SCHEDULE "B"

Approved Road Use Plans

B1 Jericho Transmission Plan and Profile

B2 Jericho Transmission Foundation Designs

B3 Jericho Transmission Pole Configurations

B4 Jericho Transmission Pole Clear Zone Mitigation Map

B5 Jericho Transmission Pole Clearance from Edge of Roadway

B6 Jericho Typical Culvert Cross Section

B7a Jericho Transmission Line Construction Methods

B7b Jericho Distribution (Collection) Construction Methods

B8 Jericho Conductor Horizontal Clearances

B9 Jericho Distribution (Collection) Longitudinal Cross-Sections

B10 Jericho Distribution (Collection) Perpendicular Cross-Sections

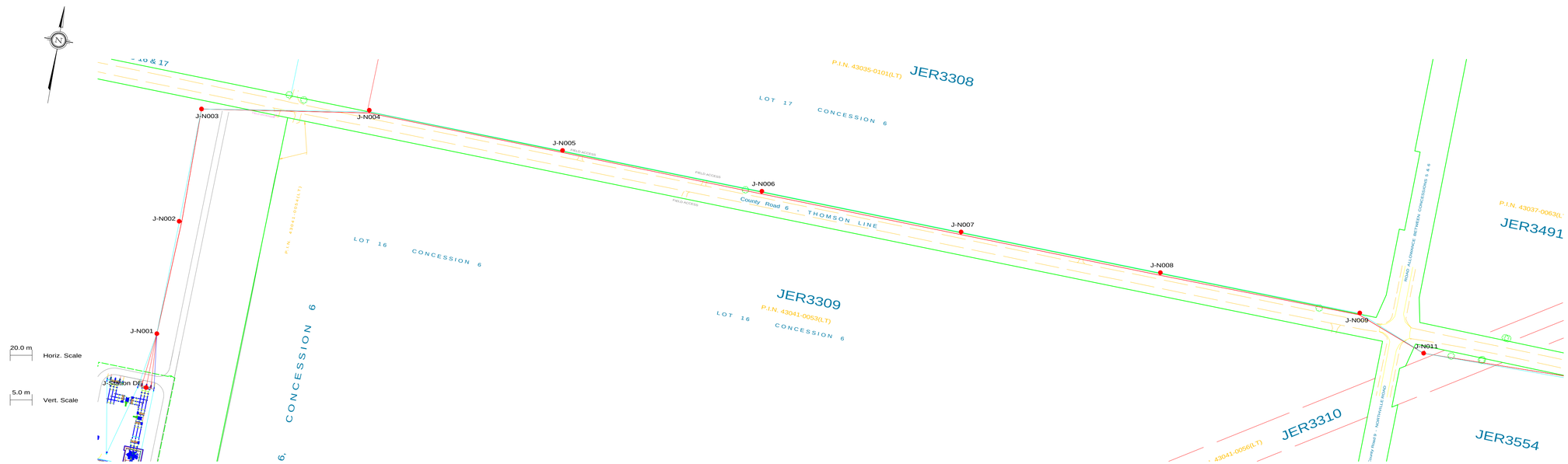
B11 Jericho Distribution (Collection) Location Map

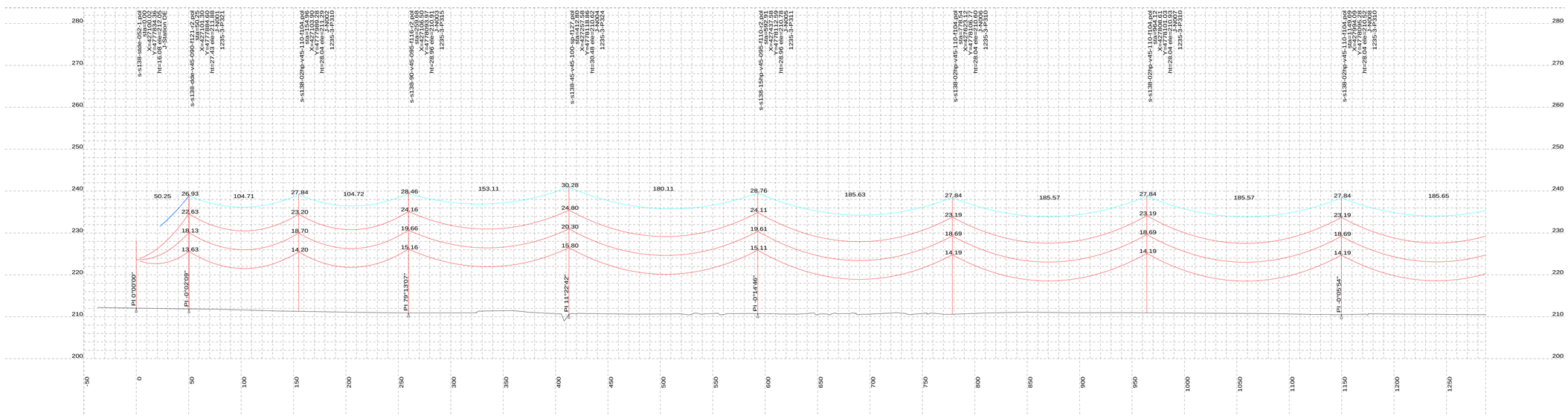
B12 Improvements to Intersections

Schedule B1

Jericho Transmission Plan and Profile

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 2 x 115kV 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-f104.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.
1235-3-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.
4. MINIMUM VERTICAL CLEARANCE OVER ROAD WILL BE 6.2 METERS PER CSA C22.3 NO.1.

NEXTera ENERGY CANADA

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	M.H.	E.K.					M	22/01/14		ISSUED FOR ROAD USE AGREEMENT			

STAMP/SEAL

CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		
PROJECT NO.	ACTIVITY NO.	
SCALE: N.T.S.	PACKAGE CODE	

	BY	DDMMYY
DSN	E.KWONG	21/08/12
DRN	M.HUANG	21/08/12
CHK		
APP		

AREA: JERICHO WIND PROJECT 1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 1 OF 7

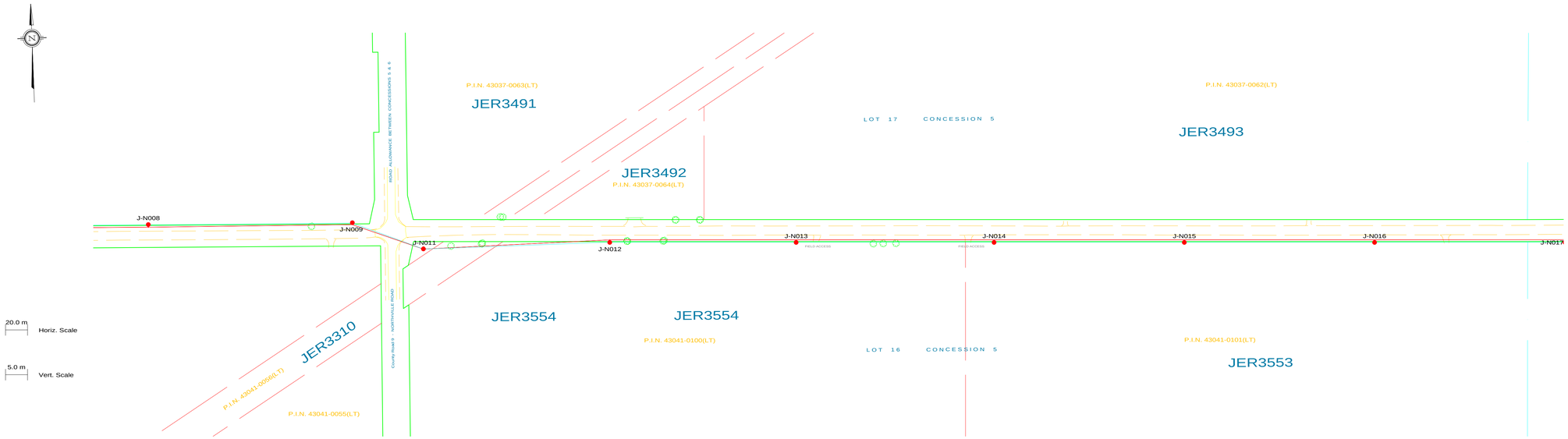
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

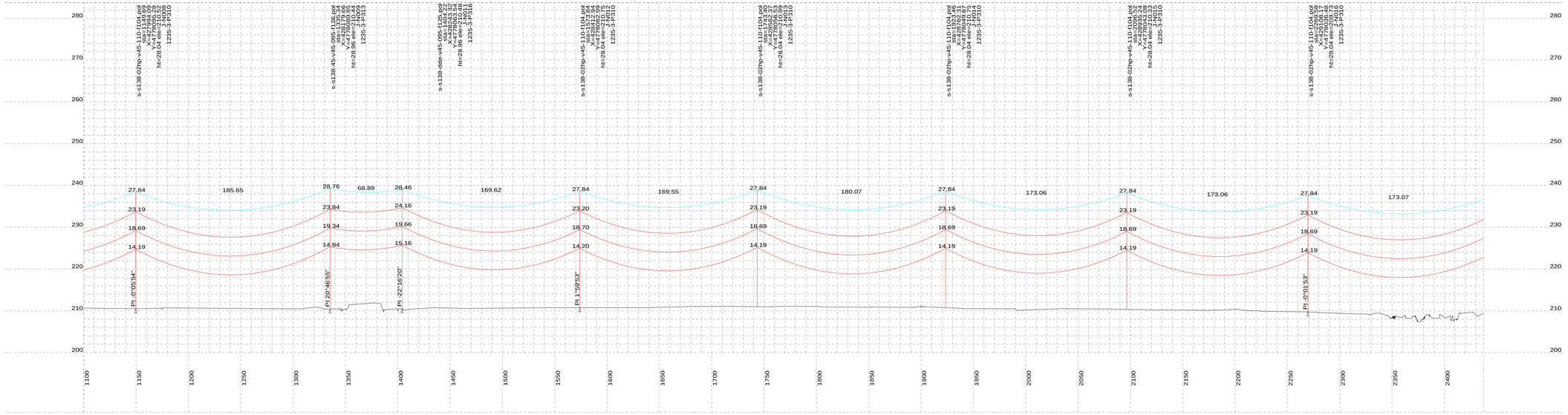
CLIENT DWG. NO.

DRAWING NO. 1235-3-P012-S1 REV. M

CAD FILE: PLS-Cadd 1235-3-P012-P1

PLS-CADD Drawing





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- OPGW
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- LEGAL LIMIT OF ROAD ALLOWANCE
- ASPHALT EDGE
- EDGE OF SHOULDER
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STRUCTURE DESCRIPTION LEGEND:

s-s138-02hp-v45-110-f104.pol	PLS-POLE FILE IDENTIFICATION
sta	STATION CHAINAGE
X	UTM EASTING
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J-N002	STRUCTURE NO.
1235-3-P310	FRAMING DRAWING NO.

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NEXTera ENERGY CANADA

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	M.H.	E.K.				

ISS	DDMMYY	ISSUED FOR	APP
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	

REF	NUMBER	TITLE

STAMP/SEAL

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

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

AREA: JERICHO WIND PROJECT
1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN
PLAN & PROFILE DRAWINGS
SHEET 2 OF 7

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

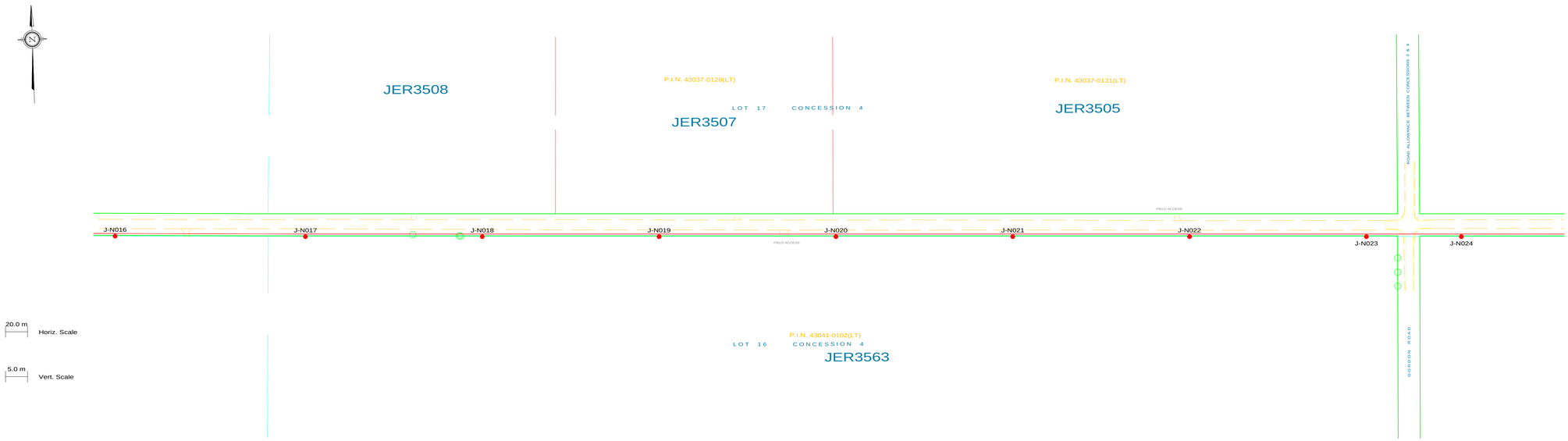
CLIENT DWG. NO.

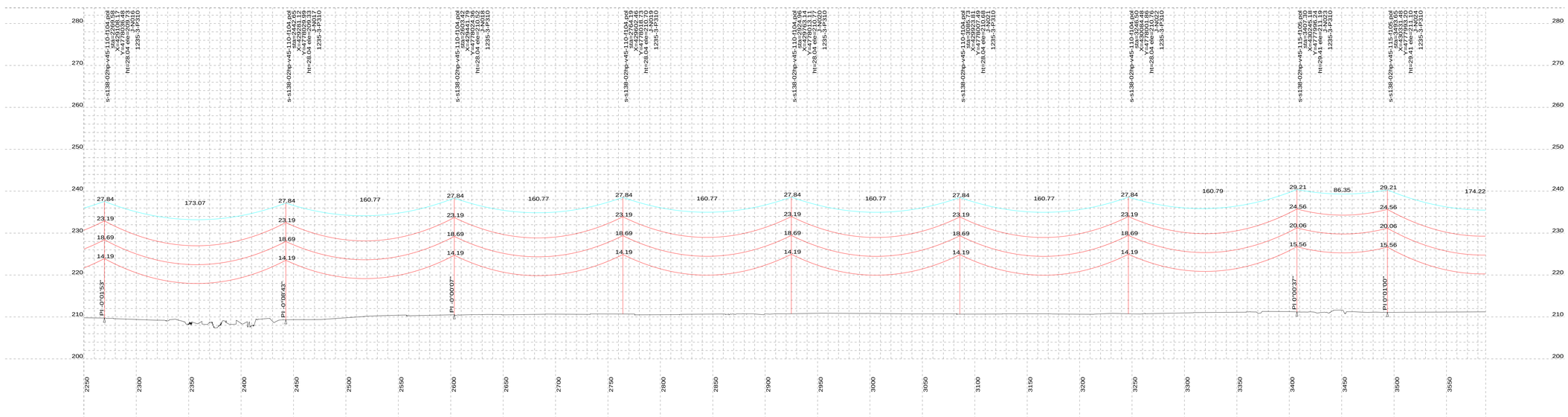
DRAWING NO. 1235-3-P012-S2

REV. M

CAD FILE: PLS-Cadd 1235-3-P012-P1

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

- 2 x 115kV 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-f104.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.
1235-3-P310	FRAMING DRAWING NO.

