

# Western Power's Asset Management System

## Distribution Design Catalogue Poles Section 02



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Content Owner/Custodian: Distribution Design and Standards

This Revision: 8 – April 2025

Date for Next Review: April 2028

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EDM # 23797502

## Document control

### Endorsement approvals

	Name	Title	Signature and Date
Compiled by	Nory Cerrado	Distribution Draftsperson	Signature on file
Checked by	Chris Omodei	Principal Engineer	Signature on file
Endorsed by	Ken Tiong	Team Leader	Signature on file
Approved by	Pep Ngwenya	Distribution Design & Standards Manager	Signature on file

### Record of revisions

Revision No.	Date	EDM Version	Compiled by	Description
1	08/04/2025	18	Nory Cerrado	First Revision with new Format and 3 yearly review

This document gives direction to and influences the following documents.

Doc	Title of document
ALL CHAPTERS	DDC - DISTRIBUTION DESIGN CATALOGUE
ALL CHAPTERS	DCSH - DISTRIBUTION CONSTRUCTION STANDARD HANDBOOK
ALL CHAPTERS	DSPM - DISTRIBUTION SUBSTATION PLANT MANUAL

**Stakeholders** (people that were consulted when document was updated)

#### Business Unit / Function

Asset Management - Asset Performance

Asset Management – Safety Environment Quality and Training

Asset Management - Grid Transformation

Asset Operations – Network Operations

Asset Operations – Operational Services

Asset Operations – Customer Connection Services

Business and Customer Service – Customer Service

**Notification list** (people to be notified when document is updated)

#### Business Unit / Function

Asset Management - Asset Performance

Asset Management – Safety Environment Quality and Training

Asset Management - Grid Transformation

Asset Operations – Network Operations

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Asset Operations – Customer Connection Services

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## Business and Customer Service – Customer Service

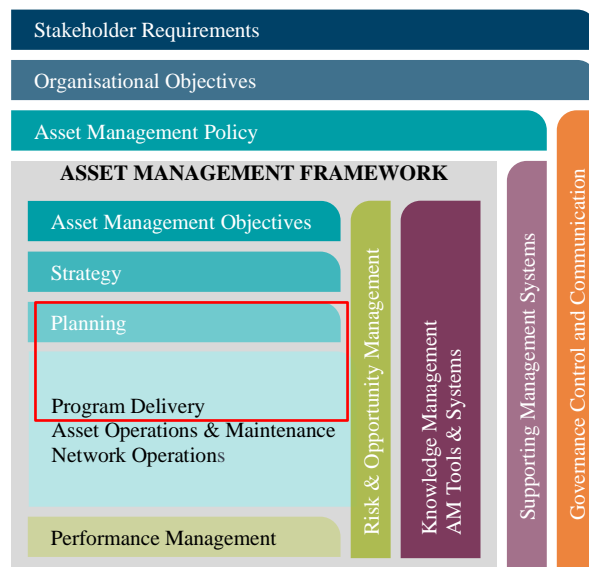
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This document must not be made available to personnel outside Western Power without the prior written approval of Western Power.

## Document classification and hierarchy

A key requirement of the Western Power Asset Management Policy (AMP) is to develop and maintain an Asset Management System (AMS). This Distribution Substation Plant Manual is defined as a technical document within the AMS document classification and structure and sits within the planning and Program Delivery components of the AMS.

The AMS and the interrelationships between the collection of documents, tools and systems that are used for asset management are described in the AMS document EDM# [40304923](#).



