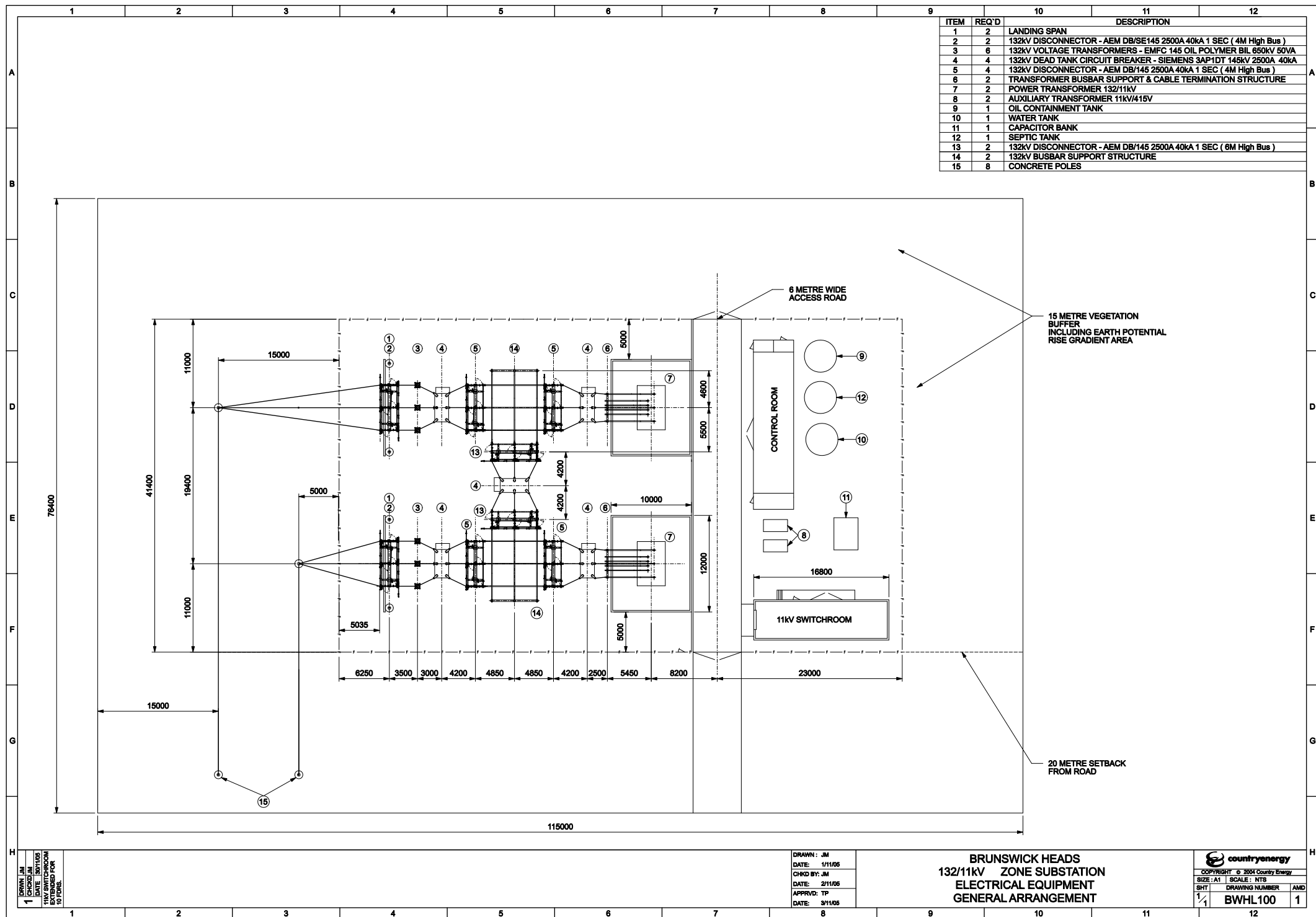


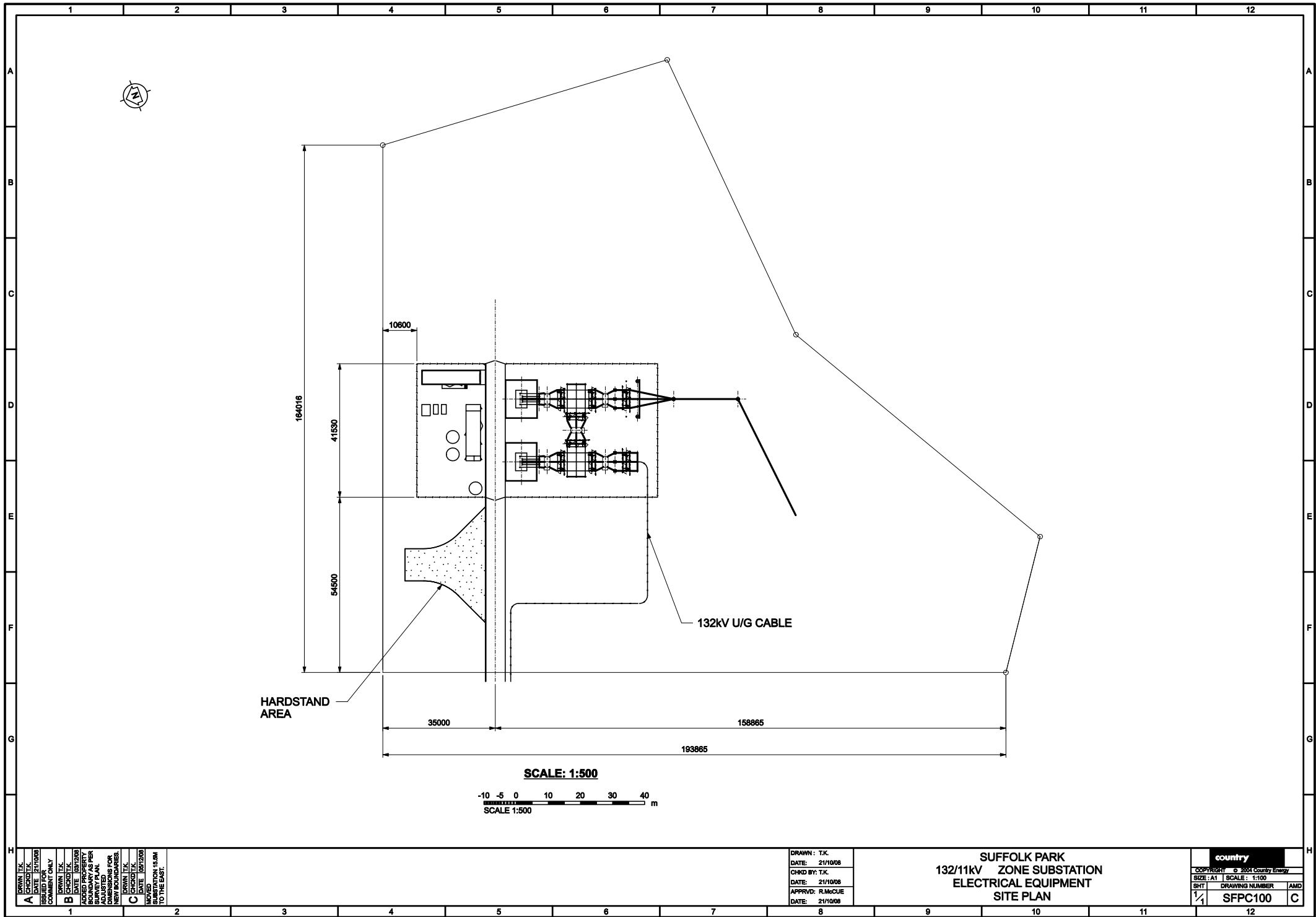
Annex G

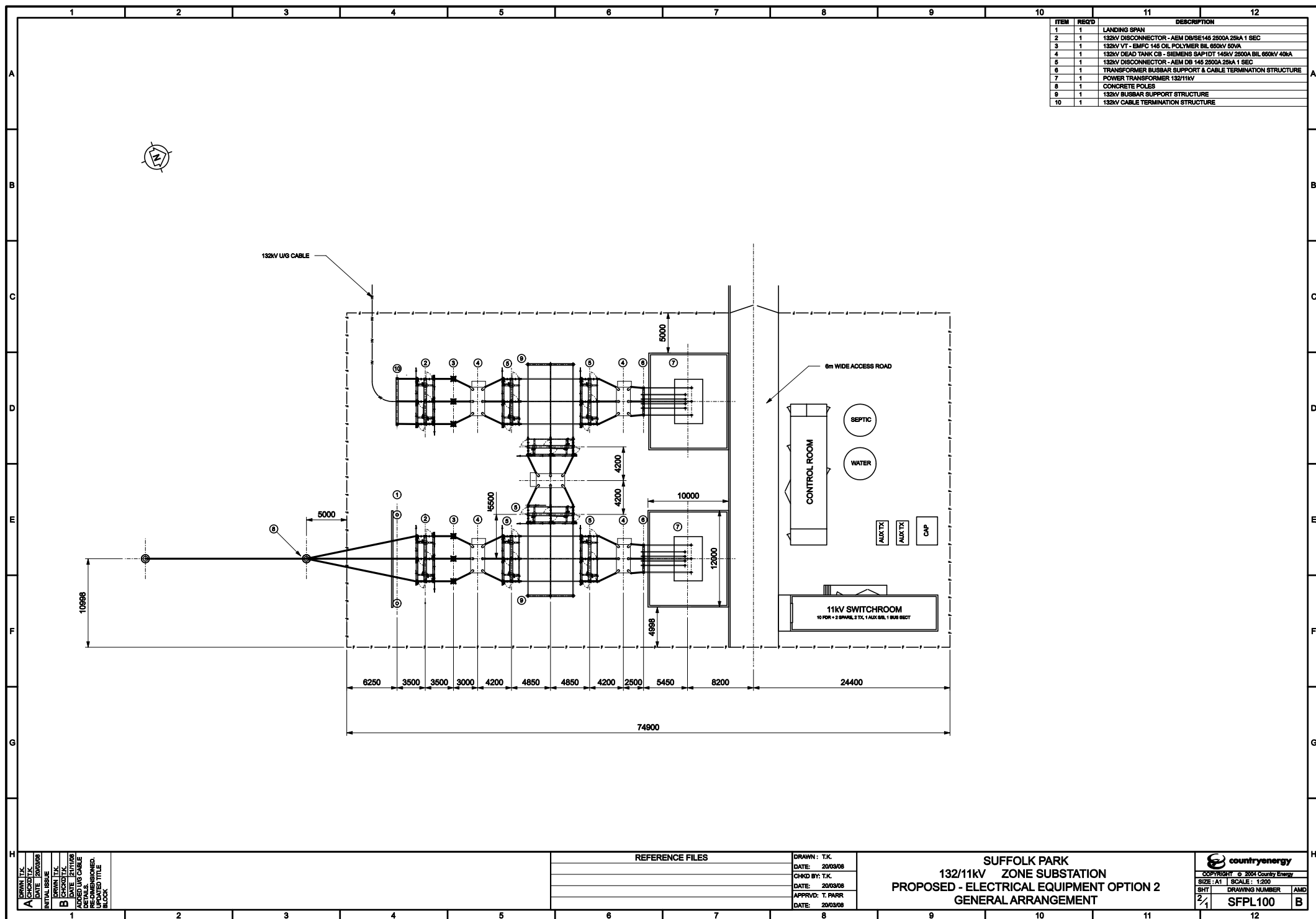
Substation Plans

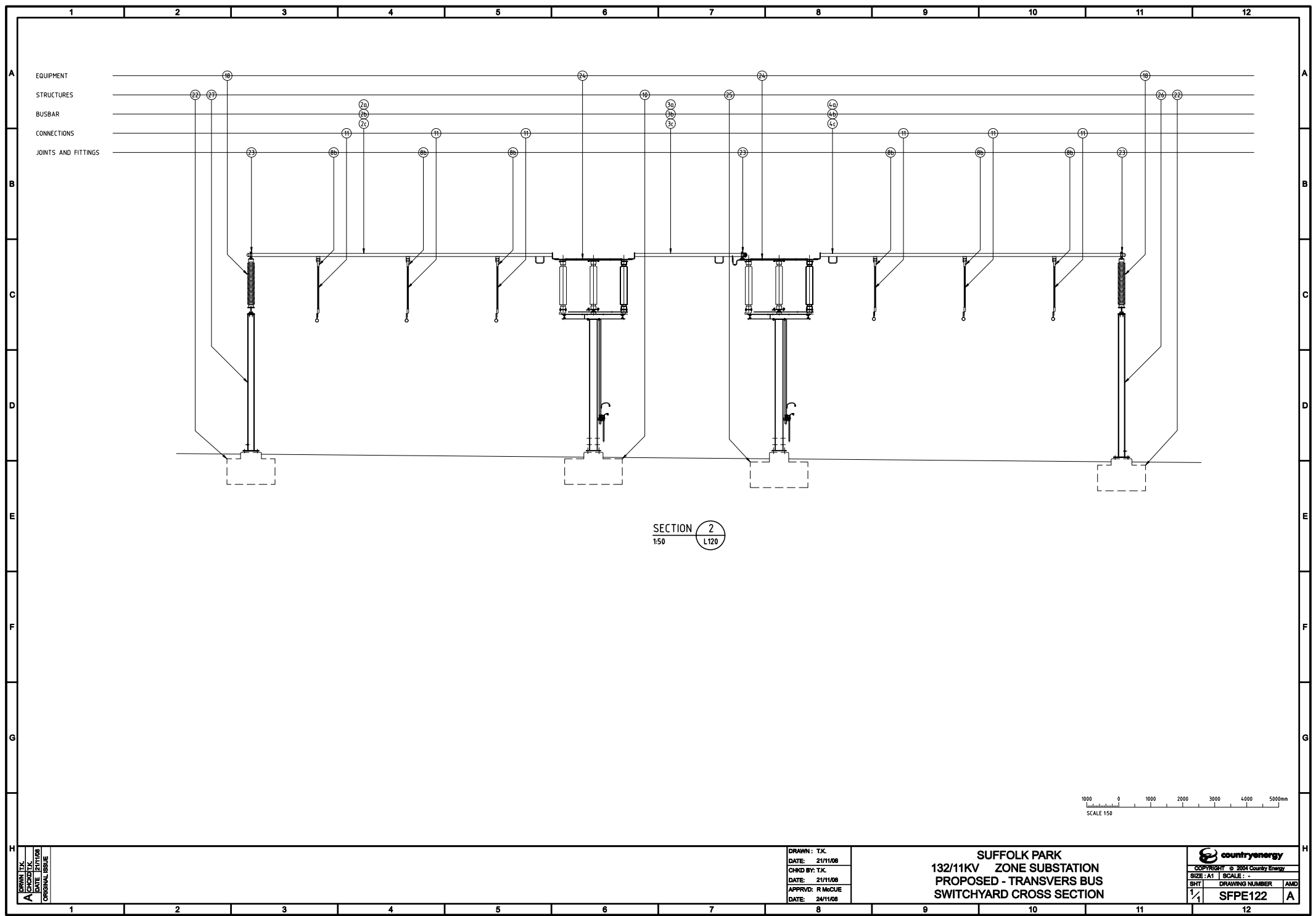
Brunswick Heads Substation

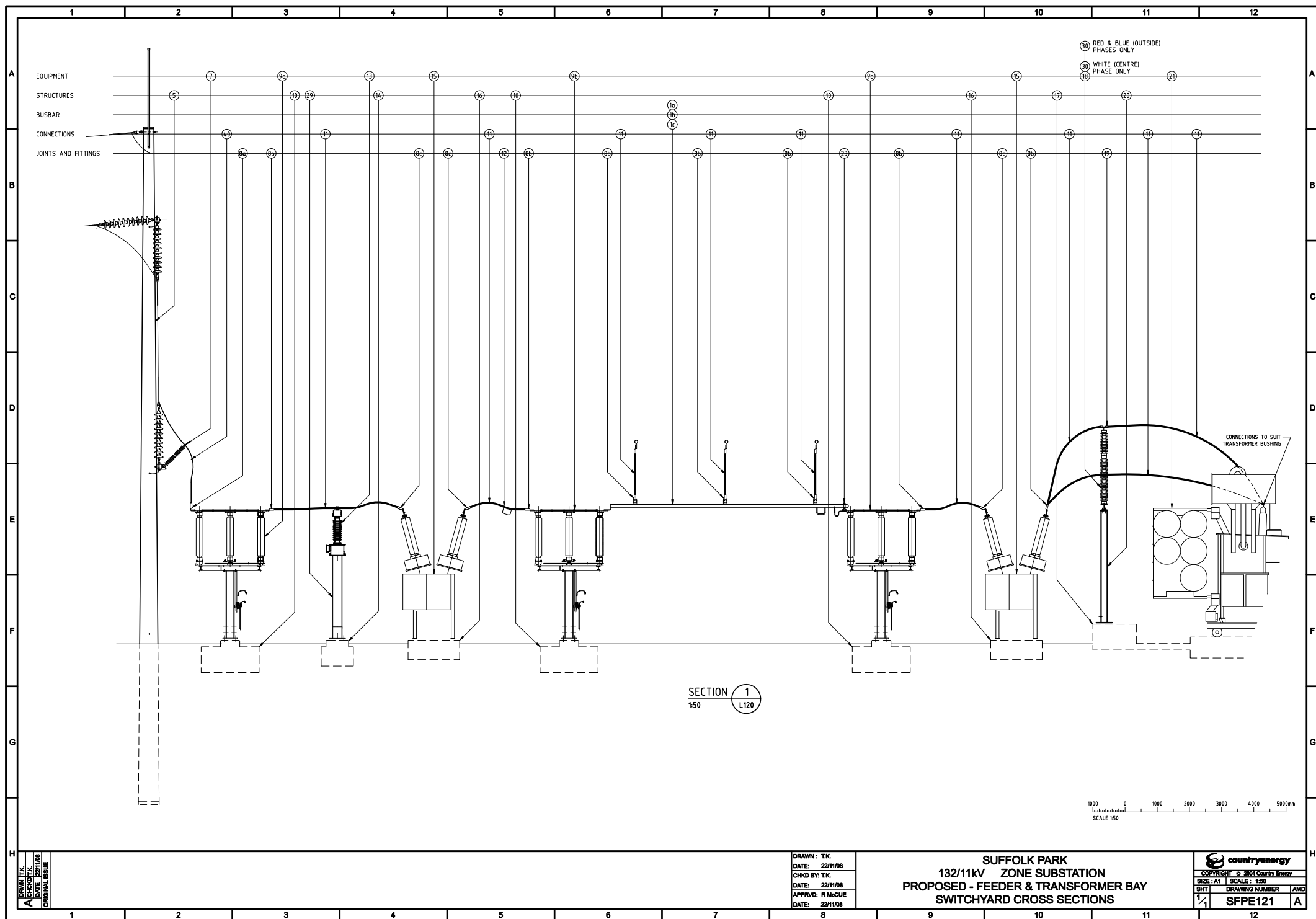


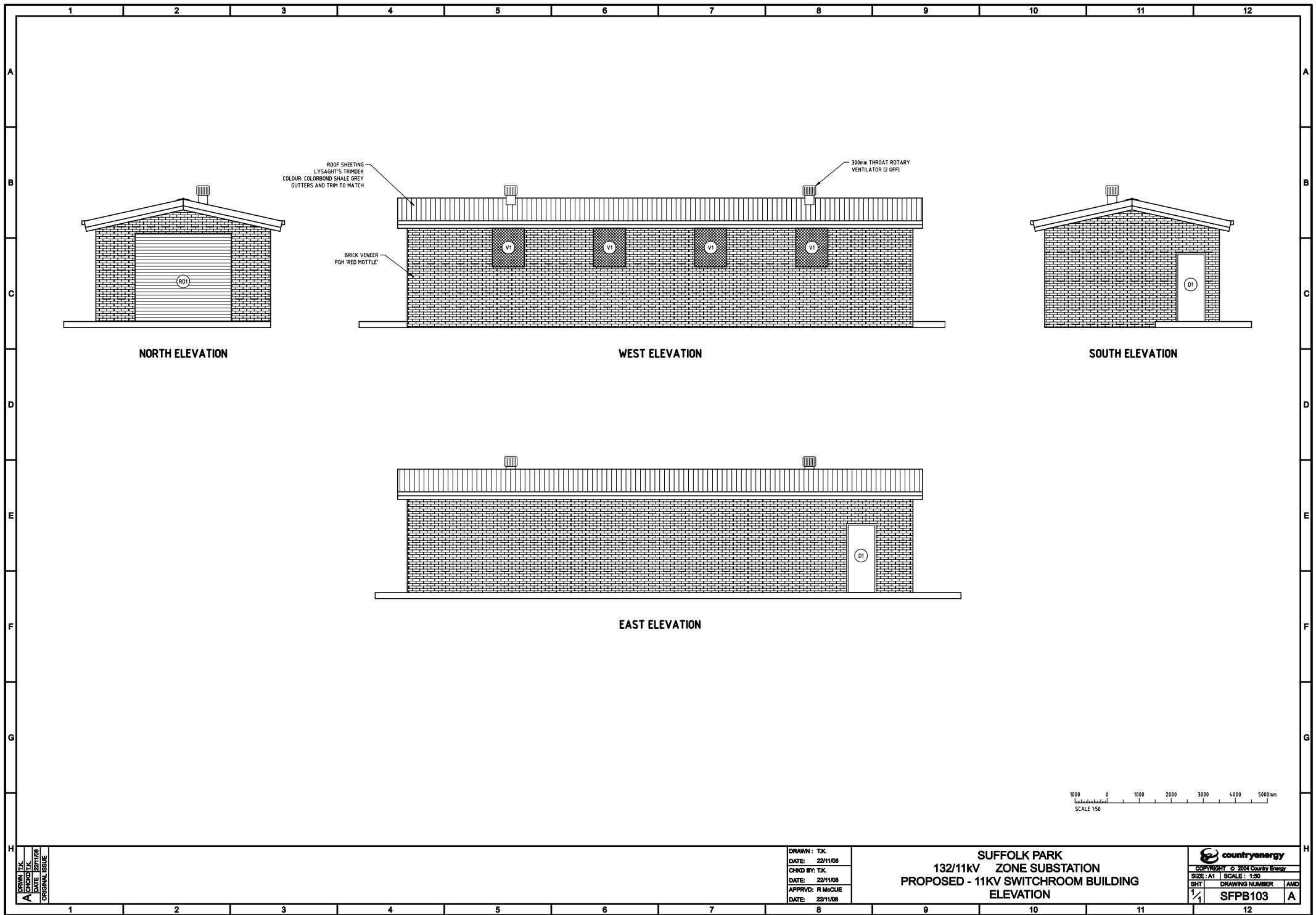