NOTES:

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4. MINIMUM VERTICAL CLEARANCE OVER ROAD WILL BE 6.2 METERS PER CSA C22.3 NO.1.

NEXTera ENERGY CANADA

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP	ISS	DDMMYY	APP	ISSUED FOR	REF	NUMBER	TITLE
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	M.H.	E.K.					M	22/01/14		ISSUED FOR ROAD USE AGREEMENT			

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CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		
PROJECT NO.	ACTIVITY NO.	

	BY	DDMMYY
DSN	E.KWONG	21/08/12
DRN	M.HUANG	21/08/12
CHK		
APP		

SCALE N.T.S.

PACKAGE CODE

AREA: JERICHO WIND PROJECT 1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 3 OF 7

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

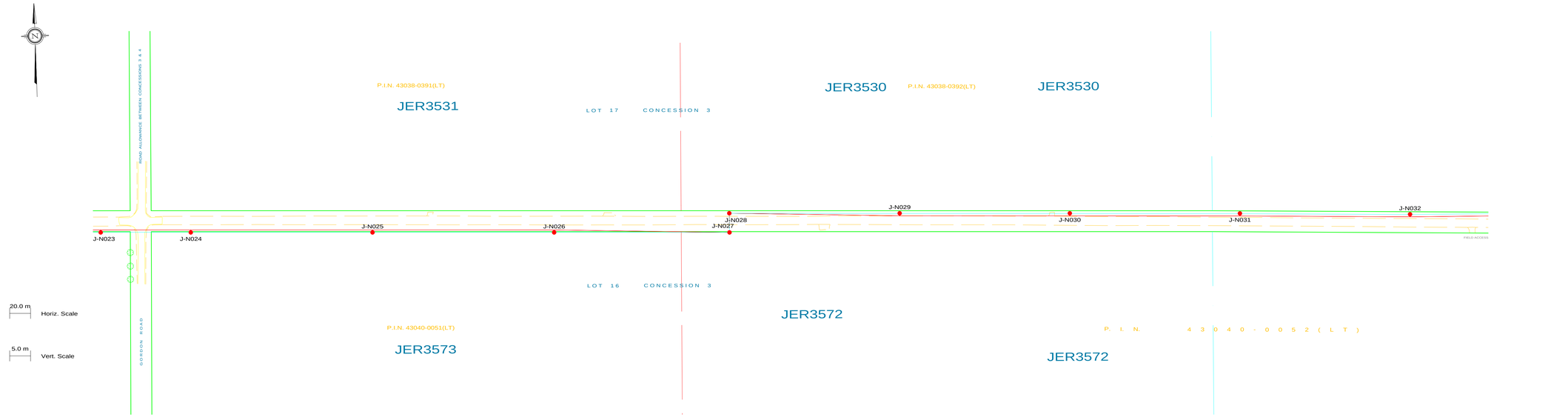
CLIENT DWG. NO.

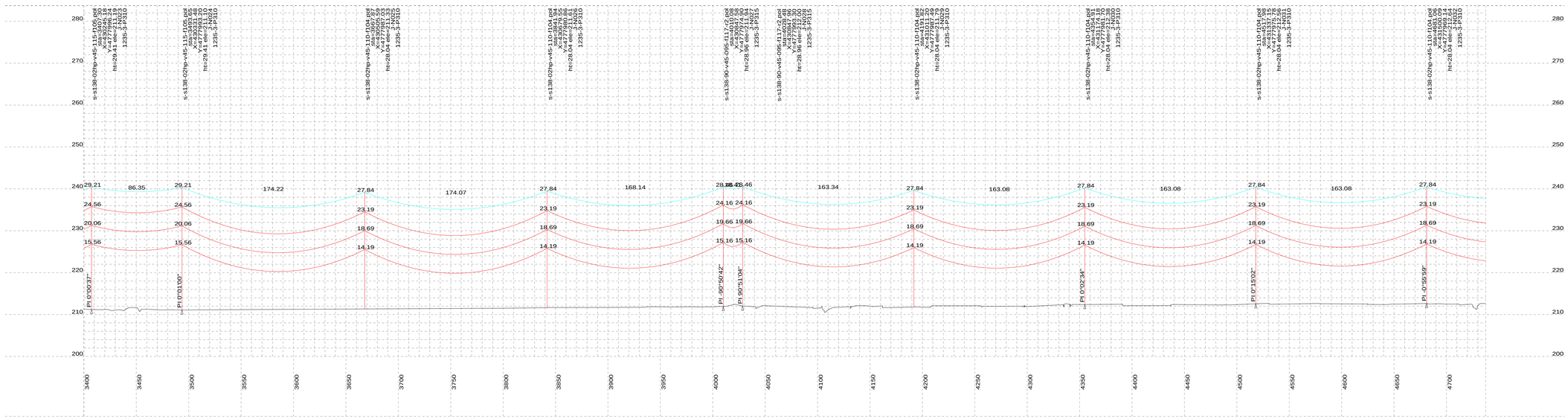
DRAWING NO. 1235-3-P012-S3

REV. M

CAD FILE: PLS-Cadd 1235-3-P012-P1

PLS-CADD Drawing





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s-s138-02hp-v45-110-f104.pol	PLS-POLE FILE IDENTIFICATION
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X	UTM EASTING
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ele	GROUND ELEVATION (M)
J-N002	STRUCTURE NO.
1235-3-P310	FRAMING DRAWING NO.

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NEXTera ENERGY CANADA

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	M.H.	E.K.				

ISS	DDMMYY	ISSUED FOR	APP
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	

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CLIENT PROJECT MGR.	DEPARTMENT MGR.	PROJECT MGR.
PROJECT PHASE		

PROJECT NO.	ACTIVITY NO.		BY	DDMMYY
		DSN	E.KWONG	21/08/12
		DRN	M.HUANG	21/08/12
		CHK		
		APP		

SCALE	PACKAGE CODE
N.T.S.	

AREA: JERICHO WIND PROJECT 1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 4 OF 7

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

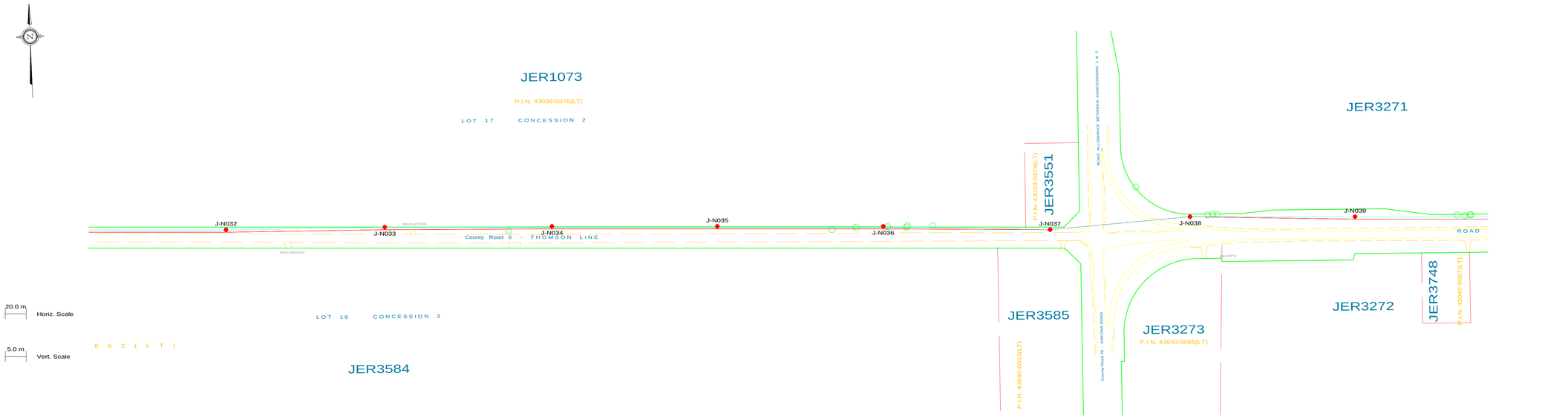
CLIENT DWG. NO.

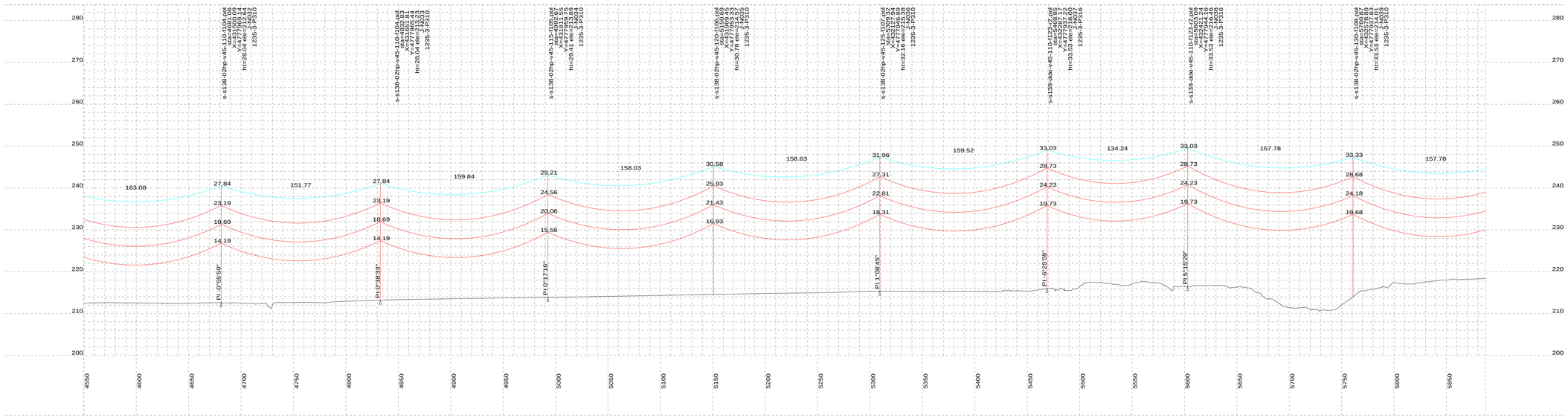
DRAWING NO. 1235-3-P012-S4

REV. M

CAD FILE: PLS-Cadd 1235-3-P012-P1

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

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J-N002	STRUCTURE NO.
1235-3-P310	FRAMING DRAWING NO.

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M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	M.H.	E.K.					M	22/01/14		ISSUED FOR ROAD USE AGREEMENT			

STAMP/SEAL

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. | ACTIVITY NO. | SCALE: N.T.S. | PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	21/08/12
DRN	M.HUANG	21/08/12
CHK		
APP		

AREA: JERICHO WIND PROJECT 1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 5 OF 7

CLIENT DWG. NO.

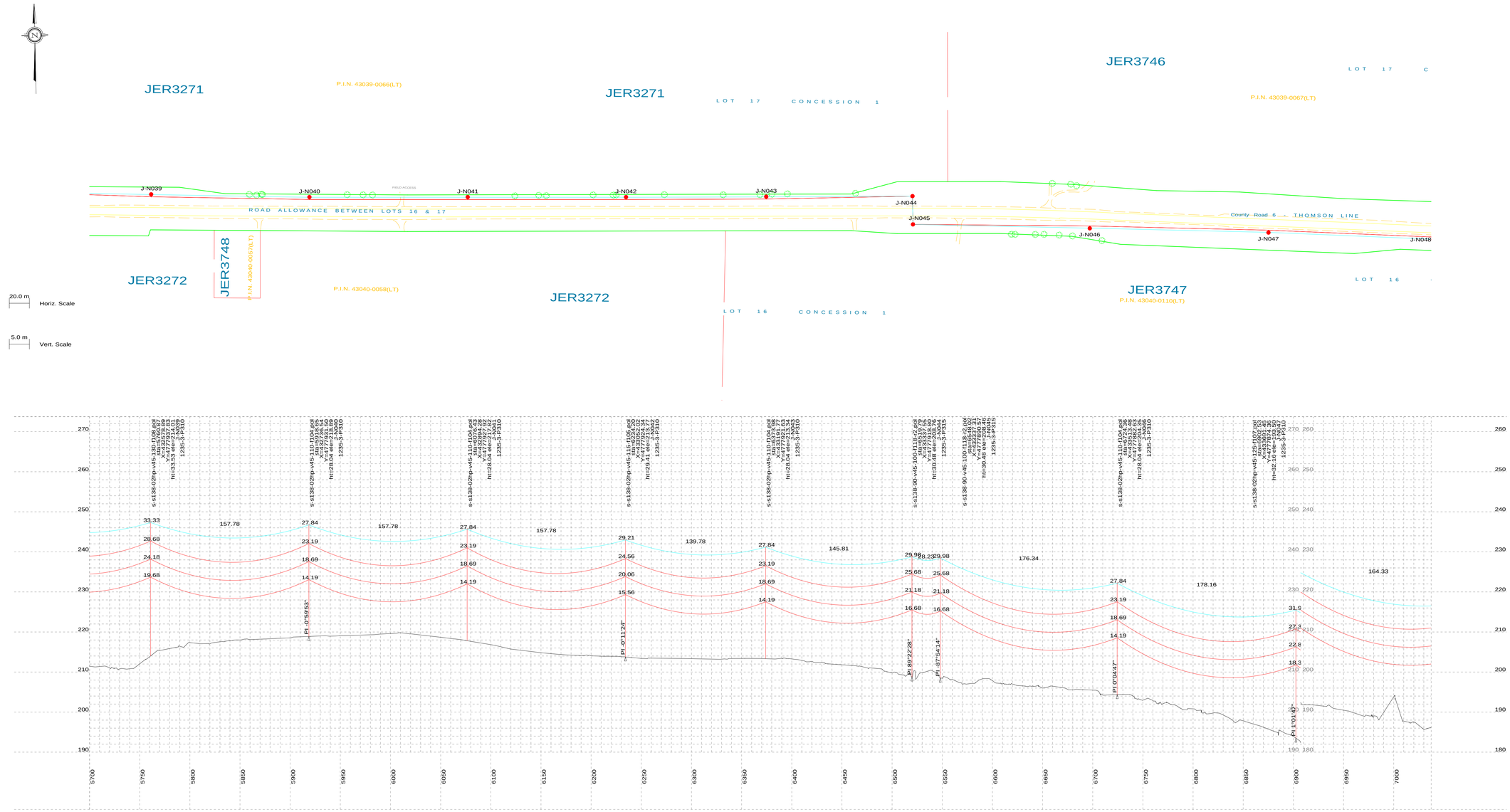
DRAWING NO.: 1235-3-P012-S5 | REV.: M

CAD FILE: PLS-Cadd 1235-3-P012-P1

NEXTera ENERGY CANADA

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

PLS-CADD Drawing



PLAN & PROFILE LEGEND:

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- LEGAL LIMIT OF ROAD ALLOWANCE
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STRUCTURE DESCRIPTION LEGEND:

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1235-3-P310	FRAMING DRAWING NO.

