interrupting capability of the existing breakers. Hydro One has planned to replace the Bruce 230 kV breakers to improve fault current interrupting capability in the long term. Before the circuit breakers are replaced, temporary operational mitigation measures have been developed by Hydro One in collaboration with the IESO.
3. Circuit S2S will be required to operate open-loop under certain conditions after the integration of the committed generation in the Bruce Area to prevent thermal overloading
4. The projects are connecting in the Bruce Area where transmission connected generation projects participate in the Bruce Special Protection Scheme (BSPS).
5. 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.
6. The features of the proposed wind farm control system meet the requirements in the Market Rules.
7. Some outage conditions and contingencies cause the voltage at the 500 kV Evergreen SS to exceed maximum permissible voltage levels. This can be mitigated by connecting a reactor at the 500 kV Evergreen SS bus. The reactor would control voltage by being automatically switched in service upon detection of a high voltage condition.
8. The WTGs of the projects 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 projects by configuration.

10. Protection adjustments identified by the Hydro One in the Protection Impact Assessment (PIA) to accommodate the projects have no adverse impact on the reliability of IESO-controlled grid.
11. The relay margins on the affected circuits after the incorporation of the projects conform to the Market Rules' requirements.
12. In the event of high flows eastward towards Toronto, there is a low probability of congestion that may require the applicant to curtail its output.

IESO Requirements for Connection

Transmitter Requirements

The following requirements are applicable to the transmitter for the incorporation of the projects:

- (1) Hydro One is required to review the relay settings of the 500 kV sectionalized circuits of B562L 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.

- (2) The transmitter shall modify the existing BSPS to incorporate the new facility.
- (3) A reactor of at least 120 MVar@ 500 kV is required to be installed at the 500 kV Evergreen SS to control voltages at the new 500 kV stations under certain operating scenarios. The reactor shall be connected through a circuit switcher or a circuit breaker to allow for automatic switching. Switching of the reactor shall be controlled based on the voltage at the stations and in coordination with the capacitor switching at the 121 kV Parkhill CTS. The applicant and the transmitter shall work together on appropriate high voltage settings and timings for reactor/capacitor switching control to avoid damage to any equipment. These settings shall be provided to the IESO for approval.

Applicant Requirements

Specific Requirements: The following *specific* requirements are applicable for the incorporation of the projects. 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. These requirements are based on the projects' grid connection point being at the 500 kV Parkhill CTS.

- (1) The projects are 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 capacitive compensation device of at least 65 MVar at 121 kV installed at the 121 kV Parkhill CTS bus would satisfy the reactive power requirement. The required capacitive compensation would need to be arranged into at least 2 approximately equal steps to allow for flexibility in adjustment of reactive power production.

The voltage profile along the projects' network greatly impacts their ability to provide full reactive support from the WTGs. The IESO recommends that projects' 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 wind farm voltage control system shall be designed as per the philosophy described in Section 6.5.

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.

The connection applicant has the obligation to ensure that the wind farm has the capability to meet the Market Rules' requirements at the connection point and be able to confirm this capability during the commission tests.

- (2) The applicant shall work with the transmitter on appropriate high voltage settings and timings for reactor/capacitor switching control to avoid damaging any equipment.
- (3) The projects will be required to participate in the Bruce Special Protection Scheme (BSPS). Special protection system facilities must be installed at the projects to accept a pair (A & B) of Generation Rejection (G/R) signals from the BSPS. These signals will disconnect the projects from Evergreen SS without intentional delay when armed for G/R by the IESO, following a triggering contingency. These special protection system facilities must also comply with the NPCC Directory #7 for special protection systems. In particular, if the SPS is designed to have 'A' and 'B' protection at a single location for redundancy, they must be on different non-adjacent vertical mounting assemblies or enclosures. Also, two independent trip coils are required on breakers that are part of the SPS. The applicant must provide two dedicated communication channels, separated physically and geographically diverse, between the projects and the Bruce NGS.

To disconnect the project from the system for G/R, simultaneous tripping of the 500 kV and 121 kV breakers at Parkhill CTS shall be initiated with no accompanying breaker failure response.

After being tripped by the BSPS, the closing of the breakers is not permitted until approval is obtained from the IESO. Alternative solutions to disconnect the project from the system for G/R may be acceptable upon the approval of the IESO.

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 projects, and presented in detail in section 2 of this report.

- (1) The connection applicant shall ensure that the projects have 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 projects 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 projects have 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 projects 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 500 kV equipment is capable of continuously operating between 490 kV and 550 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 projects 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 projects is designed to sustain the fault levels in the area. If any future system change result in fault levels exceeding the equipment's capability, the connection applicant is required to replace the equipment 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 550 kV.

- (8) Appendix 2 of the Transmission System Code states that the maximum rated interrupting time for the 500 kV breakers must be 2 cycles or less. 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 projects are designed to satisfy all the requirements of the Transmission System Code and any additional requirements identified by the transmitter.

As currently assessed, the projects are not part of the Bulk Power System (BPS). However, being 500 kV connected facilities, the projects are designated as essential to the power system by the IESO and as such must meet the TSC requirements for essential elements.

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 Parkhill CTS 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 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 projects, 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 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 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 projects 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 Jericho Wind Energy Centre, operating up to 150 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 Jericho Wind Energy Centre subject to the implementation of the requirements outlined in this report.

– End of Section –

1. Project Description

Jericho Wind Inc is proposing to construct a 150 MW wind energy project named Jericho Wind Energy Centre in Thedford, Ontario. The project has been awarded a Power Purchase Agreement under FIT program with the Ontario Power Authority. The project in-service date is December 1st, 2013.

The project will consist of 92 GE 1.6 MW Wind Turbine Generators (WTGs). The WTGs are doubly fed induction generator (GE1.6MW) rated at 690 V and 60 Hz with pad-mounted 690 V to 34.5 kV Generator Step-Up (GSU) transformers.

The collector system will have a total of six 34.5 kV collector feeders. At the Jericho collector station, the voltage will be stepped up to 121 kV using a power transformer Delta-connected on the 34.5 kV side and Wye-grounded on the 121 kV side. The transformer has ONAN/ONAF/OFAF ratings of 102/136/170 MVA and is sized to carry maximum generation from the wind farm. The Jericho collector station will connect to the Bornish 121 kV switching station using an 14.5 km circuit. The two other generation projects, Bornish and Adelaide Wind Energy Centres, will also connect to the Bornish 121 kV switching station.

Power from the projects (Jericho, Bornish and Adelaide) will be transmitted to the 500/121 kV Parkhill CTS substation through a 11.4 km line called BTS1P. Additional capacitor banks will be installed at the 121 kV bus at Parkhill CTS to provide reactive power compensation. The voltage level will subsequently be stepped up to 500 kV using a power transformer Delta-connected on the 121 kV side and Wye-grounded on the 500 kV side, rated at 189/252/315 MVA (ONAN/ONAF/OFAF). Parkhill CTS will be connected to one of the Bruce by Longwood circuits, B562L, which will be sectionalized by the new Evergreen SS 500 kV ring bus at the connection point of the project. Evergreen SS will be approximately 36.5 km from Longwood TS.

The single line diagram and the connection point of the project are illustrated in Figure 1 and Figure 2, Appendix A, respectively.

Sectionalizing circuits B562L and B563L at Evergreen SS and Ashfield SS (for connection of the K2 wind project) respectively resulted in four new 500 kV circuits. Figure 2 shows the names of these circuits: B562E, E562L, B563A, and A563L. The nomenclature assumed for the new circuits is for the purpose of this report and the names may differ at the time of connection.

This System Impact Assessment and its requirements are based on the projects' grid connection point being at the 500 kV Parkhill CTS.

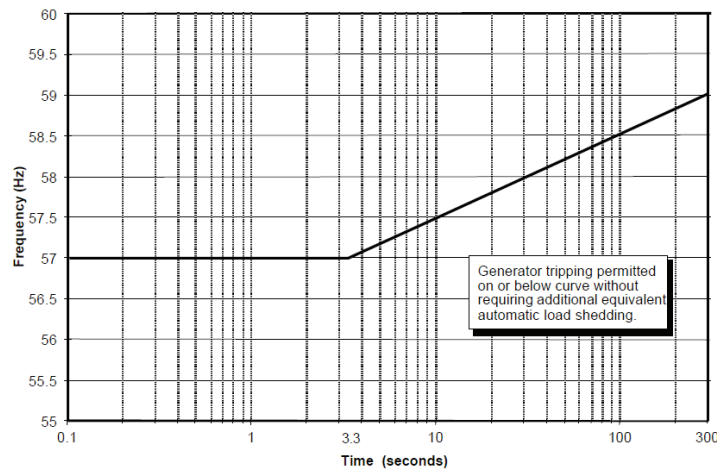
– End of Section –

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 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 500 kV system are maintained within the range of 490 kV and 550 kV. Also, 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.

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 500 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 changes result in an increased fault level higher than the equipment's capability, the connection applicant is required to replace the equipment 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 500 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 550 kV.

2.8 Breaker Interrupting Time

Appendix 2 of the Transmission System Code states that the maximum rated interrupting time for the 500 kV breakers must be 2 cycles or less. 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, however it is considered essential to the power system due to its 500 kV connection and as such must meet the TSC requirements for essential elements.

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 500 kV circuits emanating from Evergreen SS 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 Parkhill CTS 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 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 Other 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	1.837	1.62	1.8	0.76%	5.70%	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 the studies outlined in Section 6.10.

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 Step-Up Transformers

Table 3: Main step-up transformer data

Unit	Transformation	Rating (MVA) (ONAN/ONAF/OFAF)	Positive Sequence Impedance (pu) SB= 189 MVA	Configuration		Tap
				HV-Side	LV-Side	
T3	525kV/121kV	189/252/315 MVA	0.0022+j0.09997	Yg	Δ	±10% ULTC@ LV 33 steps, 0.625% each

Table 4: Intermediate step-up transformer data

Unit	Transformation	Rating (MVA) (ONAN/ONAF/OFAF)	Positive Sequence Impedance (pu) SB= 102 MVA	Configuration		Tap
				HV-Side	LV-Side	
T2	121kV/34.5kV	102/136/170 MVA	0.00214+j0.08997	Yg	Δ	±10% ULTC@ LV 33 steps, 0.625% each

3.4 Collector and Intermediate Transmission System

Table 5: Equivalent impedance of 34.5 kV collector circuits

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	24.3	0.024	0.023	0.012	-	-	-
C2	G2	24.3	0.065	0.062	0.018	-	-	-
C3	G3	25.92	0.049	0.051	0.015	-	-	-
C4	G4	24.3	0.059	0.056	0.016			
C5	G5	24.3	0.026	0.069	0.014			
C6	G6	25.92	0.043	0.075	0.019			

(*) 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 6: Equivalent impedance of intermediate transmission line

Circuits $V_B =$ 115 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
J1BTS	0.00522	0.04770	0.00725	0.043935	0.11629	0.00464
BTS1P	0.002052	0.02622	0.008208	0.032604	0.08014	0.00456

3.5 Connection Equipment

3.5.1 121 kV Switches

Table 7: Specifications of 121 kV switches

Identifier	Voltage Rating	Continuous Current Rating	Short Circuit Symmetrical Rating
All	145 kV	2000 A	40 kA

3.5.2 121 kV Circuit Breakers

Table 8: Specifications of 121 kV circuit breakers

Identifier	Voltage Rating	Interrupting time	Continuous Current Rating	Short Circuit Symmetrical Rating
All	145 kV	50 ms	2000 A	40 kA

3.5.3 500 kV Switches

Table 9: Specifications of 500 kV switches

Identifier	Voltage Rating	Continuous Current Rating	Short Circuit Symmetrical Rating
All	550 kV	4000 A	63 kA

All switches meet the maximum continuous voltage rating requirement of 550 kV.

3.5.4 500 kV Circuit Breakers

Table 10: Specifications of 500 kV switches

Identifier	Voltage Rating	Interrupting time	Continuous Current Rating	Short Circuit Symmetrical Rating
All	550 kV	33 ms	4000 A	63 kA

All circuit breakers meet the maximum continuous voltage rating requirement of 550 kV. The interrupting time and short circuit symmetrical duty ratings meet the requirements of the Transmission System Code (TSC).

3.5.5 Tap Line

Parkhill CTS connects to Evergreen SS using a short tap line. Due to its short length, it was modeled as a zero impedance line.

3.6 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. 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.

This is achieved by tapping into the stored kinetic energy in the rotor mass. 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 in the surrounding area with and without the projects and other recently committed generation projects. 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	Imperial Oil	G1
Brighton Beach	G1, G1A, G1B	Kruger Port Alma WGS	101.2 MW
Greenfield Energy Centre	G1-G4	Gosfield Wind Project	50.6 MW
St. Clair Energy Centre	CTG3, STG3, CTG4, STG4	Kruger Energy Chatham WF	101 MW
East Windsor Cogen	G1-G2	Raleigh Wind Energy Centre	78 MW
TransAlta Sarnia	G861, G871, G881, G891	Talbot Wind Farm	98.9 MW
Ford Windsor CTS	STG5	Dow Chemicals	G1, G2, G5
TransAlta Windsor	G1, G2	Port Burwell WGS	99 MW
West Windsor Power	G1, G2	Fort Chicago London Cogen	23 MVA
		Great Northern Tri-Gen Cogen	15 MVA

(2) Previously Committed Generation Facilities

- 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) Recently Committed Generation Facilities

- Bluewater Wind Energy Centre
- Jericho Wind Energy Centre
- Bornish Wind Energy Centre
- Goshen Wind Energy Centre
- Cedar Point Wind Power Project Phase II
- Adelaide Wind Energy Centre
- Grand Bend Wind Farms
- Grand Valley Wind Farms (Phase 3)
- Erieau Wind
- East Lake St. Clair Wind
- Adelaide Wind Power
- Gunn's Hill Wind Farm
- Silvercreek Solar Park
- K2 wind
- Armow
- Beaverdale
- Dundalk
- Kingston

(4) 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

(5) Transmission System Upgrades

- Leaside - Bridgman reinforcement: Leaside TS to Birch JCT: new 115 kV circuit (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 LFarge CTS
 - Woodstock TS connected to Karn TS
- Lower Mattagami expansion - H22D line extension from Harmon to Kipling (CAA2006-239);
- Rodney (Duart) TS DESN connected to W44LC and W45LS 230 kV circuits (CAA2007-260)

(6) 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*
- Cherrywood TS north & south 230kV buses operated *open*
- Richview TS 230 kV bus operated *open*
- All tie-lines in service & phase shifters on neutral taps
- Maximum voltages on the buses

Table 11 summarizes the projected fault levels at facilities near the project before and after the 3rd round of FIT contracts, under which the project was awarded a contract.

Table 11: Fault levels at facilities near the Jericho Wind Energy Centre

Station	Before the projects		After the projects and other committed projects		Lowest Rated Circuit Breaker (kA)
	3-Phase	L-G	3-Phase	L-G	
<i>Symmetrical Fault (kA)*</i>					
Bruce A 500 kV	37.18	41.77	38.25	42.80	63
Longwood 500 kV	20.1	21.0	21.11	22.46	63
Longwood 230 kV	37.45	44.83	38.74	46.55	63
Bruce A 230 kV	42.97	54.36	44.63	56.15	60***
Evergreen SS	-	-	15.78	13.95	63
Bornish TS 121 kV	-	-	11.90	9.05	40
<i>Asymmetrical Fault (kA)*</i>					
Bruce A 500 kV	54.47	63.21	55.99	64.65	74.9
Longwood 500 kV	24.43	26.74	25.81	28.73	68.9
Longwood 230 kV	45.82	58.1	47.74	60.59	78
Bruce A 230 kV	57.65	78.45**	59.73	80.82**	72.6****
Evergreen SS	-	-	19.14	17.49	63****
Bornish TS 121 kV	-	-	15.30	9.63	40****

* 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 assumes these breakers being replaced.

****The symmetrical rating was used as the asymmetrical rating was not provided by the applicant.

Table 11 shows the interrupting capability of the 500 kV and 121 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 projects and other committed projects will exceed the interrupting capability of the existing breakers. This issue has been investigated in the 2nd SIA addendum for the project of Bruce G1 and G2 restart (CAA ID 2004-163), where the IESO has identified a requirement to replace all the Bruce 230 kV breakers with higher fault current interrupting capability and assessed potential mitigation measures for this issue until these circuit breakers are replaced. Hydro One has planned to replace the Bruce 230 kV breakers.

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 12.

In addition, with either the Evergreen-by-Longwood or Bruce-by-Evergreen circuit out of service, low infeed from the wind farm can result in delayed fault clearing. With low infeed, a fault near Evergreen SS would not be seen by the Evergreen SS protections nor by the remote stations' Zone 1 due to the fault location being within Zone 2 reach; resulting in a fault clearing time of up to 400 ms. Hydro One will implement a relay logic design to address the weak infeed scenario which will be elaborated in the planning document in preparation of the detailed design.

Table 12: Proposed Protection Changes to Circuit B562L

Station	Zone	Existing Reach (km)	Revised Reach (km)	Comments
Bruce A TS	1	149	120	Set at 80% of the line segment impedance to Evergreen SS.
	2	233	188	Set at 125% of the maximum apparent impedance seen for a fault at Evergreen SS.
Longwood TS	1	149	29	Set at 80% of the line segment impedance to Evergreen SS.
	2	233	46	Set at 125% of the maximum apparent impedance seen for a fault at Evergreen SS.
Evergreen SS to Longwood TS	1	-	29	Set at 80% of the line segment impedance to Longwood TS.
	2	-	46	Set at 125% of the maximum apparent impedance seen for a fault at Longwood TS.
Evergreen SS to Bruce A TS	1	-	120	Set at 80% of the line segment impedance to Bruce A TS.
	2	-	188	Set at 125% of the maximum apparent impedance seen for a fault at Bruce A TS.

Telecommunication Requirements

New communications will be required between the projects and Longwood TS, as well as between the projects and Bruce A TS. The connection applicant is responsible to establish a dual telecommunication link to transmit protection signals to both terminal stations and other generators on the subject lines. Therefore, new digital and PLC facilities shall be installed at the Evergreen SS in order to establish necessary connections.

The PIA concluded that it is feasible to connect the projects 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 projects 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 2014 in-service dates or earlier were assumed in service. The committed facilities primarily include:
 - Leaside - Bridgman reinforcement: Leaside TS to Birch JCT: new 115 kV (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 LFarge CTS
 - Woodstock TS connected to Karn TS
 - Rodney (Duart) TS DESN connected to W44LC and W45LS 230 kV circuits (CAA2007-260);
 - Nanticoke and Detweiler SVCs;
- (2) **Generation facilities:** All existing and committed major generation facilities with 2013 in-service dates or earlier were assumed in service. The primary committed generation facilities are outlined in the assumptions for short circuit study, Section 4.
- (3) **Basecases:** Three basecases in terms of load level were used in this SIA studies: peak load, shoulder load, and light load. The generation dispatch philosophies for the three cases are as follows:

Peak load basecase

- All committed and existing generation in the Southwest and Bruce areas were maximized, including 8 units at Bruce;
- Gas generation, in conjunction with maximum wind generation, in the West area was dispatched to achieve a NBLIP transfer of approximately 2000MW;
- Generation in the North areas was dispatched to achieve a Flow South transfer of approximately 1250MW;
- Generation in the Greater Toronto Area included two Pickering units, four Darlington units and four Sithe Goreway units;

Shoulder load basecase

- All committed and existing generation in the Bruce area was maximized;

- Renewable and minimum level gas generation in the West was dispatched to achieve an NBLIP transfer of approximately 986MW;
- Generation in the North areas was dispatched to achieve a Flow North transfer of approximately 500MW;
- Generation in the Greater Toronto Area included two Pickering units and four Darlington units;
- Generation in the Southwest area was then dispatched to balance the load;

Light load basecase

- All dispatchable gas units out of service;
- Minimum hydraulic generation;
- Nuclear generation limited to three Pickering units, two Darlington units and five Bruce units;
- Existing Southwest, West and Bruce area wind generation in service;
- Incorporation of the projects into the system;

The system demand and the primary interface flows after the incorporation of the proposed projects are listed in **Error! Not a valid bookmark self-reference..**

Table 13: System demand and primary interface flows for basecases (MW)

Basecase	System Demand	NBLIP	FABC	FETT	QFW	FS	FIO
Peak Load	26880	2023	6412	6913	1146	1250	1585
Shoulder Load	20716	986	6412	6707	1055	-488	1309
Light Load	11621	643	3845	906	34	-1048	746

6.2 Special Protection System (SPS)

The BSPS is a collection of special protection systems installed at the Bruce B switching station (SS) and other stations which perform pre-defined control actions, including generation rejection, load rejection and reactor switching. These control actions are initiated in response to recognized contingencies by monitoring the electrical connection between nodes in southern Ontario. The primary purpose of the BSPS is to allow increased pre-contingency transfers on the existing transmission facilities emanating from the Bruce nuclear generation station (NGS).

The BSPS is classified as a “Type 1 Special Protection System”, and conforms to criteria and guidelines specified in NPCC Directory #7 for special protection system.

The IESO has identified a requirement that wind generation stations connecting near the Bruce NGS must connect to and participate in the BSPS, as detailed in the SIA report and addendum for Hydro One BPS modifications (CAA ID 2005-EX222). The incorporation of wind generation rejection (G/R) to the BPS is considered a new BPS control action. This new control action will provide the IESO with increased operating flexibility during transmission outage conditions.

Special protection system facilities must be installed at the projects to accept a single pair (A & B) of G/R signals from the BPS, and disconnect from circuit B562L with no intentional time delay, when armed by the IESO following a triggering contingency. These special protection system facilities must also comply with the NPCC Directory #7 for special protection systems. In particular, if the SPS is designed to have ‘A’ and ‘B’ protection at a single location for redundancy, they must be on

different non-adjacent vertical mounting assemblies or enclosures. Also, two independent trip coils are required on breakers that are part of the SPS. The applicant must provide two dedicated communication channels, separated physically and geographically diverse, between the projects and the Bruce NGS.

To disconnect the project from the system for G/R, simultaneous tripping of the 500 kV and 121 kV breakers at Parkhill CTS shall be initiated with no accompanying breaker failure response. After being tripped by the BSPS, the closing of the breakers is not permitted until approval is obtained from the IESO.

Alternative solutions to disconnect the project from the system for G/R may be acceptable upon the approval of the IESO.

6.3 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 projects' collector system with static shunts (e.g. capacitors and reactors).

This SIA proposes a solution for the projects 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 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 the project satisfies IESO's requirements.

Static Reactive Power Capability

In addition to the dynamic reactive power requirement identified above, the projects have to compensate for the reactive power losses within the projects' network 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 projects.

The reactive power capability in lagging power factor of the projects was assessed under the following assumptions:

- typical voltage of 545 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 power factor of the projects was assessed under the following assumptions:

- typical voltage of 545 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 project 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 project in an equal amount.

Based on the equivalent parameters for the wind farm provided by the connection applicant, a static capacitive reactive power compensation rated 65 MVar at 121 kV is required to be installed at the Parkhill 121 kV 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 14.

Table 14: Reactive Power Capability at the PCC

Operation	Intermediate Bus Voltage (pu)	Collector Bus Voltage (pu)	Max/Min Generator Terminal Voltage (pu)	PCC Reactive Power (MVar)	PCC Voltage (kV)
Lagging PF	1.00	1.00	1.057	95.4 MVar	545 kV
Leading PF	1.00	1.00	0.97	-115.8 MVar	545 kV

The required capacitive compensation will need to be arranged into at least 2 approximately equal 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 IESO Controlled grid. 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 32.5 MVAR. To reflect a reasonably restrictive system condition, the voltage change study was studied under light load conditions and assumed one Bruce to Longwood circuit out of service.

Table 15: Voltage Changes due to Static Reactive Compensation Switching

Capacitor at 121 kV bus	Parkhill 121 kV voltage	Evergreen SS voltage
Pre-switching	120.4 kV	544.0 kV
Post-switching	122.5 kV	545.5 kV
ΔV	1.7%	0.3%

Table 15 shows that switching a single capacitor of 32.5 MVAR results in less than 4 % voltage change at the connection point, therefore meeting the Market Rules' requirement.

6.4 Overvoltage Control at Evergreen SS

Due to the long length of Bruce-by Evergreen 500 kV circuit, voltages at Evergreen SS may exceed maximum permissible levels under certain operating scenarios. This overvoltage concern must be addressed by the introduction of a new reactor at Evergreen SS after the projects are integrated into the system.

The voltage analysis was carried out under the following assumptions:

- voltage of 550 kV at Bruce A TS
- Evergreen-by-Longwood circuit out of service
- WTGs off line with the connection applicant's network connected

Table 16 lists the voltages at Evergreen SS with and without the proposed reactor at Evergreen SS to address the overvoltage concern.

Table 16: Voltage Analysis Results at Evergreen SS

Bus	Voltage with Evergreen-by-Longwood circuit out of service	
	Without reactor	With a reactor rated 120 MVAR@500 kV at Evergreen SS
Evergreen SS 500kV	562 kV	548.9 kV

Based on the study results, a reactor of 120 MVAR @500 kV is required to be installed at the 500 kV Evergreen SS to prevent exceeding maximum voltage levels at the connection point and in the applicant's network under certain operating scenarios. The reactor shall be connected through a circuit switcher or a circuit breaker to allow for automatic switching. The switching of the reactor shall be controlled based on the voltage at the connection point and in coordination with the capacitor switching within the wind farm. The applicant and the transmitter shall work together on appropriate high voltage settings and timings for reactor/capacitor switching control to avoid damage to any equipment. These settings must be submitted to the IESO for approval.

6.5 Wind Farm Voltage Control System

As per the Market Rules requirements, the wind farms shall operate in voltage control mode by using all voltage control methods available within the projects. The automatic voltage regulation philosophy for the projects is summarized as follows:

- (1) All WTGs control the voltage at a point whose impedance (based on rated apparent power and voltage of the projects) is not more than 13% from the connection point. Appropriate control slope is adopted for reactive power sharing among the WTGs as well as with adjacent generators. The reference voltage will be specified by the IESO duration operation.
- (2) Capacitor banks are automatically switched in/out to regulate the overall WTGs' reactive generation to around zero output. The dead band for capacitor switching will be set to about $\pm 60\%$ size of the smallest capacitor to avoid control hunting.
- (3) The main transformer ULTC is adjusted to regulate the collector bus voltage such that it is within normal range and close to about 1 pu. The IESO recommends the automatic control for this ULTC. Appropriate dead band shall be adopted to avoid voltage hunting.

In this control system, the voltage control by WTGs and the overall WTGs' reactive control by capacitor banks need to be coordinated by using different time constants.

In the event that the wind farm voltage control is not available, the IESO requires that each WTG control the power factor at its own terminal to unity. Depending on system conditions, further action such as curtailing the output of the project may be required for reliability purposes.

6.6 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. Immediately following contingencies, lines may be loaded up to their short-term emergency ratings where control actions such as re-dispatch, switching, etc. are available to reduce the loading to the long-term emergency ratings.

The continuous rating for conductors was calculated at the lowest of the sag temperature or 93°C operating temperature, with a 35°C ambient temperature and 4 km/h wind speed. The long term emergency rating (LTE) for conductors was calculated at the lowest of the sag temperature or 127°C operating temperature, with a 35°C ambient temperature and 4 km/h wind speed. The short-term emergency rating (STE) for conductors was calculated at the sag temperature, with a 35°C ambient temperature, 4 km/h wind speed and 100% continuous pre-load.

The return of Bruce G1 and G2 combined with the addition of new Bruce and Southwest Ontario generation results in a higher flow eastward from Bruce. This naturally increases the flow along the 115 kV path of circuit S2S from Owen Sound TS to Stayner TS when circuit S2S is operated closed-loop.

Table 17 shows the pre-contingency thermal results with S2S operated closed-loop under the defined shoulder load condition. It indicates the overloading of both circuit S2S from Meaford TS to Stayner TS and Stayner T1. To prevent the thermal overloading, circuit S2S will be required to operate open-loop under certain conditions after the integration of the committed generation projects in the area of Bruce and Southwest Ontario. Hydro One has investigated this mitigating action and is in agreement with it.

Table 17: Pre-contingency thermal results with S2S close-loop under shoulder load conditions

Circuit	Pre-Contingency Flow	Summer Continuous Rating	Loading (%)
S2S (Meaford-Stayner)	650 A	590 A*	110
Stayner T1	136 MVA	125 MVA	109

* Circuit continuous ratings 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.

6.6.1 Primary Thermal Impact

Due to the fact that the opening of circuit S2S results in increased flows on the parallel 230 kV and 500 kV circuits emanating from Bruce, circuit S2S was assumed open-loop at Owen Sound for SIA studies.

