

Cottam Solar Project

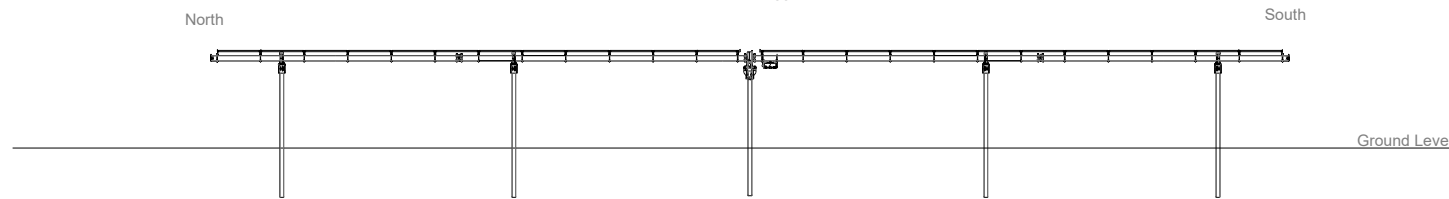
Environmental Statement Appendix 4.1: Engineering Drawings and Sections

Prepared by: Island Green Power, Omnia Power, and JSM
January 2023

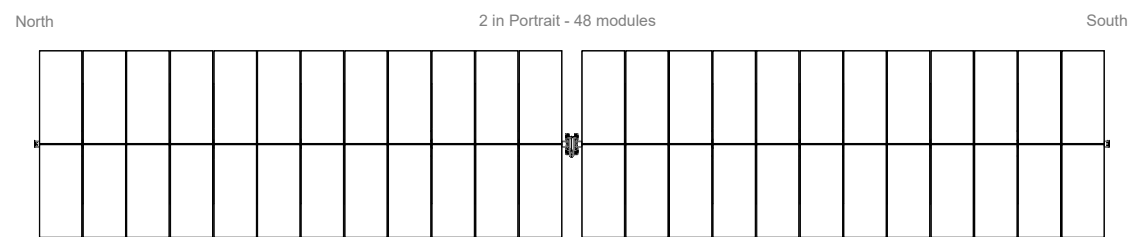
PINS reference: EN010133
Document reference: APP/C6.3.4.1
APFP Regulation 5(2)(o)



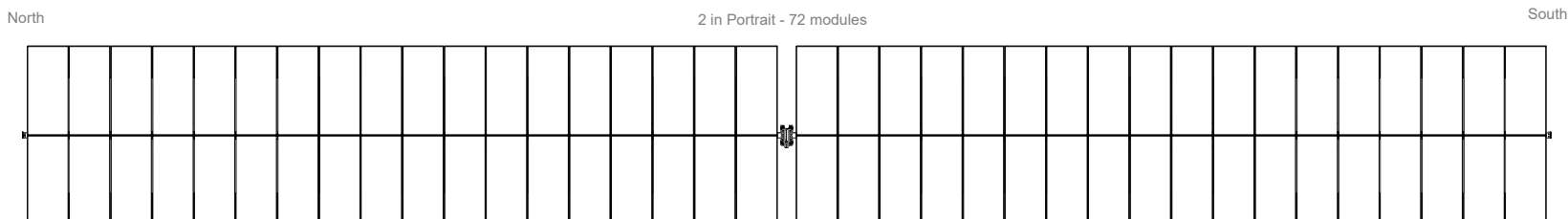
Front View
Scale 1:200



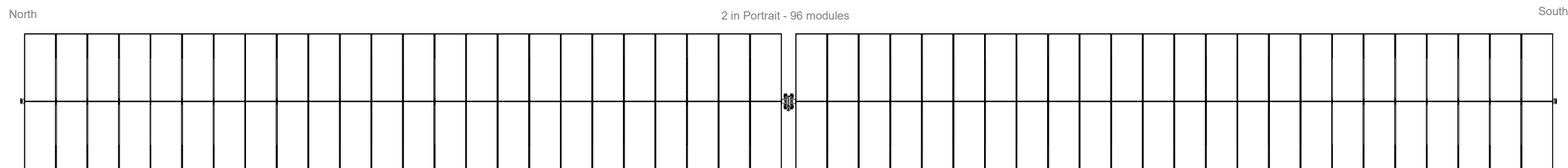
Top View
Scale 1:200



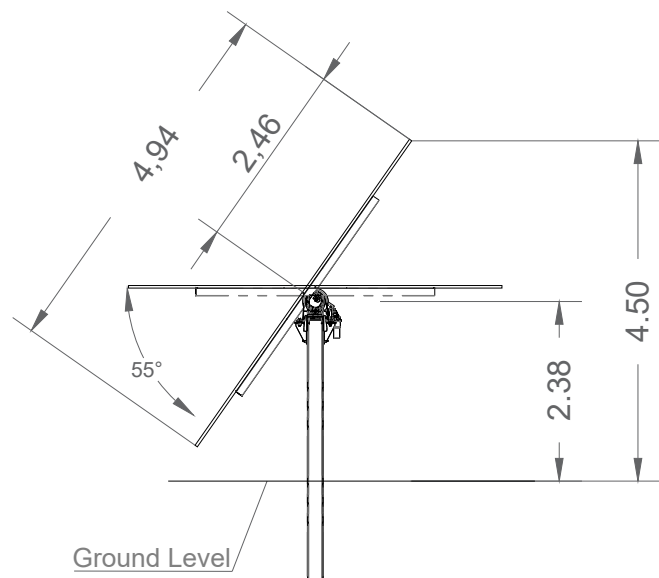
2 in Portrait - 72 modules



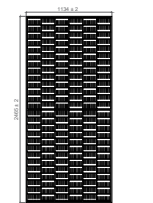
2 in Portrait - 96 modules



Side View
Scale 1:100



Module: JA Solar 625W
1134mm x 2465mm x 35mm

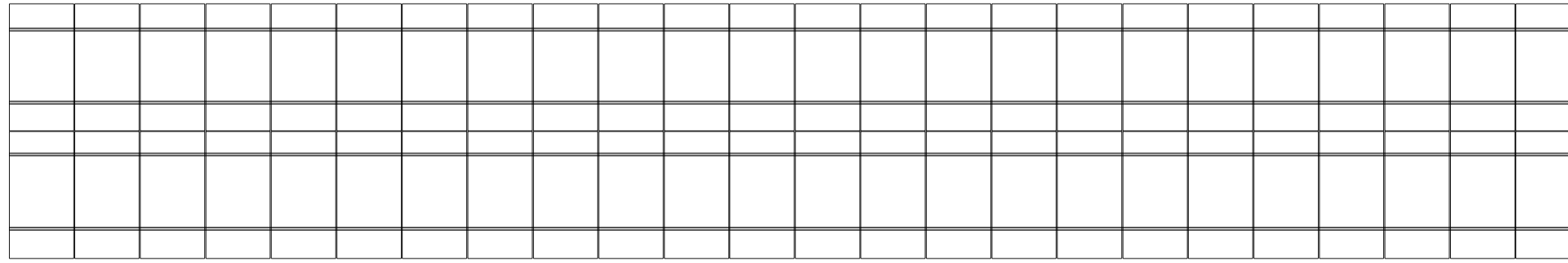


General Legend:

Project:	Cottam Solar Project West Burton Solar Project																
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom																
Ownership:	Cottam Solar Project Limited West Burton Solar Project Limited																
Document Title:	Mounting Structure Details - Trackers Side, Front and Top Views																
Sheet format:	A3 420 x 297	Scale:	Varies														
Document amendments:	<table border="1"> <tr> <td>v.1</td> <td>20/12/2022</td> <td>M.N.</td> <td>Comments</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	v.1	20/12/2022	M.N.	Comments												
v.1	20/12/2022	M.N.	Comments														
Company:	Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW																

Top View
Scale 1:100
2 in Portrait - 48 modules

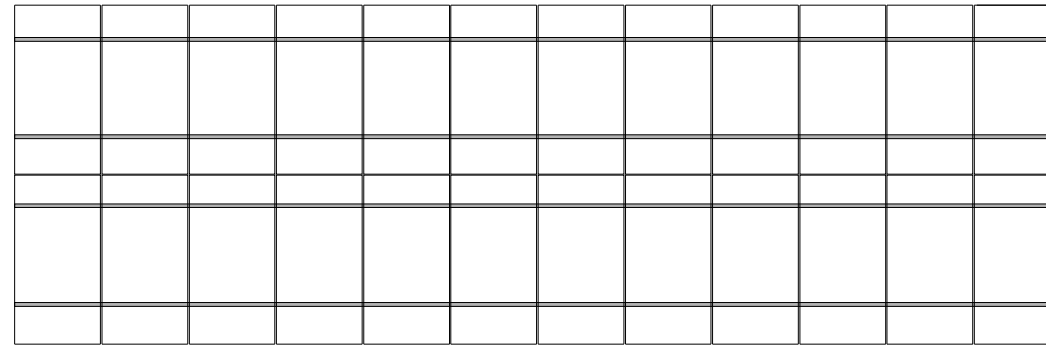
West



East

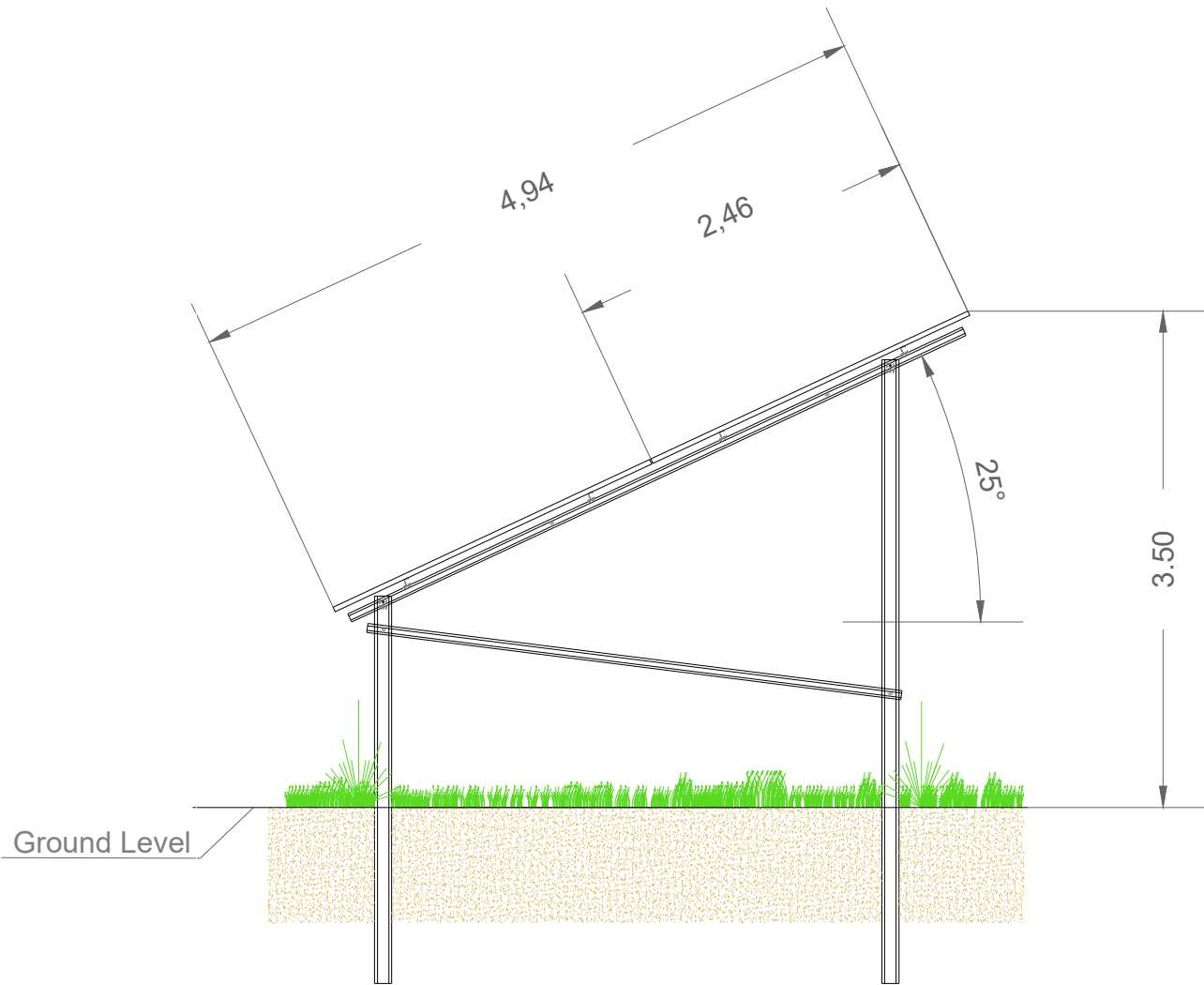
Top View
Scale 1:100
2 in Portrait - 24 modules

West



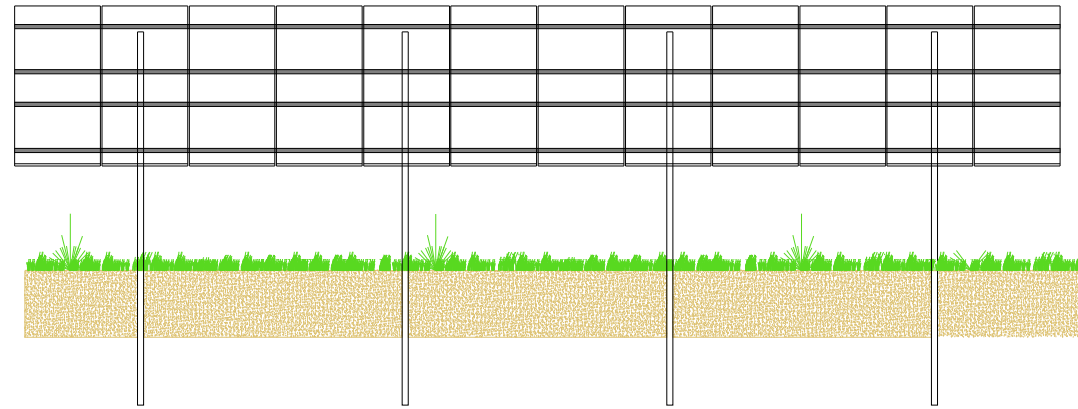
East

Side View
Scale 1:50




Front View
Scale 1:100

West



East

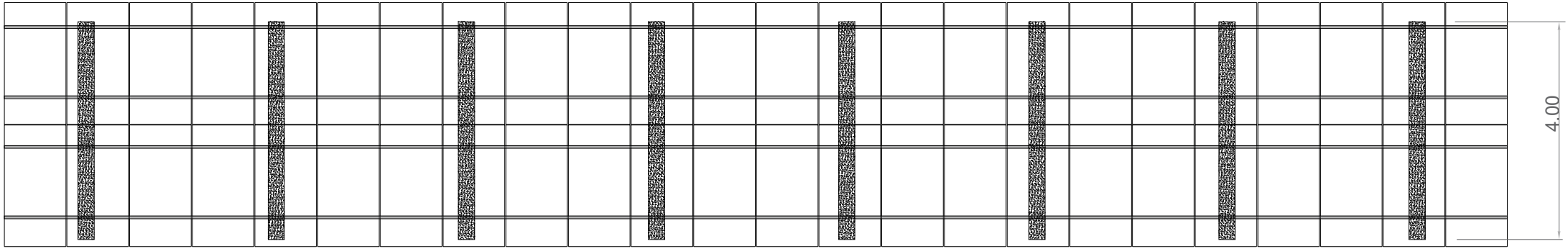
General Legend:

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Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom																
Ownership:	Cottam Solar Project Limited																
Document Title:	Mounting Structure Details - Fixed Side, Front and Top Views																
Sheet format:	A3 420 x 297																
Scale:	Varies																
Document amendments:	<table border="1"> <tr> <th>No.</th> <th>Date</th> <th>By</th> <th>Comments</th> </tr> <tr> <td>v.1</td> <td>20/12/2022</td> <td>M.N.</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	Date	By	Comments	v.1	20/12/2022	M.N.									
No.	Date	By	Comments														
v.1	20/12/2022	M.N.															
Company:	 Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW																

Top View
 Scale 1:100
 2 in Portrait - 48 modules

West

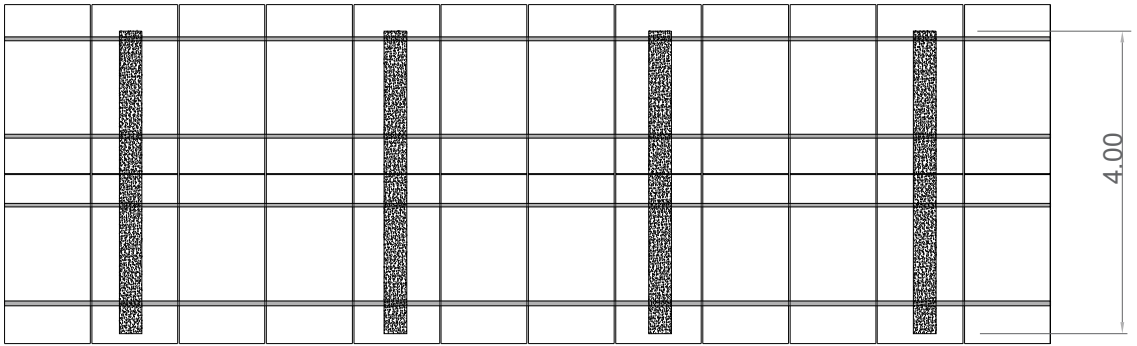
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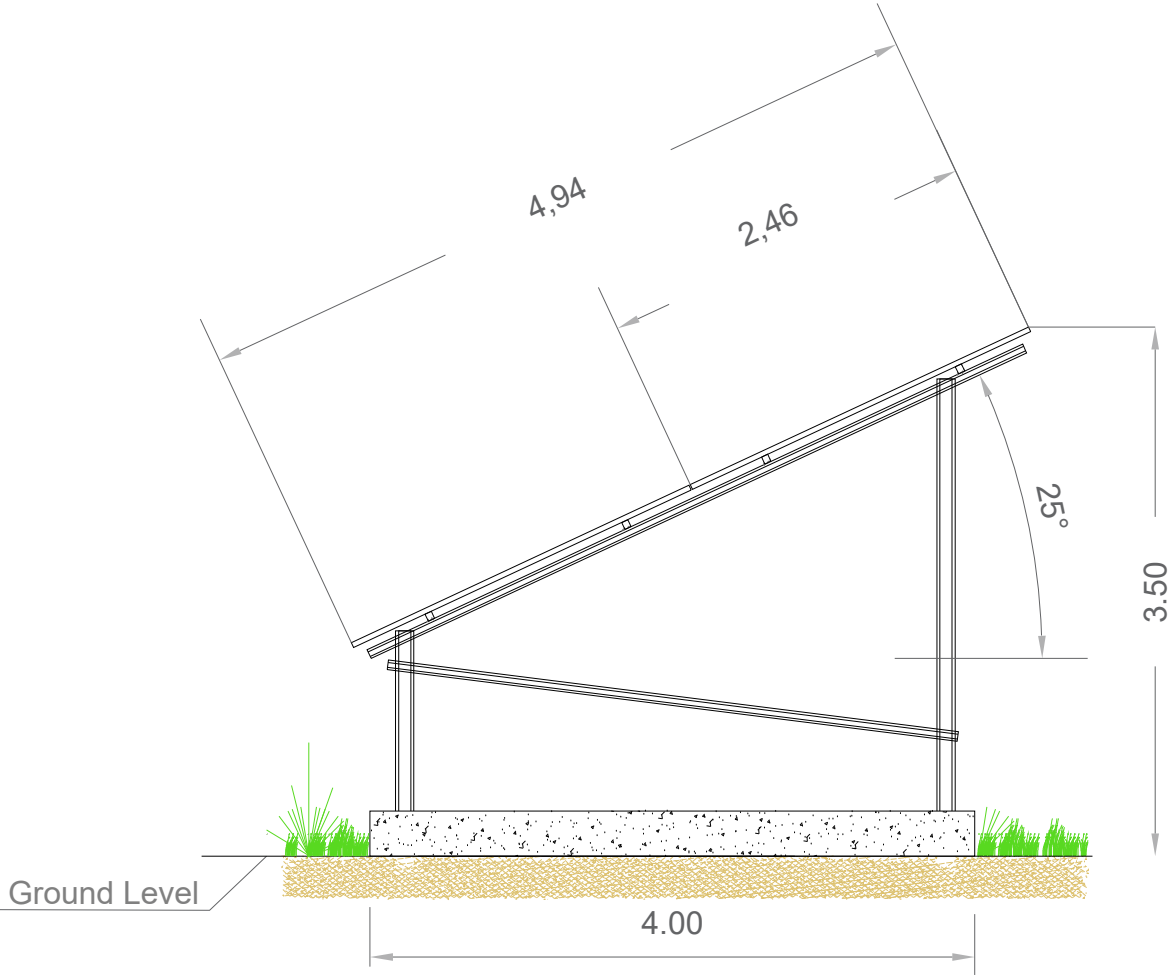
Top View
 Scale 1:100
 2 in Portrait - 24 modules