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NEXTera ENERGY CANADA

REV	DDMMYY	REVISION	DR	CHK	APP	APP	APP	APP
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT	M.H.	E.K.				

ISS	DDMMYY	APP	ISSUED FOR
M	22/01/14		ISSUED FOR ROAD USE AGREEMENT

REF	NUMBER	REFERENCES

STAMP/SEAL

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. ACTIVITY NO. SCALE N.T.S. PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	21/08/12
DRN	M.HUANG	21/08/12
CHK		
APP		

AREA: JERICHO WIND PROJECT 1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 6 OF 7

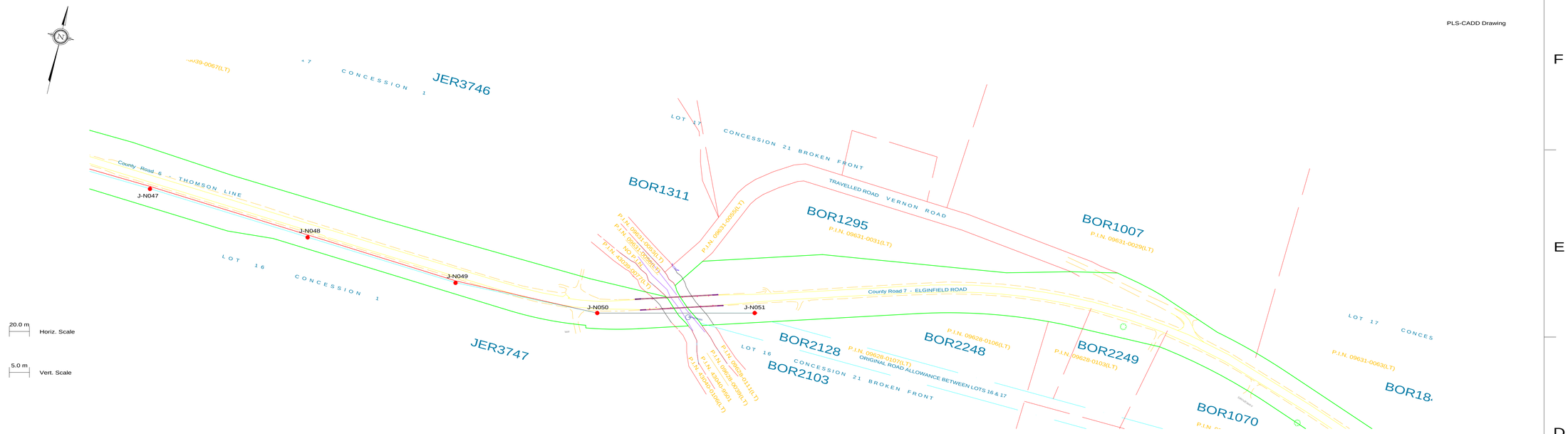
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

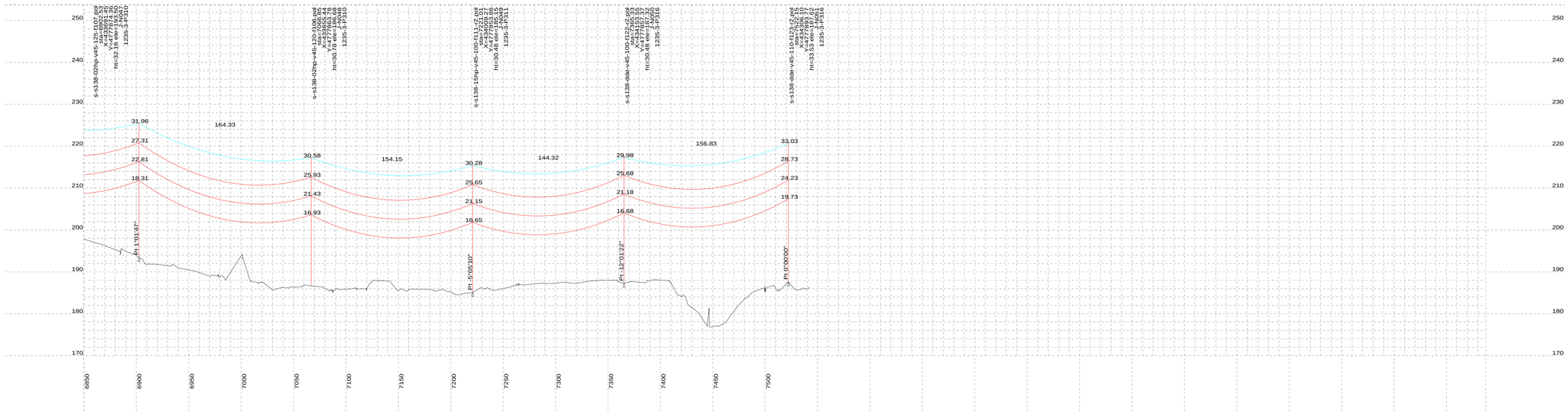
CLIENT DWG. NO.

DRAWING NO. 1235-3-P012-S6 REV. M

CAD FILE: PLS-Cadd 1235-3-P012-P1

PLS-CADD Drawing





PLAN & PROFILE LEGEND:

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

STRUCTURE DESCRIPTION LEGEND:

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1235-3-P310	FRAMING DRAWING NO.

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ISS	DDMMYY	ISSUED FOR	REF	NUMBER	TITLE
M	22/01/14	ISSUED FOR ROAD USE AGREEMENT			

REFERENCES

STAMP/SEAL

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. | ACTIVITY NO. | SCALE: N.T.S. | PACKAGE CODE

	BY	DDMMYY
DSN	E.KWONG	21/08/12
DRN	M.HUANG	21/08/12
CHK		
APP		

AREA: JERICHO WIND PROJECT 1CCT 115kV TRANSMISSION LINE

SUBJECT: STEEL POLE DESIGN PLAN & PROFILE DRAWINGS SHEET 7 OF 7

CLIENT DWG. NO.

DRAWING NO. 1235-3-P012-S7 | REV. M

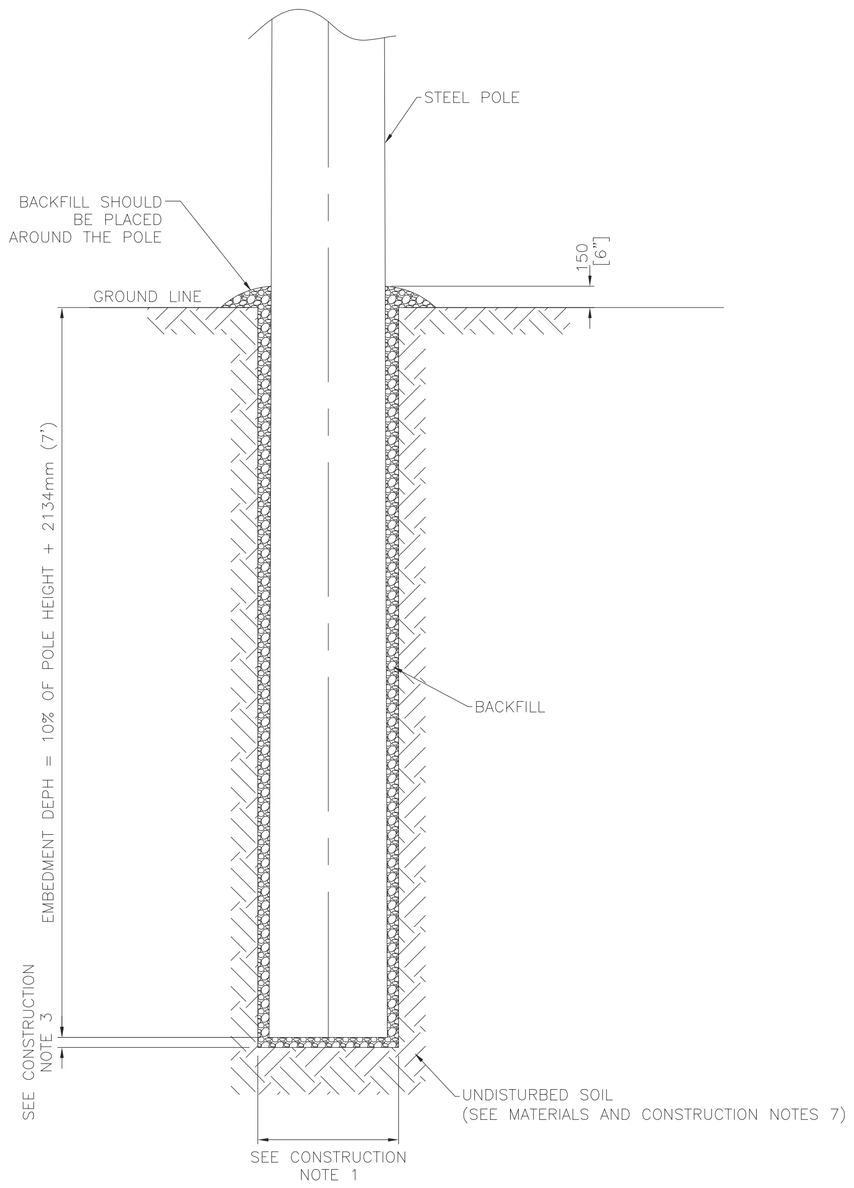
CAD FILE: PLS-Cadd 1235-3-P012-P1

NEXTera ENERGY CANADA

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

Schedule B2

Jericho Transmission Foundation Designs



SECTION VIEW

TYPICAL DIRECT EMBEDMENT DETAILS FOR POLE FOUNDATION

GENERAL NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PLAN AND PROFILE DRAWINGS (DWG#1235-3-P012), ANCHOR BOLT DRAWINGS AND STAKING INFORMATION.
2. FOR POLE FRAMING DETAILS, SEE DWG#1235-2-P3XX SERIES
3. ALL DIMENSIONS AS SHOWN ARE METRIC IN MILLIMETERS U.N.O.

DESIGN ASSUMPTION

1. GROUND WATER LEVEL IS DESIGNED AT GRADE.
2. FROST DEPTH IS 1.2m (4') BELOW GRADE
3. BASED ON THE INFORMATION ON BOREHOLE RECORD, THE FOLLOWING DESIGN PARAMETER AND ASSUMPTIONS ARE ADOPTED FOR THE FOUNDATION DESIGN:
   A. FROM 0m TO 1.2m BELOW GRADE, ASSUMED LOOSE CONDITION WITH FRICTION ANGLE = 20 DEG
   B. FROM 1.2m TO 1.6m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 8 (COHESIVE) FOR STRUCTURE B-N001 TO B-N027, AND 'N' = 5 (COHESIVE) FOR STRUCTURE B-N028 TO B-N082
   C. FROM 1.6m TO 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 10 (COHESIVE)
   D. FROM 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 15 (COHESIVE)

FOUNDATION MATERIAL AND CONSTRUCTION NOTES

1. MINIMUM DIAMETER OF HOLE EXCAVATION SHALL BE POLE BUTT DIAMETER + 300mm (12").
2. DEPTH OF HOLE IN SLOPING GROUND SHALL BE MEASURED FROM THE LOWER SIDE OF HOLE.
3. A MINMUM OF 450mm (18") OF CRUSH STONE OR ROCKS SHALL BE USED AND TO BACKFILL THE BOTTOM OF THE POLE HOLE. PROPER COMPACTION OF BACKFILL MATERIAL SHALL BE ENSURED. THE CONTRACTOR SHALL ENSURE THE MINIMUM POLE EMBEDMENT DEPTH IS ACHIEVED WITH THE BACKFILL.
4. ALL EXCAVATIONS SHALL BE PERFORMED IN A MANNER THAT SHALL ENSURE PROPER DRAINAGE DURING THE COURSE OF WORK. FLOODED EXCAVATIONS SHALL BE DEWATERED AND ALL MUCK SHALL BE REMOVED BEFORE PROCEEDING WITH WORK. ALL EXCAVATIONS SHALL BE SUFFICIENTLY SUPPORTED TO PREVENT COLLAPSE.
5. AFTER EXCAVATION, EXPOSED SOIL SURFACES SHALL BE PROTECTED PRIOR TO POLE PLACEMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADOPT PROPER CONSTRUCTION AND EXCAVATION METHOD BASED ON THE SOIL CONDITION FOUND ON SITE
6. ALL EXCAVATION, BACKFILL AND INSTALLATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL PERSONNEL.
7. PRIOR TO THE PLACEMENT OF POLE, EXCAVATION SHALL BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO CONFIRM THAT THE SOIL PROPERTIES ARE CONSISTENT WITH THE GEOTECHNICAL INVESTIGATION REPORT AND DESIGN PARAMETERS
8. ALL BACKFILL SURROUNDING FOUNDATIONS SHALL BE SELF-COMPACTED SCREENING OR WELL GRADED PIT RUN GRAVEL THAT CONFORMS TO RECOMMENDED SPECIFICATIONS FOR GRANULAR MATERIALS IN THE GEOTECHNICAL REPORT AND SHALL BE COMPACTED TO 95% SPMDD WITH MAX LIFT OF 300mm.
9. SAFETY MEASURES SHALL BE PROVIDED AFTER EXCAVATION TO ENSURE WORKPLACE SAFETY.
10. IN ADDITION TO THE CONSTRUCTION NOTES STATED ABOVE, ALL CONSTRUCTION WORKS SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AS LISTED AS FOLLOWS WHEN THEY ARE APPLICABLE:
   A. CAISSON DRILLING
   B. FOUNDATION EXCAVATION AND FILL
   C. REINFORCED CONCRETE

NOT FOR CONSTRUCTION
DESIGN IN PROGRESS

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP
B	12/09/13	ISSUED FOR PERMIT	J.C.	M.H.				
A	14/05/13	ISSUED FOR TENDER	J.C.	W.L.				