Suffolk Park Substation

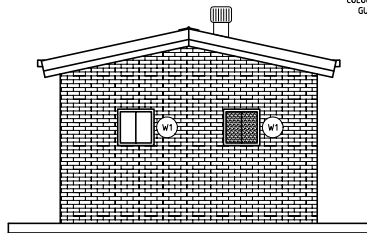








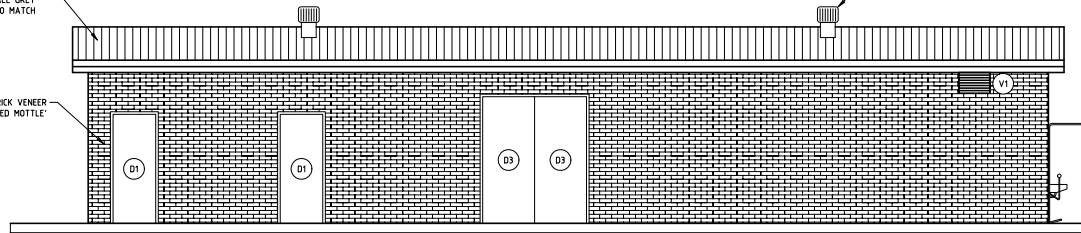




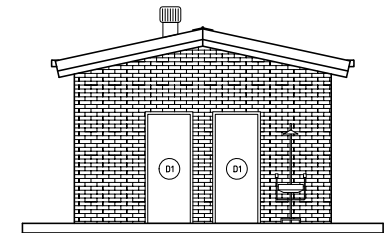
NORTH ELEVATION

ROOF SHEETING
LYSAGHT'S TRIMDEK
COLOUR: COLORBOND SHALE GREY
GUTTERS AND TRIM TO MATCH