West

East



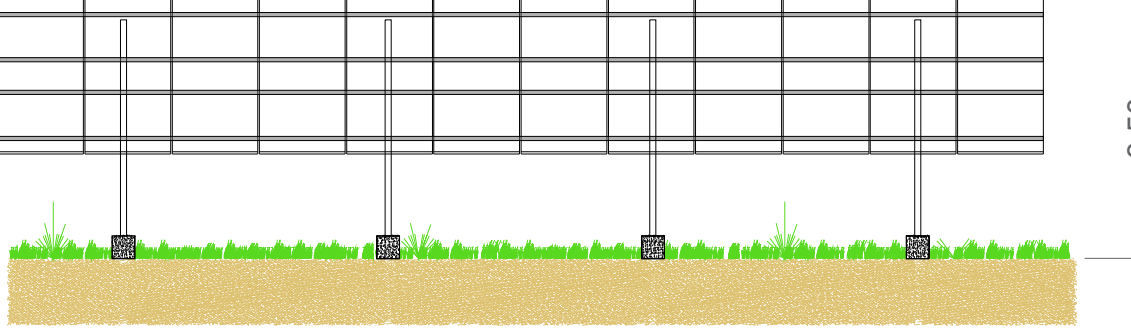
Side View
 Scale 1:50



Front View
 Scale 1:100

West

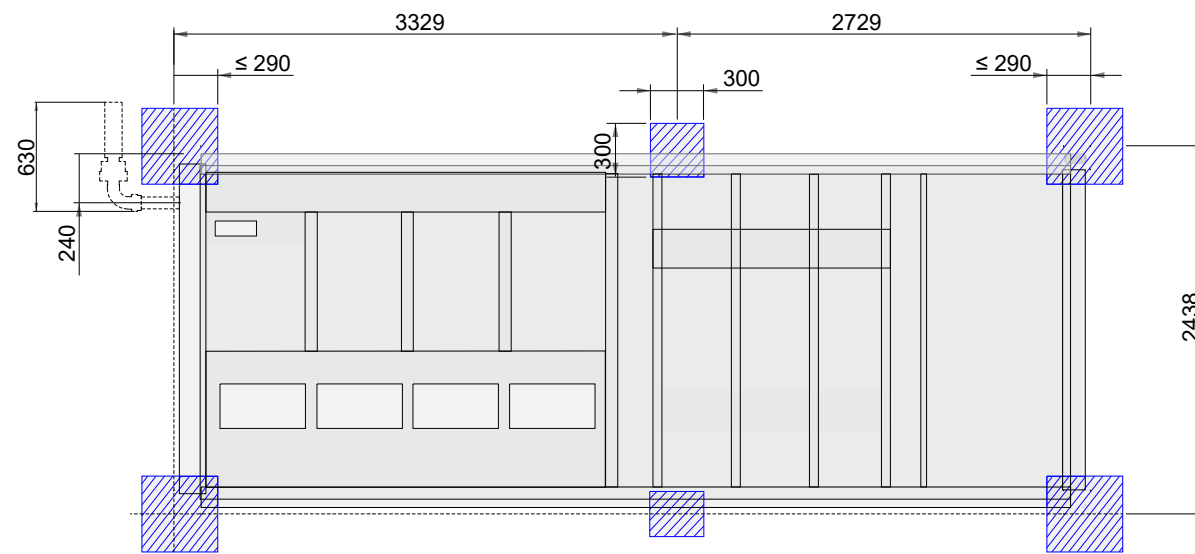
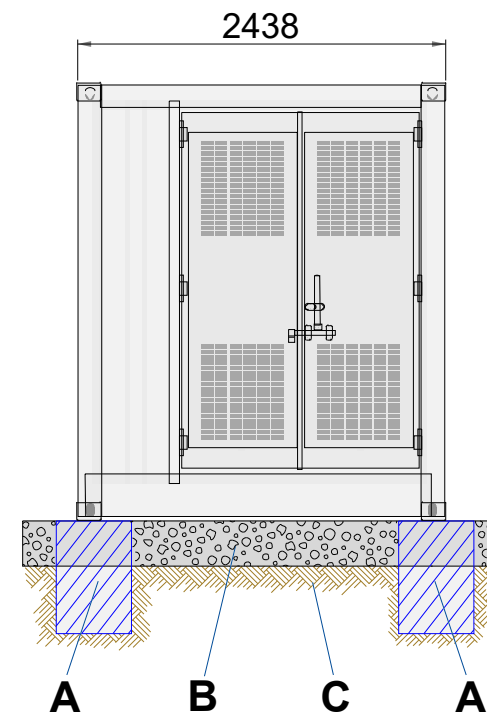
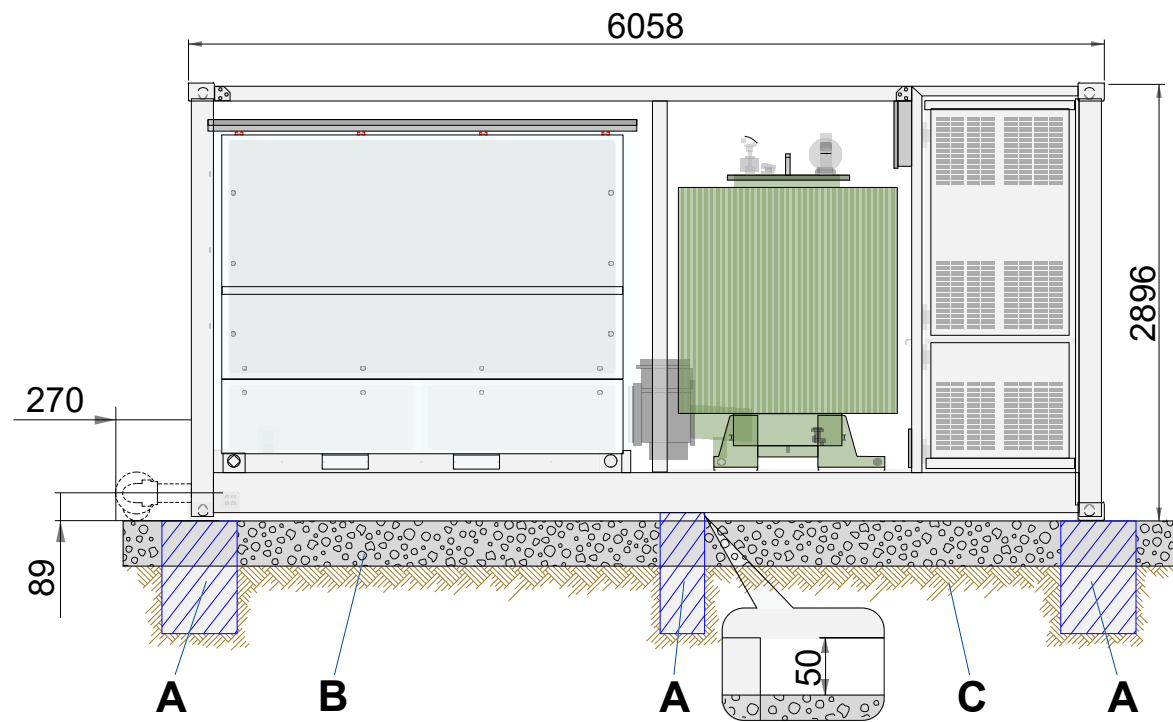
East



General Legend:

General Legend:	

Project:	Cottam Solar Project		
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom		
Ownership:	Cottam Solar Project Limited		
Document Title:	Mounting Structure Details - Fixed Concrete Feet Side, Front and Top Views		
Sheet Format:	A3 420 x 297	Scale:	Varies
Document Number:	w-1 v-2	Date:	29/12/2022 04/01/2023
Author:	M.N.	Checker:	M.N.
Comments:			



General Legend:

A	Support Point Foundation
B	Pea Gravel Ground
C	Solid Ground, e.g. Gravel



Project: Cottam Solar Project

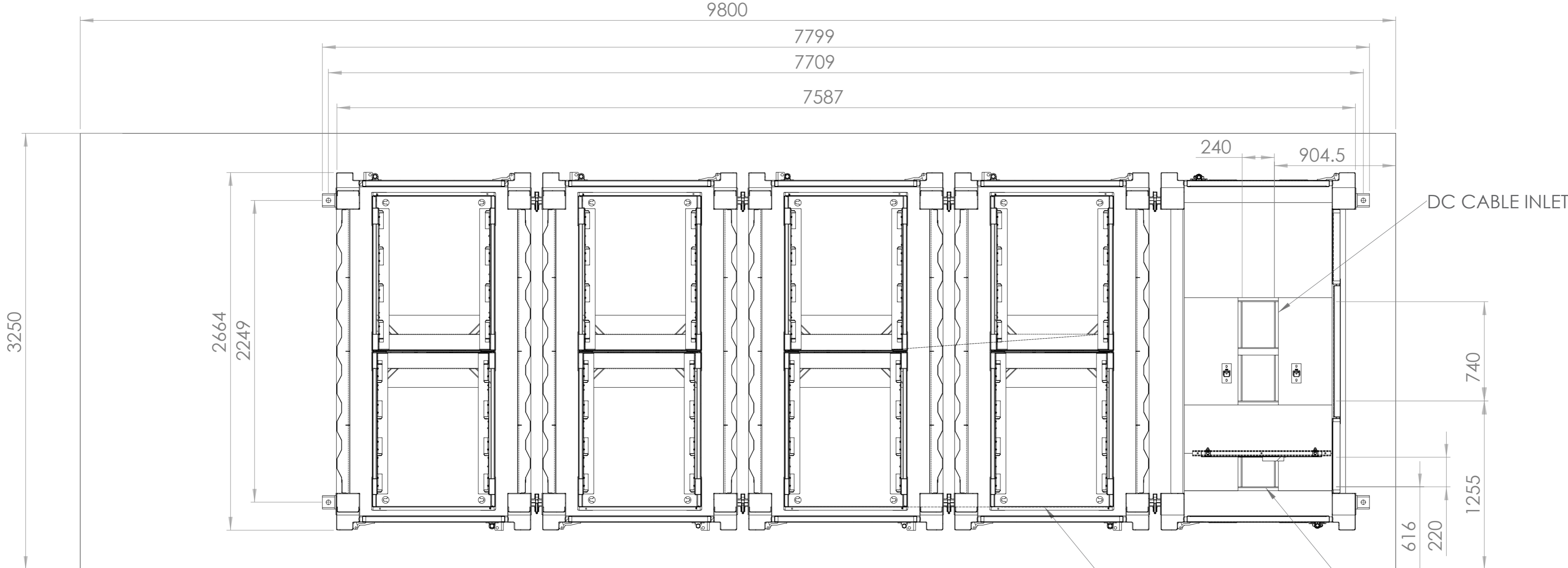
Project Location: Land near Gainsborough, Lincolnshire, United Kingdom

Ownership: Cottam Solar Project Limited

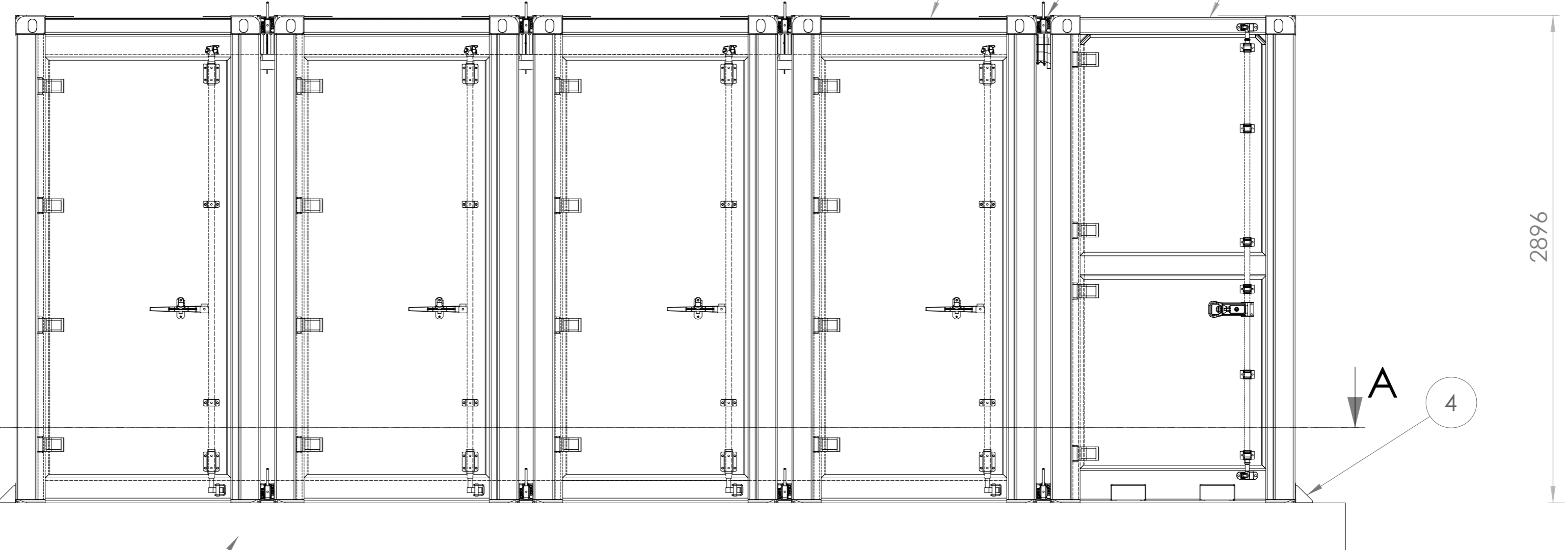
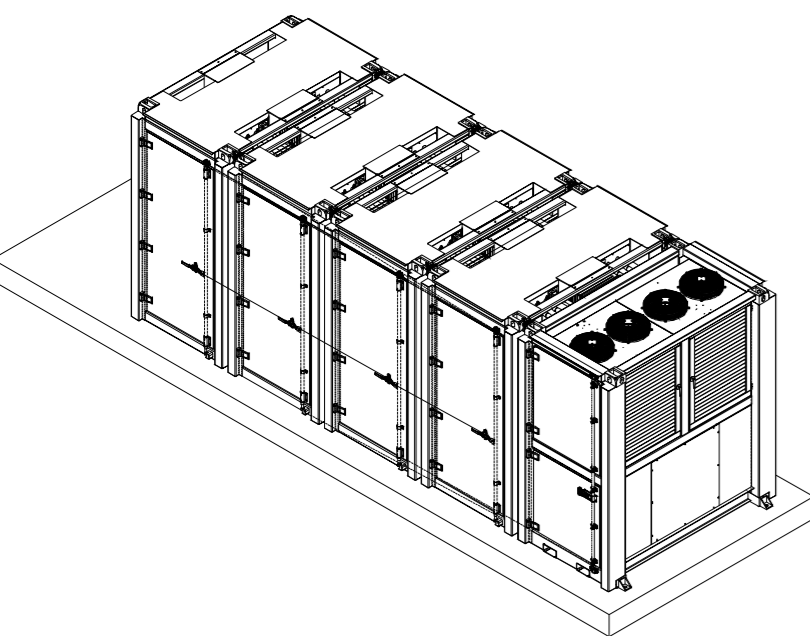
Document Title: Solar Inverter

Sheet format: A3 420 x 297" Scale: 1:50

Document amendments: v.1 12/10/2022 M.N.



