



AMHERST ISLAND WIND PROJECT

AMHERST ISLAND, LOYALIST TOWNSHIP, ONTARIO

75 MW WIND FARM

COLLECTOR SYSTEM PACKAGE

Drawing No.	Sheet	Description
G001	-	35kV Collector System - Cover Sheet
E400A	1	35kV Collector System - Feeder Single Line Diagram - Feeder #1
E400A	2	35kV Collector System - Feeder Single Line Diagram - Feeder #2
E400A	3	35kV Collector System - Feeder Single Line Diagram - Feeder #3
E400A	4	35kV Collector System - Feeder Single Line Diagram - Cable Schedule & BOM
E401A	1	35kV Collector System - Overall Layout
E401A	2	35kV Collector System - Layout Key Plan
E402A	1 to 10	35kV Collector System - Layout Plans
E404A	1	35kV Collector System - Fiber Optic Junction Box Installation Details
E406A	1 to 2	35kV Collector System - Cable Trench Details
E407A	1	35kV Collector System - Utility and Waterway Crossing Details
E408A	1 to 2	35kV Collector System - Roadway Crossing Details
E450	1	Collector System Cable - Fiber Optic SLD
E450	2	Collector System Cable - Fiber Optic Cable Schedule



Issued For Municipal Consent
August 28, 2017
Project Number: 133560104

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Notes

- RESERVED
- CABLE LENGTHS SHOWN ARE POINT TO POINT MEASUREMENTS +5% FOR RUNS <1000m & +3% FOR RUNS >1000m.
- REFER TO SHEET 4 FOR CABLE SCHEDULE.

Legend

- WTG (WIND TURBINE GENERATOR)
- WTG STEP UP TRANSFORMER
- 35kV 200kV BIL SECTIONALIZING JUNCTION BOX C/W DEADBREAK JUNCTION BAR (No. OF CONNECTIONS AS SHOWN IN DRAWING)
- CABLE TERMINATION
- DEADBREAK ELBOW
- SA SURGE ARRESTER
- 35kV UNDERGROUND COLLECTOR CABLE
- FAULT INDICATOR LOCATED BELOW THE BASE OF ELBOW

F	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
E	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.07.18
D	ISSUED FOR MUNICIPAL CONSENT	JL	AR	17.07.17
C	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.05.10
B	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.02.03
Revision		By	Appd.	YY.MM.DD

File Name:	dwg_60104_AWF_E400.dwg	BM	JR	SF/JM	15.12.07
		Dwn.	Chkd.	Dsgn.	YY.MM.DD

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FOR MUNICIPAL CONSENT

13356010402617

Client/Project



AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

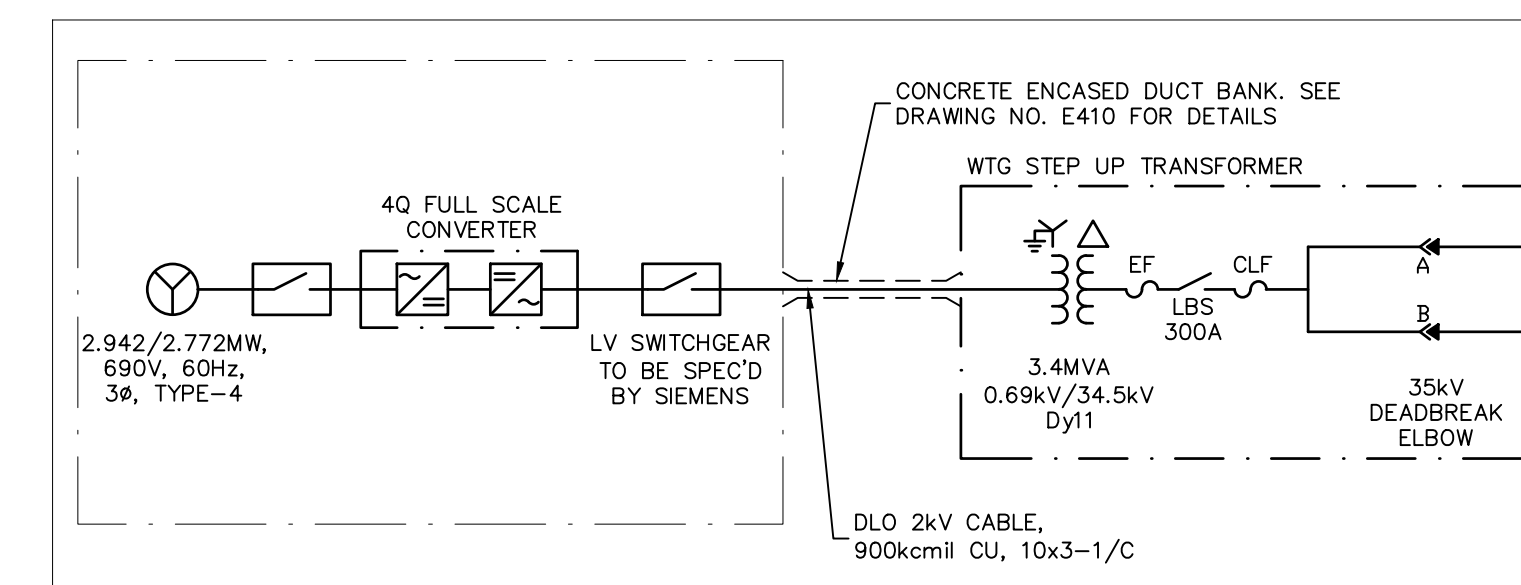
34.5kV COLLECTOR SYSTEM
FEEDER SINGLE LINE DIAGRAM
FEEDER #1

Project No.	Scale
133560104	NOT TO SCALE
Drawing No.	Sheet
	1 of 4
	Revision
	F

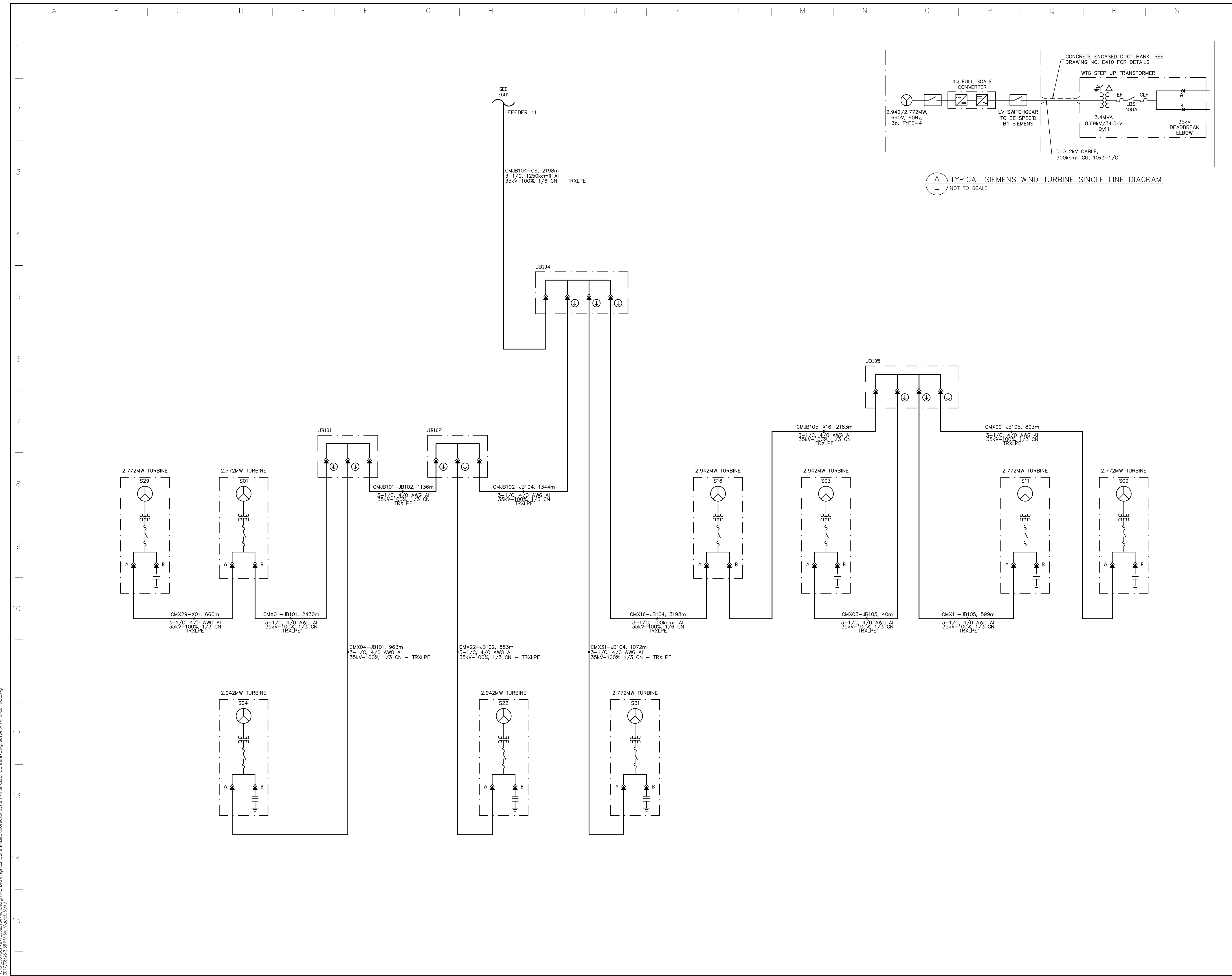
E400A

1 of 4

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(A) TYPICAL SIEMENS WIND TURBINE SINGLE LINE DIAGRAM
NOT TO SCALE



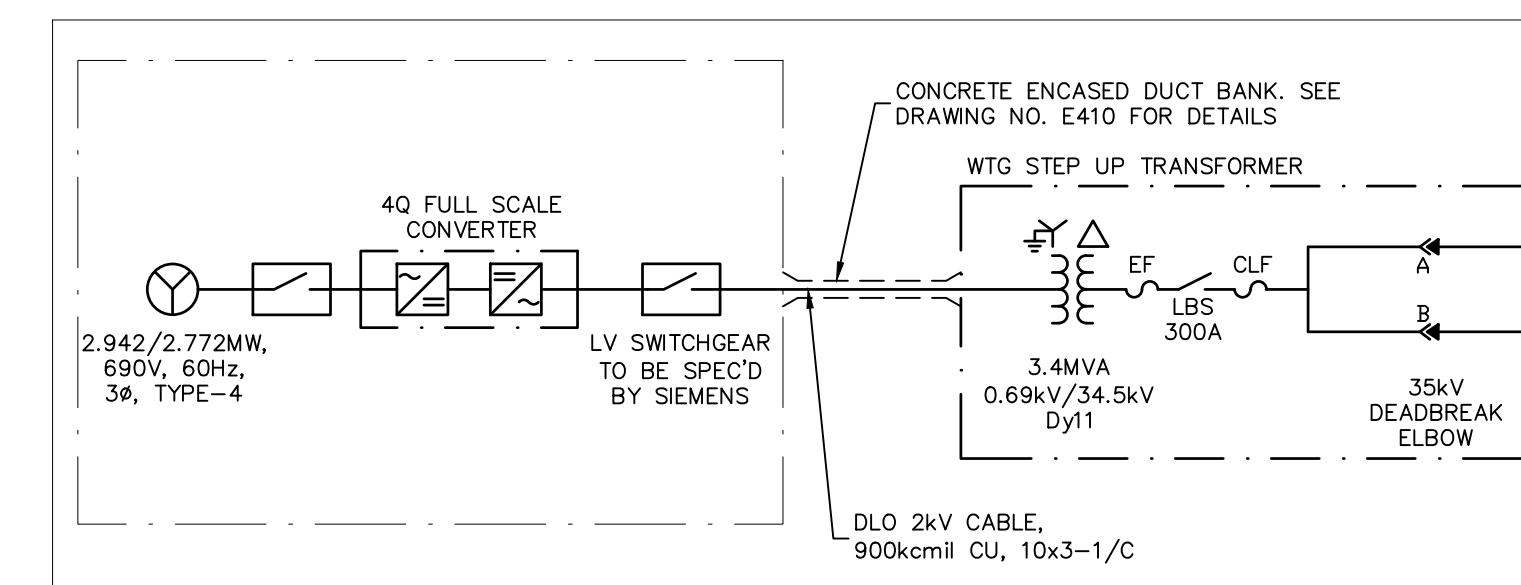
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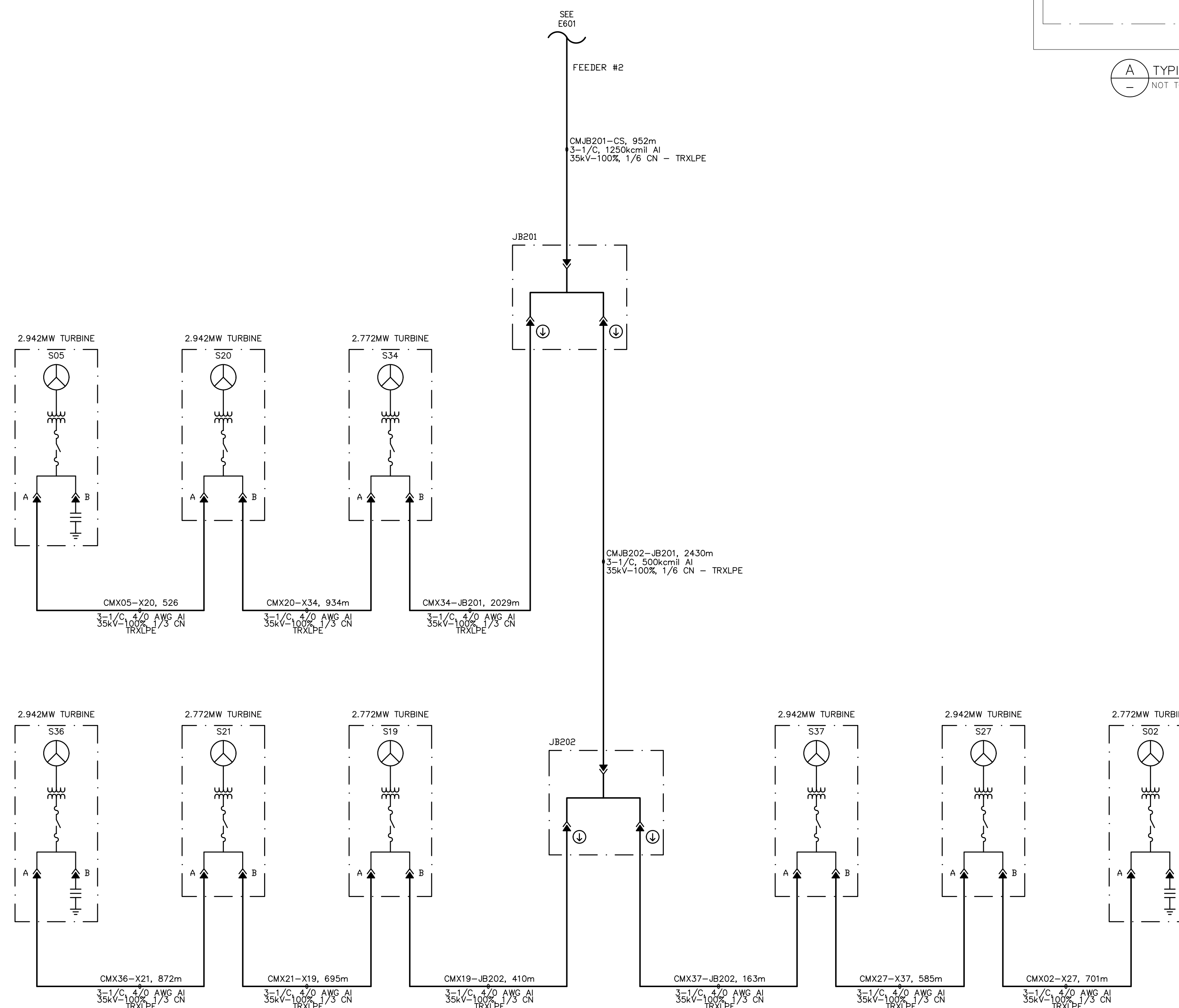
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Notes

- RESERVED
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- REFER TO SHEET 4 FOR CABLE SCHEDULE.



(A) TYPICAL SIEMENS WIND TURBINE SINGLE LINE DIAGRAM
NOT TO SCALE



Legend

- WTG (WIND TURBINE GENERATOR)
- WTG STEP UP TRANSFORMER
- 35kV 200kV BIL SECTIONALIZING JUNCTION BOX C/W DEADBREAK JUNCTION BAR (No. OF CONNECTIONS AS SHOWN IN DRAWING)
- CABLE TERMINATION
- DEADBREAK ELBOW
- SURGE ARRESTER
- 35kV UNDERGROUND COLLECTOR CABLE
- FAULT INDICATOR LOCATED BELOW THE BASE OF ELBOW

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Client/Project



AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5kV COLLECTOR SYSTEM
FEEDER SINGLE LINE DIAGRAM
FEEDER #2

Project No.	Scale
133560104	NOT TO SCALE
Drawing No.	Sheet
	Revision

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Notes

- RESERVED
- CABLE LENGTHS SHOWN ARE POINT TO POINT MEASUREMENTS +5% FOR RUNS <1000m & +3% FOR RUNS >1000m.
- REFER TO SHEET 4 FOR CABLE SCHEDULE.