The peak-load basecase was used for thermal analysis due to the high flows out of the Bruce Area. Preliminary simulation results show the incorporation of the projects primarily increase flow on the 500 kV circuits emanating from Bruce TS and Longwood TS. This reduces the loading on 500 kV auto-transformers at Bruce A TS and Longwood TS and marginally increases the flow on 230 kV corridors from Bruce/Longwood to the GTA area. Therefore, only the 500 kV circuits were examined to assess the primary thermal impact of the projects.

Table 18: Circuit Ratings

Circuit	From	To	Continuous Rating (A)	LTE Rating (A)
B560V	Bruce A TS	Claireville TS	2820	3620
B561M	Bruce B TS	Milton TS	2820	3620
B501M	Bruce B TS	Milton TS	2820	3660
B502M	Bruce A TS	Milton TS	2820	3660
B562E	Bruce A TS	Evergreen SS	2820	3660
E562L	Evergreen SS	Longwood TS	2820	3660
B563A	Bruce B TS	Ashfield SS	2820	3660
A563L	Ashfield SS	Longwood TS	2820	3660
N582L	Nanticoke TS	Longwood TS	2820	3660

Pre-contingency thermal loadings of 500 kV circuits are shown in

Table 19. It shows that there is no pre-contingency equipment overloading.

Table 19: Pre-Contingency Thermal Assessment Results – Circuits

Circuit	Circuit Loading Pre-Contingency (A)	Summer Continuous Rating (A)	Percent of Continuous Rating (%)
B560V	1514	2820	53.69
B561M	1533	2820	54.36
B501M	1527	2820	54.15
B502M	1513	2820	53.65
B562E	134	2820	4.75
E562L	453	2820	16.06
B563A	60	2820	2.13
A563L	279	2820	9.89
N582L	1348	2820	47.80

The following contingencies were simulated for the circuit thermal analysis:

- (1) **Simultaneous loss of 500 kV circuits B560V and B561M:** 500 kV circuits B560V and B561M are main arteries out of the Bruce Area. The loss of these circuits results in higher transfers on the remaining circuits emanating from Bruce area.
- (2) **Simultaneous loss of 500 kV circuits E562L and A563L:** This loss results in the projects and K2 generating radially onto the Bruce 500 kV system, resulting in a higher flow emanating from Bruce TS.

Post-contingency circuit loading results are summarized in Table 20. The results show that there is no post-contingency thermal concern on the 500 kV circuits.

Table 20: Post-Contingency Thermal Assessment Results – Circuits

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 E562L+A563L	
					Circuit Loading Post (A)	% of LTE	Circuit Loading Post (A)	% of LTE
B560V	1514	2820	53.69	3620	0	0.00	1659	45.83
B561M	1533	2820	54.36	3620	0	0.00	1693	46.77
B501M	1527	2820	54.15	3660	2528	69.07	1685	46.04
B502M	1513	2820	53.65	3660	2510	68.58	1672	45.68
B562E	134	2820	4.75	3660	479	13.09	385	10.52
E562L	453	2820	16.06	3660	829	22.65	0	0.00
B563A	60	2820	2.13	3660	393	10.74	280	7.65
A563L	279	2820	9.89	3660	675	18.44	0	0.00
N582L	1348	2820	47.80	3660	1859	50.79	938	25.63

Therefore, the studies show that projects do not introduced any thermal constraints and that injection into a single line is acceptable.

6.6.2 New Area Generation Impact

The impact of the projects on the overall system, in conjunction with other committed projects, was examined to identify if any system congestion issues exist in Central and Southwest Ontario due to 230 kV circuit or 500 kV auto-transformer thermal constraints. The studies concluded that under exceptionally high power transfers towards Toronto, generating stations in Bruce and Southwest Ontario may be required to curtail their outputs to relieve congestion. However, the flow into Toronto at the levels examined is not expected to materialize for the next several years. Future planning assessments for the west Greater Toronto Area (GTA) are currently being undertaken by the agencies.

With the addition of new committed generation projects in Bruce and Southwest Ontario, flows east into Toronto were maximized to reach 6913 MW under the defined peak load basecase. Under this high flow scenario, the additional new generation projects contributed to overloading some limiting elements in the central area. Table 21 and Table 22 show the thermal results of limiting circuits and transformers in Central area under peak load conditions after the integration of new committed generation projects. It shows both pre-contingency and post-contingency overloading of the limiting elements. Additional simulation results based on the defined shoulder load basecase show post-contingency overloading on circuits E8V/E9V for the loss of the companion circuit. If flows were to reach these high levels, the generating plants in the Bruce and Southwest Ontario may be required to curtail their outputs.

Table 21: Thermal results of limiting circuits in central area under peak-load conditions

Circuit	Contingency	Pre-Contingency Flow (A)	Continuous Rating (A)*	Pre-Contingency Loading (%)	Post-Contingency Flow (A)	LTE Rating (MVA) **	Percent of LTE (%)
R14T (Trafalgar-Erindale)	R17T	1059	1110	95	1577	1460	108
R17T (Trafalgar-Erindale)	R14T	1063	1110	96	1576	1460	108
R19TH (Erindale-Hanlan)	R14T+R17T	792	840	94	1131	1090	107

* Continuous ratings 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.

Table 22: Thermal results of limiting transformers in central area under peak-load conditions

Transformer	Pre-Contingency Flow (MVA)	Summer Continuous Rating (MVA)	Pre-Contingency Loading (%)	LTE Rating (MVA)	Loss of Trafalgar T15	
					Post-Contingency Flow (MVA)	Percent of LTE (%)
Trafalgar T14	858.84	750	114.51	1004	1078.02	107.37
Trafalgar T15	830.20	750	110.69	1132	0.00	0.00
Claireville T13	782.34	750	104.31	988	846.71	85.70
Claireville T14	796.55	750	106.21	995	861.85	86.62
Claireville T15	789.09	750	105.21	995	853.96	85.83

In the event of high flows eastward towards Toronto, there is a low probability of congestion that may require the applicant to curtail its output.

6.7 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 voltages on 500 kV buses must not exceed 550 kV or be less than 490 kV and voltages on 230 kV buses cannot exceed 250 kV or be less than 220 kV;
- The post-contingency voltages on 500 kV buses must not exceed 550 kV or be less than 470 kV and voltages on 230 kV buses cannot exceed 250 kV or be less than 207 kV;
- 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 voltages and post-contingency voltage changes remain within criteria at various facilities.

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 interface which feeds the load centre in the GTA. This contingency is the most severe contingency for the GTA voltage profile. The contingency was simulated assuming automatic switching of the Bruce and Longwood reactors post-contingency.
- (2) **Loss of the Bornish TS connected wind farms:** As generating stations help control voltage pre-contingency, the simultaneous loss of the Jericho, Bornish and Adelaide Wind Energy Centres may result in a significant voltage change. Two scenarios were studied, one with maximum VAR injection and the other with maximum VAR withdrawal. It was assumed that the capacitive reactive compensation at Parkhill CTS was in service pre-contingency for the maximum VAR injection case.

To simulate the scenarios resulting in the largest voltage change, the loss of the projects when absorbing and injecting maximum reactive power was studied using the light load and peak load case respectively. The loss of B560V and B561M was simulated using the peak load and light load cases; however only results for the peak load case are provided as simulation results exhibited that peak load is a worse condition for its voltage performance.

The study results are summarized in Table 23, Table 24 and Table 25. They demonstrate that both pre-ULTC and post-ULTC voltages are within limits and decline values in the GTA for the loss of B560V and B561M as well as in the vicinity of the project for the loss of the three projects are within the IESO's criteria of 10%.

Table 23: Voltage Analysis Results – Loss of B560V + B561M

Monitored Buses		Pre-Cont Voltage kV	Loss of B560V + B561M			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Milton	500	529.2	506.3	-4.33	511.8	-3.29
Claireville	500	526.9	508	-3.59	513.9	-2.47
Claireville	220	248.2	239.4	-3.55	242.9	-2.14
Richview	220	248.7	239.2	-3.82	243.1	-2.25

Table 24: Voltage Analysis Results – Loss of the projects' WTGs with max VAR injection

Monitored Buses		Pre-Cont Voltage kV	Loss of the projects' WTGs with maximum VAR injection			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Longwood TS	500	545.5	544.9	-0.1%	545	-0.1%
Bruce A TS	500	548.3	548.3	0.0%	548.3	0.0%
Evergreen SS	500	549.9	548.7	-0.2%	548.9	-0.2%

Table 25: Voltage Analysis Results – Loss of the projects’ WTGs with max VAR withdrawal

Monitored Busses		Pre-Cont Voltage kV	Loss of the projects’ WTGs with maximum VAR withdrawal			
Bus Name	Base kV		Pre-ULTC		Post-ULTC	
			kV	%	kV	%
Longwood TS	500	544.7	547.9	0.6%	549.2	0.8%
Bruce A TS	500	548.3	548.3	0.0%	548.3	0.0%
Evergreen SS	500	545.9	551.3*	1%	552.3*	1.2%

* There are no concerns with this voltage exceeding 550 kV as there is provision for a reactor auto-switching scheme to be used when voltages reach this level (see section 6.4).

6.8 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 peak load condition are provided as the flows out of the Bruce Area were higher; representing the more critical case for transient stability performance.

Transient stability analyses were performed considering recognized faults in Southwest Ontario. Four contingencies were simulated as shown in Table 26.

The simultaneous loss of B560V and B561M was simulated since it is the worst contingency in terms of the transient stability of Bruce generating units and GTA voltage stability.

The simultaneous loss of B563A and B562E was simulated since it results in having the projects and K2 wind farm radially connected to Longwood TS, to evaluate the transient stability performance of the West area.

The simultaneous loss of A563L and E562L was simulated since it results in having the projects and K2 wind farm radially connected to Bruce TS, to evaluate the transient stability performance of Bruce generating units.

Finally, an un-cleared 3-phase fault at the Parkhill 121 kV bus was simulated to ensure that the failure of the projects’ internal protections does not adversely impact the stability of the IESO controlled grid.

Table 26: Simulated Contingencies for Transient Stability

Contingency	Location	Fault Type	Fault Clearing Time (ms)		B/L RSS* (ms)	Reclosure Time	Reclosure Location
			Local	Remote			
B560V+B561M	Bruce	LLG	66	91	124	10s for B560V 15s for B561M	Claireville Milton
B563A + B562E	Bruce	LLG	66	91	-	10s	Ashfield Evergreen
A563L + E562L	Longwood	LLG	75	100	-	10s	Longwood
LV side of main step-up transformer	Parkhill 121 kV	3 phase	Un-cleared		-	-	-

*B/L RSS denotes the Bruce and Longwood Reactor Switching Schemes

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 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.

6.9 Steady-State Voltage Stability

The *Ontario Resource and Transmission Assessment Criteria (ORTAC)* states that the maximum acceptable pre-contingency power transfer must be 10% lower than the voltage instability point of the pre-contingency P-V curve, and 5% lower than the voltage instability point of the post-contingency P-V curve.

The voltage performance of the IESO-controlled grid was evaluated by examining if the FABC (Flow Away from Bruce Complex) transfer after the incorporation of the facility meets the above requirement based on pre- and post-contingency and post-contingency P-V curves under peak load conditions. The peak load basecase was used since it had higher transfers to the Toronto load centre than the shoulder case. The contingency of simultaneous loss of B560V+B561M was selected for studying the post-contingency steady-state voltage stability as it is the worst-case contingency in terms of system voltage stability. For this recognized contingency, two post-contingency scenarios, either tripping the reactors at Bruce and Longwood or no tripping of these reactors are investigated. Only the voltage responses at Claireville 500kV were recorded as it is the most critical point in the system in terms of system voltage stability performance.

Figure 11 shows the steady-state voltage responses at Claireville 500kV as the FABC transfer increases under the pre-contingency scenario and two post-contingency scenarios. It indicates that the maximum FABC transfer under the pre-contingency scenario, post-contingency reactor tripping scenario, and post-contingency no reactor tripping scenario are 8748 MW, 7256 MW, and 6766 MW, respectively. The pre-contingency FABC transfer is 6412 MW. Thus, the pre-contingency FABC transfer is 10% lower than the voltage instability point of the pre-contingency P-V curve, and 5% lower than the voltage instability point of the post-contingency P-V curve, under either reactor tripping or no reactor tripping scenario. It can be concluded that the steady-state voltage stability of the system after the incorporation of the project conforms to the Market Rules' requirement.

6.10 Voltage Ride-Through Capability

The IESO requires that the wind turbine generators and associated equipment within the projects 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 WTGs to be installed will be equipped with the GE ZVRT option. The ZVRT capability of the wind turbines is shown in Table 2.

The LVRT capability of the WTGs was assessed based on the terminal voltages of the WTGs under simulated contingencies in Table 27. These contingencies result in the lowest transient voltages at the projects.

Table 27: Simulated contingencies for LVRT

Contingency	Location	Fault Type	Fault Clearing Time (ms)		B/L RSS* (ms)
			Local	Remote	
A563L	Longwood	3 phase	75	100	-
A563L	Longwood	LG+BKF	169	202	-
B560V+B561M	Bruce	LLG	66	91	124

*B/L RSS denotes the Bruce and Longwood Reactor Switching Schemes

Figure 12, Appendix A shows the terminal voltage response of the GE 1.6 MW WTGs. It shows that the terminal voltages of the WTGs dip, in the worst case, to approximately 0.3 pu and remain below 0.6 pu for about 200 ms, and recover thereafter. As compared with the ZVRT/LVRT capability of the GE 1.6 MW model, 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.

6.11 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 circuits B562E or E562L will trip for out of zone faults due to the incorporation of the projects. The shoulder load basecase was used as it had the highest transfers on the Bruce-by-Longwood circuits. The contingencies listed in

Table 28 were simulated with the results shown in Figure 13 to Figure 24, Appendix A.

Table 28: Simulated contingencies for relay margin

Contingency	Location	Fault Type	Fault Clearing Time (ms)		B/L RSS* (ms)	Reclosure Time	Reclosure Location
			Local	Remote			
B560V+B561M	Bruce	LLG	66	91	124	10s for B560V 15s for B561M	Claireville Milton
A563L	Longwood	3 phase	75	100	-	10s	Longwood
B563A	Bruce	3 phase	66	91	-	10s	Ashfield

*B/L RSS denotes the Bruce and Longwood Reactor Switching Schemes

The relay margin plots show that the impedance trajectories at both ends of circuits B562E and E562L do not penetrate the relay characteristics and have a margin of greater than 20%, thereby meeting the Market Manual requirement.

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

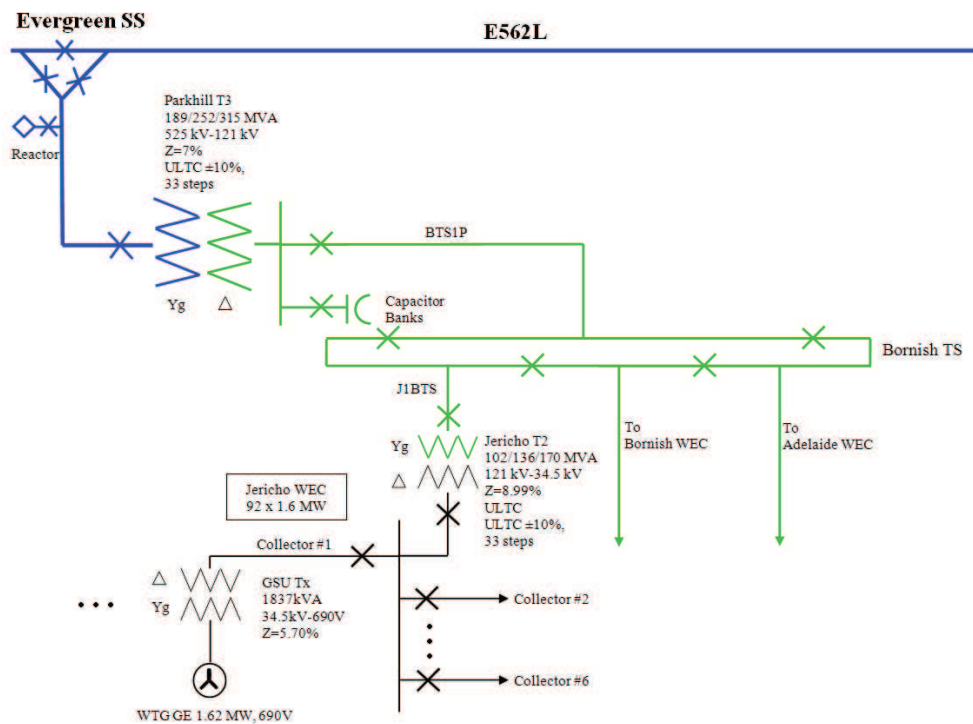


Figure 1: Jericho Wind Energy Centre Single Line Diagram

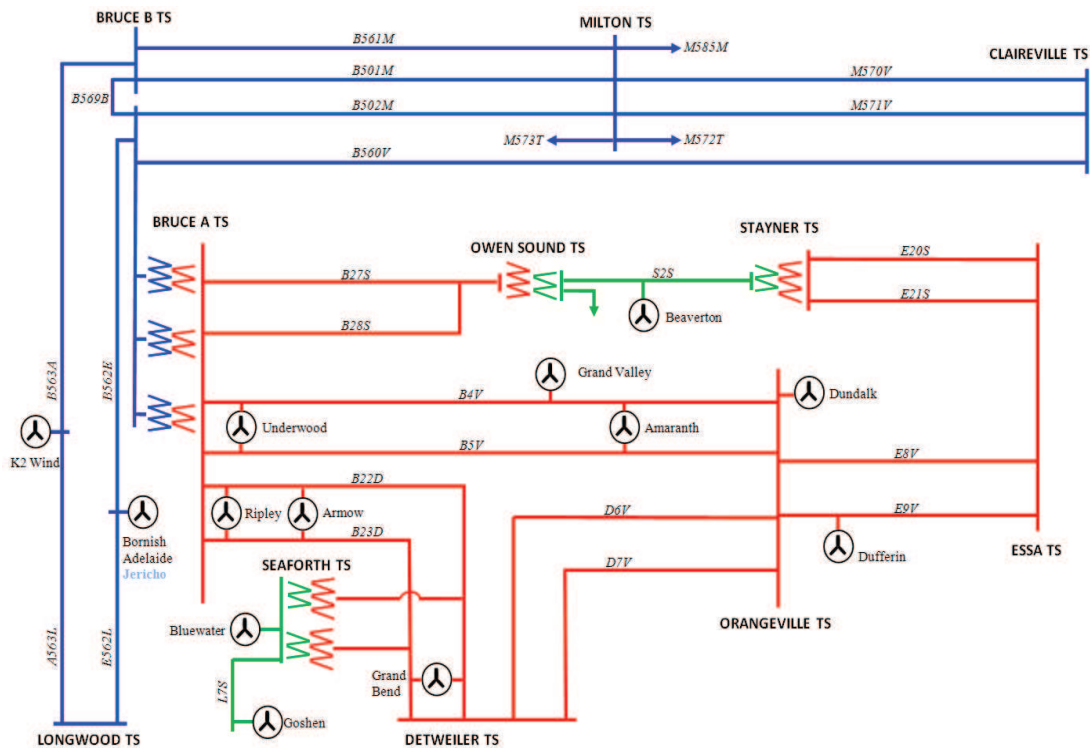


Figure 2: Location of Jericho Wind Energy Centre

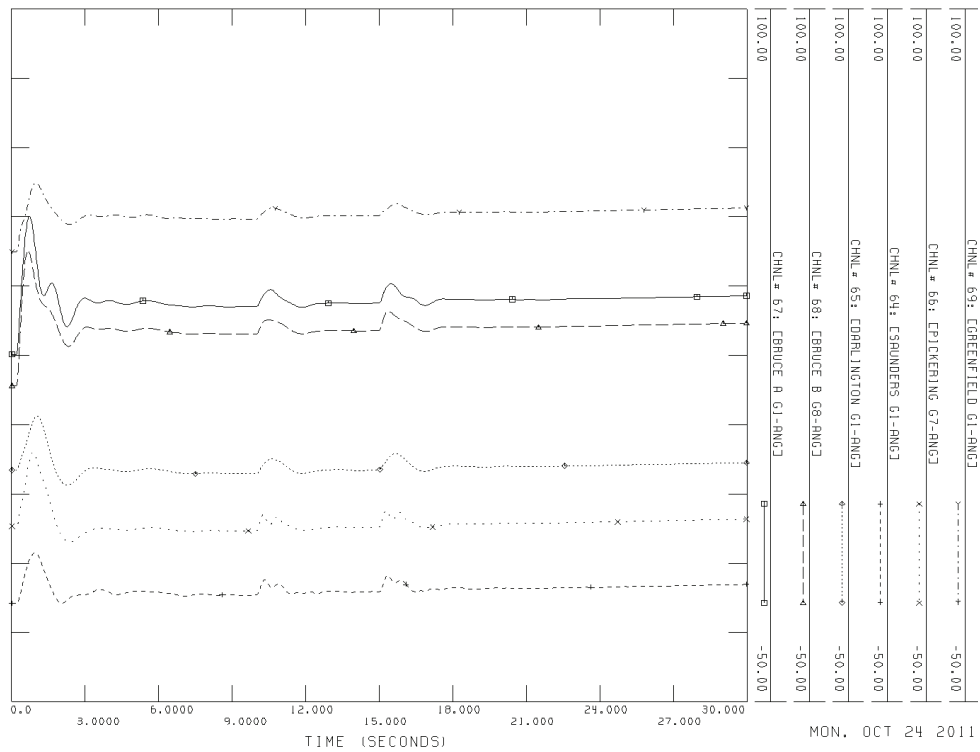


Figure 3: Major generator angle response due to a LLG fault on circuits B560V and B561M at Willow Creek Junction – with reclosure

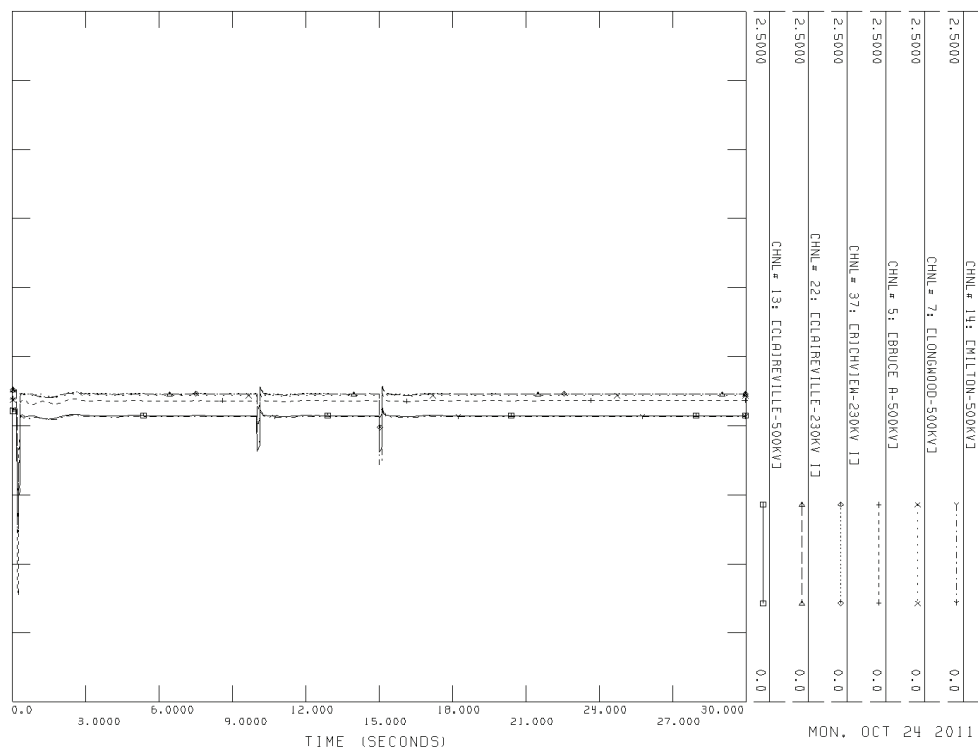


Figure 4: Voltage response due to a LLG fault on circuits B560V and B561M at Willow Creek Junction – with reclosure

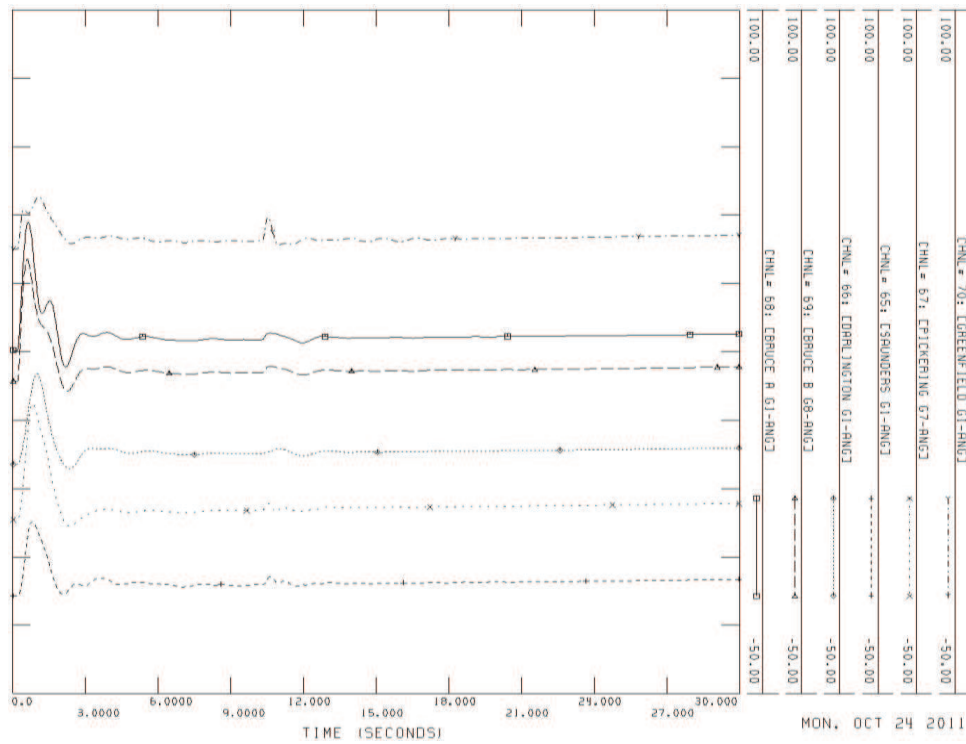


Figure 5: Major generator angle response due to a LLG fault on circuits B562E and B563A at Bruce Junction – with reclosure

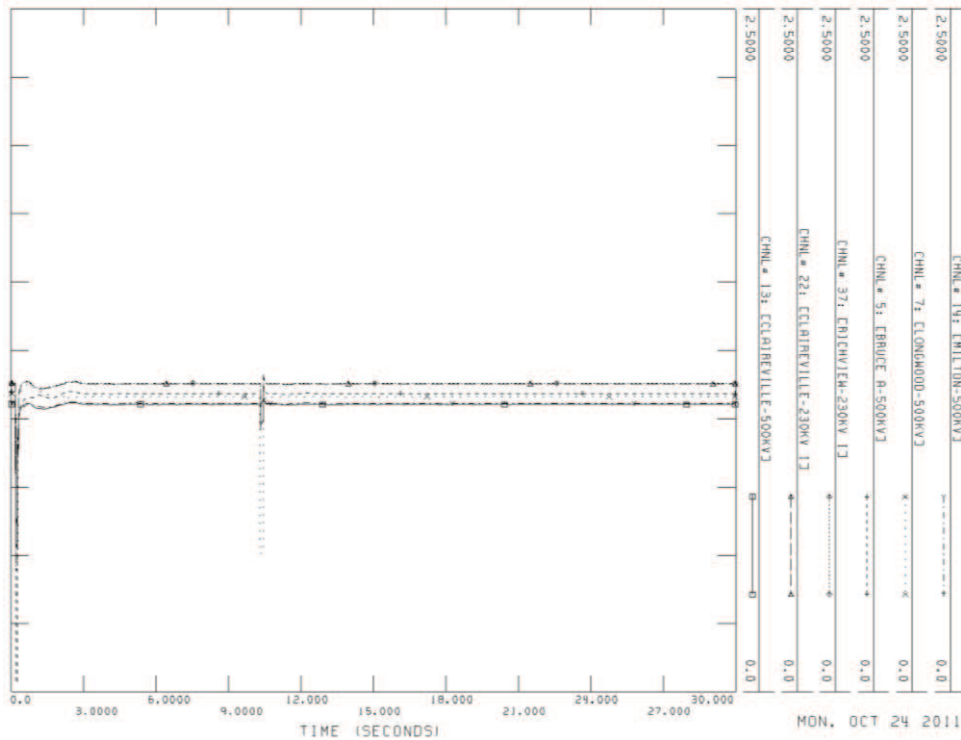


Figure 6: Voltage response due to a LLG fault on circuits B562E and B563A at Bruce Junction – with reclosure