SECTION A-A



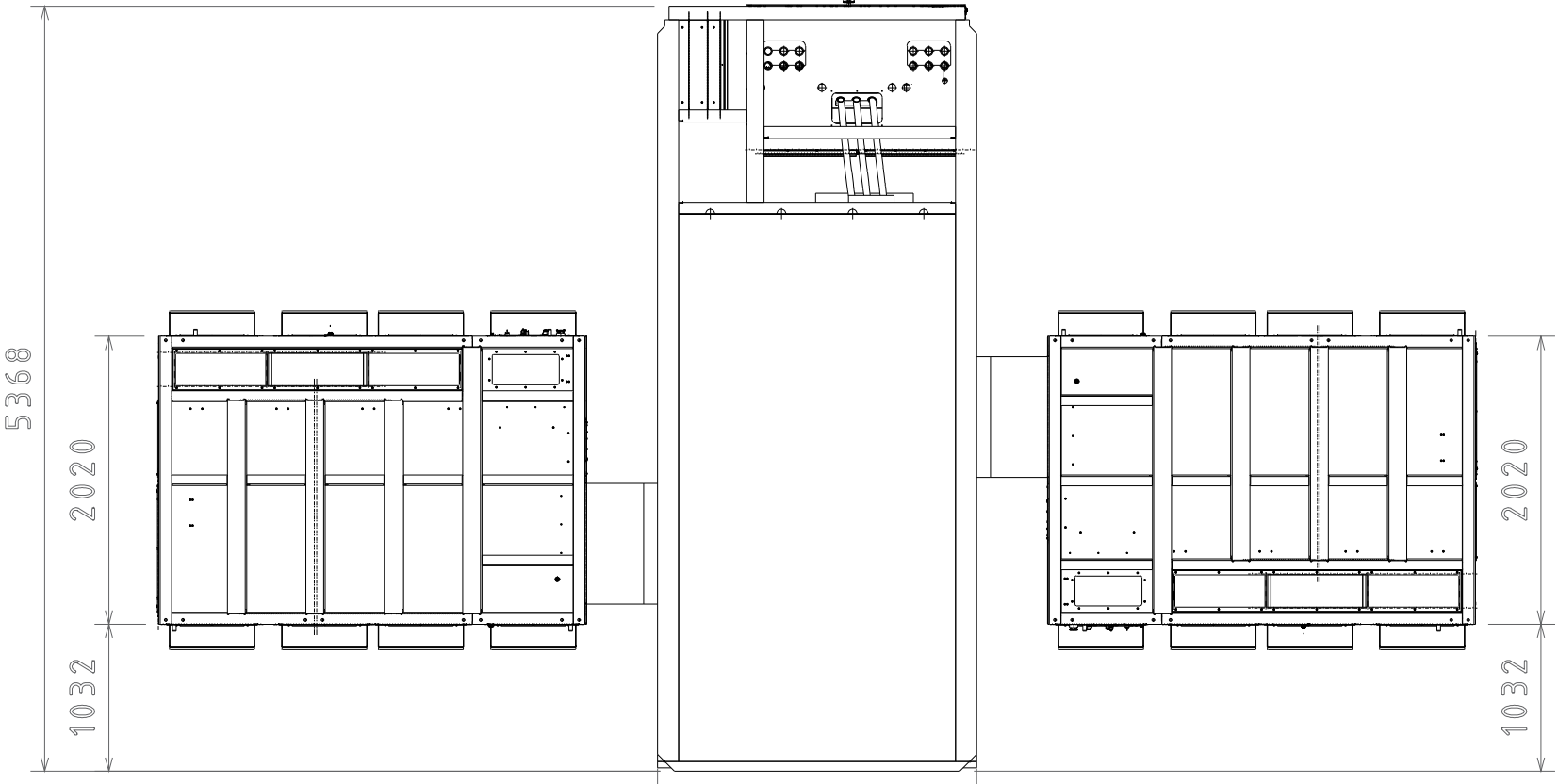
FOUNDATION THICKNESS TO BE DETERMINED FROM GROUND STUDY AT THE SITE.

General Legend:

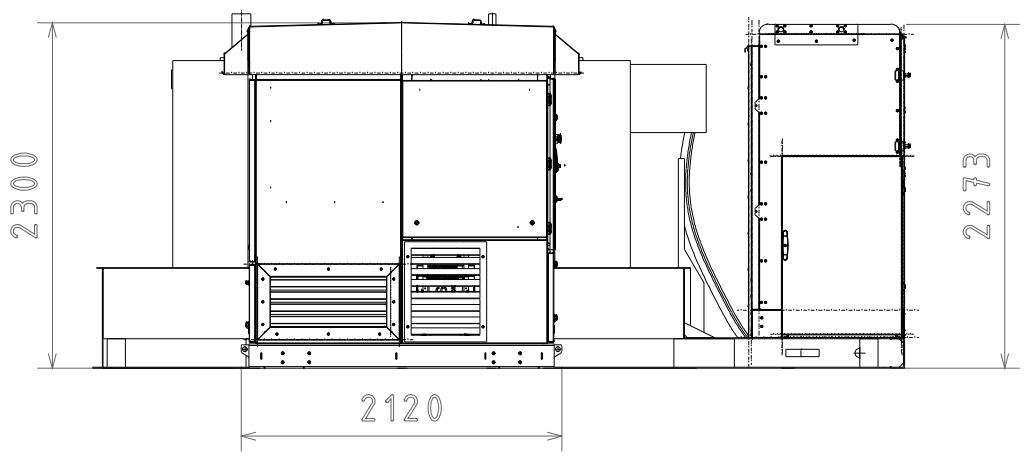
Pos.	Description	Qty
1	COMBI BLOCK	1
2	BATTERY BLOCK	4
3	INTERCONNECT HOSE - COMBI TO BATT	4
4	INTERCONNECT HOSE - BATT TO BATT	12
16	INTERCONNECT HARNESS - TERMINATING	1
20	FOUNDATION	1



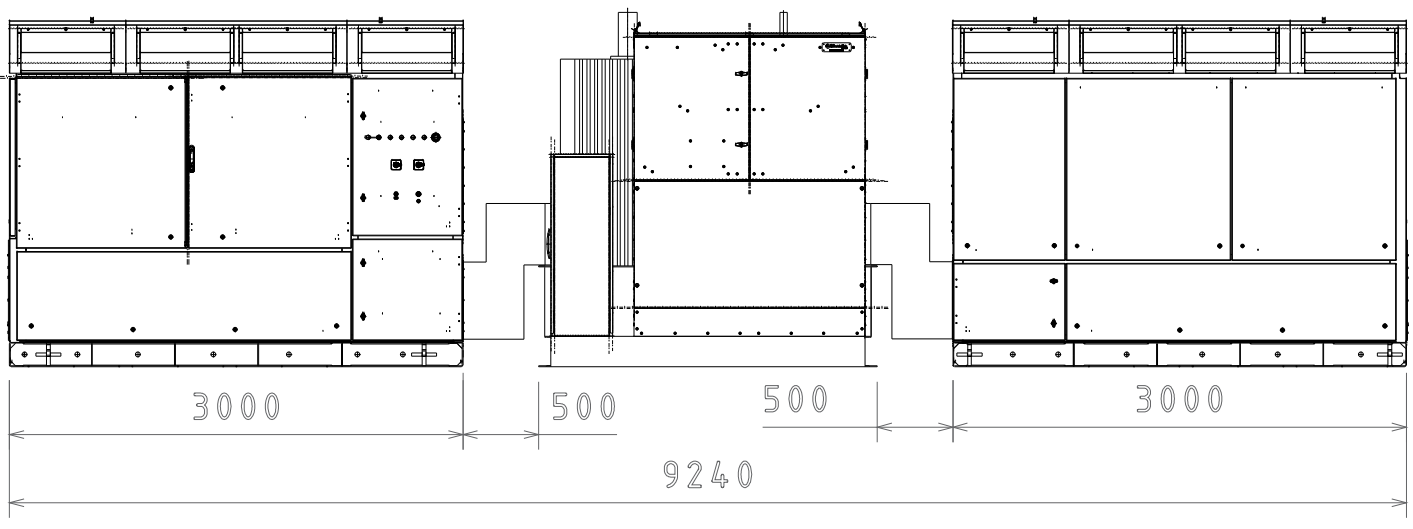
Project:	Cottam Solar Project
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom
Ownership:	Cottam Solar Project Limited
Document Title:	Battery Side View and A-A Section
Sheet format:	A2 "594 x 420"
Scale:	1:30
Document amendments:	v.1 11/10/2022 M.A.L.
Company:	Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW



2240
BOTTOM VIEW



LEFT VIEW



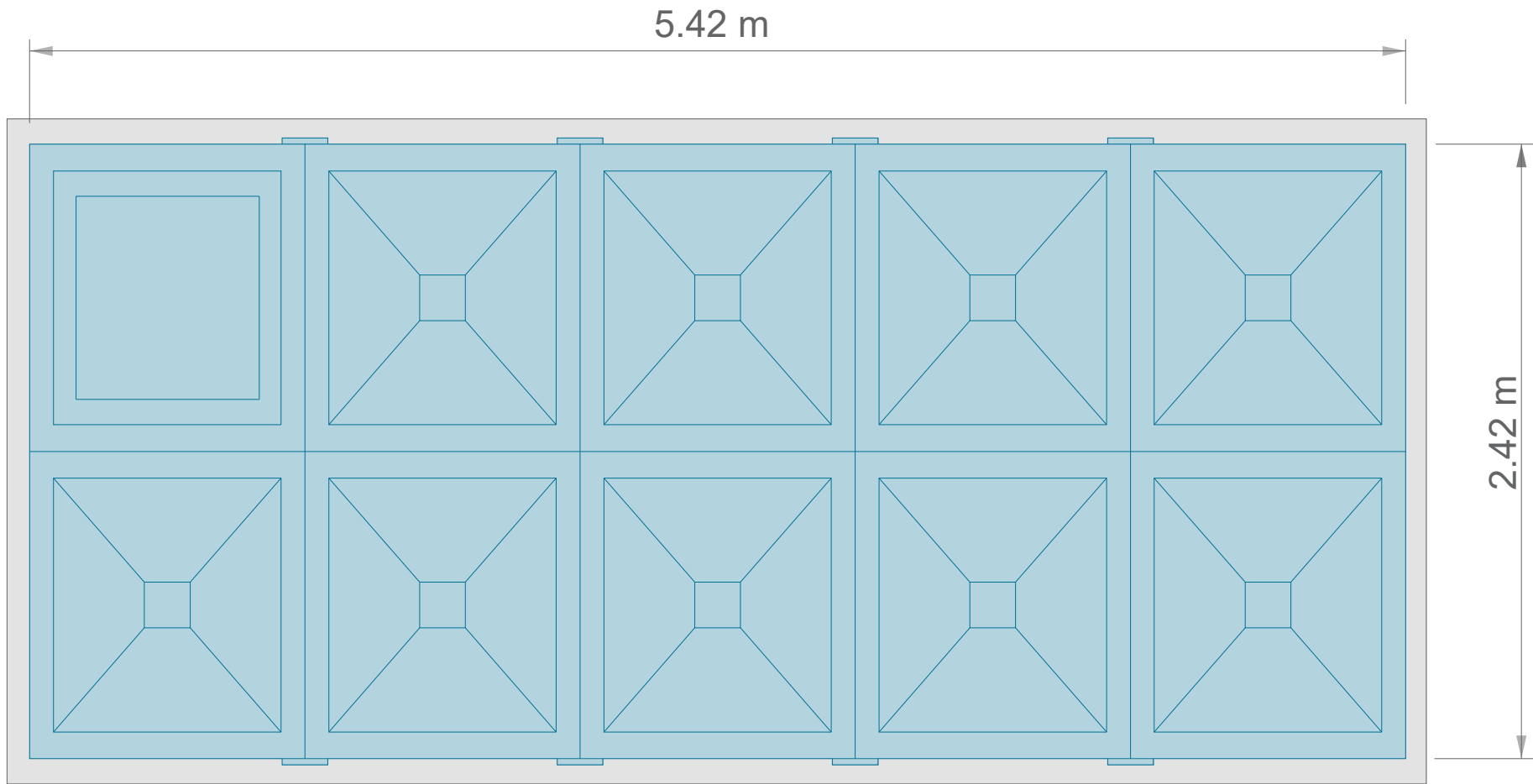
FRONT VIEW

General Legend:

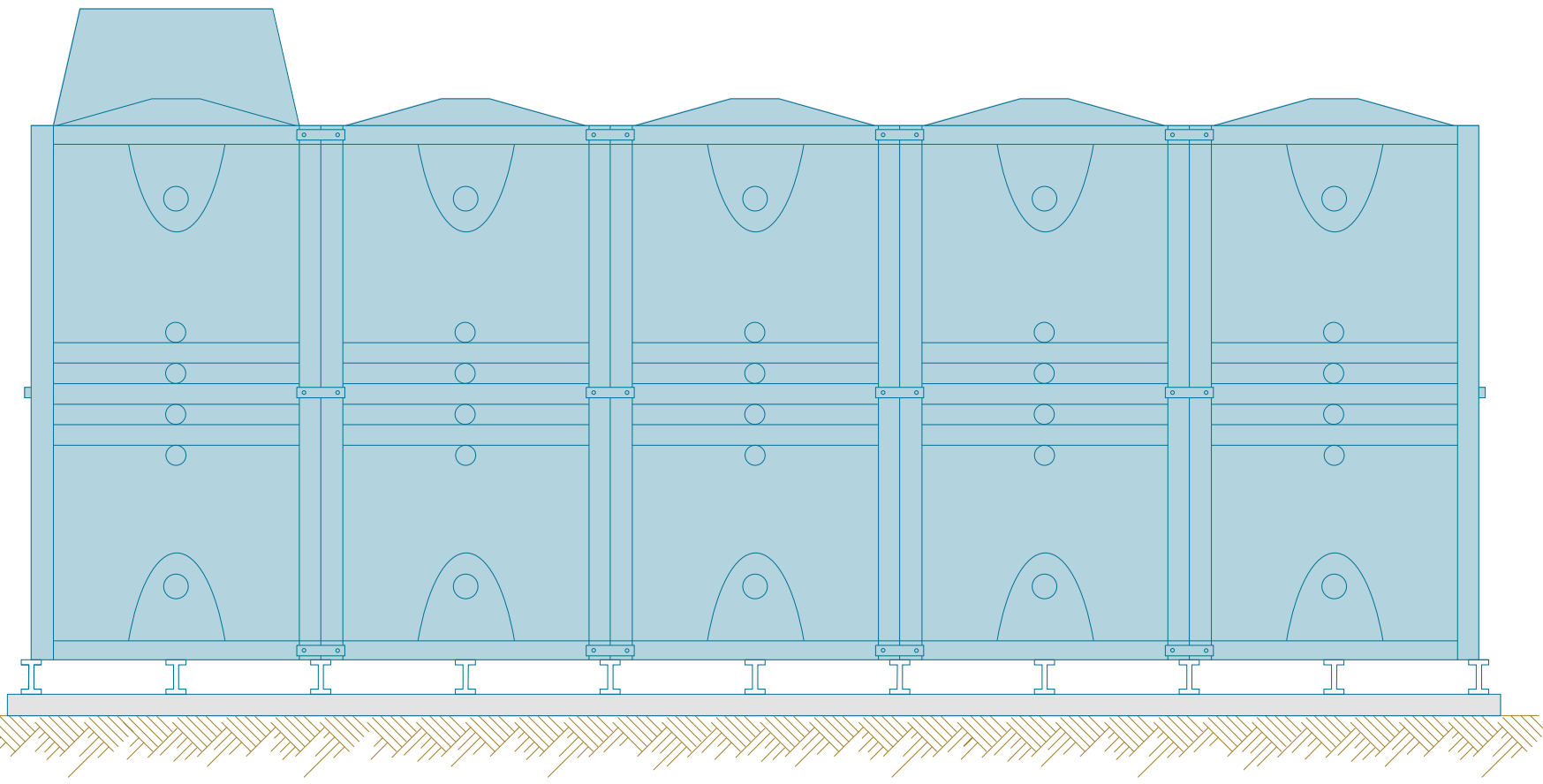


Project:	Cottam Solar Project
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom
Ownership:	Cottam Solar Project Limited
Document Title:	Battery Storage Inverter
Sheet Format:	A3 420 x 297
Scale:	1:1000
Document Version:	v.1 24/10/2021 M.N.
Company:	Island Green Power Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW

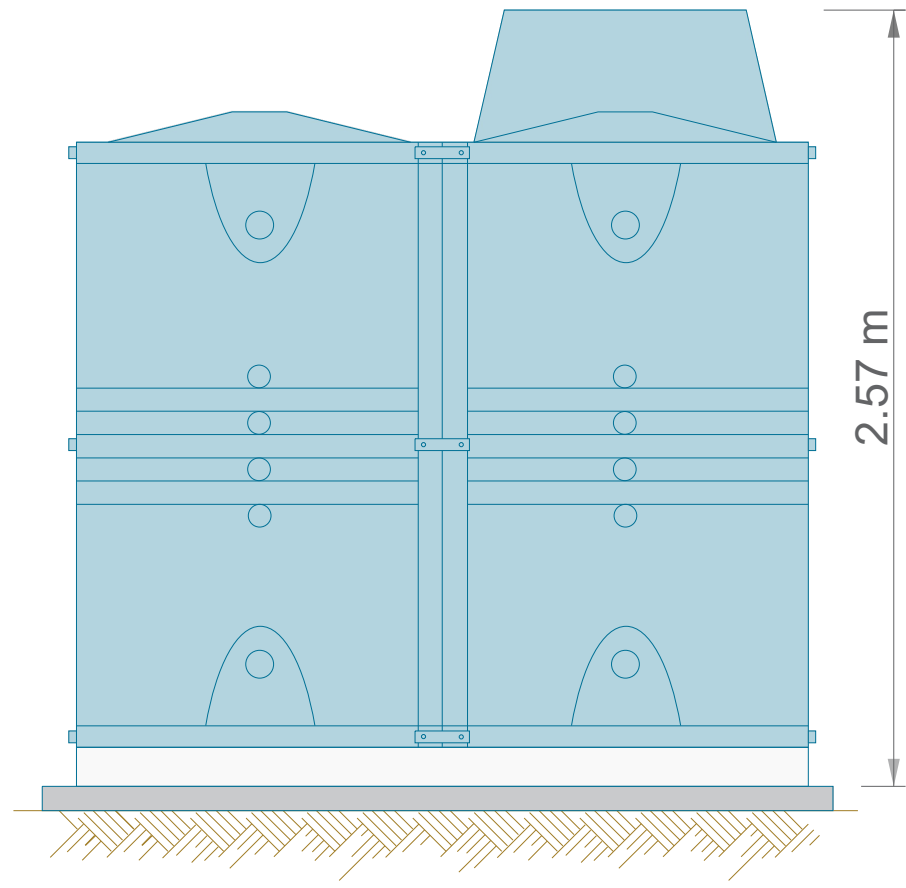
<i>Dibujado por/Drawn by:</i> D.ESPLUGUES <i>Revisado por/Checked by:</i> E.MAS <i>Aprobado por/Approved by:</i> JM.VIDAL <i>Peso/Weight (kg):</i> -	<i>Título/Title:</i> MV TWIN SKID COMPACT GEN3+ HEMK GEN3	<i>Fecha/Date:</i> 15/10/2021 <i>Tolerancia general según norma/General tolerance according to standar:</i> ISO 2768-mK	
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Top View




Side View



Front View

General Legend:

Project:	Cottam Solar Project		
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom		
Ownership:	Cottam Solar Project Limited		
Document Title:	Water Tanks		
Sheet format:	A3 "420 x 297"	Scale:	1:25
Document enclosures:	v.1 02/11/2022 M.N.	Comments:	
Company:	 Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW		

400kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	3.6
PHASE TO EARTH CLEARANCE	2.8
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D ₉₀	5.5
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{90H}	4.6
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	3.1
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D ₉₀	7.5
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{90H}	6.6

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D ₉₀	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{90H}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D ₉₀	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{90H}	4.9