## Revision List

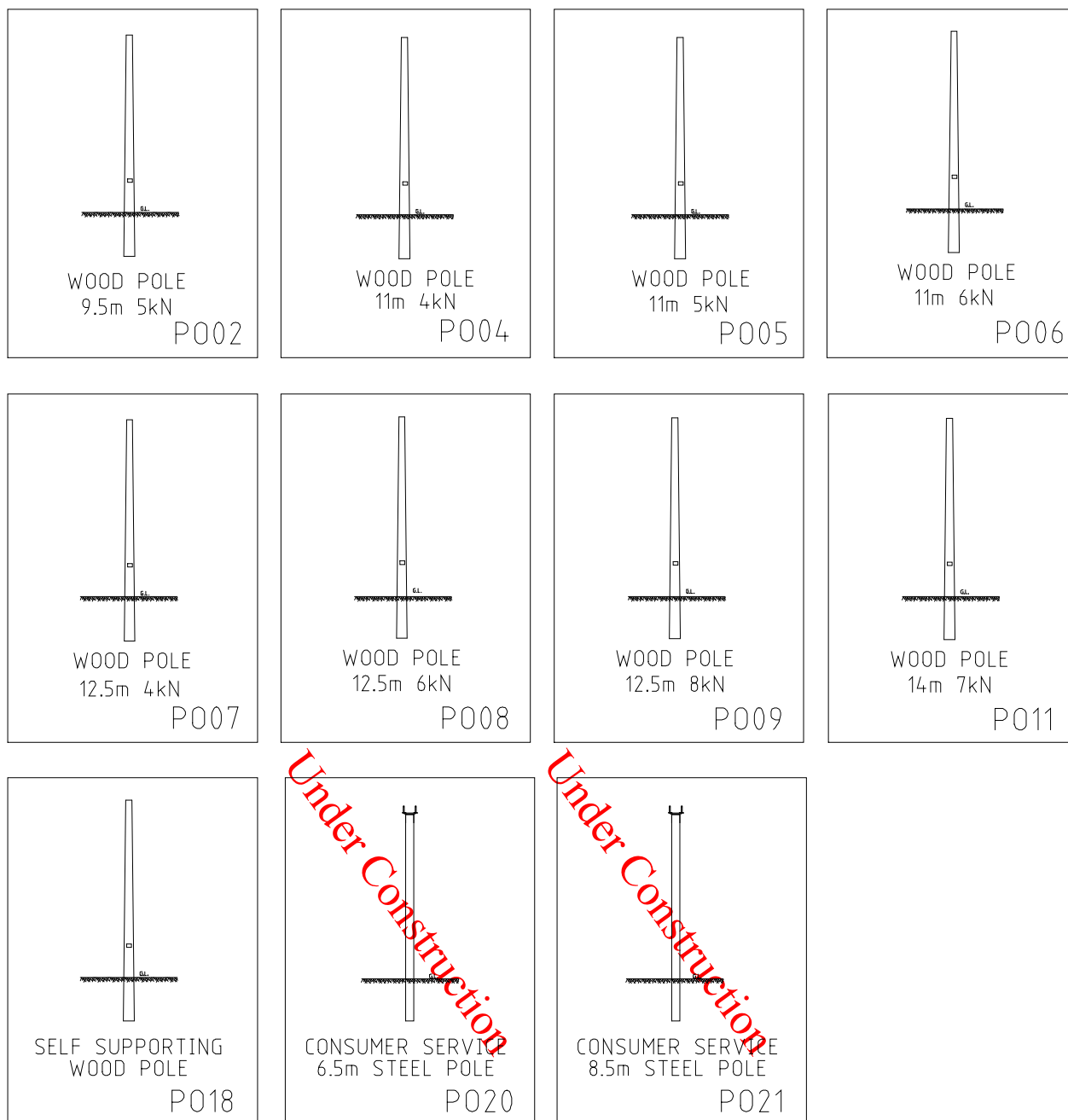
For drawing revisions please refer to the DDC Amendment list EDM# 24803827

