

Construction information

Prepared by: Carl Rathbone	Date: 13/06/2023	Project: Southdale Road 11kV Reconnector	
Checked by:	Date:	Revision:	Organisation: LineSmarts Ltd



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Pole material schedule

Refer to specified standard construction drawings for component lists

	78602	Peg 2	Peg 3	102953	101212	102952
Structure type	Strain	Intermediate	Intermediate	Intermediate	Strain	Strain
New pole	Existing	B110-S	B110-S	Existing	Existing	Existing
New Crossarm	X-11-SF3-LS	X-11-IF3-LS	X-11-IF3-LS	Existing	Existing	Existing

Note: All new poles to include donuts

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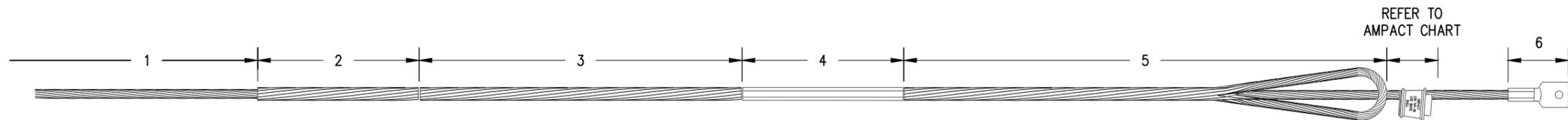
Conductor material schedule

Refer to standard construction drawing O-H-O for specific components

Item	Description	Quantity
1	Flourine conductor	1,500m
3	Armour rods	12
5	Dead end grip	20
7	Ampact joint	9

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Standard construction drawings



ITEM 1 CONDUCTOR								
	COMPOSITION	STRANDS/WIRE Ø	SECTION mm ²	EQIV. Cu AREA mm ²	O.D mm	75 AC Ω/km	RATING A	CORYS CODE
FLUORINE	AAAC	7/3.00	49.5	30.2	9.0	0.728	190	0000 562645
HELIUM	AAAC	7/3.75	77.3	47.1	11.3	0.465	251	0000 380973
IODINE	AAAC	7/4.75	124	75.6	14.3	0.291	335	0000 975855
NEON	AAAC	19/3.75	210	124.8	18.8	0.173	466	0000 975856
OXYGEN	AAAC	19/4.75	337	200.7	23.8	0.108	667	SPECIAL ORDER
FLOUNDER	ACSR/SBC	6/2.3, 1/3.8	34.1	13	6.7	1.8	112	0000 562633
WOLF	ACSR	Al30/2.59-7/2.59	155	96.8	18.1	0.223	391	0000 380955

ITEM 2 LINE GUARD				ITEM 3 ARMOUR ROD			ITEM 4 FULL TENSION JOINT	
	MAN. NUM.	CORYS CODE	COLOUR	MAN. NUM.	CORYS CODE	COLOUR	MAN. NUM.	CORYS CODE
FLUORINE	ALG-90	TBA	RED	TNAAR0900	0000 613067	RED	3-0361415-1	0000 975496
HELIUM	TNALG1050	0000 975466	BLACK	AAR 113	0000 635428		3-0361415-6	0000 975495
IODINE	TNALG1430	0000 975462	BLUE	ARR 1400	0000 429003	BLUE	4-0361415-2	0000 975493
NEON	TNALG1880	0000 975460	BLACK	TNAAR1800	0000 975459		4-0361415-5	0000 975489
OXYGEN	ALG-240-4	SPECIAL ORDER	BLUE	TNAAR2305	SPECIAL ORDER	BLUE	-	SPECIAL ORDER
FLOUNDER	TNALG068	0000 935540	BROWN	TNAAR0675	0000 928500	BROWN	3-0361415-0	0000 563271
WOLF	ALG-175	TBA	BLUE	TNAAR1790	TBA	GREEN	EPJ-Wolf-8*	TBA

* SPANS LESS THAN 90m
* ANGLES LESS THAN 5°

* SPANS GREATER THAN 90m
* ANGLES GREATER THAN 5°
* REPAIRS - NOT AT SUPPORT WHERE LESS THAN 25% OF STRANDS ARE BROKEN

ITEM 5 DEADEND GRIP				ITEM 6 TERMINAL LUG			
	MAN. NUM.	CORYS CODE	COLOUR	TO ALUMINIUM TERM.	CORYS CODE	TO COPPER TERM.	CORYS CODE
FLUORINE	TNADE0900	0000 975473	RED	ALFERRET-M10	0000 371337	BL50-12	0000 632828
HELIUM	TNADE1125	0000 975467	BLACK	ALHELIUM-10	0000 566768	BL95-10	0000 632833
IODINE	TNADE1430	0000 975464	BLUE	ALIODINE M10	0000 371338	BL120-12	0000 975425
NEON	TNADE1880	0000 352046	BLACK	AL240-12	0000 633054	BL240-12	0000 975423
OXYGEN	TNADE2330	SPECIAL ORDER	GREEN	TBA	SPECIAL ORDER	BL400-12	0000 632855
FLOUNDER	TNLDE0582SP	0000 933646	BROWN	AL35-10	0000 975092	BL35-10	0000 975427
WOLF	TNADE1780	TBA	BLACK	AL185-12	0000 975089	WETA BI METAL	0000 416420