Legend

- WTG (WIND TURBINE GENERATOR)
- WTG STEP UP TRANSFORMER
- 35kV 200kV BIL SECTIONALIZING JUNCTION BOX C/W DEADBREAK JUNCTION BAR (No. OF CONNECTIONS AS SHOWN IN DRAWING)
- CABLE TERMINATION
- DEADBREAK ELBOW
- SA SURGE ARRESTER
- 35kV UNDERGROUND COLLECTOR CABLE
- FAULT INDICATOR LOCATED BELOW THE BASE OF ELBOW

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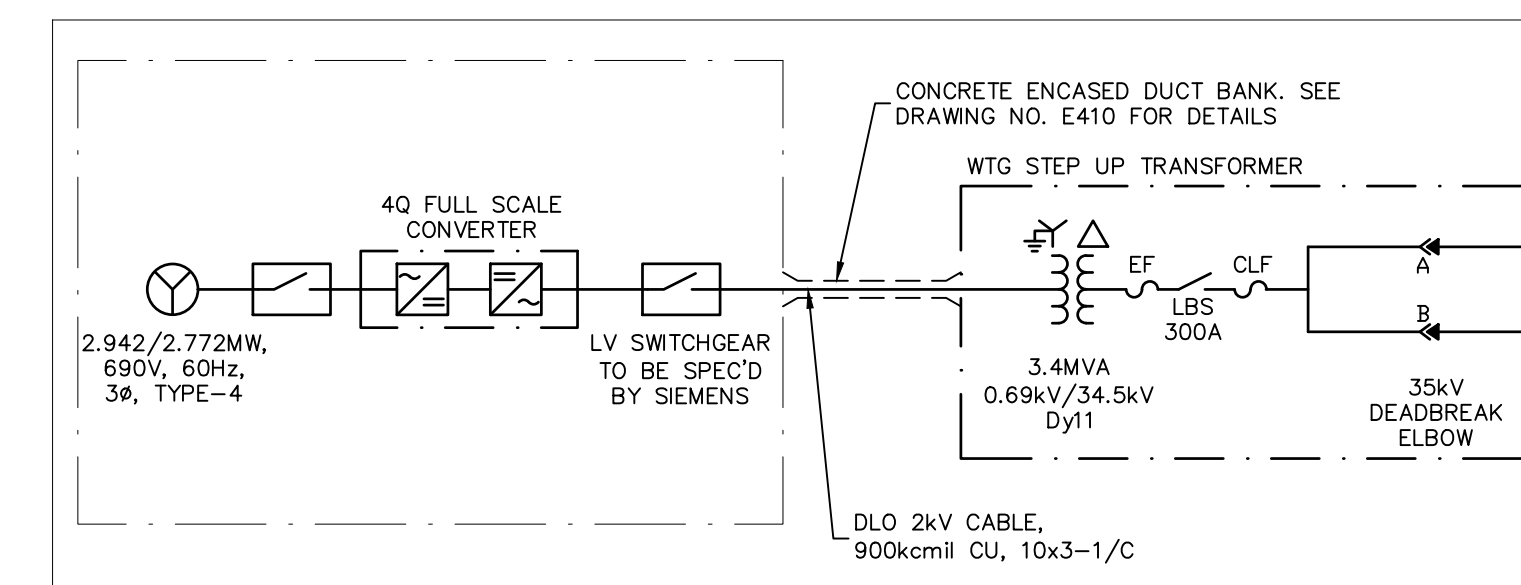
Client/Project



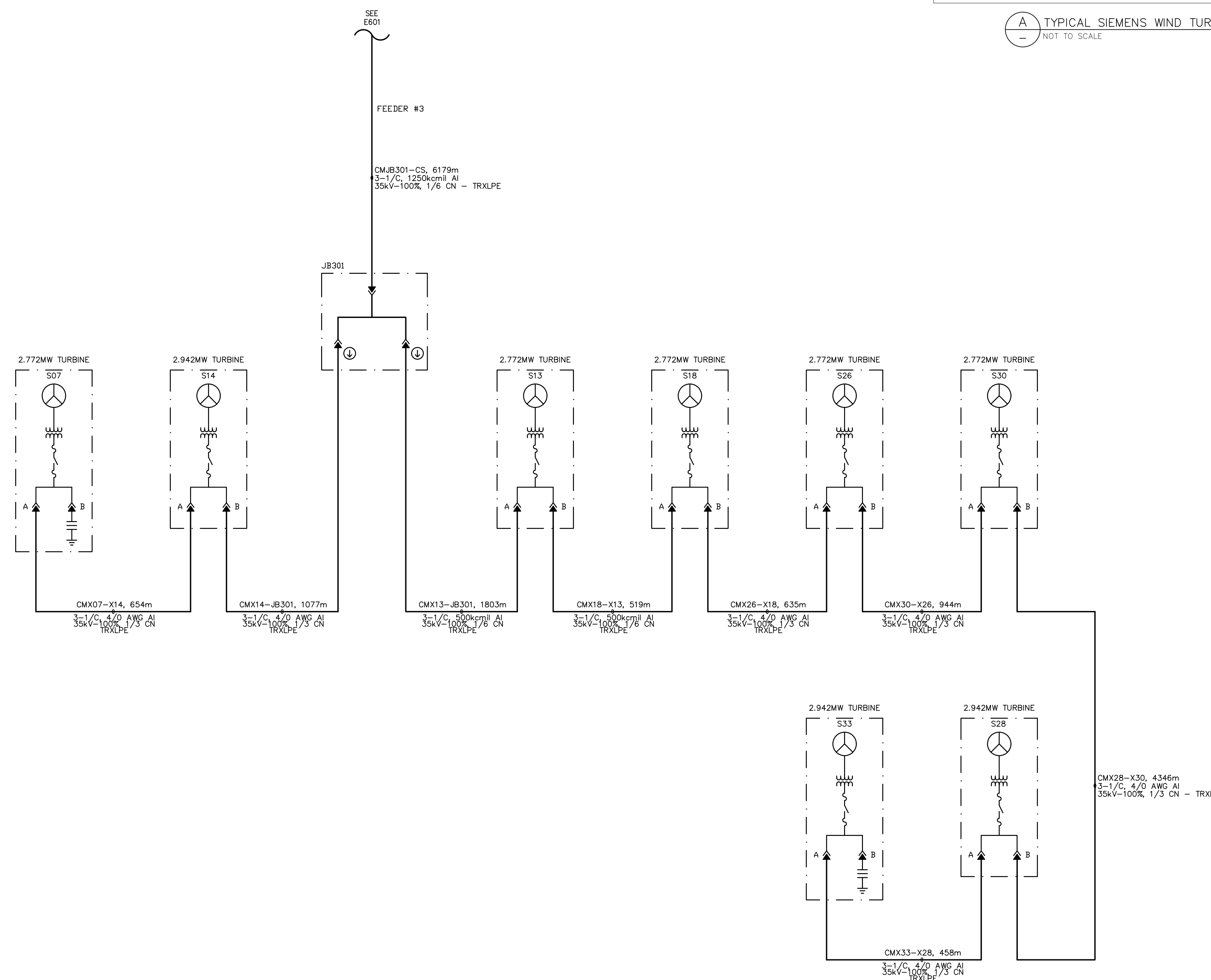
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5kV COLLECTOR SYSTEM
FEEDER SINGLE LINE DIAGRAM
FEEDER #3

Project No.	Scale	
133560104	NOT TO SCALE	
Drawing No.	Sheet	Revision
E400A	3 of 4	F



(A) TYPICAL SIEMENS WIND TURBINE SINGLE LINE DIAGRAM
NOT TO SCALE



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Notes

- 1/2 ON ACCEPTABLE FOR 750, 1000, 1250 kcmil CABLE.
- CABLE LENGTHS SHOWN ARE POINT TO POINT MEASUREMENTS +5% FOR RUNS <1000m & +3% FOR RUNS >1000m.
- CABLE SIZES ARE NOT FINAL AND SUBJECT TO CHANGE.

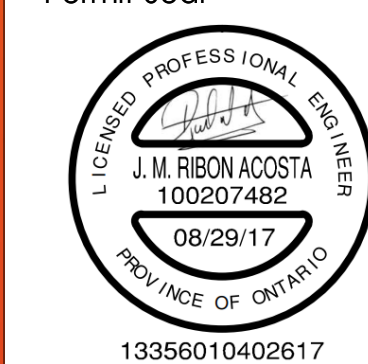
COLLECTOR CIRCUIT POWER CABLE SCHEDULE									
CABLE TAG	SOURCE	DESTINATION	MAXIMUM OPERATING CURRENT @ 0.95PF (A)	CABLE TYPE	CABLE SIZE	C.N. SIZE	SEGMENT LENGTH (NOTE 2) (m)	TOTAL LENGTH (3x Segment Length) (m)	INSTALLATION
GSU	WTG	GSU		10x 3-1/C, Cu, 2kV	900 kcmil	N/A	-	-	CONCRETE ENCASED DUCT
CMX29-X01	S29	S01	49.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	659.64	1979	Direct Buired, Trefoil
CMX01-JB101	S01	JB101	98.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	2429.96	7290	Direct Buired, Trefoil
CMX04-JB101	S04	JB101	52.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	962.25	2887	Direct Buired, Trefoil
CMJB101-JB102	JB101	JB102	149.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	1135.24	3406	Direct Buired, Trefoil
CMX22-JB102	S22	JB102	52.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	882.87	2649	Direct Buired, Trefoil
CMJB102-JB104	JB102	JB104	201.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	1343.09	4029	Direct Buired, Trefoil
CMX31-JB104	S31	JB104	49.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	1071.1	3213	Direct Buired, Trefoil
CMX09-JB105	S09	JB105	49.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	802.69	2408	Direct Buired, Trefoil
CMX11-JB105	S11	JB105	49.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	598.19	1795	Direct Buired, Trefoil
CMX03-JB105	S03	JB105	98.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	39.17	118	Direct Buired, Trefoil
CMJB105-X16	JB105	S16	149.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	2182.55	6548	Direct Buired, Trefoil
CMX16-JB104	S16	JB104	201.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	500 kcmil	Size-1/6+ (16x#14)	3197.44	9592	Direct Buired, Trefoil
CMJB104-CS	JB104	CS	451.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	1250 kcmil	Size-1/6 (20x#12)	2197.16	6591	Direct Buired, Trefoil
CMX05-X20	S05	S20	52.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	525.36	1576	Direct Buired, Trefoil
CMX20-X34	S20	S34	104.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	933.37	2800	Direct Buired, Trefoil
CMX34-JB201	S34	JB201	152.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	2028.92	6087	Direct Buired, Trefoil
CMX36-X21	S36	S21	52.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	871.92	2616	Direct Buired, Trefoil
CMX21-X19	S21	S19	101.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	694.17	2083	Direct Buired, Trefoil
CMX19-JB202	S19	JB202	149.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	409.71	1229	Direct Buired, Trefoil
CMX02-X27	S02	S27	49.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	700.07	2100	Direct Buired, Trefoil
CMX27-X37	S27	S37	101.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	584.97	1755	Direct Buired, Trefoil
CMX37-JB202	S37	JB202	152.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	162.39	487	Direct Buired, Trefoil
CMJB202-JB201	JB202	JB201	302.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	500 kcmil	Size-1/6+ (16x#14)	2430.96	7293	Direct Buired, Trefoil
CMJB201-CS	JB201	CS	454.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	1250 kcmil	Size-1/6 (20x#12)	951.14	2853	Direct Buired, Trefoil
CMX33-X28	S33	S28	52.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	457.58	1373	Direct Buired, Trefoil
CMX28-X30	S28	S30	104.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	4345.47	13036	Direct Buired, Trefoil
CMX30-X26	S30	S26	152.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	943.42	2830	Direct Buired, Trefoil
CMX26-X18	S26	S18	201.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	634.89	1905	Direct Buired, Trefoil
CMX18-X13	S18	S13	250.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	500 kcmil	Size-1/6+ (16x#14)	518.32	1555	Direct Buired, Trefoil
CMX13-JB301	S13	JB301	299.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	500 kcmil	Size-1/6+ (16x#14)	1802.59	5408	Direct Buired, Trefoil
CMX07-X14	S07	S14	49.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	654.4	1963	Direct Buired, Trefoil
CMX14-JB301	S14	JB301	101.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	4/0 AWG	Size-1/3+ (13x#14)	1076.81	3230	Direct Buired, Trefoil
CMJB301-CS	JB301	CS	400.0	3-1/C TRXLPE, AL, LLDPE, 35kV-100%	1250 kcmil	Size-1/6 (20x#12)	6178.8	18536	Direct Buired, Trefoil

BILL OF MATERIALS SUMMARY				
ITEM No.	MATERIAL	RATING	QTY	UNIT
1	CABLE	10x 3-1/C, 900kcmil Cu, 2kV	TBD	METER
2	CABLE	3-1/C, 4/0AWG AL, 35kV-100% INS. 1/3 C.N.	81,391	METER
3	CABLE	3-1/C, 500kcmil AL, 35kV-100% INS. 1/6 C.N.	23,848	METER
4	CABLE	3-1/C, 1250kcmil AL, 35kV-100% INS. 1/6 C.N.	27,981	METER
5	IN-LINE SPLICE KIT	35kV, 4/0 AWG, AL x 1/C	AS REQUIRED	NUMBER
6	IN-LINE SPLICE KIT	35kV, 500 kcmil, AL x 1/C	AS REQUIRED	NUMBER
7	IN-LINE SPLICE KIT	35kV, 1250 kcmil, AL x 1/C	AS REQUIRED	NUMBER
8	CABLE TERMINATION	DEADBREAK ELBOW CONNECTOR 35KV CLASS 200KV BIL 600A, AL	189 (1 PER PHASE)	NUMBER
9	SURGE ARRESTORS	METAL OXIDE SURGE ARRESTER 30KV DUTY CYCLE, 24.4kV MCOV INT. CLASS	36 (1 PER PHASE)	NUMBER
10	GROUND CABLE	STRANDED BARE COPPER CONDUCTOR, SIZE TO BE DETERMINED BY GROUNDING STUDY REPORT	TBD	METER
11	CABLE FAULT INDICATOR	RATING TBD	48 (1 PER PHASE)	NUMBER

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Client/Project



AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5kV COLLECTOR SYSTEM
FEEDER SINGLE LINE DIAGRAM
CABLE SCHEDULE & BOM

Project No.	Scale	
133560104	NOT TO SCALE	
Drawing No.	Sheet	Revision
E400A	4 of 4	F

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Notes

Legend

- S## WIND TURBINE GENERATOR (WTG)
- J### 34.5kV COLLECTOR CIRCUIT JUNCTION UNIT (PROPOSED LOCATION IN PRIVATE PROPERTY)
- SS 34.5kV/115kV SUBSTATION
- 34.5kV COLLECTOR CIRCUIT 1
- 34.5kV COLLECTOR CIRCUIT 2
- 34.5kV COLLECTOR CIRCUIT 3
- OVERHEAD 115kV TRANSMISSION LINE
- WOODED AREA
- WATER BODY
- WATERCOURSE
- METEOROLOGICAL TOWER (MET)

F	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
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Revision	By	Appd.	YY.MM.DD
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File Name: dwg_60104_AWF_E401.dwg	BM	AR	JR	15.12.04
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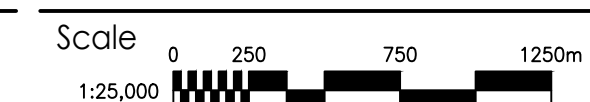


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5kV COLLECTOR SYSTEM
OVERALL LAYOUT

Project No.
133560104



Drawing No.

Sheet 1 of 2 Revision

E401A

1 of 2

F

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Notes

Legend

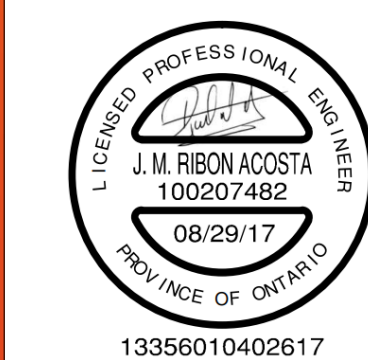
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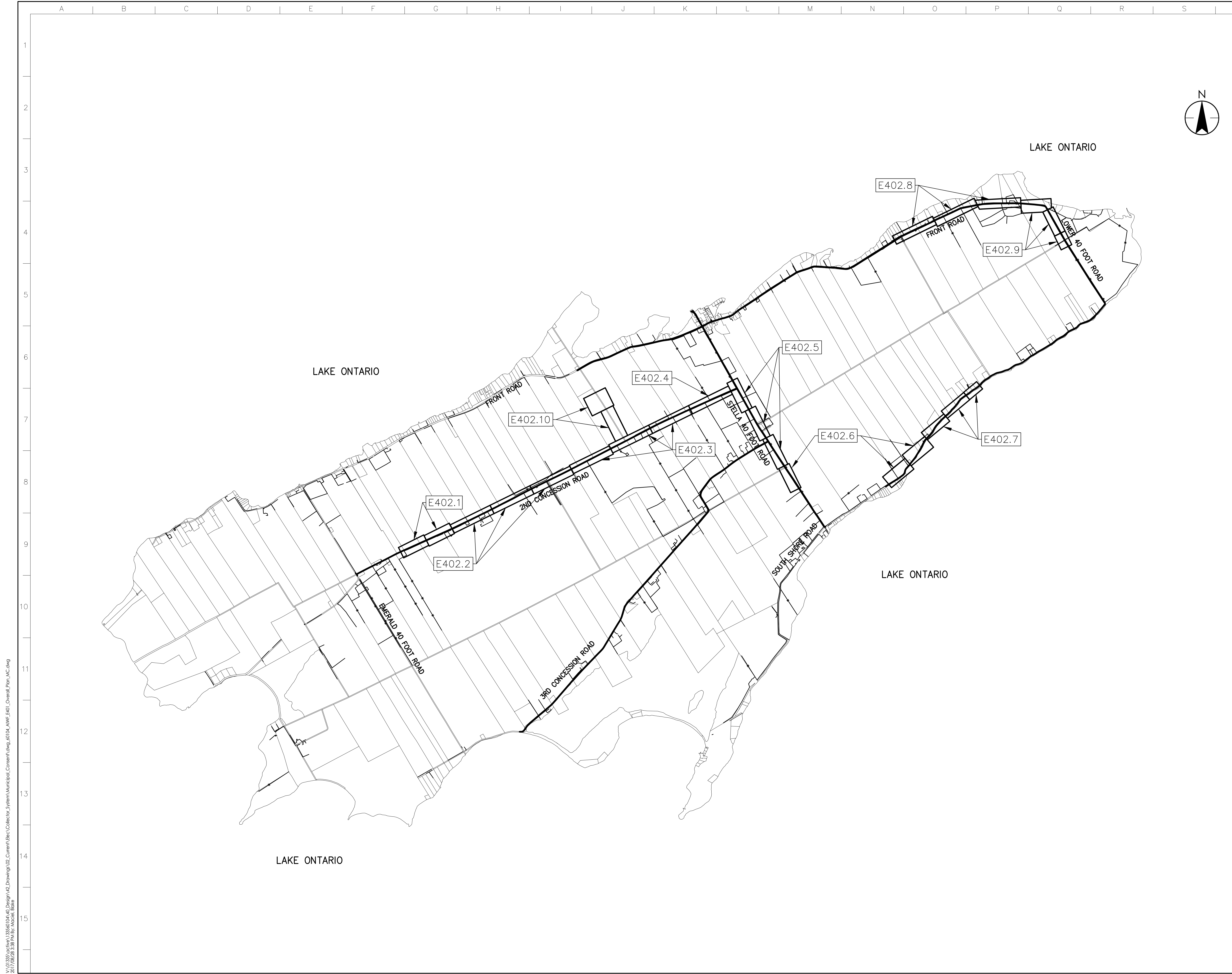
Client/Project



AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5kV COLLECTOR SYSTEM
LAYOUT KEY PLAN

Project No.	133560104	Scale	0 250 750 1250m 1:25,000
Drawing No.	E401A	Sheet	2 of 2
		Revision	F



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Notes

- CULVERT CROSSINGS ON PRIVATE ACCESS ROADS HAVE NOT BEEN IDENTIFIED. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES.
- LINEWORK SHOWN FOR ACCESS ROADS ON PRIVATE PROPERTY IS BASED ON IN-PROGRESS DESIGN FROM STANTEC CIVIL ENGINEERING.
- FOR FIBER PULL BOX DETAILS REFER TO DRAWING E404-1.
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Legend

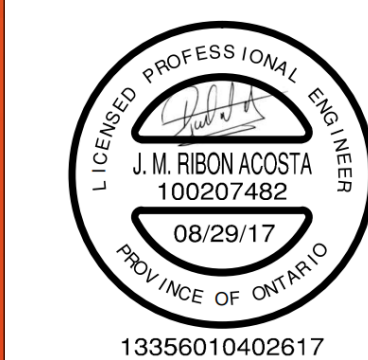
- S## WIND TURBINE GENERATOR (WTO)
- JB### 34.5kV COLLECTOR CIRCUIT JUNCTION UNIT (PROPOSED LOCATION)
- 34.5kV COLLECTOR CIRCUIT
- WATERCOURSES
- ROAD ALLOWANCE
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- E406 DET.A DRAWING DETAILS
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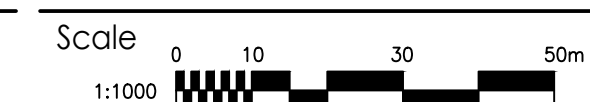