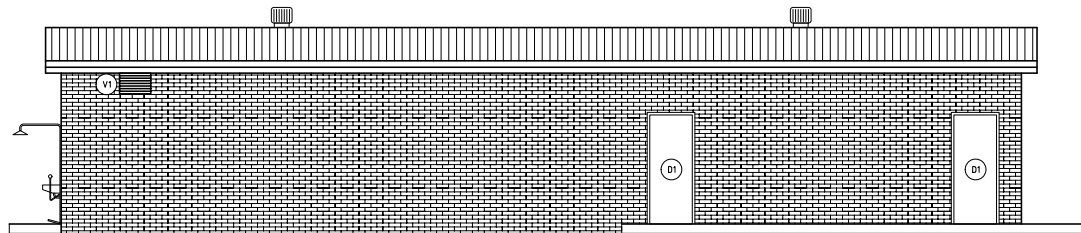
BRICK VENEER
PGH 'RED MOTTLE'



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

1000 0 1000 2000 3000 4000 5000mm
SCALE 150

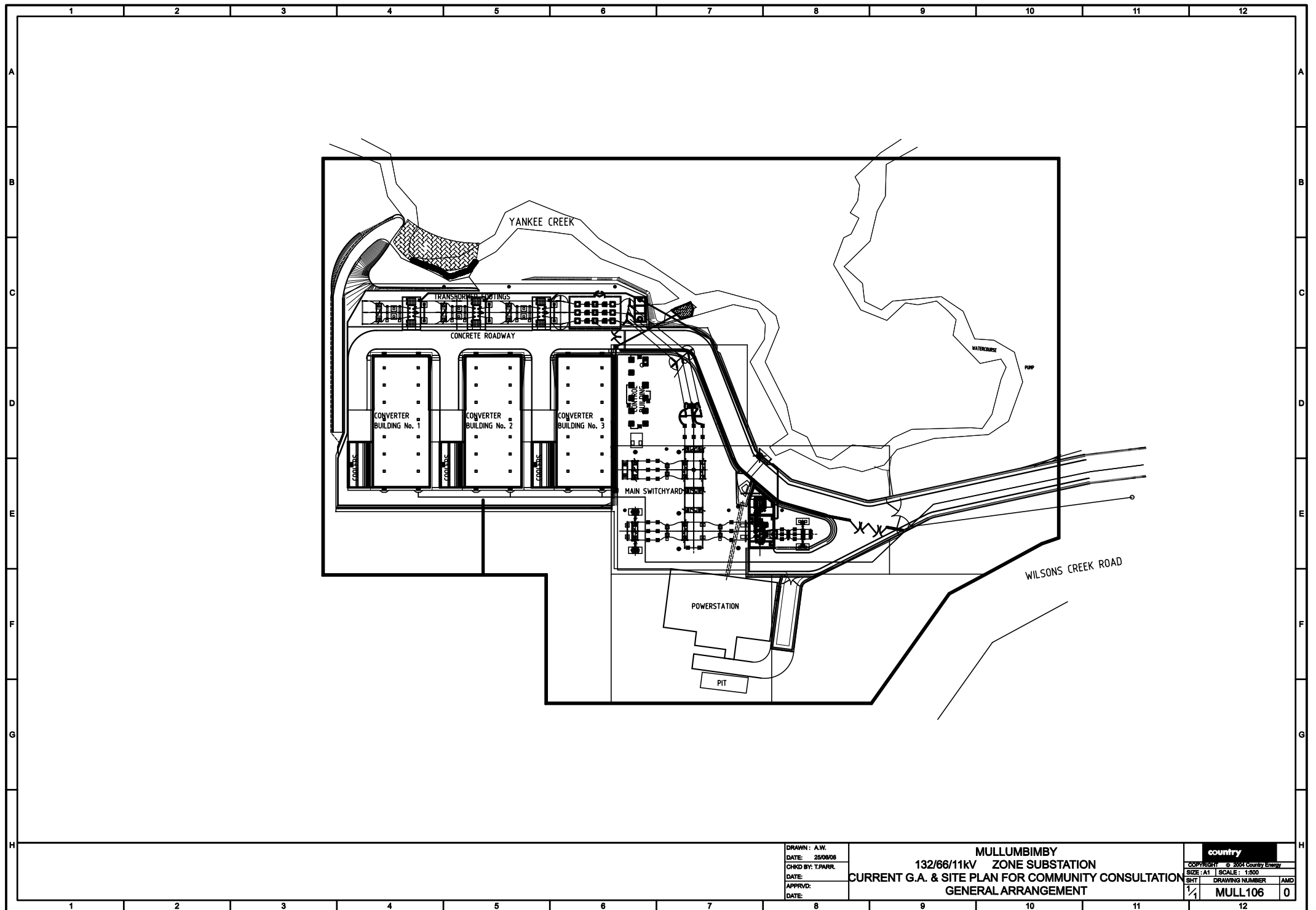
DRAWN: T.K.
CHECKED: T.K.
DATE: 22/11/08
ORIGINAL ISSUE

DRAWN: T.K.
DATE: 22/11/08
CHKD BY: T.K.
DATE: 22/11/08
APPRVD: R. McCUE
DATE: 22/11/08

SUFFOLK PARK
132/11kV ZONE SUBSTATION
PROPOSED - CONTROL ROOM BUILDING
ELEVATIONS

countryenergy
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SIZE: A1 SCALE: 1:50
SHT 1/1 DRAWING NUMBER SFPB108 AMD A