CONDUCTOR (SIZE mm)	IODINE (14.25)	HELIUM (11.25)	FLUORINE (9.00)	FLOUNDER (6.70)
NITROGEN (21.00)	1-602031-5	1-602031-8 975353	1-602031-8 975353	1-602031-8 975355
MATA (19.30)	1-602031-5	1-602031-8 975353	1-602031-8 975353	1-602031-8 975353
COCHIN (16.84)	0-602006-0 553107	0-602380-5 553103	0-602380-5 975366	0-602380-2 975363
HORNET (16.25)	0-602046-7	0-602046-6	0-602046-4	0-602380-2 975363
IODINE (14.25)	0-600466-0 975365	0-600459-0 975364	0-600458-0 553097	0-600411-0 975362
WEKE/DOG/HARE (14.16)		0-600459-0 975364	0-600458-0 553097	0-600411-0 975362
BEETLE (13.34)		0-600459-0 975364	0-600458-0 553097	0-600411-0 975362
HELIUM (11.25)	0-600459-0 975364	0-600459-0 975364	0-600458-0 553097	0-600403-0 975357
RANGO/MINK (10.98)			0-600403-0 975357	0-600403-0 975357
19/16 Cu (10.54)			0-600403-0 975357	0-600403-0 975357
RAVEN (10.11)			0-600403-0 975357	0-600403-0 975357
FLUORINE/LAMPREY KUTU/FERRET (9.00)	0-600458-0 553097	0-600458-0 553097	0-600403-0 975357	0-602283-1 975358
PANSEY (8.33)				0-602283-1 975358
19/14 Cu (8.13)				0-602283-1 975358
SALMALEC (7.72)				0-602283-1 975358
CHLORINE (7.50)				0-602283-1 975358
FLOUNDER (6.70)	0-600411-0 975362	0-600403-0 975357	0-602283-1 975358	0-602283-1 975358

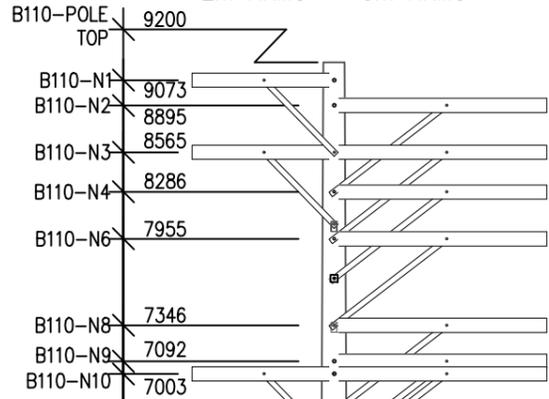
ISSUE	BY	CHECKED	APPROVER	DATE
01 DRAFT FOR CONSULTATION AND REVIEW. HELIUM ADDED AS USED EXTENSIVELY ON OJV NETWORK	IWE	SiD		18/7/18
02 ADDITIONAL CONDUCTOR INFORMATION ADDED. FOR APPROVAL	IWE			24/8/18
03 AMPACT TABLE INCLUDED	IWE	SiD		14/11/18

STANDARD MODULE - DESIGN

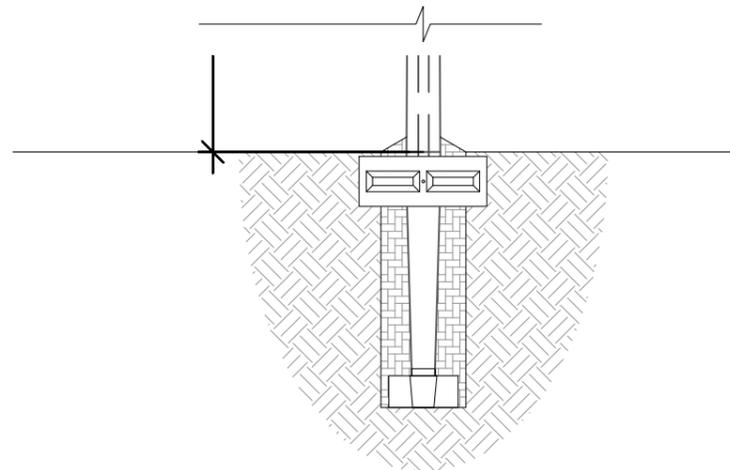
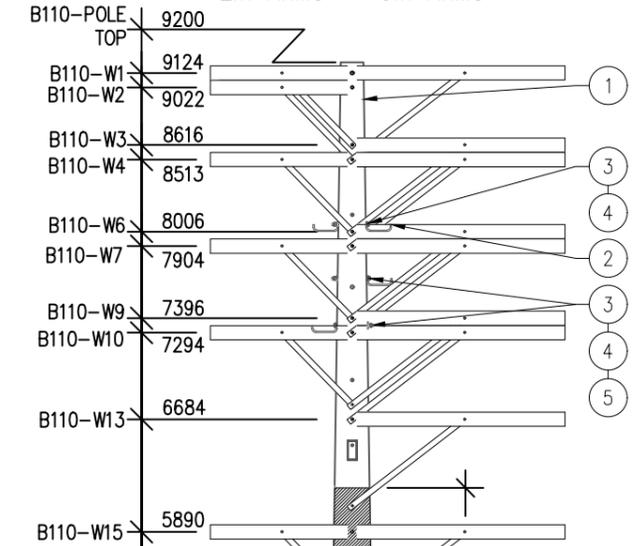
CONDUCTOR MODULE
OVERHEAD - HV - OPEN WIRE

ISSUE	DATE	DRAWING REF
03	14/11/18	0-H-0
SHEET A3	SCALE N.T.S	PAGE 1 OF 1

NARROW SIDE (EDGE) HOLE POSITIONS
2m ARMS 3m ARMS



WIDE SIDE (FACE) HOLE POSITIONS
2m ARMS 3m ARMS



POLE STEP BOLT LENGTH	BOLT CODE
M16 x 200 4.6/S	0000 975568
M16 x 220 4.6/S	0000 975567
M16 x 240 4.6/S	0000 975566
M16 x 260 4.6/S	0000 975565
M16 x 280 4.6/S	0000 975564
M16 x 300 4.6/S	0000 975563
M16 x 325 4.6/S	0000 975562
M16 x 350 4.6/S	0000 975561
M16 x 375 4.6/S	0000 975560
M16 x 400 4.6/S	0000 975559

BREAST BLOCK TYPE	REFERENCE	CODE	APPROPRIATE USAGE	MASS (kg)
PLASTIC	BB900	0000 375203	IN-LINE POLES, OR ANY POLE WITH < 1kN EQUIVALENT POLE TOP LOAD IN STILL AIR CONDITIONS (POLES WITH < 10° TURN-OFF ANGLE AND WITH A SINGLE CIRCUIT OF HELIUM CONDUCTOR OR SMALLER)	11
BUSCK	BB900	0000 598864	OTHER POLES WITH PERMANENT LOAD	80

