



DISTRIBUTION DESIGN

CATALOGUE

Section 03

**RE – Running Earth and Earthing**

HPC-1DC-07-0003-2014

For application to  
Horizon Power  
Electricity Distribution Networks

Document Control		
<b>Revision 6 Author</b>	<b>Name:</b> Samuel Liau <b>Position:</b> Standards Engineer	
<b>Reviewed</b>	<b>Name:</b> Andrew Nguyen <b>Position:</b> Standards Engineer	
<b>Endorsed By</b>	<b>Name:</b> Sandeep Magan <b>Position:</b> Engineering Services Manager / Principal Engineer	
<b>Approved By</b>	<b>Name:</b> Marc Beckx <b>Position:</b> Manager Engineering and Project Services	
<b>Date Created/Last Updated</b>	22 June 2020	
<b>Review Frequency **</b>	Annually	
<b>Next Review Date **</b>	22 June 2021	

*\*\* Frequency period is dependent upon circumstances– maximum is 5 years from last issue, review, or revision whichever is the latest. If left blank, the default shall be 1 year unless otherwise specified.*

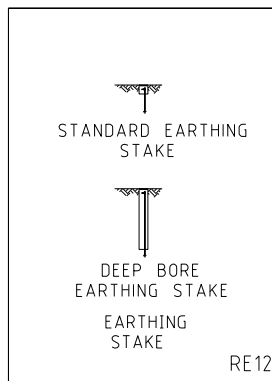
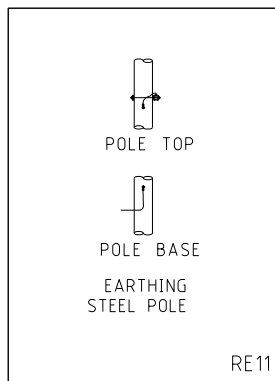
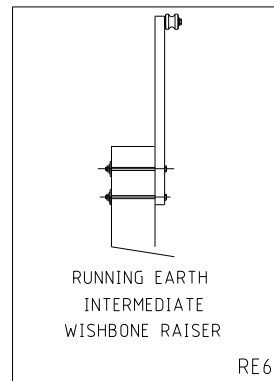
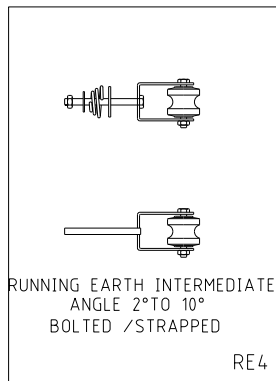
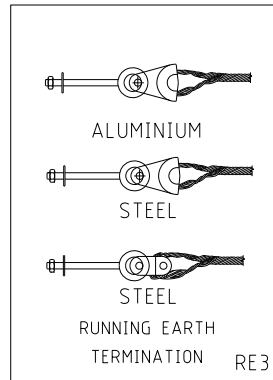
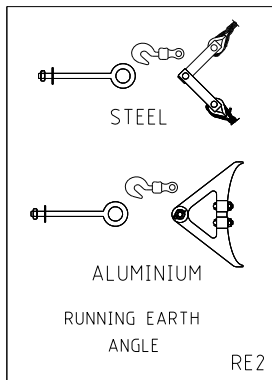
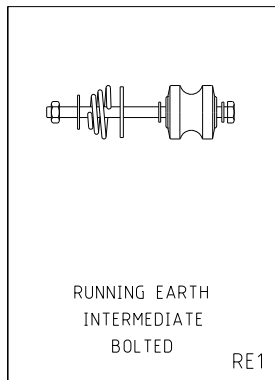
Revision Control		
Revision	Date	Description
6	22/06/2020	Review and Update CUs

*Refer to Appendix A for Full Revision History.*

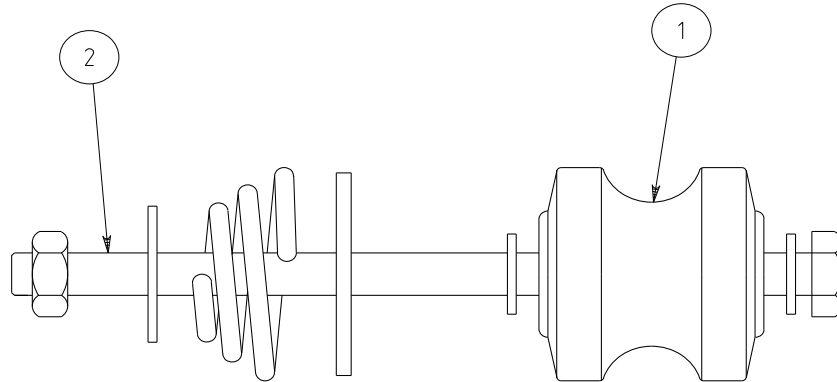
<b>STAKEHOLDERS</b> The following positions shall be consulted if an update or review is required:	<b>NOTIFICATION LIST</b> The following positions shall be notified of any authorised change:
<b>Asset Managers</b>	<b>Field Practice Coordinators</b>
<b>Works Delivery Managers</b>	<b>Logistics Managers</b>
<b>Asset Service Delivery Managers</b>	<b>EPCM Contracts Manager</b>