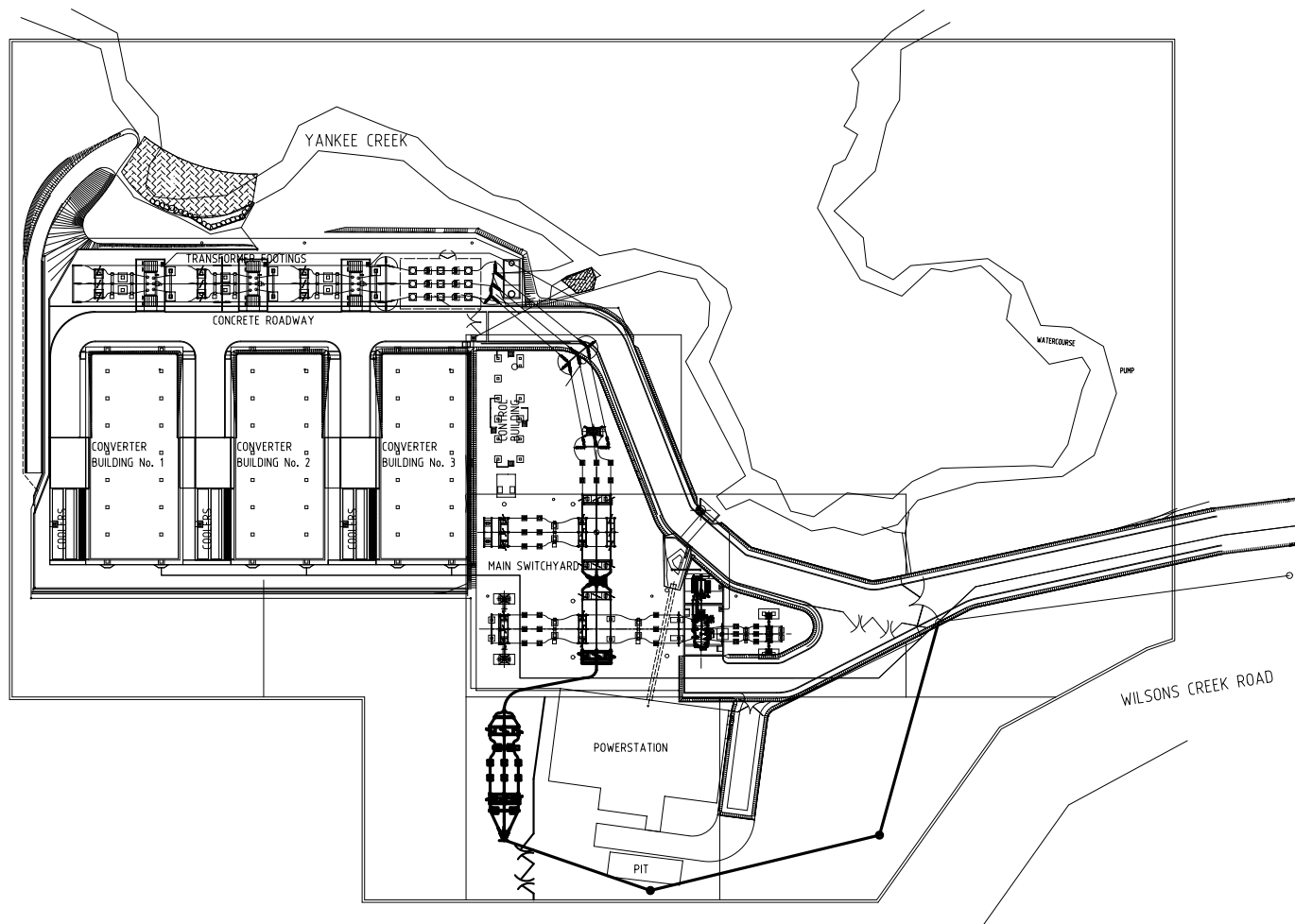
Mullumbimby Substation



DRAWN: A.W.
DATE: 25/06/08
CHKD BY: T.PARR
DATE:
APPRVD:
DATE:

MULLUMBIMBY
132/66/11kV ZONE SUBSTATION
CURRENT G.A. & SITE PLAN FOR COMMUNITY CONSULTATION
GENERAL ARRANGEMENT

country
COPYRIGHT © 2004 Country Energy
SIZE: A1 SCALE: 1:500
SHT 1/1 DRAWING NUMBER MULL106 AMD 0

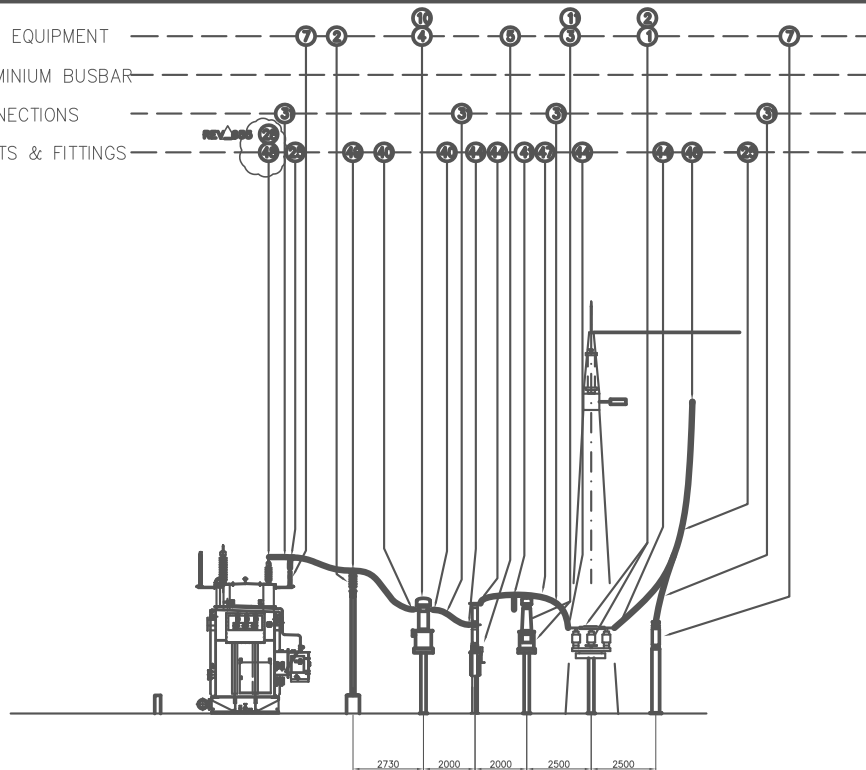


DRAWN: A.W.
 DATE: 25/06/06
 CHKD BY: T.PARR.
 DATE:
 APPRVD:
 DATE:

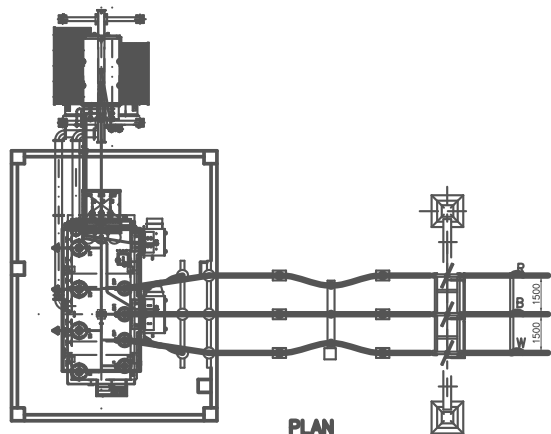
MULLUMBIMBY
132/66/11kV ZONE SUBSTATION
FUTURE G.A. & SITE PLAN FOR COMMUNITY CONSULTATION
GENERAL ARRANGEMENT

country
 COPYRIGHT © 2004 Country Energy
 SIZE: A1 SCALE: 1:500
 SHT DRAWING NUMBER AMD
 1/1 MULL105 0