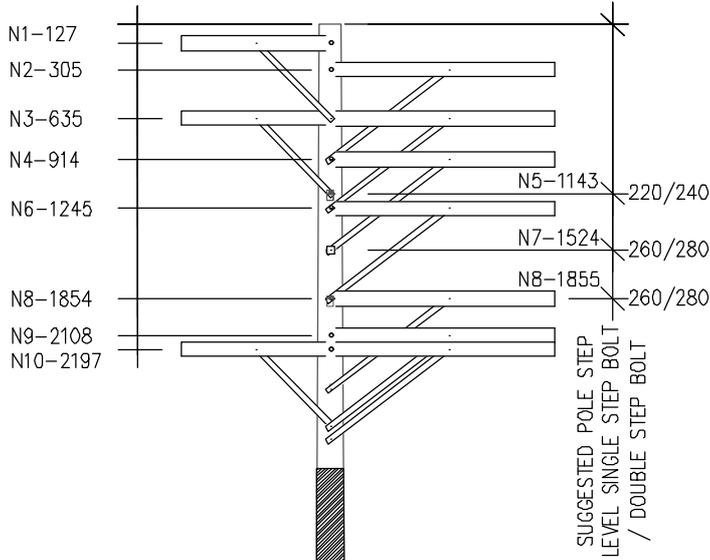
DONUT TYPE	REFERENCE	CODE	APPROPRIATE USAGE	MASS (kg)
PLASTIC	HBDNUT480	0000 375204	POLES WITHOUT STAYS	13
BUSCK	D490	0000 375200	POLES WITH STAYS	60

ITEM	DESCRIPTION	REFERENCE	CODE	QTY
1	POLE 11M PRESTRESSED CONCRETE	B110	0000 375205	1
2	POLE STEP (AS REQUIRED)	PS/S	0000 596041	UP TO 4
3	BOLT AND NUT M16 4.6/S (SEE TABLE FOR CODE)	-	-	UP TO 3
4	NUT M16 4.6/S	-	0000 975592	UP TO 3
5	WASHER 16 mm 50 x 50 x 6	-	0000 975598	UP TO 2
6	STAY ASSEMBLY (AS REQUIRED)	-	-	-
7	POSSUM GUARD 1200 x 900 SHEET	-	000 1082446	AS REQ.
8	BREAST BLOCK (SEE TABLE)	-	-	AS REQ.
9	AP20 BACKFILL (600mm DIA HOLE TAKES APPROX 0.4m ²)	-	-	AS REQ.
10	DONUT (SEE TABLE)	-	-	1

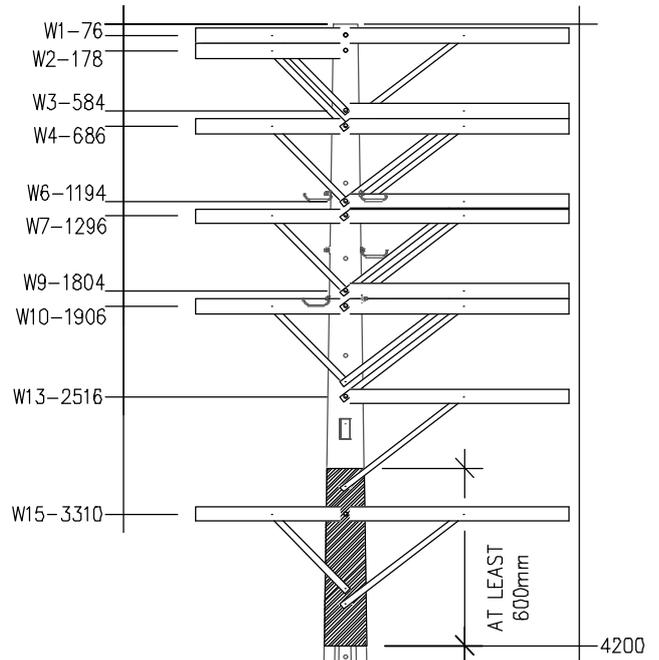
ISSUE	BY	CHECKED	APPROVER	DATE	STANDARD MODULE – DESIGN	ISSUE	DATE	DRAWING REFERENCE
A2	IWE	SiD		12/12/17	BUSCK PRESTRESSED CONCRETE 11m POLE CROSSARM POSITIONS & FOOTING DETAIL	B2	9/12/20	P-B110-S
B	IWE	SiD	RJP	18/12/17		SIZE	SCALE	SHEET
B1	IWE			6/11/19		A3	1:50	1 OF 1
B2	IWE			9/12/20				

ISSUE		BY	CHECKED	APPROVER	DATE
A1	POLE FOOTING DETAIL INCLUDED. NOTES ADDED. FOR SID REVIEW	IWE	SID	-	12/12/17
B	MASS OF BREAST BLOCK & DONUT ADDED. APPROVED FOR ISSUE	IWE	SID	RJP	18/12/17

NARROW SIDE (EDGE) HOLE POSITIONS
2m ARMS 3m ARMS



WIDE SIDE (FACE) HOLE POSITIONS
2m ARMS 3m ARMS



NOTES:

- (a) POSSUM GUARDS ARE NOT REQUIRED ON LV POLES IN URBAN AREAS.
- (b) MASS OF BARE POLE APPROX. 1290kg
- (c) MASS OF PLASTIC BREAST BLOCK APPROX 11kg
- (d) MASS OF CONCRETE BREAST BLOCK APPROX 80kg
- (e) MASS OF PLASTIC DONUT APPROX 13kg
- (f) MASS OF CONCRETE DONUT APPROX 60kg
- (g) HANDLE POLE IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS

BOTTOM OF POSSUM GUARD AT
LEAST 5m ABOVE GROUND
LEVEL. PSR-10 Appendix 8.3.1

STANDARD MODULE - INSTALLATION

BUSCK PRESTRESSED CONCRETE 11m POLE
INSTALLATION

ISSUE

B

DATE

18/12/17

DRAWING REF

P-B110-S

SHEET

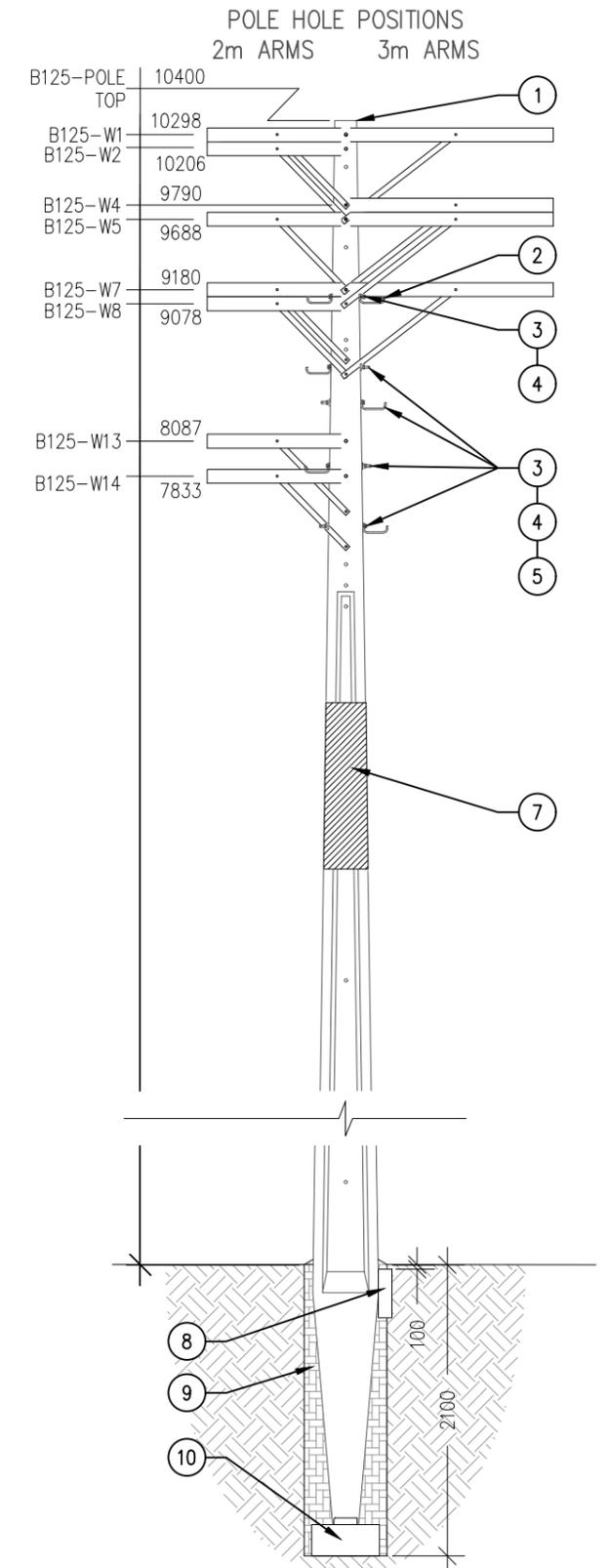
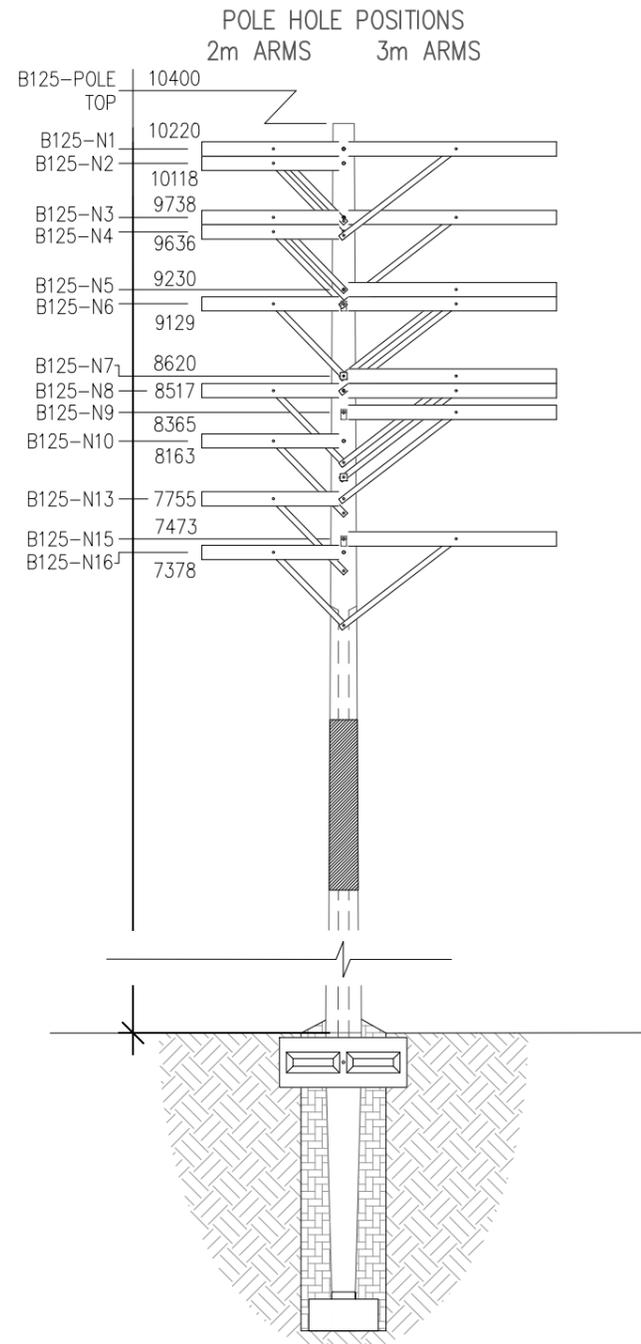
A4