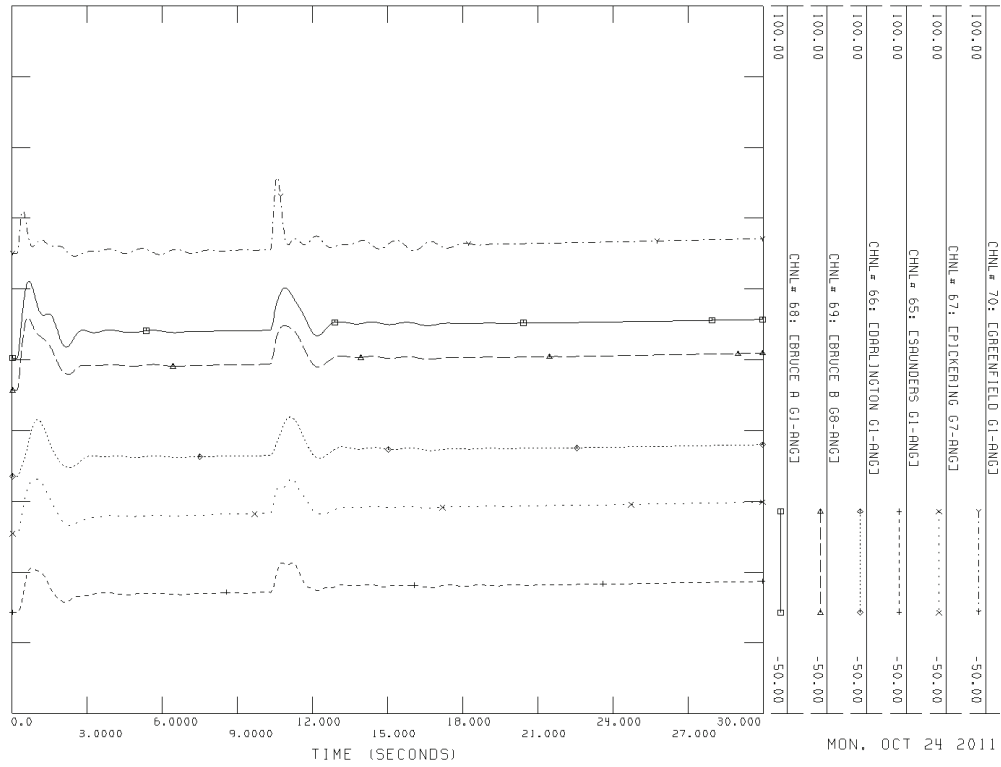


Figure 7: Major generator angle response due to a LLG fault on circuits E562L and A563L at Longwood – with reclosure

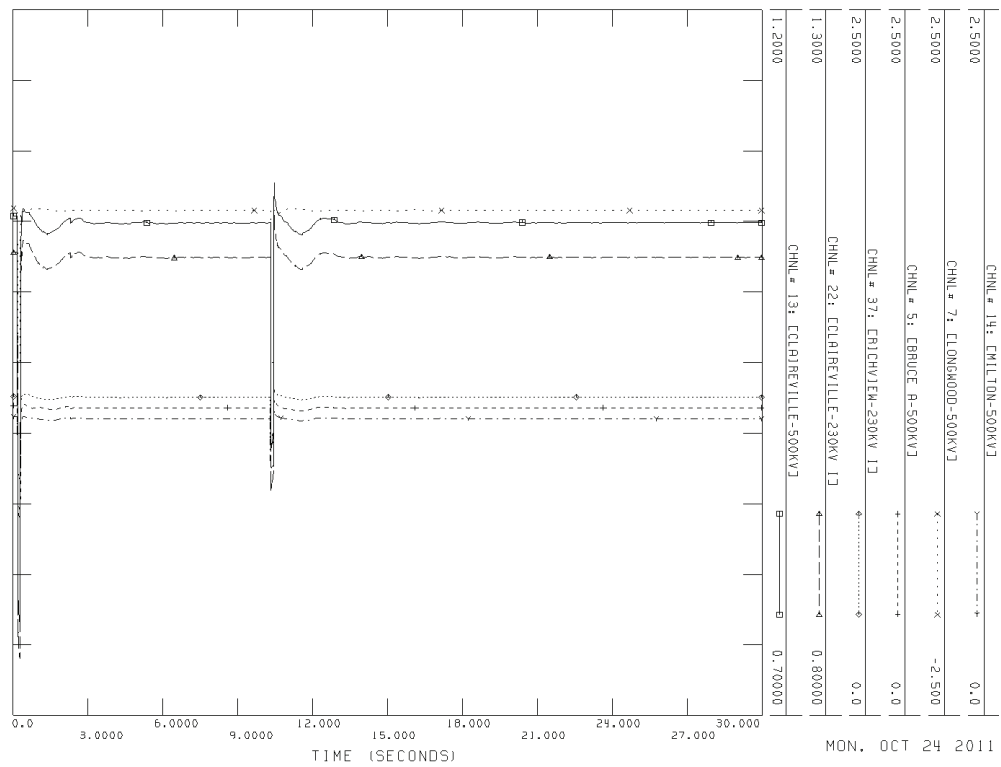


Figure 8: Voltage response due to a LLG fault on circuits E562L and A563L at Longwood – with reclosure

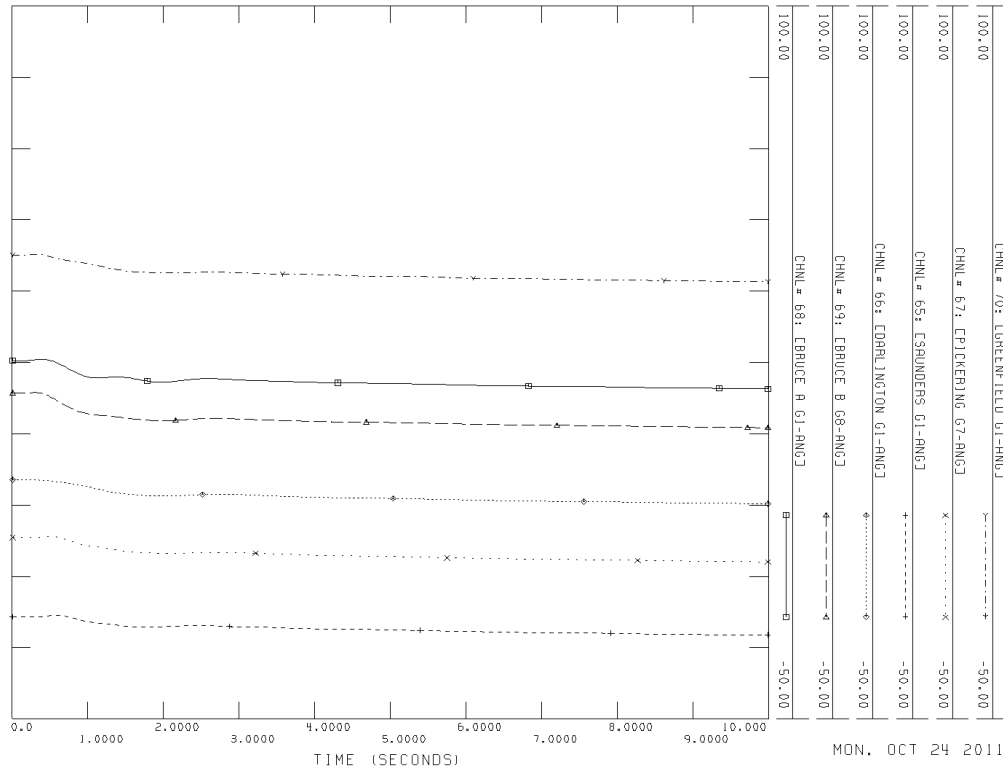


Figure 9: Major generator angle response due to an un-cleared 3 phase fault at the Parkhill 121 kV bus

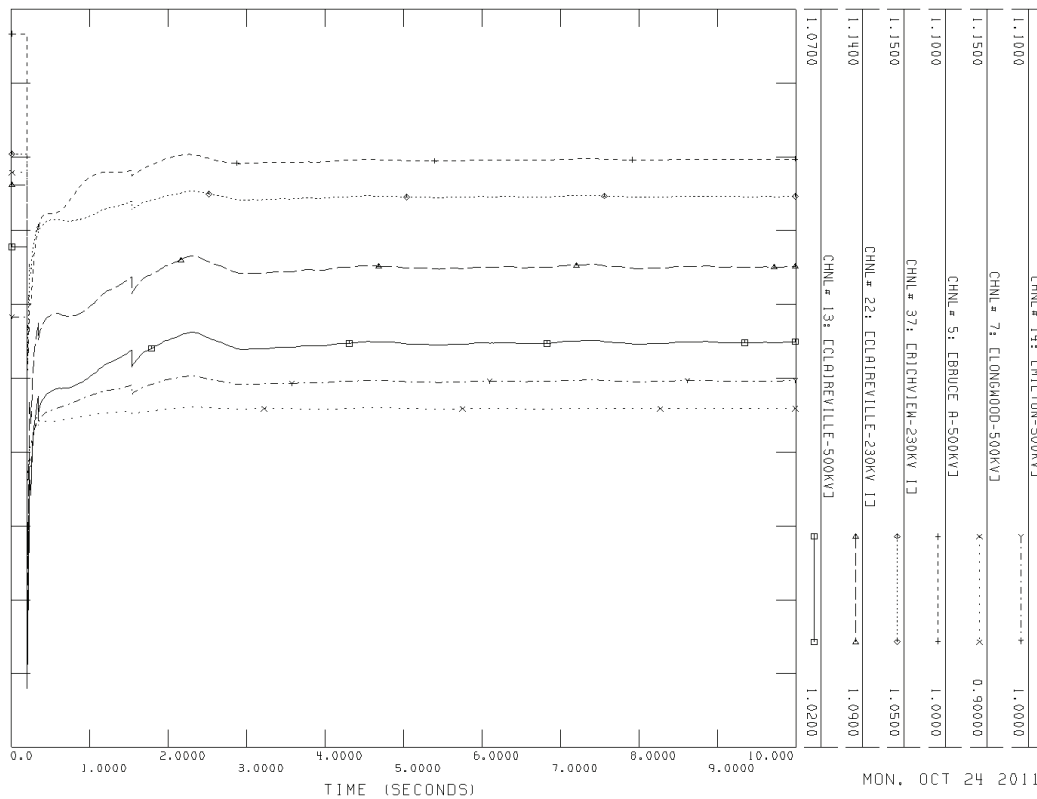


Figure 10: Voltage response due to an un-cleared 3 phase fault at the Parkhill 121 kV bus

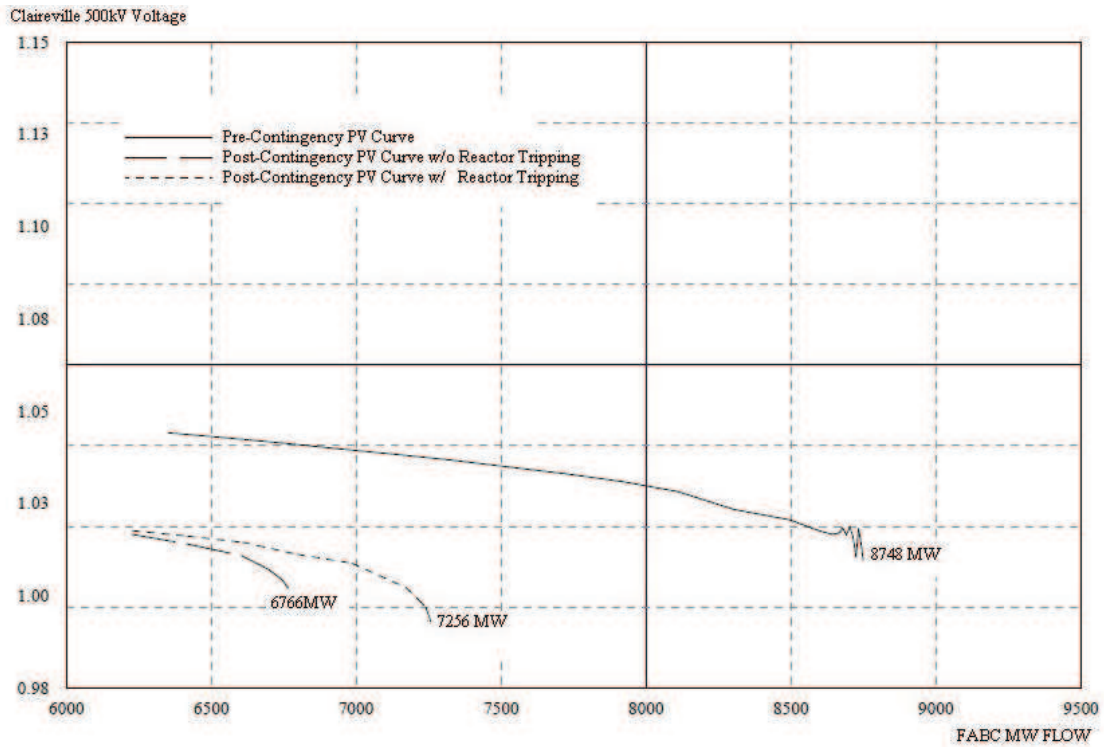


Figure 11: Voltage performance at Claireville 500kV vs. FABC transfer under defined scenarios

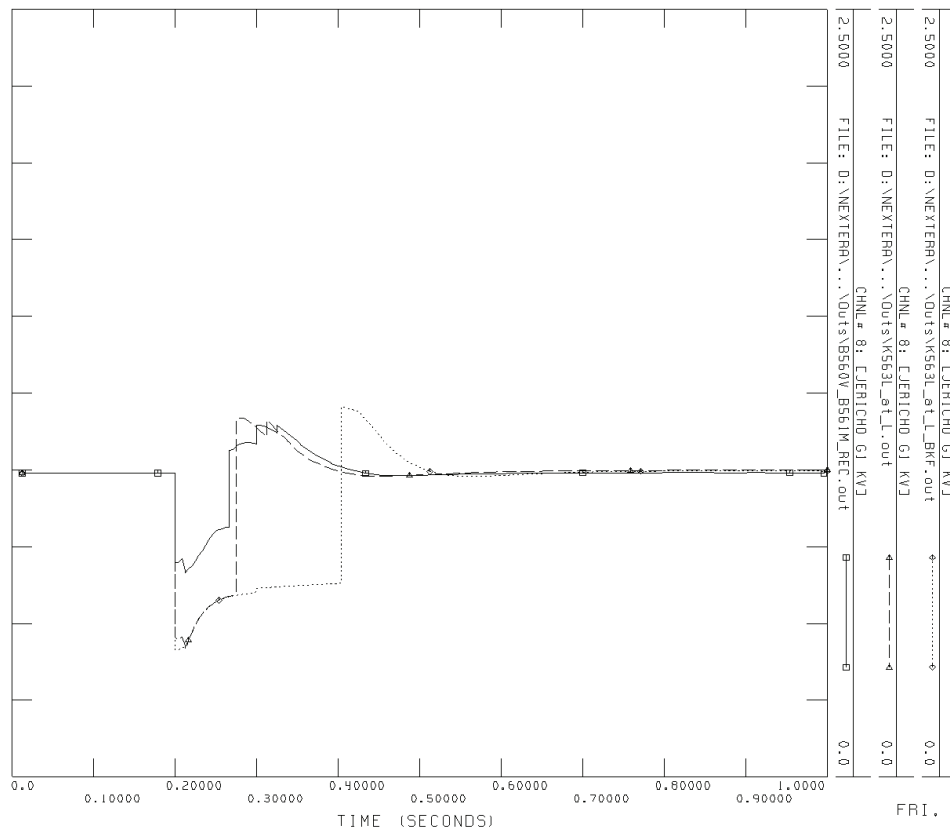


Figure 12: Jericho 1.6 MW WTG terminal voltages for studied contingencies

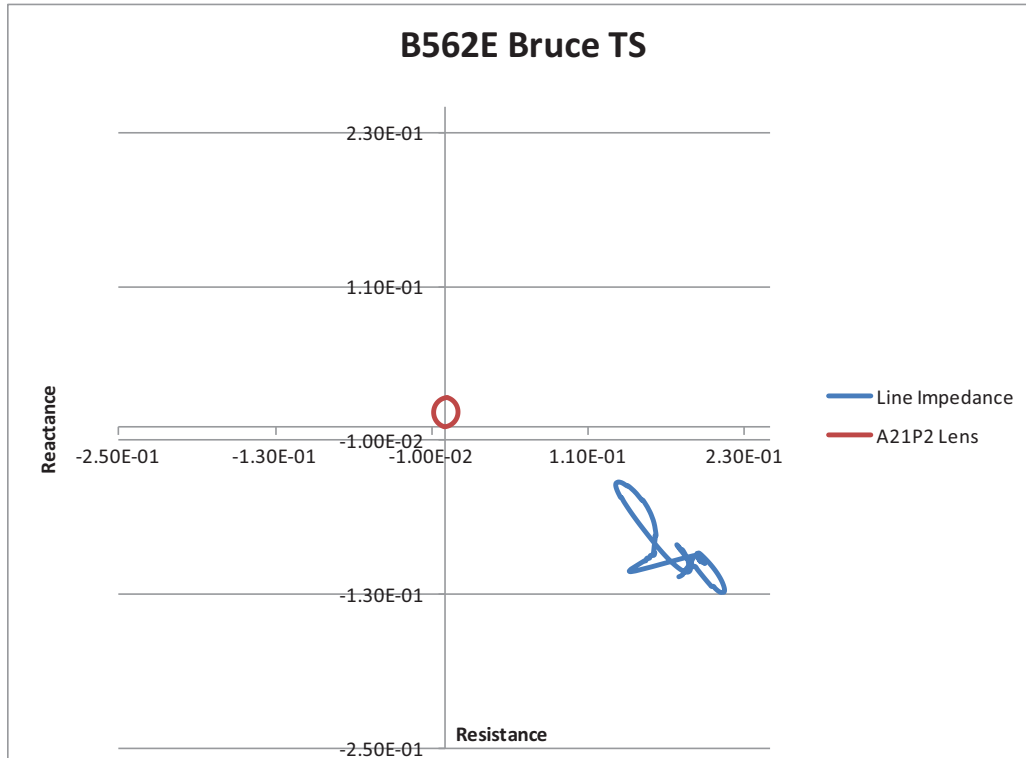


Figure 13: B562E at Bruce TS trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction

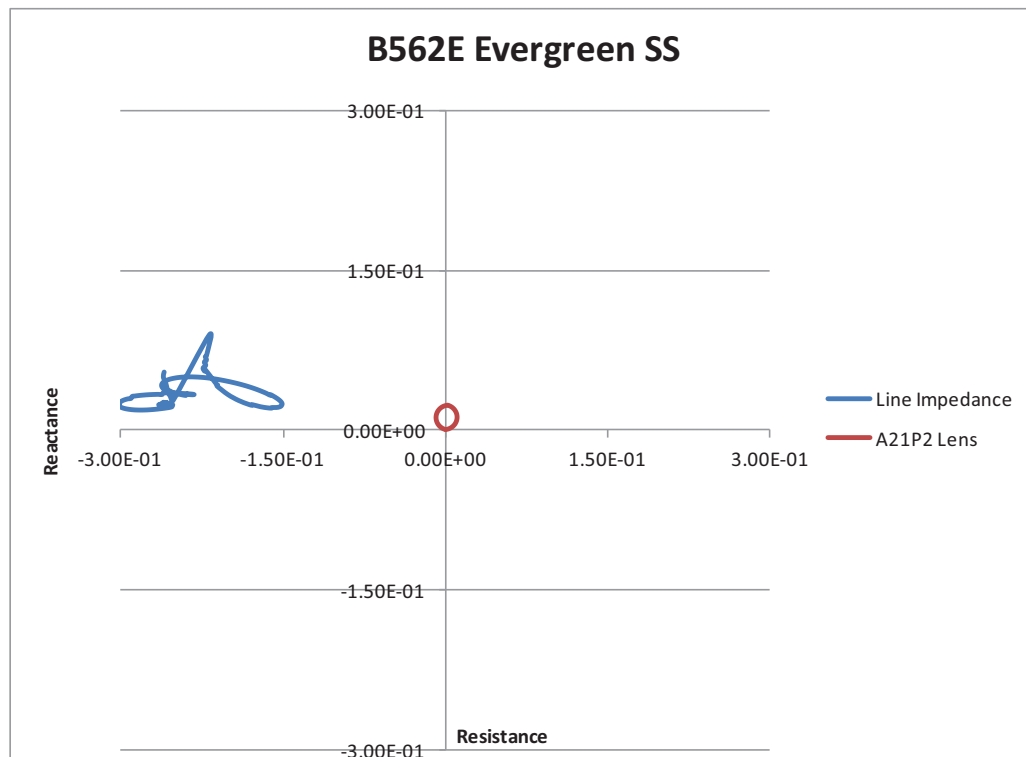


Figure 14: B562E at Evergreen SS trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction

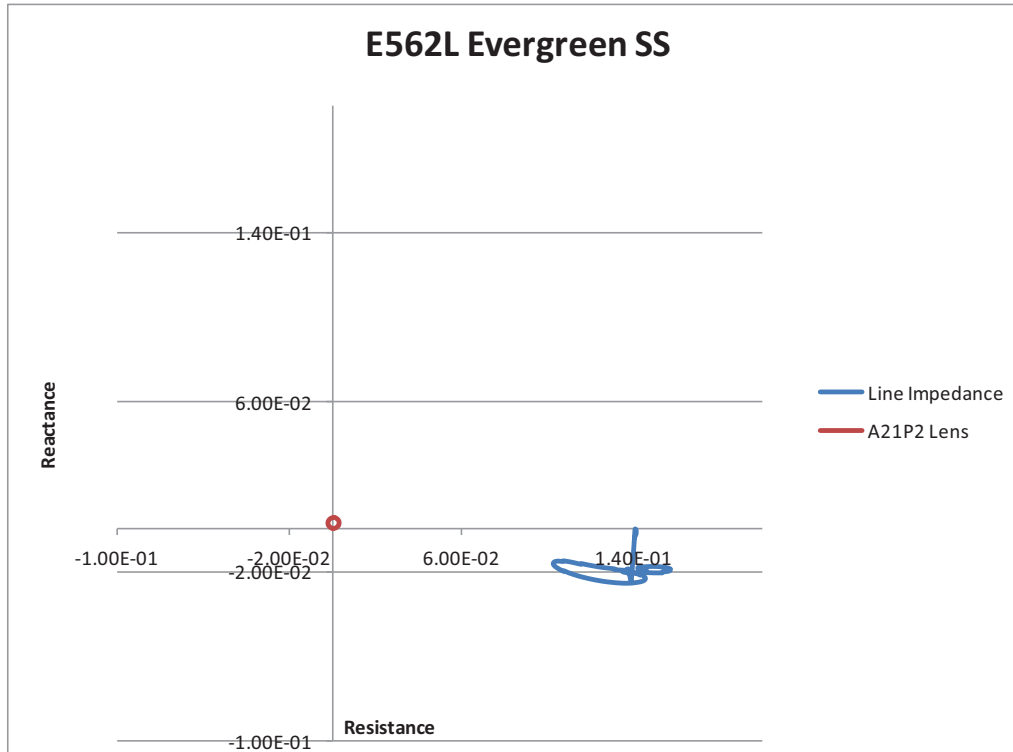


Figure 15: E562L at Evergreen SS trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction

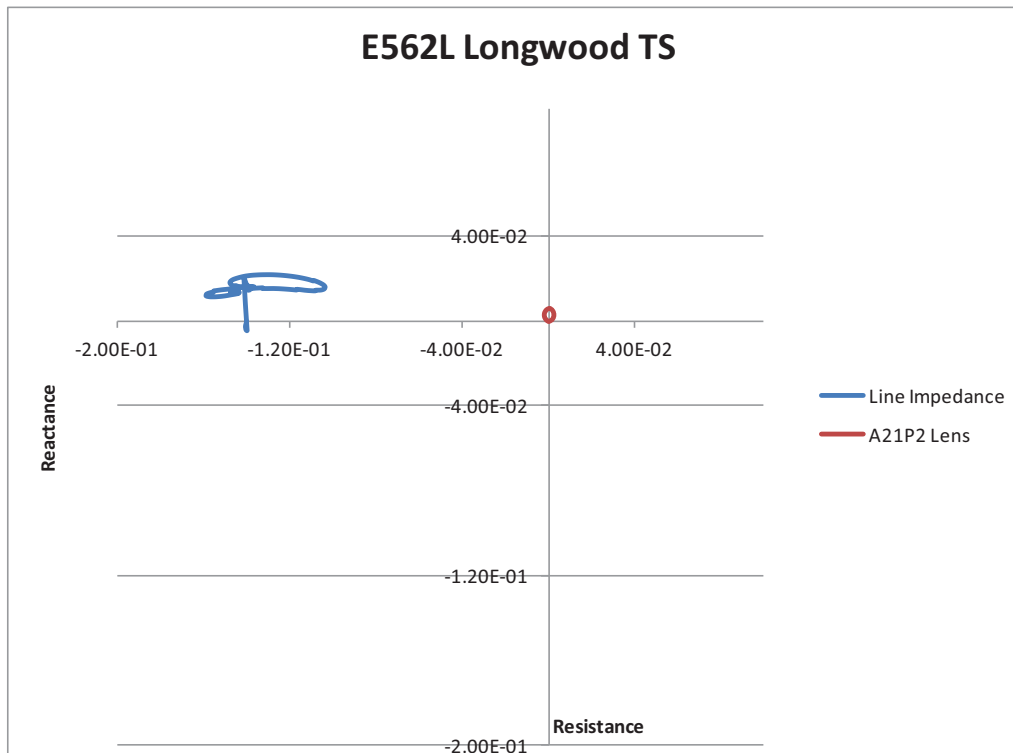


Figure 16: E562L at Longwood TS trajectory due to a LLG fault on circuits B560V and B561M at Willow Creek Junction

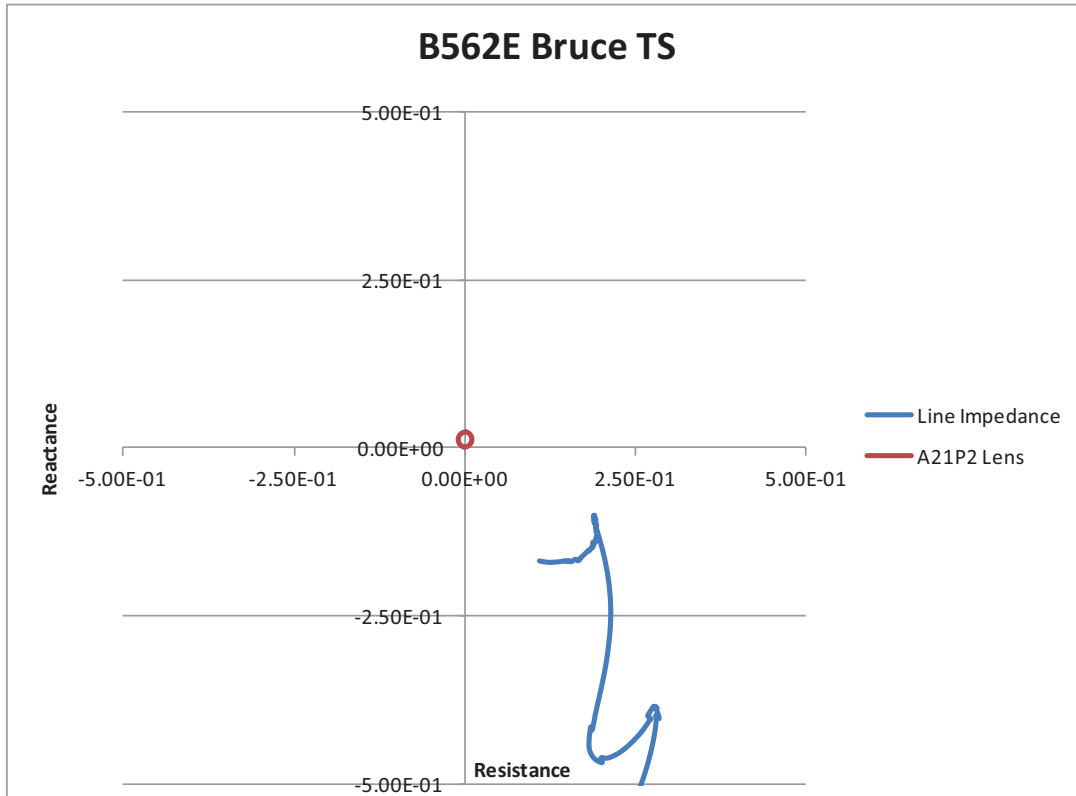


Figure 17: B562E at Bruce TS trajectory due to a 3 phase fault on circuit B563A at Bruce