ISS	D/M/Y	APP	ISSUED FOR
B	12/09/13		ISSUED FOR PERMIT
A	14/05/13		ISSUED FOR TENDER

REF	NUMBER	TITLE

REFERENCES

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. | ACTIVITY NO. | PACKAGE CODE

SCALE: NTS (D-SIZE)

	BY	D/M/Y
DSN.	K.WONG	13/05/13
DRN.	J.CHEN	13/05/13

AREA: JERICHO WIND PROJECT

SUBJECT: 1CCT 115kV TRANSMISSION LINE DIRECT EMBEDMENT POLE FOUNDATION

NEXTera ENERGY CANADA

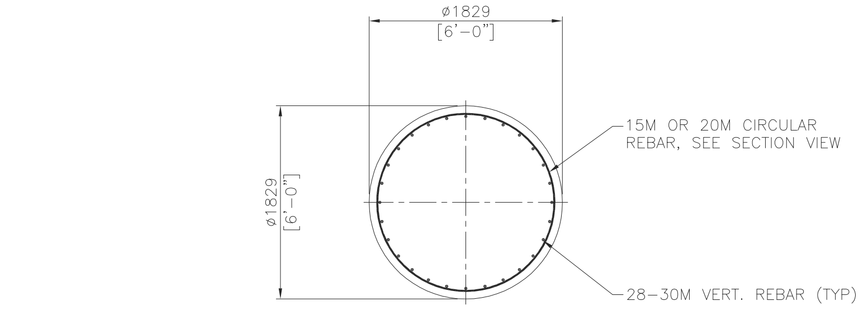
Chimax Inc.
Engineering Company
3050 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

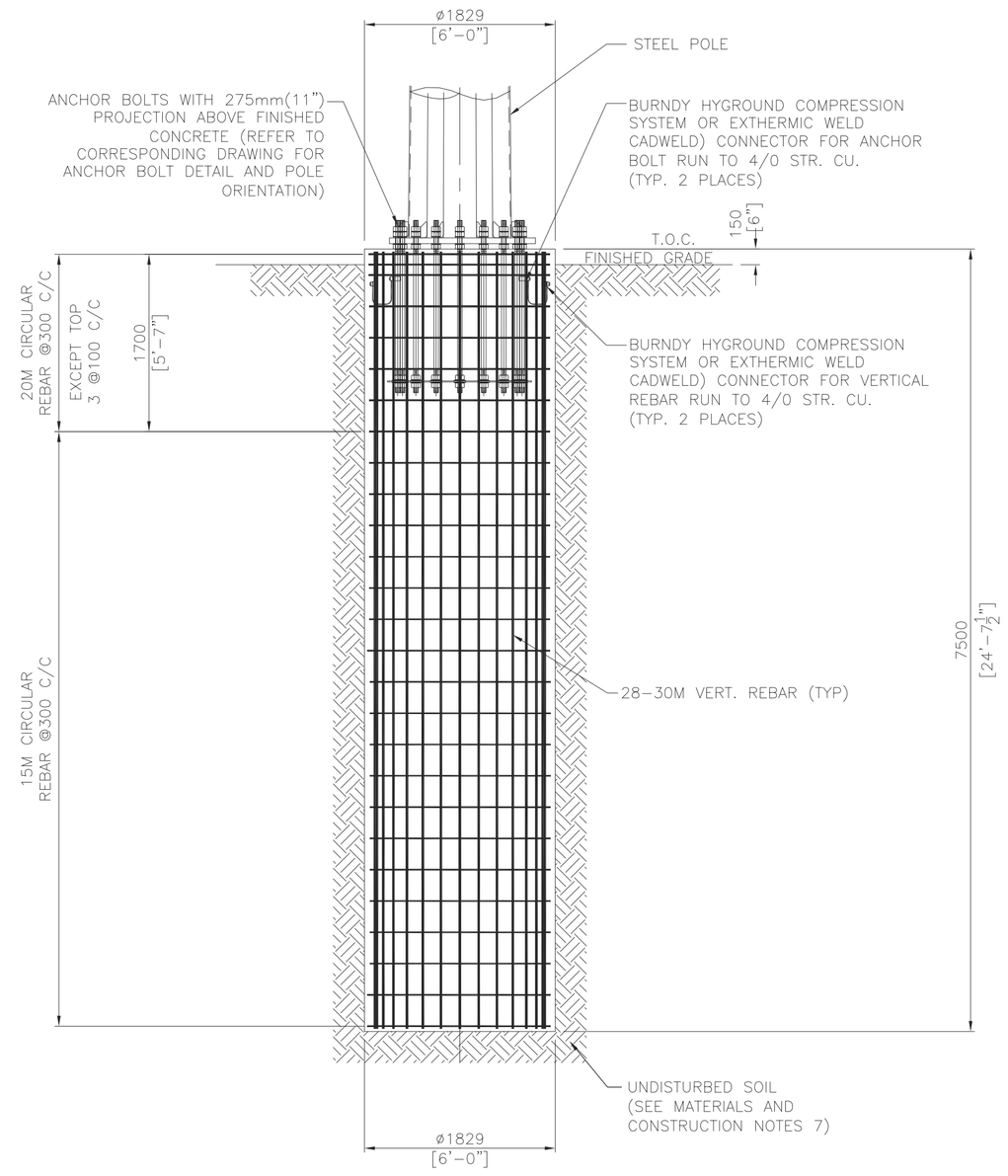
DRAWING NO. 1235-3-C001

REV. B

CADD FILE ADDRESS 1235-3-C001-B



TOP VIEW



SECTION VIEW

TYPICAL DETAILS FOR
POLE FOUNDATION TYPE A

GENERAL NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PLAN AND PROFILE DRAWINGS (DWG#1235-3-P012), ANCHOR BOLT DRAWINGS AND STAKING INFORMATION.
2. FOR POLE FRAMING DETAILS, SEE DWG#1235-2-P3XX SERIES
3. FOR ANCHOR BOLT DETAILS, SEE DWG#1235-3-F101 AND 102.
4. ALL DIMENSIONS AS SHOWN ARE METRIC IN MILLIMETERS U.N.O.

DESIGN ASSUMPTION

1. GROUND WATER LEVEL IS DESIGNED AT GRADE.
2. FROST DEPTH IS 1.2m (4') BELOW GRADE
3. BASED ON THE INFORMATION ON BOREHOLE RECORD, THE FOLLOWING DESIGN PARAMETER AND ASSUMPTIONS ARE ADOPTED FOR THE FOUNDATION DESIGN:
   A. FROM 0m TO 1.2m BELOW GRADE, ASSUMED LOOSE CONDITION WITH FRICTION ANGLE = 20 DEG
   B. FROM 1.2m TO 1.6m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 8 (COHESIVE) FOR STRUCTURE B-N001 TO B-N027, AND 'N' = 5 (COHESIVE) FOR STRUCTURE B-N028 TO B-N082
   C. FROM 1.6m TO 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 10 (COHESIVE)
   D. FROM 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 15 (COHESIVE)

FOUNDATION MATERIAL AND CONSTRUCTION NOTES

1. CONCRETE MATERIAL, DESIGN, TESTING AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA STANDARD CAN 2-A23 SERIES.
2. CONCRETE SPECIFICATION
   SUPPLY AND DELIVERY OF CONCRETE SHALL BE AS FOLLOWS:
   A. MINIMUM COMPRESSIVE STRENGTH: 35 MPa AT 28 DAYS
   B. SPECIFICATIONS ON PORTLAND CEMENT: TYPE GU NORMAL PORTLAND CEMENT, EXPOSURE CLASS C-1
   C. 4%-7% AIR CONTENT
   D. MIN. 3 CYLINDERS TESTING WITH ONE AT 7 DAYS AND TWO AT 28 DAYS ARE REQUIRED
3. UNLESS OTHERWISE SPECIFIED, MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
   - CONCRETE CAST AGAINST SOIL = 75mm
   - FORMED CONCRETE WITH DIRECT CONTACT TO SOIL = 50mm
   - CONCRETE SURFACE EXPOSED TO WEATHER = 50mm
4. REINFORCING STEEL SHALL BE DEFORMED STEEL BAR WITH MINIMUM YIELD STRENGTH OF 400 MPa (60PSI) AND CONFIRMING TO CSA G30.12 GR.400 EXCEPT TIES AND STIRRUPS WHICH SHALL BE GRADE 300.
5. MINIMUM SPLICES, LAPS AND HOOKS SHALL BE IN ACCORDANCE WITH CAN 3-A23.1
6. ALL OTHER STEEL MATERIAL SHALL BE CSA-G40.21-M300W U.N.O. AND SHALL BE HOT DIP GALVANIZED FINISH ACCORDING TO CSA-G164 U.N.O.
7. ALL EXCAVATIONS SHALL BE PERFORMED IN A MANNER THAT SHALL ENSURE PROPER DRAINAGE DURING THE COURSE OF WORK. FLOODED EXCAVATIONS SHALL BE DEWATERED AND ALL MUCK SHALL BE REMOVED BEFORE PROCEEDING WITH WORK. ALL EXCAVATIONS SHALL BE SUFFICIENTLY SUPPORTED TO PREVENT COLLAPSE.
8. AFTER EXCAVATION, EXPOSED SOIL SURFACES SHALL BE PROTECTED PRIOR TO CONCRETE CASTING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADOPT PROPER CONSTRUCTION AND EXCAVATION METHOD BASED ON THE SOIL CONDITION FOUND ON SITE
9. PRIOR TO THE PLACEMENT OF CONCRETE, BOTTOM OF FOUNDATIONS SHALL BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO CONFIRM THAT THE SOIL PROPERTIES ARE CONSISTENT WITH THE GEOTECHNICAL INVESTIGATION REPORT AND DESIGN PARAMETERS
10. BEFORE PLACING CONCRETE, CONTRACTOR SHALL VERIFY ANCHOR BOLTS AND LOCATIONS OF ALL MECHANICAL, UTILITY SERVICES FOR EMBEDDED ITEMS, HOLES, ETC.
11. PROPER VIBRATION METHODS SHALL BE USED DURING CONCRETING.
12. CONCRETE SHALL BE ADEQUATELY CURED BY ADDITIONAL MOISTURE AND/OR COVERED BY WATER RETAINING MATERIAL AFTER POURING.
13. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 25mm CHAMFER.
14. ALL BACKFILL SURROUNDING FOUNDATIONS SHALL BE WELL GRADED PIT RUN GRAVEL THAT CONFORMS TO RECOMMENDED SPECIFICATIONS FOR GRANULAR MATERIALS IN THE GEOTECHNICAL REPORT AND SHALL BE COMPACTED TO 95% SPMDD WITH MAX LIFT OF 300mm.
15. ALL BACKFILL UNDER FOUNDATIONS SHALL BE LEAN CONCRETE MIX OR GRANULAR B MATERIAL AND SHALL BE COMPACTED TO 100% SPMDD WITH MAX LIFT OF 200mm.
16. SAFETY MEASURES SHALL BE PROVIDED AFTER EXCAVATION TO ENSURE WORKPLACE SAFETY.

NOT FOR CONSTRUCTION
DESIGN IN PROGRESS

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP
B	12/09/13	ISSUED FOR PERMIT	J.C.	M.H.				
A	14/05/13	ISSUED FOR TENDER	J.C.	W.L.				

ISS	D/M/Y	ISSUED FOR	APP
B	12/09/13	ISSUED FOR PERMIT	
A	14/05/13	ISSUED FOR TENDER	

REF	NUMBER	TITLE

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: JERICHO WIND PROJECT

PROJECT NO. | ACTIVITY NO. | PACKAGE CODE

SUBJECT: 1CCT 115kV TRANSMISSION LINE
POLE FOUNDATION TYPE A

SCALE: NTS (D-SIZE)

	BY	D/M/Y
DSN.	K.WONG	13/05/13
DRN.	J.CHEN	13/05/13

NEXTera ENERGY CANADA

Chimax Inc.
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3050 Fourteenth Ave, East, Suite 506
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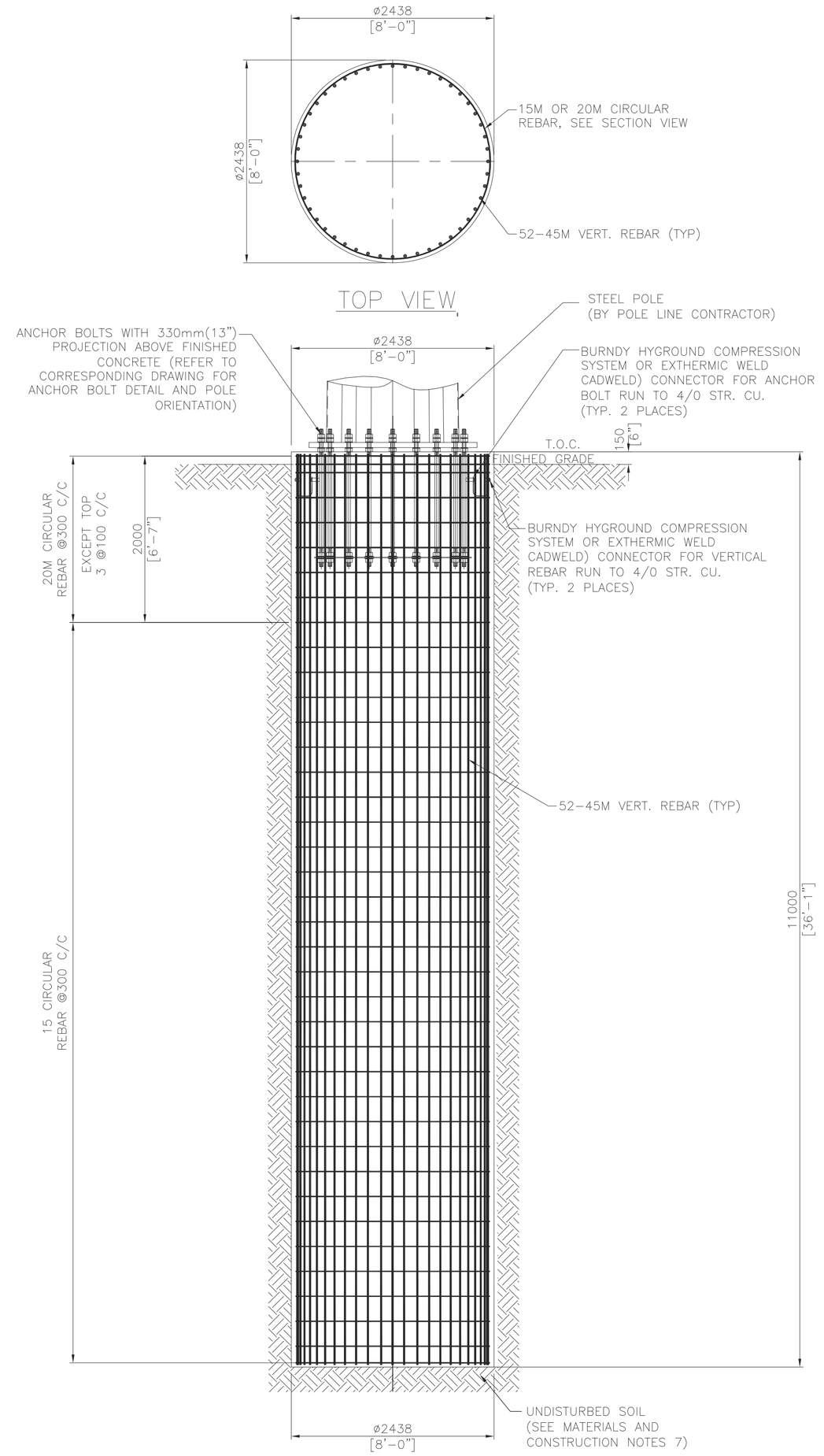
Email: chimax@chimax.ca

CLIENT DWG. NO.