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5kV COLLECTOR SYSTEM LAYOUT PLANS

Project No. 133560104



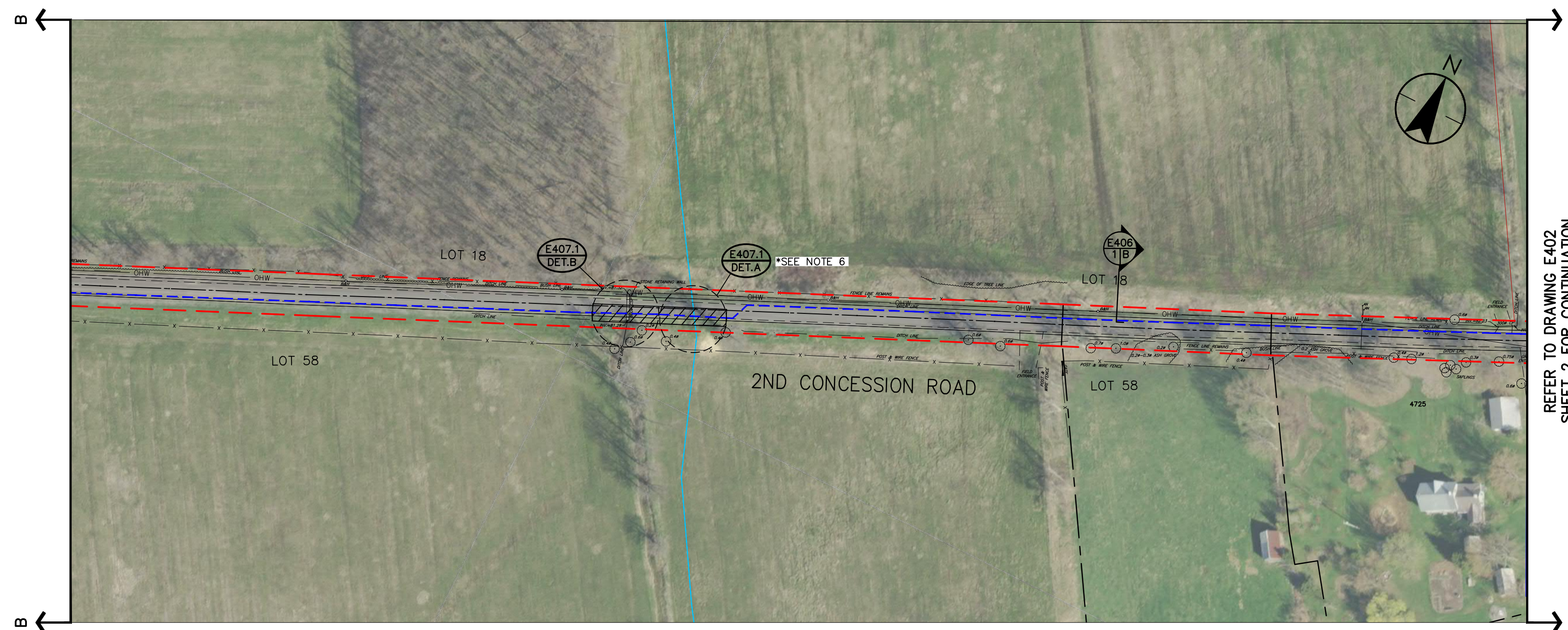
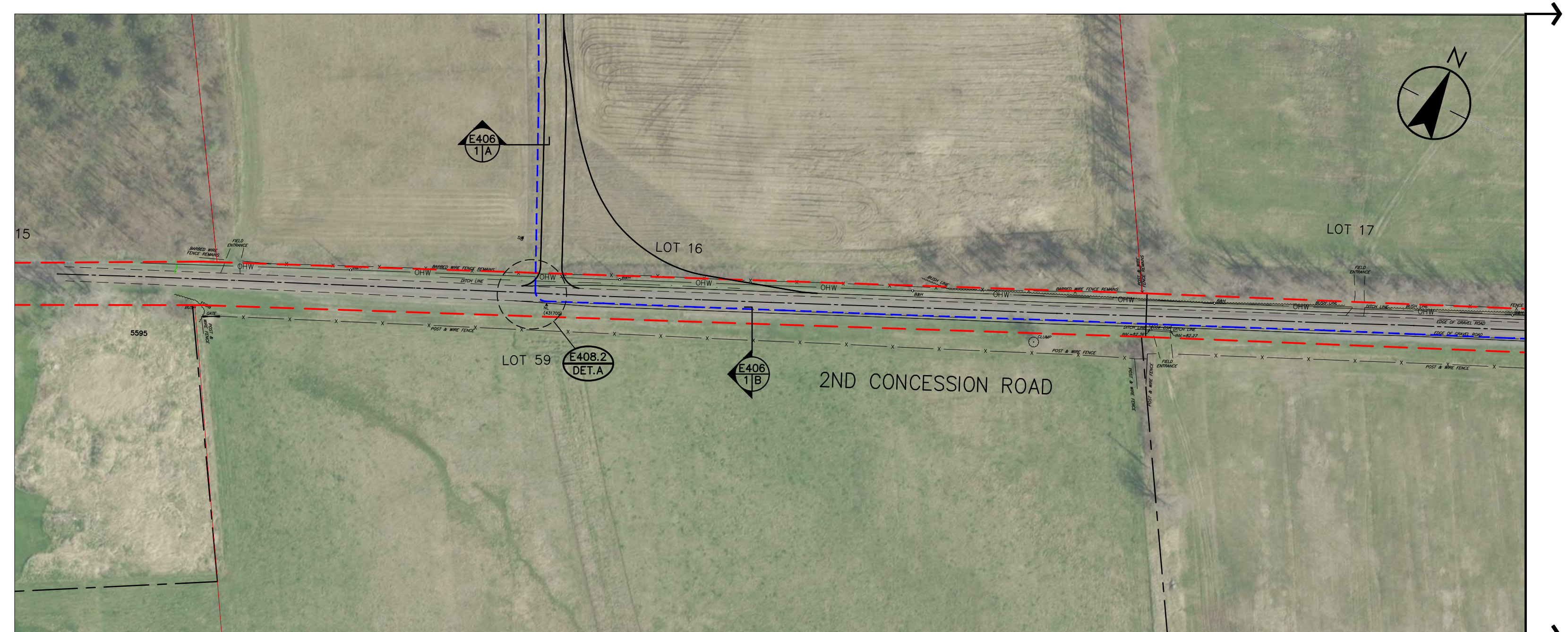
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Revision

E402A

1 of 10

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AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5KV COLLECTOR SYSTEM LAYOUT PLANS

Project No. 13356104	Scale 1:1000	Sheet 2 of 10	Revision 1
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E402A



REFER TO DRAWING E402 SHEET 1 FOR CONTINUATION

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Client/Project



AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5KV COLLECTOR SYSTEM LAYOUT PLANS

Project No.	Scale
133560104	0 10 30 50m 1:1000
Drawing No.	Sheet
E402A	3 of 10
Revision	



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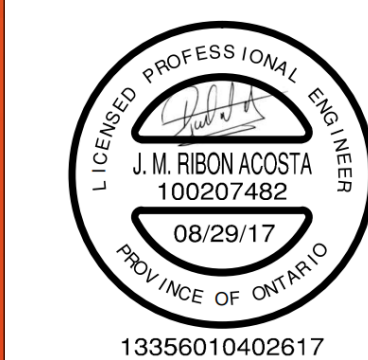
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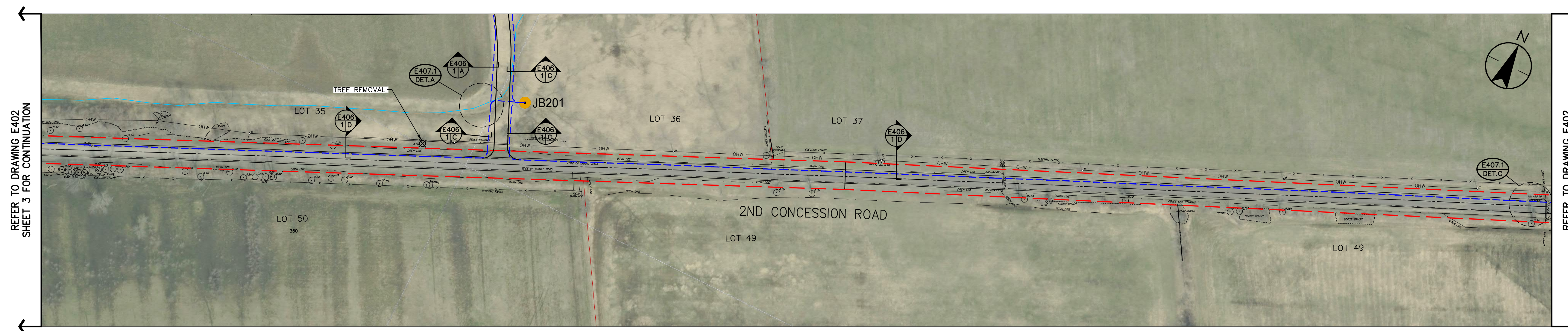
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5kV COLLECTOR SYSTEM
LAYOUT PLANS

Project No.	133560104	Scale	1:1000
Drawing No.	E402A	Sheet	4 of 10
		Revision	

E402A 4 of 10



REFER TO DRAWING E402 SHEET 3 FOR CONTINUATION

REFER TO DRAWING E402 SHEET 5 FOR CONTINUATION

Notes

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Legend

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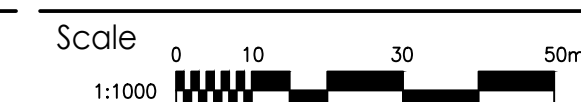


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5KV COLLECTOR SYSTEM
LAYOUT PLANS

Project No.
133560104



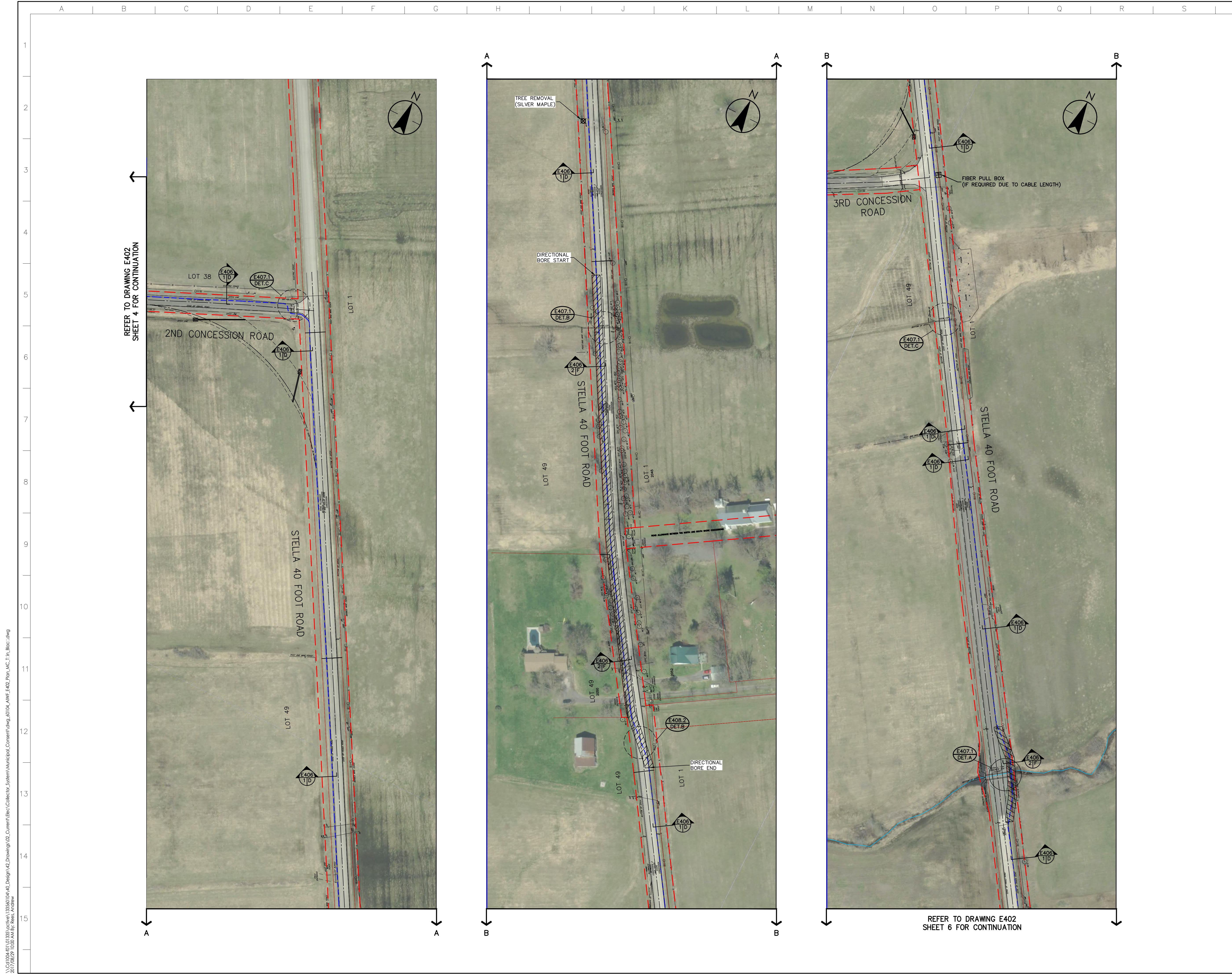
Drawing No.

Sheet 5 of 10

E402A

5 of 10

1



REFER TO DRAWING E402
SHEET 4 FOR CONTINUATION

REFER TO DRAWING E402
SHEET 6 FOR CONTINUATION

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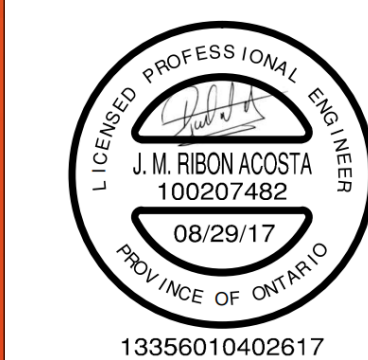
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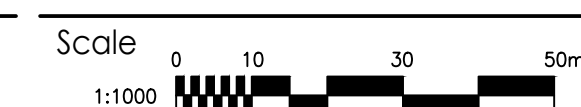


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5kV COLLECTOR SYSTEM
LAYOUT PLANS

Project No.
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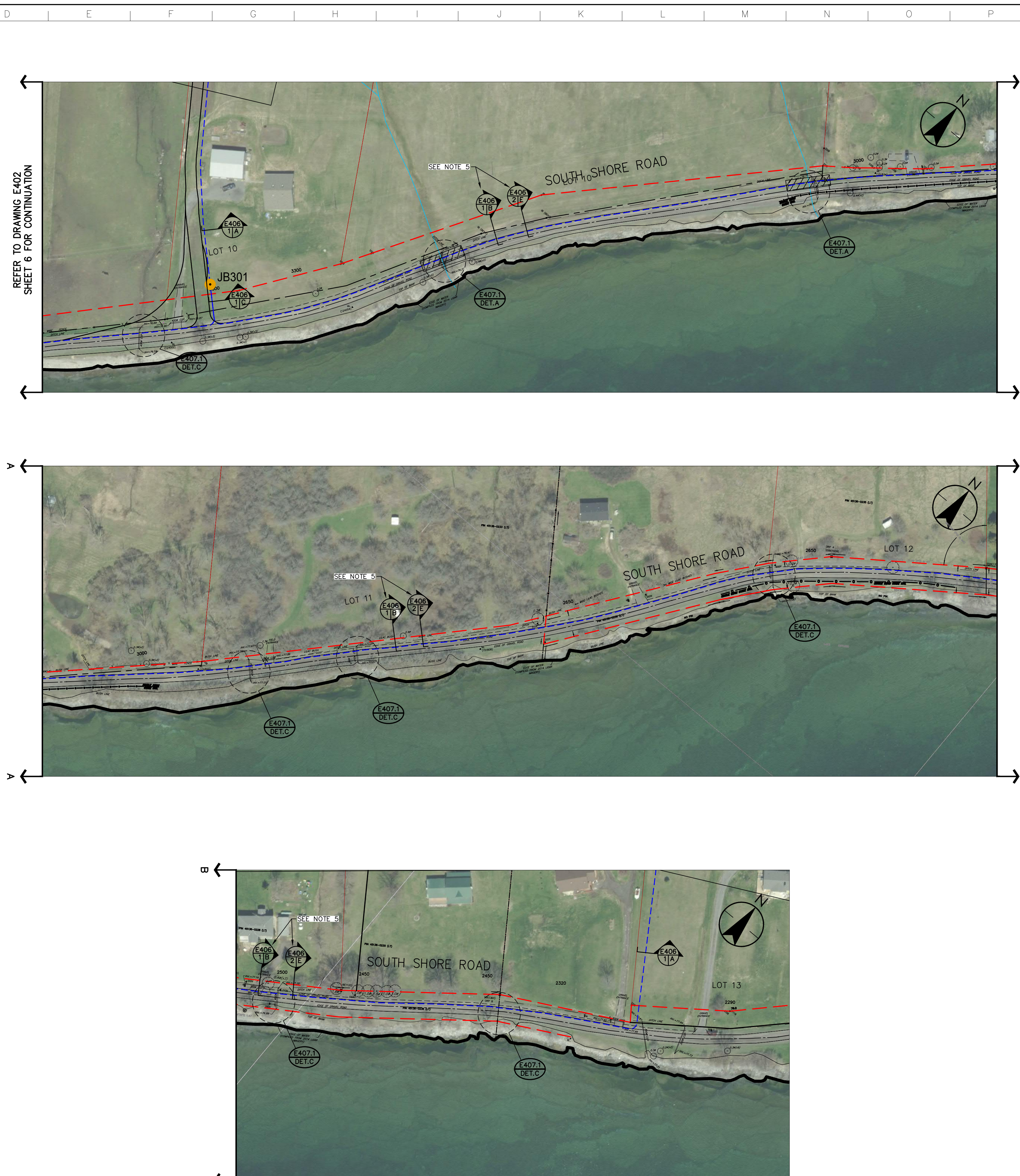


Drawing No.

Sheet 7 of 10 Revision

E402A

7 of 10



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SHEET 6 FOR CONTINUATION

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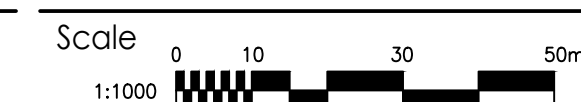


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5KV COLLECTOR SYSTEM
LAYOUT PLANS

Project No.
133560104



Drawing No.