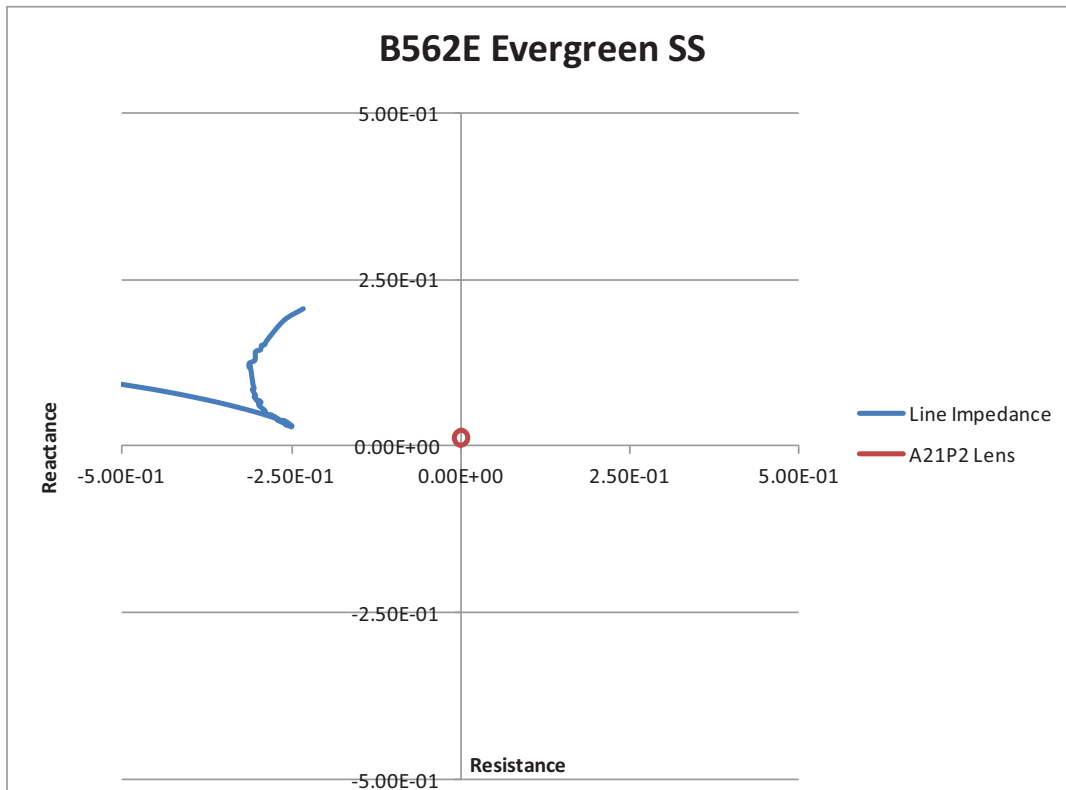


Figure 18: B562E at Evergreen SS trajectory due to a 3 phase fault on circuit B563A at Bruce

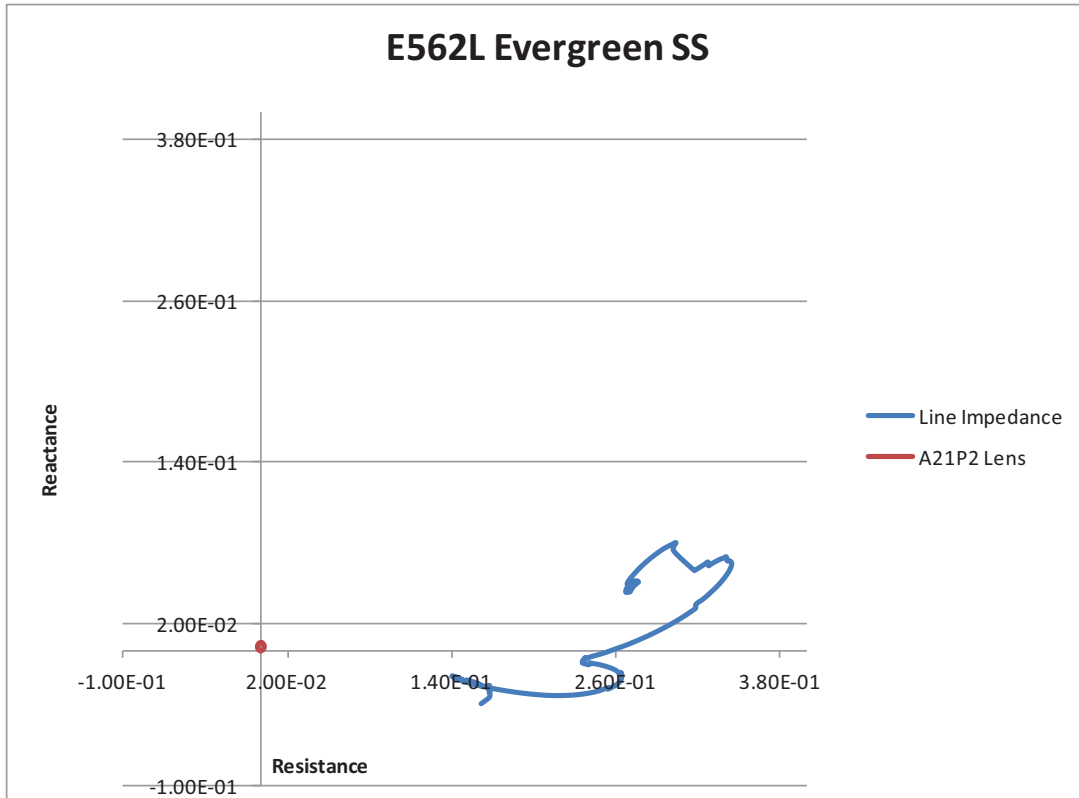


Figure 19: E562L at Evergreen SS trajectory due to a 3 phase fault on circuit B563A at Bruce

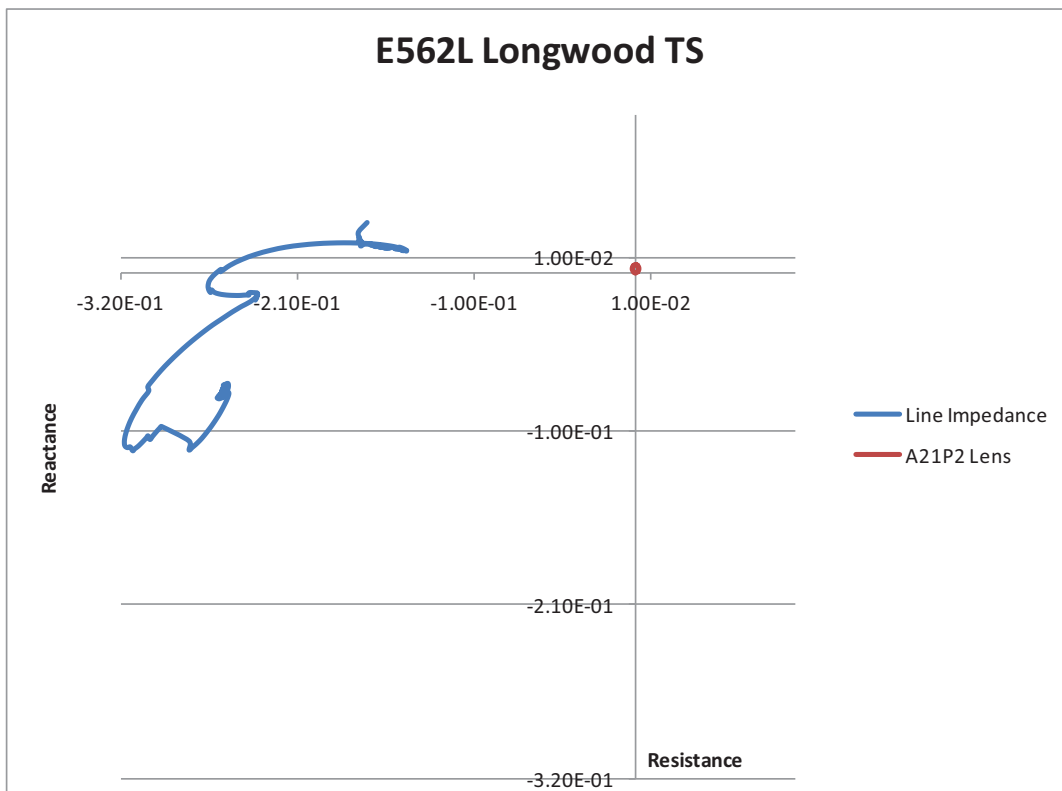


Figure 20: E562L at Longwood TS trajectory due to a 3 phase fault on circuit B563A at Bruce

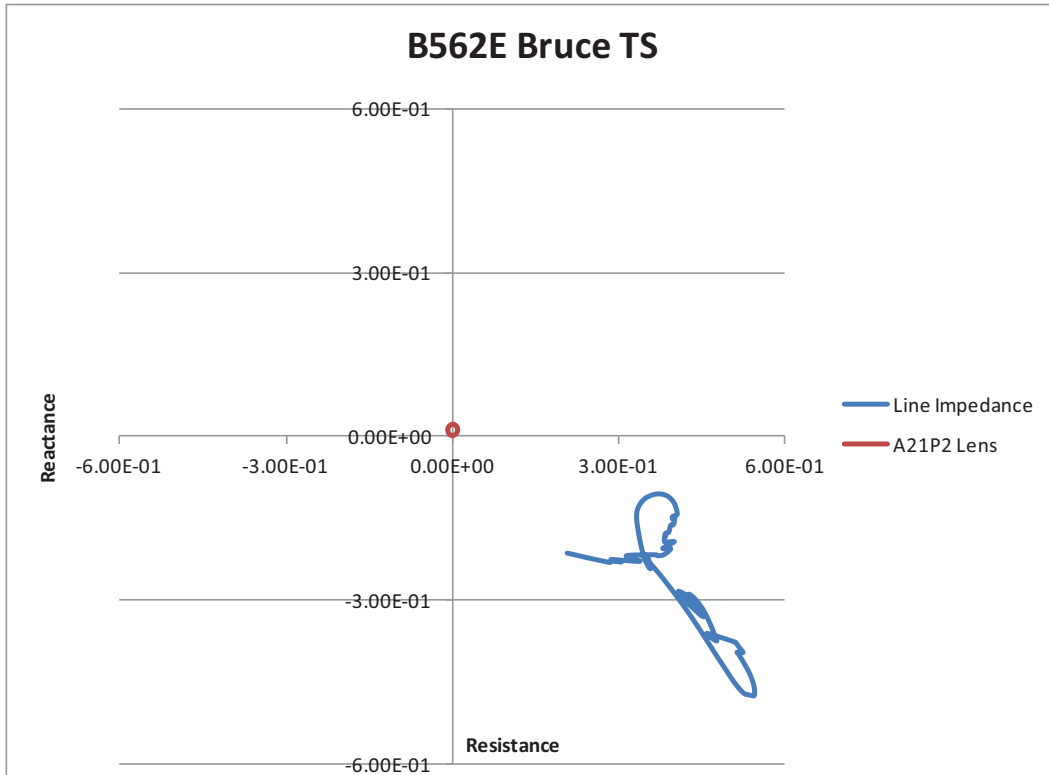


Figure 21: B562E at Bruce TS trajectory due to a 3 phase fault on circuit A563L at Longwood

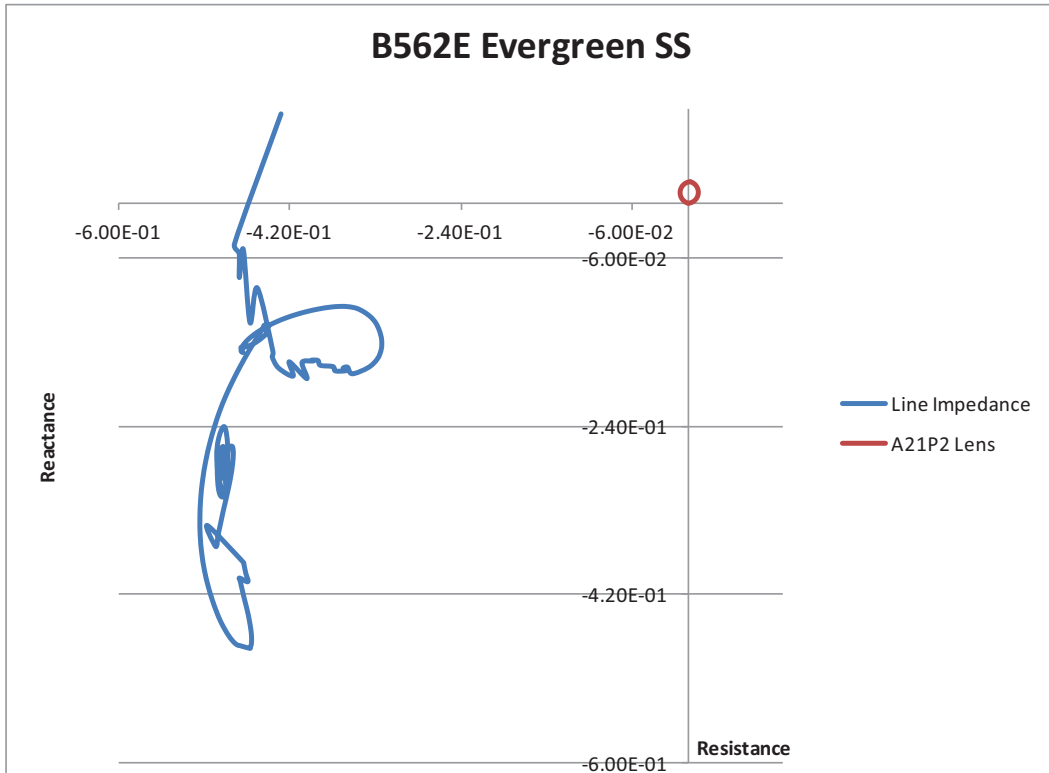


Figure 22: B562E at Evergreen SS trajectory due to a 3 phase fault on circuit A563L at Longwood

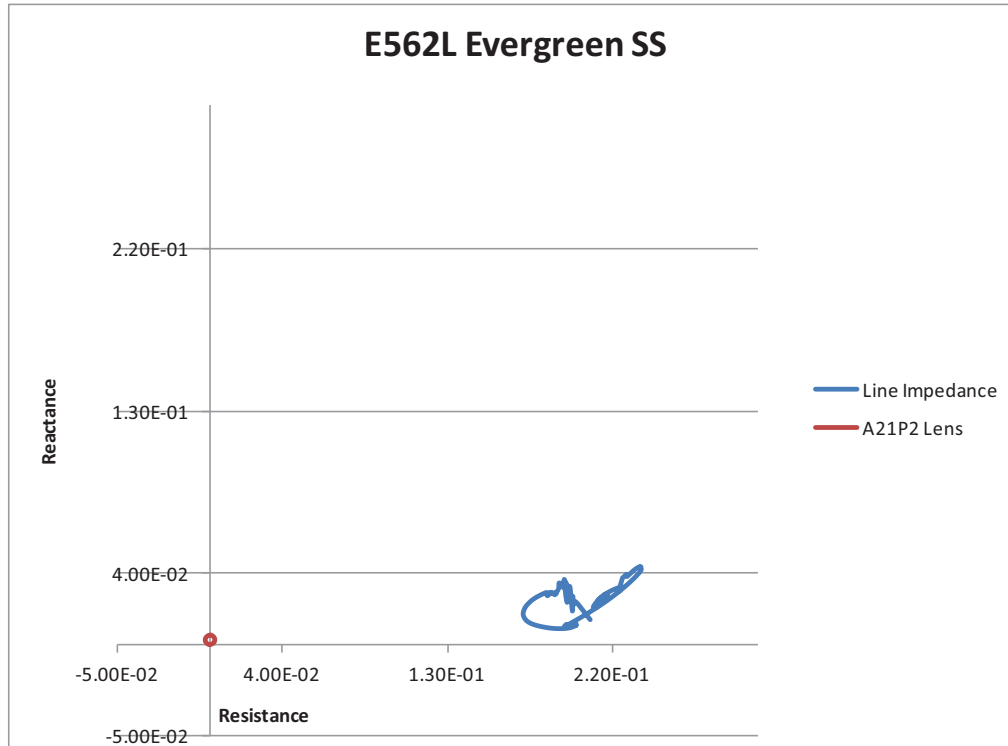


Figure 23: E562L at Evergreen SS trajectory due to a 3 phase fault on circuit A563L at Longwood

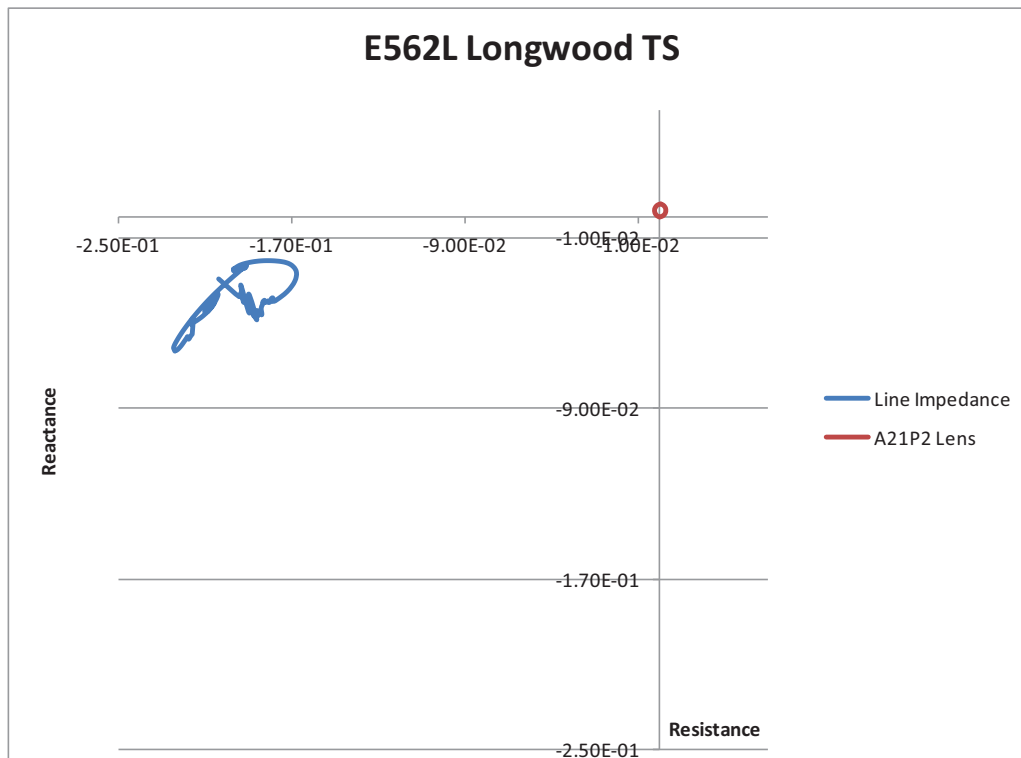


Figure 24: E562L at Longwood TS trajectory due to a 3 phase fault on circuit A563L at Longwood

Appendix B: PIA Report

Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5



PROTECTION IMPACT ASSESSMENT
NEXTERA/SUNCOR WIND FARM PROJECTS
283.5 MW / 100 MW WIND GENERATORS
GENERATION CONNECTION

Date: November 7, 2011
P&C Planning Group Project #: PCT-291-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	September 6, 2011	First draft
R1	October 27, 2011	Change in requirements for multiple setting groups and the name of the switching station to Evergreen SS.
R2	November 7, 2011	New approach for low WF infeed.

EXECUTIVE SUMMARY

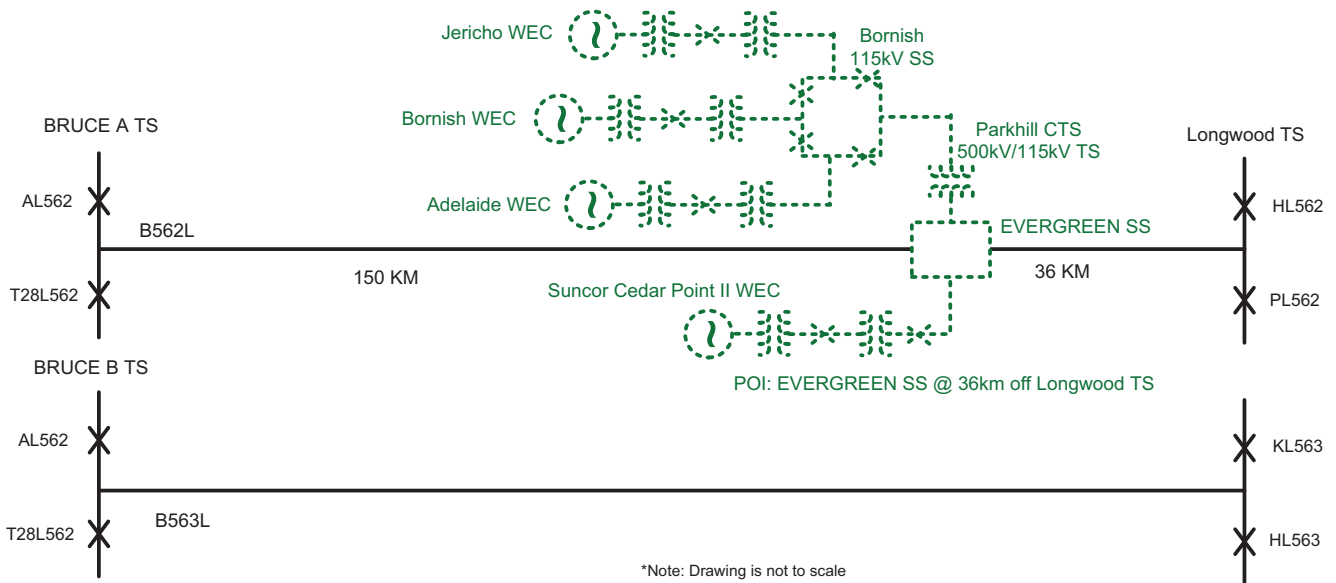


Figure 1: NextEra/SUNCOR WF Connection to HONI Transmission System

It is feasible for both NextEra and Suncor to connect the proposed generation project (NextEra 283.5MW and Suncor 100 MW) at the location shown in Figure 1. Two scenarios were analyzed, which require the following changes:

SCENARIO #1

NextEra 500 kV Projects Connected at Evergreen SS to Circuit B562L with a Three Breaker Ring Bus

LINE SECTIONALIZATION

NextEra proposes to construct a ring bus that sectionalizes line B562L as shown in Figure 1. Line segment between Bruce TS and Evergreen SS will be approximately 150km. Line segment between Evergreen SS and Longwood TS will be approximately 36.5 km. It is recommended to protect both the new 150km and the 36.5 km line segments by using a line distance scheme.

PROTECTION HARDWARE

The present relays at Bruce TS Longwood TS shall be upgraded to standard line distance relays meeting NPCC separation requirements. One of the relays (‘B’ group) at Bruce TS may be retained if feasible. This will trigger upgrading the 4 breaker (2 in each Bruce TS and Longwood TS) failure protections. New standard line protection relays will also have to be installed at Evergreen SS.

PROTECTION SETTINGS

Permissive Overreaching Schemes shall be implemented in both new line segments (previously part of B562L). New settings will be required for both Bruce TS and Longwood TS as the new three-breaker ring bus sectionalizes the line.

For the case where one of the line segments is open and the infeed from the wind farm is low, if a fault occurs close to Evergreen SS it will not be seen by Evergreen SS due to low infeed nor by the terminal station Zone 1

due to the fault location being within only Zone 2 reach, resulting in potentially long fault clearing time (up to 400ms). This scenario will require implementation of a relay logic design for the weak infeed solution which will be elaborated in the planning document in preparation of the detailed design.

New settings will also be required for relays at Evergreen SS. Essentially, the protection over B562L will have to be modified to protect two new line segments.

TELECOMMUNICATIONS

New telecommunication links (redundant with geographic path diversity) need to be established to transmit protection signals among all stations that are required for the reliable fault clearing. The provision of new telecommunication facilities that are required to facilitate this connection (subject to final design considerations) is responsibility of the proponent. New telecommunication facilities will be required at the new Evergreen SS (digital microwave and PLC) and telecommunication links shall be established to both Bruce TS and Longwood TS. The proponent is also responsible for establishing the communication links to IESO and HONI control centers for SCADA.

NEXTERA RESPONSIBILITIES

The customer shall be responsible to reliably disconnect their equipment for a fault on the line in case of a single contingency in their equipment. New relays shall be installed at Evergreen SS as described above. Teleprotection signals such as transfer trip shall be transmitted to both terminal stations from Evergreen SS as well as Breaker Fail shall be initiated upon receiving TT signals from any of the terminal stations. Adequate signal exchange shall be established between Evergreen SS and customer's step-up station Parkhill CTS.

SCENARIO #2

NextEra and Suncor Cedar Point II 500 kV Projects Connected at Evergreen SS to Circuit B562L with a Three Breaker Ring Bus

LINE SECTIONALIZATION

Like in Scenario #1, it is recommended to protect both resulting line segments by using a line distance scheme.

PROTECTION HARDWARE

The same as under Scenario #1.

PROTECTION SETTINGS

The same as under Scenario #1.

TELECOMMUNICATIONS

The same as under Scenario #1.

NEXTERA AND SUNCOR RESPONSIBILITIES

The same as under Scenario #1.

APPENDIX 'C'

FINAL SYSTEM IMPACT ASSESSMENT REPORT - ADDENDUM



System Impact Assessment Report

CONNECTION ASSESSMENT & APPROVAL PROCESS

Addendum Report

CAA ID: 2011-441
Project: Jericho Wind Energy Centre
Applicant: Jericho Wind Inc

Market Facilitation Department
Independent Electricity System Operator

Date: June 6, 2012

REPORT

Document ID	IESO_REP_0773
Document Name	System Impact Assessment Report
Issue	Addendum Report
Reason for Issue	Revised connection configuration
Effective Date	June 6, 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 project 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 project 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.

1. Notification of Conditional Approval

Bornish, Adelaide and Jericho Wind Energy Centres are three wind generating projects proposing to connect to 500 kV circuit B562L, via a 121 kV network and 525/121 kV step up transformer, both proponent owned. Initial System Impact Assessments (SIA) CAA ID 2011-441, CAA ID 201-443 and CAA ID 2011-446 were issued on December 21st, 2011, where the connection of the three projects to the IESO controlled grid was examined and given a Notice of Conditional Approval..

Suncor Energy Products Inc. is proposing to construct a 100 MW wind energy project named Cedar Point II Wind Power Project, which would connect to circuit B562L via the same 121 kV network as the three aforementioned projects. As agreed upon with the connection applicants for all four projects, new SIA studies were performed for the four projects as a cluster with requirements being developed for the combination of the Cedar Point II, Bornish, Adelaide and Jericho wind projects (the “projects”).

Hydro One and the connection applicants are proposing an alternative solution to manage the high voltage concern identified in the original SIA at the 500 kV connection stations. Rather than installing a reactor, equipment at Parkhill CTS (generation side) and Evergreen SS (transmission side) will be upgraded to ensure that a maximum continuous voltage of at least 570 kV can be sustained.

This Addendum addresses changes to requirements previously developed for Bornish, Adelaide and Jericho Wind Energy Centres before the incorporation of the Cedar Point II Wind Power Project, as well as changes proposed by the transmitter and the proponents to mitigate potential over-voltages at the connection station Evergreen SS.

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 Jericho Wind Energy Centre subject to implementation of the requirements outlined in this report and the original SIA report.

2. IESO Requirements for Connection

Transmitter Requirements

The following requirements are applicable to the transmitter for the incorporation of the projects:

- (1) Equipment at Evergreen SS must be able sustain a continuous voltage up to 561 kV. Fault interrupting devices at Evergreen SS must be able to interrupt fault currents at voltages as high as 561 kV. Alternate solutions to manage the high voltage concern may be acceptable upon the approval of the IESO.

This requirement supersedes transmitter requirement (3) in the Executive Summary of the original SIA report.

- (2) The circuit breakers at Evergreen will have a short circuit symmetrical rating of at least 50 kA at its maximum continuous operating voltage. This rating is sufficient in meeting the short circuit levels at Evergreen SS as presented in the original SIA. If any future system changes results in an increased fault level higher than the capability of the fault interrupting devices, these fault interrupting devices must be replaced with higher rated equipment capable of sustaining the increased fault level up to the maximum fault level specified in Appendix 2 of the Transmission System Code.

- (3) The transmitter shall modify the existing Bruce Special Protection Scheme (BSPS) to incorporate the new project and the new switching station. The BSPS shall be expanded to recognize the disconnection of the circuits in the Bruce x Longwood corridor. A description of the modifications to the BSPS has to be provided to the IESO in a timely manner to allow for the required approvals of the BSPS to be obtained. A Facility Description Document (FDD) describing the functionality of the expanded BSPS has to be provided to the IESO during the market entry /facility registration process.