DRAWING NO.: 1235-3-C002

REV.: B

CADD FILE ADDRESS
1235-3-C002-B



SECTION VIEW

TYPICAL DETAILS FOR POLE FOUNDATION TYPE B

GENERAL NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PLAN AND PROFILE DRAWINGS (DWG#1235-3-P012), ANCHOR BOLT DRAWINGS AND STAKING INFORMATION.
2. FOR POLE FRAMING DETAILS, SEE DWG#1235-2-P3XX SERIES
3. FOR ANCHOR BOLT DETAILS, SEE DWG#1235-3-F101 AND 102.
4. ALL DIMENSIONS AS SHOWN ARE METRIC IN MILLIMETERS U.N.O.

DESIGN ASSUMPTION

1. GROUND WATER LEVEL IS DESIGNED AT GRADE.
2. FROST DEPTH IS 1.2m (4') BELOW GRADE
3. BASED ON THE INFORMATION ON BOREHOLE RECORD, THE FOLLOWING DESIGN PARAMETER AND ASSUMPTIONS ARE ADOPTED FOR THE FOUNDATION DESIGN:
   A. FROM 0m TO 1.2m BELOW GRADE, ASSUMED LOOSE CONDITION WITH FRICTION ANGLE = 20 DEG
   B. FROM 1.2m TO 1.6m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 8 (COHESIVE) FOR STRUCTURE B-N001 TO B-N027, AND 'N' = 5 (COHESIVE) FOR STRUCTURE B-N028 TO B-N082
   C. FROM 1.6m TO 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 10 (COHESIVE)
   D. FROM 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 15 (COHESIVE)

FOUNDATION MATERIAL AND CONSTRUCTION NOTES

1. CONCRETE MATERIAL, DESIGN, TESTING AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA STANDARD CAN 2-A23 SERIES.
2. CONCRETE SPECIFICATION
   SUPPLY AND DELIVERY OF CONCRETE SHALL BE AS FOLLOWS:
   A. MINIMUM COMPRESSIVE STRENGTH: 35 MPa AT 28 DAYS
   B. SPECIFICATIONS ON PORTLAND CEMENT: TYPE GU NORMAL PORTLAND CEMENT, EXPOSURE CLASS C-1
   C. 4%-7% AIR CONTENT
   D. MIN. 3 CYLINDERS TESTING WITH ONE AT 7 DAYS AND TWO AT 28 DAYS ARE REQUIRED
3. UNLESS OTHERWISE SPECIFIED, MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
   - CONCRETE CAST AGAINST SOIL = 75mm
   - FORMED CONCRETE WITH DIRECT CONTACT TO SOIL = 50mm
   - CONCRETE SURFACE EXPOSED TO WEATHER = 50mm
4. REINFORCING STEEL SHALL BE DEFORMED STEEL BAR WITH MINIMUM YIELD STRENGTH OF 400 MPa (60PSI) AND CONFIRMING TO CSA G30.12 GR.400 EXCEPT TIES AND STIRRUPS WHICH SHALL BE GRADE 300.
5. MINIMUM SPLICES, LAPS AND HOOKS SHALL BE IN ACCORDANCE WITH CAN 3-A23.1
6. ALL OTHER STEEL MATERIAL SHALL BE CSA-G40.21-M300W U.N.O. AND SHALL BE HOT DIP GALVANIZED FINISH ACCORDING TO CSA-G164 U.N.O.
7. ALL EXCAVATIONS SHALL BE PERFORMED IN A MANNER THAT SHALL ENSURE PROPER DRAINAGE DURING THE COURSE OF WORK. FLOODED EXCAVATIONS SHALL BE DEWATERED AND ALL MUCK SHALL BE REMOVED BEFORE PROCEEDING WITH WORK. ALL EXCAVATIONS SHALL BE SUFFICIENTLY SUPPORTED TO PREVENT COLLAPSE.
8. AFTER EXCAVATION, EXPOSED SOIL SURFACES SHALL BE PROTECTED PRIOR TO CONCRETE CASTING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADOPT PROPER CONSTRUCTION AND EXCAVATION METHOD BASED ON THE SOIL CONDITION FOUND ON SITE
9. PRIOR TO THE PLACEMENT OF CONCRETE, BOTTOM OF FOUNDATIONS SHALL BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO CONFIRM THAT THE SOIL PROPERTIES ARE CONSISTENT WITH THE GEOTECHNICAL INVESTIGATION REPORT AND DESIGN PARAMETERS
10. BEFORE PLACING CONCRETE, CONTRACTOR SHALL VERIFY ANCHOR BOLTS AND LOCATIONS OF ALL MECHANICAL, UTILITY SERVICES FOR EMBEDDED ITEMS, HOLES, ETC.
11. PROPER VIBRATION METHODS SHALL BE USED DURING CONCRETING.
12. CONCRETE SHALL BE ADEQUATELY CURED BY ADDITIONAL MOISTURE AND/OR COVERED BY WATER RETAINING MATERIAL AFTER POURING.
13. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 25mm CHAMFER.
14. ALL BACKFILL SURROUNDING FOUNDATIONS SHALL BE WELL GRADED PIT RUN GRAVEL THAT CONFORMS TO RECOMMENDED SPECIFICATIONS FOR GRANULAR MATERIALS IN THE GEOTECHNICAL REPORT AND SHALL BE COMPACTED TO 95% SPMDD WITH MAX LIFT OF 300mm.
15. ALL BACKFILL UNDER FOUNDATIONS SHALL BE LEAN CONCRETE MIX OR GRANULAR B MATERIAL AND SHALL BE COMPACTED TO 100% SPMDD WITH MAX LIFT OF 200mm.
16. SAFETY MEASURES SHALL BE PROVIDED AFTER EXCAVATION TO ENSURE WORKPLACE SAFETY.

NOT FOR CONSTRUCTION
DESIGN IN PROGRESS

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP
B	12/09/13	ISSUED FOR PERMIT	J.C.	M.H.				
A	14/05/13	ISSUED FOR TENDER	J.C.	W.L.				

ISS	D/M/Y	APP	ISSUED FOR
B	12/09/13		ISSUED FOR PERMIT
A	14/05/13		ISSUED FOR TENDER

REF	NUMBER	TITLE

REFERENCES

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

AREA: JERICHO WIND PROJECT

PROJECT NO. | ACTIVITY NO. | PACKAGE CODE

SUBJECT: 1CCT 115kV TRANSMISSION LINE POLE FOUNDATION TYPE B

SCALE: NTS (D-SIZE)

	BY	D/M/Y
DSN.	K.WONG	13/05/13
DRN.	J.CHEN	13/05/13

CLIENT DWG. NO.

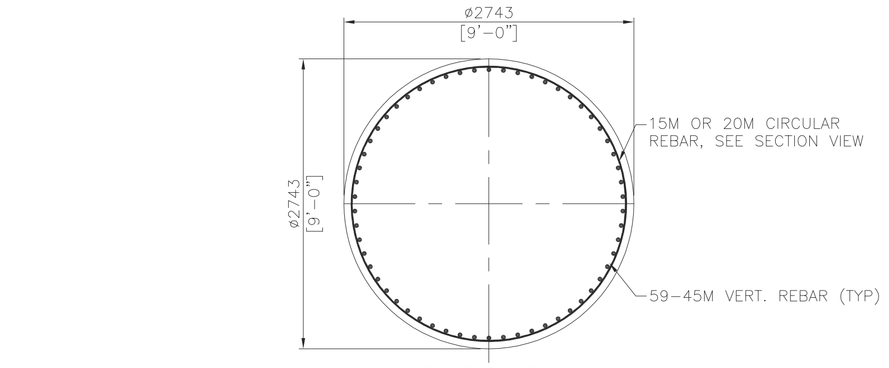
DRAWING NO.: 1235-3-C003

REV.: B

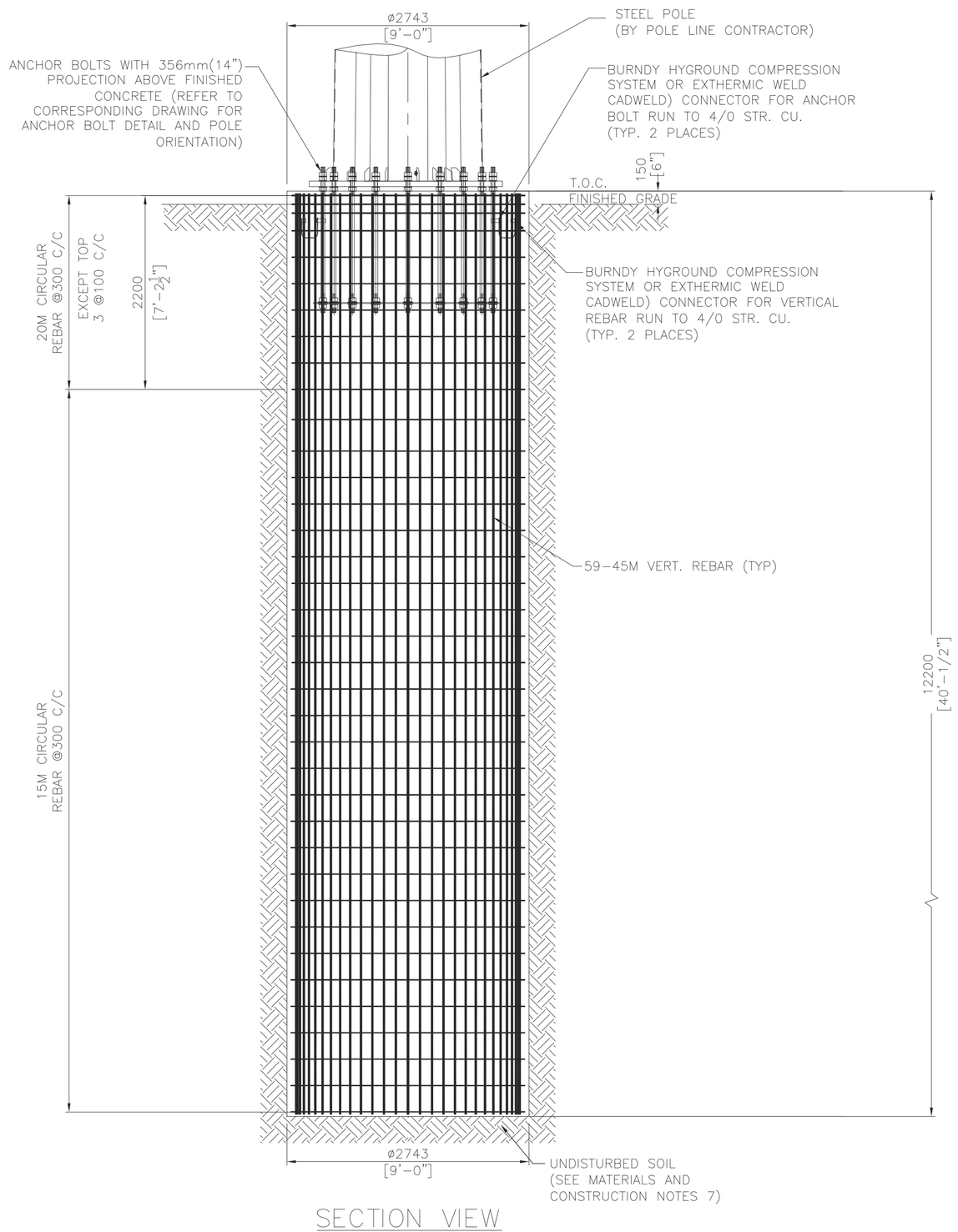
CADD FILE ADDRESS: 1235-3-C003-B

NEXTera ENERGY CANADA

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A0
Email: chimax@chimax.ca



TOP VIEW



SECTION VIEW

TYPICAL DETAILS FOR
POLE FOUNDATION TYPE C

GENERAL NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE PLAN AND PROFILE DRAWINGS (DWG#1235-3-P012), ANCHOR BOLT DRAWINGS AND STAKING INFORMATION.
2. FOR POLE FRAMING DETAILS, SEE DWG#1235-2-P3XX SERIES
3. FOR ANCHOR BOLT DETAILS, SEE DWG#1235-3-F101 AND 102.
4. ALL DIMENSIONS AS SHOWN ARE METRIC IN MILLIMETERS U.N.O.

