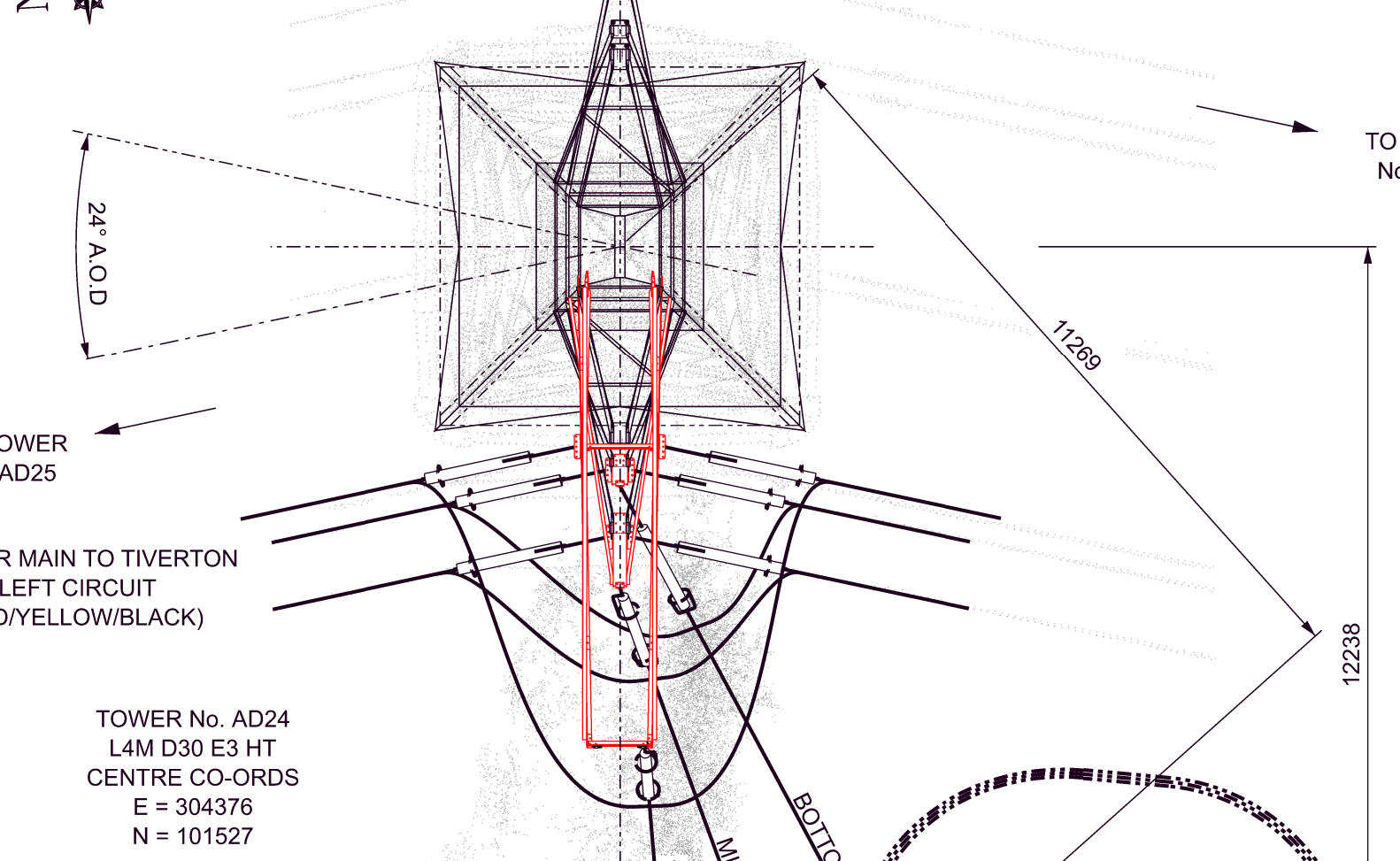