## General Notes

NOTE #	DESCRIPTION
1	Driving point is not required for normal ground conditions including small coffee rocks and shale. For harder ground condition, a driving point is recommended. (It is unlikely the driving point will be suitable for granite rock)
2	Expulsion Dropout Fuse (EDO) base and links as well as K-Mate fuse current limiters are not included in CUs but listed in HV51. Fault Tamer fuse base and links are listed in HV52. Fault Tamer fuse are not to be used on 33kV networks and have a maximum rating of 20A. EDOs are used on 33kV networks and for current rating greater than 20A.
3	For the physical dimension tables the uppermost king bolt / eye bolt is the reference point with coordinates X=0.0, Y=0.0 (Datum)
4	The conductor location in the Y axis of the physical dimension tables lists the height of the conductor on the top of the post insulator above the datum. This dimension has been rounded down taking equipment differences, manufacturing tolerances and installation variations into account.  On angle structures, where the conductor is attached to the side of the insulator head the conductor is located marginally lower than if located on the top of the insulator. No adjustment is considered necessary to the Y dimension in these cases.
5	For conductor clashing calculation, apply the correct Y dimension which may differ from that listed in the dimension table which is used for ground clearance simulation purposes. E.g. HV09 RHS span (centre to outer phase) Ydim to be 230mm and not 310mm.
6	HV isolators to be selected according to HV53.

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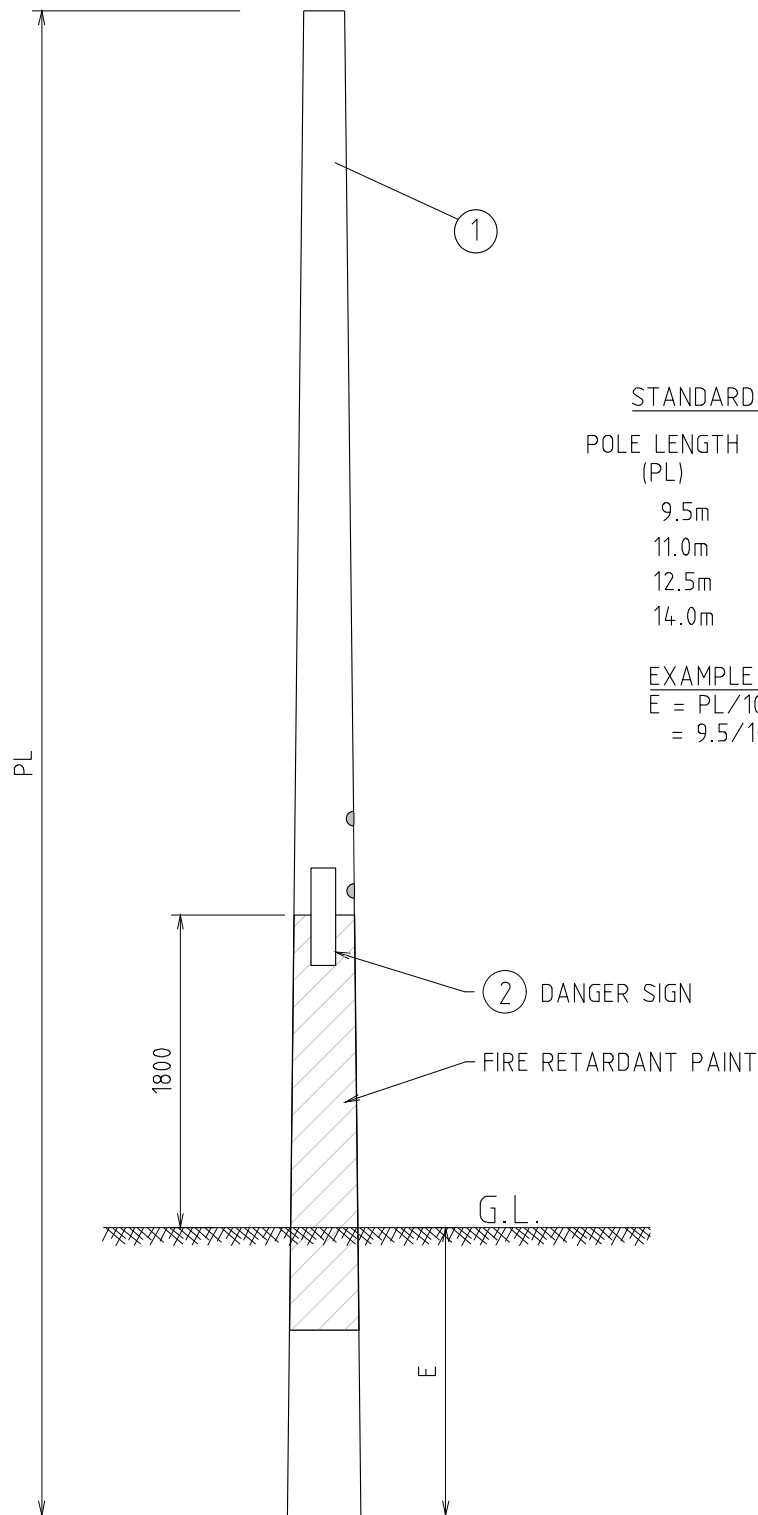
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				COMPATIBLE UNIT			DISTRIBUTION DESIGN CATALOGUE		westernpower	
				TITLE			DRAWN: JRR		DATE: 17-04-2014	
				PO COMPATIBLE UNITS			ORIGINATED: AK		SCALE: NTS	
							CHECKED: DVT		APPROVED: GRANT STACY	
									REV. D	
									SHT.	