Sheet 8 of 10

E402A

8 of 10



REFER TO DRAWING E402 SHEET 9 FOR CONTINUATION

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	Dwn.	Cl:JL	Dgn. YY.MM.DD

Permit Seal



FOR MUNICIPAL CONSENT

13356010402617
Client/Project

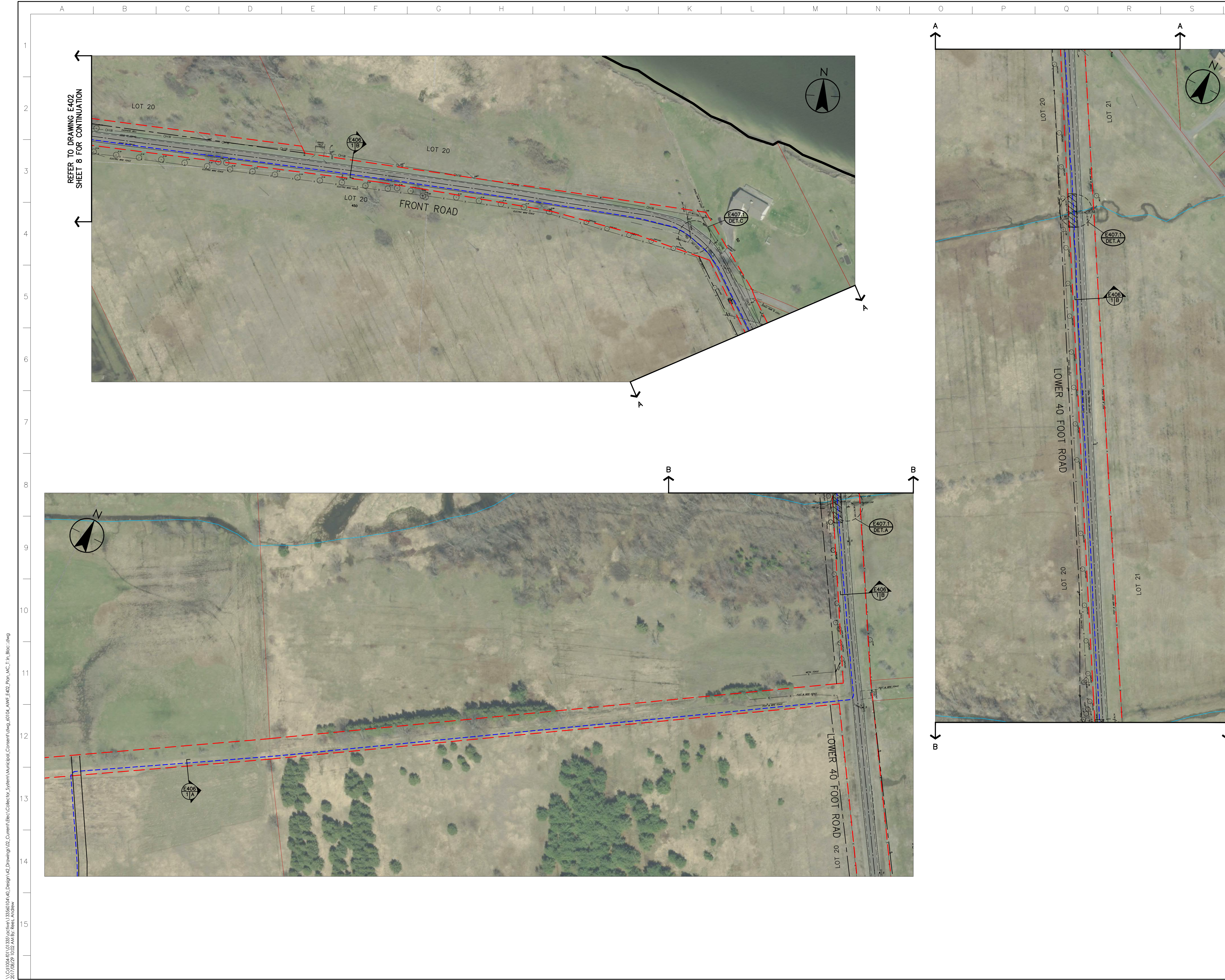


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5KV COLLECTOR SYSTEM
LAYOUT PLANS

Project No. 133560104	Scale 1:1000	Sheet 9 of 10	Revision
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E402A



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 2017/08/29 10:22 AM By: Ross, Andrew
 ORIGINAL SHEET - ARCHD

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Notes

- CULVERT CROSSINGS ON PRIVATE ACCESS ROADS HAVE NOT BEEN IDENTIFIED. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES.
- LINEWORK SHOWN FOR ACCESS ROADS ON PRIVATE PROPERTY IS BASED ON IN-PROGRESS DESIGN FROM STANTEC CIVIL ENGINEERING.
- FOR FIBER PULL BOX DETAILS REFER TO DRAWING E404-1.
- ALL ELECTRICAL WORK ASSOCIATED WITH THE COLLECTOR SYSTEM AND SHOWN ON THIS LAYOUT IS DIAGRAMMATIC AND SHALL COMPLY WITH THE CONSTRUCTIBLE LIMITS FOR THIS PROJECT.
- FOR PORTIONS OF SOUTH SHORE ROAD WHERE RESIDENTIAL WELL PIPES ARE ENCOUNTERED, THE USE OF HDPE DUCT SHALL BE ALLOWED FOR 35kV COLLECTOR CIRCUIT. USE OF HDPE DUCT SHALL BE DETERMINED ON SITE AT CONTRACTOR'S DISCRETION.
- CABLE INSTALLATION BY TRENCHING OR BORING, AS REQUIRED BY APPLICABLE PERMIT.
- CONTRACTOR SHALL OBTAIN UNDERGROUND UTILITY LOCATES PRIOR TO CONSTRUCTION. ANY CONFLICT FOUND BETWEEN EXISTING UTILITIES AND PROPOSED COLLECTOR SYSTEM SHALL BE COORDINATED ON SITE. CONTRACTOR SHALL CONFIRM ANY DEVIATION FROM CONSTRUCTION DRAWINGS WITH ENGINEER PRIOR TO PROCEEDING.

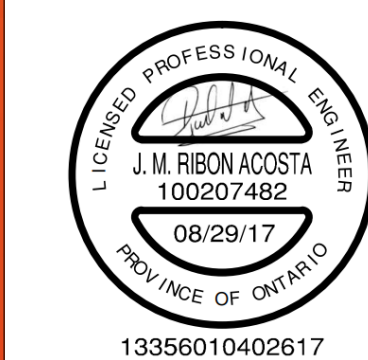
Legend

- S## WIND TURBINE GENERATOR (WTG)
- JB### 34.5kV COLLECTOR CIRCUIT JUNCTION UNIT (PROPOSED LOCATION)
- 34.5kV COLLECTOR CIRCUIT
- WATERCOURSES
- ROAD ALLOWANCE
- FENCE
- TRENCHING AND BORING INSTALLATION REFERENCES. REFERS TO E400 SERIES DRAWING DETAILS
- DRAWING DETAILS
- DIRECTIONAL BORE
- FIBER PULL BOX

I	ISS: ED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
H	ISS: ED FOR MUNICIPAL CONSENT	BM	AR	17.08.16
G	ISS: ED FOR MUNICIPAL CONSENT	BM	AR	17.08.11
F	ISS: ED FOR MUNICIPAL CONSENT	JL	JR	17.07.24
E	ISS: ED FOR MUNICIPAL CONSENT	BM	AR	17.07.18

Issued	By	Appd.	YY.MM.DD
File Name: dwg_60104_AWF_E402.dwg	BM	JR	BM/JM 15.12.02
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Permit-Seal



FOR MUNICIPAL CONSENT

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Client/Project



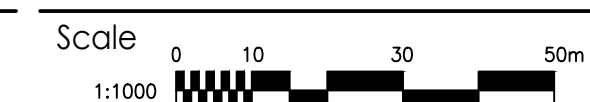
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5kV COLLECTOR SYSTEM LAYOUT PLANS

Project No. 133560104

Drawing No. Sheet



Scale 1:1000

E402A

10 of 10

1



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 2017/08/29 10:22 AM By: Riba, Andrew
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Notes

- ALL DIMENSIONS SHOWN IN MILLIMETER UNLESS OTHERWISE NOTED.
- AREA UNDER THE BASE SHALL BE EXCAVATED TO BELOW THE FROST LINE (1100mm) OR TO A DEPTH NECESSARY TO REACH FIRM, UNDISTURBED MATERIAL, WHICHEVER IS DEEPER.
- EXCAVATE 300mm BEYOND THE PERIMETER OF THE BASE AND BACKFILL THE ENTIRE EXCAVATED AREA WITH CLEAN, NON-EXPANSIVE SOIL, COMPACTED TO 95% SPD IN 300mm LAYERS.
- SEAL CABLE PASSAGE THROUGH CONDUIT END WITH FIRE RETARDANT EXPANSION FOAM.
- RESERVED.
- ALL PART NUMBERS SUBJECT TO APPROVED EQUIVALENT.
- FIBER SPLICE BOX TO BE SIZED TO CONTAIN 10m OF EACH FIBER CABLE FOR ACCESS TO SPLICE. SPLICE BOX TO BE SIZED FOR CABLE MINIMUM BENDING RADIUS x2.
- FIBER OPTIC JUNCTION BOX TO BE PLACED IN ROAD ALLOWANCE AND OUTSIDE OF TRAVELED ROAD SURFACE. MAINTAIN MINIMUM OF 1.0m CLEARANCE FROM EDGE OF TRAVELED ROAD SURFACE TO EDGE OF JUNCTION BOX.

Legend

Revision	By	Appd.	YY.MM.DD	
G	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
F	ISSUED FOR MUNICIPAL CONSENT	JM	JR	17.08.16
E	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.07.18
D	ISSUED FOR MUNICIPAL CONSENT	JL	AR	17.07.17
C	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.05.10

Revision By Appd. YY.MM.DD

File Name	Dwn.	Chkd.	Dsgn.	YY.MM.DD
dwg_60104_AWF_E404.dwg	BM	JR	BM/JM	16.10.12

File Name: dwg_60104_AWF_E404.dwg Dwn. Chkd. Dsgn. YY.MM.DD

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FOR MUNICIPAL CONSENT

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Client/Project

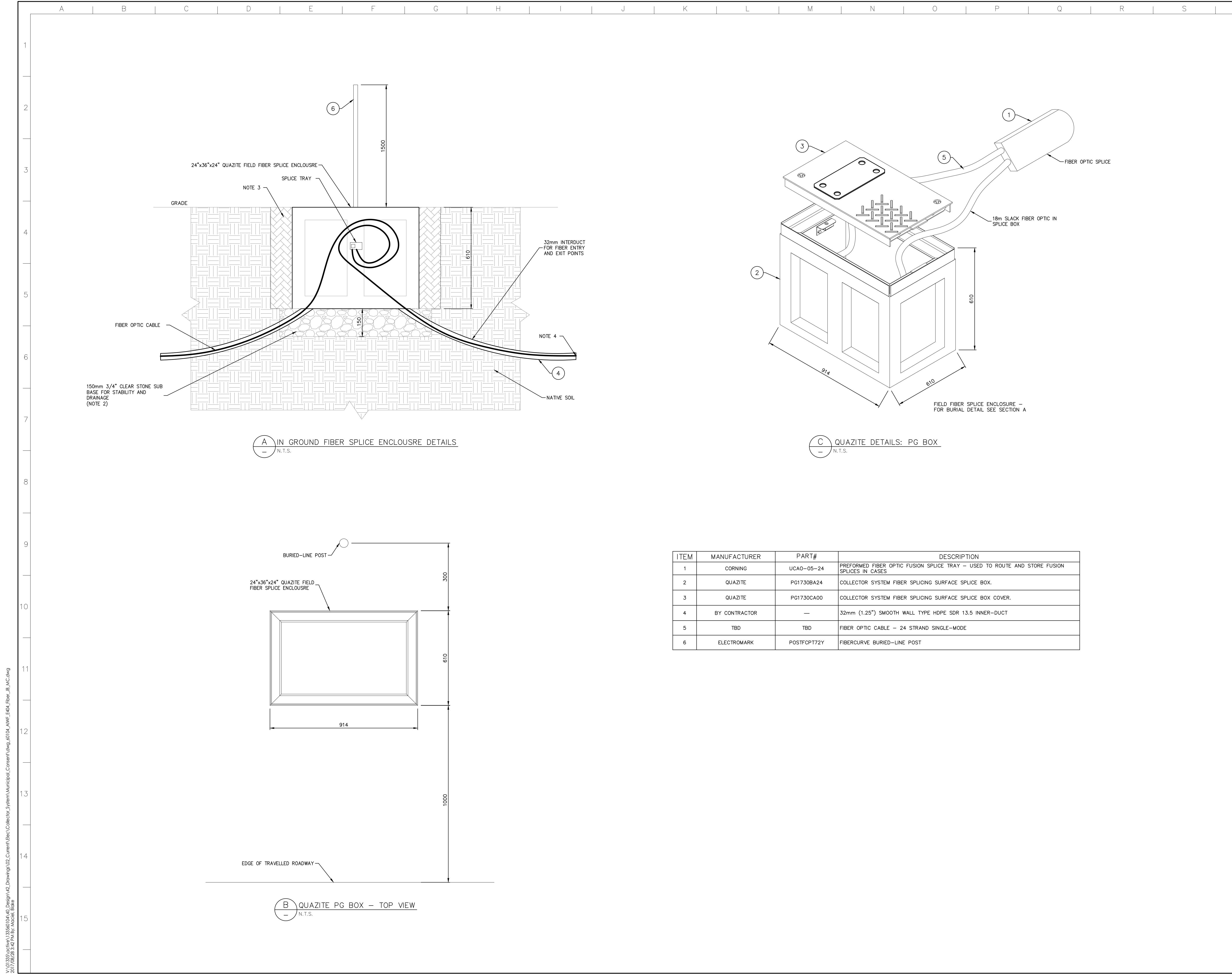
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5kV COLLECTOR SYSTEM
FIBER OPTIC JUNCTION BOX
INSTALLATION DETAILS

Project No.	Scale
133560104	N.T.S.

Drawing No.	Sheet	Revision
E404A	1 of 1	G

E404A 1 of 1 G



ITEM	MANUFACTURER	PART#	DESCRIPTION
1	CORNING	UCA0-05-24	PERFORMED FIBER OPTIC FUSION SPLICE TRAY - USED TO ROUTE AND STORE FUSION SPLICES IN CASES
2	QUAZITE	PG1730BA24	COLLECTOR SYSTEM FIBER SPLICING SURFACE SPLICE BOX.
3	QUAZITE	PG1730CA00	COLLECTOR SYSTEM FIBER SPLICING SURFACE SPLICE BOX COVER.
4	BY CONTRACTOR	-	32mm (1.25") SMOOTH WALL TYPE HDPE SDR 13.5 INNER-DUCT
5	TBD	TBD	FIBER OPTIC CABLE - 24 STRAND SINGLE-MODE
6	ELECTROMARK	POSTFCPT72Y	FIBERCURVE BURIED-LINE POST

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2017/08/28 3:42 PM By: Macie, Blake

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Notes

- ALL DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- ALL UNDERGROUND PARALLEL CABLES SHALL BE SEPARATED FROM ALL OTHER EXISTING UTILITIES RUNNING IN PARALLEL BY A MINIMUM OF 1.0m CENTERLINE TO CENTERLINE, UNLESS OTHERWISE INDICATED BY SPECIFIC UTILITY CLEARANCE REQUIREMENTS.
- SUPPLY, PLACE AND COMPACT NATIVE BACKFILL. NATIVE BACKFILL TO BE FREE OF DEBRIS, SHARP OBJECTS, ORGANIC OR FROZEN MATERIAL AND SCREENED WHERE LARGE PARTICLE SIZE MAY CAUSE DAMAGE TO CABLE. NATIVE BACKFILL TO BE INSTALLED IN LIFTS OF 300mm AND COMPACTED TO 95% SPD.
- THE PADDING BACKFILL MATERIAL SHALL BE SCREENED NATIVE MATERIAL WITH MAXIMUM PARTICLE SIZE NO LARGER THAN 4.75mm IN DIAMETER. PADDING BACKFILL TO BE INSTALLED IN LIFTS OF 300mm AND COMPACTED TO 95% SPD.
- THERMAL BACKFILL TO BE IMPORTED SCREENED CRUSHED LIMESTONE WHERE CABLE AMPACITY CONTROL IS REQUIRED WITH NO PARTICLES LARGER THAN 4.75mm. THERMAL RESISTIVITY SHALL NOT EXCEED 1.0°C.m/W IN ITS DRY STATE.
- INSTALLATION METHODS TO BE IN ACCORDANCE WITH OESC AND MANUFACTURER'S RECOMMENDATIONS TO MAINTAIN TREFOL CONFIGURATION.
- FINAL LOCATION AND SIZE OF BARE Cu GROUND CONDUCTOR TO BE CONFIRMED WITH FINAL GROUNDING STUDY.
- TOPSOIL TO BE SEGREGATED DURING TRENCH EXCAVATION AND RETURNED TO GRADE LEVEL FOLLOWING TRENCH BACKFILL TO ENSURE VEGETATION RE-GROWTH AT CABLE INSTALLATIONS.
- TERRAFIX COMBGRID 40/40 SHALL BE PLACED BELOW GRANULAR A MATERIAL DURING TRENCH BACKFILL.