DESIGN ASSUMPTION

1. GROUND WATER LEVEL IS DESIGNED AT GRADE.
2. FROST DEPTH IS 1.2m (4') BELOW GRADE
3. BASED ON THE INFORMATION ON BOREHOLE RECORD, THE FOLLOWING DESIGN PARAMETER AND ASSUMPTIONS ARE ADOPTED FOR THE FOUNDATION DESIGN:
   A. FROM 0m TO 1.2m BELOW GRADE, ASSUMED LOOSE CONDITION WITH FRICTION ANGLE = 20 DEG
   B. FROM 1.2m TO 1.6m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 8 (COHESIVE) FOR STRUCTURE B-N001 TO B-N027, AND 'N' = 5 (COHESIVE) FOR STRUCTURE B-N028 TO B-N082
   C. FROM 1.6m TO 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 10 (COHESIVE)
   D. FROM 2.4m BELOW GRADE, AVERAGE PENETRATION INDEX 'N' = 15 (COHESIVE)

FOUNDATION MATERIAL AND CONSTRUCTION NOTES

1. CONCRETE MATERIAL, DESIGN, TESTING AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA STANDARD CAN 2-A23 SERIES.
2. CONCRETE SPECIFICATION
   SUPPLY AND DELIVERY OF CONCRETE SHALL BE AS FOLLOWS:
   A. MINIMUM COMPRESSIVE STRENGTH: 35 MPa AT 28 DAYS
   B. SPECIFICATIONS ON PORTLAND CEMENT: TYPE GU NORMAL PORTLAND CEMENT, EXPOSURE CLASS C-1
   C. 4%-7% AIR CONTENT
   D. MIN. 3 CYLINDERS TESTING WITH ONE AT 7 DAYS AND TWO AT 28 DAYS ARE REQUIRED
3. UNLESS OTHERWISE SPECIFIED, MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
   - CONCRETE CAST AGAINST SOIL = 75mm
   - FORMED CONCRETE WITH DIRECT CONTACT TO SOIL = 50mm
   - CONCRETE SURFACE EXPOSED TO WEATHER = 50mm
4. REINFORCING STEEL SHALL BE DEFORMED STEEL BAR WITH MINIMUM YIELD STRENGTH OF 400 MPa (60PSI) AND CONFIRMING TO CSA G30.12 GR.400 EXCEPT TIES AND STIRRUPS WHICH SHALL BE GRADE 300.
5. MINIMUM SPLICES, LAPS AND HOOKS SHALL BE IN ACCORDANCE WITH CAN 3-A23.1
6. ALL OTHER STEEL MATERIAL SHALL BE CSA-G40.21-M300W U.N.O. AND SHALL BE HOT DIP GALVANIZED FINISH ACCORDING TO CSA-G164 U.N.O.
7. ALL EXCAVATIONS SHALL BE PERFORMED IN A MANNER THAT SHALL ENSURE PROPER DRAINAGE DURING THE COURSE OF WORK. FLOODED EXCAVATIONS SHALL BE DEWATERED AND ALL MUCK SHALL BE REMOVED BEFORE PROCEEDING WITH WORK. ALL EXCAVATIONS SHALL BE SUFFICIENTLY SUPPORTED TO PREVENT COLLAPSE.
8. AFTER EXCAVATION, EXPOSED SOIL SURFACES SHALL BE PROTECTED PRIOR TO CONCRETE CASTING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADOPT PROPER CONSTRUCTION AND EXCAVATION METHOD BASED ON THE SOIL CONDITION FOUND ON SITE
9. PRIOR TO THE PLACEMENT OF CONCRETE, BOTTOM OF FOUNDATIONS SHALL BE INSPECTED BY QUALIFIED GEOTECHNICAL PERSONNEL TO CONFIRM THAT THE SOIL PROPERTIES ARE CONSISTENT WITH THE GEOTECHNICAL INVESTIGATION REPORT AND DESIGN PARAMETERS
10. BEFORE PLACING CONCRETE, CONTRACTOR SHALL VERIFY ANCHOR BOLTS AND LOCATIONS OF ALL MECHANICAL, UTILITY SERVICES FOR EMBEDDED ITEMS, HOLES, ETC.
11. PROPER VIBRATION METHODS SHALL BE USED DURING CONCRETING.
12. CONCRETE SHALL BE ADEQUATELY CURED BY ADDITIONAL MOISTURE AND/OR COVERED BY WATER RETAINING MATERIAL AFTER POURING.
13. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 25mm CHAMFER.
14. ALL BACKFILL SURROUNDING FOUNDATIONS SHALL BE WELL GRADED PIT RUN GRAVEL THAT CONFORMS TO RECOMMENDED SPECIFICATIONS FOR GRANULAR MATERIALS IN THE GEOTECHNICAL REPORT AND SHALL BE COMPACTED TO 95% SPMDD WITH MAX LIFT OF 300mm.
15. ALL BACKFILL UNDER FOUNDATIONS SHALL BE LEAN CONCRETE MIX OR GRANULAR B MATERIAL AND SHALL BE COMPACTED TO 100% SPMDD WITH MAX LIFT OF 200mm.
16. SAFETY MEASURES SHALL BE PROVIDED AFTER EXCAVATION TO ENSURE WORKPLACE SAFETY.

NOT FOR CONSTRUCTION
DESIGN IN PROGRESS

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP
B	12/09/13	ISSUED FOR PERMIT	J.C.	M.H.				
A	14/05/13	ISSUED FOR TENDER	J.C.	W.L.				

ISS	D/M/Y	APP	ISSUED FOR
B	12/09/13		ISSUED FOR PERMIT
A	14/05/13		ISSUED FOR TENDER

REF	NUMBER	TITLE

REFERENCES

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO.	ACTIVITY NO.	PACKAGE CODE

SCALE: NTS (D-SIZE)

	BY	D/M/Y
DSN.	K.WONG	13/05/13
DRN.	J.CHEN	13/05/13

AREA: JERICHO WIND PROJECT

SUBJECT: 1CCT 115kV TRANSMISSION LINE
POLE FOUNDATION TYPE C

NEXTera ENERGY CANADA

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

CLIENT DWG. NO.

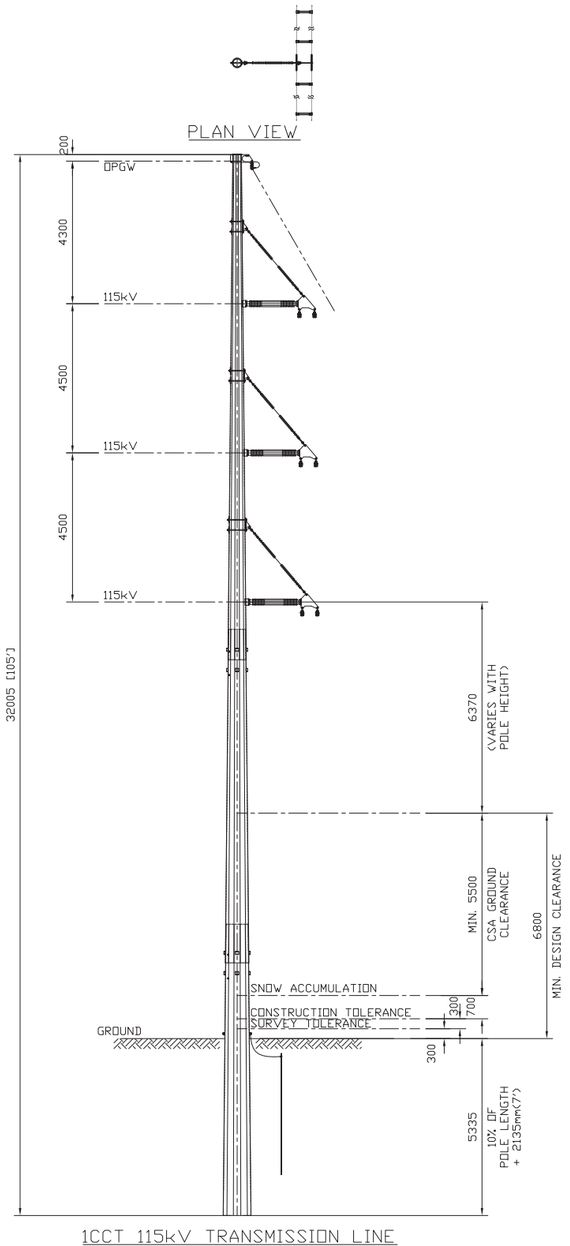
DRAWING NO.: 1235-3-C004

REV.: B

CADD FILE ADDRESS
1235-3-C004-B

Schedule B3

Jericho Transmission Pole Configurations



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)	
(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	APP
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.				

ISS	D/M/Y	ISSUED FOR	APP
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	
B	22/11/12	ISSUED FOR REVIEW	
A	12/09/12	ISSUED FOR REVIEW	

REF	NUMBER	TITLE

REFERENCES

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO. | ACTIVITY NO. | PACKAGE CODE

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

	BY	D/M/Y
DSN.	E.KWONG	11/09/12
DRN.	D.MAO	11/09/12

AREA: NEXTERA 5-PACK TRANSMISSION LINE

SUBJECT: 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION TANGENT (0 - 2°) CRITERIA DRAWING

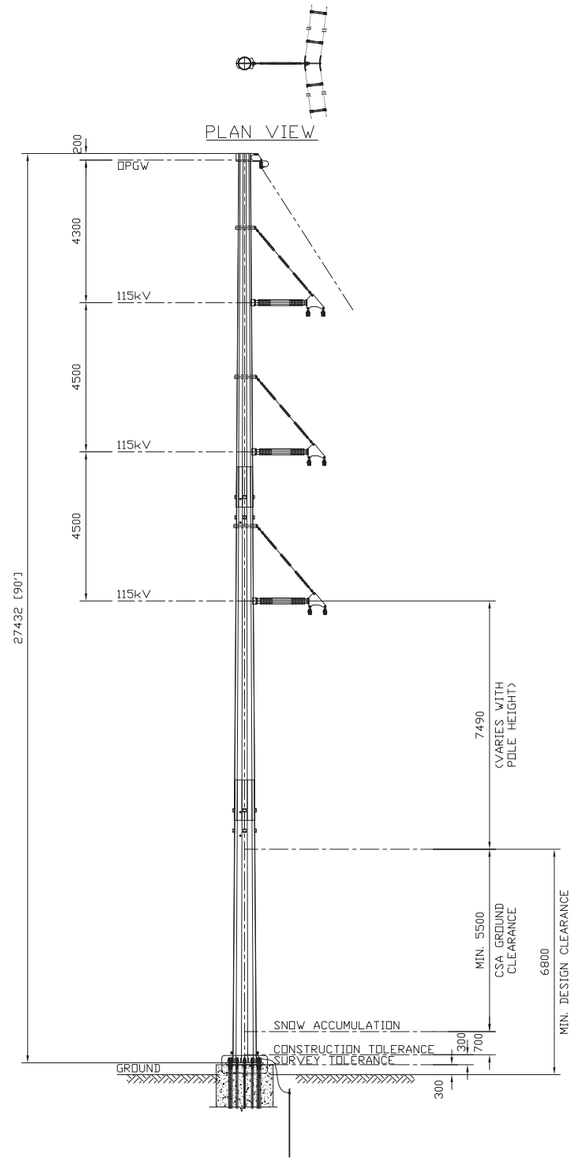
NEXTera ENERGY CANADA

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

CLIENT DWG. NO.

DRAWING NO.: 1235-3-P310A | REV.: 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

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)	
(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	APP
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.				

ISS	D/M/Y	APP	ISSUED FOR
C	17/07/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION
B	22/11/12		ISSUED FOR REVIEW
A	12/09/12		ISSUED FOR REVIEW

REF	NUMBER	TITLE
		REFERENCES

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO.	ACTIVITY NO.	PACKAGE CODE

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

	BY	D/M/Y
DSN.	E.KWONG	11/09/12
DRN.	D.MAO	11/09/12

AREA: NEXTERA 5-PACK TRANSMISSION LINE

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

NEXTera ENERGY CANADA

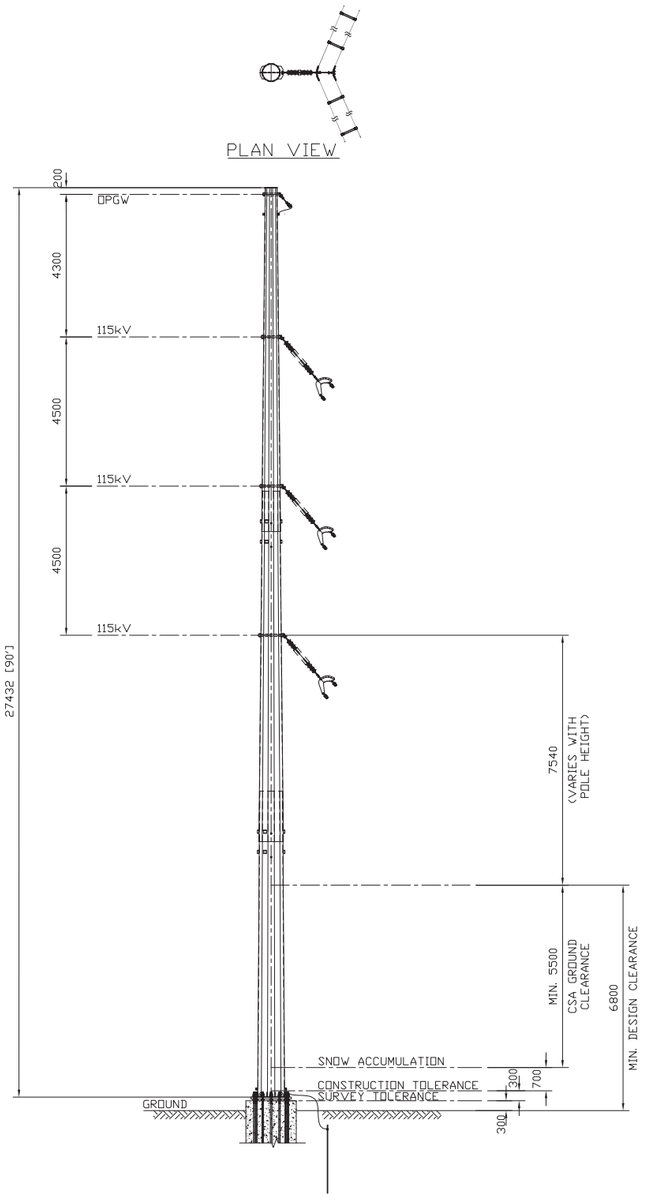
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

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	
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)	
(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	APP
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.				

ISS	D/M/Y	APP	ISSUED FOR
C	17/07/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION
B	22/11/12		ISSUED FOR REVIEW
A	12/09/12		ISSUED FOR REVIEW

REF	NUMBER	REFERENCES TITLE

STAMP/SEAL

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	11/09/12
	DRN. D.MAO	11/09/12

AREA: NEXTERA 5-PACK TRANSMISSION LINE

SUBJECT: 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION MEDIUM ANGLE (15 - 45°) CRITERIA DRAWING

NEXTera ENERGY CANADA

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
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Email: chimax@chimax.ca

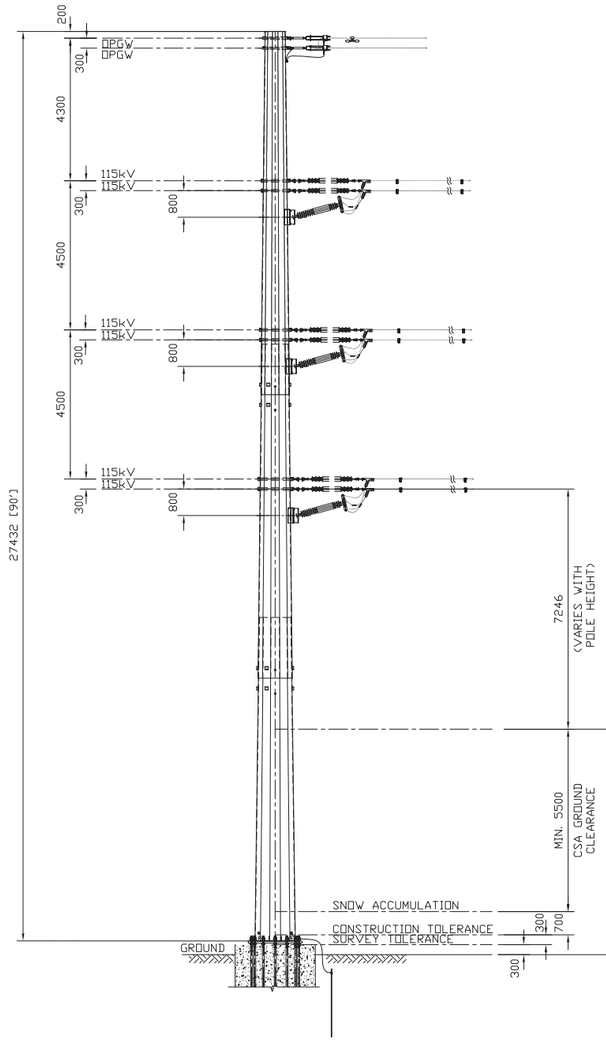
CLIENT DWG. NO.