## Poles CU List

CU	CU DESCRIPTION
PO2	Wood pole 9.5m 5kN
PO2_R	Wood pole 9.5m 5kN rural painted
PO4_M	Wood pole 11m 4kN metro
PO4_R	Wood pole 11m 4kN rural painted
PO5_M	Wood pole 11m 5kN metro
PO5_R	Wood pole 11m 5kN rural painted
PO6_M	Wood pole 11m 6kN metro
PO6_R	Wood pole 11m 6kN rural painted
PO7_M	Wood pole 12.5m 4kN metro
PO7_R	Wood pole 12.5m 4kN rural painted
PO8_M	Wood pole 12.5m 6kN metro
PO8_R	Wood pole 12.5m 6kN rural painted
PO9_M	Wood pole 12.5m 8kN metro
PO9_R	Wood pole 12.5m 8kN rural painted
PO11_M	Wood pole 14m 8kN metro
PO11_R	Wood pole 14m 8kN rural painted
PO18_11M	SSP 11m Pole (8.45m above ground)
PO18_11R	SSP 11m Pole (8.45m above ground) Painted
PO18_12.5M	SSP 12.5m Pole (9.7m above ground)
PO18_12.5R	SSP 12.5m Pole (9.7m above ground) Painted
PO18_14M	SSP 14m Pole (11m above ground)
PO18_14R	SSP 14m Pole (11m above ground) Painted



### STANDARD POLE EMBEDMENT

POLE LENGTH (PL)	EMBEDMENT DEPTH (E)
9.5m	1.55m
11.0m	1.70m
12.5m	1.85m
14.0m	2.00m

### EXAMPLE 9.5m POLE

$$E = PL/10 + 0.6m$$

$$= 9.5/10 + 0.6 = 1.55m$$

				COMPATIBLE UNIT			DISTRIBUTION DESIGN CATALOGUE		westernpower	
				TITLE			DRAWN: JRR		DATE: 17-04-2014	
				WOOD POLE			ORIGINATED:		SCALE: NTS	
							CHECKED: DVT		P002-P011	
							APPROVED: GRANT STACY		REV. F	
									SHY.	



<b>CU</b>	<b>CU Description</b>
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<b>PO2 Wood pole 9.5m 5 kN</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1205	Wood pole 9.5m 5 kN	1	ea	
2	CZ0226	Danger Sign	1	ea	

<b>PO2_R Wood pole 9.5m 5 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1101	Wood pole 9.5m 5 kN painted	1	ea	
2	CZ0226	Danger Sign	1	ea	