Legend

- 35kV POWER CABLE
- FIBER OPTIC CABLE
- Cu GROUND CONDUCTOR
- EXISTING NATIVE SOIL
- COMPACTED NATIVE FILL
- PADDING BACK FILL
- THERMAL BACK FILL
- TERRAFIX COMBGRID 40/40

G	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
F	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.11
E	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.07.18
D	ISSUED FOR MUNICIPAL CONSENT	JL	AR	17.07.17
C	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.05.10

Revision	By	Appd.	YY.MM.DD
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File Name:	dwg_60104_AWF_E406.dwg	BM	JR	JM	15.12.07
		Dwn.	Chkd.	Dgn.	YY.MM.DD

Permit Seal



FOR MUNICIPAL CONSENT

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Client/Project

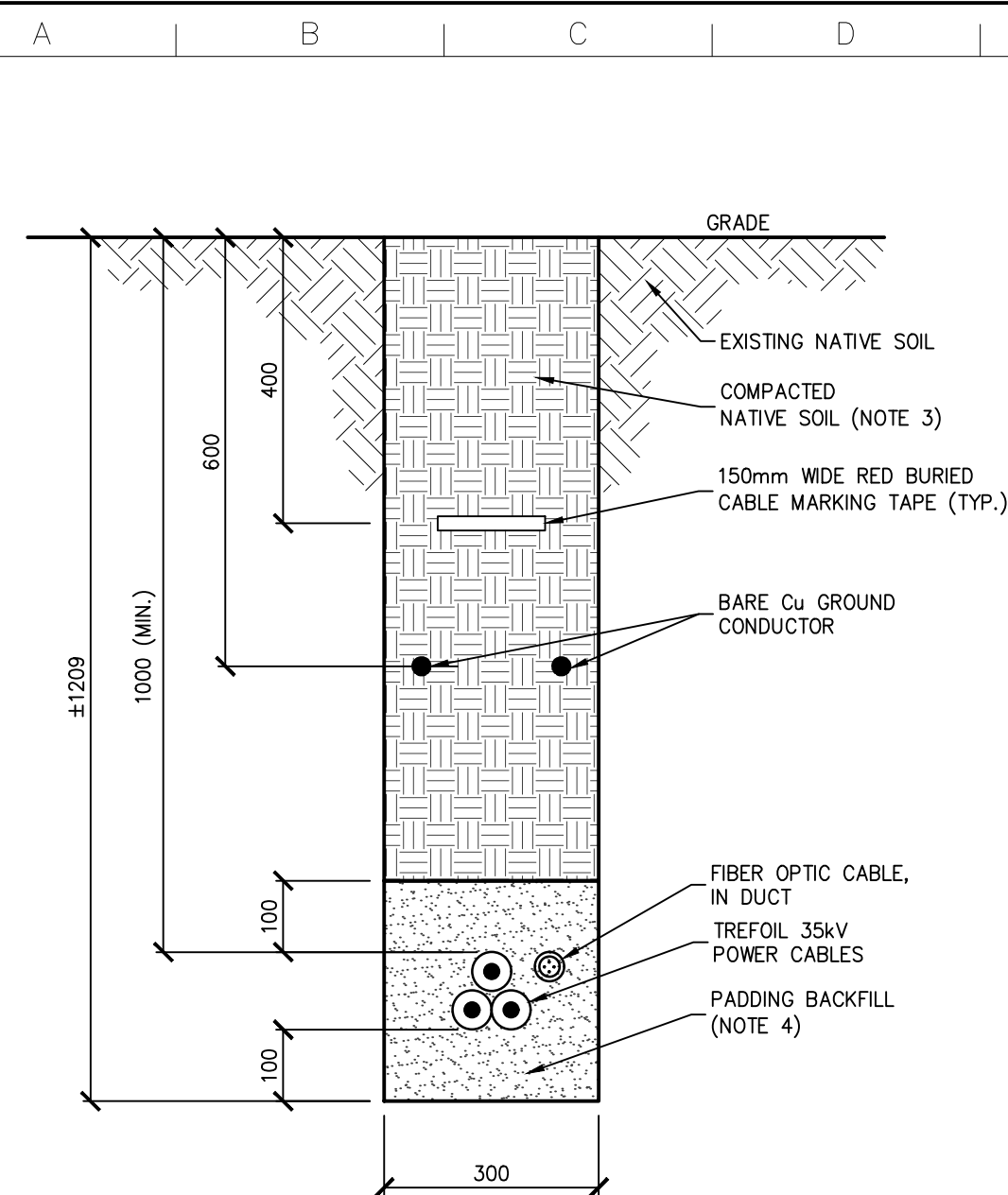


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

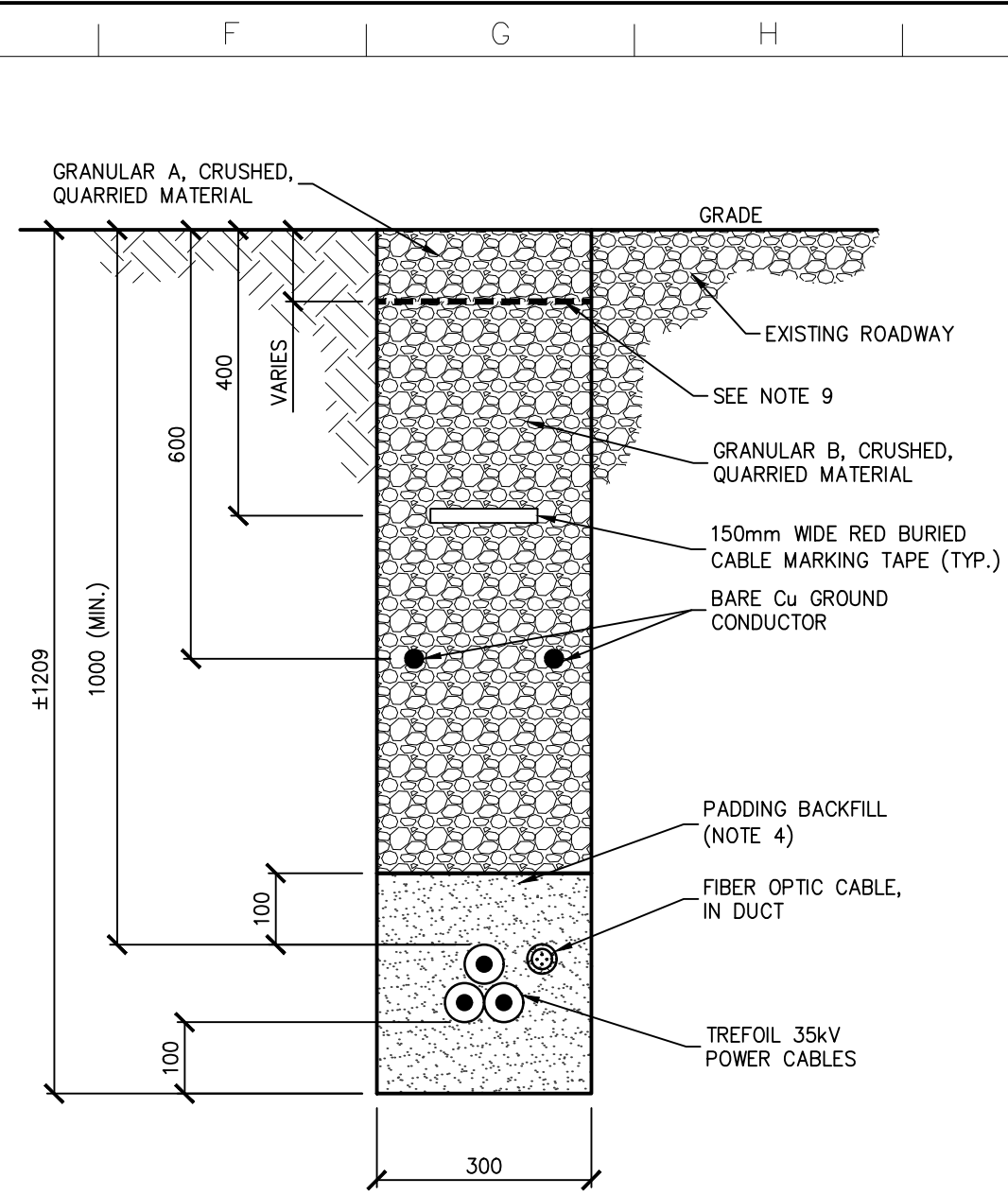
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34.5kV COLLECTOR SYSTEM
CABLE TRENCH DETAILS

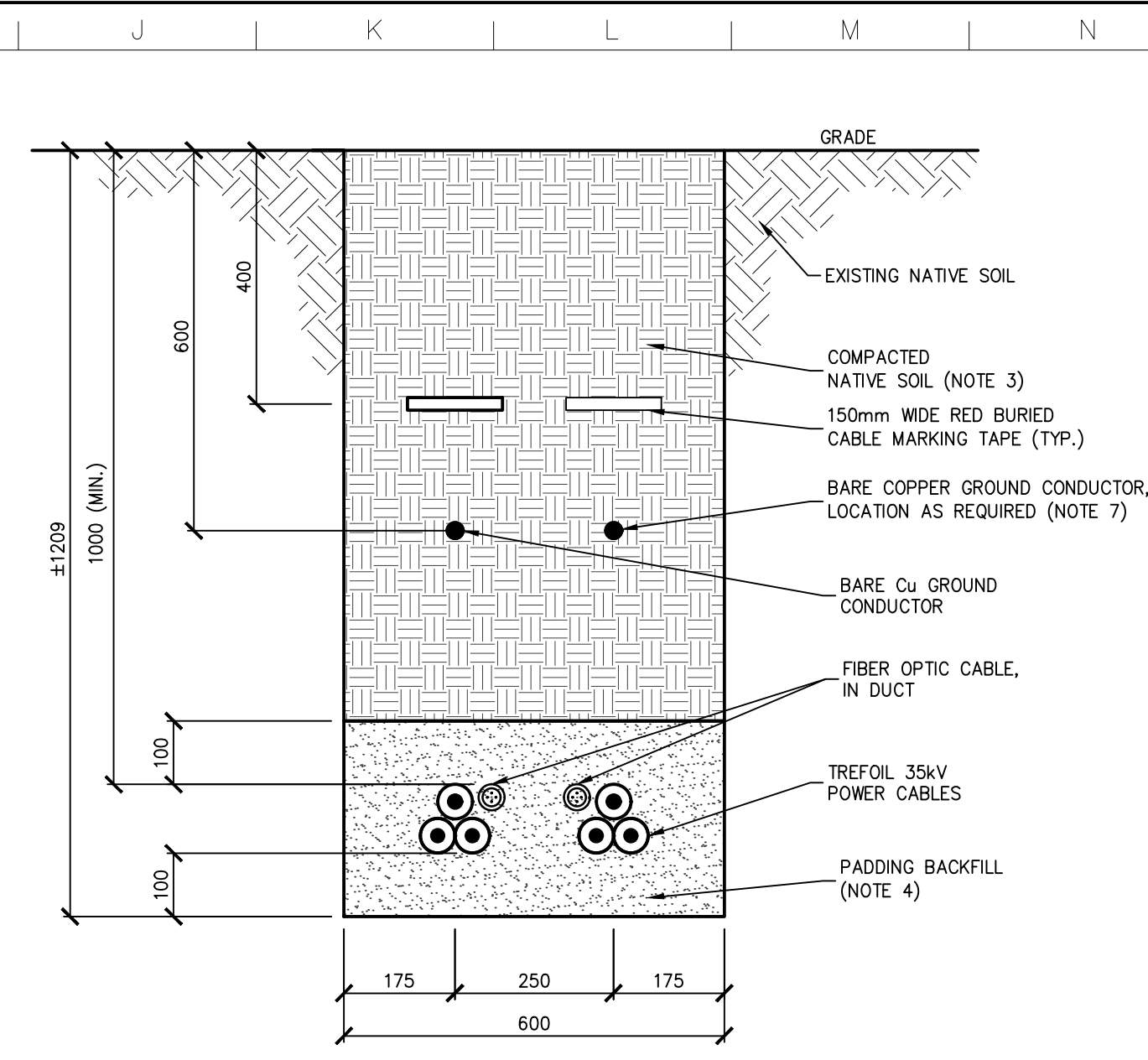
Project No.	Scale	
133560104	1:10	
Drawing No.	Sheet	Revision



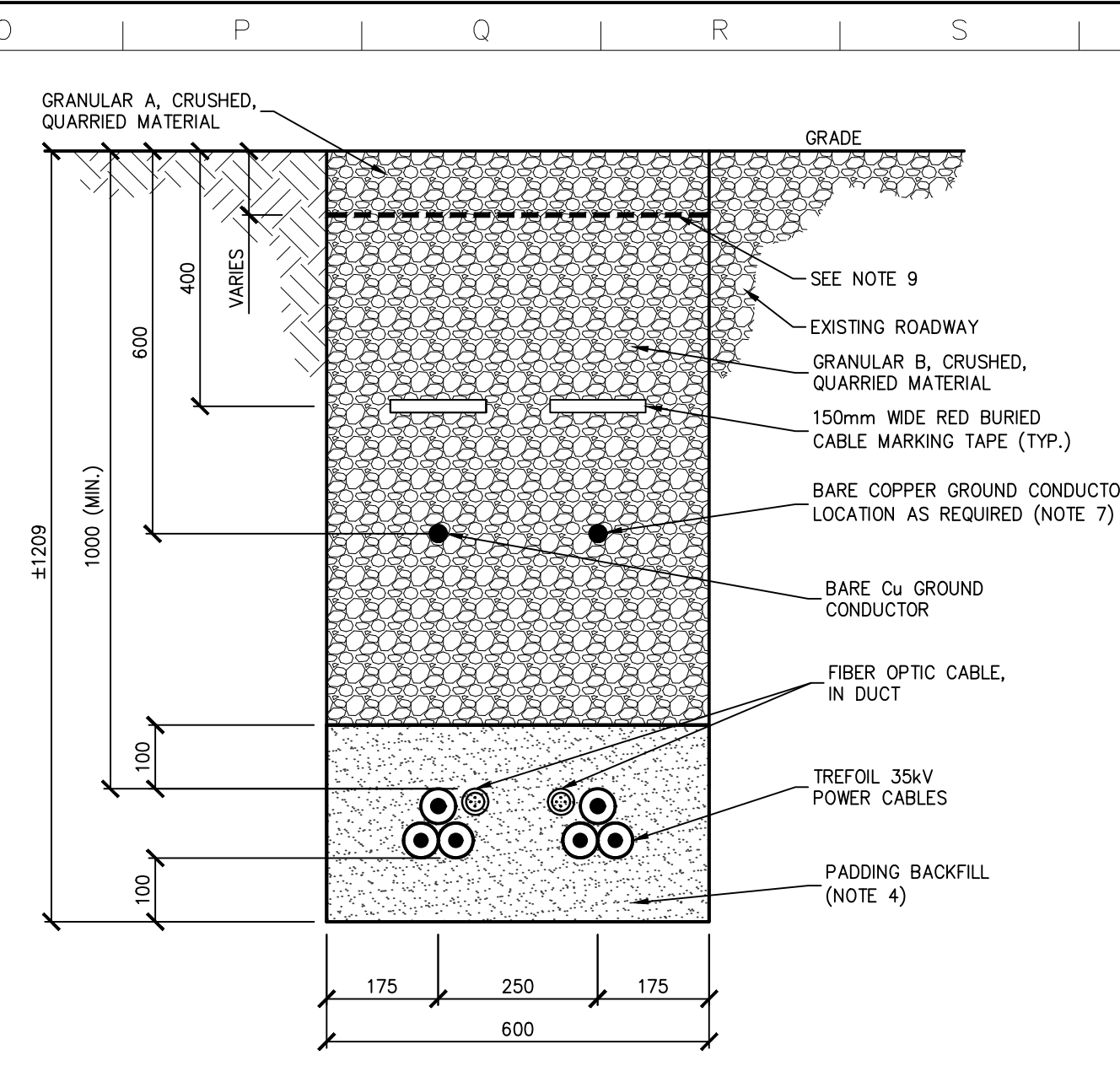
A ONE CIRCUIT IN GRASS OR SHOULDER TRENCH THROUGH SOIL
Scale 1:10



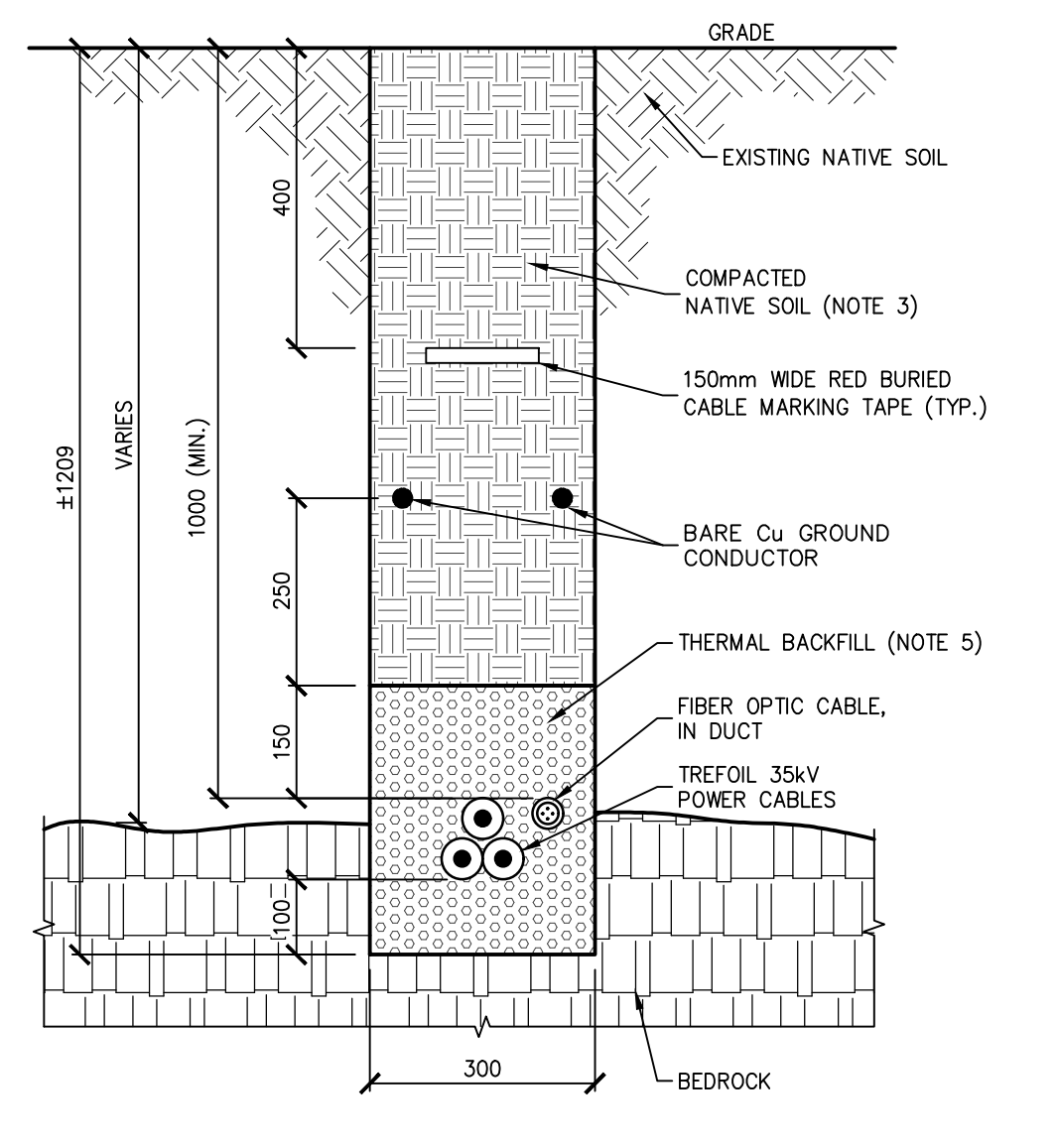
B ONE CIRCUIT UNDER ROADWAY TRENCH THROUGH SOIL
Scale 1:10