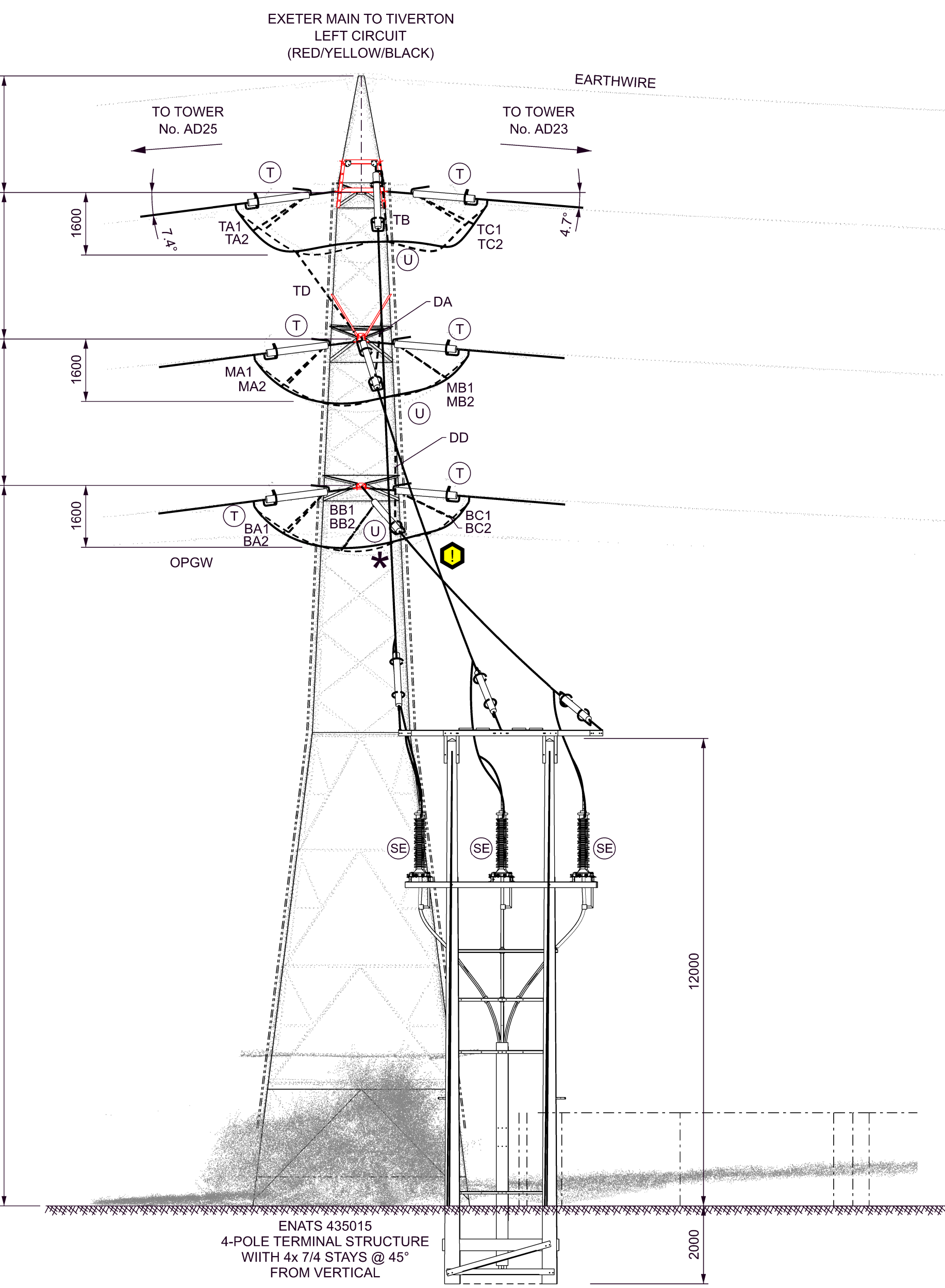