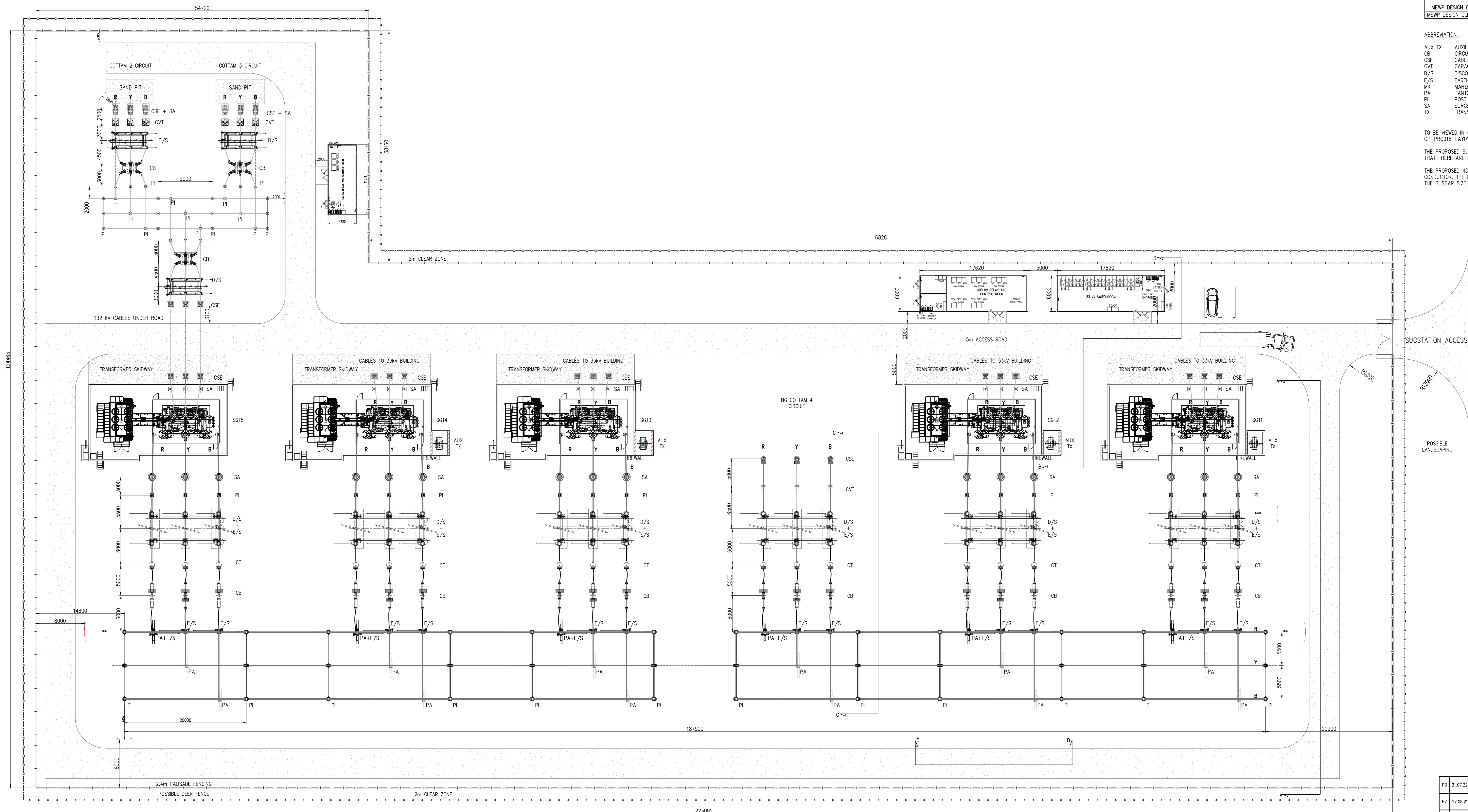
ABBREVIATION:

AUX TX	AUXILIARY TRANSFORMER
CB	CIRCUIT BREAKER
CSE	CABLE SEALING END
CVT	CAPACITIVE VOLTAGE TRANSFORMER
D/S	DISCONNECTOR
E/S	EARTH SWITCH
MC	MARSHALLING KIOSK
PA	PANTOGRAPH
PI	POST INSULATOR
SA	SURGE ARRESTER
TX	TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH ELEVATIONS DRAWING OP-PRO918-LAY10.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON ASSUMPTION THAT THERE ARE NO SITE RESTRICTIONS.

THE PROPOSED 400kV MAIN BUSBAR SIZE IS 300mm x 8mm AL CONDUCTOR. THE PROPOSED 132kV BUSBAR SIZE IS 160mm x 7mm. THE BUSBAR SIZE SHALL BE CONFIRMED DURING DETAILED DESIGN.



SUBSTATION ACCESS

POSSIBLE LANDSCAPING

P3	21.07.22	AMENDED TO INCLUDE 132kV CIRCUITS	EC	EC	MG
P2	27.08.21	SITE NAME CHANGED	DOP	EC	PD
P1	13.08.21	PRELIMINARY	DOP	EC	PD
REV	DATE	DESCRIPTION	DRN	DES	REV'S APP

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COTTAM 1 SOLAR AND BATTERY STORAGE PARK
400/33kV SUBSTATION COMPOUND
(AIS OPTION)

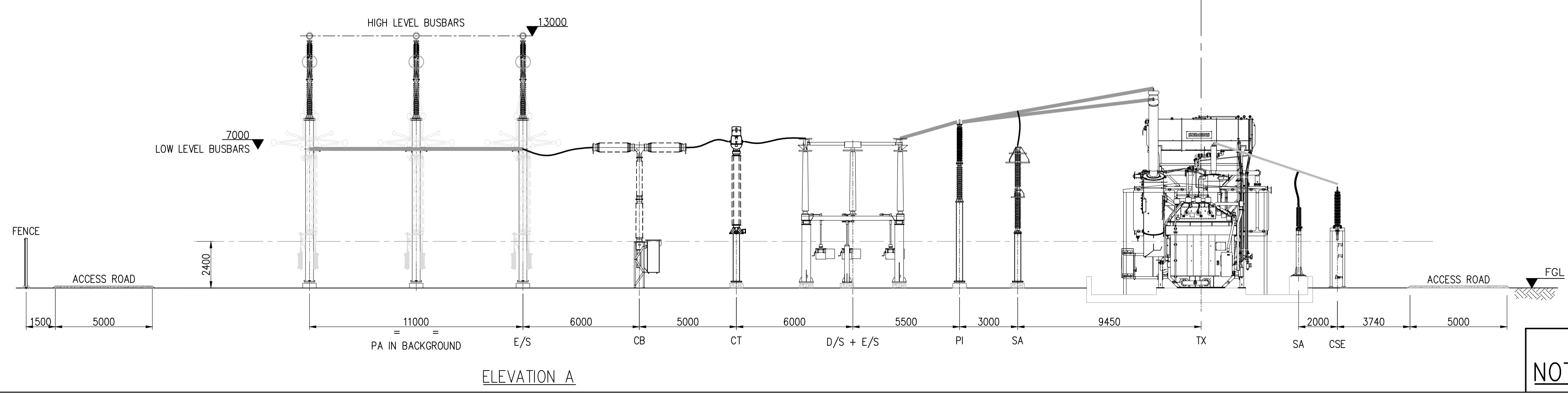
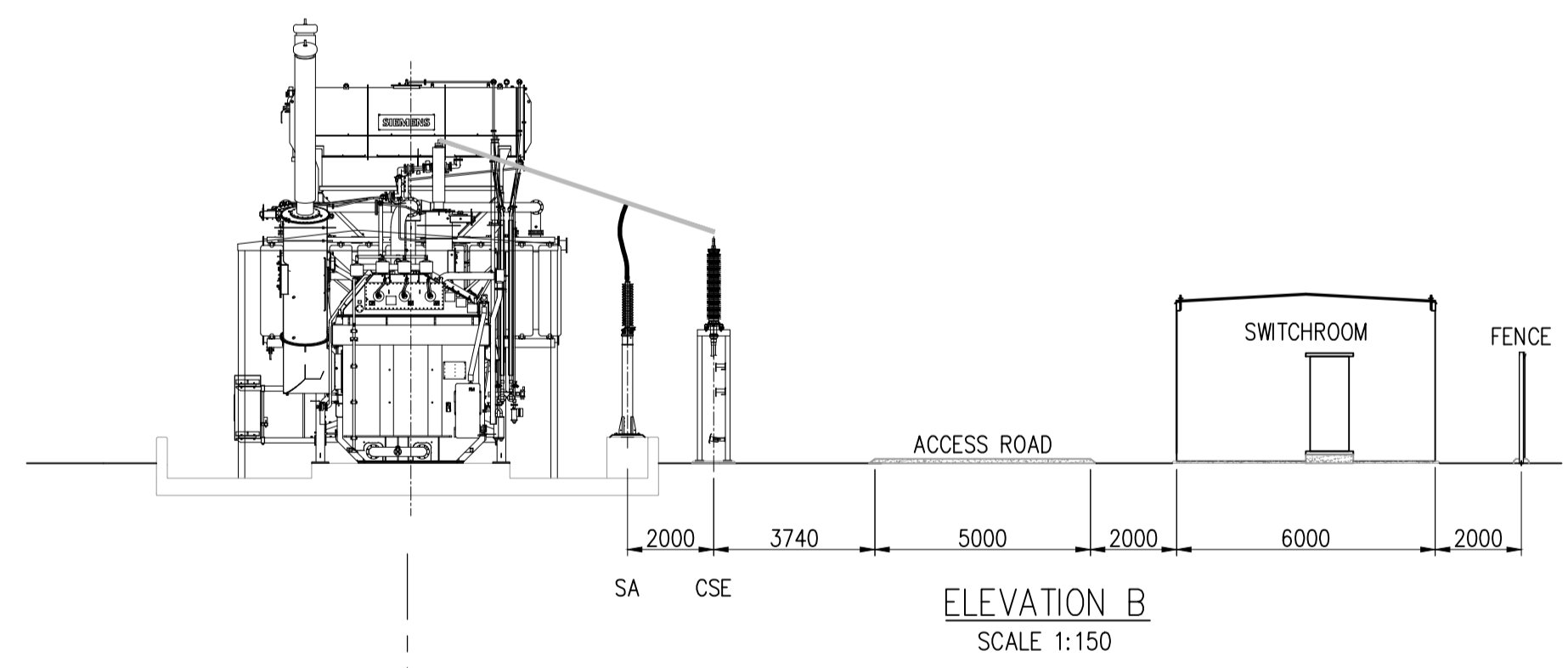
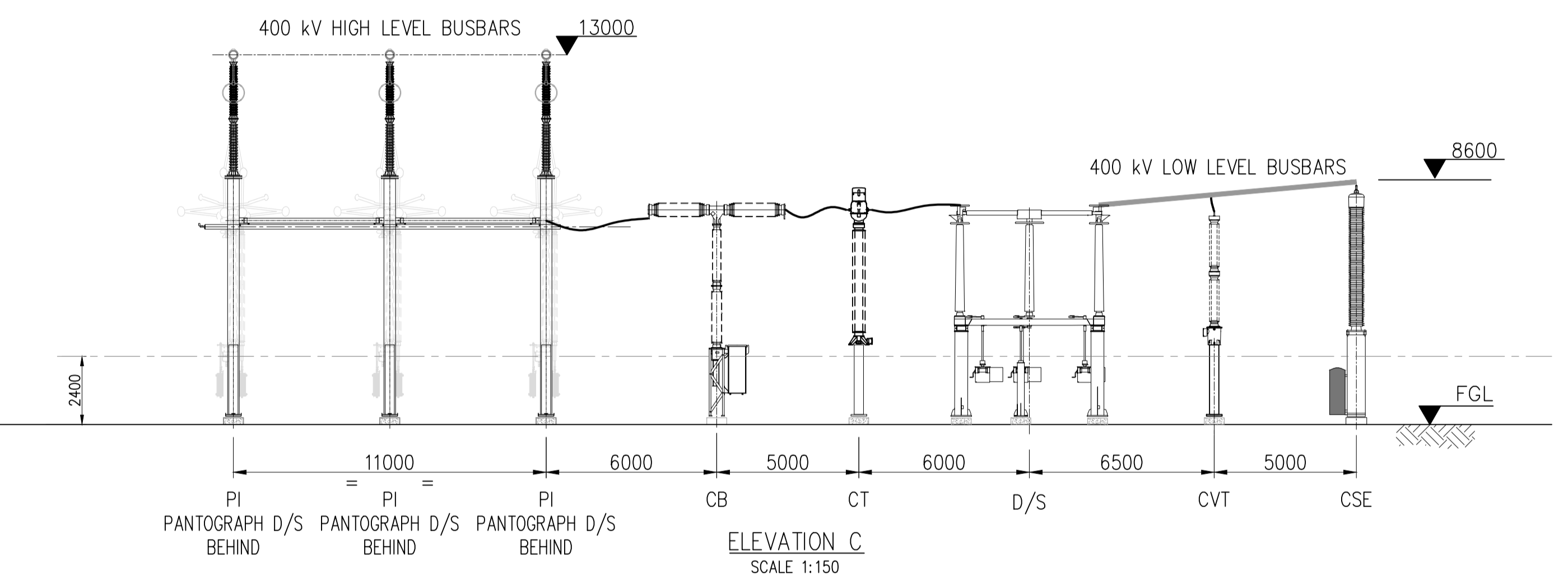
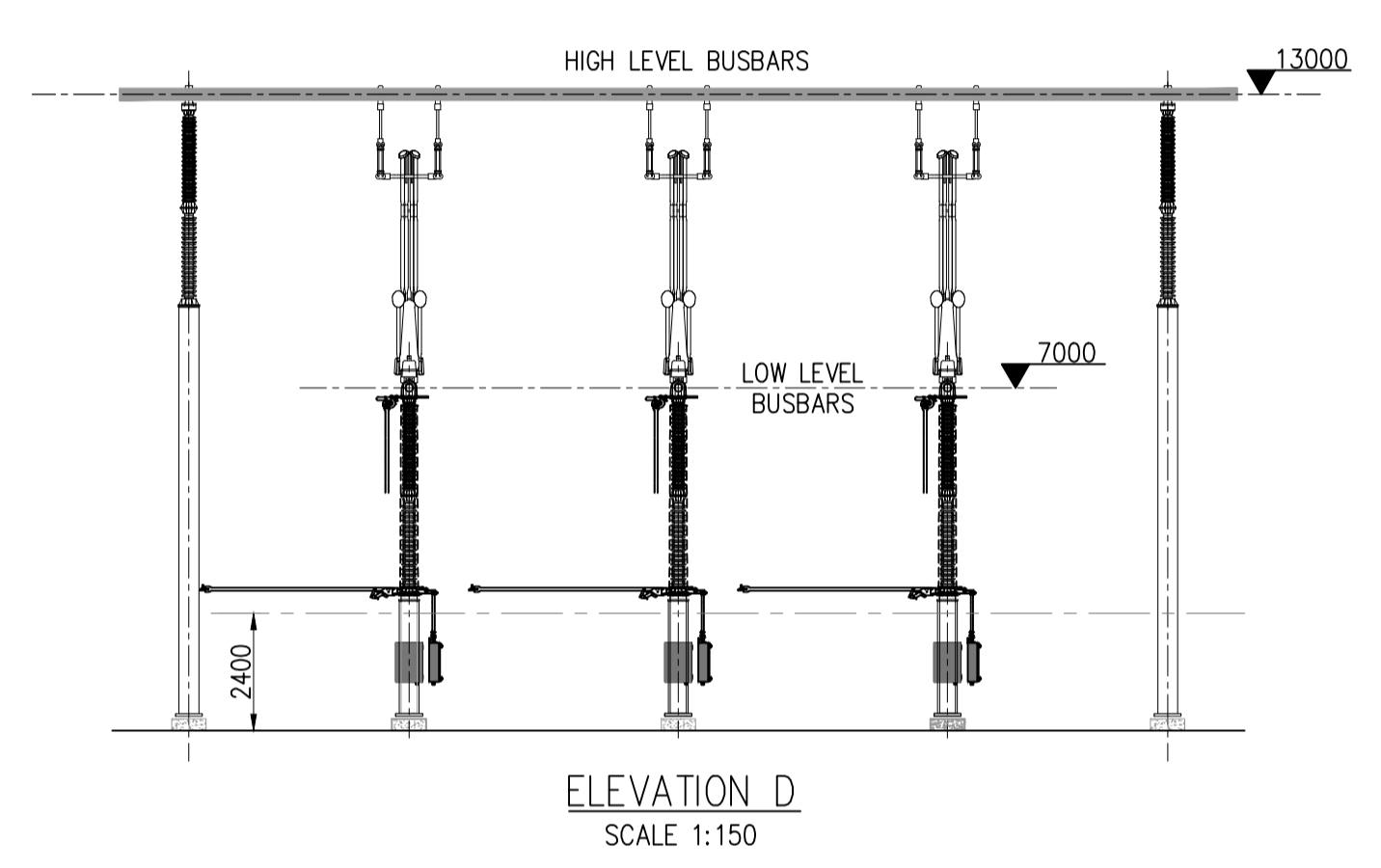
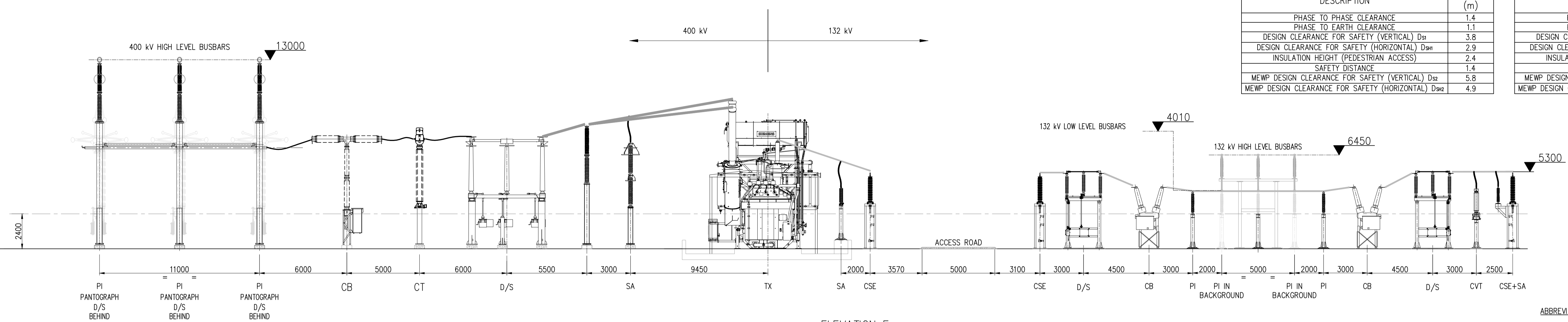
PROJECT NAME
NATIONAL GRID COTTAM CONNECTION
CUSTOMER
ISLAND GREEN POWER

CUSTOMER DRAWING NUMBER	STATUS		
****	PRELIMINARY		
DRAWING NUMBER	SCALE	SIZE	REVISION
OP-PRO918-LAY009	1:250	A0	P3

PRELIMINARY
NOT FOR SITE USE

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{sz}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sz2}	4.9

400kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	3.6
PHASE TO EARTH CLEARANCE	2.8
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	5.5
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	4.6
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	3.1
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{sz}	7.5
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sz2}	6.6



ABBREVIATION:

- AUX TX AUXILIARY TRANSFORMER
- CB CIRCUIT BREAKER
- CSE CABLE SEALING END
- CVT CAPACITIVE VOLTAGE TRANSFORMER
- D/S DISCONNECTOR
- E/S EARTH SWITCH
- MK MARSHALLING KIOSK
- PA PANTOGRAPH
- PI POST INSULATOR
- SA SURGE ARRESTER
- TX TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH SUBSTATION LAYOUT DRAWING OP-PRO918-LAY009.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON ASSUMPTION THAT THERE ARE NO SITE RESTRICTIONS.