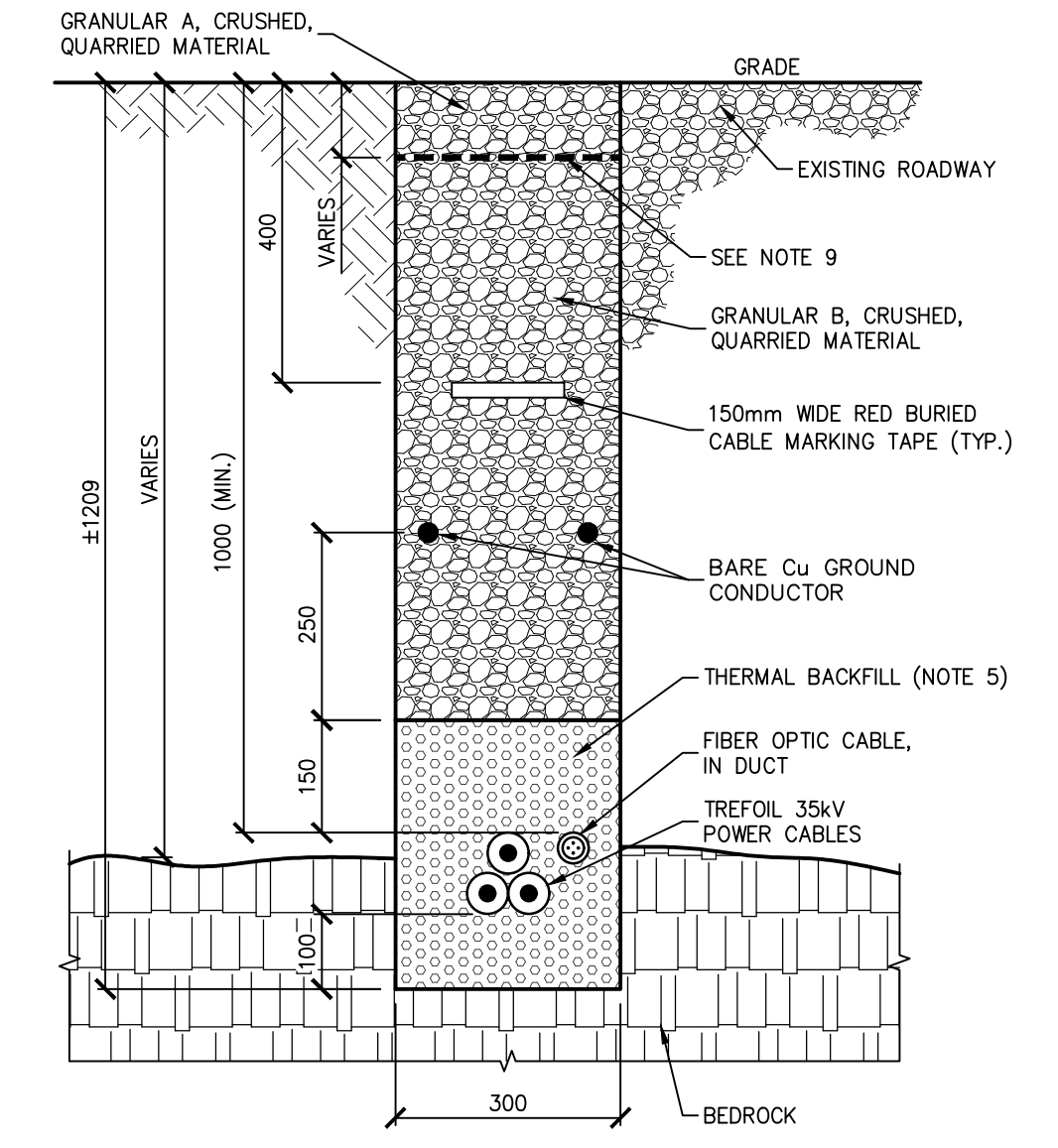
C TWO CIRCUIT IN GRASS OR SHOULDER TRENCH THROUGH SOIL
Scale 1:10



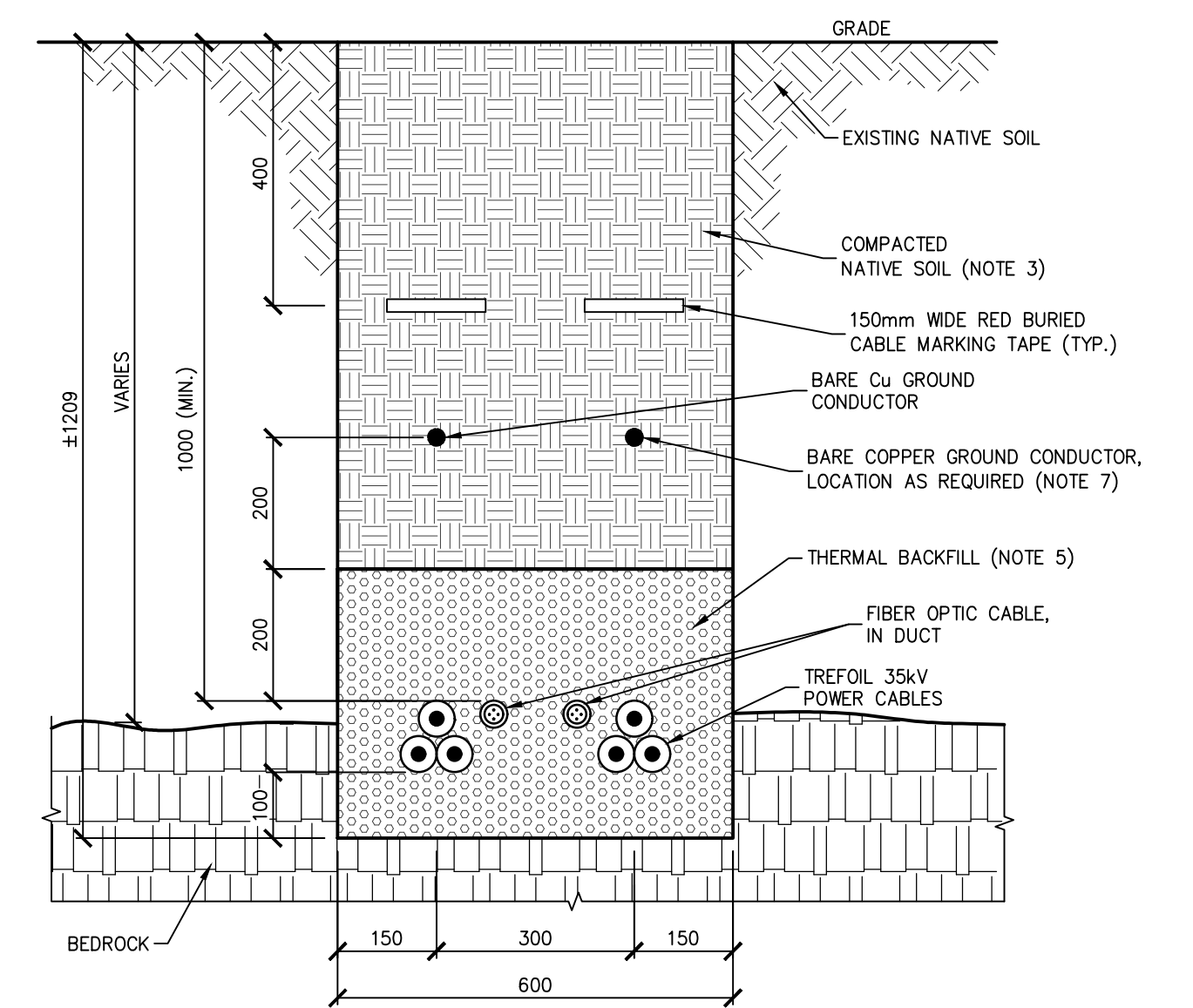
D TWO CIRCUIT UNDER ROADWAY TRENCH THROUGH SOIL
Scale 1:10



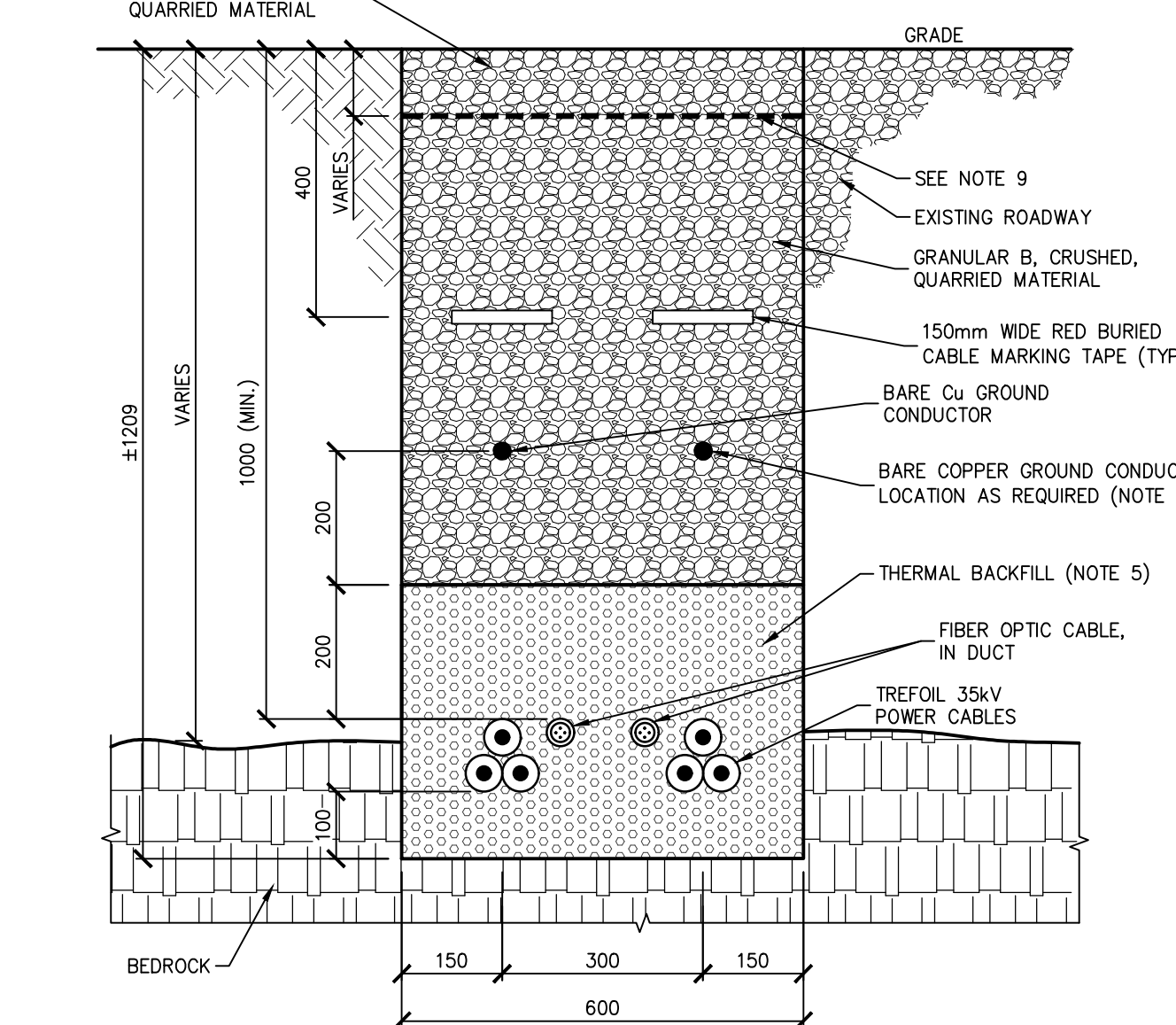
A1 ONE CIRCUIT IN GRASS OR SHOULDER TRENCH THROUGH BEDROCK
Scale 1:10



B1 ONE CIRCUIT UNDER ROADWAY TRENCH THROUGH BEDROCK
Scale 1:10



C1 TWO CIRCUIT IN GRASS OR SHOULDER TRENCH THROUGH BEDROCK
Scale 1:10



D1 TWO CIRCUIT UNDER ROADWAY TRENCH THROUGH BEDROCK
Scale 1:10

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- THERMAL BACKFILL TO BE IMPORTED SCREENED CRUSHED LIMESTONE WHERE CABLE AMPACITY CONTROL IS REQUIRED WITH NO PARTICLES LARGER THAN 4.75mm. THERMAL RESISTIVITY SHALL NOT EXCEED 1.0°C.m/W IN ITS DRY STATE.
- INSTALLATION METHODS TO BE IN ACCORDANCE WITH OESC AND MANUFACTURER'S RECOMMENDATIONS TO MAINTAIN TREFOL CONFIGURATION.
- FINAL LOCATION AND SIZE OF BARE Cu GROUND CONDUCTOR TO BE CONFIRMED WITH FINAL GROUNDING STUDY.
- TOPSOIL TO BE SEGREGATED DURING TRENCH EXCAVATION AND RETURNED TO GRADE LEVEL FOLLOWING TRENCH BACKFILL TO ENSURE VEGETATION RE-GROWTH AT CABLE INSTALLATIONS.
- TERRAFIX COMBIGRID 40/40 SHALL BE PLACED BELOW GRANULAR A MATERIAL DURING TRENCH BACKFILL.

Legend

- 35kV POWER CABLE
- FIBER OPTIC CABLE
- Cu GROUND CONDUCTOR
- EXISTING NATIVE SOIL
- COMPACTED NATIVE FILL
- PADDING BACK FILL
- THERMAL BACK FILL
- TERRAFIX COMBIGRID 40/40

G	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
F	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.11
E	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.07.18
D	ISSUED FOR MUNICIPAL CONSENT	JL	AR	17.07.17
C	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.05.10

Revision	By	Appd.	YY.MM.DD
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File Name:	dwg_60104_AWF_E406.dwg	BM	JR	JM	15.12.07
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Client/Project



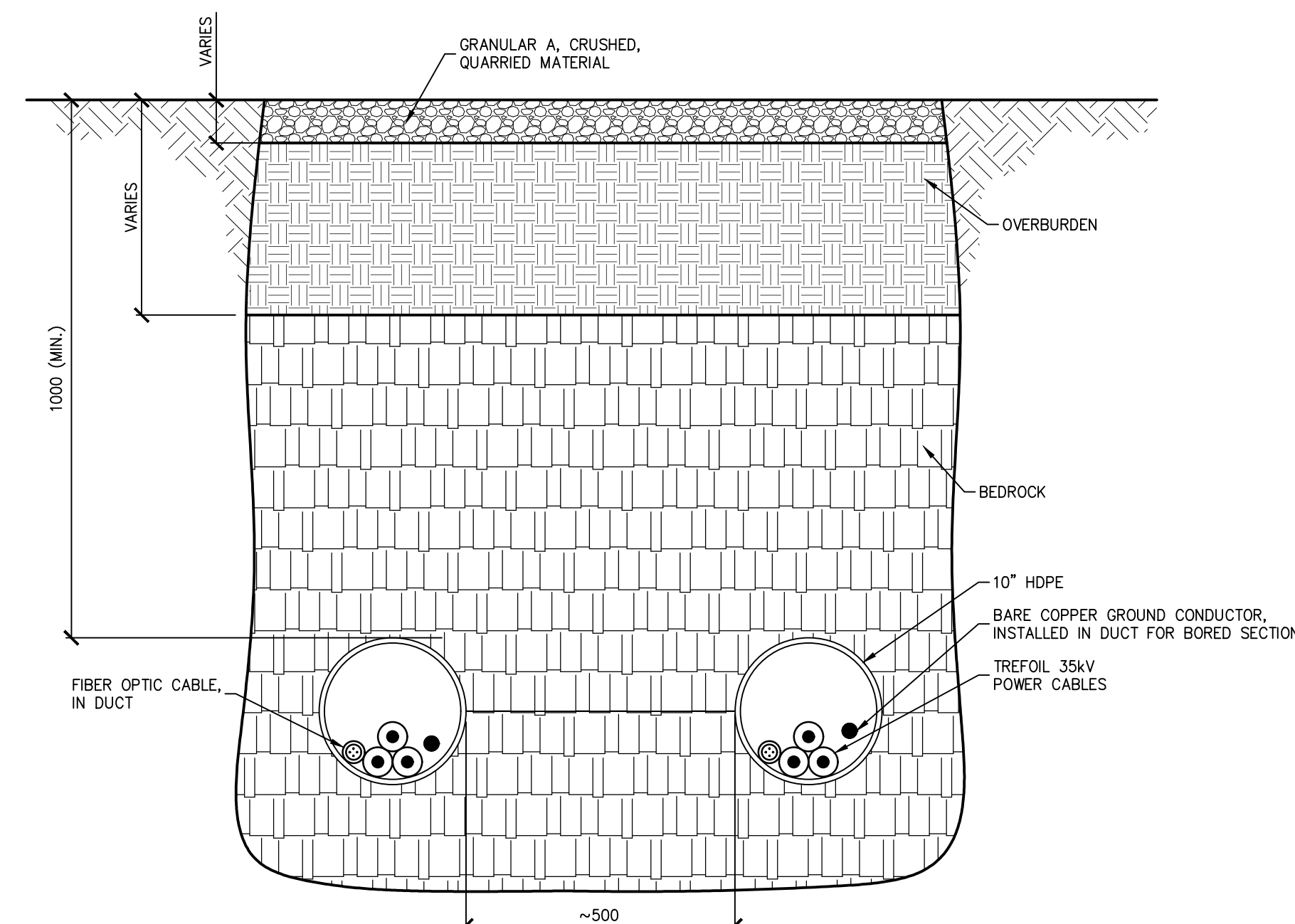
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

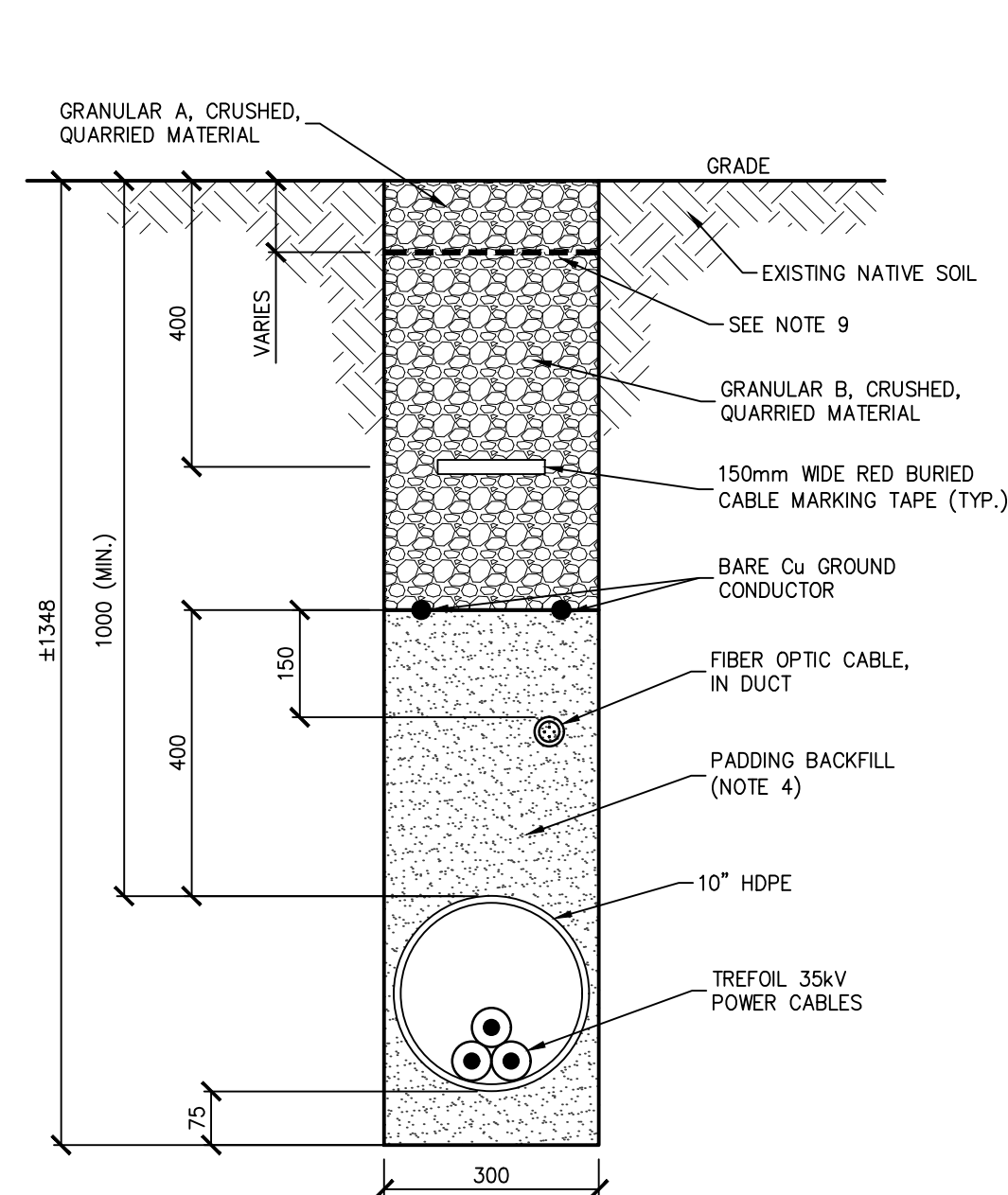
34.5kV COLLECTOR SYSTEM
CABLE TRENCH DETAILS