MAIN EQUIPMENT
ALUMINIUM BUSBAR
CONNECTIONS
JOINTS & FITTINGS



ELEVATION



PLAN

3	49	SINGLE 508mm* CONDUCTOR FIXED SUPPORT TO POST INSULATOR
3	48	SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 45° OFFSET PALM 4 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
3	47	SINGLE 508mm* CONDUCTOR TO VERTICAL PALM - 2 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
3	46	BOLTED TEE CONNECTOR
12	44	SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 4 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
3	41	SINGLE 508mm* CONDUCTOR - PORTABLE EARTHING STIRRUP
6	40	SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 4 x M12 BOLTS AT 50mm CENTRES PER TERMINAL

105m	31	SINGLE 508mm* ACSR CONDUCTOR
------	----	------------------------------

3	28	RIGHT ANGLE TERMINAL LUG 30mm DIA STUD DULMISON LS25 - TINNED COPPER
3	25	PARALLEL GROOVE CLAMP

1	11	MARSHALLING BOX - VOLTAGE TRANSFORMER
1	10	MARSHALLING BOX - CURRENT TRANSFORMER

6	7	SURGE DIVERTER - 66kV
1	5	CIRCUIT BREAKER - 66kV
3	4	CURRENT TRANSFORMER - 66kV
3	3	VOLTAGE TRANSFORMER - 66kV
12	2	POST INSULATOR - 127mm PCD OUTDOOR STANDARD DUTY
1	1	ABB DWG No 952130 LINE ISOLATOR - 66kV WITH ONE 66kV EARTH SWITCH

REQ'D ITEM	REFERENCE	DESCRIPTION
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BRW
Burns and Roe Worley Pty Limited
ACH 000 886 313

Level 8, 621 Pacific Hwy, St Leonards, NSW, 2070
Tel: 61 2 9439 1288 Fax: 61 2 9439 1289

PROJECT NO 24/08101

North Power

MULLUMBIMBY 132/66/11KV SUBSTATION
66kV TRANSFORMER AND LINE BAY
5.ARRANGEMENT

SCALE 1 : 100	DRN	B.F.	ENG	M.M.	DRAWING No.	REV
DATE 22.03.99	DRG	CHK	CHK	APPD	M.M.	8101-M-E-010

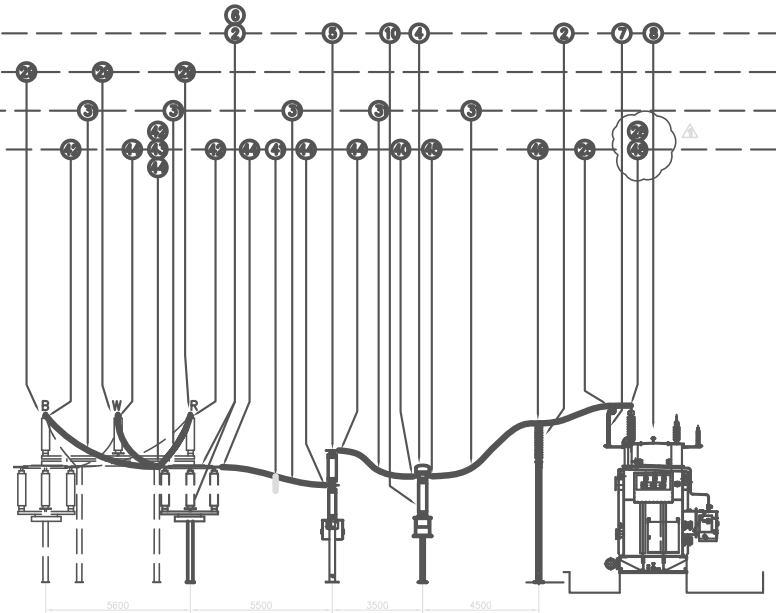
2	18/11/98	BCM					PHASING ADJUSTMENTS
1	5.8.99	B.R.					ITEM NUMBERS 28 & 48 ADDED.
0	23.7.98	B.R.					ISSUED FOR CONSTRUCTION
D	11.6.99	WR					ISSUED FOR TENDER
C	21.5.99	WR					ITEM Nos REVISED
B	30.3.98	B.R.					ISSUED FOR CLIENT COMMENT
A	29.3.98	B.R.					ISSUED FOR CHECK PRINT

REFERENCE DRAWINGS

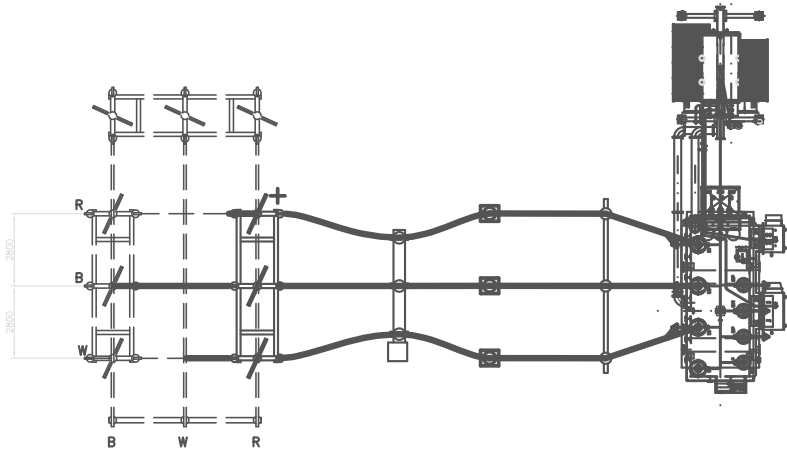
REVISION DETAILS

REV	DATE	DRN	ENG	CHK	APPD	CLIENT
-----	------	-----	-----	-----	------	--------

MAIN EQUIPMENT
ALUMINIUM BUSBAR
CONNECTIONS
JOINTS & FITTINGS



ELEVATION



PLAN

NOTES
1. + DENOTES LOCATION OF ISOLATOR OPERATING HANDLE.
* DENOTES LOCATION OF EARTH SWITCH OPERATING HANDLE.

6	49		SINGLE 508mm* ACSR CONDUCTOR - FIXED SUPPORT TO POST INSULATOR TOP
3	48		SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 45° OFFSET PALM 4 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
3	45		SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 90° OFFSET PALM 4 x M12 BOLTS AT 60mm CENTRES PER TERMINAL
11	44		SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 4 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
1	43		SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 90° OFFSET PALM 4 x M16 BOLTS AT 60mm CENTRES
3	42		SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 45° OFFSET PALM 4 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
3	41		SINGLE 508mm* CONDUCTOR - PORTABLE EARTHING STIRRUP
3	40		SINGLE 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 4 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
90m	31		SINGLE 508mm* ACSR CONDUCTOR
29	100mm OD x 4mm		ALUMINIUM TUBE
3	28		RIGHT ANGLE TERMINAL LUG 30mm DIA STUD DULMISON LS25 - TINNED COPPER
3	25		PARALLEL GROOVE CLAMP
1	10		MARSHALLING BOX - CURRENT TRANSFORMER
1	8		TRANSFORMER - 132kV
3	7		SURGE DIVERTER - 132kV
1	6	ABB DWG No 95204	BUS ISOLATOR - 132kV
1	5		CIRCUIT BREAKER - 132kV
3	4		CURRENT TRANSFORMER - 132kV
12	2		POST INSULATOR - 127mm PCD OUTDOOR STANDARD DUTY
1			
REQ'D	ITEM	REFERENCE	DESCRIPTION



Burns and Roe Worley Pty Limited
ACN 000 886 313
Level 8, 621 Pacific Hwy, St Leonards, NSW, 2055
Tel: 61 2 9439 1288 Fax: 61 2 9439 1574