THE PROPOSED 400kV MAIN BUSBAR SIZE IS 300mm x 8mm AL CONDUCTOR. THE PROPOSED BAY BUSBAR SIZE IS 160mm x 7mm. THE BUSBAR SIZE SHALL BE CONFIRMED DURING DETAILED DESIGN.

REV	DATE	DESCRIPTION	DRN	DES	REV & APP
P3	21.07.22	AMENDED TO INCLUDE 132kV CIRCUITS	EC	EC	MG
P2	27.08.21	SITE NAME CHANGED	DCP	EC	PD
P1	13.08.21	PRELIMINARY	DCP	EC	PD

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COTTAM 1 SOLAR AND BATTERY STORAGE PARK
400/33kV SUBSTATION COMPOUND
(AIS OPTION)

PROJECT NAME
NATIONAL GRID COTTAM CONNECTION
CUSTOMER
ISLAND GREEN POWER

CUSTOMER DRAWING NUMBER	STATUS		
****	PRELIMINARY		
DRAWING NUMBER	SCALE	SIZE	REVISION
OP-PRO918-LAY010	1:150	A1	P3

PRELIMINARY
NOT FOR SITE USE

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{s2}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh2}	4.9

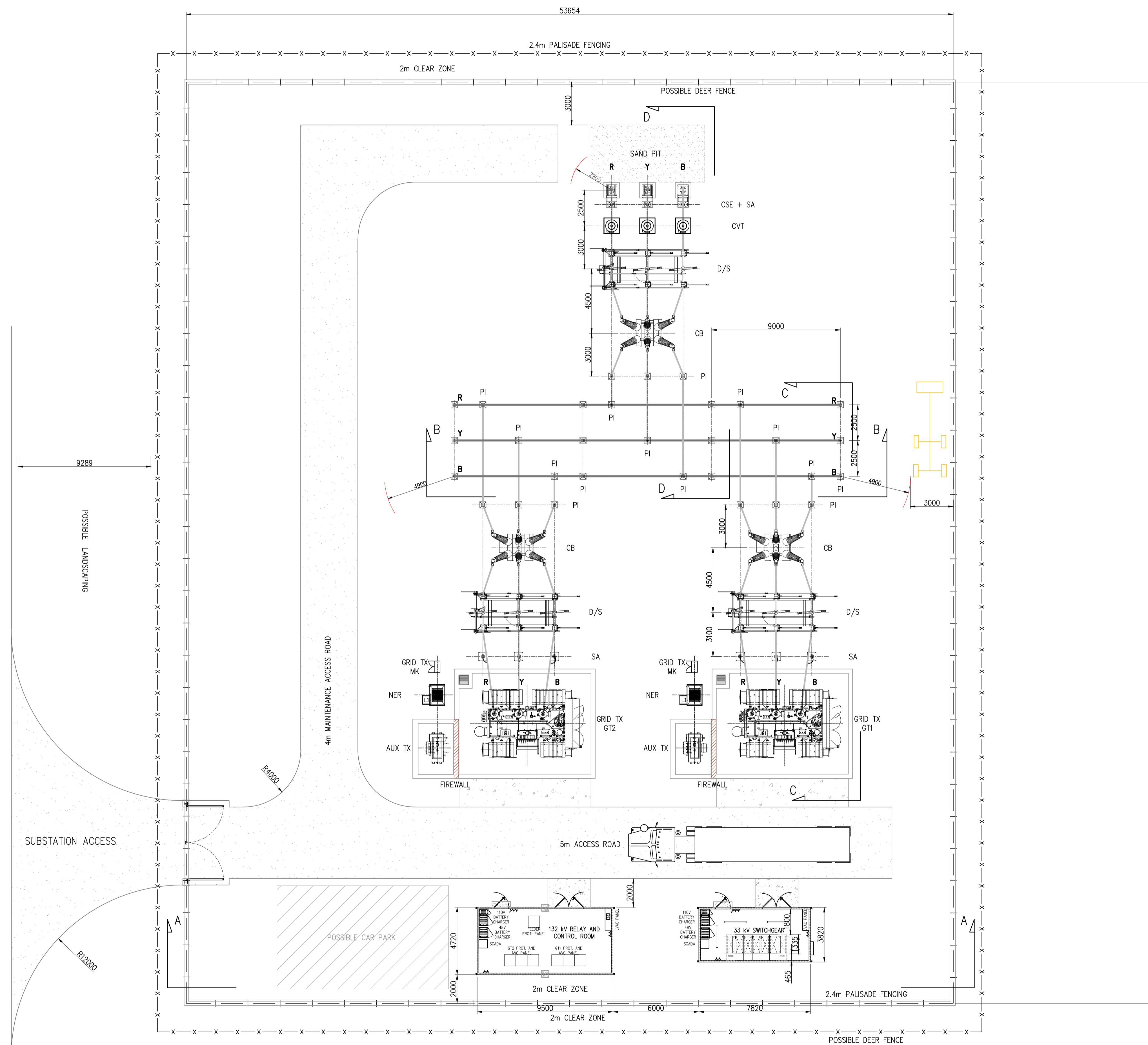
ABBREVIATION:

AUX TX	AUXILIARY TRANSFORMER
CB	CIRCUIT BREAKER
CSE	CABLE SEALING END
CVT	CAPACITIVE VOLTAGE TRANSFORMER
D/S	DISCONNECTOR
MK	MARSHALLING KIOSK
NER	NEUTRAL EARTHING RESISTOR
PI	POST INSULATOR
SA	SURGE ARRESTER
TX	TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH ELEVATIONS DRAWING OP-PRO918-LAY018.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON ASSUMPTION THAT THERE IS NO SITE RESTRICTIONS.

THE PROPOSED BUSBAR SIZE IS 90mm x 6mm Al CONDUCTOR (2000A RATING). THE BUSBAR SIZED SHALL BE CONFIRMED DURING DETAILED DESIGN.



P1	11.07.22	PRELIMINARY	EC	EC	MG
REV	DATE	DESCRIPTION	DRN	DES	REV & APP

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OMNIAProjects
 The Catalyst, York Science Park, Baird Lane, Heslington, York YO10 5GA
 email: office@omniaprojects.co.uk

Island GREEN POWER COTTAM SOLAR PROJECT LIMITED
 www.islandgpp.co.uk

COTTAM 2 132/33kV SUBSTATION FOR SOLAR PARK
 SUBSTATION COMPOUND

PROJECT NAME
 NATIONAL GRID COTTAM CONNECTION
 CUSTOMER
 ISLAND GREEN POWER

CUSTOMER DRAWING NUMBER	STATUS
****	PRELIMINARY
DRAWING NUMBER	SCALE
OP-PRO918-LAY017	1:150
SIZE	REVISION
A1	P1

PRELIMINARY
 NOT FOR SITE USE

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{sz}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sz2}	4.9

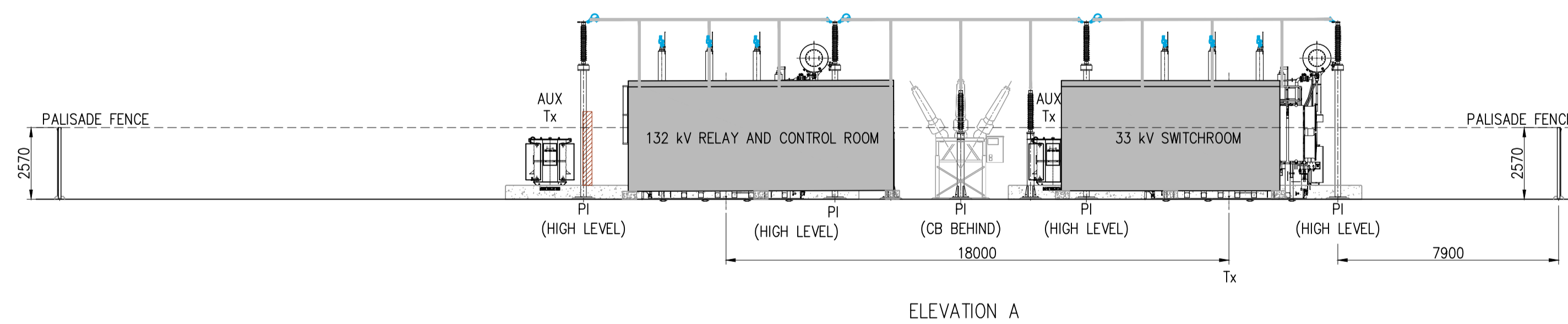
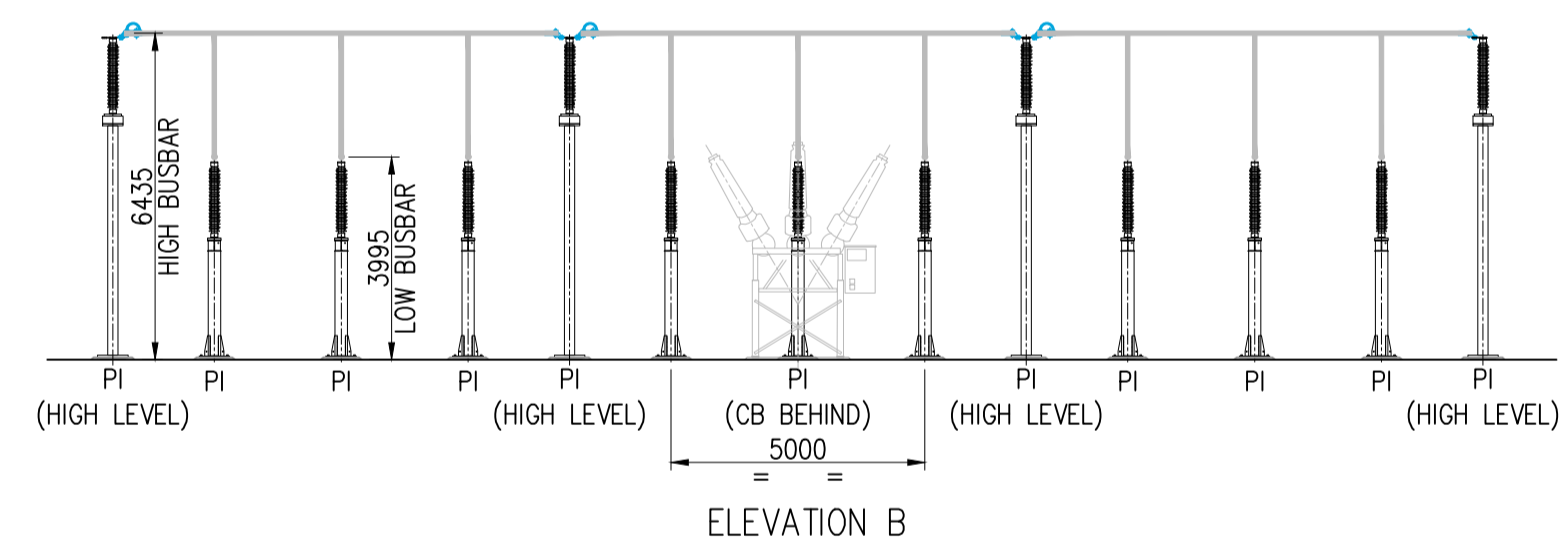
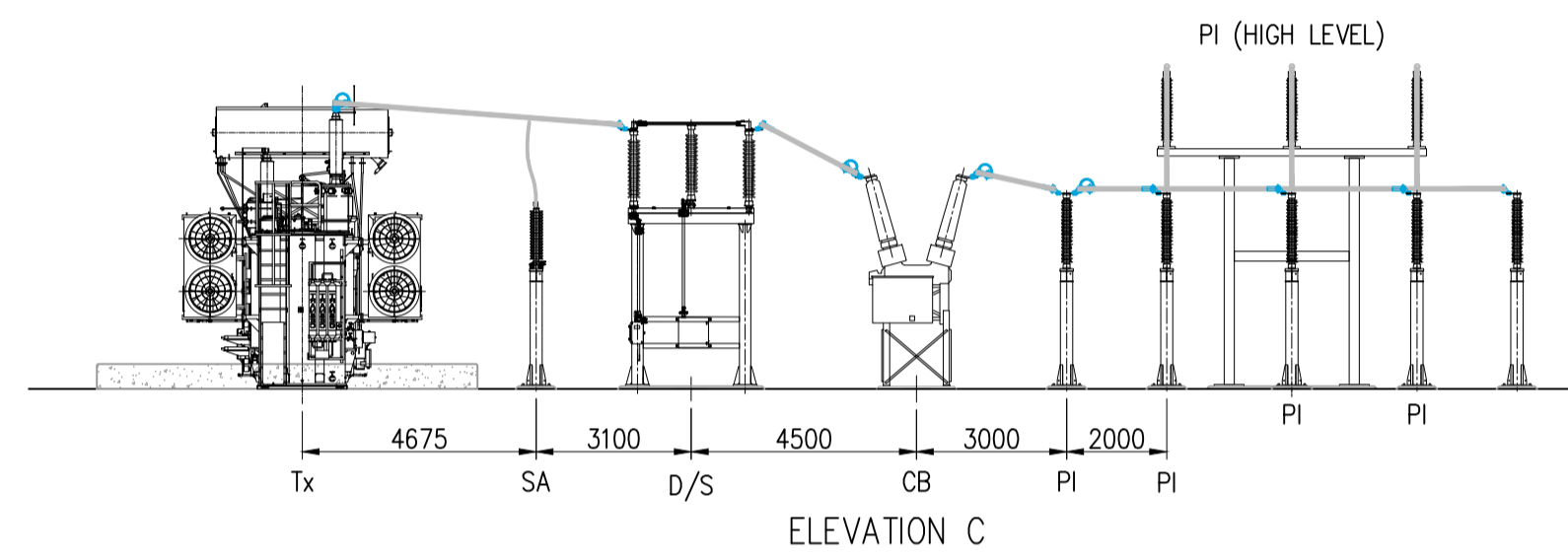
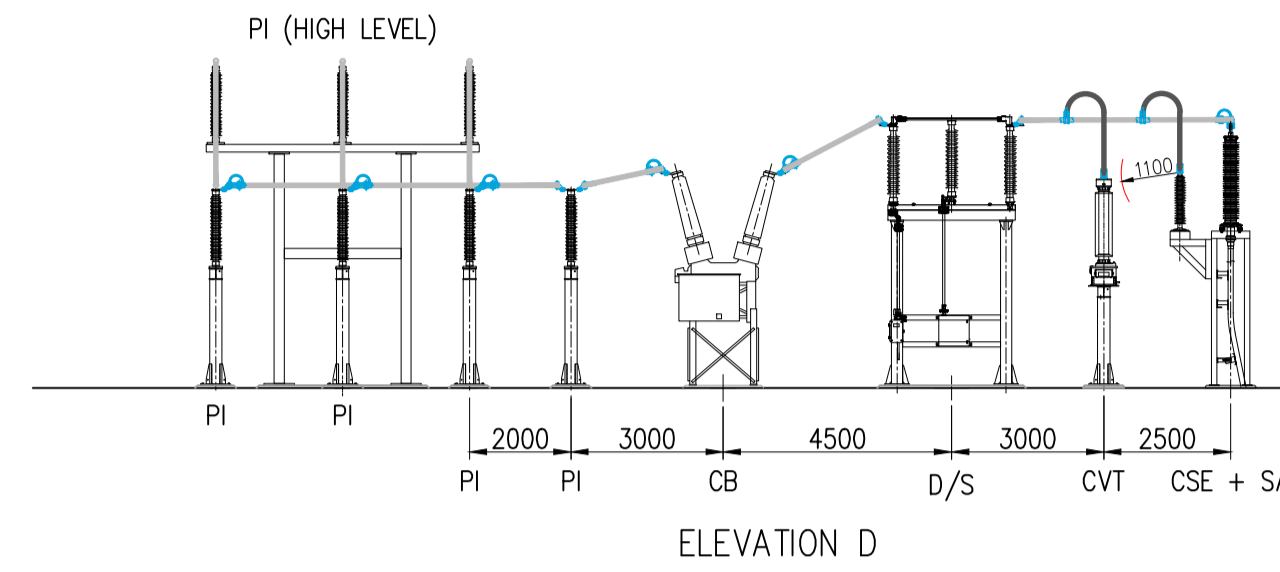
ANNOTATION:

- AUX TX AUXILIARY TRANSFORMER
- CB CIRCUIT BREAKER
- CSE CABLE SEALING END
- CVT CAPACITIVE VOLTAGE TRANSFORMER
- D/S DISCONNECTOR
- PI POST INSULATOR
- SA SURGE ARRESTER
- TX TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH LAYOUT DRAWING OP-PRO918-LAY017.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON THE ASSUMPTION THAT THERE ARE NO SITE RESTRICTIONS.

THE PROPOSED BUSBAR SIZE IS 90mm x 6mm AL CONDUCTOR (2000A RATING). THE BUSBAR SIZE SHALL BE CONFIRMED DURING DETAILED DESIGN.