EXETER MAIN TO TIVERTON  
RIGHT CIRCUIT  
(GREEN/BLACK/GREEN)



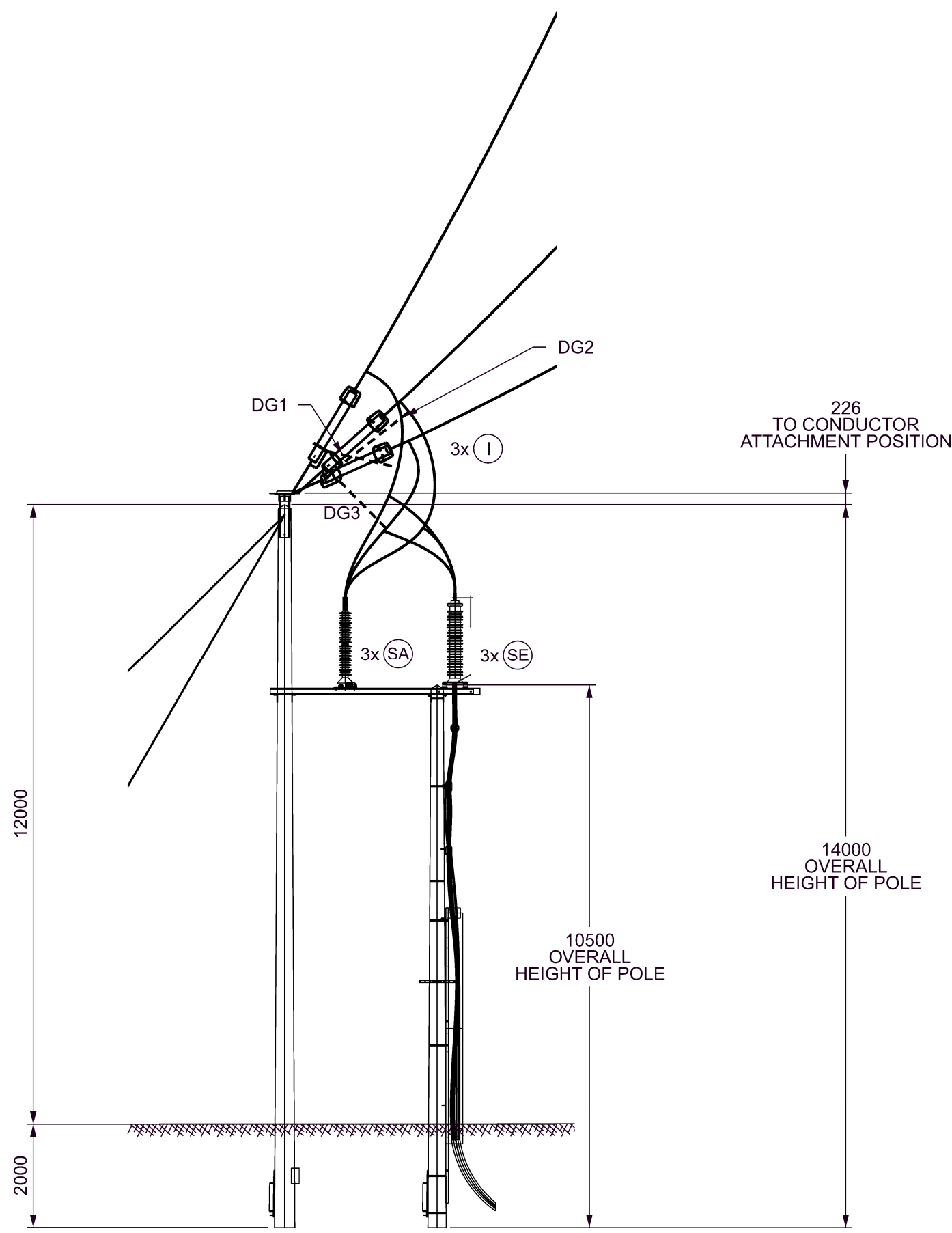
CENTRE OF POLE	CO-ORDINATES
P1	X=304363.84 Y=101525.47
P2	X=304363.67 Y=101522.97
P3	X=304360.90 Y=101525.67
P4	X=304360.73 Y=101523.17

NOTE: SUBSTATION COMPOUND & LAYOUT DIMENSIONS TO CONSIDER 4x STRUCTURE SUPPORT STAYS AND THE EMBEDMENT DEPTH OF THE STAY BLOCKS