<b>PO4_M Wood pole 11m 4kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1214	Wood pole 11m 4kN	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO4_R Wood pole 11m 4kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1103	Wood pole 11m 4kN painted	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO5_M Wood pole 11m 5 kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1215	Wood pole 11m 5 kN	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO5_R Wood pole 11m 5 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1113	Wood pole 11m 5 kN painted	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>CU</b>	<b>CU Description</b>
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<b>PO6_M Wood pole 11m 6 kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1216	Wood pole 11m 6 kN	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO6_R Wood pole 11m 6 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1102	Wood pole 11m 6 kN painted	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO7_M Wood pole 12.5m 4 kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1224	Wood pole 12.5m 4 kN	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO7_R Wood pole 12.5m 4 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1104	Wood pole 12.5m 4 kN painted	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO8_M Wood pole 12.5m 6 kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1226	Wood pole 12.5m 6 kN	1	ea	
2	CZ0228	Danger Sign	1	ea	

<b>PO8_R Wood pole 12.5m 6 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1105	Wood pole 12.5m 6 kN painted	1	ea	
2	CZ0228	Danger Sign	1	ea	

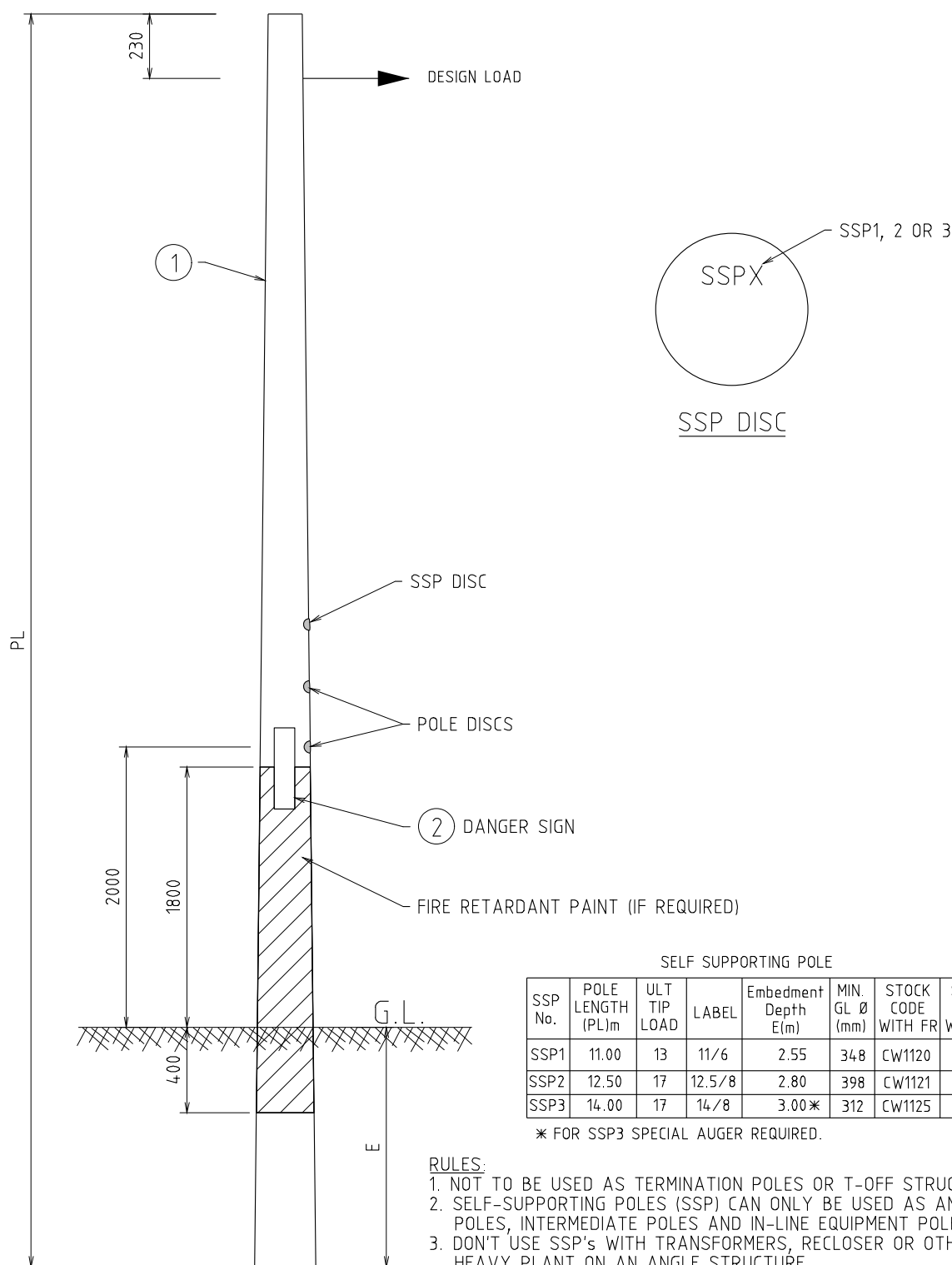
<b>CU</b>	<b>CU Description</b>
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<b>PO9_M Wood pole 12.5m 8 kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1228	Wood pole 12.5m 8 kN	1	ea	
2	CZ0228	Danger Sign	1	ea	