Applicant Requirements

Specific requirements:

- (1) The projects are required to have the capability to inject or withdraw reactive power continuously (i.e. dynamically) at the 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 capacitive compensation device of at least 120 Mvar@121 kV installed at the 121 kV Parkhill CTS bus would satisfy the reactive power requirement. The required capacitive compensation would need to be arranged into at least 4 approximately equal steps to allow for flexibility in adjustment of reactive power production.

The voltage profile along the projects' network greatly impacts their ability to provide full reactive support from the WTGs. The IESO recommends that projects' 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' requirements 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 shall ensure that the equipments within the project have the capability to operate when the voltage at Evergreen SS is as high as 561 kV.

This requirement supersedes the applicant's specific requirement (2) in the Executive Summary of the original SIA report.

General Requirements:

- (1) The connection applicant shall ensure that the 500 kV equipment is capable of continuously operating between 490 kV and 561 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.

This requirement supersedes general requirement (4) in the Executive Summary of the original SIA report.

- (2) The connection applicant shall ensure that all equipment within their facility is capable to sustain the fault levels in the area. If any future system changes results in an increased fault level higher than the equipment's capability, the connection applicant is required to replace the equipment 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 voltages as high as 561 kV.

The requirement supersedes general requirement (7) in the Executive Summary of the original SIA report.

3. Assessment

The initial System Impact Assessments examined the connection of the Bornish, Adelaide and Jericho Wind Energy Centres to 500 kV circuit B562L, via a 121 kV network and 525/121 kV step up transformer, both proponent owned.

Suncor Energy Products Inc. is proposing to construct a 100 MW wind energy project named Cedar Point II Wind Power Project, which would connect to circuit B562L via the same 121 kV network as the three aforementioned projects. As agreed upon with the connection applicants for all four projects, the System Impact Assessment studies were performed as a cluster with requirements being developed for the combination of the Cedar Point II, Bornish, Adelaide and Jericho wind projects.

This Addendum addresses changes to requirements previously developed for Bornish, Adelaide and Jericho Wind Energy Centres before the incorporation of the Cedar Point II Wind Power Project, as well as changes proposed by the transmitter and the proponents to mitigate potential over-voltages at the connection station Evergreen SS.

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 static shunts (e.g. capacitors and reactors).

The SIA proposed a solution for the project to meet the Market Rules requirements on reactive power capability. However, the applicant can deploy any other solutions which result in its compliance with the Market Rules. The applicant shall be able to confirm this capability during the commission tests.

Dynamic Reactive Power Capability

The Siemens SWT 2.3 MW and GE 1.6 MW WTGs can deliver the IESO required dynamic reactive power at rated power and at rated terminal voltage. Thus, there is no need to install additional dynamic reactive power device.

Static Reactive Power Capability

In addition to the dynamic reactive power requirement identified above, the projects have to compensate for the reactive power losses within the projects' network 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 projects.

The reactive power capability in lagging power factor of the projects was assessed under the following assumptions:

- typical voltage of 545 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 WTG voltage of 1.05 pu;
- 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 within the Nextera system do not exceed 1.05 pu. No voltage limitations for the Cedar Point facility have been specified.

The reactive power capability in leading power factor of the projects was assessed under the following assumptions:

- typical voltage of 545 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 within the Nextera system do not fall below 0.95 pu. No voltage limitations for the Cedar Point facility have been specified.

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 project 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 project in an equal amount.

Based on the equivalent parameters for the wind farm provided for the projects, a static capacitive reactive power compensation rated 120 Mvar at 121 kV is required to be installed at the Parkhill 121 kV 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 1.

Table 1: Reactive Power Capability at the PCC

Operation	Intermediate Bus Voltage (kV)	Collector Bus Voltage (kV)	Max/Min Generator Terminal Voltage (pu)	PCC Reactive Power (Mvar)	PCC Voltage (kV)
Lagging PF	125.8	34.4	1.043	+134.0	545 kV
Leading PF	121	34.5	0.90	-203.3	545 kV

The required capacitive compensation will need to be arranged into at least 4 approximately equal 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 IESO Controlled Grid. 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 30 Mvar. To reflect a reasonably restrictive system condition, the voltage change study was studied under light load conditions and assumed one Bruce to Longwood circuit out of service.

Table 2: Voltage Changes Due to Static Reactive Compensation Switching

Capacitor at 121 kV bus	Parkhill 121 kV voltage	Evergreen SS voltage
Pre-switching	120.2 kV	542.0 kV
Post-switching	122.2 kV	544.1 kV
ΔV	1.7%	0.4%

Table 2 shows that switching a single capacitor of 30 Mvar results in less than 4 % voltage change at the connection point, therefore meeting the Market Rules' requirement.

3.2 Over-voltage Management at Evergreen SS

Due to the long length of Bruce-by Evergreen 500 kV circuit, voltages at Evergreen SS may exceed maximum continuous levels of 550 kV specified by Appendix 4.1 of the Market Rules under certain operating scenarios.

The voltage analysis was carried out under the following assumptions:

- Voltage of 550 kV at Bruce A TS
- Evergreen-by-Longwood circuit out of service
- Cedar Point II, Jericho, Bornish and Adelaide WTGs off line with their proposed collector systems disconnected
- Parkhill CTS and Bornish TS remaining connected to Evergreen SS

Table 3: Voltage Analysis Results at Evergreen SS

Bus	Voltage with Evergreen-by-Longwood circuit out of service
Evergreen SS 500kV	561 kV

Table 3 shows the simulation results which indicate that the voltage at Evergreen SS could be as high as 561 kV.

In the previous System Impact Assessment, the SIA required that a 500 kV reactor be installed and switched automatically to ensure that voltages do not exceed 550 kV at Evergreen SS. Hydro One and the connection applicants are proposing an alternative solution to manage the high voltage concern at Evergreen SS. Rather than installing a reactor, equipment at Evergreen SS will be upgraded to ensure that a maximum continuous operating voltage of at least 570 kV can be sustained. This solution is acceptable to the IESO.

Thus, 500kV equipment at Evergreen SS and the project must be able to sustain a maximum continuous voltage of 561 kV as per the study results. The connection applicant shall also ensure that the equipment within the projects have the capability to operate when the voltage at Evergreen SS is as high as 561 kV. Fault interrupting device at Evergreen SS and the project must be able to interrupt fault currents at voltages as high as 561 kV.

Alternate solutions to manage high voltage concern may also be acceptable upon the approval of the IESO.

Equipment Data

The following are the technical specifications of the equipment at Evergreen SS provided by Hydro One:

- Circuit breakers at Evergreen SS will be of the 765 kV voltage class;
- Circuit breakers at Evergreen will have a short circuit symmetrical rating of at least 50 kA at its maximum continuous operating voltage. This rating is sufficient in meeting the short circuit levels at Evergreen SS as presented in the original SIA. Note the typical limited maximum 3 phase and single line to ground symmetrical fault levels allowed by the Transmission System Code on the 500 kV system is 63 kA ;
- Circuit breakers at Evergreen will have an interrupting time less than or equal to 2 cycles;
- All other equipment at Evergreen will have a maximum continuous operating voltage of at least 570 kV.

The connection applicants have also indicated that 500 kV equipment within projects' network will also have a maximum continuous operating voltage of at least 570 kV.

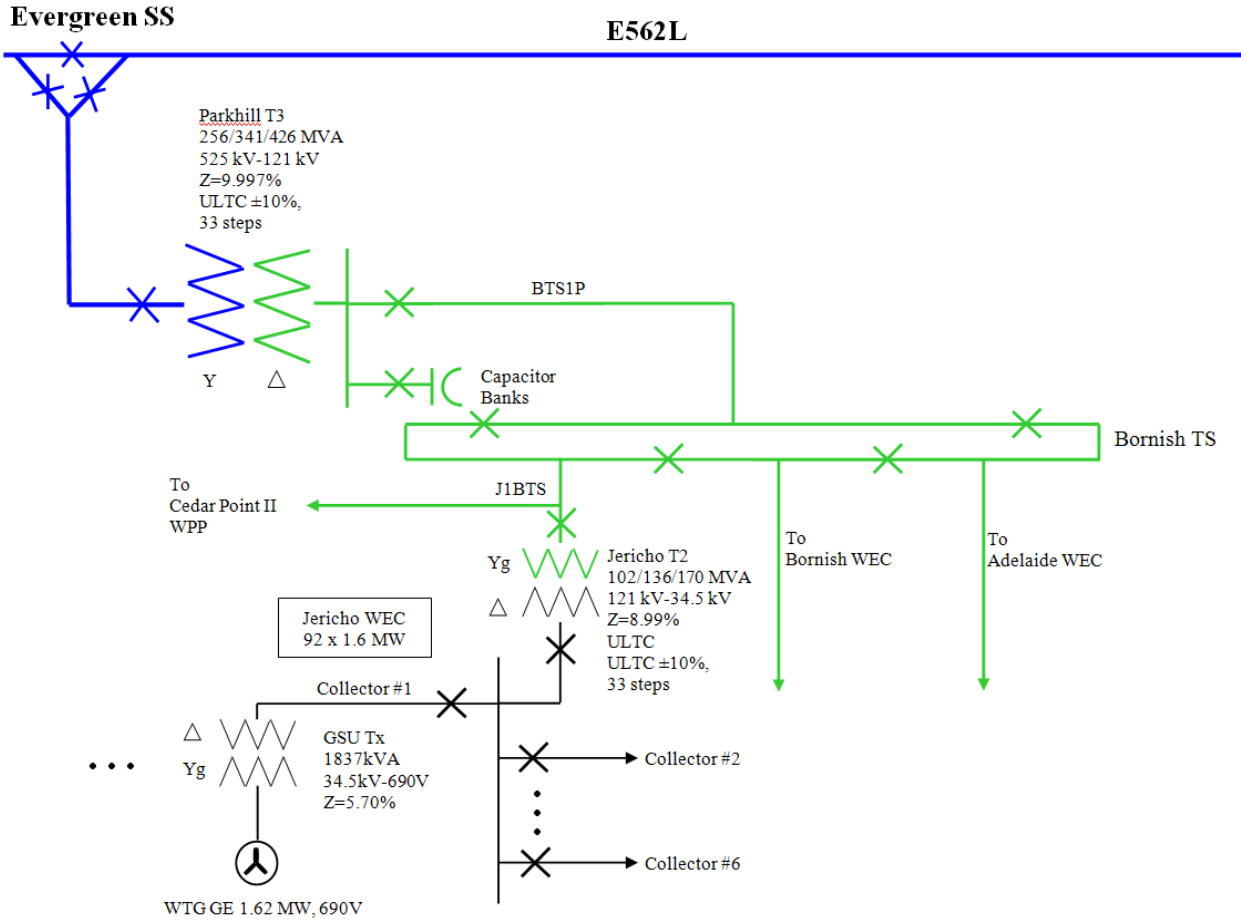
The simulation results indicate that the voltage at Evergreen SS could be as high as 561 kV, thus the IESO accepts the proposed solution to manage the high voltage concern at Evergreen SS. As the reactor is removed, the Evergreen SS arrangement will be modified from a four breaker switching station to a three breaker ring bus switching station, which is acceptable to the IESO.

Therefore, it is concluded that the proposed changes are expected to have no material adverse impact on the reliability of the integrated power system.

The connection applicant shall ensure that the equipment within the facility have the capability to operate under the condition when the connection point of the project is as high as 561 kV.

3.3 Revised Facility Single Line Diagram

Based on the incorporation of the Cedar Point II Wind Power Project into the 121 kV network behind Parkhill CTS and the configuration change at Evergreen SS, below is a revised single line diagram for the Jericho WEC.



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APPENDIX 'D'

FINAL SYSTEM IMPACT ASSESSMENT REPORT - ADDENDUM #2

REPORT



System Impact Assessment Report

CONNECTION ASSESSMENT & APPROVAL PROCESS

2nd Addendum Report

CAA ID: 2011-441
Project: Jericho Wind Energy Centre
Applicant: Jericho Wind Inc

Market Facilitation Department
Independent Electricity System Operator

Date: December 12, 2012

Document Name	System Impact Assessment Report
Issue	2nd Addendum Report
Reason for Issue	Revised connection transformer
Effective Date	December 12, 2012

Proposed Changes and Notification of Conditional Approval

Transformer Change

The Bornish, Adelaide and Jericho Wind Energy Centres, as well as the Cedar Point II Wind Power Project, are wind generating projects proposing to connect to 500 kV circuit B562L via a proponent owned 121 kV network and 525 kV/121 kV autotransformer. System Impact Assessments (SIA) for the Bornish, Adelaide and Jericho Wind Energy Centres (CAA ID 2011-443, CAA ID 2011-446 and CAA ID 2011-441 respectively) were conducted and the projects were initially given Notices of Conditional Approval on December 21st 2011. The SIA for the Cedar Point II Wind Power project (CAA ID 2011-443) was conducted and the project was given a Notice of Conditional Approval on June 4th 2012. Since the Cedar Point Wind Power Project is being incorporated into the proponent owned network, SIA addendums containing Notices of Conditional Approval for the Bornish, Adelaide and Jericho Wind Energy Centres were issued on June 6th 2012.

The connection applicants (Bornish Wind LP, Kerwood Wind Inc., Jericho Wind Inc. and Suncor Energy Products Inc.) are proposing to connect to the 500 kV system via two separate 525 kV/121 kV/27.6 kV autotransformers, rather than with the single 525 kV/121 kV autotransformer that was part of the first Addendum.

The IESO and Hydro One have examined the proposed change and concluded that it is not materially different from the first Addendum's application data, as the equivalent impedance of the proposed two parallel transformer arrangement is similar to that of the single transformer previously assessed. Hydro One will acknowledge the proposed change separately with a new CIA addendum, indicating that it is acceptable.

Bruce Special Protection Scheme Requirement Change

The initial SIA report for the Jericho Wind Energy Centre (*the project*) included a requirement for the project to participate in the Bruce Special Protection Scheme (BSPS) requiring:

- i. Hydro One to modify the logic of the BSPS to transmit rejection signals to the project,
- ii. the procurement of duplicated and physically separated communication paths between Hydro One's central scheme and the project site, and
- iii. equipment to be installed at the project site to receive the signals and take action to trip or runback your generation.

Subsequent to releasing the SIA report, the IESO conducted detailed studies for the Bruce area and concluded that, at this time, the grid planning criteria can be met without the project participating in the BSPS.

Therefore, the IESO does not require the project to participate in the Bruce SPS at this time. For now, Hydro One does not need to modify the BSPS to transmit signals to the project, and the telecommunication between Hydro One's BSPS and the project for that purpose does not need to be in place.

We however foresee that the incorporation of the project into the BSPS may be required in the future. To allow for future incorporation of the project into the BSPS in a timely manner, the IESO requires that you make at this time the necessary provisions in the design and construction of the project to install equipment that is able to receive SPS signals from the BSPS, can automatically take action to reject or runback the project's generation upon receiving the SPS signals, and is able to send the arming status to the IESO via telemetry or other approved means.

Should the need arise in the future, we will direct you and Hydro One to install all the equipment required for the project to participate in the BSPS, as described in the SIA report. We would expect your project to be available for participation in the BSPS in no more than 9 months from our direction.

Notification of Conditional Approval

Therefore, the IESO recommends that a *Notification of Conditional Approval for Connection* be issued for the Jericho Wind Energy Centre subject to implementation of the requirements outlined in this SIA Addendum and the previous SIA reports.

Transformer Data

Table 1: Previous step-up transformer data

# of Units	Transformation	Rating (MVA) (ONAN/ONAF/ONAF)	Positive Sequence Impedance (pu) SB= 256 MVA	Configuration		Taps
				HV-Side	LV-Side	
1	525kV/121kV	256/341/426 MVA	0.0022+j0.1	Yg	Δ	ULTC@ LV ±10 %, 33 steps

Table 2: New step-up transformers' data

# of Units	Transformation	Rating (MVA) (ONAN/ONAF/ONAF)	Positive Sequence Impedance (pu) SB= 135 MVA	Configuration			Taps
				HV-Side	LV-Side	Tert.	
2	525kV/121kV/ 27.6 kV	135/180/225 MVA	j0.1	Y	Y	Δ	ULTC@ HV ±10 %, 33 steps

Updated Single Line Diagram

Below is an updated single line diagram of the Jericho Wind Energy Centre, reflecting the changes identified in this Addendum.

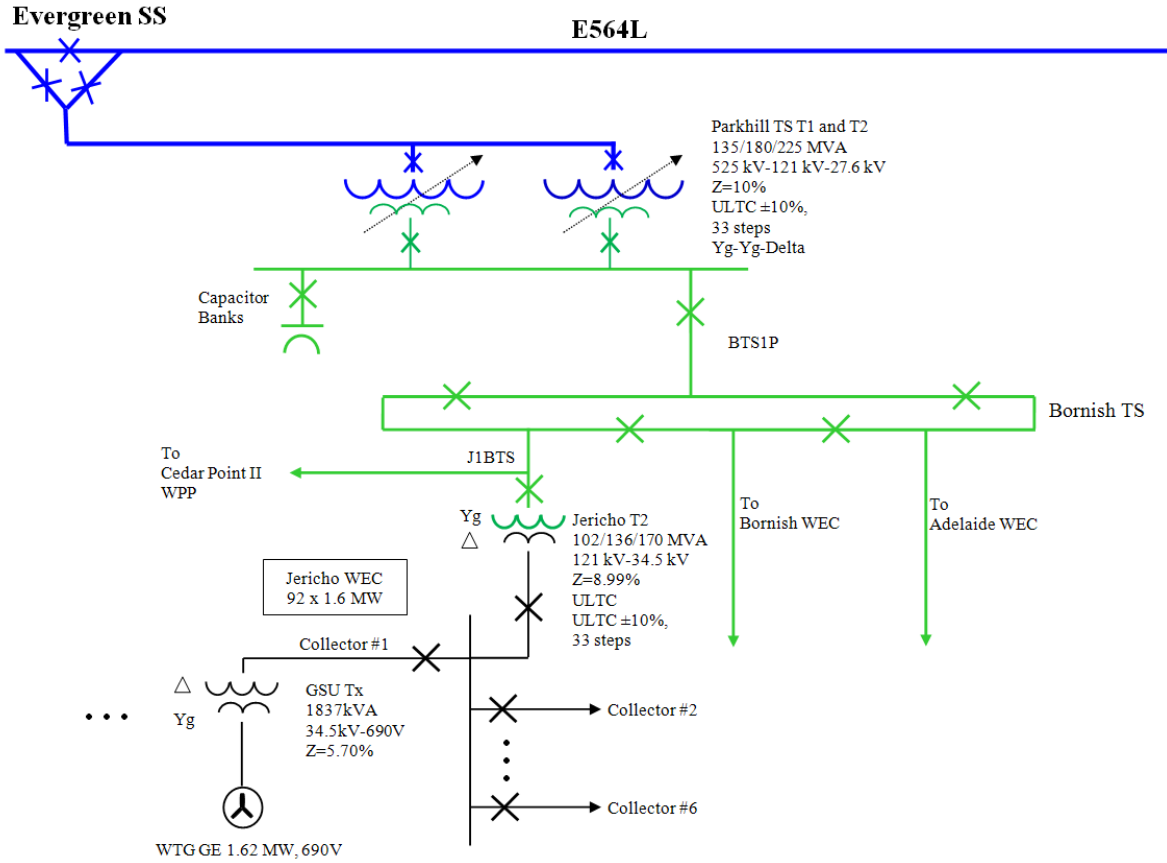


Figure 1: Updated Jericho Wind Energy Centre Single Line Diagram

- End of Document -

CUSTOMER IMPACT ASSESSMENT

- 1 The following is provided with this schedule:
- 2 Appendix 'A' - Final Customer Impact Assessment Report
- 3 Appendix 'B' - Final Customer Impact Assessment Report - Addendum
- 4 Appendix 'C' - Final Customer Impact Assessment Report - Addendum #2

APPENDIX 'A'

FINAL CUSTOMER IMPACT ASSESSMENT REPORT



Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5

CUSTOMER IMPACT ASSESSMENT
ADELAIDE / BORNISH / JERICHO WIND ENERGY CENTRES
283.5 MW Wind Turbine Generation Connection
-FINAL-

Revision: 0

Date: December 20, 2011

Issued by: **Transmission System Development Division**
Hydro One Networks Inc.

Prepared by:

Reviewed by:

Alessia Dawes, P.Eng
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Transmission System Development
Hydro One Networks Inc.

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 NEXtera ENERGY Canada ULC – Adelaide, Bornish and Jericho Wind Energy Centre’s (WEC’s). 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.

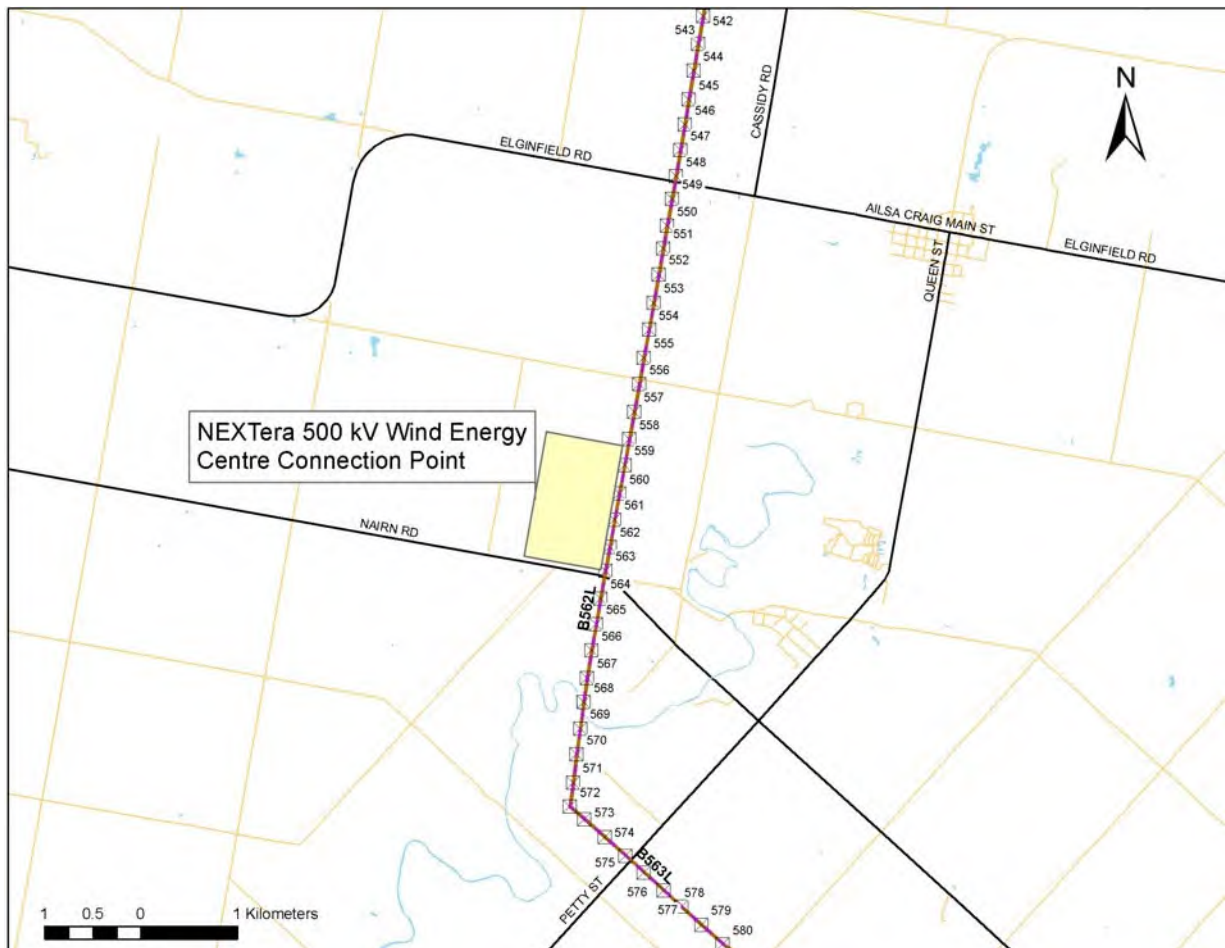
Hydro One shall not be liable to any third party which uses the results of the Customer Impact Assessment under any circumstances whatsoever for any indirect or consequential damages, loss of profit or revenues, business interruption losses, loss of contract or loss of goodwill, special damages, punitive 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 NEXtera ENERGY in respect of the Customer Impact Assessment is governed by the Agreement between:

1. Kerwood Wind, Inc. (Adelaide WEC) and Hydro One dated September 14, 2011.
2. Bornish Wind L.P. (Bornish WEC) and Hydro One dated September 14, 2011
3. Jericho Wind, Inc. (Jericho WEC) and Hydro One dated September 14, 2011

**CUSTOMER IMPACT ASSESSMENT
ADELAIDE / BORNISH / JERICHO WIND ENERGY CENTRES
283.5 MW WIND TURBINE GENERATION CONNECTION**

1.0 INTRODUCTION

NEXtera ENERGY is to develop a 283.5 MW wind energy generation facility. The wind energy facility, known in this document as NEXtera 500 kV Wind Energy Centre (NWECC), consists of three separate wind energy projects. The three projects are Adelaide Wind Energy Centre, Bornish Wind Energy Centre and Jericho Wind Energy Centre. The Adelaide Wind Energy and Bornish Wind Energy collection systems are located in Middlesex County, and the Jericho Wind Energy collection system is located in Lambton County. The interconnection to Hydro One will also be located in Middlesex County, in the Municipality of North Middlesex. NWECC is proposing to connect to Hydro One's transmission system through one new step-up transformer via a new 500 kV switching station that will sectionalize circuit B652L, approximately 36.5 km from Longwood TS. The switching station will be called Evergreen SS. Evergreen SS interconnection station will be located just west and adjacent to Hydro One's B562/563L Right-Of-Way (ROW) as shown in Map 1. The earliest expected in-service date of the generation facility is May 2013.



Map 1: NWECC connection to Hydro One's Network (map is not to scale)

In accordance with section 6 of the Ontario Energy Board's Transmission System Code, Hydro One Networks Inc (Hydro One) is to carry out a Customer Impact Assessment (CIA) study to assess the impact of the proposed generator connection on existing customers in the affected area.

A Draft version of this report was issued to potentially impacted customers on November 14, 2011. All applicable comments received were incorporated into this report. A new Transmitter Special Requirements section was also added since the Draft issue.

This study does not evaluate the overall impact of the NEXtera 500 kV Wind Energy Centre on the bulk electricity system. The impact of the new generator on the bulk electricity system is the subject of the System Impact Assessment issued by the Independent Electricity System Operator (IESO).

The study does not evaluate the impact of the NEXtera 500 kV Wind Energy Centre on the network Protection and Control facilities. Protection and Control aspects are reviewed during the Protection Impact Assessment, which is part of the SIA. Protection and Control aspects are again reviewed, in detail, during the preparation of the connection cost estimate and will be reflected in the Connection and Cost Recovery Agreement.

1.2 Proposed Connection: NEXtera 500 kV Wind Energy Centre

1.2.1 The Wind Farm

The NWECC project consists of 3 separate projects, Adelaide Wind Energy Centre (60 MW), Bornish Wind Energy Centre (73.5 MW) and Jericho Wind Energy Centre (150 MW). Appendix A, Figures 1, 2, 3 & 4 show an overview of each the connection arrangement.

The proposed 283.5 MW wind farm consists of 174 GE 1.62 MW Series Wind Turbine Generators (WTG).

Adelaide Wind Energy Centre consists of 3 groups of 12 or 13 x 1.62 MW GE wind turbine units totaling 60 MW. Each group of wind turbines is placed on a 34.5 kV feeder and is protected by a circuit breaker before connecting to a 34.5 kV bus at a substation located in the Municipality of Adelaide Metcalfe. This substation will be called “Adelaide Collection” substation. At this substation, the power will be transformed to 121 kV via one 121/34.5 kV, 51/68/85 MVA transformer.

Bornish Wind Energy Centre consists of 3 groups of 15 x 1.62 MW GE wind turbine units totaling 73.5 MW. Each group of wind turbines is placed on a 34.5 kV feeder and is protected by a circuit breaker before connecting to a 34.5 kV bus at a substation located in the Municipality of North Middlesex. This substation will be called “Bornish Collection” substation. At this substation, the power will be transformed to 121 kV via one 121/34.5 kV, 51/68/85 MVA transformer.