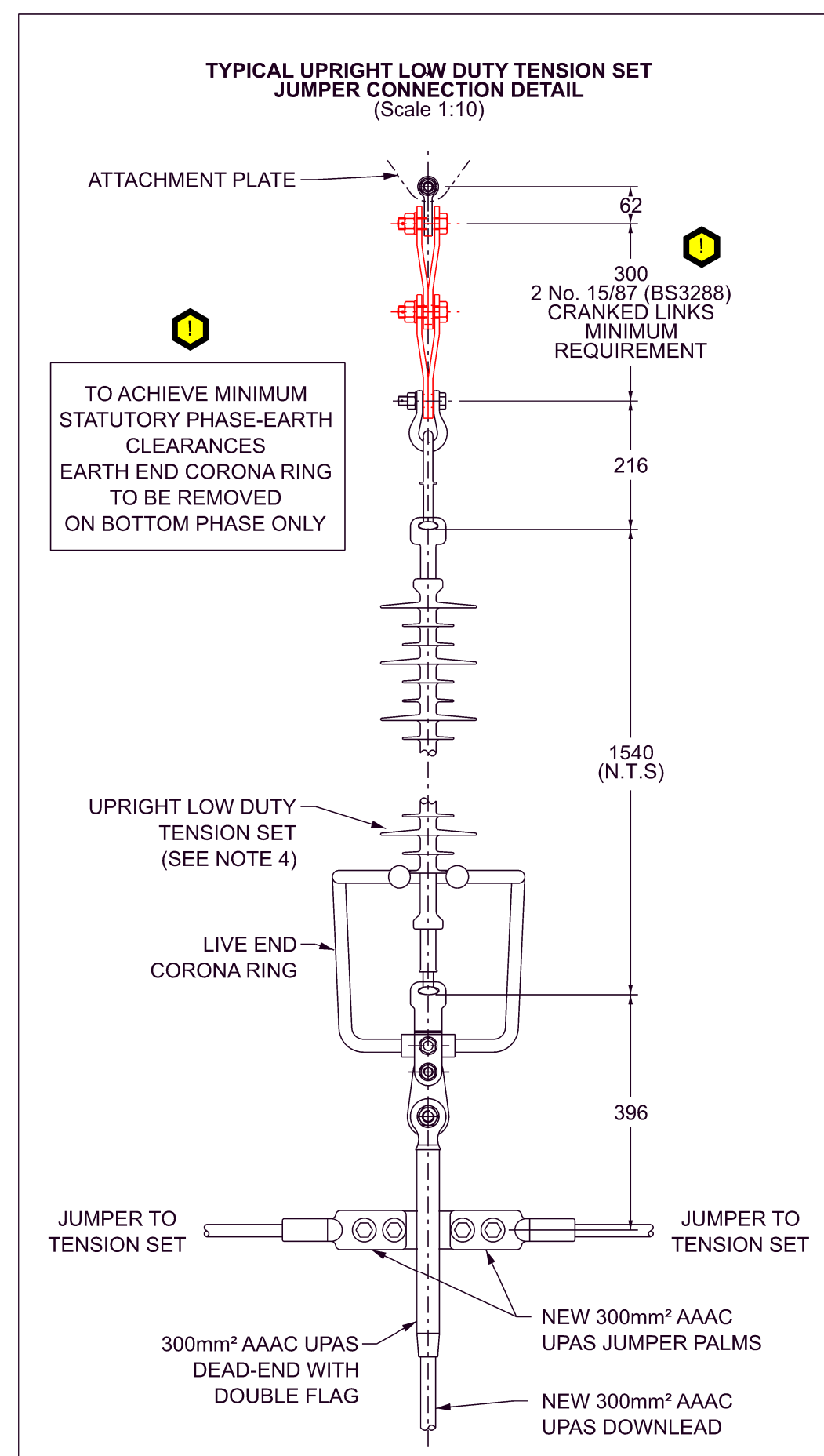


LONGITUDINAL ELEVATION  
(FAR CIRCUIT OMITTED FOR CLARITY)