Project No.	Scale	
133560104	1:10	
Drawing No.	Sheet	Revision

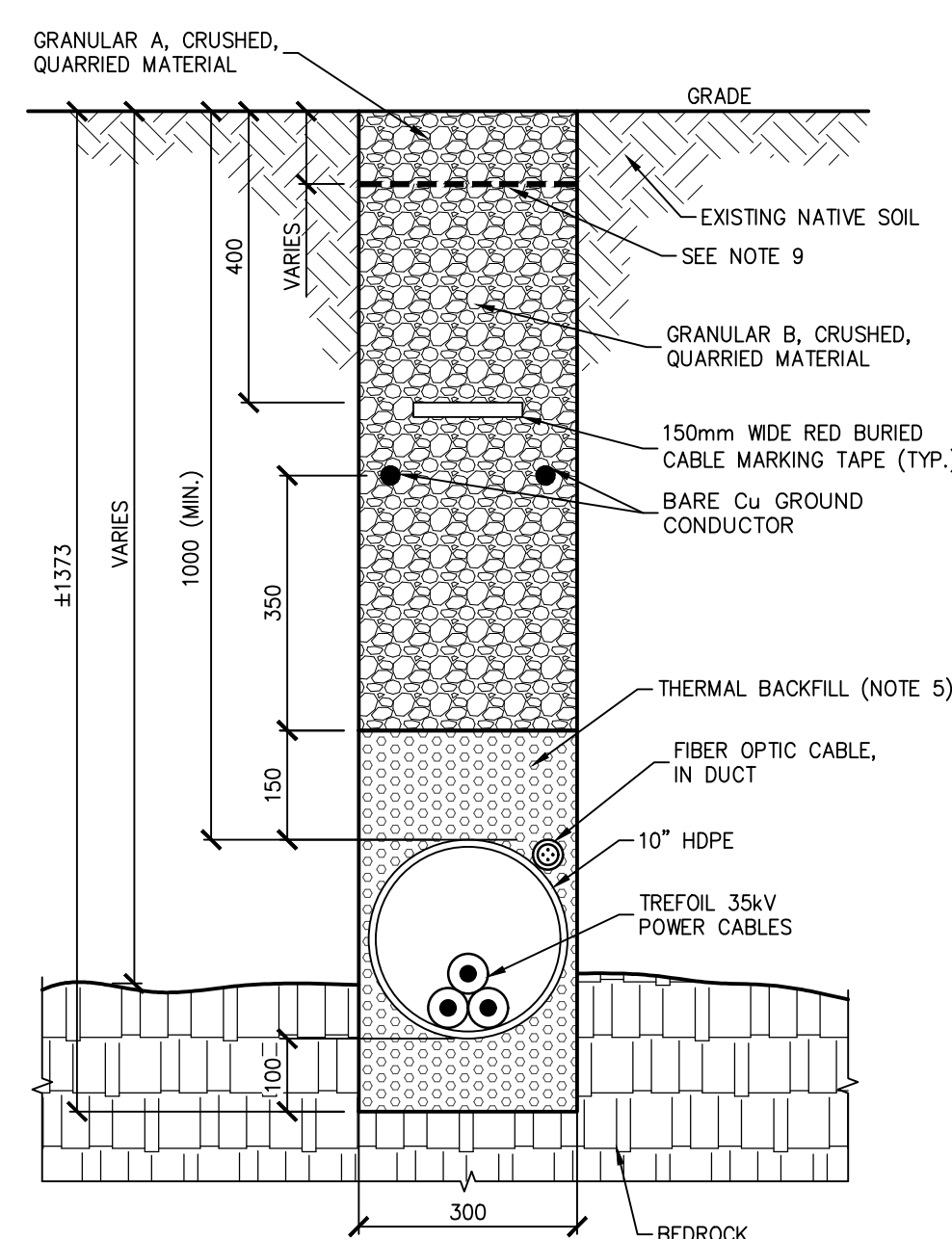
E406A 2 of 2 G



F DIRECTIONAL BORE THROUGH BEDROCK IN 10" HDPE STELLA 40 FOOT ROAD
Scale: 1:10



E TYPICAL TRENCH DETAIL WITH 10" HDPE
Scale: 1:10



E2 TRENCH THROUGH BEDROCK IN 10" HDPE
Scale: 1:10

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Notes

- ALL DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- EXISTING UTILITIES SHALL BE LOCATED AND MARKED IN FIELD BEFORE DIGGING.
- ALL UNDERGROUND CABLES SHALL BE SEPARATED FROM ALL OTHER EXISTING UTILITIES RUNNING IN PARALLEL BY A MINIMUM OF 1.0m EDGE TO EDGE UNLESS OTHERWISE INDICATED BY SPECIFIC UTILITY CLEARANCE REQUIREMENTS.
- FOR CABLES INSTALLED VIA DIRECTIONAL BORE, CABLE MARKERS ARE REQUIRED AT EVERY CORNER AND FOR LINE OF SIGHT (MAXIMUM 300m) FOR ALL STRAIGHT RUNS, AND SHALL BE INSTALLED AT ALL ROAD, RAILROAD, BRIDGE, PIPELINE AND CABLE CROSSINGS. CABLE MARKING IN PRIVATE PROPERTY TO BE ADDED AT OWNERS DISCRETION.
- THE ENDS OF THE HDPE CASING SHALL BE SURVEYED AT THE CONCLUSION OF THEIR INSTALLATION AND THE ACTUAL LOCATION SHOWN ON THE AS RECORDED DOCUMENTATION.
- TEMPORARY ENTRY/EXIT PIT EXCAVATION TO BE MINIMUM 10m BACK FROM TOP OF BANK (WATERCOURSE/ DITCH CROSSINGS) OR 10m BACK FROM LOCATED PIPELINE, WHERE APPLICABLE.
- ALL WORK SHALL REMAIN WITHIN PROJECT BOUNDARIES AND MUNICIPAL RIGHT OF WAYS
- HDPE CARRIER PIPE TO BE AT MAXIMUM DEPTH FOR TOTAL LENGTH OF PIPELINE EASEMENT.
- FOR DIRECT BURIED CROSSINGS OF CULVERTS OR DRAINS, THE CONTRACTOR SHALL TEMPORARILY REMOVE OR CUT EXISTING PIPE. PIPE SHALL BE RESTORED OR REPAIRED TO IT'S ORIGINAL CONDITION.

Legend

Revision	By	Appd.	YY.MM.DD	
H	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.28
G	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.16
F	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.11
E	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.07.18
D	ISSUED FOR MUNICIPAL CONSENT	JL	AR	17.07.17

File Name	By	Appd.	YY.MM.DD	
File Name: dwg_60104_AWF_E407.dwg	BM	JR	BM/JM	15.12.04
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Client/Project



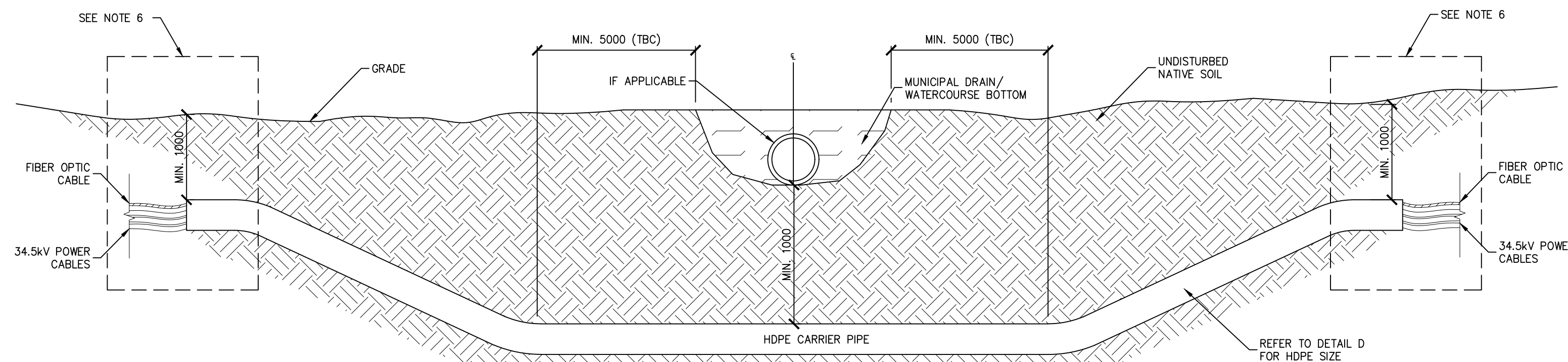
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

34.5kV COLLECTOR SYSTEM
UTILITY AND WATERWAY
CROSSING DETAILS

Project No.	Scale
133560104	N.T.S.

Drawing No.	Sheet	Revision
E407A	1 of 1	H



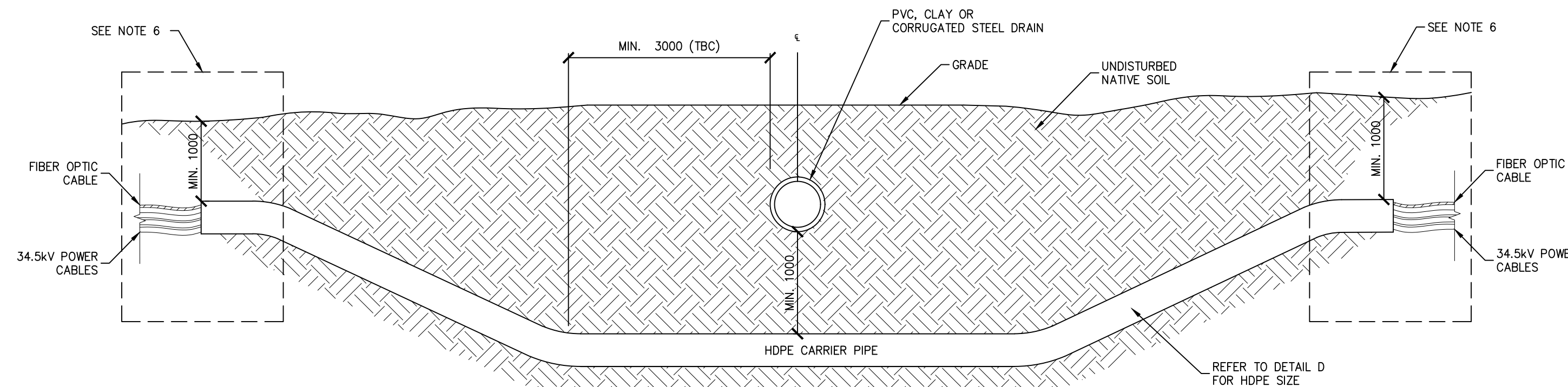
A DIRECTIONAL BORED WATERCOURSE CROSSING PROFILE VIEW
Scale: N.T.S.

HDPE CARRIER PIPE SIZES	
CABLE SIZE	HDPE SIZE (Ø)
4/0 AWG	6" (155mm)
500kcmil	6" (155mm)
1250kcmil	8" (203mm)

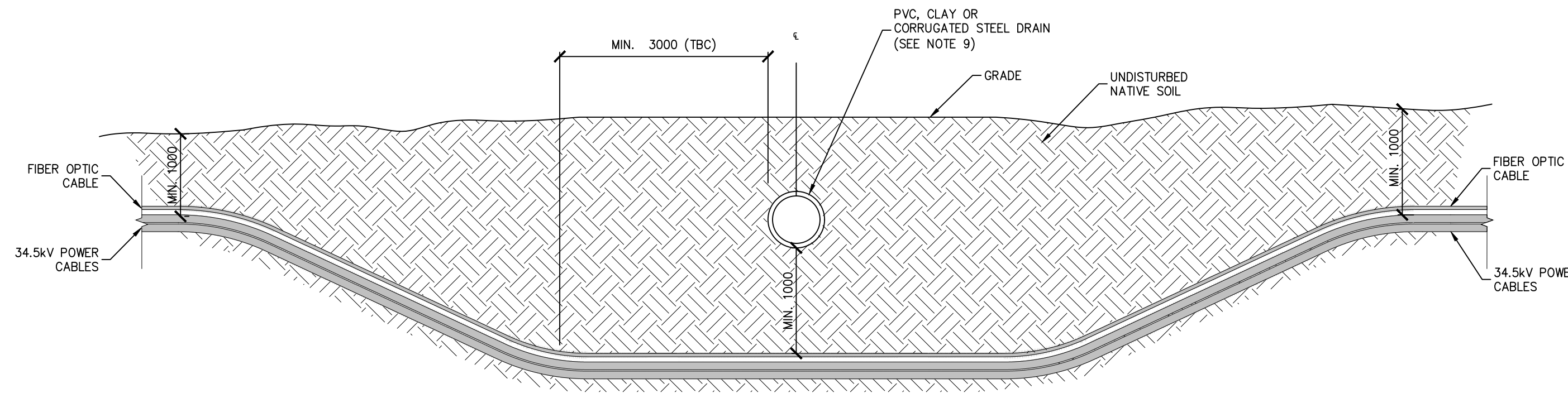
D HDPE CARRIER PIPE SIZING TABLE
Scale: N.T.S.

UTILITY CLEARANCE		
UTILITY	HORIZONTAL OFFSET	VERTICAL OFFSET
TELECOMMUNICATIONS	1000mm	1000mm
MUNICIPAL DRAIN	2500mm	1000mm
MUNICIPAL WATER SUPPLY	2500mm	1000mm
HONI DISTRIBUTION POLES	600mm	N/A

E UTILITY CLEARANCE REQUIREMENTS
Scale: N.T.S.



B DIRECTIONAL BORED CULVERT DRAIN CROSSING PROFILE VIEW
Scale: N.T.S.



C DIRECT BURIED CULVERT DRAIN CROSSING PROFILE VIEW
Scale: N.T.S.

V:\013550\acw\133560104\40_Design\42_Drawing\02_Crossing\02_Crossing_Municipal_Collector.dwg, 2017/08/28 3:42 PM by: Macell, Blake

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Notes

- ALL DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- EXISTING UTILITIES SHALL BE LOCATED AND MARKED IN FIELD BEFORE DIGGING.
- ALL UNDERGROUND CABLES SHALL BE SEPARATED FROM ALL OTHER EXISTING UTILITIES RUNNING IN PARALLEL BY A MINIMUM OF 1.0m EDGE TO EDGE UNLESS OTHERWISE INDICATED BY SPECIFIC UTILITY CLEARANCE REQUIREMENTS.
- CABLE MARKERS ARE REQUIRED IN MUNICIPAL RIGHT OF WAY AT EVERY CORNER AND FOR LINE OF SIGHT (MAXIMUM 300m) FOR ALL STRAIGHT RUNS, AND SHALL BE INSTALLED AT ALL ROAD, RAILROAD, BRIDGE, PIPELINE AND CABLE CROSSINGS. CABLE MARKING IN PRIVATE PROPERTY TO BE ADDED AT OWNERS DISCRETION.
- ALL WORK SHALL REMAIN WITHIN PROJECT BOUNDARIES AND MUNICIPAL RIGHT OF WAYS.
- INSIDE EDGE OF TRENCH SHALL BE OUTSIDE OF PAVED PORTION OF STELLA 40 FOOT ROAD. EXACT OFFSET TO BE DETERMINED IN FIELD BY CONTRACTOR.

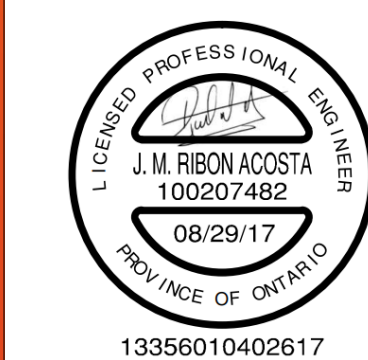
Legend

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G	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.16
F	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.08.11
E	ISSUED FOR MUNICIPAL CONSENT	BM	AR	17.07.18
D	ISSUED FOR MUNICIPAL CONSENT	JL	AR	17.07.17

Revision By Appd. YY.MM.DD

File Name:	dwg_60104_AWF_E408.dwg	BM	JR	BM/JM	15.12.04
		Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal



FOR MUNICIPAL CONSENT

Client/Project

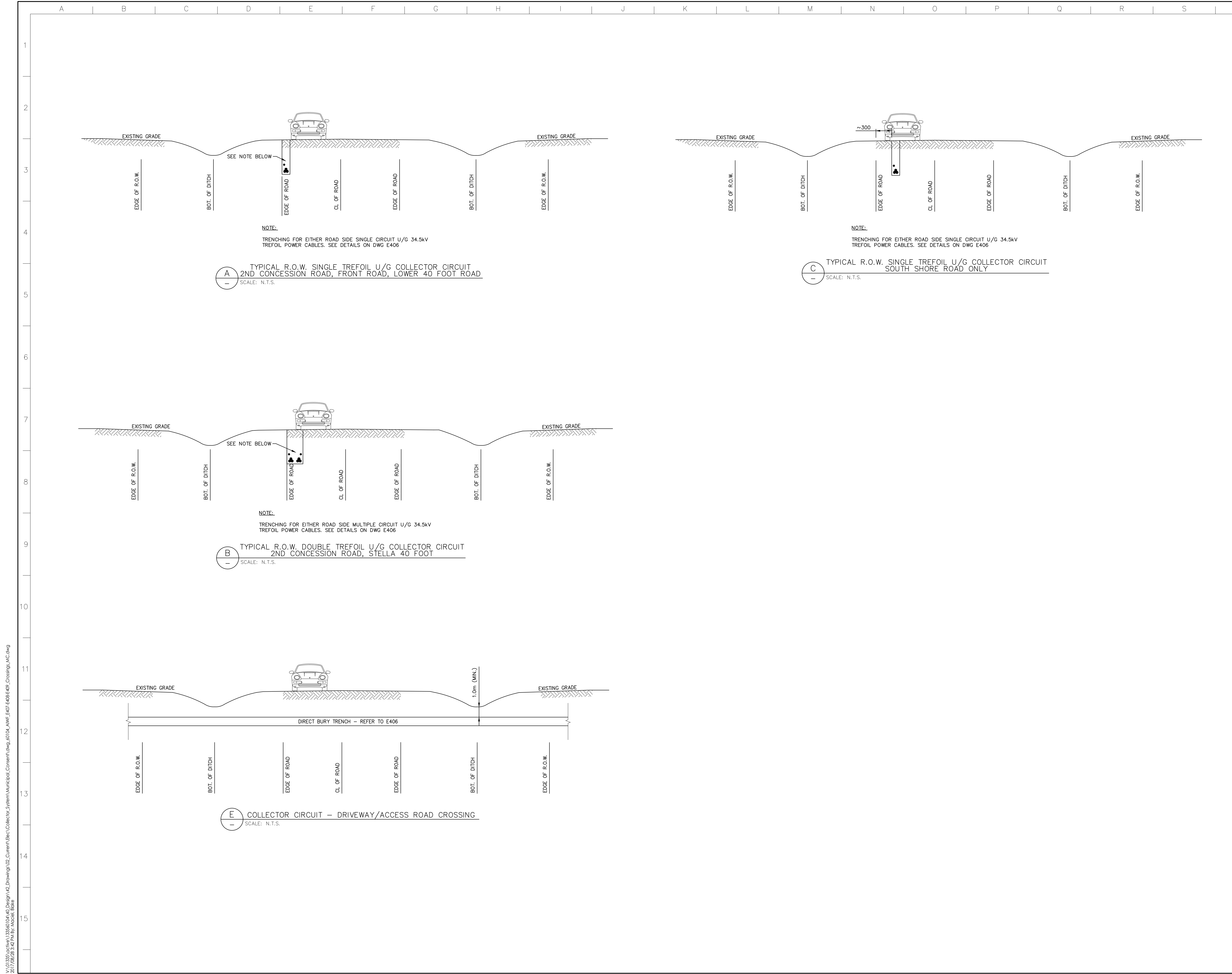


AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
34.5kV COLLECTOR SYSTEM
ROADWAY CROSSING DETAILS

Project No.	Scale	
133560104	N.T.S.	
Drawing No.	Sheet	Revision

E408A 1 of 2 H



V:\013550\acw\133560104_40_Design\42_Drawing\42_Collector_System\Municipal_Consement.dwg_40104_AWF_E408.dwg_20170828_342.mxd by: Maciek.Bleke

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Notes

- ALL FIBER SPLICE/PATCH PANELS TO BE SUPPLIED BY EPC CONTRACTOR.
- JUNCTION BOXES FSxx ARE TO BE LOCATED IN BASE OF TOWER PER SIEMENS WIND TURBINE SCADA SPECIFICATION.

