



- NOTES:**
- THE FOLLOWING INFORMATION IS OBTAINED FROM THE PROJECT DESIGN DRAWINGS:
    - POLE LENGTH AND STRENGTH.
    - SPECIAL FOUNDATION REQUIREMENTS.
    - POLE EMBEDMENT DEPTH.
    - CONDUCTOR SIZE.
    - CROSSARM SIZE AND BRACE REQUIREMENTS.
    - STAY REQUIREMENTS.
    - DEVIATION ANGLE.
  - THE MAXIMUM LINE DEVIATION ANGLE TO BE CONSTRUCTED ON THIS ARRANGEMENT IS TO BE DETERMINED BY THE LINE DESIGNER.
  - POLE STEPS ARE TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NS128.
  - IN AREAS WHERE THE 11KV NETWORK CANNOT BE WORKED ON USING LIVE LINE TECHNIQUES, UNDERBUILT CIRCUITS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 1200mm. IN AREAS WHERE THE 11KV NETWORK CAN BE WORKED ON USING LIVE LINE TECHNIQUES, UNDERBUILT CIRCUITS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 2500mm.
  - ALL BOLTS AND INSULATOR PINS PASSING THROUGH TIMBER ARE TO BE COATED WITH GRAPHITE GREASE.
  - THE LOAD AND DEVIATION ALLOWABLE ON THE EYEBOLT IS TO BE DETERMINED FROM DRG: 520324.
  - LONGROD INSULATORS ARE TO BE USED UNDER NORMAL CONDITIONS.
  - POLES SHALL BE DRILLED, SCARFED AND DRESSED ON SITE. DRILLING AND SCARFING TO BE TREATED WITH APPROVED PRESERVATIVES.
  - IF THE CONDUCTOR DEVIATES AT THE INSULATOR, USE THE ANGLE TYPE CONDUCTOR TIE ARRANGEMENT. OTHERWISE, USE THE INTERMEDIATE TYPE CONDUCTOR TIE ARRANGEMENT AS SHOWN ON DRG: 514038.
  - COMPOSITE FIBRE CROSSARMS ARE TO BE USED AS THE PREFERRED OPTION UNDER NORMAL CIRCUMSTANCES.
  - A 2706mm COMPOSITE FIBRE INTERMEDIATE CROSSARM IS TO BE USED AS THE DEFAULT INTERMEDIATE CROSSARM. A LONGER INTERMEDIATE CROSSARM IS TO BE USED WHERE ADDITIONAL MID SPAN SEPARATION IS REQUIRED.
  - ONLY THE 2706mm COMPOSITE FIBRE INTERMEDIATE CROSSARM OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732, 514373 & 237491 FOR DRILLING PATTERN OF ALTERNATE INTERMEDIATE CROSSARMS.
  - A 2706mm COMPOSITE FIBRE TERMINATION CROSSARM OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. FOR NARROW FEEDER ALIGNMENTS, A SHORTER TERMINATION CROSSARM MAY BE CONSIDERED TO OVERCOME DESIGN AND SITE CONSTRAINTS. A LONGER TERMINATION CROSSARM IS TO BE USED WHERE ADDITIONAL MID SPAN SEPARATION IS REQUIRED. A STEEL CROSSARM IS TO BE USED WHEN THE MAXIMUM LOAD OF THE ALTERNATE TERMINATION CROSSARMS IS EXCEEDED.
  - ONLY THE 2706mm COMPOSITE FIBRE TERMINATION CROSSARM OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732, 514373, 15232, 514377 & 237491 FOR DRILLING PATTERN OF ALTERNATE TERMINATION CROSSARMS.
  - THE 690mm CROSSARM BRACES ARE TO BE USED ON A 2706mm, 2700mm, 3006mm, 3000mm, 3030mm, 2750mm & 3070mm CROSSARM. THE 740mm CROSSARM BRACE IS TO BE USED ON A 2406mm & 2400mm CROSSARM.
  - REFER TO DESIGNER SAFETY REPORT D23/217293 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	STOCK CODE	QTY
31	STEP - POLE, SCREW-IN (SEE NOTE 3)	250144	185198	A/R
30	CLAMP - PARALLEL GROOVE, 3-BOLT (TO SUIT CONDUCTOR)	514099		3
29	TIE - CONDUCTOR, HIGH VOLTAGE, SUPPORT ARRANGEMENT (SEE NOTE 9)	514038		5m
28	INSULATOR - 1122kV AERODYNAMIC, (22/450) & PIN ARRANGEMENT	513997		4
27	INSULATOR - 1122kV LONGROD, STRING ARRANGEMENT AR-2 (SEE NOTE 7)	565715		3
26	BRACKET - POLE TOP, GALVANISED	514380	H17314	1
25	BLOCK - GAIN ALUMINIUM, 125mm (USE WITH 2750mm & 3070mm TERMINATION CROSSARMS)		146282	1
24	BLOCK - GAIN ALUMINIUM, 100mm (USE WITH 2706mm, 2406mm, 3006mm, 2700mm, 2400mm & 3000mm TERMINATION CROSSARMS)		146274	1
23	WASHER - FLAT, M20, GALVANISED (USE WITH 2700mm & 2400mm TERMINATION CROSSARMS)	518081	177986	2
22	WASHER - FLAT, M20, GALVANISED	518081	177986	4
21	EYEBOLT - M20, GALVANISED (LENGTH TO SUIT POLE) (SEE NOTE 6)	513653		1
20	BOLT & NUT - M12, HEX, GALVANISED (LENGTH TO SUIT POLE)	515466		1