Jericho Wind Energy Centre consists of 6 groups of 15 or 16 x 1.62 MW GE wind turbine units totaling 150 MW. Each group of wind turbines is placed on a 34.5 kV feeder and is protected by a circuit breaker before connecting to one of two 34.5 kV buses at a substation located in the Municipality of Lambton Shores. This substation will be called “Jericho Collection” substation. At this substation, the power will be transformed to 121 kV via one 121/34.5 kV, 102/136/170 MVA transformer.

All three of the above substations will converge and connect into a 121 kV switching station, known as Bornish Customer Switching Station (CSS). Bornish CSS will be a 121 kV switching station owned and operated by the generator customer. The station will consist of a four breaker ring and will be located in the Municipality of North Middlesex.

An 11.4 km, 121 kV transmission line will then connect Bornish CSS to the generator’s 500 kV transformer station located close to Hydro One’s ROW. This transformer station will be called Parkhill CTS (Customer Transformer Station). At this station, the power will be transformed to 500 kV via one 525/121 kV 189/252/315 MVA transformer. The 500 kV bus at Parkhill CTS will connect to the new Hydro One 500 kV switching station known as Evergreen SS. Please see Appendix A, Figure 5.

The wind farm’s dynamic Var compensation is provided via their GE 1.62 Series Wind Turbine Generators (WTG). The WTG are designed to supply or absorb reactive power to or from the transmission grid to regulate and stabilize the voltage. In addition, it was determined in the System Impact Assessment that this project will also require static Var compensation of 65-70 MVar that can be provided via shunt capacitor banks located at Parkhill CTS 121 kV bus.

1.2.2 Connection to Hydro One's 500 kV Transmission System

NWEC will connect its generated power via 500 kV Hydro One owned interconnection station called Evergreen SS. The Parkhill CTS 525/121 kV power transformer will connect directly via 1-500 kV breaker and 1 motorized disconnect switch onto a 500 kV 3-breaker ring bus at Evergreen SS, Appendix A, Figure 5. This ring bus will split Hydro One's existing 500 kV circuit B562L from Bruce A TS to Longwood TS into 2 sections: Bruce A TS x Evergreen SS and Evergreen SS x Longwood TS. This sectionalizing will occur approximately 36.5 km from Longwood TS, near tower number 563 of existing B562L. Both Evergreen SS and Parkhill CTS will be adjacent or as close as possible to Hydro One's existing ROW to limit the additional exposure to Hydro One's 500 kV system. In addition, it was determined in the System Impact Assessment that this project will require a shunt reactor rated at 120 MVar at 500 kV to be located at Evergreen SS to limit overvoltage during certain system configurations.

1.3 Customers in the Study Area

The primary focus of this study was on customers supplied from stations directly connected to existing circuit B562L and in the local electrical area. Affected customers are show in Table 1.

Table 1: Transmission Customers connected in the study area

Station	Customer
Bruce A TS	Bruce Power L.P.
Bruce B SS	Bruce Power L.P.
Bruce Heavy Water Plant B TS	Bruce Power L.P.
Douglas Point TS	Hydro One Networks Inc. (Distribution) Westario Power Inc.
Longwood TS	Hydro One Networks Inc. (Distribution) Middlesex Power Distribution Corp.

2.0 METHODOLOGY & CRITERIA

2.1 Power System Analysis

Power system analysis is an integral part of the transmission and distribution 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:

- a. Load Flow Studies: An AC load flow program was used to set up a base case with NWEC.
- b. Short-Circuit Studies: A Short Circuit Analysis program was used to determine the impact of NWEC on customers at their points of connection to Hydro One.

2.2 Study Assumptions

Summer 2014 conditions were assumed in this study, along with the following assumptions.

- Load Data – study area demand scaled to its 2014 peak & operating at historical power factors
- Transmission Data – all transmission system elements in-service; new Bruce x Milton double circuit line in-service; Nanticoke TS & Detweiler TS SVC's in-service
- Generation Data – all new committed embedded and transmission connected renewable generation as part of the Feed-In-Tariff (FIT) program including Samsung phase 1,2 and 3 projects; all 8 Bruce GS units in-service; all existing Bruce area wind at 100% rating output.

Note: Load flow base cases provided by IESO

2.3 Planning Criteria

2.3.1 Voltage Limitations

To establish the adequacy of Hydro One transmission system for the incorporation of the proposed NWEC generation facilities, the following post-fault voltage change criteria were applied. As per "IESO Transmission Assessment Criteria", Issue 5.0

http://www.ieso.ca/imoweb/pubs/marketAdmin/IMO_REQ_0041_TransmissionAssessmentCriteria.pdf

- The loss of a single power system element should not result in a voltage change greater than 10% for pre- transformer tap-changer action (including station loads) and 10% post-transformer tap-changer action (5% for station loads) ;
- The loss of a double or 2nd power system element should not result in a voltage change greater than 10% for pre- transformer tap-changer action (including station loads) and 10% post-transformer tap-changer action (5% for station loads) ;
- Voltages below 50 kV shall be maintained in accordance with Canadian Standard Association document CAN-3-C235-83.

2.3.2 Short Circuit Limitations

Appendix 2 of the Transmission System Code (TSC) specifies the maximum symmetrical three phase and single line to ground short circuit levels. These limits are summarized in Table 2. Short circuit levels were compared to the TSC limits and also to existing breaker ratings at effected stations to ensure equipment capability.

Table 2: Transmission System Code Symmetrical Short Circuit Limits

Nominal Voltage (kV)	Max. 3 Phase Fault (kA)	Max. SLG Fault (kA)
500	80 ⁽¹⁾	80 ⁽¹⁾
230	63	80 ⁽¹⁾
115	50	50
44	20 ⁽³⁾	19 ^(2,3)
27.6 (4-wire)	17 ⁽³⁾	12 ⁽³⁾
27.6 (3-wire)	17 ⁽³⁾	0.45 ⁽³⁾
13.8	21 ⁽³⁾	10 ⁽³⁾

Notes:

- (1) Usually limited to 63kA
- (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 un-modeled synchronous motors and data inaccuracies.

In order to reflect realistic operating conditions, short circuit studies are run assuming the following conditions:

- Base case assumes existing & committed generating facilities in-service.
- Pre-fault voltage of 550.00 kV at 500 kV stations
- Pre-fault voltage of 250.00 kV at 220 kV stations
- Pre-fault voltage of 127.00 kV at 115 kV stations
- Pre-fault voltage of 46.00 kV at 44 kV stations
- Pre-fault voltage of 29.00 kV at 27.6 kV stations
- Pre-fault voltage of 14.2 kV at 13.8 kV stations

2.4 Operating Conditions

Normal operating conditions are such that NWECC will solely generate onto sectionalized circuit B562L (into Evergreen SS). When NWECC's 500 kV transformer breaker at Parkhill CTS that connects to the 500 kV ring bus at Evergreen SS is taken out of service, NWECC will not generate onto Hydro One's systems, transmission nor distribution.

3.0 SHORT CIRCUIT RESULTS

Short-circuit studies were carried out to assess the fault contribution when the 283.5 MW NWECC generating facility is connected and generating into Evergreen SS.

The study results are summarized in Tables 3 and 4 below showing both symmetric and asymmetric fault currents in kA, respectively. The anticipated fault levels after the incorporation of all committed and proposed generation in the Bruce area are shown in Table 5.

Table 3: NWECC impact on symmetrical fault levels

Station	Sym. Fault Level without NWECC* (kA)		Sym. Fault Level with NWECC (kA)		% Difference	
	3-Phase	L-G	3-Phase	L-G	3-Phase	L-G
Bruce B SS 500 kV	36.96	41.58	37.11	41.72	0.41	0.34
Bruce A TS 500 kV	37.17	41.76	37.33	41.91	0.43	0.36
Bruce A TS 230 kV	42.96	54.36	43.03	54.44	0.16	0.15
BHWP B TS 13.8 kV A	19.77	1.98	19.77	1.98	0.00	0.00
BHWP B TS 13.8 kV B	19.75	1.98	19.75	1.98	0.00	0.00
Douglas Point TS 44 kV	14.37	6.89	14.38	6.89	0.07	0.00
Longwood TS 500 kV	20.05	20.96	20.37	21.56	1.60	2.86
Longwood TS 230 kV	37.36	44.74	37.78	45.40	1.12	1.48
Longwood TS 27.6 kV	15.41	10.79	15.42	10.79	0.06	0.00

* Includes existing and committed generation projects up to the award of FIT3 and Samsung Phase 2 & 3 contracts

Table 4: NWECC impact on asymmetrical fault levels

Station	Asym. Fault Level without NWECC* (kA)		Asym. Fault Level with NWECC (kA)		% Difference	
	3-Phase	L-G	3-Phase	L-G	3-Phase	L-G
Bruce B SS 500 kV	54.32	63.67	54.52	63.76	0.37	0.14
Bruce A TS 500 kV	54.46	63.20	54.68	63.41	0.40	0.33
Bruce A TS 230 kV	57.64	78.44	57.73	78.54	0.16	0.13
BHWP B TS 13.8 kV A	23.04	1.98	23.04	1.98	0.00	0.00
BHWP B TS 13.8 kV B	22.33	1.98	22.34	1.98	0.04	0.00
Douglas Point TS 44 kV	16.34	8.83	16.34	8.83	0.00	0.00
Longwood TS 500 kV	24.37	26.68	24.78	27.44	1.68	2.85
Longwood TS 230 kV	45.71	57.94	46.31	58.84	1.31	1.55
Longwood TS 27.6 kV	21.54	15.67	21.57	15.68	0.14	0.06

*Includes existing and committed generation projects up to the award of FIT3 and Samsung Phase 2 & 3 contracts

Table 5: Anticipated Fault Levels Resulting from FIT3 and Samsung Phase 2 & 3 contracts

Station	Symmetrical Fault Level (kA)		Asymmetrical Fault Level (kA)	
	3-Phase	L-G	3-Phase	L-G
Bruce B SS 500 kV	38.01	42.67	55.80	65.09
Bruce A TS 500 kV	38.27	42.82	56.01	64.68
Bruce A TS 230 kV	44.64	56.16	59.74	80.83
BHWP B TS 13.8 kV A	19.80	1.98	23.07	1.98
BHWP B TS 13.8 kV B	19.79	1.98	22.37	1.98
Douglas Point TS 44 kV	14.93	6.98	17.02	8.95
Longwood TS 500 kV	21.06	22.32	25.73	28.46
Longwood TS 230 kV	38.70	46.44	47.63	60.38
Longwood TS 27.6 kV	15.45	10.80	21.61	15.70

*Includes existing, committed and proposed generation projects in the Bruce Transmission Area as per applications received by October 2011

Observations made from the short-circuit study results in Tables 3 & 4 above may be summarized as follows:

- Table 3 shows that fault levels are below the maximum symmetrical three-phase and single line-to-ground fault values set out in Appendix 2 of the *Transmission System Code (TSC)*.
- Table 3 shows that although there is a 2.86 % increase in the symmetrical short-circuit level at Longwood TS 500 kV bus, the fault levels are well below the allowable 500 kV fault limits and are acceptable to Hydro One.
- Table 4 shows that although there is a 2.85 % increase in the asymmetrical short-circuit level at Longwood TS 500 kV bus, the fault level is within Hydro One's asymmetrical breaker ratings** and are acceptable to Hydro One.

It can be observed from Table 5 that the anticipated fault levels at the stations shown are below the maximum symmetrical three-phase and single line-to-ground fault values set out in Appendix 2 of the TSC. In addition, with the exception of Bruce A TS 230 kV bus**, the anticipated fault levels are within Hydro One's breaker ratings.

**Note: The asymmetrical fault current at Bruce A 230 kV before and after the incorporation of the projects 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. The NWEC has no impact on this issue.

Conclusion

The short-circuit level increases at Bruce A TS, Bruce B SS, BHWP B TS, Douglas Point TS and Longwood TS are acceptable to Hydro One and are below Hydro One's 5 % TSC margin limit.

4.0 VOLTAGE ANALYSIS

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.

Local voltage impact was assessed using load flow contingency analysis. The incorporation of NWEC at full output was used to assess voltage change during peak summer loading conditions.

The following contingencies were used to assess the voltage impact:

- a) A single contingency loss of NWEC generation
- b) A single contingency loss of Bruce A TS x Evergreen SS 500 kV circuit
- c) A single contingency loss of Evergreen SS x Longwood TS 500 kV circuit
- d) A double contingency loss of Evergreen SS x Longwood TS circuit and NWEC generation (due to Breaker Failure B/F), with Ashfield SS x Longwood TS 500 kV circuit out of service pre-contingency
- e) A double contingency loss of Bruce A TS x Evergreen SS circuit and NWEC generation (due to Breaker Failure B/F), with Bruce B SS x Ashfield SS 500 kV circuit out of service pre-contingency

Basic Assumptions:

- New 500 kV switching station Ashfield SS will sectionalize companion circuit B563L approximately 61.5 km from Bruce B SS to incorporate another wind energy project known as K2 Wind.
- A 120 MVAR at 500 kV shunt reactor will be installed at Evergreen SS to control post-contingency voltages as per IESO System Impact Assessment requirements
- A 65 MVAR at 121 kV shunt capacitor will be installed at Parkhill CTS for generator reactive power capability as per IESO System Impact Assessment requirements.
- ULTC – Under Load Tap Changer
- For the period of time labeled “After ULTC”, the switching of reactive devices such as reactors and capacitors is implemented.

Results are shown in Appendix B, Tables 1 – 5 and summarized below:

- Table B1: For the loss of the proposed generator the maximum voltage change is 0.15% at Longwood TS 500 kV bus before ULTC operation and is -0.19% at Longwood TS 27.6 kV bus after ULTC operation.
- Table B2: For the loss the 500 kV circuit between Bruce A TS and Evergreen SS the maximum voltage change is -0.64% at Longwood TS 500 kV bus before ULTC operation and is -0.91% at Longwood TS 500 kV bus after ULTC operation.
- Table B3: For the loss of the 500 kV circuit between Evergreen SS and Longwood TS, the maximum voltage change is -0.48% at Longwood TS 500 kV bus before ULTC operation and is -0.76% at Longwood TS 500 kV bus after ULTC operation.
- Table B4: Given the 500 kV circuit from Ashfield SS to Longwood TS is out of service, for the loss of the 500 kV circuit between Evergreen SS and Longwood TS with a breaker failure at Evergreen SS which disconnects both the wind farm and the HV reactor, the maximum voltage change is -1.86% at Longwood TS 500 kV bus before ULTC operation and is -5.35% at Longwood TS 500 kV bus after ULTC operation.

- **Table B5:** Given the 500 kV circuit from Bruce B SS to Ashfield SS is out of service, for the loss of the 500 kV circuit between Bruce A TS and Evergreen SS with a breaker failure at Evergreen SS which disconnects both the wind farm and the HV reactor, the maximum voltage change is - 0.46% at Longwood TS 27.6 kV bus before ULTC operation and is 0.54 % at Longwood TS 27.6 kV bus after ULTC operation.

Conclusion

Load flow studies thus confirmed that the incorporation of 283.5 MW of wind generation between Bruce A TS and Longwood TS will not result in substantial change in the voltage profile of customers supplied from these stations and in the local electrical area. Following the worst contingency, the voltage changes are well within the voltage decline guideline for customer buses of less than 10% and 5% voltage change before- and after- transformer tap-changer operation.

5.0 TRANSMITTER REQUIREMENTS

BACKGROUND ON FERRORESONANCE

In general, ferroresonance is defined as an electrical oscillation between system capacitance (as offered by a transmission line/cable) and non-linear inductance (transformer magnetizing branch). More specifically, ferroresonance is a term to describe electrical resonance in a circuit which includes a saturating magnetic device (i.e. a transformer or magnetic potential transformer).

The criteria for ferroresonance to be possible on an isolated section of the transmission system includes:

- a) An iron core device (i.e. power transformer, autotransformer, potential transformer) not shunted by a low impedance such as a load or a ground source
- b) Circuit capacitance, as required to establish electric resonance in an otherwise inductive circuit. The capacitance may be in series, or in parallel with the non-linear inductance representing an iron-cored device. An un-energized transmission circuit on a double circuit transmission line that is in close proximity to a live circuit can provide this capacitance.
- c) An adequate energy source, in order for ferroresonance to be sustained, capable of supplying sufficient power to overcome losses. The amount of energy is dependent on the distance of the coupling. Ferroresonance has been observed on double circuit transmission lines as short as 13.5 km.

Ferroresonance cannot be established as long as the (iron) core of the magnetic device does not saturate. Ferroresonance is frequently associated with one or more open conductors. Typically, a disturbance involving a switching operation on a device is required to saturate the core, possibly initiating ferroresonance, providing the criteria listed above are satisfied.

Initially, the onset of ferroresonance may be associated with large transient voltages. Consequences include an increased personnel safety hazard and possible apparatus failure (e.g. circuit breaker) due to extreme dielectric stress.

If a sustained ferroresonant condition is established, the core of the magnetic device saturates repeatedly, causing core overheating. Permanent thermal damage may result to the core laminations and to winding insulation. Another consequence of ferroresonance could be damage to the transmitter's circuit breakers and other equipment at either terminal station (e.g. Bruce A TS and Longwood TS)

requiring an extended outage to replace equipment which could then result in congestion. For this reason, ferroresonance must be mitigated.

Helpful online references include:

http://www.ece.mtu.edu/faculty/bamork/FR_WG/Panel/paper03gm0984.pdf
http://www.studiecd.dk/cahiers_techniques/Ferroresonance.pdf

MITIGATION PLAN

It is expected that the NVEC 500 kV interconnection transformer could be subjected to a ferroresonance configuration. The most prominent configuration is shown in Figure 6 of Appendix A. Referring to the scenario shown in Figure 6, if a 500 kV interconnection breaker is not provided for the NVEC 500 kV transformer, a breaker failure at the Hydro One interconnection point would result in the generator's transformer "dangling" in series with a capacitive circuit.

To mitigate the occurrence of a ferroresonant condition, a 500 kV breaker is required between the generator's interconnection transformer, specifically the 525/121 kV 189/252/315 MVA transformer at Parkhill CTS, and the connection to Hydro One, specially, Evergreen SS. The NVEC proposed connection arrangement shown in Figures 1 to 4 of Appendix A includes this additional breaker. Figure 5 of Appendix A highlights this additional breaker.

6.0 CONNECTION RELIABILITY

The incorporation of the new generator facilities will add a new 500 kV switching station named Evergreen SS that will sectionalize existing 500 kV circuit B562L from Bruce A TS to Longwood TS into two new circuits, Bruce A TS by Evergreen SS and Evergreen SS by Longwood TS. The sectionalizing of the existing circuit reduces the impact on connection reliability for the existing transmission customers and provides optimal connection reliability for the new generator customer.

The switching station will contain a 3-breaker ring bus thus providing the new generator customer with their own switching position. This will optimize the reliability for the generator by enabling it to generate while one of the line sections is out of service. With respect to power system protection, the use of a sectionalizing station to connect the generator will have no impact to the reliability and speed of the protection systems.

The new generator customer will add one very short 500 kV line tap from their motorized disconnect switch inside Parkhill CTS to the new Evergreen SS. The additional circuit exposure is very small and is not expected to materially reduce the performance of Hydro One's system.

7.0 PRELIMINARY OUTAGE IMPACT ASSESSMENT

The work required to connect NVEC to circuit B562L will involve outages to this circuit and possibly the companion circuit, B563L. These outages will be coordinated with existing transmission customers. These outages will be identified when a detailed construction schedule is established in consultation with NEXTERa ENERGY during the detailed engineering phases of the project development.

It is expected that the construction of the new 500 kV Bruce by Milton circuits will be completed before the new generator is connected, and therefore outages of circuits from the Bruce by Longwood stations will be less impactful.

In addition, there is no expected transmission system outages associated with the construction/installation of the new wind turbine units.

8.0 CONCLUSIONS AND RECOMMENDATIONS

This Customer Impact Assessment (CIA) presents results of short-circuit and voltage performance study analyses. The report has confirmed that NWECC can be incorporated without adverse impact on customers supplied from Bruce A TS and Longwood TS and in the local electrical area provided that the required facilities are installed. In addition to the facilities required by the IESO by issue of the SIA, NWECC is required to install the following facilities as part of their connection:

- A Transfer Trip (T/T) scheme to ensure fault clearance if NWECC exhibits breaker failure of their 500 kV transformer breaker.
- Fully duplicated protection and telecommunication systems must be installed as outlined in the Transmission System Code.
- SCADA facilities to allow transmission of generation facility components: i.e. status, measurement quantities & alarms, as outlined in the IESO's SIA and Hydro One's planning specification for the connection of NWECC.
- The proposed connection arrangement is acceptable to Hydro One however; space must be allocated within the new Evergreen SS such that the 3-breaker ring bus can be expanded to a 6-breaker ring bus to sectionalized companion circuit B563L if required.
- The installation of a 500 kV interconnection breaker between the high voltage terminal of NWECC 525/121 kV interconnection transformer and its connection to Evergreen SS.

Facilities to permit the above work must be provided.

All customers are required to check to ensure that the equipment and grounding system at their stations/facilities meet the expected increase in fault level.

APPENDIX A: DIAGRAMS

Figure 1: NEXtera 500 kV Wind Energy Centre, Overall Project
(Drawing from generator)

*Parkhill TS 500 kV Switching Station renamed to Evergreen SS.
Parkhill TS 115 kV/500kV station renamed to Parkhill CTS*

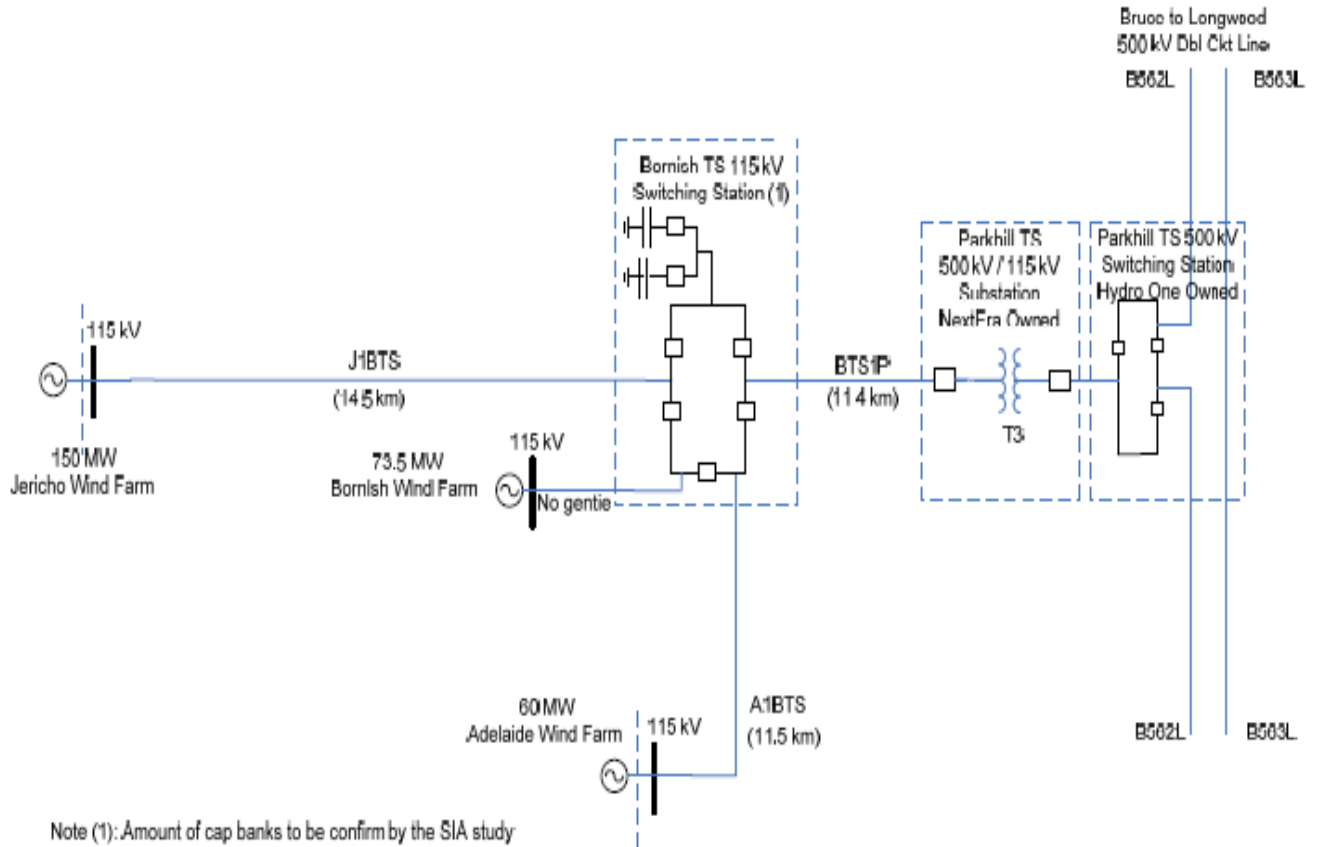
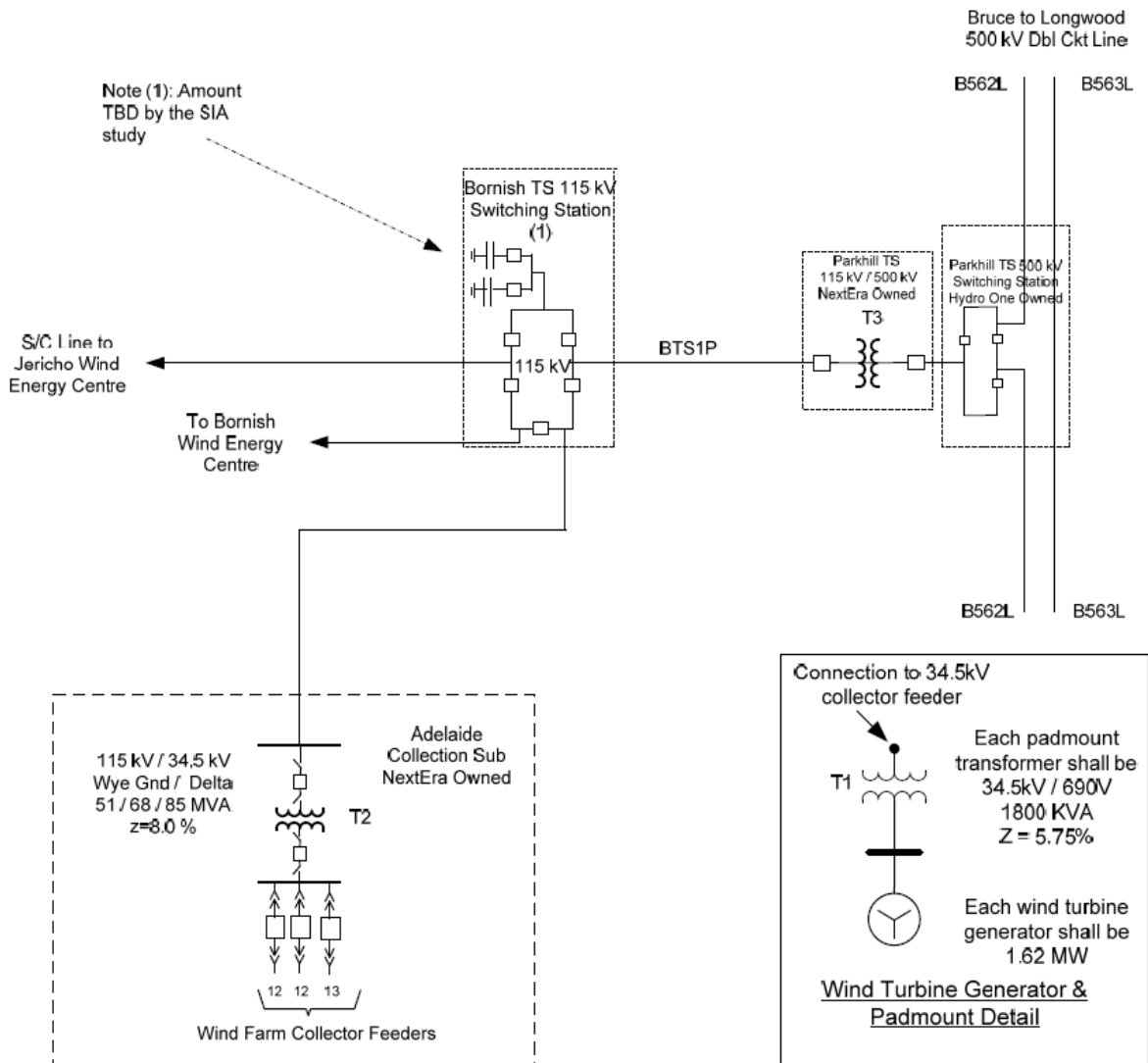


Figure 2: Adelaide Wind Energy Centre
(Drawing from generator)