DRAWING NO. 1235-3-P313A

REV. 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	
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)	
(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	APP
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.				

ISS	D/M/Y	APP	ISSUED FOR
C	17/07/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION
B	22/11/12		ISSUED FOR REVIEW
A	12/09/12		ISSUED FOR REVIEW

REF	NUMBER	TITLE
REFERENCES		

STAMP/SEAL

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

	BY	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

NEXTera ENERGY CANADA

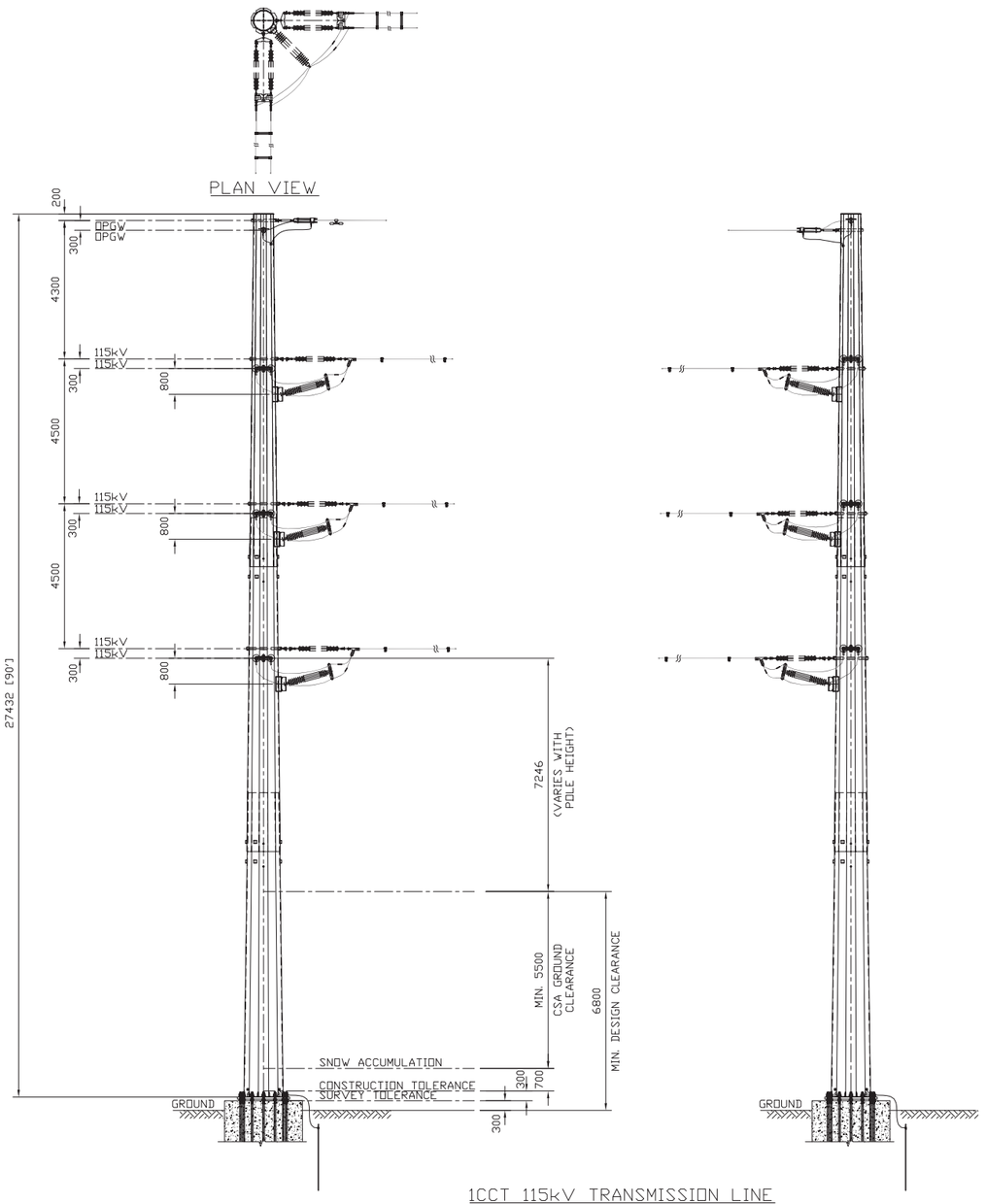
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

DRAWING NO.: 1235-3-P314A

REV.: C

CADD FILE ADDRESS: 1235-3-P314A-C



1CCT 115kV TRANSMISSION LINE
HEAVY ANGLE (60 - 90°) 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)	
(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	APP
C	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				
B	22/11/12	ISSUED FOR REVIEW	J.C.	M.H.				
A	12/09/12	ISSUED FOR REVIEW	D.M.	E.K.				

ISS	D/M/Y	APP	ISSUED FOR
C	17/07/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION
B	22/11/12		ISSUED FOR REVIEW
A	12/09/12		ISSUED FOR REVIEW

REF	NUMBER	TITLE

REFERENCES

STAMP/SEAL

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

CLIENT DWG. NO.

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

BY		D/M/Y
DSN.	E.KWONG	11/09/12
DRN.	D.MAO	11/09/12

DRAWING NO.: 1235-3-P315A

REV.: C

CADD FILE ADDRESS: 1235-3-P315A-C

NEXTera ENERGY CANADA

Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
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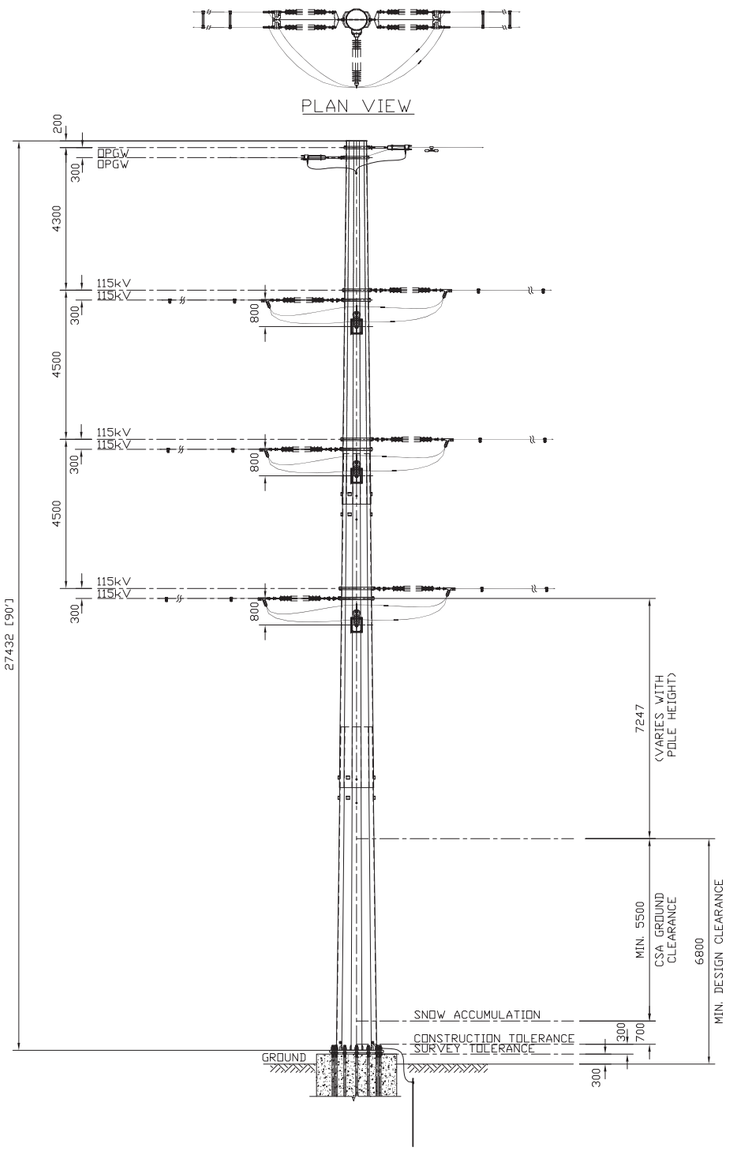
Email: chimax@chimax.ca



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

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)	
(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	APP
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				

ISS	D/M/Y	ISSUED FOR	APP
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	

REF	NUMBER	REFERENCES	TITLE

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 DOUBLE DEADEND CRITERIA DRAWING

CLIENT DWG. NO.

SCALE	BY		D/M/Y
N.T.S. (11"x17")	DSN.	E.KWONG	15/07/13
	DRN.	J.CHEN	15/07/13

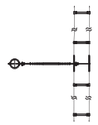
DRAWING NO. 1235-3-P316A

REV. A

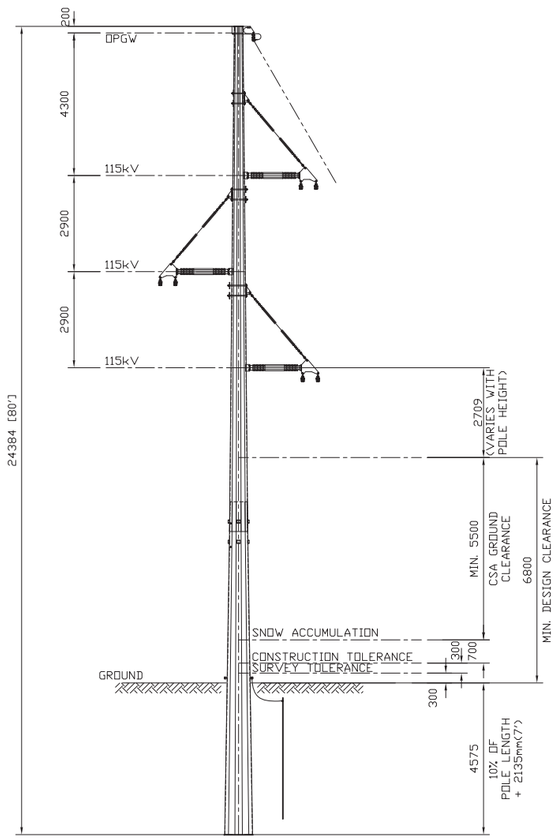
CADD FILE ADDRESS 1235-3-P316A-A

NEXTera ENERGY CANADA

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



PLAN VIEW



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

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)	
(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

NEXTera ENERGY CANADA

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

ISS	D/M/Y	ISSUED FOR	APP
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	

REF	NUMBER	REFERENCES

STAMP/SEAL

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

	BY	D/M/Y
DSN.	E.KWONG	15/07/13
DRN.	J.CHEN	15/07/13

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

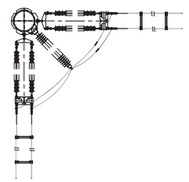
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

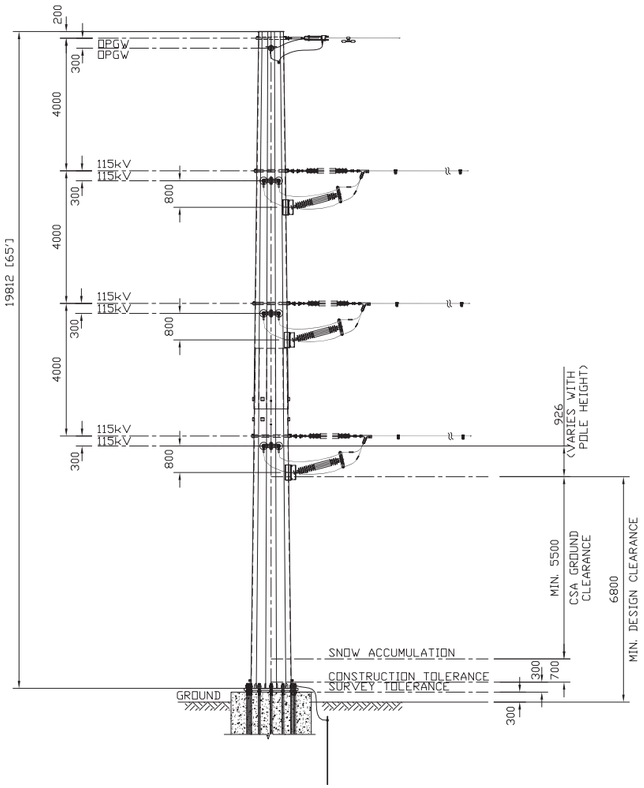
DRAWING NO.: 1235-3-P318A

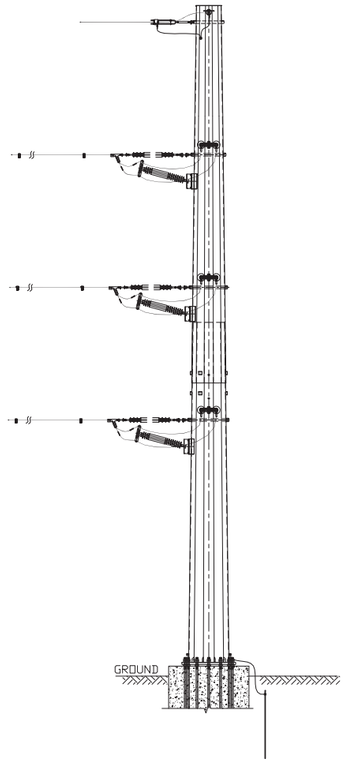
REV.: A

CADD FILE ADDRESS: 1235-3-P318A-A



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
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)	
(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

NEXTera ENERGY CANADA

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

ISS	D/M/Y	APP	ISSUED FOR
A	17/07/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION

REF	NUMBER	REFERENCES	TITLE

STAMP/SEAL

PROPRIETARY INFORMATION:
THIS DRAWING IS THE PROPERTY OF CHIMAX INC.
AND IS NOT TO BE LOANED OR REPRODUCED IN ANY WAY
WITHOUT THE PERMISSION OF CHIMAX INC.