<b>PO9_R Wood pole 12.5m 8 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1112	Wood pole 12.5m 8 kN painted	1	ea	
2	CZ0228	Danger Sign	1	ea	

<b>PO11_M Wood pole 14m 8 kN metro</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1247	Wood pole 14m 8kN	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO11_R Wood pole 14m 8 kN rural painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1106	Wood pole 14m 8kN painted	1	ea	
2	CZ0227	Danger Sign	1	ea	



## NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.

## RULES:

1. NOT TO BE USED AS TERMINATION POLES OR T-OFF STRUCTURES.
2. SELF-SUPPORTING POLES (SSP) CAN ONLY BE USED AS ANGLE POLES, INTERMEDIATE POLES AND IN-LINE EQUIPMENT POLES.
3. DON'T USE SSP'S WITH TRANSFORMERS, RECLOSER OR OTHER HEAVY PLANT ON AN ANGLE STRUCTURE.
4. OUTRIGGER STAYS MAY REQUIRE A SSP REFER TO R16-2.
5. THE MAXIMUM DESIGN ANGLE OF DEVIATION IS LIMITED AS SHOWN IN R13-4.

						COMPATIBLE UNIT			DISTRIBUTION DESIGN CATALOGUE								
						TITLE			DRAWN: JRR		DATE: 30-05-2014		DRG. No.				
L	17.06.21	ITEM 3 DELETED				CO	REE	GS	SELF SUPPORTING WOOD POLE			ORIGINATED: DVT		SCALE: NTS		P018	
K	01.03.18	ITEM 3 ADDED				JC	REE	GS				CHECKED: AK					
J	11.01.18	NOTES REVISED				MD	GS	GS				APPROVED:		GRANT STACY	REV. L		SHT.
H	30.10.15	SSP3 ADDED IN THE TABLE				DVT	AT	GS									
REV	DATE	DESCRIPTION				ORGO	CHKD	APRD									

<b>CU</b>	<b>CU Description</b>
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<b>PO18_11M SSP 11m Pole (8.45m above gnd.)</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1123	Wood pole 11m 6kN	1	ea	
2	CZ0226	Danger Sign	1	ea	

<b>PO18_11R SSP 11m Pole (8.45m above gnd.) Painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1120	Wood pole 11m 6kN Painted	1	ea	
2	CZ0226	Danger Sign	1	ea	

<b>PO18_12.5M SSP 12.5m Pole (9.7m above gnd.)</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1122	Wood pole 12.5m 8kN	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO18_12.5R SSP 12.5m Pole (9.7m above gnd.) Painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1121	Wood pole 12.5m 8kN Painted	1	ea	
2	CZ0227	Danger Sign	1	ea	

<b>PO18_14M SSP 14m Pole (11m above gnd.)</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1124	Wood pole 14m 8kN	1	ea	
2	CZ0228	Danger Sign	1	ea	

<b>PO18_14R SSP 14m Pole (11m above gnd.) Painted</b>					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CW1125	Wood pole 14m 8kN Painted	1	ea	
2	CZ0228	Danger Sign	1	ea	