19	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE) (USE WITH 2750mm & 3070mm TERMINATION CROSSARMS)	518081	H39231	2
18	WASHER - UP, M24, GALVANISED (USE WITH 2706mm, 2406mm, 3006mm, 2700mm, 2400mm & 3000mm TERMINATION CROSSARMS)	518081	176912	1
17	WASHER - CONICAL, M20, GALVANISED (USE WITH 2700mm & 2400mm TERMINATION CROSSARMS)	518082	H39655	1
16	WASHER - SPRING, M20, GALVANISED (USE WITH 2706mm, 2406mm, 3006mm, 3000mm, 2750mm & 3070mm TERMINATION CROSSARMS)	518082	175569	2
15	WASHER - CONICAL, M12, GALVANISED (USE WITH 2400mm TERMINATION CROSSARM)	513663	H37881	2
14	WASHER - CONICAL, M12, GALVANISED (USE WITH 2700mm TERMINATION CROSSARM)	518082	H39639	1
13	WASHER - SPRING, M12, GALVANISED (USE WITH 2406mm TERMINATION CROSSARM)	518082	H12047	1
12	WASHER - SPRING, M12, GALVANISED (USE WITH 2706mm, 3006mm, 3000mm, 2750mm & 3070mm TERMINATION CROSSARMS)	518082	H12047	2
11	WASHER - FLAT, M12, GALVANISED (USE WITH 2406mm & 2400mm TERMINATION CROSSARMS)	518081	177982	2
10	WASHER - FLAT, M12, GALVANISED (USE WITH 2706mm, 2700mm, 3006mm, 3000mm, 2750mm & 3070mm TERMINATION CROSSARMS)	518081	177982	4
9	BOLT & NUT - M12x150mm, HEX, GALVANISED (USE WITH 2750mm & 3070mm TERMINATION CROSSARMS)	515466	46847	2
8	BOLT & NUT - M12x150mm, HEX, GALVANISED (USE WITH 2400mm TERMINATION CROSSARM)	515466	46847	1
7	BOLT & NUT - M12x180mm, HEX, GALVANISED (USE WITH 2700mm & 3000mm TERMINATION CROSSARMS)	515466	46888	2
6	BOLT & NUT - M12x130mm, HEX, GALVANISED (USE WITH 2406mm TERMINATION CROSSARM)	515466	46805	1
5	BOLT & NUT - M12x130mm, HEX, GALVANISED (USE WITH 2706mm & 3006mm TERMINATION CROSSARMS)	515466	46805	2
4	BRACE - CROSSARM, ANGLE, TYPE H, 740mm, GALVANISED (SEE NOTE 15)	46	99119	1
3	BRACE - CROSSARM, FLAT, 690mm, GALVANISED (SEE NOTE 15)	514385	H17738	2
2	CROSSARM - 3070x125x125mm, ITEM 3, COMPOSITE FIBRE (SEE NOTES 10, 13 & 14)	237491	183935	1
1	CROSSARM - 2750x125x125mm, ITEM 1, COMPOSITE FIBRE (SEE NOTES 10, 13 & 14)	237491	183933	1
	CROSSARM - 3000x150x100x5mm, RHS, GALVANISED (SEE NOTES 10, 13 & 14)	514377	H23787	1
	CROSSARM - 2400x125x100mm, TYPE H2, HARDWOOD (SEE NOTES 10, 13 & 14)	15232	71910	1
	CROSSARM - 2700x150x100mm, TYPE C, HARDWOOD (SEE NOTES 10, 13 & 14)	514373	H23907	1
	CROSSARM - 3006x102x102mm, TYPE 13, COMPOSITE FIBRE (SEE NOTES 10, 13 & 14)	262732	186783	1
	CROSSARM - 2406x102x102mm, TYPE 11, COMPOSITE FIBRE (SEE NOTES 10, 13 & 14)	262732	186781	1
	CROSSARM - 2706x102x102mm, TYPE 12, COMPOSITE FIBRE (SEE NOTES 10, 13 & 14)	262732	186782	1
11	WASHER - CONICAL, M20, GALVANISED	518082	H39655	4
10	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE)	518081	H39231	9
9	BOLT & NUT - M20, HEX, GALVANISED (LENGTH TO SUIT POLE)	515466		3
8	WASHER - CONICAL, M12, GALVANISED	518082	H39639	1
7	WASHER - CONICAL, M12, GALVANISED (USE WITH 2700mm INTERMEDIATE CROSSARM)	518082	H39639	2
6	WASHER - SPRING, M12, GALVANISED (USE WITH 2706mm, 3006mm & 3030mm INTERMEDIATE CROSSARMS)	518082	H12047	2
5	WASHER - FLAT, M12, GALVANISED	518081	177982	6
4	BOLT & NUT - M12x130mm, HEX, GALVANISED	515466	46805	2
3	CROSSARM - 3030x100x100mm, ITEM 2, COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	237491	183934	1
2	CROSSARM - 2700x100x100mm, TYPE B, HARDWOOD (SEE NOTES 10, 11 & 12)	514373	H23884	1
1	CROSSARM - 3006x102x102mm, TYPE 10, COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	262732	186780	1
	CROSSARM - 2706x102x102mm, TYPE 9, COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	262732	186779	1
3	SCREW - COACH, M12 x 100mm, GALVANISED		H40484	2
2	BRACE - CROSSARM, FLAT, 690mm, GALVANISED (SEE NOTE 15)	514385	H17738	2
1	POLE - TIMBER (AS REQUIRED)	513988		1

ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE. DO NOT SCALE.

CAD DRAWING DO NOT MANUALLY AMEND A M E N D M E N T S DWN: P.R. CHKD: P.J. APPD: G.F. DATE: 08/12/2023 09:00 NOTES & MATERIAL LIST AMENDED. ASSOCIATED DRAWING ADDED.	5
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COMPOSITE FIBRE CROSSARM MECHANICAL LOAD REQUIREMENTS	237491
2700mm CROSSARMS FOR LV, 11kV, 22kV AND 33kV CONSTRUCTION DETAILS	514373
COMPOSITE FIBRE CROSSARMS SPECIFICATION	262732
HV TERMINATION STEEL CROSSARM CONSTRUCTION DETAILS	514377
WOODEN CROSSARMS FOR 11kV LINES	15232
HV CONDUCTOR TIE SUPPORT ARRANGEMENTS	514038
20mm EYEBOLT LOADING & DEVIATION GRAPH	520324
ASSOCIATED DRAWINGS	

NETWORK STANDARD

145 NEWCASTLE RD WALLSEND, NSW 2287

SCALE	1:20
DESIGNED	-
DRAWN	P.S
CHECKED	-
APPROVED	G SKINNER
DATE	02/10/97
PROJECT NUMBER	STD
PROJ/TRAK NUMBER	-

STANDARD CONSTRUCTION 11kV LARGE DELTA WITH TEE-OFF CONSTRUCTION 2-38			
SIZE	DRAWING No	SHEET	AMD
A2	520410	1	5