Legend

—fo— SINGLE MODE FIBER OPTIC

CS-PP = COLLECTOR SYSTEM PATCH PANEL

MET = METEOROLOGICAL PANEL

FS = FIBER TURBINE SPLICE/PATCH PANEL BOX

FJB = FIBER JUNCTION SPLICE/PATCH PANEL BOX

FM = FIBER MET TOWER SPLICE/PATCH PANEL BOX

C	ISSUED FOR TENDER	BM	AR	17.08.16
B	ISSUED FOR TENDER	DK	JR	17.01.10
A	FOR CLIENT REVIEW	DK	JR	16.10.21
Revision		By	Appd.	YY.MM.DD

File Name:	dwg_60104_A1WF_E450.dwg	DK	JR	DK	16.10.05
		Dwn.	Chkd.	Dgn.	YY.MM.DD

Permit Seal



FOR MUNICIPAL CONSENT

13356010402617

Client/Project

PENNECON HEAVY CIVIL
AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title

COLLECTOR SYSTEM CABLE
FIBER OPTIC SLD

Project No.
133560104

Drawing No.

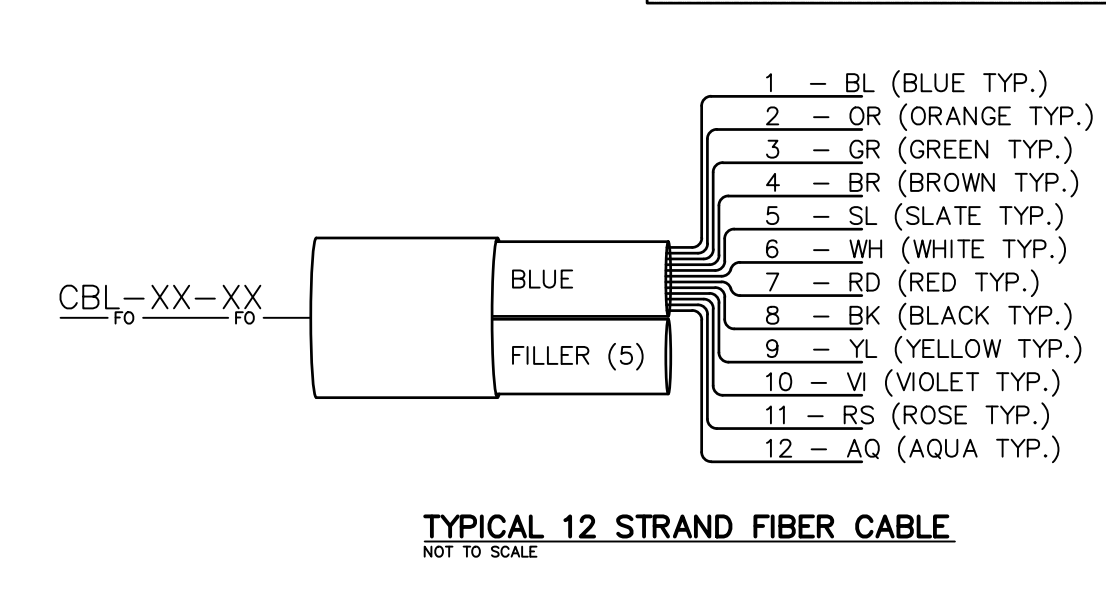
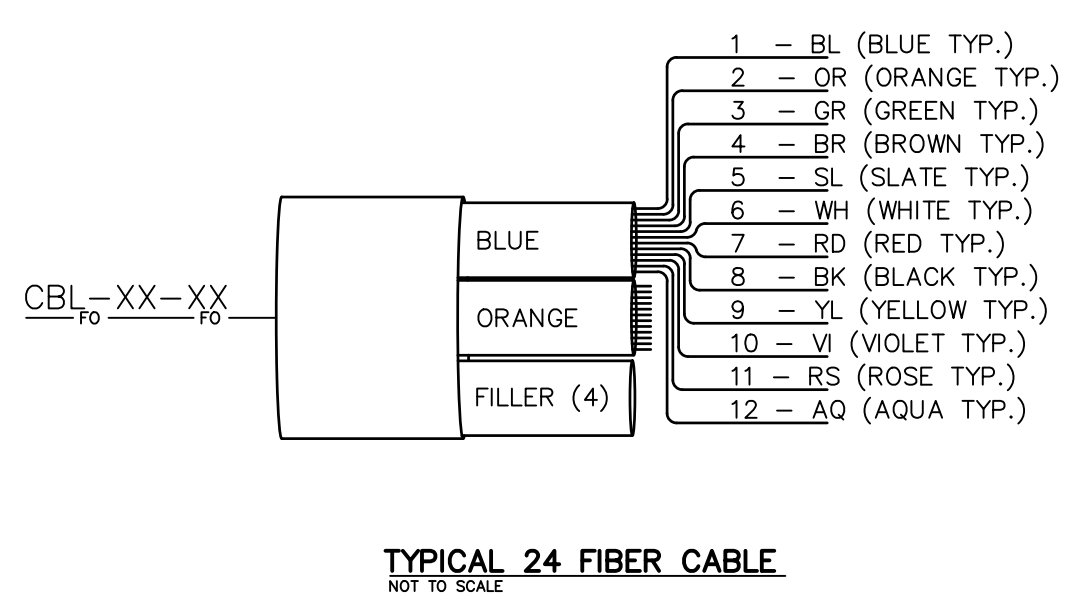
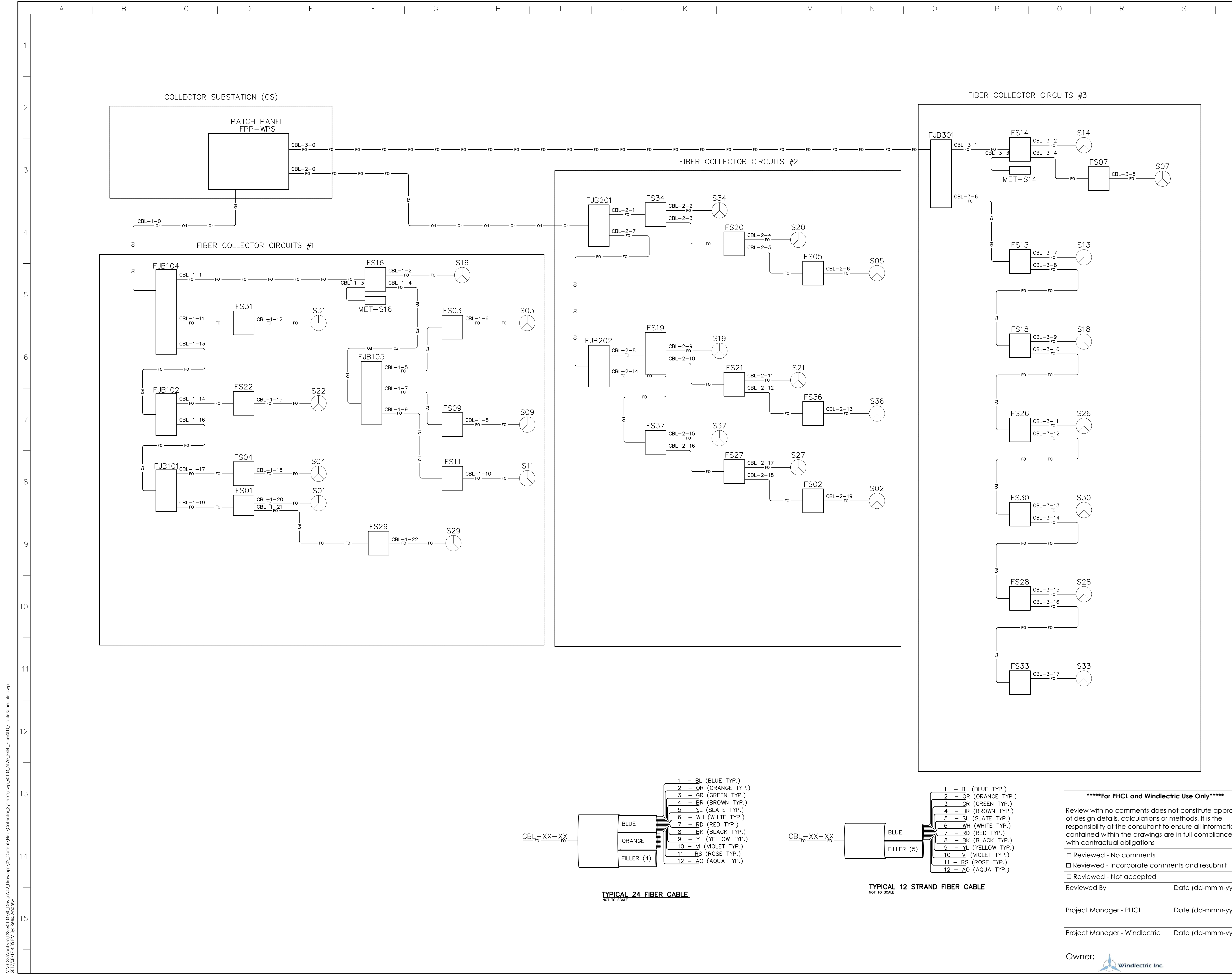
Scale
1:100

Sheet
1 of 2

E450

1 of 2

C



*****For PHCL and Windlectric Use Only*****

Review with no comments does not constitute approval of design details, calculations or methods. It is the responsibility of the consultant to ensure all information contained within the drawings are in full compliance with contractual obligations

Reviewed - No comments

Reviewed - Incorporate comments and resubmit

Reviewed - Not accepted

Reviewed By	Date (dd-mmm-yyyy)
Project Manager - PHCL	Date (dd-mmm-yyyy)
Project Manager - Windlectric	Date (dd-mmm-yyyy)
Owner:	

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2017/08/17 4:55 PM By: Resi, Andrew

Notes

Legend

FIBER COLLECTOR CIRCUITS #1					
CABLE TAG	FROM	TO	CABLE TYPE	LENGTH (m)	REMARK
CBL-1-0	FPP-WPS	FJB104	24 STRAND, SINGLE MODE, 1330NM, 1550NM	2217.16	BY CONTRACTOR
CBL-1-1	FJB104	FS16	24 STRAND, SINGLE MODE, 1330NM, 1550NM	3217.44	BY CONTRACTOR
CBL-1-2	FS16	S16	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-3	FS16	MET-S16	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY CONTRACTOR
CBL-1-4	FS16	FS03	12 STRAND, SINGLE MODE, 1330NM, 1550NM	2202.55	BY CONTRACTOR
CBL-1-5	FJB105	FS03	12 STRAND, SINGLE MODE, 1330NM, 1550NM	59.17	BY CONTRACTOR
CBL-1-6	FS03	S03	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-7	FJB105	FS09	12 STRAND, SINGLE MODE, 1330NM, 1550NM	822.69	BY CONTRACTOR
CBL-1-8	FS09	S09	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-9	FJB105	FS11	12 STRAND, SINGLE MODE, 1330NM, 1550NM	618.19	BY CONTRACTOR
CBL-1-10	FS11	S11	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-11	FJB104	FS31	12 STRAND, SINGLE MODE, 1330NM, 1550NM	1091.10	BY CONTRACTOR
CBL-1-12	FS31	S31	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-13	FJB104	FJB102	12 STRAND, SINGLE MODE, 1330NM, 1550NM	1363.09	BY CONTRACTOR
CBL-1-14	FJB102	FS22	12 STRAND, SINGLE MODE, 1330NM, 1550NM	902.87	BY CONTRACTOR
CBL-1-15	FS22	S22	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-16	FJB102	FJB101	12 STRAND, SINGLE MODE, 1330NM, 1550NM	1155.24	BY CONTRACTOR
CBL-1-17	FJB101	FS04	12 STRAND, SINGLE MODE, 1330NM, 1550NM	982.25	BY CONTRACTOR
CBL-1-18	FS04	S04	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-19	FJB101	FS01	12 STRAND, SINGLE MODE, 1330NM, 1550NM	2449.96	BY CONTRACTOR
CBL-1-20	FS01	S01	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-1-21	FS01	FS29	12 STRAND, SINGLE MODE, 1330NM, 1550NM	679.64	BY CONTRACTOR
CBL-1-22	FS29	S29	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS

FIBER COLLECTOR CIRCUITS #2					
CABLE TAG	FROM	TO	CABLE TYPE	LENGTH (m)	REMARK
CBL-2-0	FPP-WPS	FJB201	12 STRAND, SINGLE MODE, 1330NM, 1550NM	971.14	BY CONTRACTOR
CBL-2-1	FJB201	FS34	12 STRAND, SINGLE MODE, 1330NM, 1550NM	2048.92	BY CONTRACTOR
CBL-2-2	FS34	S34	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-2-3	FS34	FS20	12 STRAND, SINGLE MODE, 1330NM, 1550NM	953.37	BY CONTRACTOR
CBL-2-4	FS20	S20	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-2-5	FS20	FS05	12 STRAND, SINGLE MODE, 1330NM, 1550NM	543.36	BY CONTRACTOR
CBL-2-6	FS05	FS05	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY CONTRACTOR
CBL-2-7	FJB201	FJB202	12 STRAND, SINGLE MODE, 1330NM, 1550NM	2450.96	BY CONTRACTOR
CBL-2-8	FJB202	FS19	12 STRAND, SINGLE MODE, 1330NM, 1550NM	429.71	BY CONTRACTOR
CBL-2-9	FS19	S19	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20	BY SIEMENS
CBL-2-10	FS19	FS21	12 STRAND, SINGLE MODE, 1330NM, 1550NM	714.17	BY CONTRACTOR
CBL-2-11	FS21	S21	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-2-12	FS21	FS36	12 STRAND, SINGLE MODE, 1330NM, 1550NM	891.92	BY CONTRACTOR
CBL-2-13	FS36	S36	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-2-14	FJB202	FS37	12 STRAND, SINGLE MODE, 1330NM, 1550NM	182.39	BY CONTRACTOR
CBL-2-15	FS37	S37	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-2-16	FS37	FS27	12 STRAND, SINGLE MODE, 1330NM, 1550NM	604.97	BY CONTRACTOR
CBL-2-17	FS27	S27	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-2-18	FS27	FS02	12 STRAND, SINGLE MODE, 1330NM, 1550NM	720.07	BY CONTRACTOR
CBL-2-19	FS02	S02	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS

FIBER COLLECTOR CIRCUITS #3					
CABLE TAG	FROM	TO	CABLE TYPE	LENGTH (m)	REMARK
CBL-3-0	FPP-WPS	FJB301	24 STRAND, SINGLE MODE, 1330NM, 1550NM	6198.80	BY CONTRACTOR
CBL-3-1	FJB301	FS14	24 STRAND, SINGLE MODE, 1330NM, 1550NM	1096.81	BY CONTRACTOR
CBL-3-2	FS14	S14	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-3	FS14	MET-S14	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY CONTRACTOR
CBL-3-4	FS14	FS07	12 STRAND, SINGLE MODE, 1330NM, 1550NM	674.40	BY CONTRACTOR
CBL-3-5	FS07	S07	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-6	FJB301	FS13	12 STRAND, SINGLE MODE, 1330NM, 1550NM	1822.59	BY CONTRACTOR
CBL-3-7	FS13	S13	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-8	FS13	FS18	12 STRAND, SINGLE MODE, 1330NM, 1550NM	538.32	BY CONTRACTOR
CBL-3-9	FS18	S18	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-10	FS18	FS26	12 STRAND, SINGLE MODE, 1330NM, 1550NM	654.89	BY CONTRACTOR
CBL-3-11	FS26	S26	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-12	FS26	FS30	12 STRAND, SINGLE MODE, 1330NM, 1550NM	963.42	BY CONTRACTOR
CBL-3-13	FS30	S30	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-14	FS30	FS28	12 STRAND, SINGLE MODE, 1330NM, 1550NM	4365.47	BY CONTRACTOR
CBL-3-15	FS28	S28	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS
CBL-3-16	FS28	FS33	12 STRAND, SINGLE MODE, 1330NM, 1550NM	477.58	BY CONTRACTOR
CBL-3-17	FS33	S33	12 STRAND, SINGLE MODE, 1330NM, 1550NM	20.00	BY SIEMENS

Revision	By	Appd.	YY.MM.DD	
C	REISSUED FOR TENDER	BM	AR	17.08.16
B	ISSUED FOR TENDER	DK	JR	17.01.10
A	FOR CLIENT REVIEW	DK	JR	16.10.21

File Name	DK	JR	DK	16.10.05
dwg_60104_A1WF_E450.dwg	Dwn.	Chkd.	Dgn.	YY.MM.DD

Permit Seal



FOR MUNICIPAL CONSENT

Client/Project



AMHERST ISLAND WIND PROJECT
75MW WIND FARM
Amherst Island, Loyalist Township, Ontario

Title
COLLECTOR SYSTEM CABLE
FIBER OPTIC CABLE SCHEDULE

Project No. 133560104	Scale 1:100	Sheet 1	Revision 1
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