P1	11.07.22	PRELIMINARY	EC	EC	MG
----	----------	-------------	----	----	----

REV	DATE	DESCRIPTION	DRN	DES	REV & APP
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OMNIAProjects
 The Catalyst, York Science Park, Baird Lane, Heslington, York YO10 5GA
 email: office@omniaprojects.co.uk

Island GREEN POWER
 www.islandgp.co.uk
 COTTAM SOLAR PROJECT LIMITED

COTTAM 2 132/33kV SUBSTATION FOR SOLAR PARK
 SIDE ELEVATIONS

PROJECT NAME
 NATIONAL GRID COTTAM CONNECTION
 CUSTOMER
 ISLAND GREEN POWER

CUSTOMER DRAWING NUMBER	STATUS
****	PRELIMINARY
DRAWING NUMBER	SCALE
OP-PRO918-LAY018	1:150
SIZE	REVISION
A1	P1

PRELIMINARY
 NOT FOR SITE USE

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{sz}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sz2}	4.9

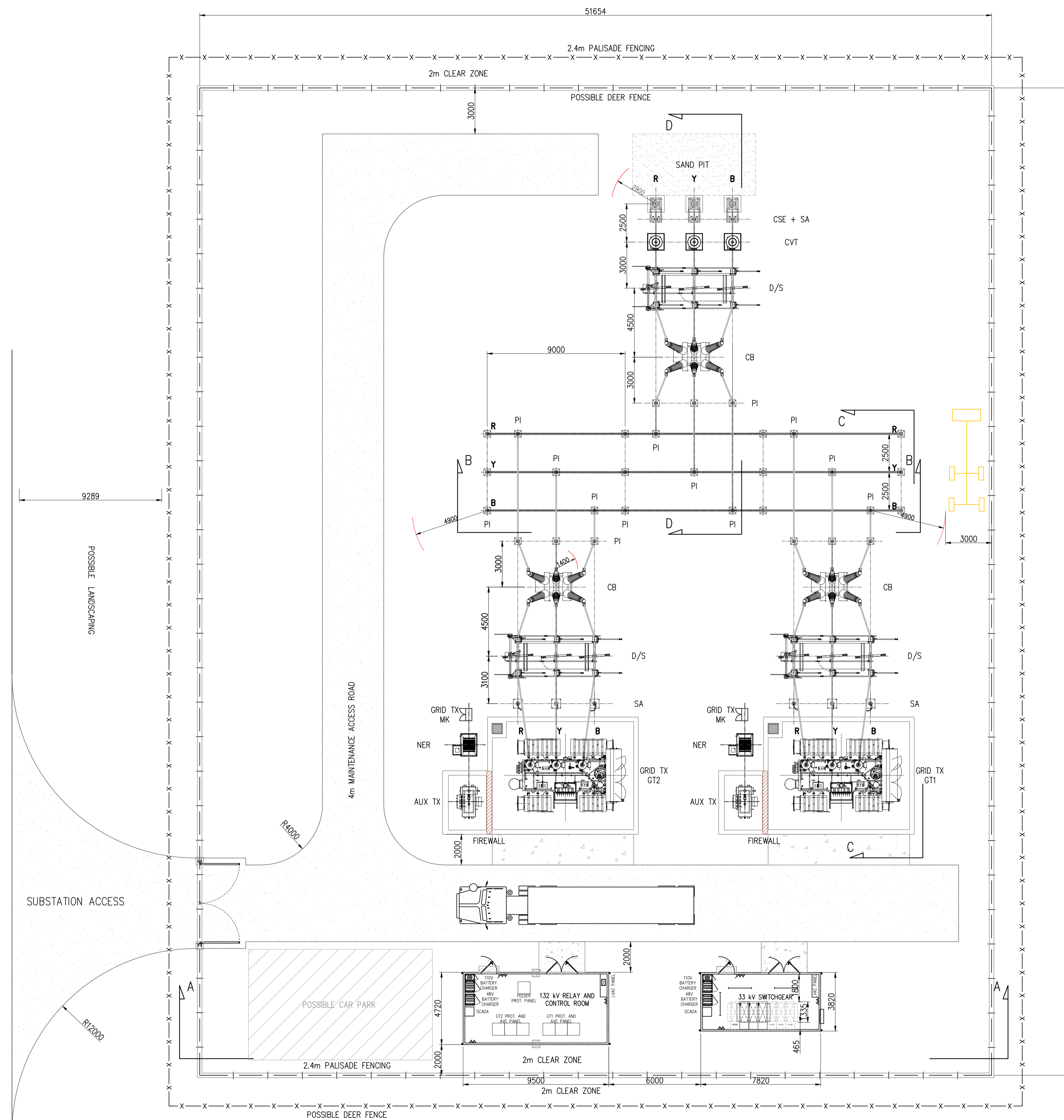
ABBREVIATION:

AUX TX	AUXILIARY TRANSFORMER
CB	CIRCUIT BREAKER
CSE	CABLE SEALING END
CVT	CAPACITIVE VOLTAGE TRANSFORMER
D/S	DISCONNECTOR
MK	MARSHALLING KIOSK
NER	NEUTRAL EARTHING RESISTOR
PI	POST INSULATOR
SA	SURGE ARRESTER
TX	TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH ELEVATIONS DRAWING OP-PRO918-LAY020.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON ASSUMPTION THAT THERE IS NO SITE RESTRICTIONS.

THE PROPOSED BUSBAR SIZE IS 90mm x 6mm Al CONDUCTOR (2000A RATING). THE BUSBAR SIZED SHALL BE CONFIRMED DURING DETAILED DESIGN.



P1	11.07.22	PRELIMINARY	EC	EC	MG
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REV	DATE	DESCRIPTION	DRN	DES	REV & APP
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Island GREEN POWER COTTAM SOLAR PROJECT LIMITED
 www.islandgp.co.uk

COTTAM 3 132/33kV SUBSTATION FOR SOLAR PARK
 SUBSTATION COMPOUND

PROJECT NAME
 NATIONAL GRID COTTAM CONNECTION
 CUSTOMER
 ISLAND GREEN POWER

CUSTOMER DRAWING NUMBER ****	STATUS PRELIMINARY
DRAWING NUMBER OP-PRO918-LAY019	SCALE 1:150
SIZE A1	REVISION P1

PRELIMINARY
 NOT FOR SITE USE

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{s2}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh2}	4.9

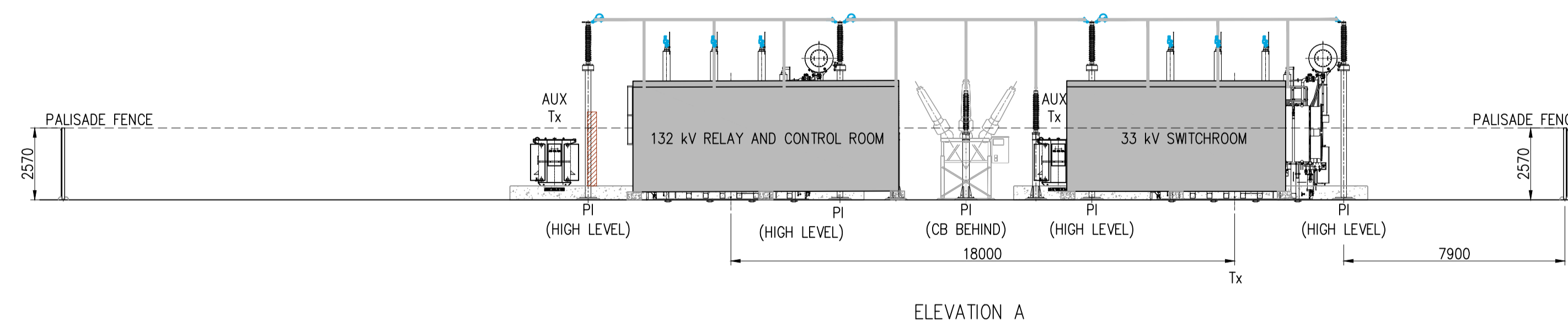
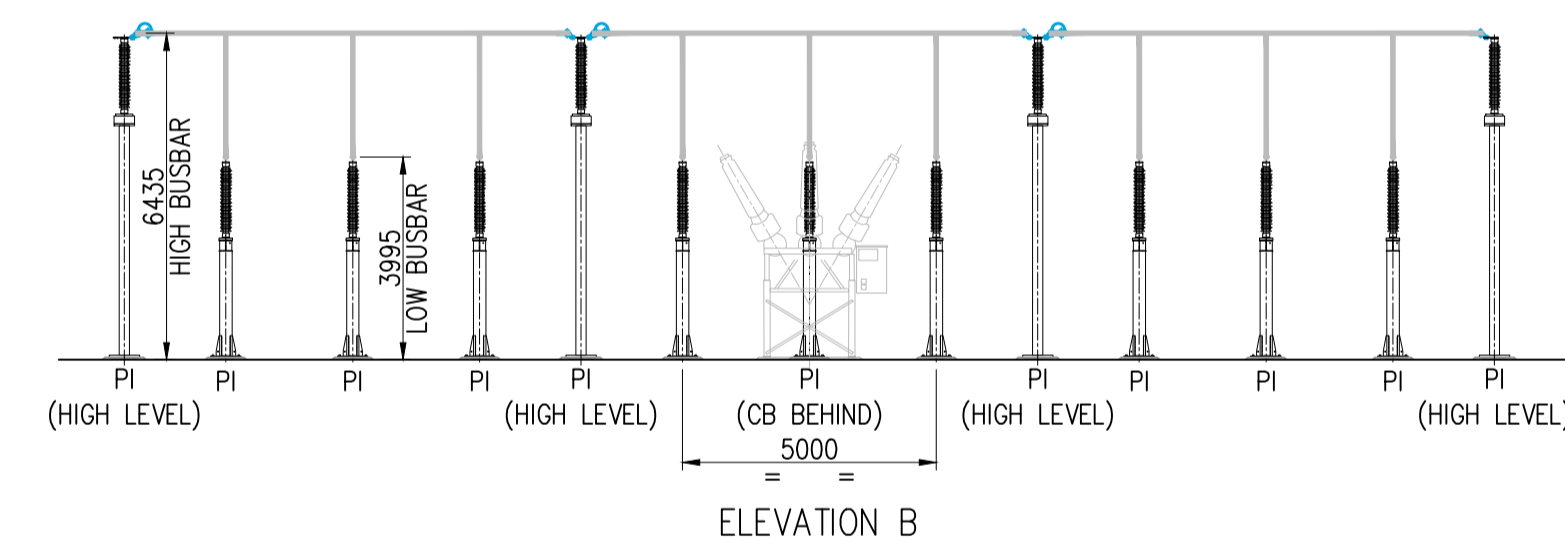
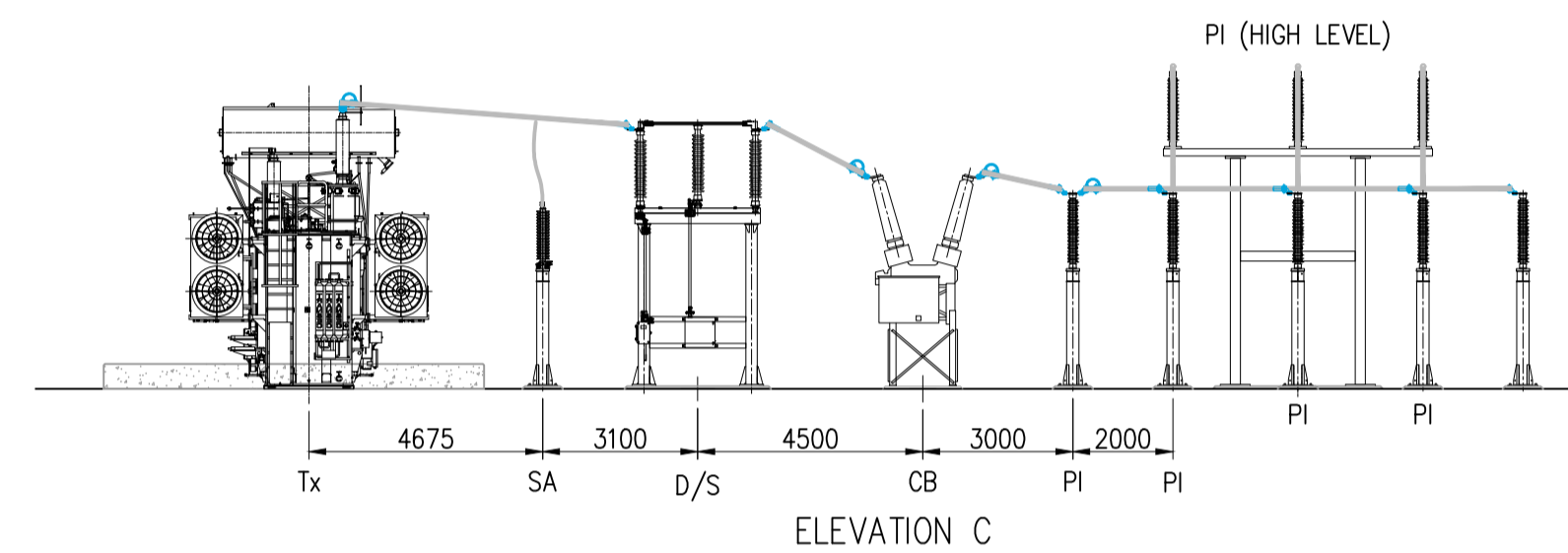
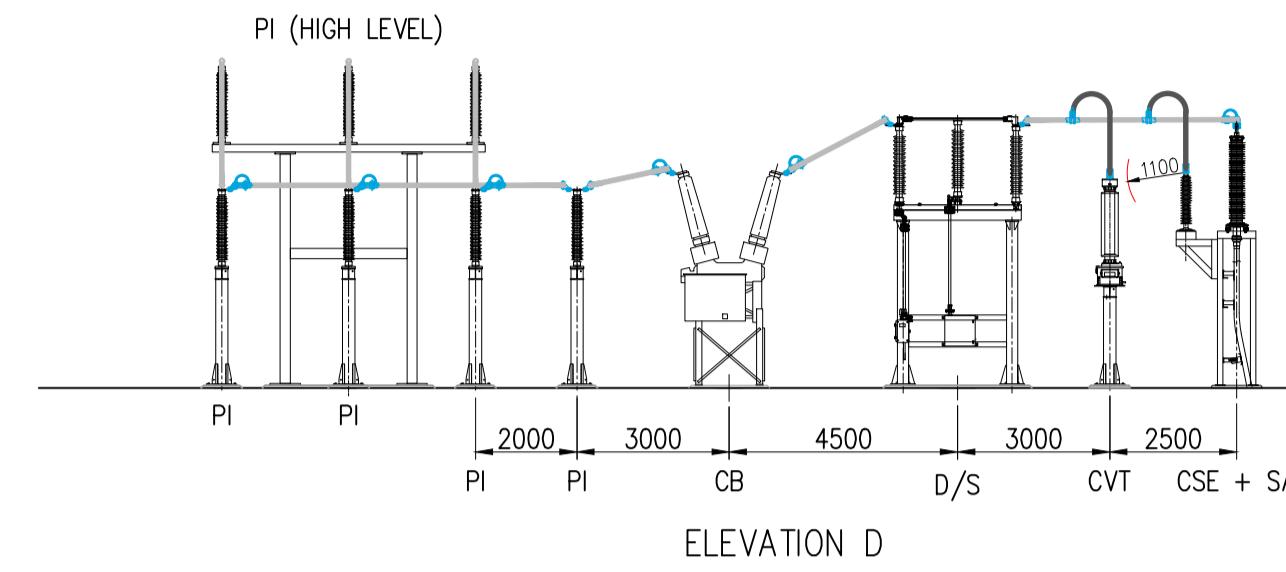
ANNOTATION:

AUX TX	AUXILIARY TRANSFORMER
CB	CIRCUIT BREAKER
CSE	CABLE SEALING END
CVT	CAPACITIVE VOLTAGE TRANSFORMER
D/S	DISCONNECTOR
PI	POST INSULATOR
SA	SURGE ARRESTER
TX	TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH LAYOUT DRAWING OP-PRO918-LAY019.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON THE ASSUMPTION THAT THERE ARE NO SITE RESTRICTIONS.

THE PROPOSED BUSBAR SIZE IS 90mm x 6mm AL CONDUCTOR (2000A RATING). THE BUSBAR SIZE SHALL BE CONFIRMED DURING DETAILED DESIGN.



P1	11.07.22	PRELIMINARY	EC	EC	MG
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Island GREEN POWER
 COTTAM SOLAR PROJECT LIMITED
 www.islandgp.co.uk

COTTAM 3 132/33kV SUBSTATION FOR SOLAR PARK
 SIDE ELEVATIONS

PROJECT NAME
 NATIONAL GRID COTTAM CONNECTION
 CUSTOMER
 ISLAND GREEN POWER

PRELIMINARY	CUSTOMER DRAWING NUMBER	STATUS
NOT FOR SITE USE	****	PRELIMINARY
	DRAWING NUMBER	SCALE
	OP-PRO918-LAY020	1:150
	SIZE	REVISION
	A1	P1

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{sz}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{shz}	4.9

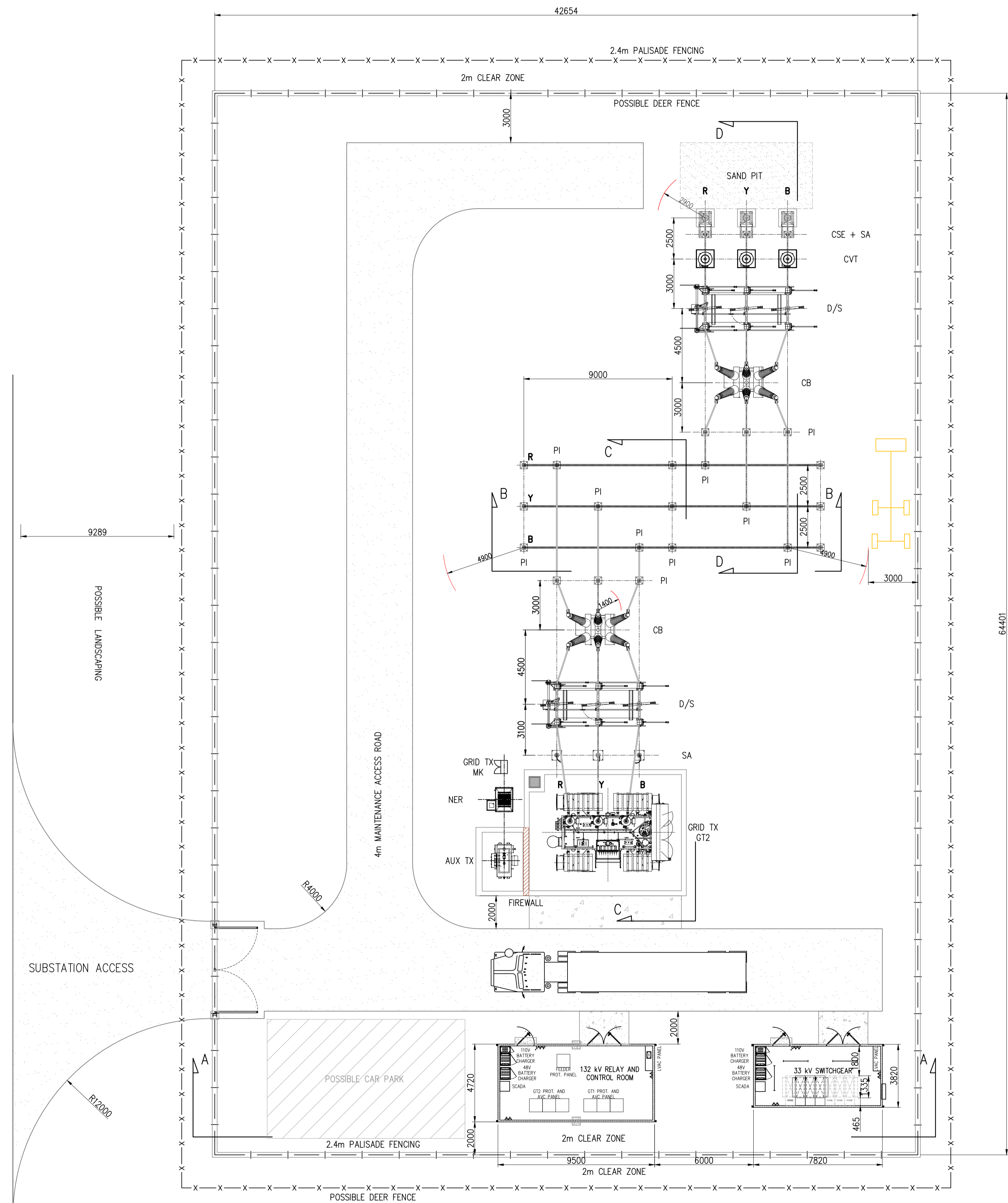
ABBREVIATION:

AUX TX	AUXILIARY TRANSFORMER
CB	CIRCUIT BREAKER
CSE	CABLE SEALING END
CVT	CAPACITIVE VOLTAGE TRANSFORMER
D/S	DISCONNECTOR
MK	MARSHALLING KIOSK
NER	NEUTRAL EARTHING RESISTOR
PI	POST INSULATOR
SA	SURGE ARRESTER
TX	TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH ELEVATIONS DRAWING OP-PRO918-LAY022.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON ASSUMPTION THAT THERE IS NO SITE RESTRICTIONS.