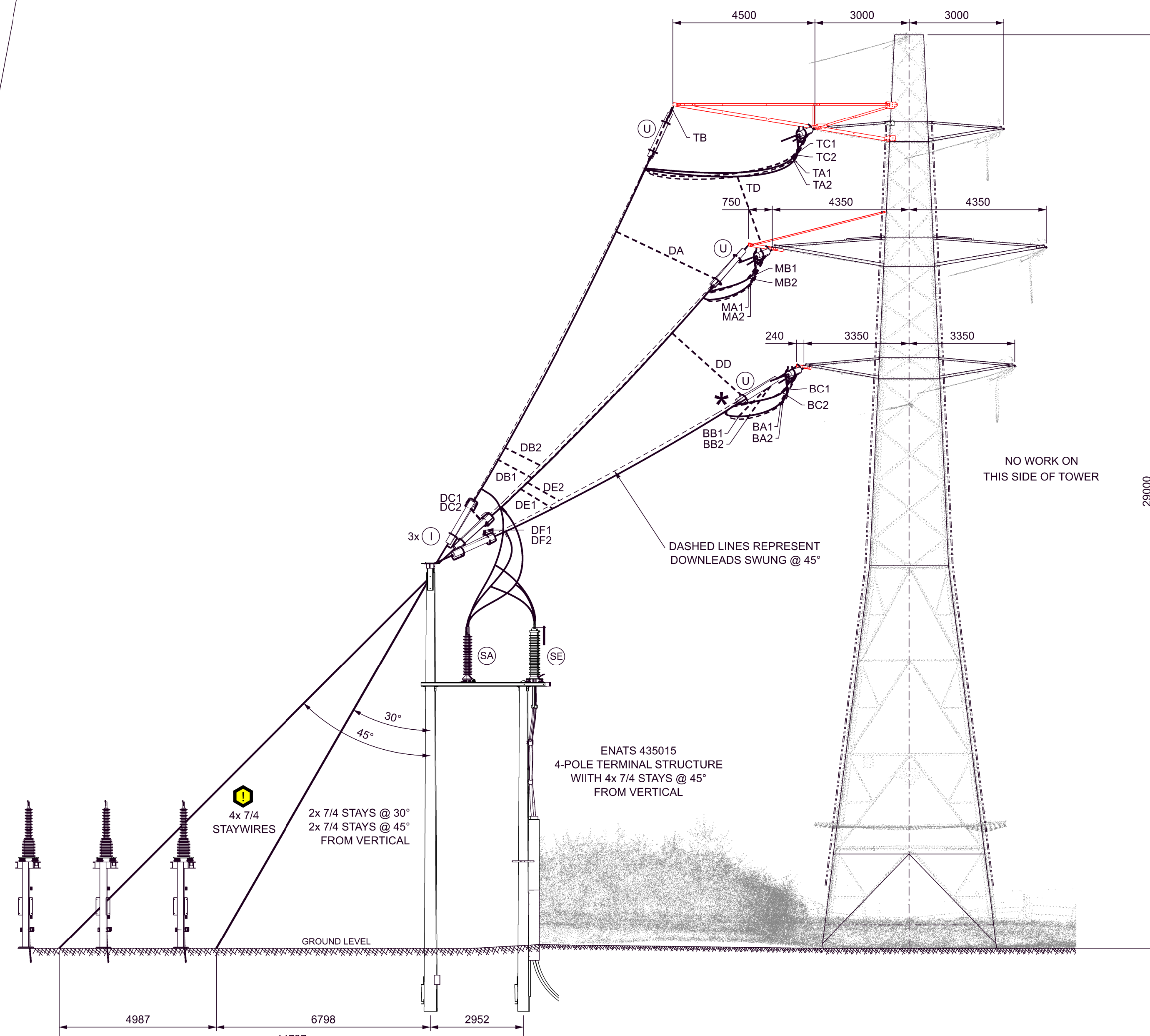
PLAN VIEW



VIEW ON ARROW 'A'  
SIDE ELEVATION OF 4-POLE TERMINAL STRUCTURE



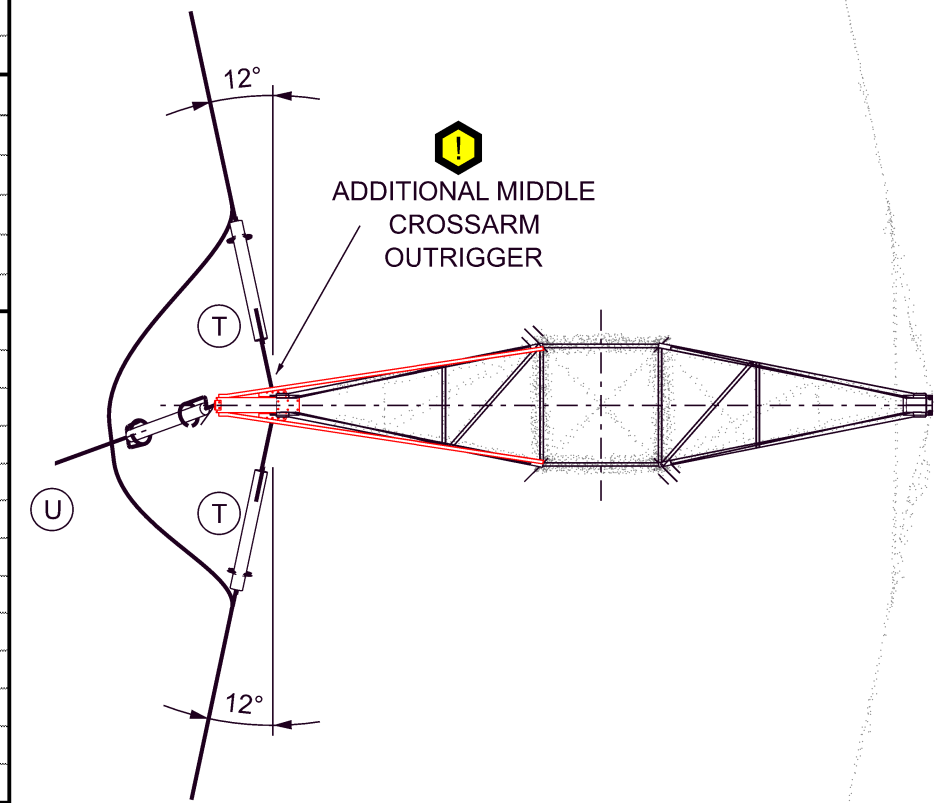
TYPICAL UPRIGHT LOW DUTY TENSION SET  
JUMPER CONNECTION DETAIL  
(Scale 1:10)