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO.	ACTIVITY NO.	PACKAGE CODE

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

	BY	D/M/Y
DSN.	E.KWONG	17/05/13
DRN.	J.CHEN	17/05/13

AREA: NEXTERA 5-PACK TRANSMISSION LINE

SUBJECT: 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION HEAVY ANGLE (60 - 90°) CRITERIA DRAWING (4M SEPARATION)

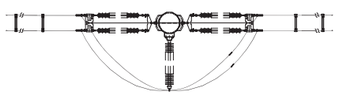
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

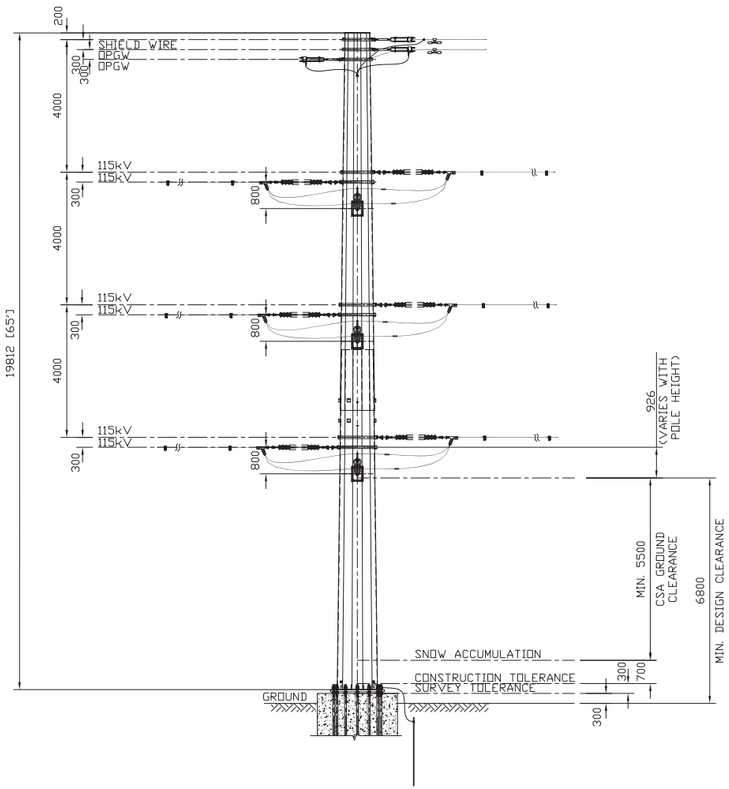
DRAWING NO.: 1235-3-P319A

REV.: A

CADD FILE ADDRESS: 1235-2-P319A-A



PLAN VIEW



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)	
(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	APP
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				

ISS	D/M/Y	ISSUED FOR
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION

REF	NUMBER	TITLE
REFERENCES		

STAMP/SEAL

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

	BY	D/M/Y
DSN.	E.KWONG	15/07/13
DRN.	J.CHEN	15/07/13

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

NEXTera ENERGY CANADA

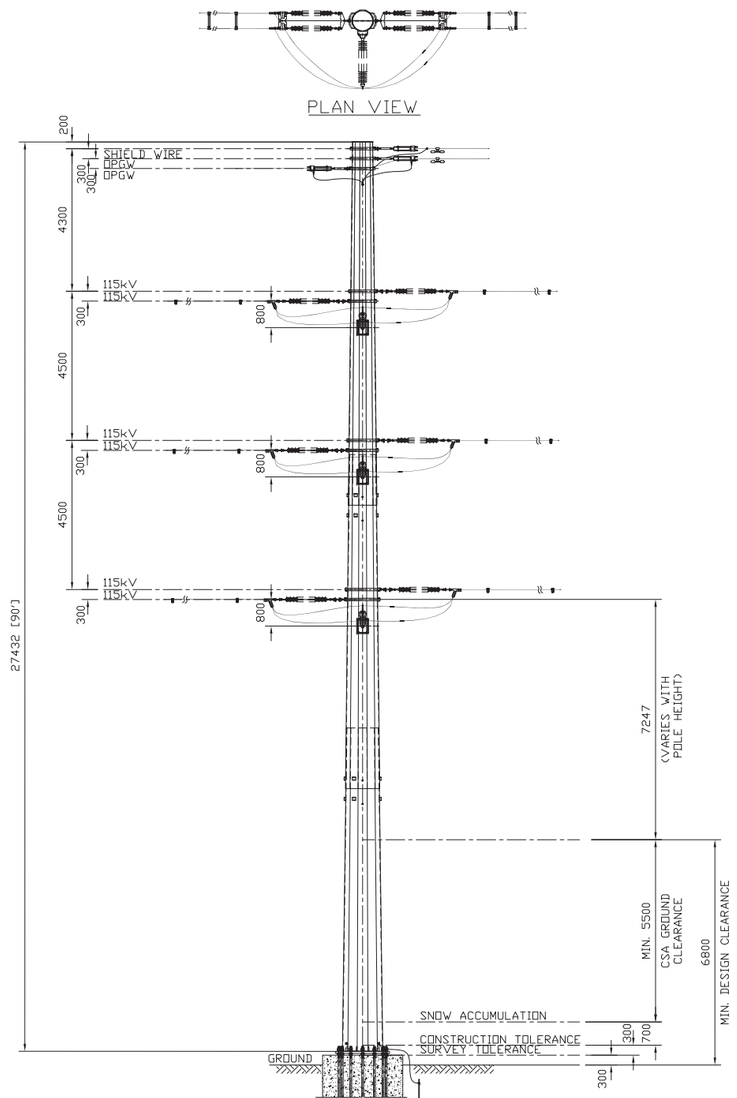
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

DRAWING NO.: 1235-3-P320A

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

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)	
(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

NEXTera ENERGY CANADA

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

ISS	D/M/Y	ISSUED FOR	APP
A	17/07/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	

REF	NUMBER	REFERENCES

STAMP/SEAL

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

	BY	D/M/Y
DSN.	E.KWONG	15/07/13
DRN.	J.CHEN	15/07/13

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

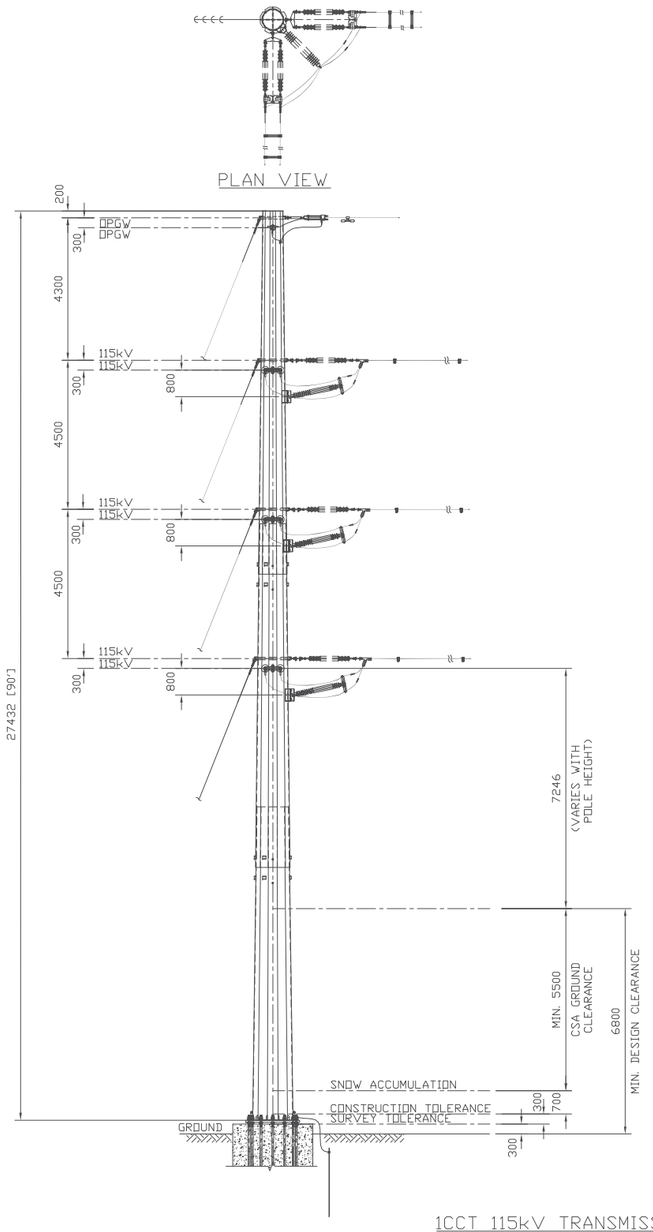
Chimax Inc.
Engineering Company
3950 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

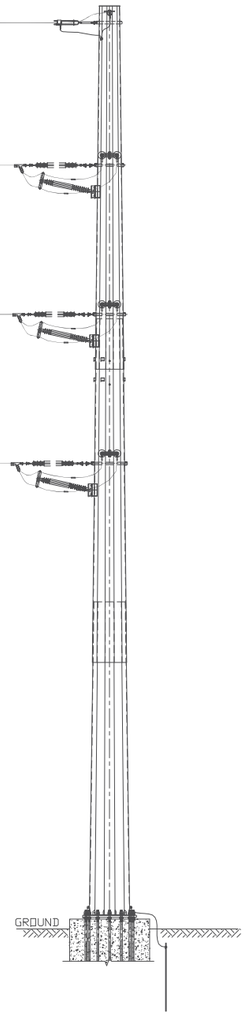
CLIENT DWG. NO.

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

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)	
(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

NOTES:

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

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP
A	22/08/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				

ISS	D/M/Y	ISSUED FOR	APP
A	22/08/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	

REF	NUMBER	REFERENCES

STAMP/SEAL

APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO.	ACTIVITY NO.	PACKAGE CODE

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

BY		D/M/Y
DSN.	E.KWONG	21/08/13
DRN.	J.CHEN	21/08/13

AREA: NEXTERA 5-PACK TRANSMISSION LINE

SUBJECT: 1CCT 115kV TRANSMISSION LINE DOUBLE CONDUCTOR CONFIGURATION HEAVY ANGLE (60 - 90°) CRITERIA DRAWING (WITH DOWN GUY)

NEXTera ENERGY CANADA

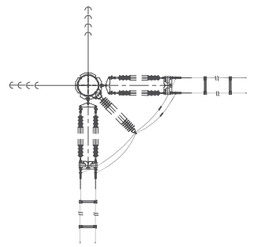
Chimax Inc.
Engineering Company
3850 Fourteenth Ave. East, Suite 506
Markham, On., L3R 0A9
Email: chimax@chimax.ca

CLIENT DWG. NO.

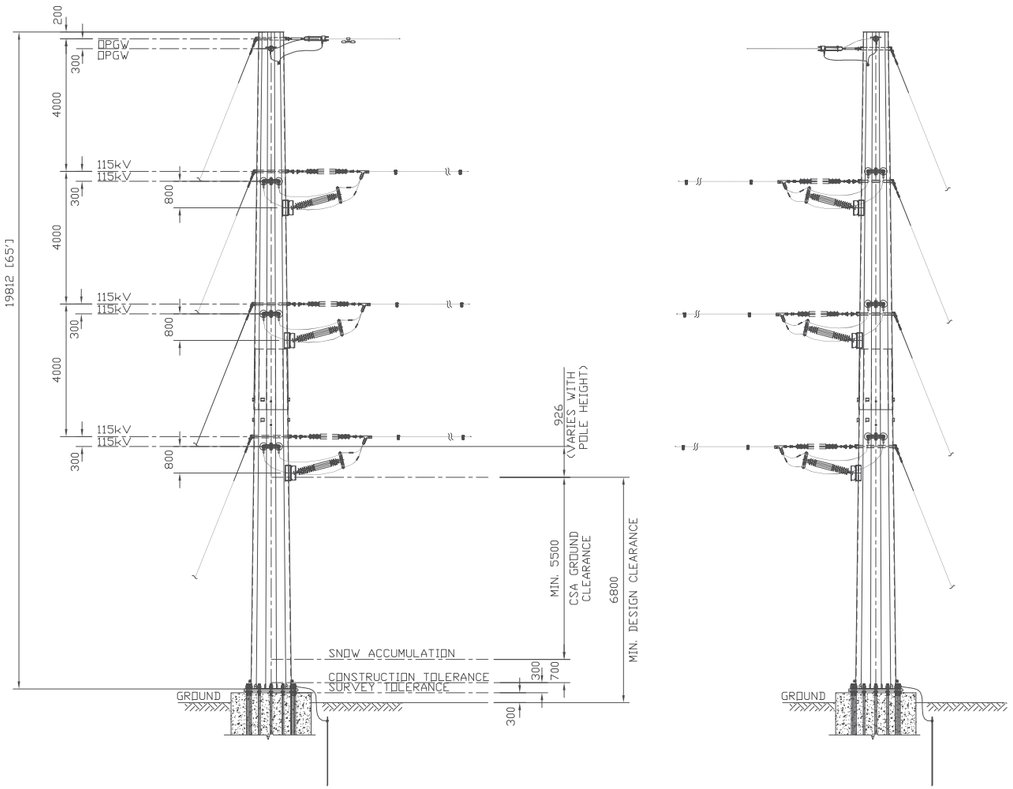
DRAWING NO.: 1235-3-P322A

REV.: A

CADD FILE ADDRESS
1235-3-P322A-A



PLAN VIEW



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

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)	
(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

NOTES:

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

NEXTera ENERGY CANADA

REV	D/M/Y	REVISION	DR	CHK	APP	APP	APP	APP
A	22/08/13	ISSUED FOR LEAVE TO CONSTRUCT APPLICATION	J.C.	M.H.				

ISS	D/M/Y	APP	ISSUED FOR
A	22/08/13		ISSUED FOR LEAVE TO CONSTRUCT APPLICATION

REF	NUMBER	REFERENCES

STAMP/SEAL

PROPRIETARY INFORMATION:
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APPROVED FOR CONSTRUCTION

CLIENT PROJECT MGR. DEPARTMENT MGR. PROJECT MGR.

PROJECT PHASE

PROJECT NO.	ACTIVITY NO.	PACKAGE CODE

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

	BY	D/M/Y
DSN.	E.KWONG	17/05/13
DRN.	J.CHEN	17/05/13

AREA: NEXTERA 5-PACK TRANSMISSION LINE

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

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

CLIENT DWG. NO.

DRAWING NO.: 1235-3-P323A

REV.: A

CADD FILE ADDRESS: 1235-3-P323A-A