THE PROPOSED BUSBAR SIZE IS 90mm x 6mm Al CONDUCTOR (2000A RATING). THE BUSBAR SIZED SHALL BE CONFIRMED DURING DETAILED DESIGN.



P1	11.07.22	PRELIMINARY	EC	EC	MG
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REV	DATE	DESCRIPTION	DRN	DES	REV & APP
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Island GREEN POWER COTTAM SOLAR PROJECT LIMITED
 www.islandgpp.co.uk

COTTAM 3B 132/33kV SUBSTATION FOR SOLAR PARK
 SUBSTATION COMPOUND

PROJECT NAME
 NATIONAL GRID COTTAM CONNECTION
 CUSTOMER
 ISLAND GREEN POWER

CUSTOMER DRAWING NUMBER ****	STATUS PRELIMINARY
DRAWING NUMBER OP-PRO918-LAY021	SCALE 1:150
SIZE A1	REVISION P1

PRELIMINARY
 NOT FOR SITE USE

132kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	1.4
PHASE TO EARTH CLEARANCE	1.1
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{st}	3.8
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh}	2.9
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	1.4
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D _{s2}	5.8
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D _{sh2}	4.9

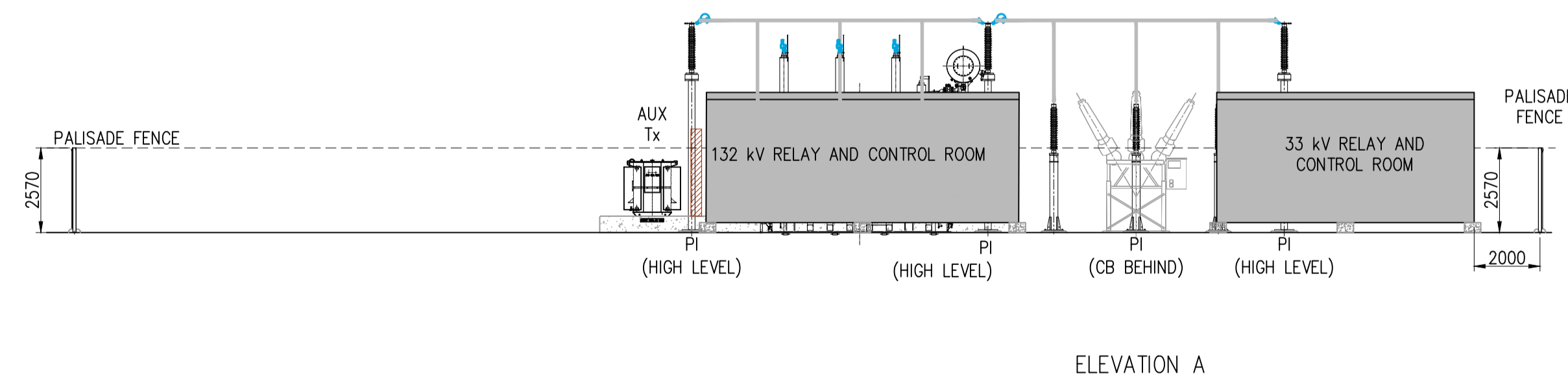
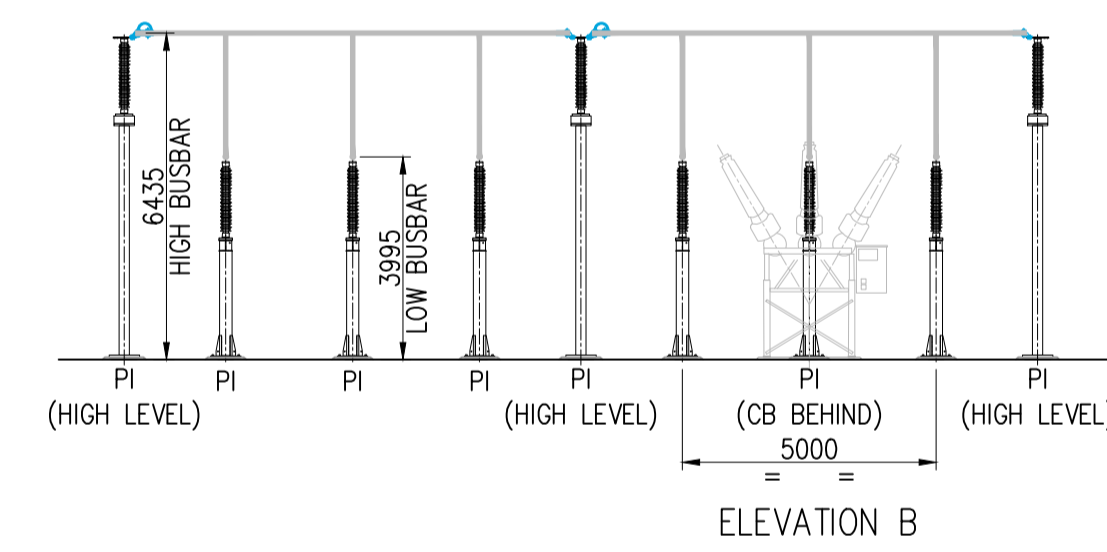
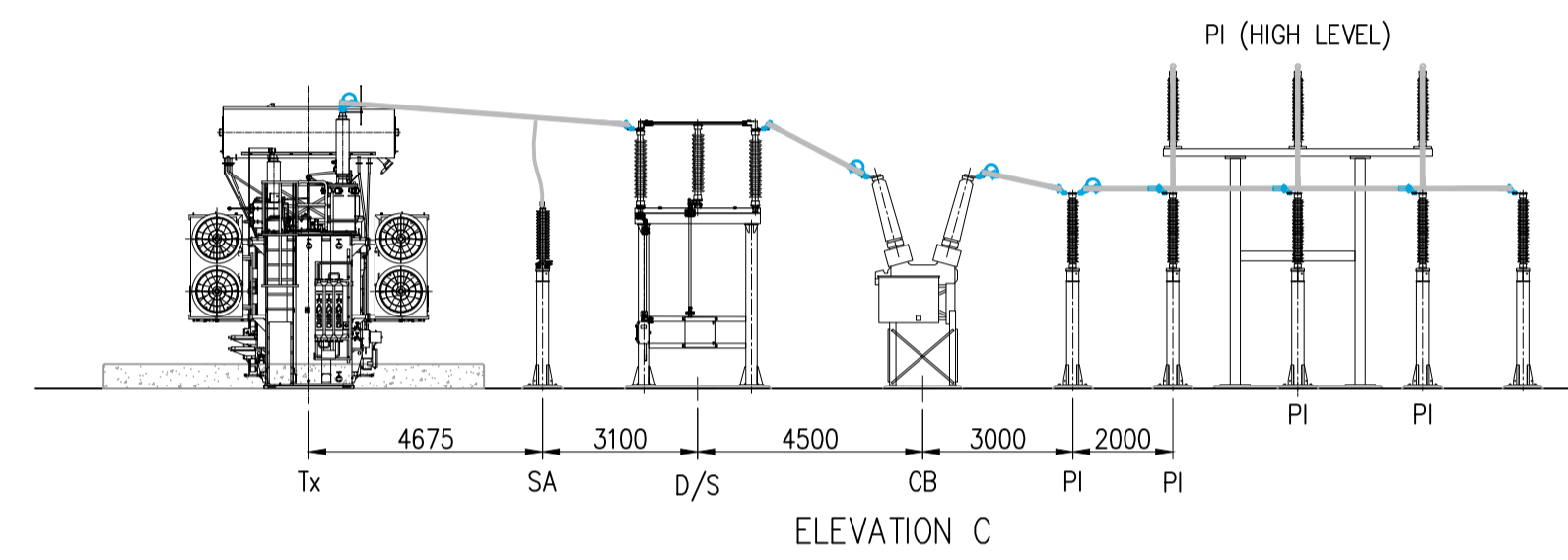
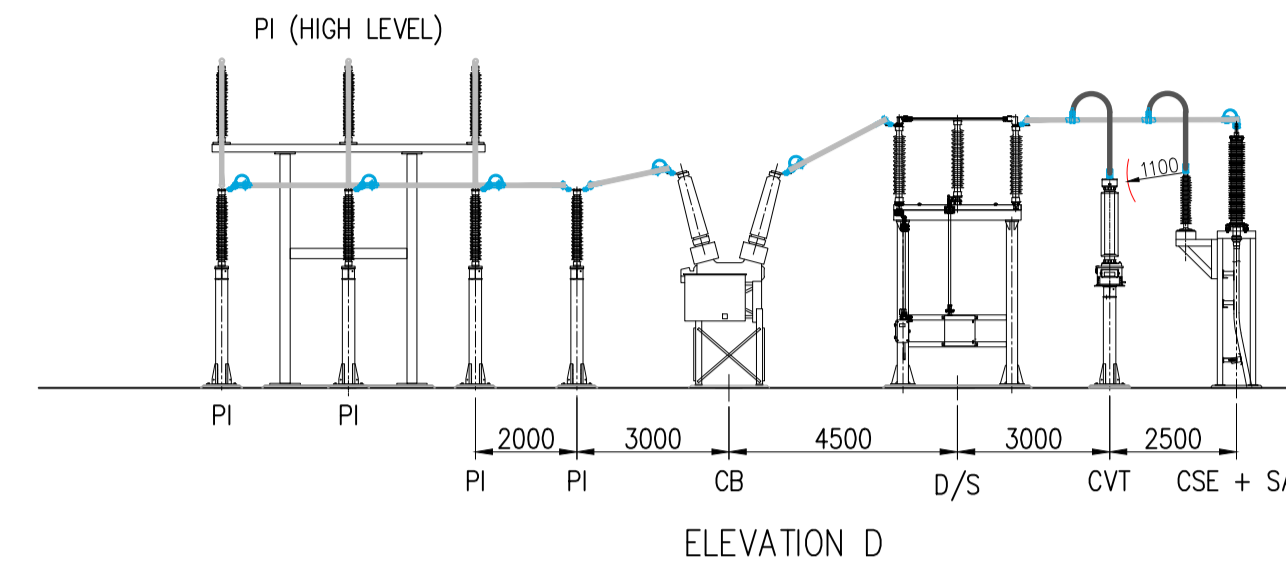
ANNOTATION:

AUX TX	AUXILIARY TRANSFORMER
CB	CIRCUIT BREAKER
CSE	CABLE SEALING END
CVT	CAPACITIVE VOLTAGE TRANSFORMER
D/S	DISCONNECTOR
PI	POST INSULATOR
SA	SURGE ARRESTER
TX	TRANSFORMER

TO BE VIEWED IN CONJUNCTION WITH LAYOUT DRAWING OP-PRO918-LAYO21.

THE PROPOSED SUBSTATION LAYOUT IS BASED ON THE ASSUMPTION THAT THERE ARE NO SITE RESTRICTIONS.

THE PROPOSED BUSBAR SIZE IS 90mm x 6mm AL CONDUCTOR (2000A RATING). THE BUSBAR SIZE SHALL BE CONFIRMED DURING DETAILED DESIGN.



P1	11.07.22	PRELIMINARY	EC	EC	MG
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REV	DATE	DESCRIPTION	DRN	DES	REV & APP
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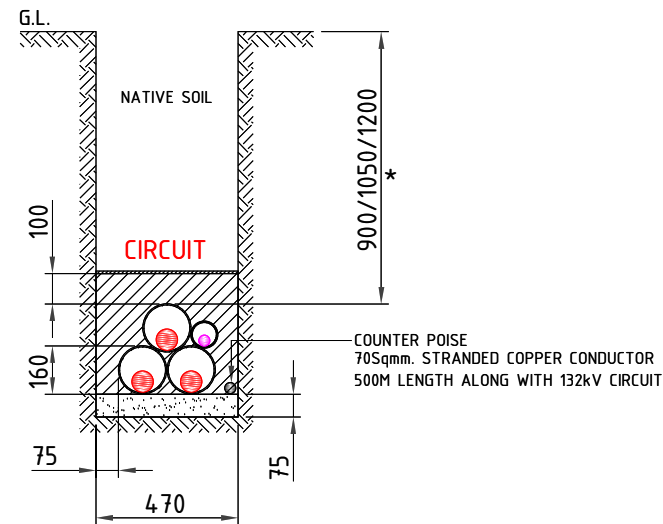
Island GREEN POWER
www.islandgp.co.uk
COTTAM SOLAR PROJECT LIMITED

COTTAM 3B 132/33kV SUBSTATION FOR SOLAR PARK
SUBSTATION COMPOUND

PROJECT NAME
NATIONAL GRID COTTAM CONNECTION
CUSTOMER
ISLAND GREEN POWER

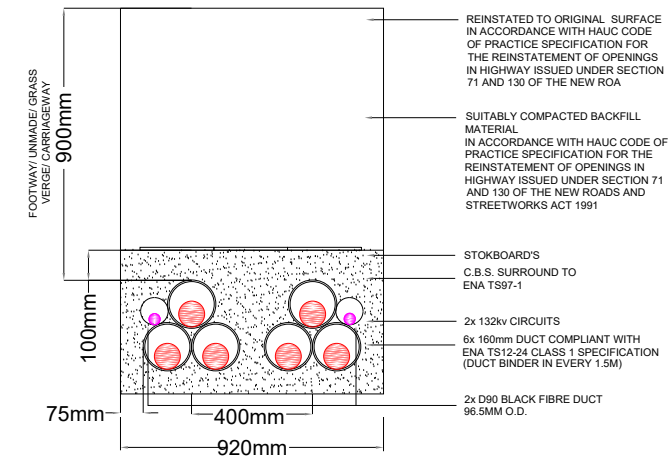
PRELIMINARY	CUSTOMER DRAWING NUMBER	STATUS
NOT FOR SITE USE	****	PRELIMINARY
DRAWING NUMBER	SCALE	SIZE
OP-PRO918-LAYO22	1:150	A1
		REVISION
		P1

TRENCH SECTIONS FOR 132kV CABLES



SOLIDLY OR CROSS BONDING SYSTEM TO BE USED

132kV DOUBLE CIRCUIT WITH FIBRE DUCTS TYPICAL SECTION



TYPE A

STOKBORD (1000x244x9mm) G.L. - GROUND LEVEL 132KV CABLE FIBRE CABLE

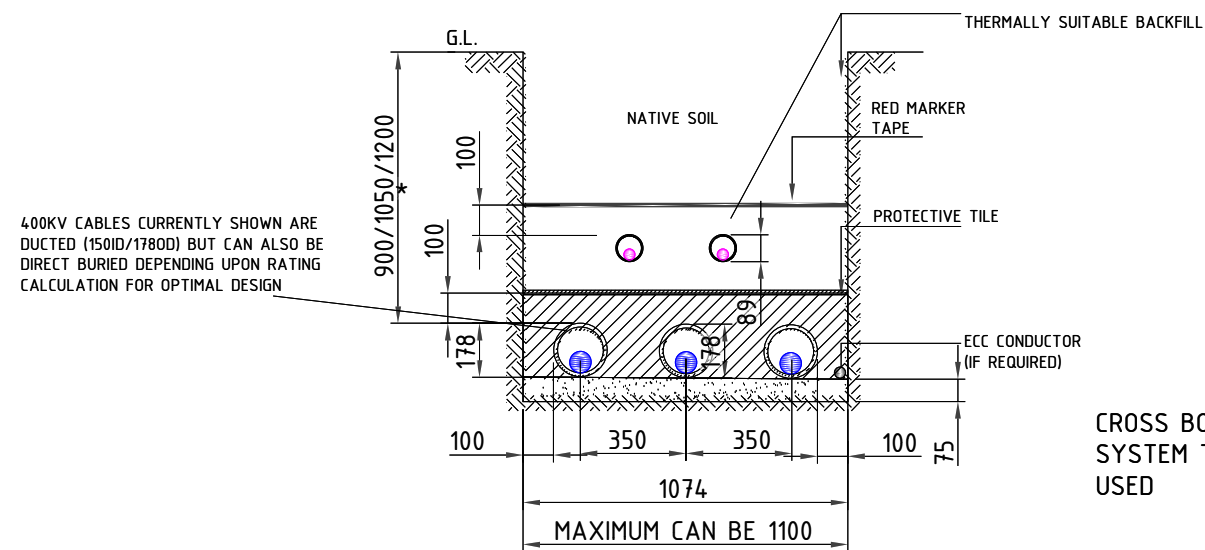
BEDDING A CEMENT BOUND SAND BED COMPLYING WITH THE REQUIREMENTS OF ENA TS 97-01 SHALL BE INSTALLED, EXCEPT WHERE CABLE RATING CALCULATIONS PROVE THAT STABILISED MATERIAL IS NOT REQUIRED. ALL BEDDING LAYERS SHALL BE COMPACTED TO A DEPTH OF 75mm.

BLINDING CABLES SHALL BE BLINDED WITH CEMENT BOUND SAND COMPLYING WITH THE REQUIREMENTS OF ENA TS 97-01, EXCEPT WHERE CABLE RATING CALCULATIONS PROVE THAT A STABILISED MATERIAL IS NOT REQUIRED, TO A COMPACTED DEPTH OF 100mm ABOVE THE CABLE.

INSTALLATION DEPTH DEPENDANT ON LOCATION:

900mm FOOTWAYS/GRASS VERGES/PRIVATE PROPERTY & CARRIAGEWAYS (INCLUDING ROAD CROSSINGS)
 * 1050mm NORMAL AGRICULTURAL LAND
 1200mm AGRICULTURAL LAND SUBJECT TO DEEP PLOUGH

TRENCH SECTIONS FOR 400KV CABLES



CROSS BONDING SYSTEM TO BE USED

TYPE A

STOKBORD (1000x244x9mm) G.L. - GROUND LEVEL 400KV CABLE FIBRE CABLE

BEDDING A CEMENT BOUND SAND BED COMPLYING WITH THE REQUIREMENTS OF ENA TS 97-01 SHALL BE INSTALLED, EXCEPT WHERE CABLE RATING CALCULATIONS PROVE THAT STABILISED MATERIAL IS NOT REQUIRED. ALL BEDDING LAYERS SHALL BE COMPACTED TO A DEPTH OF 75mm.

BLINDING CABLES SHALL BE BLINDED WITH CEMENT BOUND SAND COMPLYING WITH THE REQUIREMENTS OF ENA TS 97-01, EXCEPT WHERE CABLE RATING CALCULATIONS PROVE THAT DEPTH OF 100mm ABOVE THE CABLE.