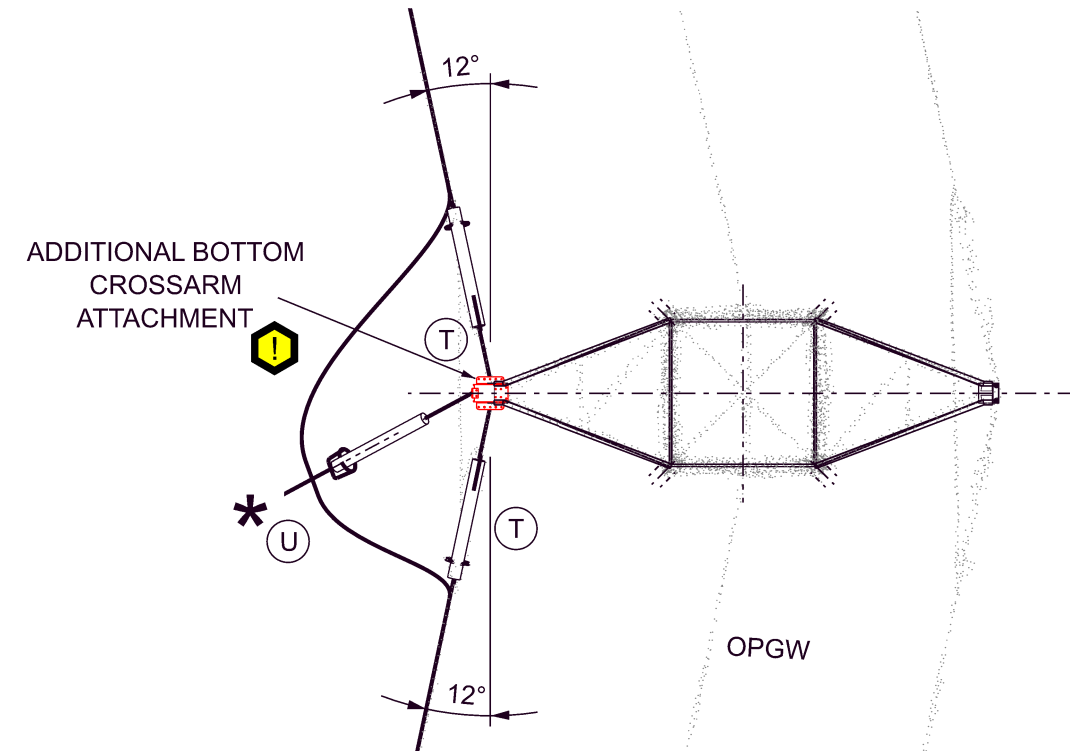
TRANSVERSE ELEVATION

CLEARANCE TABLE						
GROUP	REF	TYPE	CONDITION	DISTANCE	REQUIRED	CLEAR BY
TOP PHASE	TA1	PH-E	STILL AIR	1685	1220	446
	TA2	PH-E	SWUNG @ 30°	1483	760	723
	TB	PH-E	STILL AIR	2193	1220	973
	TC1	PH-E	STILL AIR	1686	1220	466
	TC2	PH-E	SWUNG @ 20°	1524	760	764
MIDDLE PHASE	MA1	PH-E	STILL AIR	1686	1220	390
	MA2	PH-E	SWUNG @ 20°	1477	760	717
	MB1	PH-E	STILL AIR	1629	1220	409
	MB2	PH-E	SWUNG @ 20°	1532	760	772
	BA1	PH-E	STILL AIR	1579	1220	359
BOTTOM PHASE	BA2	PH-E	SWUNG @ 20°	1438	760	678
	BB1	PH-E	STILL AIR	1785	1220	565
	BB2	PH-E	SWUNG @ 20°	1709	760	949
	BC1	PH-E	STILL AIR	1689	1220	469
	BC2	PH-E	SWUNG @ 20°	1600	760	840
DOWNLEADS	DA	PH-PH	STILL AIR	3418	2500	918
	DB1	PH-PH	SWUNG @ 45°	1966	1500	466
	DB2	PH-PH	SWUNG @ 45°	1865	1500	365
	DC1	PH-PH	SWUNG @ 45°	1830	1500	330
	DC2	PH-PH	SWUNG @ 45°	1822	1500	322
	DD	PH-PH	STILL AIR	2964	2500	454
	DE1	PH-PH	SWUNG @ 45°	1810	1500	310
	DE2	PH-PH	SWUNG @ 45°	1709	1500	209
	DF1	PH-PH	SWUNG @ 45°	1925	1500	425
	DF2	PH-PH	SWUNG @ 45°	1915	1500	415
DOWNLEADS	DG1	PH-PH	STILL AIR	1410	1220	190
	DG2	PH-PH	STILL AIR	1725	1220	505
	DG3	PH-PH	STILL AIR	1329	1220	109