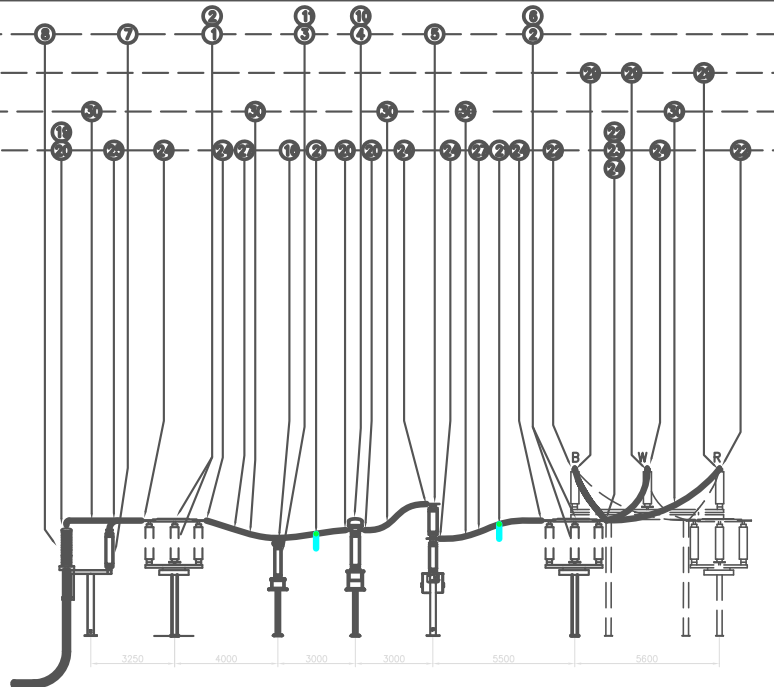
MULLUMBIMBY 132/66/11kV SUBSTATION
132kV TRANSFORMER BAY
ARRANGEMENT

PROJECT NO 24/08101

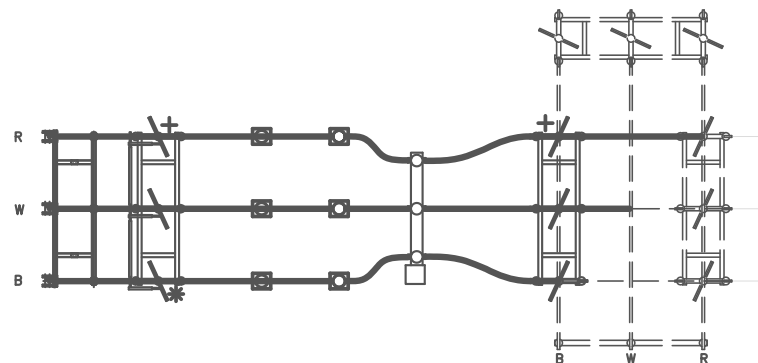
DATE 22.03.99	DRN B.R.	ENG CHK	M.M.	DRAWING No.	REV
22.03.99	CHK	APPD	M.M.	08101-M-E-004	2

REV	DATE	DRN	ENG CHK	ENG APPD	CLIENT	REVISION DETAILS
2	18/11/99	CM				BUS BAR CHANGES FOR PHASING
1	5.8.99	B.R.	M.M.	M.M.		ITEM NUMBERS 28 & 48 ADDED.
0	23.7.99	B.R.	M.M.	M.M.		ISSUED FOR CONSTRUCTION
D	11.6.99	WR				ISSUED FOR TENDER
C	12.4.99	P.S.				TRANSFORMER BUND DETAILS ADDED
B	30.3.99	B.R.				ISSUED FOR CLIENT COMMENT
A	29.3.99	B.R.				ISSUED FOR CHECK PRINT

MAIN EQUIPMENT
ALUMINIUM BUSBAR
CONNECTIONS
JOINTS & FITTINGS



ELEVATION



PLAN

NOTES
1. + DENOTES LOCATION OF ISOLATOR OPERATING HANDLE.
* DENOTES LOCATION OF EARTH SWITCH OPERATING HANDLE.

181m	30	TWIN 508mm* ACSR CONDUCTOR
---	29	100mm OD x 4mm ALUMINIUM TUBE
6	27	TWIN CONDUCTOR SPACER 70mm CENTRES
3	25	PARALLEL GROOVE CLAMP
17	24	TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 2 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
1	23	TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 90° OFFSET PALM 2 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
3	22	TWIN 508mm* CONDUCTOR TO COMPRESSION JUPER TERMINAL - 45° OFFSET PALM 2 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
6	21	TWIN 508mm* CONDUCTOR - PORTABLE EARTHING STIRRUP
9	20	TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 2 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
3	19	STUD CONNECTOR 90° - 40mm STUD
3	16	CONNECTOR TWIN 508mm* CONDUCTOR TO VERTICAL PALM - 2 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
1	11	MARSHALLING BOX - VOLTAGE TRANSFORMER
1	10	MARSHALLING BOX - CURRENT TRANSFORMER
3	8	132kV CABLE SEALING END
3	7	SURGE DIVERTER - 132kV
1	6	ABB DWG No 95204 BUS ISOLATOR - 132kV (LOW)
1	5	CIRCUIT BREAKER - 132kV
3	4	CURRENT TRANSFORMER - 132kV
3	3	VOLTAGE TRANSFORMER - 132kV
18	2	POST INSULATOR - 127mm PCD OUTDOOR STANDARD DUTY
1	1	ABB DWG No 95215 LINE ISOLATOR - 132kV WITH ONE 132kV EARTH SWITCH (LOW)
REQ'D ITEM	REFERENCE	DESCRIPTION

BRW

Burns and Roe Worley Pty Limited
ACN 000 886 313
Level 8, 621 Pacific Hwy, St Leonards, NSW, 2070
Tel: 61 2 9439 1288 Fax: 61 2 9439 1289

PROJECT NO 24/08101

North Power

MULLUMBIMBY 132/66/11kV SUBSTATION
132kV LINE BAY No.2 (FEEDER 907)
LAYOUT ARRANGEMENT

SCALE 1 : 1
DATE 22.03.2024
DRAWN BY B.F. CHK BY M.M. ENG APPD BY M.M.
DRAWING No. 01-M-E-003
REV 0

REFERENCE DRAWINGS

REV	DATE	DRN	ENG	CHK	ENG	APPD	CLIENT
O	23.7.99	B.R.	M.M.	M.M.			ISSUED FOR CONSTRUCTION
D	11.6.99	I.W.R.	M.M.	M.M.			ISSUED FOR TENDER
C	21.5.99	I.W.R.					ITEM Nos REVISED
B	30.3.99	B.R.					ISSUED FOR CLIENT COMMENT
A	29.3.99	B.R.					ISSUED FOR CHECK PRINT

REVISION DETAILS

MAIN EQUIPMENT

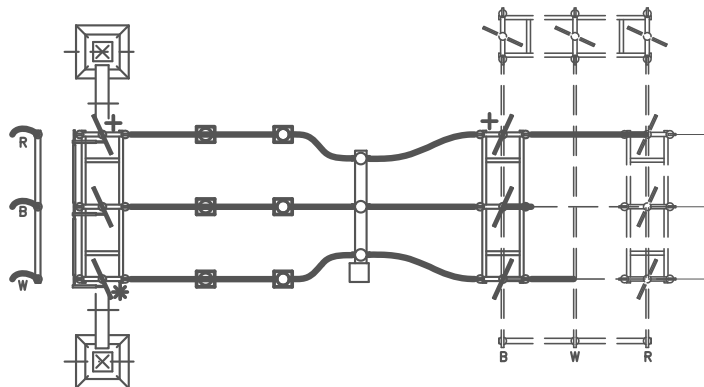
ALUMINIUM BUSBAR

CONNECTIONS

JOINTS & FITTINGS

TWIN 659mm* VENUS AAC
CONDUCTOR

ELEVATION



PLAN

NOTES

1. + DENOTES LOCATION OF ISOLATOR OPERATING HANDLE.
* DENOTES LOCATION OF EARTH SWITCH OPERATING HANDLE.