INSTALLATION DEPTH DEPENDANT ON LOCATION:

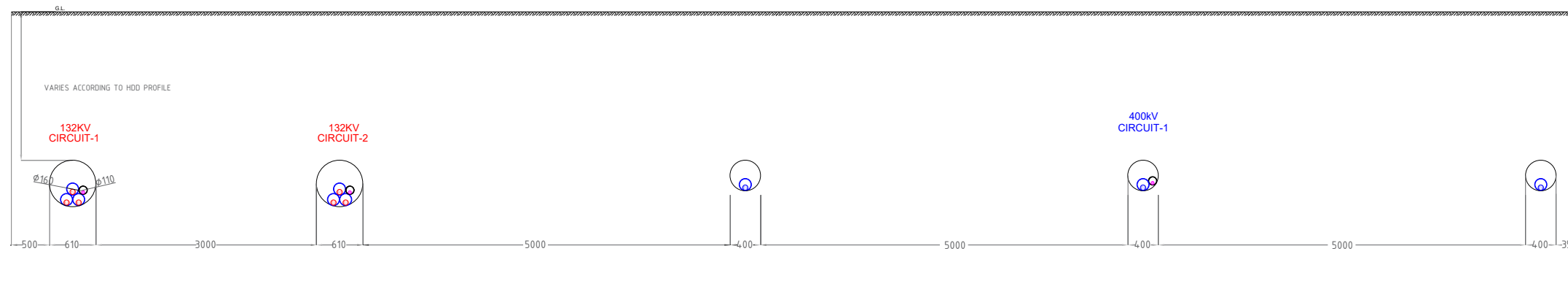
900mm FOOTWAYS/GRASS VERGES/PRIVATE PROPERTY & CARRIAGEWAYS (INCLUDING ROAD CROSSINGS)
 * 1050mm NORMAL AGRICULTURAL LAND
 1200mm AGRICULTURAL LAND SUBJECT TO DEEP PLOUGH

General Legend:



Project:	Cottam Solar Project
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom
Ownership:	Cottam Solar Project Limited
Document Title:	Cable Trench Cross Section
Sheet Format:	A3 "420 x 297"
Scale:	1:25
Document Version:	v-1 04/11/2022 M.N.
Document Version:	v-2 21/12/2022 M.N.
Company:	Island Green Power Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW

HDD TRENCH SECTION FOR 132kV, 400kV CABLES & FIBRE CABLES



G.L. - GROUND LEVEL | ● 132kV CABLE SINGLE CORE AL OR COPPER (TBC) | ● 400kV CABLE SINGLE CORE AL OR COPPER (TBC) | ● FIBRE CABLE | ——— 1 X 110MM SDR11 BLACK ELECTRIC DUCTING | ——— 3 X 160MM SDR11 BLACK ELECTRIC DUCTING

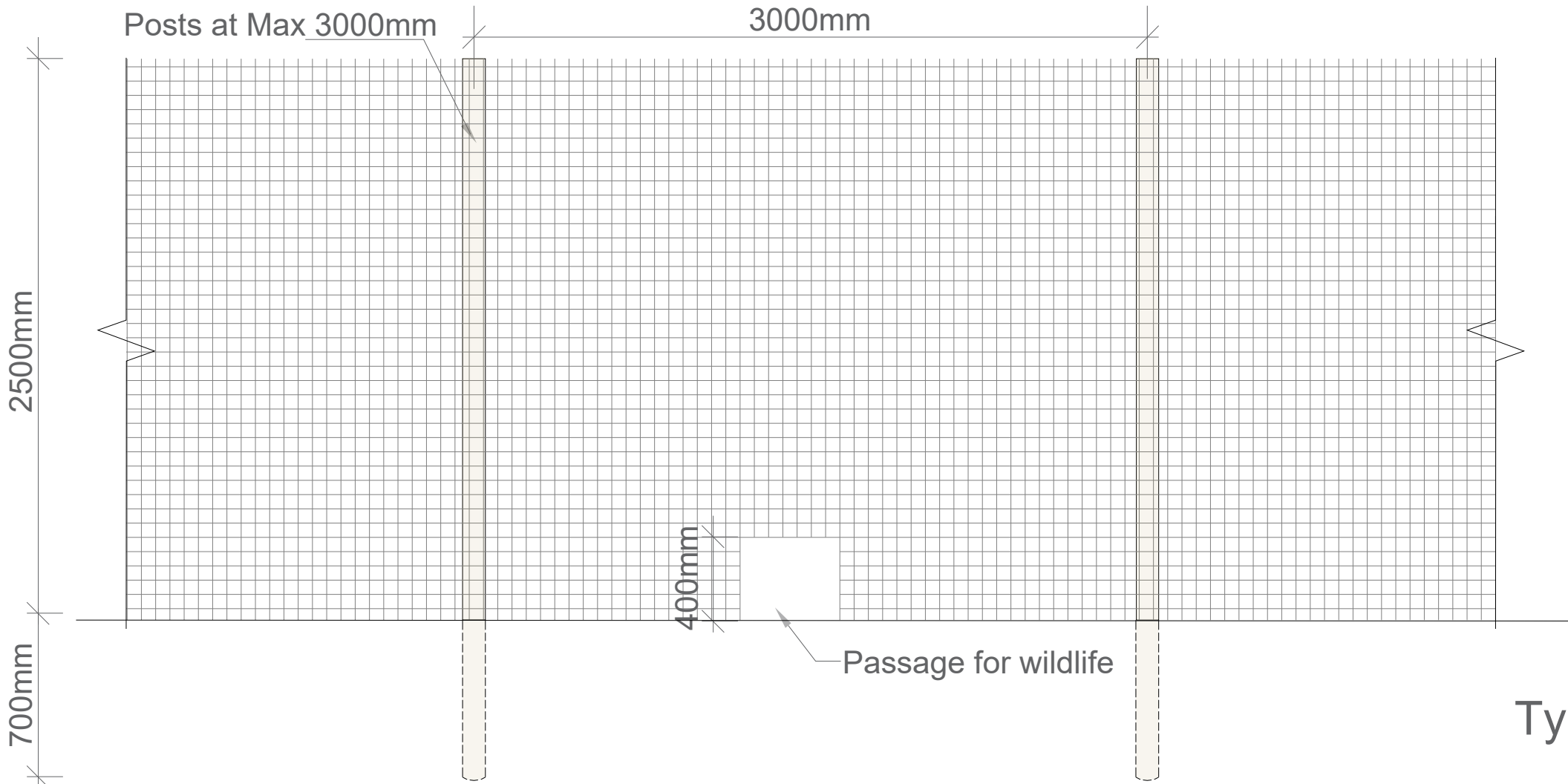
General Legend:

Symbol	Description
G.L.	GROUND LEVEL
●	132kV CABLE SINGLE CORE AL OR COPPER (TBC)
●	400kV CABLE SINGLE CORE AL OR COPPER (TBC)
●	FIBRE CABLE
———	1 X 110MM SDR11 BLACK ELECTRIC DUCTING
———	3 X 160MM SDR11 BLACK ELECTRIC DUCTING

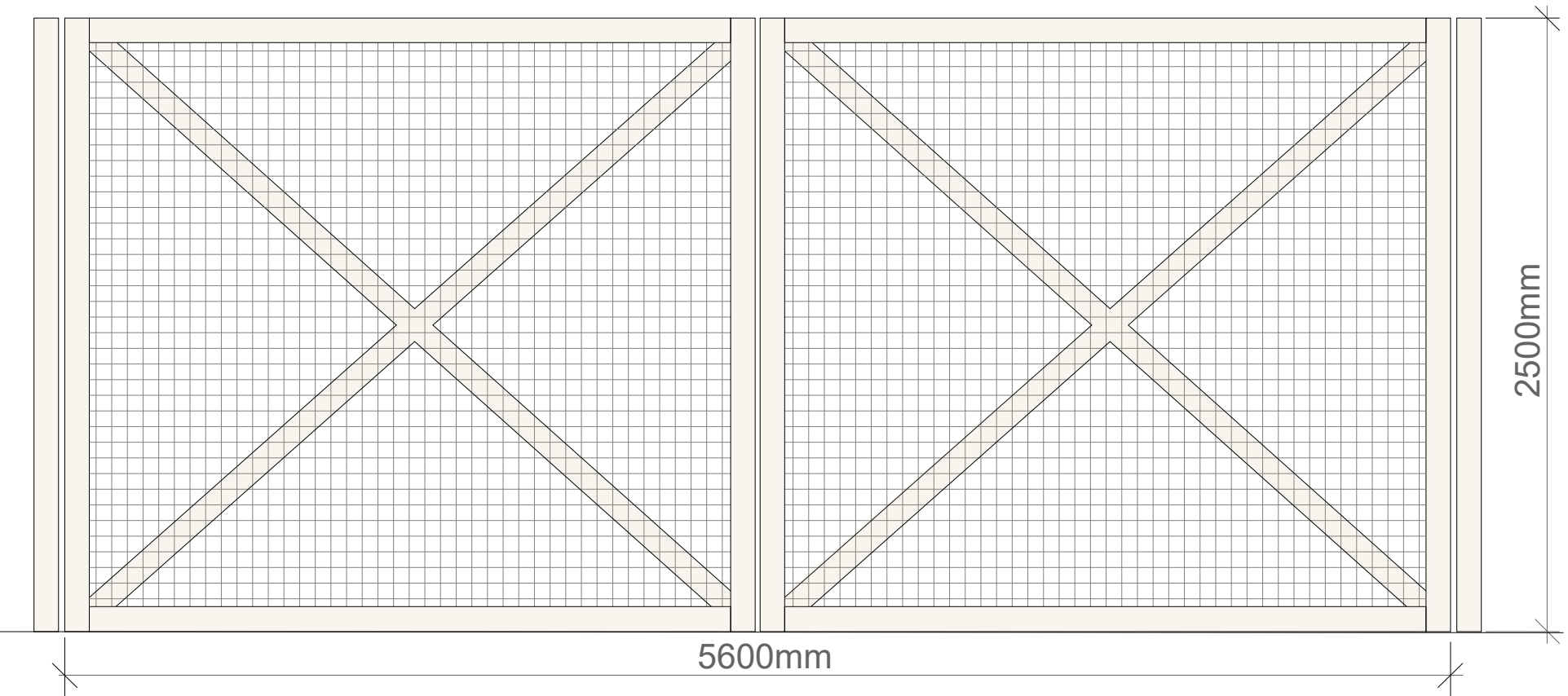


Project:	Cottam Solar Project
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom
Ownership:	Cottam Solar Project Limited
Document Title:	HDD Trench Section for 132kV, 400kV and Fibre Cables
Sheet Format:	A3 420 x 297
Scale:	1:75
Document Version:	v.1 21/12/2022 M.N.
Comments:	
Company:	Island Green Power UK Limited 189 Munster Road, London SW6 6AW

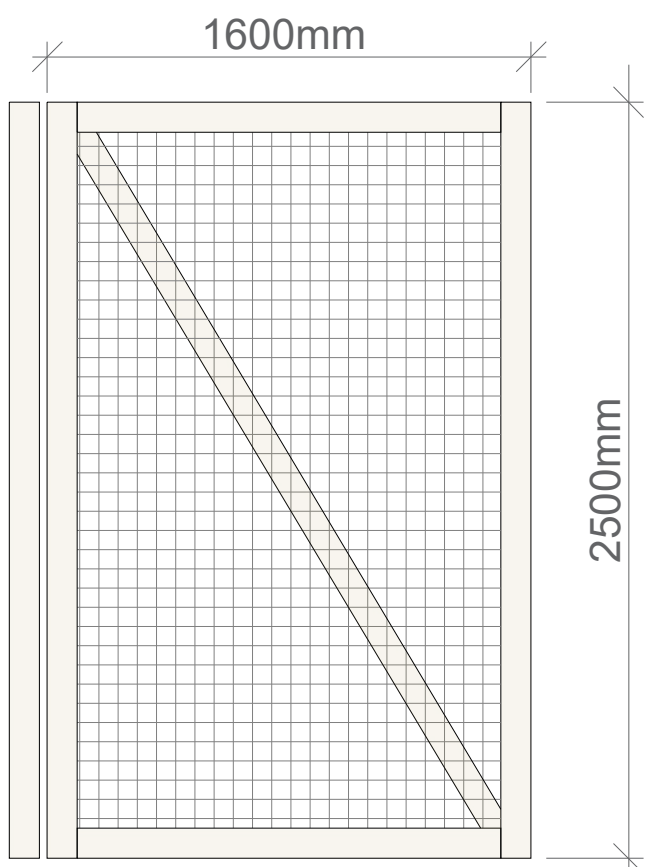
Typical Deer Fencing Panel



Typical Vehicle Gates




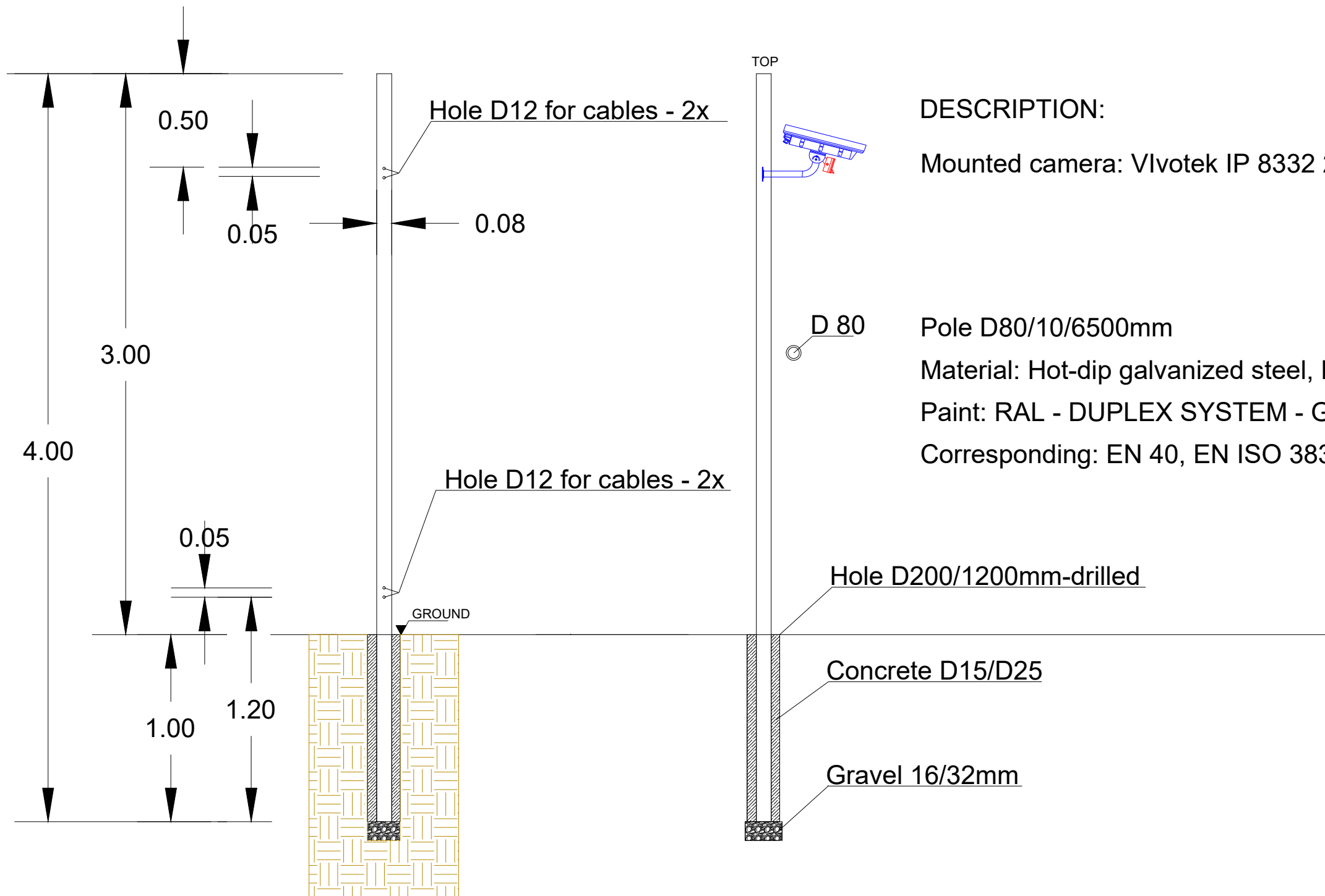
Typical Pedestrian Gate



General Legend:

Symbol	Description

Project:	Cottam Solar Project	
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom	
Ownership:	Cottam Solar Project Limited	
Document Title:	Deer Fencing	
Sheet format:	A3 420 x 297	Scale: 1:25
Document versions:	Rev. 1 (27/10/2022) M.N.	
	Rev. 2 (04/01/2023) M.N.	
Company:	 Island Green Power UK Limited Unit 20.2, Code Studios 189 Munster Road, London SW6 6AW	



Distance between the poles: 50 meters (max.)


General Legend:

Project:	Cottam Solar Project		
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom		
Ownership:	Cottam Solar Project Limited		
Document Title:	Indicative CCTV		
Sheet format:	A3 "420 x 297"	Scale:	1:25
Document amendments:	v.1	13/10/2022	M.N.
Comments:			
Company:	Island GREEN POWER	Island Green Power UK Limited	Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW



General Legend:

Symbol	Description

Project:	Cottam Solar Project West Burton Solar Project	
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom	
Ownership:	Cottam Solar Project Limited West Burton Solar Project Limited	
Document Title:	Substation and Energy Storage - Fence and Gate Elevations	
Sheet format:	A3 "420 x 297"	Scale: 1:50
Document amendments:	v.1 31/10/2022 M.N.	Comments
Company:	 Island Green Power UK Limited Unit 20.2, Coda Studios 189 Munster Road, London SW6 6AW	

100 m *

130 m *

* Dimensions are indicative only

General Legend:	
	Construction Compound Boundary
	Gates
	Reception Area
	Turning Area for Delivery Vehicles
	Laydown Area
	Office and Welfare Unit
	Skip / Water Area
	Storage Containers
	Vehicle Wheel Washers
	Vehicle Swept Path
	Parking Area
	Temporary Track
	Internal Track

Project:	Cottam Solar Project																
Project Location:	Land near Gainsborough, Lincolnshire, United Kingdom																
Overship:	Cottam Solar Project Limited																
Document Title:	Temporary Construction and Decommissioning Laydown Area																
Sheet format:	A3 '420 x 297'	Scale:	1:500														
Document amendments:	<table border="1"><thead><tr><th>v.</th><th>Date</th><th>M.N.</th><th>Comments</th></tr></thead><tbody><tr><td>v.1</td><td>07/11/2022</td><td>M.N.</td><td></td></tr><tr><td>v.2</td><td>21/12/2022</td><td>M.N.</td><td></td></tr><tr><td>v.3</td><td>04/01/2023</td><td>M.N.</td><td></td></tr></tbody></table>	v.	Date	M.N.	Comments	v.1	07/11/2022	M.N.		v.2	21/12/2022	M.N.		v.3	04/01/2023	M.N.	
v.	Date	M.N.	Comments														
v.1	07/11/2022	M.N.															
v.2	21/12/2022	M.N.															
v.3	04/01/2023	M.N.															
Company:	Island Green Power UK Limited Unit 20 Z, Coda Studios 189 Munster Road, London SW6 6AW																