PLAN ON TOP CROSSARMS



PLAN ON MIDDLE CROSSARMS



PLAN ON BOTTOM CROSSARMS

REV  
A

DATE  
24/02/2025

BY  
RJH

CHKD  
RF

APPR  
JHC

DESCRIPTION  
FIRST ISSUE

GENERAL NOTES:  
1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) U.N.O.  
2. PHASE CONDUCTOR:  
UPAS 300mm<sup>2</sup> AAAC 75°C AND 90°C MAXIMUM OPERATING TEMPERATURE.  
3. ALL ELECTRICAL CLEARANCES CHECKED USING A TRUE 3D TOWER MODEL BASED UPON BLANK KNOX TOWER DRAWING L4m D30 STD BK3520637 & LSTC LIDAR SCAN DATA (JAN 2024)  
4. INSULATOR SET DETAILS BASED ON LSTC DRAWINGS. (70 SUIT UPAS CONDUCTOR)  
TENSION SETS:  
LSTC DRG No.52\_NGED\_ISD\_236  
UPRIGHT LOW DUTY TENSION SETS:  
LSTC DRG No.52\_NGED\_ISD\_237  
COMPRESSION DEAD-END COMPLETE WITH DOUBLE JUMPER PALMS  
INVERTED LOW DUTY TENSION SETS:  
LSTC DRG No.52\_NGED\_ISD\_238  
5. 132kV CLEARANCES IN ACCORDANCE WITH EN43-125:  
MINIMUM PHASE TO EARTH:  
1220mm IN STILL AIR  
760mm JUMPER SWUNG UP TO 20° FROM VERTICAL  
MINIMUM PHASE TO PHASE:  
2500mm IN STILL AIR  
1500mm ON CONSIDERATION OF SWUNG CONDITIONS  
MINIMUM PHASE TO PHASE (AT THE SUPPORT):  
1350mm IN STILL AIR  
840mm ON CONSIDERATION OF SWUNG CONDITIONS  
6. 132kV SUBSTATION CLEARANCES IN ACCORDANCE WITH TS 2.01:  
2900mm HORIZONTAL DESIGN CLEARANCE FOR SAFETY (DSH)  
3800mm VERTICAL DESIGN CLEARANCE FOR SAFETY (DS)  
2400mm INSULATION HEIGHT (PEDESTRIAN ACCESS)  
7. DOWNLEAD SAGS BASED UPON A MAXIMUM AVERAGE TANGENTIAL TENSION PER SUB-CONDUCTOR AT 15°C (INCLUDING ALLOWANCE FOR INSULATOR SET WEIGHTS) AND A MAXIMUM OPERATING TEMPERATURE OF 75°C.  
NOMINAL MID-POINT SAG VALUES AS FOLLOWS:  
RED/YELLOW/BLACK CIRCUIT  
TOP - 0.7m (AT 1.5kN)  
MIDDLE - 0.51m (AT 1.5kN)  
BOTTOM - 0.45m (AT 1.5kN)  
8. INCOMING CONDUCTOR ANGLES TAKEN FROM LSTC SCAN SURVEY DATA  
9. PROPOSED SUBSTATION FENCE POSITION TO BE CONFIRMED  
10. PROPOSED SUBSTATION LEVEL TO BE CONFIRMED  
CURRENTLY BASED ON LSTC SCAN SURVEY DATA OF SURROUNDING EXISTING GROUND  