12m	31		SINGLE 508mm* ACSR CONDUCTOR
230m	30		TWIN 508mm* ACSR CONDUCTOR
---	29		100mm OD x 4mm ALUMINIUM TUBE
6	27		TWIN CONDUCTOR SPACER 70mm CENTRES
6	26		BOLTED CONNECTOR TEE
3	25		PARALLEL GROOVE CLAMP
17	24		TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 2 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
1	23		TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 90° OFFSET PALM 2 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
3	22		TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 45° OFFSET PALM 2 x M16 BOLTS AT 60mm CENTRES PER TERMINAL
6	21		TWIN 508mm* CONDUCTOR - PORTABLE EARTHING STIRRUP
6	20		TWIN 508mm* CONDUCTOR TO COMPRESSION TERMINAL - 2 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
3	16		CONNECTOR TWIN 508mm* CONDUCTOR TO VERTICAL PALM - 2 x M12 BOLTS AT 50mm CENTRES PER TERMINAL
1	11		MARSHALLING BOX - VOLTAGE TRANSFORMER
1	10		MARSHALLING BOX - CURRENT TRANSFORMER
3	7		SURGE DIVERTER - 132kV
1	6	ABB DWG No 95204	BUS ISOLATOR - 132kV
1	5		CIRCUIT BREAKER - 132kV
3	4		CURRENT TRANSFORMER - 132kV
3	3		VOLTAGE TRANSFORMER - 132kV
18	2		POST INSULATOR - 127mm PCD OUTDOOR STANDARD DUTY
1	1	ABB DWG No 95217	BUS ISOLATOR - 132kV WITH ONE 132kV EARTH SWITCH
REQ'D	ITEM	REFERENCE	DESCRIPTION

North Power

BRW

Burns and Roe Worley Pty Limited
ACN 000 886 313
Level 8, 621 Pacific Hwy, St Leonards, NSW, 2070
Tel: 61 2 9439 1288 Fax: 61 2 9439 1289

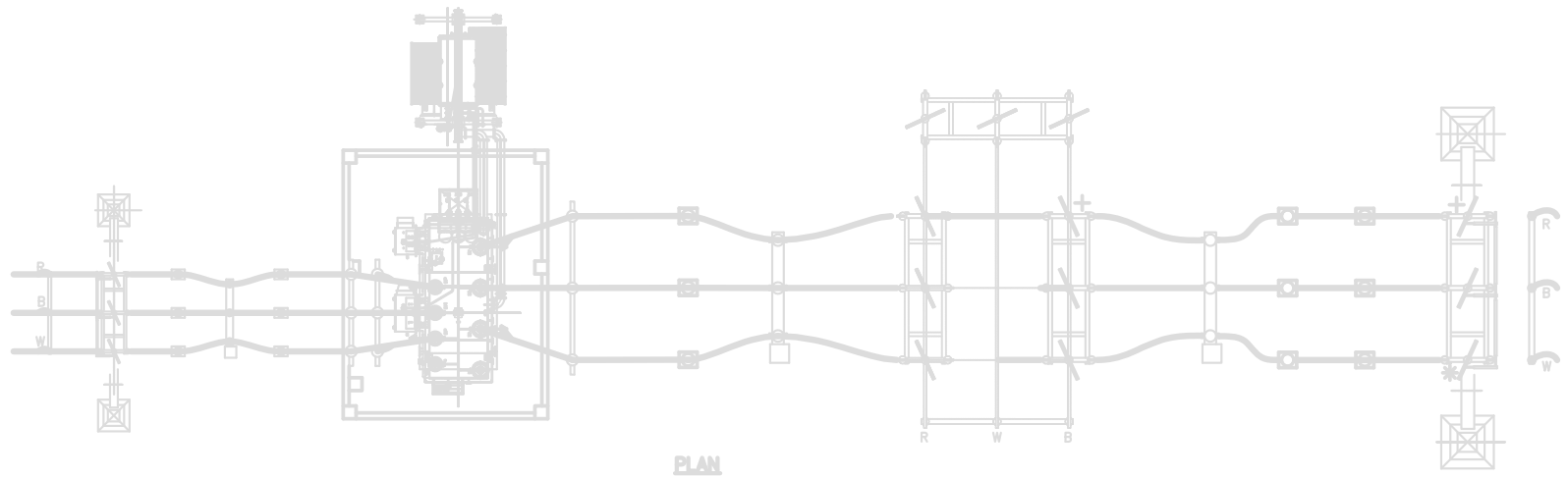
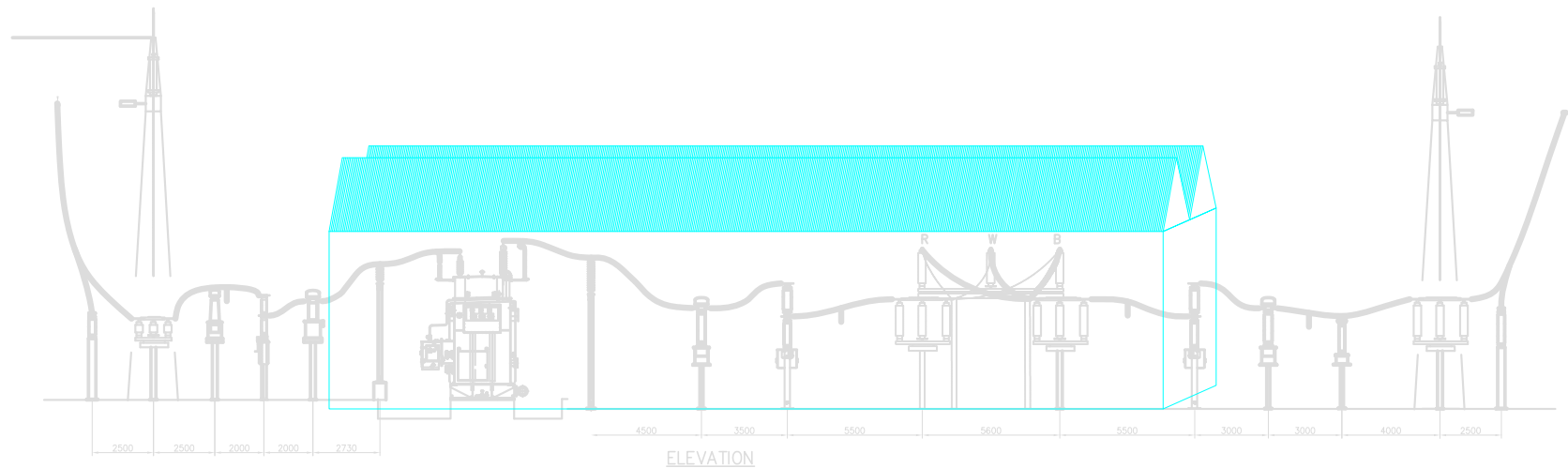
MULLUMBIMBY 132/66/11kV SUBSTATION
132kV LINE BAY No.1 (FEEDER 906)
S.ARRANGEMENT

SCALE 1 : 100 DRN B.R. ENG CHK M.M. DRAWING No. 101-M-E-002
DATE 22.03.99 DRG CHK ENG APPD M.M. REV 1

REFERENCE DRAWINGS

REVISION DETAILS

PROJECT NO 24/08101



DRAWN: A.W.
DATE: 25/07/08
CHKD BY: T.K.
DATE:
APPRVD:
DATE:

MULLUMBIMBY
132/66/11kV ZONE SUBSTATION
FOR EXTERNAL APPROVAL OF MAJOR WORKS
GENERAL ARRANGEMENT

country energy		
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SIZE: A1	SCALE: 1:100	
SHT	DRAWING NUMBER	AMD
1/1	N/A	A