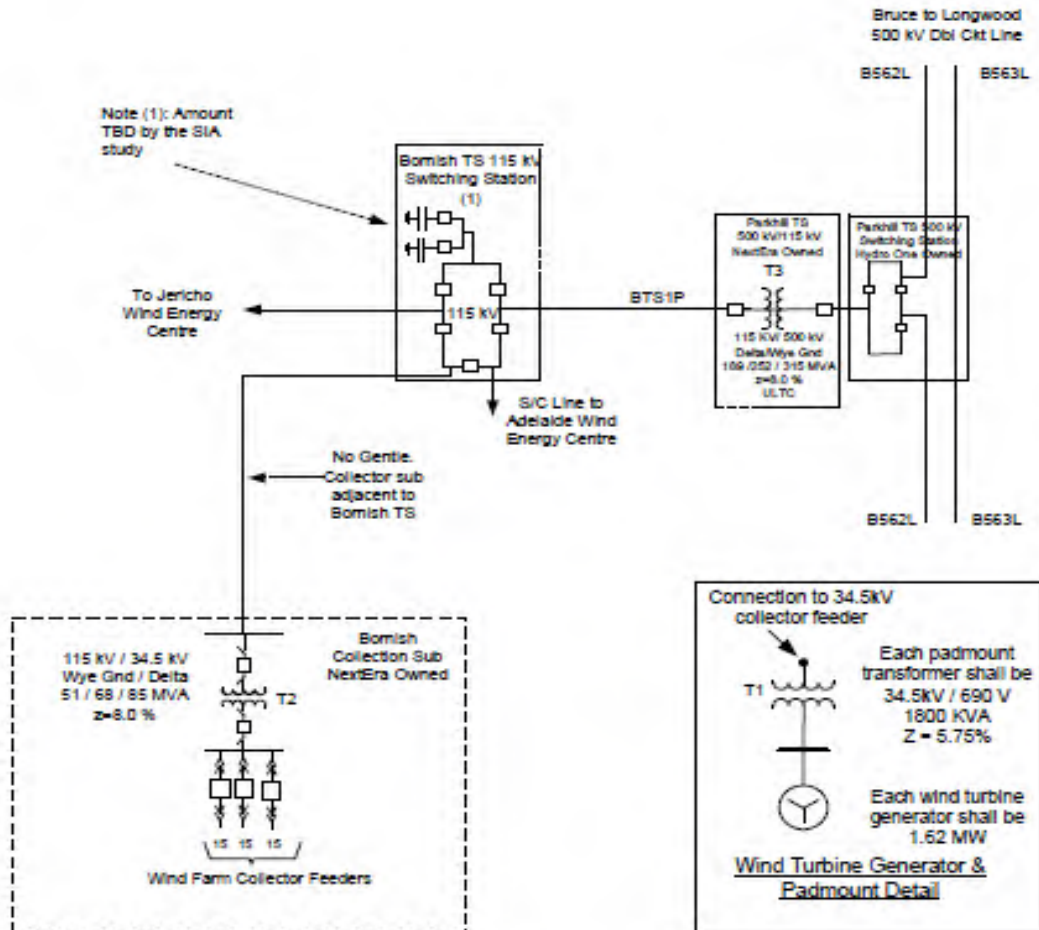
Parkhill TS 500 kV Switching Station renamed to Evergreen SS.
Parkhill TS 115 kV/500kV station renamed to Parkhill CTS



Adelaide WEC

Figure 3: Bornish Wind Energy Centre
(Drawing from generator)

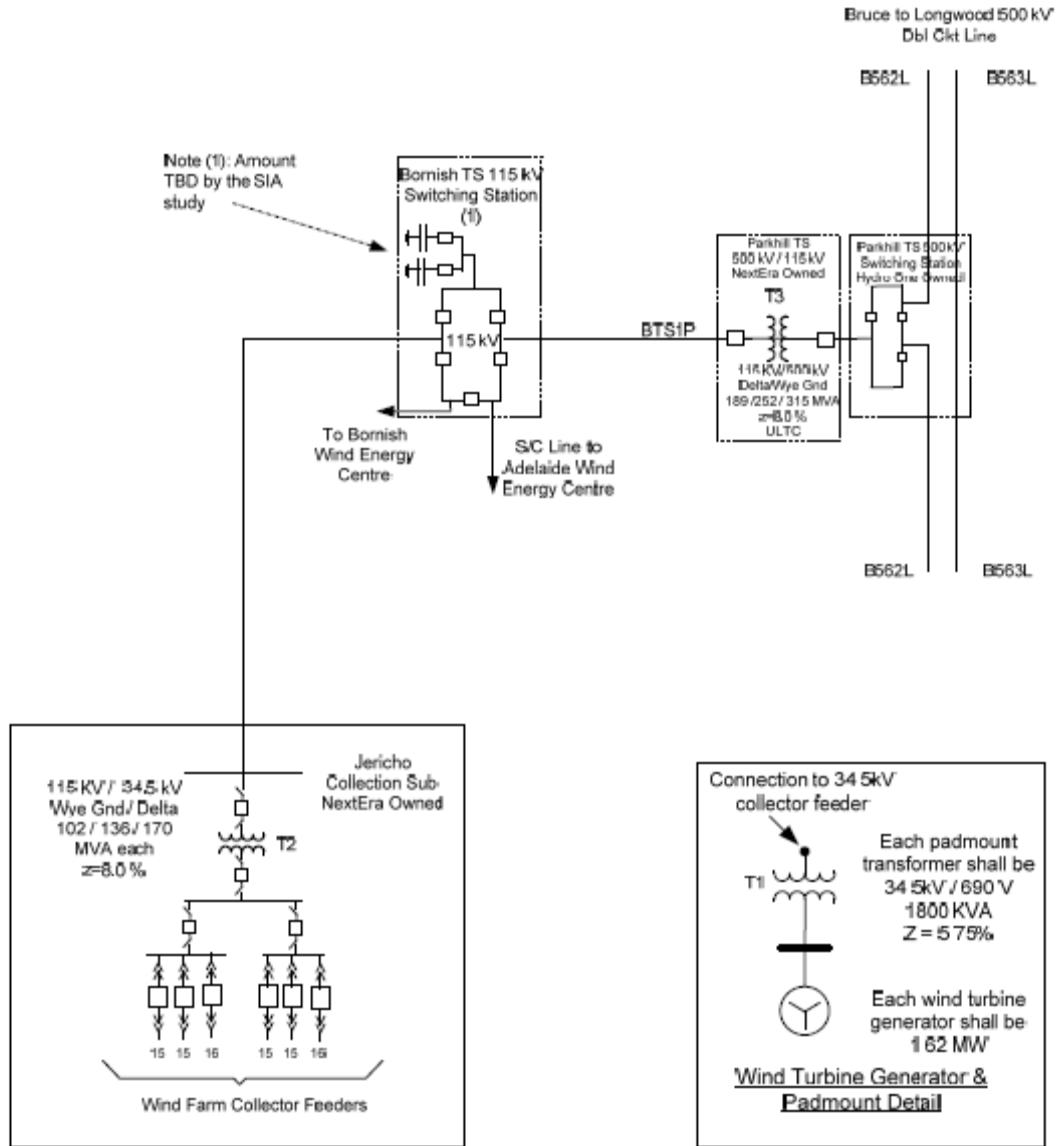
*Parkhill TS 500 kV Switching Station renamed to Evergreen SS.
Parkhill TS 115 kV/500kV station renamed to Parkhill CTS*



Bornish WEC

Figure 4: Jericho Wind Energy Centre
(Drawing from generator)

Parkhill TS 500 kV Switching Station renamed to Evergreen SS.
Parkhill TS 115 kV/500kV station renamed to Parkhill CTS



Jericho WEC

Figure 5: Evergreen Switching Station

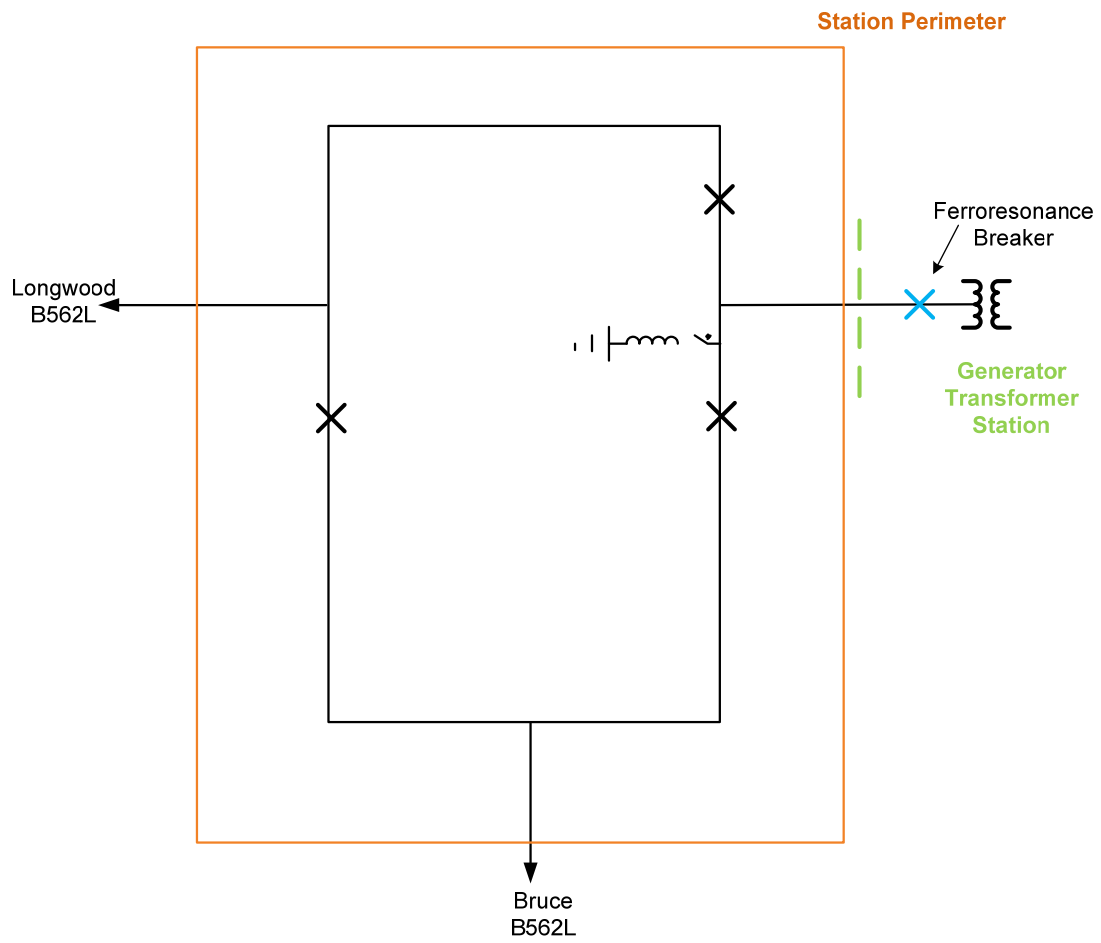
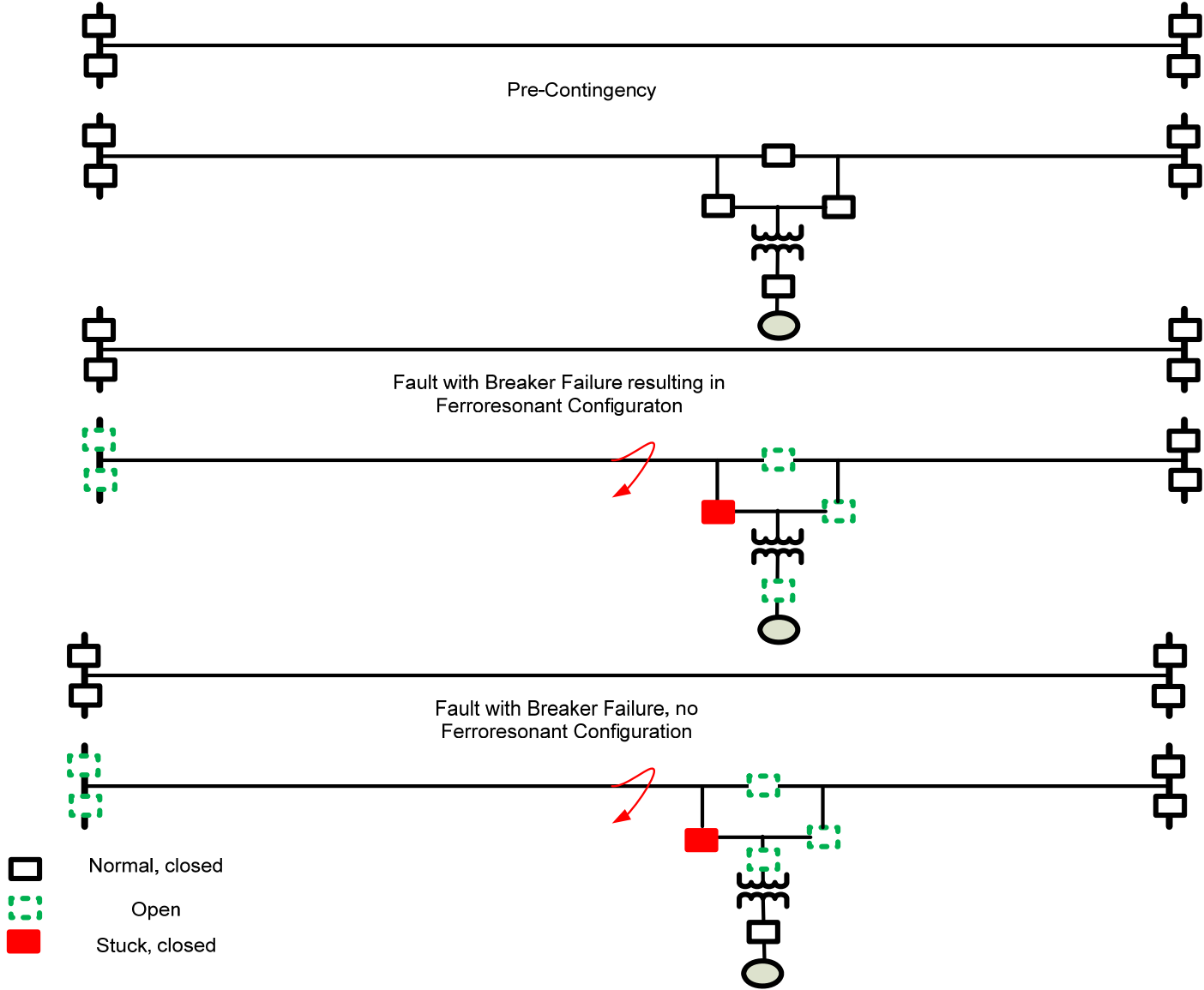


Figure 6: Ferroresonant Configuration



APPENDIX B: VOLTAGE PERFORMANCE RESULTS

Table 1: Loss of NVEC

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.28	548.31	0.01	548.25	0.00
Bruce A TS 230 kV	247.14	246.99	-0.06	247.09	-0.02
Bruce B SS 500 kV	549.00	549.00	0.00	549.00	0.00
BHWP B TS 13.8 kV A bus	14.52	14.51	-0.06	14.51	-0.02
BHWP B TS 13.8 kV B bus	14.53	14.52	-0.06	14.53	-0.02
Douglas Point TS 44 kV	46.13	46.10	-0.06	46.12	-0.02
Longwood TS 500 kV	546.14	546.98	0.15	545.14	-0.18
Longwood TS 230 kV	245.01	244.91	-0.04	244.56	-0.18
Longwood TS 27.6 kV	29.06	29.05	-0.04	29.00	-0.19

Table 2: Loss of Bruce A TS x Evergreen SS

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.28	548.12	-0.03	548.12	-0.03
Bruce A TS 230 kV	247.14	247.47	0.13	247.47	0.13
Bruce B SS 500 kV	549.00	549.00	0.00	549.00	0.00
BHWP B TS 13.8 kV A bus	14.52	14.54	0.13	14.54	0.14
BHWP B TS 13.8 kV B bus	14.53	14.55	0.13	14.55	0.14
Douglas Point TS 44 kV	46.13	46.20	0.14	46.20	0.14
Longwood TS 500 kV	546.14	542.65	-0.64	541.16	-0.91
Longwood TS 230 kV	245.01	243.71	-0.53	245.07	0.03
Longwood TS 27.6 kV	29.06	28.90	-0.55	29.07	0.03

Table 3: Loss of Evergreen SS x Longwood TS

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.28	548.28	0.00	548.13	-0.03
Bruce A TS 230 kV	247.14	247.28	0.06	247.54	0.16
Bruce B SS 500 kV	549.00	549.00	0.00	549.00	0.00
BHWP B TS 13.8 kV A bus	14.52	14.53	0.06	14.54	0.16
BHWP B TS 13.8 kV B bus	14.53	14.54	0.06	14.56	0.16
Douglas Point TS 44 kV	46.13	46.16	0.06	46.21	0.17
Longwood TS 500 kV	546.14	543.52	-0.48	541.98	-0.76
Longwood TS 230 kV	245.01	244.03	-0.40	245.40	0.16
Longwood TS 27.6 kV	29.06	28.94	-0.41	29.11	0.16

Table 4: Loss of Evergreen SS x Longwood TS & 283.5 MW of NVEC while Ashfield SS x Longwood TS Out-of-Service

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.21	548.45	0.04	548.26	0.01
Bruce A TS 230 kV	247.48	247.35	-0.05	247.79	0.13
Bruce B SS 500 kV	549.00	549.00	0.00	549.00	0.00
BHWP B TS 13.8 kV A bus	14.54	14.53	-0.05	14.56	0.13
BHWP B TS 13.8 kV B bus	14.55	14.54	-0.05	14.57	0.13
Douglas Point TS 44 kV	46.20	46.17	-0.05	46.26	0.13
Longwood TS 500 kV	539.17	529.12	-1.86	510.34	-5.35
Longwood TS 230 kV	244.27	239.99	-1.75	246.98	1.11
Longwood TS 27.6 kV	28.97	28.44	-1.82	28.98	0.05

Table 5: Loss of Bruce A TS x Evergreen SS & 283.5 MW of NVEC while Bruce B SS x Ashfield SS Out-of-Service

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.37	548.21	-0.03	548.21	-0.03
Bruce A TS 230 kV	247.38	247.68	0.12	247.66	0.11
Bruce B SS 500 kV	549.00	549.00	0.00	549.00	0.00
BHWP B TS 13.8 kV A bus	14.53	14.55	0.12	14.55	0.11
BHWP B TS 13.8 kV B bus	14.55	14.56	0.12	14.56	0.11
Douglas Point TS 44 kV	46.18	46.24	0.12	46.23	0.11
Longwood TS 500 kV	546.10	544.32	-0.32	544.53	-0.29
Longwood TS 230 kV	245.00	243.91	-0.44	246.28	0.52
Longwood TS 27.6 kV	29.06	28.92	-0.46	29.21	0.54

APPENDIX 'B'

FINAL CUSTOMER IMPACT ASSESSMENT REPORT - ADDENDUM



Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5

- ADDENDUM -
CUSTOMER IMPACT ASSESSMENT

CEDAR POINT II WIND POWER PROJECT
ADELAIDE / BORNISH / JERICO WIND ENERGY CENTRES

100 MW Wind Turbine Generation Connection
283.5 MW Wind Turbine Generation Connection

- FINAL -

Revision: 0

Date: June 8, 2012

Issued by: **Transmission System Development Division**
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Disclaimer

This Customer Impact Assessment was prepared based on information available about the connection of the proposed Suncor Energy Products Inc. –Cedar Point II Wind Power 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 Suncor Energy Products Inc. in respect of the Customer Impact Assessment is governed by the Agreement between:

1. Suncor Energy Products Inc. and Hydro One dated February 14, 2012.

**ADDENDUM: CUSTOMER IMPACT ASSESSMENT
CEDAR POINT II WIND POWER PROJECT &
ADELAIDE/BORNISH/JERICHO WIND ENERGY CENTRES
383.5 MW WIND TURBINE GENERATION CONNECTION**

1.0 INTRODUCTION

Suncor Energy is to develop a 100 MW wind energy generation facility. The wind energy facility, known in this document as Cedar Point Wind Project (CPWP), will be constructed in the Township of Adelaide-Metcalf in Middlesex County. CPWP will connect into the NEXtera ENERGY 283.5 MW wind energy generation facility, known in this document as NEXtera Wind Energy Centre (NWEC). NWEC consists of the three wind energy projects: Adelaide WEC (60 MW), Bornish WEC (73.5 MW) and Jericho WEC (150 MW). The total 383.5 MW of Suncor and NEXtera generation will connect to Hydro One's transmission system through one new step-up transformer via a new 500 kV switching station that will sectionalize Hydro One's 500 kV circuit, B652L, approximately 36.5 km from Longwood TS. The switching station will be located in Middlesex County, in the Municipality of North Middlesex. The switching station will be called Evergreen SS and will be Hydro One owned and operated. Evergreen SS interconnection station will be located just west and adjacent to Hydro One's B562/563L Right-Of-Way (ROW).

In accordance with section 6 of the Ontario Energy Board's Transmission System Code, Hydro One Networks Inc (Hydro One) is to carry out a Customer Impact Assessment (CIA) study to assess the impact of the proposed generator connection on existing customers in the affected area.

This study does not evaluate the overall impact of the Cedar Point Wind Project on the bulk electricity system. The impact of the new generator on the bulk electricity system is the subject of the System Impact Assessment (SIA) issued by the Independent Electricity System Operator (IESO).

The study does not evaluate the impact of the Cedar Point Wind Project on the network Protection and Control facilities. Protection and Control aspects are reviewed during the Protection Impact Assessment, which is part of the SIA. Protection and Control aspects are again reviewed, in detail, during the preparation of the connection cost estimate and will be reflected in the Connection and Cost Recovery Agreement.

1.2 Addendum: Proposed Connection: Cedar Point II Wind Power Project

1.2.1 The Wind Farm

The proposed 100 MW wind farm consists of 45 Siemens 2.3 MW Series Wind Turbine Generators (WTG). The maximum output of the WTG will be curtailed to a total generation output capability of 100 MW. Appendix A, Figures 1 & 2 shows an overview of the proposed connection arrangement.

Cedar Point II WPP consists of 4 groups of 10-12 x 2.3 MW Siemens wind turbine units totaling 100 MW. Each group of wind turbines is placed on a 34.5 kV feeder and is protected by a circuit breaker before connecting to a 34.5 kV bus at a substation located in the Municipality of Adelaide-Metcalf. This substation will be called Cedar Point Customer Generation Station (CGS). At Cedar Point CGS, the power will be transformed to 121 kV via one 120/34.5 kV, 66/88/110 MVA transformer.

An 11.9 km, 121 kV customer-owned transmission line named CP1J will connect Cedar Point CGS to Cedar Point Customer Switching Station (CSS) which will be located next to NEXtera's Jericho CGS. At this point, Suncor's Cedar Point II WPP will join with the Jericho WEC. The combined wind farm outputs will then be transported 14.5 km on a 121 kV customer transmission line named J1BTS to NEXtera's Bornish CSS.

At Bornish CSS four wind generating facilities converge: Suncor's Cedar Point II WPP (100 MW) and NEXtera's Adelaide WEC (60 MW), Bornish WEC (73.5 MW) and Jericho WEC (150 MW). Bornish CSS will be a 121 kV switching station owned and operated by the generator customers. The station will consist of a four breaker ring and will be located in the Municipality of North Middlesex.

An 11.4 km, 121 kV customer-owned transmission line will then connect Bornish CSS to the generator's 500 kV transformer station located close to Hydro One's ROW. This transformer station will be called Parkhill CTS (Customer Transformer Station). At this station, the power will be transformed to 500 kV via one 525/121 kV 256/341/426 MVA transformer. The 500 kV bus at Parkhill CTS will connect to the new Hydro One 500 kV switching station known as Evergreen SS. Please see Appendix A, Figure 2.

The wind farm's dynamic Var compensation is provided via their Siemens 2.3 Series Wind Turbine Generators (WTG). The WTG are designed to supply or absorb reactive power to or from the transmission grid to regulate and stabilize the voltage. In addition, it was determined in the System Impact Assessment that this project, in conjunction with the three NEXtera WEC's, will also require static Var compensation of 120 MVAR that can be provided via shunt capacitor banks located at the Parkhill CTS 121 kV bus.

1.2.2 Addendum: Connection to Hydro One’s 500 kV Transmission System

The combined CPWP and NWECC will connect their generated power via 500 kV Hydro One owned interconnection station called Evergreen SS. The Parkhill CTS 525/121 kV power transformer will connect directly via 1-500 kV breaker and 1 motorized disconnect switch onto a 500 kV 3-breaker ring bus at Evergreen SS, Appendix A, Figure 3. This ring bus will split Hydro One’s existing 500 kV circuit B562L from Bruce A TS to Longwood TS into 2 sections: Bruce A TS x Evergreen SS and Evergreen SS x Longwood TS. This sectionalizing will occur approximately 36.5 km from Longwood TS, near tower number 563 of existing B562L. Both Evergreen SS and Parkhill CTS will be adjacent or as close as possible to Hydro One’s existing ROW to limit the additional exposure to Hydro One’s 500 kV system. In addition, it was determined in the System Impact Assessment that Evergreen SS will experience overvoltage during certain system configurations.

To manage the overvoltage concerns at Evergreen SS, Hydro One is proposing to construct Evergreen SS with equipment capable of withstanding the overvoltage. This additional capability will forego the previous requirement of a shunt reactor.

1.3 Customers in the Study Area

The primary focus of this study was on customers supplied from stations directly connected to existing circuit B562L and in the local electrical area. Affected customers are shown in Table 1.

Table 1: Transmission Customers connected in the study area

Station	Customer
Bruce A TS	Bruce Power L.P.
Bruce B SS	Bruce Power L.P.
Bruce Heavy Water Plant B TS	Bruce Power L.P.
Douglas Point TS	Hydro One Networks Inc. (Distribution) Westario Power Inc.
Longwood TS	Hydro One Networks Inc. (Distribution) Middlesex Power Distribution Corp.

1.4 Operating Conditions

Normal operating conditions are such that CPWP will solely generate onto NEXtera’s 121 kV circuit J1BTS. When NEXtera’s 500 kV transformer breaker at Parkhill CTS that connects to the 500 kV ring bus at Evergreen SS is taken out of service, CPWP will not generate onto Hydro One’s systems, transmission nor distribution.

2.0 ADDENDUM - SHORT CIRCUIT RESULTS

Short-circuit studies were carried out to assess the fault contribution when the CPWP is connected to the NWECC subsystem and a total of 383.5 MW is generating into Evergreen SS.

The study results are summarized in Tables 3 and 4 below showing both symmetric and asymmetric fault currents in kA, respectively. The anticipated fault levels after the incorporation of all committed and proposed generation in the Bruce area are shown in Table 5.