SCALE

1:50

PAGE

2 OF 2



POLE STEP BOLT LENGTH	BOLT CODE
M16 x 200 4.6/S	0000 975568
M16 x 220 4.6/S	0000 975567
M16 x 240 4.6/S	0000 975566
M16 x 260 4.6/S	0000 975565
M16 x 280 4.6/S	0000 975564
M16 x 300 4.6/S	0000 975563
M16 x 325 4.6/S	0000 975562
M16 x 350 4.6/S	0000 975561
M16 x 375 4.6/S	0000 975560
M16 x 400 4.6/S	0000 975559

BREAST BLOCK TYPE	REFERENCE	CODE	APPROPRIATE USAGE	MASS (kg)
PLASTIC	BB900	0000 375203	IN-LINE POLES, OR ANY POLE WITH < 1kN EQUIVALENT POLE TOP LOAD IN STILL AIR CONDITIONS (POLES WITH <10° TURN-OFF ANGLE AND WITH A SINGLE CIRCUIT OF HELIUM CONDUCTOR OR SMALLER)	11
BUSCK	BB900	0000 598864	OTHER POLES WITH PERMANENT LOAD	80

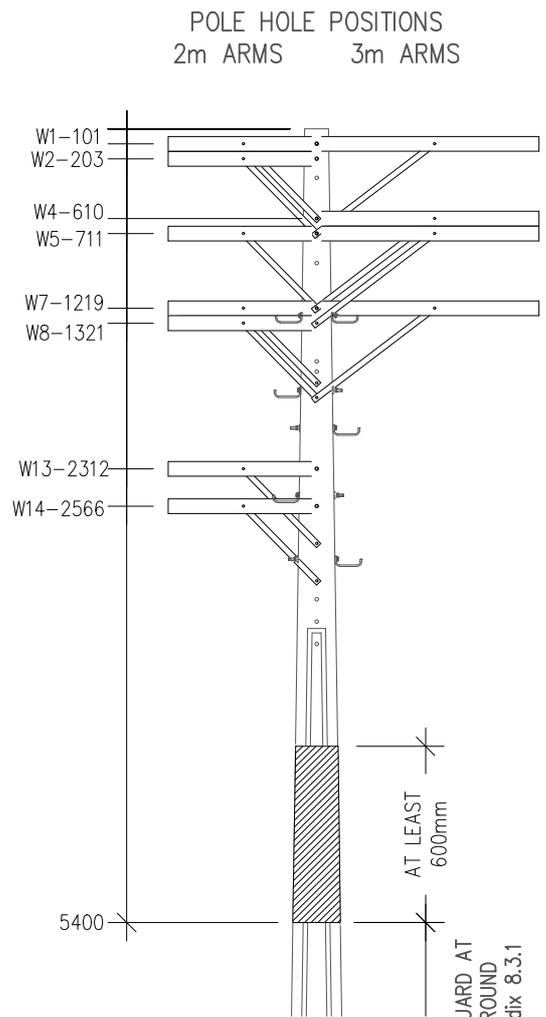
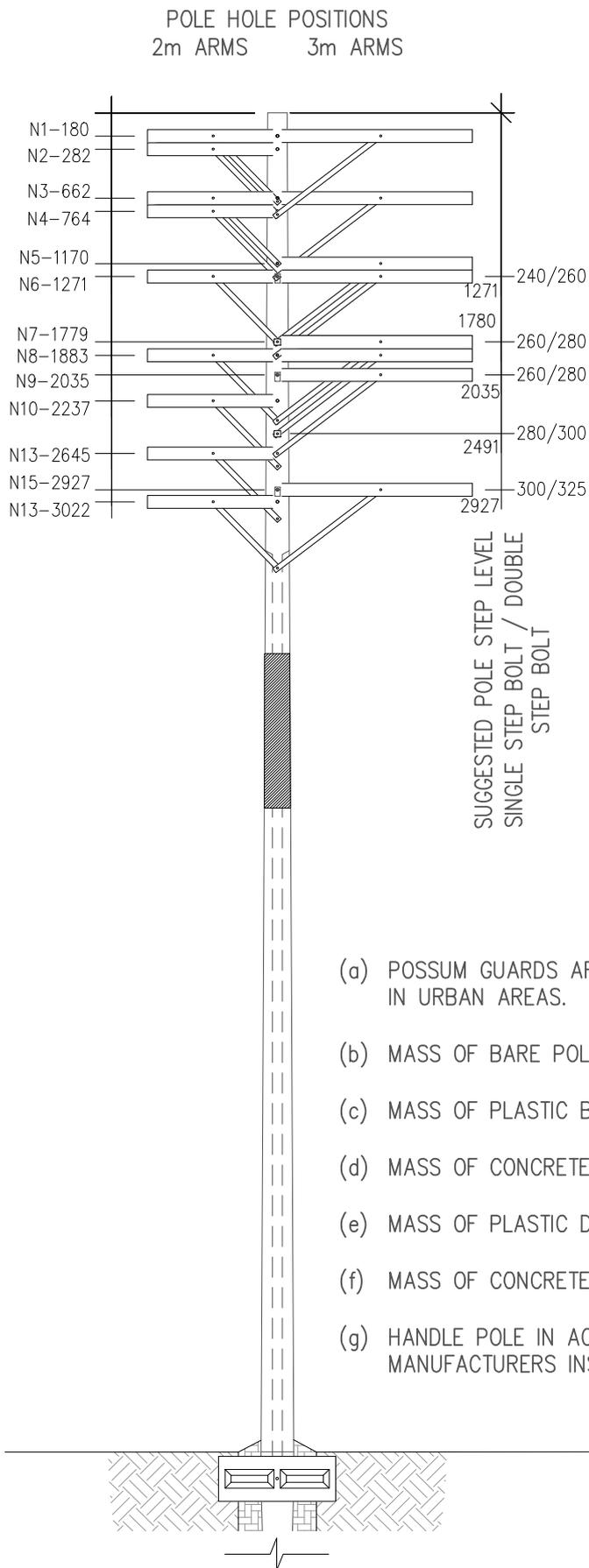
DONUT TYPE	REFERENCE	CODE	APPROPRIATE USAGE	MASS (kg)
PLASTIC	HBDNUT480	0000 375204	POLES WITHOUT STAYS	13
BUSCK	D490	0000 375200	POLES WITH STAYS	60

