



**NOTES :**

1. THE FOLLOWING INFORMATION IS OBTAINED FROM THE PROJECT DESIGN DRAWINGS:
  - a. POLE LENGTH AND STRENGTH.
  - b. SPECIAL FOUNDATION REQUIREMENTS.
  - c. POLE EMBEDMENT DEPTH.
  - d. CONDUCTOR SIZE.
  - e. CROSSARM SIZE AND BRACE REQUIREMENTS.
  - f. STAY REQUIREMENTS.
  - g. DEVIATION ANGLE.
2. THE MAXIMUM LINE DEVIATION ANGLE TO BE CONSTRUCTED ON THIS ARRANGEMENT IS TO BE DETERMINED BY THE LINE DESIGNER.
3. POLE STEPS ARE TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NS128.
4. ALTERNATE THE CENTRE PHASE INSULATOR ON EITHER SIDE OF THE POLE ALONG THE LINE.
5. 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.
6. THIS CONSTRUCTION IS TO BE USED WHEN UNDERBUILDING ANOTHER CIRCUIT OR FOR UNDERCROSSING OTHER CONDUCTORS.
7. ALL BOLTS AND INSULATOR PINS PASSING THROUGH TIMBER ARE TO BE COATED WITH GRAPHITE GREASE.
8. POLES SHALL BE DRILLED, SCARFED AND DRESSED ON SITE. DRILLING AND SCARFING TO BE TREATED WITH APPROVED PRESERVATIVES.
9. 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.
10. COMPOSITE FIBRE CROSSARMS ARE TO BE USED AS THE PREFERRED OPTION UNDER NORMAL CIRCUMSTANCES.
11. A 2706mm COMPOSITE FIBRE CROSSARM IS TO BE USED AS THE DEFAULT CROSSARM. FOR NARROW FEEDER ALIGNMENTS, A SHORTER CROSSARM MAY BE CONSIDERED TO OVERCOME DESIGN AND SITE CONSTRAINTS. A LONGER CROSSARM IS TO BE USED WHERE ADDITIONAL MID SPAN SEPARATION IS REQUIRED OR ADDITIONAL CENTRE PHASE CLEARANCE IS REQUIRED FROM A LARGE DIAMETER POLE.
12. ONLY THE 2706mm COMPOSITE FIBRE CROSSARM OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732, 514373, 15232, 514375 & 237491 FOR DRILLING PATTERN OF ALTERNATE CROSSARMS.
13. THE 690mm CROSSARM BRACES ARE TO BE USED ON A 2706mm, 2700mm, 3006mm & 3030mm CROSSARM. THE 740mm CROSSARM BRACE IS TO BE USED ON A 2406mm & 2400mm CROSSARM. THE 920mm CROSSARM BRACES ARE TO BE USED ON A 3300mm CROSSARM.
14. REFER TO DESIGNER SAFETY REPORT D23/212411 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	STOCK CODE	QTY
15	STEP - POLE, SCREW-IN (SEE NOTE 3)	250144	185198	A/R
14	TIE - CONDUCTOR, HIGH VOLTAGE, SUPPORT ARRANGEMENT (SEE NOTE 9)	514038		4m
13	INSULATOR - 11/22kV AERODYNAMIC, (22/450) & PIN ARRANGEMENT	513997		3
12	BLOCK - GAIN, ALUMINIUM, 100mm		146274	1
11	WASHER - FLAT, M20, GALVANISED	518081	177986	1
10	WASHER - CONICAL, M20, GALVANISED	518082	H39655	1
9	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE)	518081	H39231	2
8	BOLT & NUT - M20, HEX., GALVANISED (LENGTH TO SUIT POLE)	515466		1
7	WASHER - CONICAL, M12, GALVANISED (USE WITH 2400mm CROSSARM)	518082	H39639	1
	WASHER - CONICAL, M12, GALVANISED (USE WITH 2700mm & 3300mm CROSSARMS)	518082	H39639	2
	WASHER - SPRING, M12, GALVANISED (USE WITH 2406mm CROSSARM)	51082	H12047	1
	WASHER - SPRING, M12, GALVANISED (USE WITH 2706mm, 3006mm & 3030mm CROSSARMS)	518082	H12047	2
6	WASHER - FLAT, M12, GALVANISED (USE WITH 2406mm & 2400mm CROSSARMS)	518081	177982	1
	WASHER - FLAT, M12, GALVANISED (USE WITH 2706mm, 2700mm, 3006mm, 3300mm & 3030mm CROSSARMS)	518081	177982	2
5	BOLT & NUT - M12x180mm, HEX., GALVANISED (USE WITH 3300mm CROSSARM)	515466	46888	2
	BOLT & NUT - M12x130mm, HEX., GALVANISED (USE WITH 2406mm & 2400mm CROSSARMS)	515466	46805	1
	BOLT & NUT - M12x130mm, HEX., GALVANISED (USE WITH 2706mm, 2700mm, 3006mm & 3030mm CROSSARMS)	515466	46805	2
4	CROSSARM - 3030x100x100mm, ITEM 2 COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	237491	183934	1
	CROSSARM - 3300x150x100mm, TYPE S, HARDWOOD (SEE NOTES 10, 11 & 12)	514375	H23020	
	CROSSARM - 2400x100x100mm, TYPE H1, HARDWOOD (SEE NOTES 10, 11 & 12)	15232	71928	
	CROSSARM - 2700x100x100mm, TYPE B, HARDWOOD (SEE NOTES 10, 11 & 12)	514373	H23884	
	CROSSARM - 3006x102x102mm, TYPE 10, COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	262732	186780	
	CROSSARM - 2406x102x102mm, TYPE 8, COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	262732	186778	
3	CROSSARM - 2706x102x102mm, TYPE 9, COMPOSITE FIBRE (SEE NOTES 10, 11 & 12)	262732	186779	1
	SCREW - COACH, M12 x 100mm, GALVANISED		H40484	
	BRACE - CROSSARM, ANGLE, 920mm, GALVANISED (SEE NOTE 13)	514381	H17283	
2	BRACE - CROSSARM, ANGLE, TYPE H, 740mm, GALVANISED (SEE NOTE 13)	46	99119	1
	BRACE - CROSSARM, FLAT, 690mm, GALVANISED (SEE NOTE 13)	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	APPD:
AMENDMENTS	DATE: 08/12/2023
DWN: P.R.	NOTES & MATERIAL LIST AMENDED. ASSOCIATED DRAWING ADDED.
CHKD: P.J.	18

DESCRIPTION	ITEM NO
COMPOSITE FIBRE CROSSARM MECHANICAL LOAD REQUIREMENTS	237491
SPECIAL CROSSARMS	514375
WOODEN CROSSARMS FOR 11kV LINES	15232
2700mm CROSSARMS FOR LV, 11kV, 22kV AND 33kV CONSTRUCTION DETAILS	514373
COMPOSITE FIBRE CROSSARMS SPECIFICATION	262732
HV CONDUCTOR TIE SUPPORT ARRANGEMENTS	514038

NETWORK STANDARD

145 NEWCASTLE RD WALLSEND, NSW 2287

SCALE	1:20
DESIGNED	-
DRAWN	P.S
CHECKED	-
APPROVED	I.NICHOLS
DATE	13/05/1993
PROJECT NUMBER	STD
PROJTRAK NUMBER	-

STANDARD CONSTRUCTION			
11kV HORIZONTAL PIN CONSTRUCTION			
2-1			
SIZE	DRAWING No	SHEET	AMD
A2	513909	1	18