Table 3: CPWP & NWECC impact on symmetrical fault levels

Station	without CPWP & NWECC* (kA)		with CPWP & NWECC (kA)		% Difference	
	3-Phase	L-G	3-Phase	L-G	3-Phase	L-G
Bruce B SS 500 kV	36.92	41.55	37.13	41.74	0.57	0.46
Bruce A TS 500 kV	37.13	41.72	37.35	41.93	0.59	0.50
Bruce A TS 230 kV	42.82	54.20	42.90	54.3	0.19	0.18
BHWP B TS 13.8 kV A	19.77	1.98	19.77	1.98	0.00	0.00
BHWP B TS 13.8 kV B	19.75	1.98	19.75	1.98	0.00	0.00
Douglas Point TS 44 kV	14.37	6.89	14.37	6.89	0.00	0.00
Longwood TS 500 kV	20.05	20.95	20.50	21.75	2.24	3.82
Longwood TS 230 kV	37.36	44.74	37.86	45.53	1.34	1.77
Longwood TS 27.6 kV	15.41	10.79	15.43	10.79	0.13	0.00

* Includes existing and committed generation projects up to the award of FIT3 and Samsung Phase 2 & 3 contracts

Table 4: CPWP & NWECC impact on asymmetrical fault levels

Station	without CPWP & NWECC* (kA)		with CPWP & NWECC (kA)		% Difference	
	3-Phase	L-G	3-Phase	L-G	3-Phase	L-G
Bruce B SS 500 kV	54.27	63.52	54.56	63.79	0.53	0.43
Bruce A TS 500 kV	54.40	63.15	54.71	63.44	0.57	0.46
Bruce A TS 230 kV	57.47	78.24	57.57	78.37	0.17	0.17
BHWP B TS 13.8 kV A	23.04	1.98	23.04	1.98	0.00	0.00
BHWP B TS 13.8 kV B	22.33	1.98	22.33	1.98	0.00	0.00
Douglas Point TS 44 kV	16.34	8.82	16.34	8.83	0.00	0.11
Longwood TS 500 kV	24.36	26.68	24.95	27.67	2.42	3.71
Longwood TS 230 kV	45.70	57.93	46.44	59.03	1.62	1.90
Longwood TS 27.6 kV	21.54	15.67	21.57	15.68	0.14	0.06

*Includes existing and committed generation projects up to the award of FIT3 and Samsung Phase 2 & 3 contracts

Table 5: Anticipated Fault Levels Resulting from FIT3 and Samsung Phase 2 & 3 contracts

Station	Symmetrical Fault Level (kA)		Asymmetrical Fault Level (kA)	
	3-Phase	L-G	3-Phase	L-G
Bruce B SS 500 kV	37.85	42.53	55.57	64.89
Bruce A TS 500 kV	38.09	42.66	55.76	64.45
Bruce A TS 230 kV	44.36	55.86	59.39	80.43
BHWP B TS 13.8 kV A	19.79	1.98	23.06	1.98
BHWP B TS 13.8 kV B	19.77	1.98	22.35	1.98
Douglas Point TS 44 kV	14.92	6.97	17.00	8.95
Longwood TS 500 kV	20.77	21.99	25.27	27.97
Longwood TS 230 kV	38.35	46.04	47.03	59.68
Longwood TS 27.6 kV	15.44	10.80	21.59	15.69

*Includes existing, committed and proposed generation projects in the Bruce Transmission Area as per applications received by December 2011

Observations made from the short-circuit study results in Tables 3 & 4 above may be summarized as follows:

- Table 3 shows that fault levels are below the maximum symmetrical three-phase and single line-to-ground fault values set out in Appendix 2 of the *Transmission System Code (TSC)*.
- Table 3 shows that although there is a 3.82 % increase in the symmetrical short-circuit level at Longwood TS 500 kV bus, the fault levels are well below the allowable 500 kV fault limits and are acceptable to Hydro One.
- Table 4 shows that although there is a 3.71 % increase in the asymmetrical short-circuit level at Longwood TS 500 kV bus, the fault level is within Hydro One's asymmetrical breaker ratings** and are acceptable to Hydro One.

It can be observed from Table 5 that the anticipated fault levels at the stations shown are below the maximum symmetrical three-phase and single line-to-ground fault values set out in Appendix 2 of the TSC. In addition, with the exception of Bruce A TS 230 kV bus**, the anticipated fault levels are within Hydro One's breaker ratings.

**Note: The asymmetrical fault current at Bruce A 230 kV before and after the incorporation of the projects 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. The CPWP has no impact on this issue.

Conclusion

The short-circuit level increases at Bruce A TS, Bruce B SS, BHWP B TS, Douglas Point TS and Longwood TS are acceptable to Hydro One and are below Hydro One's 5 % TSC margin limit.

3.0 ADDENDUM - VOLTAGE ANALYSIS

Load flow studies were carried out to analyze the impact of CPWP in conjunction with NWECC on the voltage performance of Hydro One customers in the affected area.

Local voltage impact was assessed using load flow contingency analysis. The incorporation of CPWP and NWECC at full output was used to assess voltage change during peak summer loading conditions.

The following contingencies were used to assess the voltage impact:

- a) A single contingency loss of Parkhill CTS with all generation at full output, 383.5 MW
- b) A single contingency loss of Bruce A TS x Evergreen SS 500 kV circuit
- c) A single contingency loss of Evergreen SS x Longwood TS 500 kV circuit
- d) A double contingency loss of Evergreen SS x Longwood TS circuit and Parkhill CTS (due to Breaker Failure B/F at Evergreen SS)
- e) A double contingency loss of Evergreen SS x Longwood TS circuit and Parkhill CTS (due to Breaker Failure B/F at Evergreen SS), with Ashfield SS x Longwood TS 500 kV circuit out of service pre-contingency
- f) A double contingency loss of Bruce A TS x Evergreen SS circuit and Parkhill CTS (due to Breaker Failure B/F at Evergreen SS), with Bruce B SS x Ashfield SS 500 kV circuit out of service pre-contingency

Basic Assumptions:

- New 500 kV switching station Ashfield SS will sectionalize companion circuit B563L approximately 61.5 km from Bruce B SS to incorporate another wind energy project known as K2 Wind.
- No 500 kV shunt reactor installed at Evergreen SS (contrary to the original CIA assessment for this connection point)
- A 120 MVar at 121 kV shunt capacitor will be installed at Parkhill CTS for the combined generators reactive power capability as per IESO System Impact Assessment requirements.
- ULTC – Under Load Tap Changer
- For the period of time labeled “After ULTC”, the switching of reactive devices such as reactors and capacitors is implemented.

Results are shown in Appendix B, Tables 1 – 5 and the impact to existing customers is summarized below:

- Table B1: For the loss of Parkhill CTS (the proposed generators) the maximum voltage change is 0.18% at Longwood TS 500 kV bus before ULTC operation and is 0.16% at Longwood TS 500 kV bus after ULTC operation.
- Table B2: For the loss the 500 kV circuit between Bruce A TS and Evergreen SS the maximum voltage change is -0.67% at Longwood TS 500 kV bus before ULTC operation and is -0.67% at Longwood TS 500 kV bus after ULTC operation.
- Table B3: For the loss of the 500 kV circuit between Evergreen SS and Longwood TS, the maximum voltage change is -0.42% at Longwood TS 500 kV bus before ULTC operation and is -0.41% at Longwood TS 500 kV bus after ULTC operation.
- Table B4: For the loss of the 500 kV circuit between Evergreen SS and Longwood TS with a breaker failure at Evergreen SS which disconnects Parkhill CTS (the generators), the maximum

voltage change is -0.88% at Longwood TS 27.6 kV bus before ULTC operation and is -0.91% at Longwood TS 27.6 kV bus after ULTC operation

- **Table B5:** Given the 500 kV circuit from Ashfield SS to Longwood TS is out of service, for the loss of the 500 kV circuit between Evergreen SS and Longwood TS with a breaker failure at Evergreen SS which disconnects Parkhill CTS, the maximum voltage change is -1.98% at Longwood TS 500 kV bus before ULTC operation and is -2.01% at Longwood TS 500 kV bus after ULTC operation.
- **Table B6:** Given the 500 kV circuit from Bruce B SS to Ashfield SS is out of service, for the loss of the 500 kV circuit between Bruce A TS and Evergreen SS with a breaker failure at Evergreen SS which disconnects Parkhill CTS, the maximum voltage change is -0.53% at Longwood TS 27.6 kV bus before ULTC operation and is -0.56% at Longwood TS 27.6 kV bus after ULTC operation.

Conclusion

Load flow studies thus confirmed that the incorporation of 383.5 MW of wind generation between Bruce A TS and Longwood TS will not result in substantial change in the voltage profile of customers supplied from these stations and in the local electrical area. Following the worst contingency, the voltage changes are well within the voltage decline guideline for customer buses of less than 10% and 5% voltage change before- and after- transformer tap-changer operation.

4.0 ADDENDUM - CONCLUSIONS AND RECOMMENDATIONS

This Addendum: Customer Impact Assessment (CIA) presents results of short-circuit and voltage performance study analyses. The report has confirmed that CPWP can be incorporated into the NWECC without adverse impact on existing customers supplied from Bruce A TS and Longwood TS and in the local electrical area provided that the required facilities are installed. In addition to the facilities required by the IESO by issue of the original SIA's and their subsequent Addendums (http://www.ieso.ca/imoweb/pubs/caa/CAA_2011-446_Final_Report.pdf; http://www.ieso.ca/imoweb/pubs/caa/CAA_2011-443_Final_Report.pdf; http://www.ieso.ca/imoweb/pubs/caa/CAA_2011-441_Final_Report.pdf; http://www.ieso.ca/imoweb/pubs/caa/CAA_2011-445_Final_Report.pdf) and required by the original CIA, CPWP and NWECC are required to install the following facilities as part of their connection:

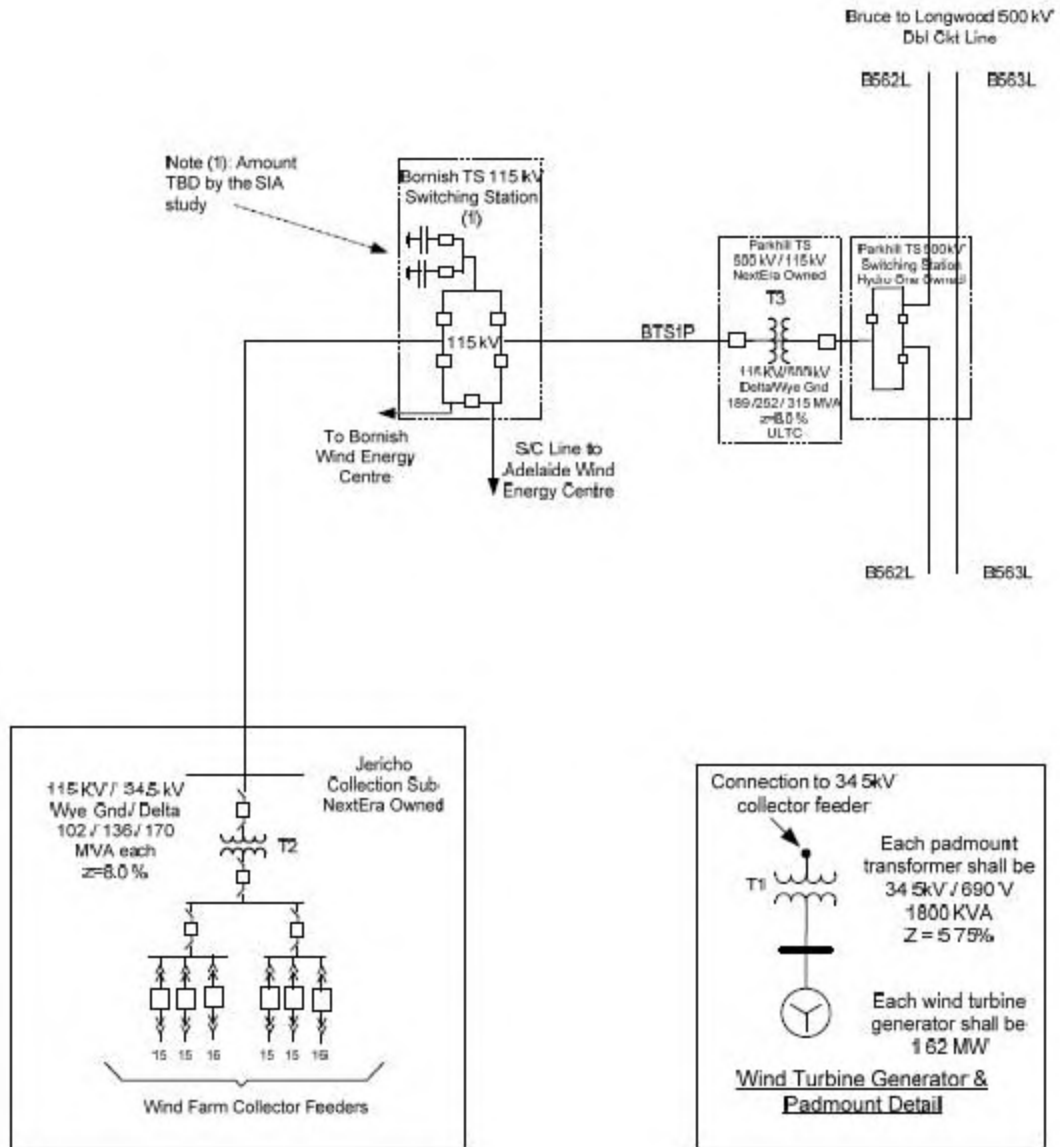
- Connection facilities at Parkhill CTS must have the capability to operate continuously at a maximum operating voltage of at least 570 kV.
- Fully duplicated protection and telecommunication systems must be installed as outlined in the Transmission System Code.
- SCADA facilities to allow transmission of generation facility components: i.e. status, measurement quantities & alarms, as outlined in the IESO's SIA and Hydro One's planning specification for the connection of CPWP.

Facilities to permit the above work must be provided.

All customers are required to check to ensure that the equipment and grounding system at their stations/facilities meet the expected increase in fault level.

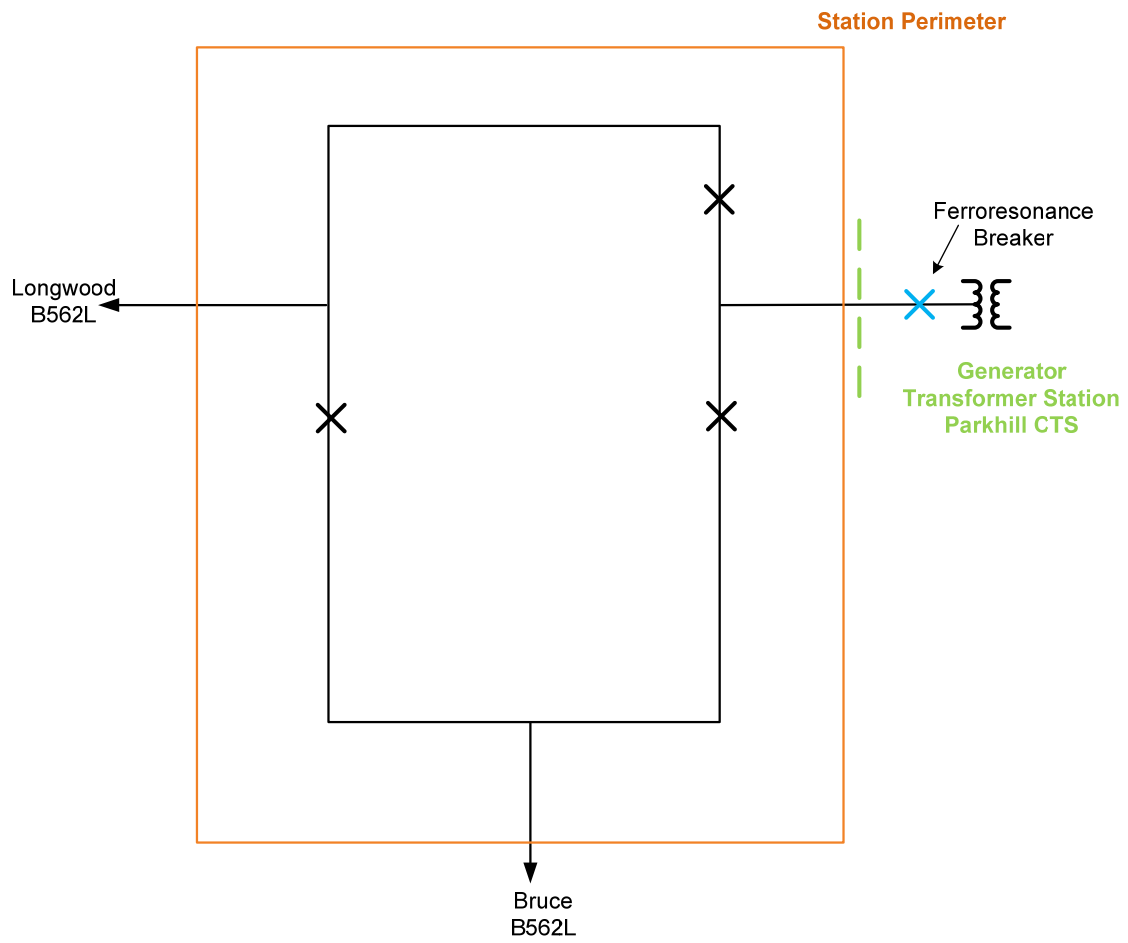
Figure 2: NEXTerA Jericho Wind Energy Centre
(Drawing from generator)

Parkhill TS 500 kV Switching Station renamed to Evergreen SS.
Parkhill TS 115 kV/500kV station renamed to Parkhill CTS



Jericho WEC

Figure 3: Evergreen Switching Station



APPENDIX B: VOLTAGE PERFORMANCE RESULTS

Table 1: Loss of Parkhill CTS

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.19	548.76	0.10	548.73	0.10
Bruce A TS 230 kV	247.12	247.26	0.06	247.25	0.06
Bruce B SS 500 kV	548.92	549.44	0.09	549.41	0.09
BHWP B TS 13.8 kV A bus	14.52	14.52	0.06	14.52	0.06
BHWP B TS 13.8 kV B bus	14.53	14.54	0.06	14.54	0.06
Douglas Point TS 44 kV	46.13	46.16	0.06	46.15	0.06
Evergreen SS 500 kV	547.17	549.61	0.45	549.50	0.43
Longwood TS 500 kV	545.66	546.64	0.18	546.51	0.16
Longwood TS 230 kV	244.82	244.63	-0.08	244.55	-0.11
Longwood TS 27.6 kV	29.04	29.01	-0.08	29.00	-0.12

Table 2: Loss of Bruce A TS x Evergreen SS

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.19	547.07	-0.20	547.07	-0.20
Bruce A TS 230 kV	247.12	246.84	-0.11	246.84	-0.11
Bruce B SS 500 kV	548.92	547.98	-0.17	547.98	-0.17
BHWP B TS 13.8 kV A bus	14.52	14.50	-0.11	14.50	-0.11
BHWP B TS 13.8 kV B bus	14.53	14.51	-0.11	14.51	-0.11
Evergreen SS 500 kV	547.17	541.12	-1.11	541.11	-1.11
Douglas Point TS 44 kV	46.13	46.07	-0.12	46.07	-0.12
Longwood TS 500 kV	545.66	542.02	-0.67	542.02	-0.67
Longwood TS 230 kV	244.82	243.47	-0.55	243.47	-0.55
Longwood TS 27.6 kV	29.04	28.87	-0.57	28.87	-0.58

Table 3: Loss of Evergreen SS x Longwood TS

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.19	547.69	-0.09	547.69	-0.09
Bruce A TS 230 kV	247.12	246.98	-0.06	246.98	-0.06
Bruce B SS 500 kV	548.92	548.45	-0.09	548.45	-0.09
BHWP B TS 13.8 kV A bus	14.52	14.51	-0.06	14.51	-0.06
BHWP B TS 13.8 kV B bus	14.53	14.52	-0.06	14.52	-0.06
Douglas Point TS 44 kV	46.13	46.10	-0.06	46.10	-0.06
Evergreen SS 500 kV	547.17	549.21	0.37	549.21	0.37
Longwood TS 500 kV	545.66	543.39	-0.42	543.40	-0.41
Longwood TS 230 kV	244.82	243.97	-0.35	243.98	-0.35
Longwood TS 27.6 kV	29.04	28.93	-0.36	28.93	-0.36

Table 4: Loss of Evergreen SS x Longwood TS & Parkhill CTS

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	548.19	549.31	0.21	549.29	0.20
Bruce A TS 230 kV	247.12	247.39	0.11	247.39	0.11
Bruce B SS 500 kV	548.92	549.85	0.17	549.83	0.17
BHWP B TS 13.8 kV A bus	14.52	14.53	0.11	14.53	0.11
BHWP B TS 13.8 kV B bus	14.53	14.55	0.11	14.55	0.11
Douglas Point TS 44 kV	46.13	46.18	0.11	46.18	0.11
Evergreen SS 500 kV	547.17	559.78*	2.30	559.75*	2.30
Longwood TS 500 kV	545.66	541.60	-0.74	541.45	-0.77
Longwood TS 230 kV	244.82	242.75	-0.85	242.67	-0.88
Longwood TS 27.6 kV	29.04	28.78	-0.88	28.77	-0.91

*Overvoltage at Evergreen SS will be managed by installing equipment capable of handling it.

Table 5: Loss of Evergreen SS x Longwood TS & Parkhill CTS while Ashfield SS x Longwood TS Out-of-Service

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	546.97	548.00	0.19	547.99	0.19
Bruce A TS 230 kV	246.81	247.05	0.10	247.04	0.10
Bruce B SS 500 kV	547.82	548.57	0.14	548.56	0.14
BHWP B TS 13.8 kV A bus	14.50	14.51	0.10	14.51	0.10
BHWP B TS 13.8 kV B bus	14.51	14.53	0.10	14.53	0.10
Douglas Point TS 44 kV	46.07	46.11	0.10	46.11	0.10
Evergreen SS 500 kV	539.60	558.44*	3.49	558.43*	3.49
Longwood TS 500 kV	536.13	525.52	-1.98	525.37	-2.01
Longwood TS 230 kV	245.05	240.44	-1.88	240.37	-1.91
Longwood TS 27.6 kV	29.06	28.50	-1.95	28.49	-1.98

*Overvoltage at Evergreen SS will be managed by installing equipment capable of handling it.

Table 6: Loss of Bruce A TS x Evergreen SS & Parkhill CTS while Bruce B SS x Ashfield SS Out-of-Service

Bus	Initial Voltage (kV)	Before ULTC (kV)	% Change	After ULTC (kV)	% Change
Bruce A TS 500 kV	547.55	546.28	-0.23	546.26	-0.24
Bruce A TS 230 kV	246.96	246.64	-0.13	246.64	-0.13
Bruce B SS 500 kV	548.19	547.07	-0.20	547.05	-0.21
BHWP B TS 13.8 kV A bus	14.51	14.49	-0.13	14.49	-0.13
BHWP B TS 13.8 kV B bus	14.52	14.50	-0.13	14.50	-0.13
Douglas Point TS 44 kV	46.10	46.04	-0.13	46.04	-0.13
Evergreen SS 500 kV	546.82	544.24	-0.47	544.08	-0.50
Longwood TS 500 kV	545.35	543.59	-0.32	543.44	-0.35
Longwood TS 230 kV	244.70	243.46	-0.51	243.37	-0.54
Longwood TS 27.6 kV	29.02	28.87	-0.53	28.86	-0.56

APPENDIX 'C'

FINAL CUSTOMER IMPACT ASSESSMENT REPORT - ADDENDUM #2



Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5

- 2ND ADDENDUM -
CUSTOMER IMPACT ASSESSMENT

CEDAR POINT II WIND POWER PROJECT
ADELAIDE / BORNISH / JERICHO WIND ENERGY CENTRES

100 MW Wind Turbine Generation Connection
283.5 MW Wind Turbine Generation Connection

- FINAL -


Revision: 0


Date: February 1, 2013

Issued by: **Transmission System Development Division**
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Hydro One Networks Inc.

Disclaimer

This Customer Impact Assessment was prepared based on information available about the connection of the proposed NEXtera ENERGY Canada ULC – Adelaide, Bornish and Jericho Wind Energy Centre’s (WEC’s). 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 NEXtera ENERGY in respect of the Customer Impact Assessment is governed by the Agreement between:

1. Kerwood Wind, Inc. (Adelaide WEC) and Hydro One dated September 14, 2011.
2. Bornish Wind L.P. (Bornish WEC) and Hydro One dated September 14, 2011
3. Jericho Wind, Inc. (Jericho WEC) and Hydro One dated September 14, 2011

PURPOSE

The purpose of this second addendum is to acknowledge the modification to NEXtera's interconnection station, Parkhill CTS (Customer Transformer Station), figure 1. Hydro One determined that the proposed modifications were not sufficient enough to warrant detailed studies but rather a review for acceptance was deemed reasonable. This addendum will only comment on the proposed modifications.

REVIEW

Table 1: Technical Review for Acceptance

Modification	Description	Short Circuit Impact	Voltage Impact	Result
Replace one (1) 500 kV interconnection transformer with two (2) smaller MVA sized 500 kV interconnection transformers	The new transformers will be 525/121/27.6 kV 135/180/225 MVA. The equivalent impedance of the new transformer is 9.48% on 256 MVA as opposed to the original transformer's 9.997% on 256 MVA. This is a 5.2% decrease in impedance	The decrease in impedance will not materially impact the previous short circuit results considering those results were well within acceptable standards and safety margins.	The decrease in impedance will not materially impact the previous voltage results on customer buses considering those results were well within acceptable voltage deviation standards.	Accept
Increased number of breakers to aid in the protection of the additional transformer	Each 525/121/27.6 kV autotransformer at Parkhill CTS will be protected by a HV and LV breaker.	N/A	N/A	Accept

Operating Conditions

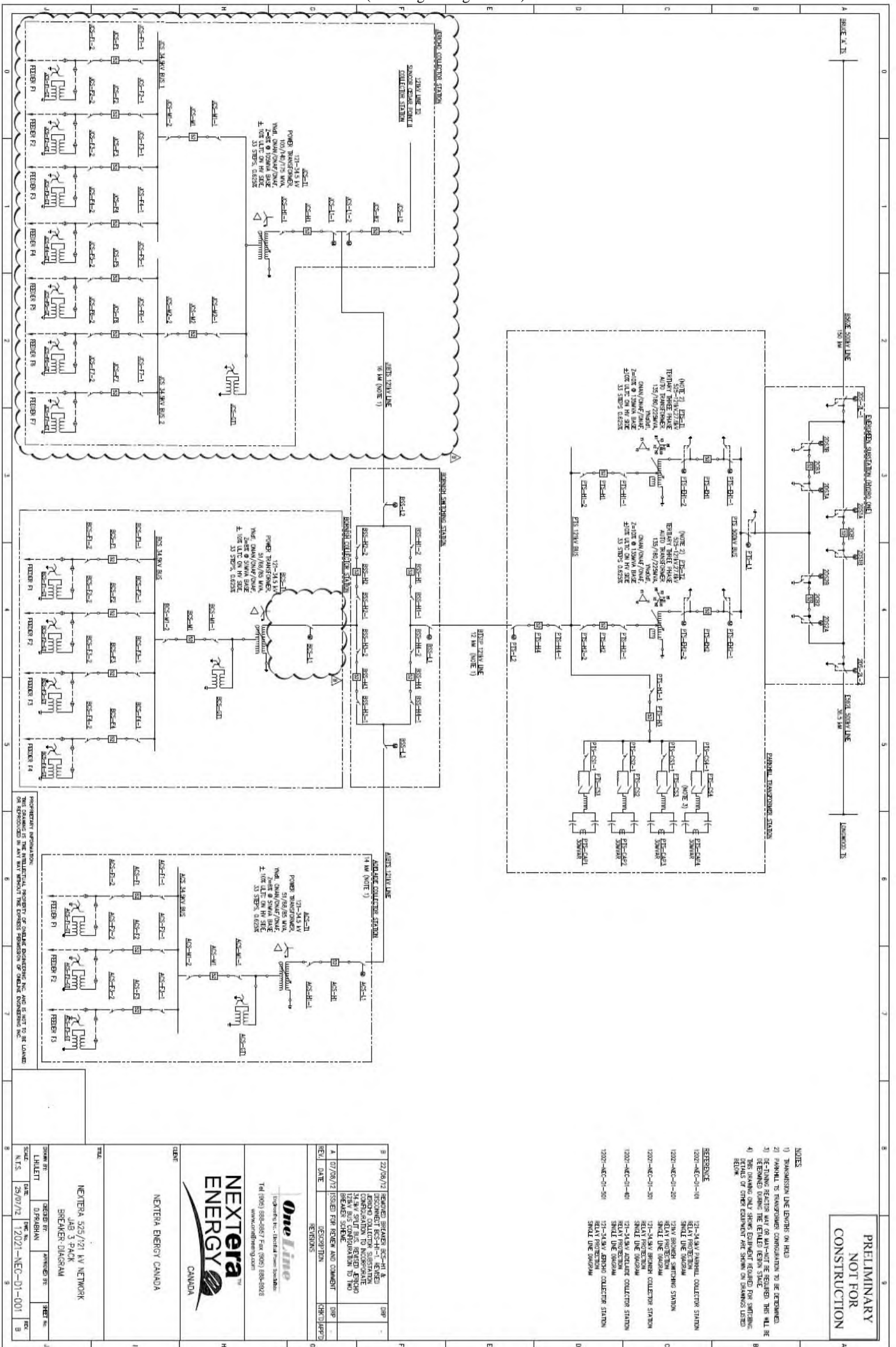
Normal operating conditions are such that the combined outputs of NEXtera 500 kV Wind Energy Centers (NWEC) and Cedar Point Wind Project (CPWP) will solely generate into Evergreen SS. When NEXtera's 500 kV transformer breakers PTS-EH1 and PTS-EH2 that connect to the 500 kV ring bus at Evergreen SS are taken out of service, NWEC and CPWP will not generate onto Hydro One's systems, transmission nor distribution.

ADDENDUM - CONCLUSIONS AND RECOMMENDATIONS

This 2nd Addendum: Customer Impact Assessment (CIA) describes the modifications to the NEXtera's interconnection station, Parkhill CTS. The report has confirmed that Hydro One can accept NEXtera's proposed modifications without adverse impact on existing customers supplied from Bruce A TS and Longwood TS and in the local electrical area. Note, all previous requirements in the original CIA and the original SIA and their subsequent addendums are still valid.

APPENDIX A: DIAGRAMS

Figure 1: NEXtera's Parkhill CTS
(Drawing from generator)



PRELIMINARY
NOT FOR
CONSTRUCTION