ITEM	DESCRIPTION	REFERENCE	CODE	QTY
1	POLE 12.5M PRESTRESSED CONCRETE	B125	0000 375198	1
2	POLE STEP (AS REQUIRED)	PS/S	0000 596041	UP TO 6
3	BOLT AND NUT M16 4.6/S (SEE TABLE FOR CODE)	-	-	UP TO 5
4	NUT M16 4.6/S	-	0000 975592	UP TO 5
5	WASHER 16 mm 50 x 50 x 6	-	0000 975598	UP TO 4
6	STAY ASSEMBLY (AS REQUIRED)	-	-	-
7	POSSUM GUARD 1200 x 900 SHEET	-	000 1082446	AS REQ.
8	BREAST BLOCK (SEE TABLE)	-	-	AS REQ.
9	AP20 BACKFILL (600mm DIA HOLE TAKES APPROX 0.4m ²)	-	-	AS REQ.
10	DONUT (SEE TABLE)	-	-	1

ISSUE	BY	CHECKED	APPROVER	DATE	STANDARD MODULE – DESIGN	ISSUE	DATE	DRAWING REF
A2	IWE	SiD		12/12/17	POLE BUSCK 12.5m CROSSARM POSITIONS & FOOTING DETAILS	B2	9/12/20	P-B125-S
B	IWE	SiD	RJP	18/12/17		SHEET	SCALE	PAGE
B1	IWE			6/11/19		A3	1:25	1 OF 1
B2	IWE			9/12/20				

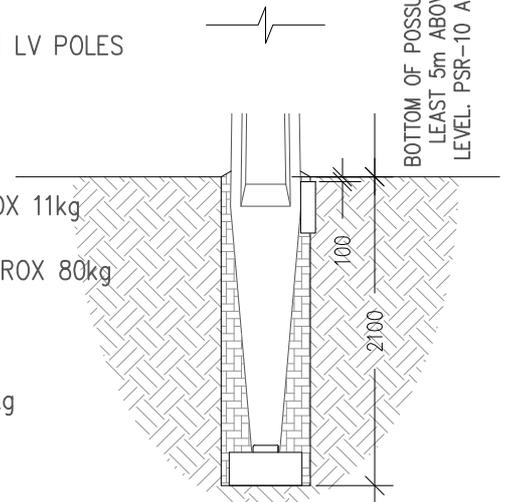
This drawing should be interpreted with reference to the Standard Construction booklet.

ISSUE		BY	CHECKED	APPROVER	DATE
A1	POLE FOOTING DETAIL INCLUDED. NOTES ADDED. FOR SID REVIEW	IWE	SID	-	12/12/17
B	MASS OF BREAST BLOCK & DONUT ADDED. APPROVED FOR ISSUE	IWE	SID	RJP	18/12/17



NOTES:

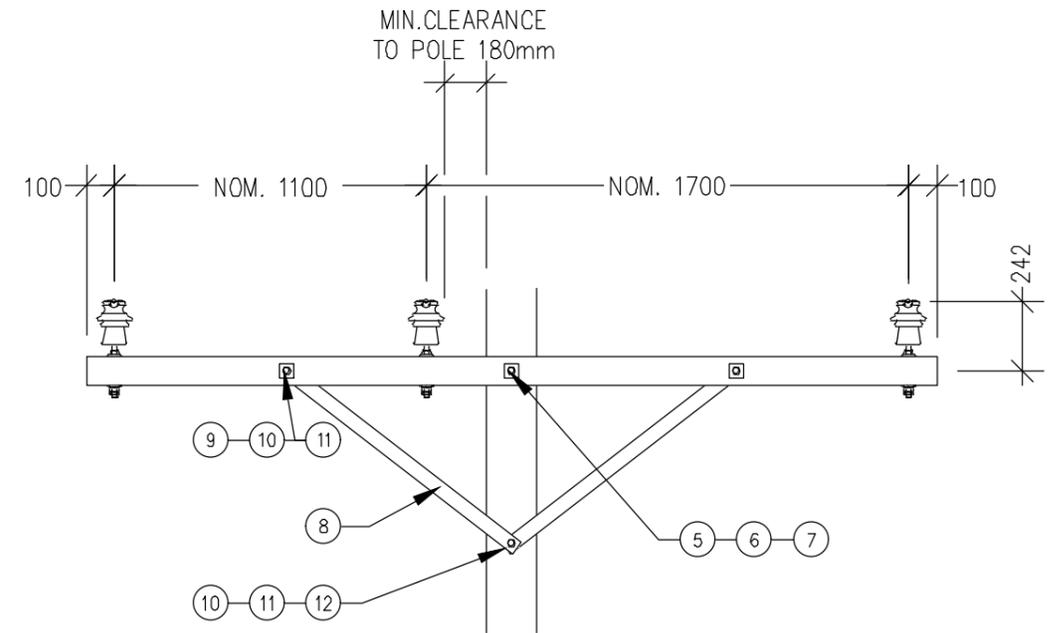
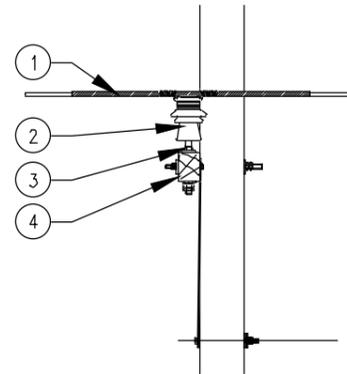
- (a) POSSUM GUARDS ARE NOT REQUIRED ON LV POLES IN URBAN AREAS.
- (b) MASS OF BARE POLE APPROX. 1600kg
- (c) MASS OF PLASTIC BREAST BLOCK APPROX 11kg
- (d) MASS OF CONCRETE BREAST BLOCK APPROX 80kg
- (e) MASS OF PLASTIC DONUT APPROX 13kg
- (f) MASS OF CONCRETE DONUT APPROX 60kg
- (g) HANDLE POLE IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS



STANDARD MODULE – INSTALLATION BUSCK PRESTRESSED CONCRETE 12.5m POLE INSALLATION	ISSUE B	DATE 18/12/17	DRAWING REF P-B125-S
	SHEET A4	SCALE 1:25	PAGE 2 OF 2

CROSSARM POSITION	KING BOLT LENGTH	KING BOLT CODE	BRACE BOLT LENGTH	BRACE BOLT CODE
B095-W1- W6	M16 x 240 4.6/S	0000 975566	M16 x 180 4.6/S	0000 975569
B110-W1, W2, W4	M16 x 280 4.6/S	0000 975564	M16 x 220 4.6/S	0000 975567
B110-W7, W10	M16 x 300 4.6/S	0000 975563	M16 x 220 4.6/S	0000 975567
B124-W1 - W7	M16 x 350 4.6/S	0000 975561	M16 x 280 4.6/S	0000 975564
B124-W10,W13	M16 x 375 4.6/S	0000 975560	M16 x 300 4.6/S	0000 975563
B125-W1 - W8	M16 x 280 4.6/S	0000 975564	M16 x 220 4.6/S	0000 975567
B125-W13, W14	M16 x 300 4.6/S	0000 975563	M16 x 240 4.6/S	0000 975566
B155-W1, W2, W4	M16 x 325 4.6/S	0000 975562	M16 x 260 4.6/S	0000 975565
B155-W7 - W22	M16 x 350 4.6/S	0000 975561	M16 x 280 4.6/S	0000 975564
B155-W25, W28	M16 x 375 4.6/S	0000 975560	M16 x 300 4.6/S	0000 975563

B095-N1	M16 x 280 4.6/S	0000 975564	M16 x 220 4.6/S	0000 975567
B095-N5	M16 x 300 4.6/S	0000 975563	M16 x 240 4.6/S	0000 975566
B110-N1	M16 x 280 4.6/S	0000 975564	M16 x 220 4.6/S	0000 975567
B110-N3	M16 x 300 4.6/S	0000 975563	M16 x 240 4.6/S	0000 975566
B110-N10	M16 x 350 4.6/S	0000 975561	M16 x 280 4.6/S	0000 975564
B124-N1	M16 x 400 4.6/S	0000 975559	M16 x 350 4.6/S	0000 975561
B124-N3	M16 x 425 4.6/S	0000 975558	M16 x 375 4.6/S	0000 975560
B124-N5	M16 x 450 4.6/S	0000 975557	M16 x 375 4.6/S	0000 975560
B124-N7	M16 x 450 4.6/S	0000 975557	M16 x 400 4.6/S	0000 975559
B124-N9	M16 x 500 4.6/S	0000 975555	M16 x 425 4.6/S	0000 975558
B125-N3, N4	M16 x 300 4.6/S	0000 975563	M16 x 240 4.6/S	0000 975566
B125-N6	M16 x 325 4.6/S	0000 975562	M16 x 260 4.6/S	0000 975565
B125-N8	M16 x 350 4.6/S	0000 975561	M16 x 280 4.6/S	0000 975564
B125-N10	M16 x 350 4.6/S	0000 975561	M16 x 300 4.6/S	0000 975563
B125-N13	M16 x 375 4.6/S	0000 975560	M16 x 300 4.6/S	0000 975563
B125-N16	M16 x 375 4.6/S	0000 975560	M16 x 325 4.6/S	0000 975562
B155-N1	M16 x 325 4.6/S	0000 975562	M16 x 260 4.6/S	0000 975565
B155-N4	M16 x 350 4.6/S	0000 975561	M16 x 280 4.6/S	0000 975564
B155-N6	M16 x 350 4.6/S	0000 975561	M16 x 300 4.6/S	0000 975563
B155-N8	M16 x 375 4.6/S	0000 975560	M16 x 325 4.6/S	0000 975562
B155-N10	M16 x 400 4.6/S	0000 975559	M16 x 325 4.6/S	0000 975562
B155-N12	M16 x 400 4.6/S	0000 975559	M16 x 350 4.6/S	0000 975561
B155-N14	M16 x 425 4.6/S	0000 975558	M16 x 375 4.6/S	0000 975560
B155-N16	M16 x 450 4.6/S	0000 975557	M16 x 375 4.6/S	0000 975560
B155-N18	M16 x 450 4.6/S	0000 975557	M16 x 400 4.6/S	0000 975559
B155-N20	M16 x 475 4.6/S	0000 975556	M16 x 425 4.6/S	0000 975558