11. CIRCUIT IDs:  
LEFT CIRCUIT - RED/YELLOW/BLACK  
RIGHT CIRCUIT - GREEN/BLACK/GREEN  
12. SUBSTATION HAS BEEN POSITIONED AS PER WPD DRAWING, DIAGRAM 1 - PERADON FARM  
FINAL DETAILS TO BE CONFIRMED.  
SEE WPD DRAWING No. GC5019-1  
13. SUBSTATION COMPOUND SHOWN AS INDICATIVE ONLY  
REQUIRED TO SUIT NEW DOWNLEAD STEELWORK SEE DRAWINGS:  
15\_LSTC\_GAED\_145  
16\_LSTC\_ML\_065  
17\_LSTC\_PSD\_071  
14. FOR DETAILS OF MODIFICATIONS TO L4m D30 TYPE TOWER REQUIRED TO SUIT NEW DOWNLEAD STEELWORK SEE DRAWINGS:  
GAWED FOR TOWER MODIFICATIONS & STRENGTHENING FOR L4m D30 TYPE TOWERS:  
15\_LSTC\_GAED\_145  
16\_LSTC\_ML\_065  
17\_LSTC\_PSD\_071  
MATERIAL LIST FOR TOWER MODIFICATIONS & STRENGTHENING FOR L4m D30 TYPE TOWERS:  
15\_LSTC\_GAED\_145  
16\_LSTC\_ML\_065  
17\_LSTC\_PSD\_071  
PSD BOOK FOR TOWER MODIFICATIONS & STRENGTHENING FOR L4m D30 TYPE TOWERS:  
15\_LSTC\_GAED\_145  
16\_LSTC\_ML\_065  
17\_LSTC\_PSD\_071

KEY:

AB

ANCHOR BLOCK

U

UPRIGHT LOW DUTY TENSION SET

T

TENSION SET

I

INVERTED LOW DUTY TENSION SET

SE

SEALING END

SA

SURGE ARRESTER

DESIGN NOTE

FOCAL POINT OF DESIGN  
(E.G. NEW STEELWORK, ADDITIONAL LINKS, ETC.)  
ARE IDENTIFIED BY THIS SYMBOL.

CDM RESIDUAL RISK

DESIGN BASED HAZARDS ARE ACTIVELY ELIMINATED WHERE PRACTICAL  
WHERE HAZARDS ARE NOT ELIMINATED THEY ARE IDENTIFIED BY THIS SYMBOL.

HAZARDS / RISKS THAT SHOULD BE CONSIDERED BY A COMPETENT CONTRACTOR ARE NOT IDENTIFIED

IF IN DOUBT ASK ENGINEER / DESIGN OFFICE

VIEW CONVENTION  
THIRD ANGLE

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CLIENT

nationalgrid

Electricity Distribution

PROJECT

PERADON FARM 132kV POC

TITLE

132kV WIRE CLEARANCE DIAGRAM FOR EXISTING TOWER No. AD24 (L4m D30 E3 HEIGHT) WITH OUTRIGGERS TO SUIT DOWNLEAD TO 4-POLE TERMINAL STRUCTURE CONNECTION

SCALE

1:100 (UNO)

DESIGNED

TL

DATE

31/01/2025

CHECKED

RF

DRAWN

RJH

APPROVED

JHC

ORIGINAL DRAWING NUMBER

17\_240967\_05

REV

A