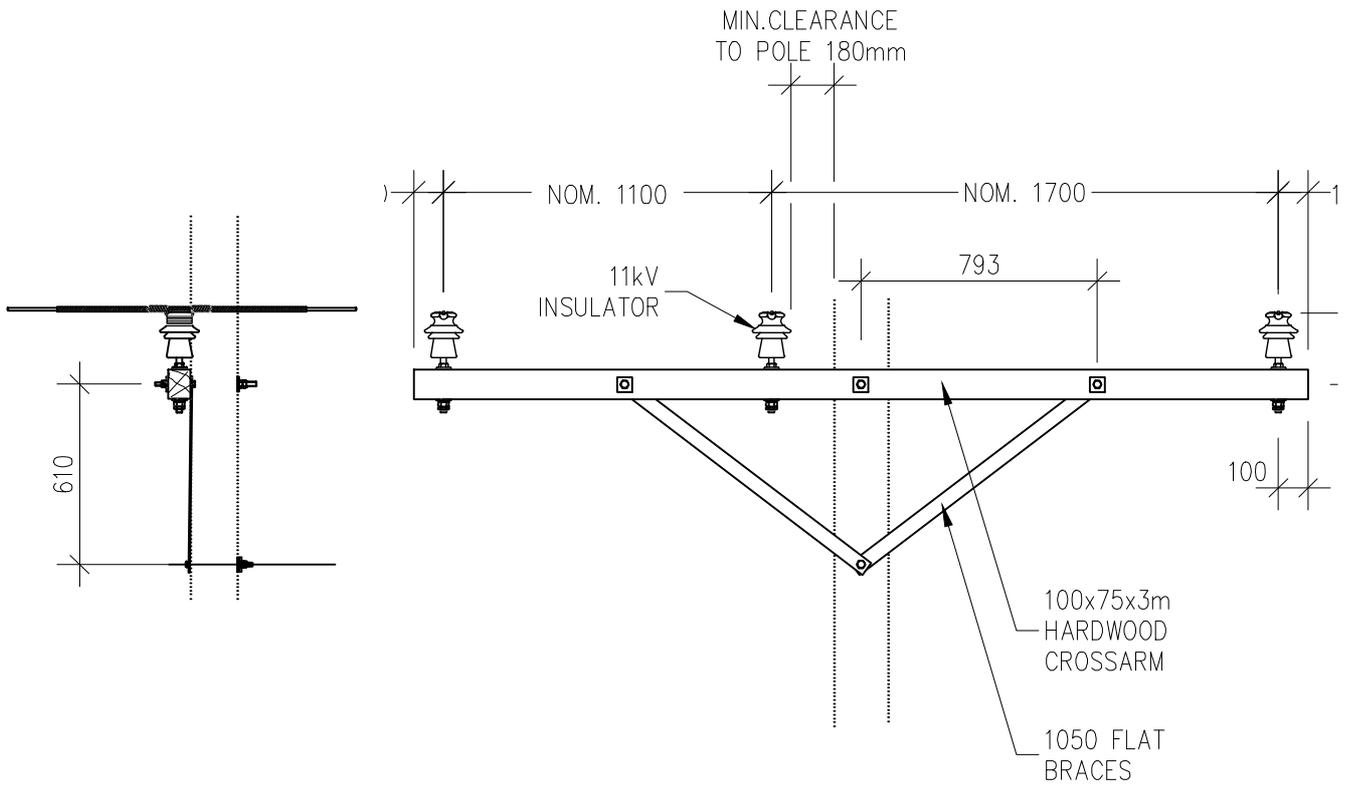
ITEM	DESCRIPTION	REFERENCE	CODE	QTY
1	ARMOUR ROD SET (SIZE AS APPROPRIATE)	-	-	3
2	INSULATOR 33kV PIN TYPE, TIE TOP - 3370W	D327-0503/C	0000975299	3
3	INSULATOR SPINDLE WITH 2 NUTS & WASHER - AX R31	D374-2023/L	0000975297	3
4	CROSSARM HARDWOOD 100 x 100 x 3M	X-CT-2-IF3-H	0000 975383	1
5	GALV. KING BOLT AND NUT M16 4.6/S (SEE TABLE FOR LENGTH)	-	-	1
6	GALV. NUT M16 4.6/S	-	0000 975592	4
7	WASHER GALV. 16 mm 50 x 50 x 6	-	0000 975598	5
8	FLAT BRACE 1050 x 50 x 5	FB-1000-L	0000 928475	2
9	GALV. BOLT AND NUT M16 x 150 4.6/S	-	0000 975570	2
10	GALV BRACE BOLT AND NUT M16 4.6/S (SEE TABLE FOR LENGTH)	-	-	1

NOTES:

- (a) MASS OF COMPLETE CROSSARM MODULE INCLUDING INSULATORS, BRACES, DISTANCE STRAPS AND BOLTS IS APPROXIMATELY 35kg
- (b) IF THIS MODULE IS INSTALLED AT OTHER THAN THE TOP OF THE POLE, THE CLEARANCE BETWEEN THE CONDUCTOR ON THE MIDDLE INSULATOR AND THE POLE MUST NOT BE LESS THAN 180mm.

ISSUE	BY	CHECKED	APPROVER	DATE	STANDARD MODULE – DESIGN	ISSUE	DATE	DRAWING REF	
B4	ARM MASS CORRECTED. FOR APPROVAL	IWE	RJP	-	15/06/18	CROSSARM – 11kV – 3 WIRE INTERMEDIATE FLAT 3m – LOW POLLUTION	C2	11/09/20	X-11-3-IF3-LS
C	NETWORK APPROVED	IWE	RJP	RJP	27/07/18		SHEET	SCALE	PAGE
C1	COMPONENTS COLOUR CODED FOR COMPATIBLE UNITS	IWE			24/10/19		A3	1:25	1 OF 2
C2	COMPONENTS CORRECTED TO 3m ARM	IWE			11/9/20				

ISSUE		BY	CHECKED	APPROVER	DATE
B4	ARM MASS CORRECTED. FOR APPROVAL	IWE	RJP	-	15/06/18
C	NETWORK APPROVED	IWE	RJP	RJP	27/07/18



NOTES:

- (a) MASS OF COMPLETE CROSSARM MODULE INCLUDING INSULATORS, BRACES, DISTANCE STRAPS AND BOLTS IS APPROXIMATELY 35kg
- (b) IF THIS MODULE IS INSTALLED AT OTHER THAN THE TOP OF THE POLE, THE CLEARANCE BETWEEN THE CONDUCTOR ON THE MIDDLE INSULATOR AND THE POLE MUST NOT BE LESS THAN 180mm.

STANDARD MODULE – INSTALLATION	ISSUE	DATE	DRAWING REF
	C	27/07/18	X-11-3-IF3-LS
CROSSARM – 11kV – 3 WIRE INTERMEDIATE FLAT 3m – LOW POLLUTION	SHEET	SCALE	PAGE
	A4	1:25	2 OF 2