## RUNNING EARTH AND SWITCH WIRE LIST

CU	CU DESCRIPTION
<a href="#">RE1</a>	Running earth – Bolted
<a href="#">RE2 3/275AC</a>	Running earth angle – 3/2.75 SCAC
<a href="#">RE2 3/275SC</a>	Running earth angle – 3/2.75 SCGZ
<a href="#">RE2 7/160SC</a>	Running earth angle – 7/1.60 SCGZ
<a href="#">RE2 7/250AA</a>	Running earth angle – 7/2.50 AAC and AAAC
<a href="#">RE2 7/475AA</a>	Running earth angle – 7/4.75 to 19/3.25 AAC and AAAC
<a href="#">RE3 3/275AC</a>	Running earth termination – 3/2.75 SCAC
<a href="#">RE3 3/275SC</a>	Running earth termination – 3/2.75 SCGZ
<a href="#">RE3 7/160SC</a>	Running earth termination – 7/1.60 SCGZ
<a href="#">RE3 7/250AA</a>	Running earth termination – 7/2.50 AAC and AAAC
<a href="#">RE3 7/475AA</a>	Running earth termination – 7/4.75 AAC and AAAC
<a href="#">RE4B</a>	Running earth intermediate angle 2 to 10 degrees – Bolted
<a href="#">RE4S</a>	Running earth intermediate angle 2 to 10 degrees – Strapped
<a href="#">RE6</a>	Running earth intermediate raiser
<a href="#">RE11B</a>	Earthing – Steel Pole (Pole Base)
<a href="#">RE11T</a>	Earthing – Steel Pole (Pole Top)
<a href="#">RE12S</a>	Earthing – Stake (Standard)
<a href="#">RE12D</a>	Earthing – Stake (Deep Bore)

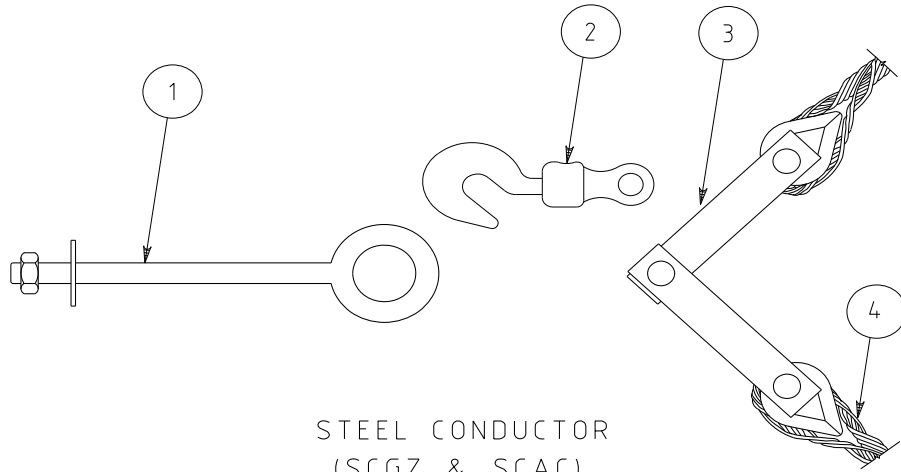


<p><b>HORIZON</b> <b>POWER</b></p> <p>DISTRIBUTION DESIGN CATALOGUE</p> <p>OPERATIONS DIVISION</p>	COMPATIBLE UNIT	REVISION 3	DATE FEB 2020
	RE COMPATIBLE UNITS	DRAWING No. RE INDEX	

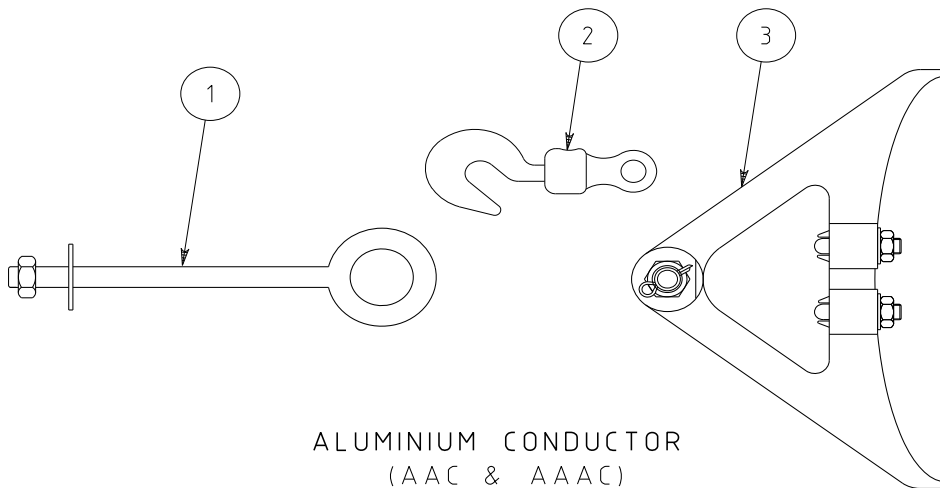


<b>HORIZON</b> <b>POWER</b> DISTRIBUTION DESIGN CATALOGUE OPERATIONS DIVISION	COMPATIBLE UNIT	REVISION 3	DATE FEB 2020
	RUNNING EARTH INTERMEDIATE BOLTED	DRAWING No RE1	

CU		CU DESCRIPTION			
RE1		Running earth intermediate - Bolted			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	IA0256	shackle insulator	1	ea	
2	AB6733	Pole bolt - M16 x 400 mm long with nut and washers	1	ea	



STEEL CONDUCTOR  
(SCGZ & SCAC)



ALUMINIUM CONDUCTOR  
(AAC & AAAC)

<b>HORIZON</b> <b>POWER</b> DISTRIBUTION DESIGN CATALOGUE OPERATIONS DIVISION	COMPATIBLE UNIT	REVISION 3	DATE FEB 2020
	RUNNING EARTH ANGLE	DRAWING No RE2	

CU		CU DESCRIPTION			
RE2_3/275AC		Running earth angle – 3/2.75 SCAC			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CB0017	Hook	1	ea	
2	CB0068	Bracket	1	ea	
3	CA0055	Angle assembly	1	ea	
4	CF0700	Helical termination	2	ea	

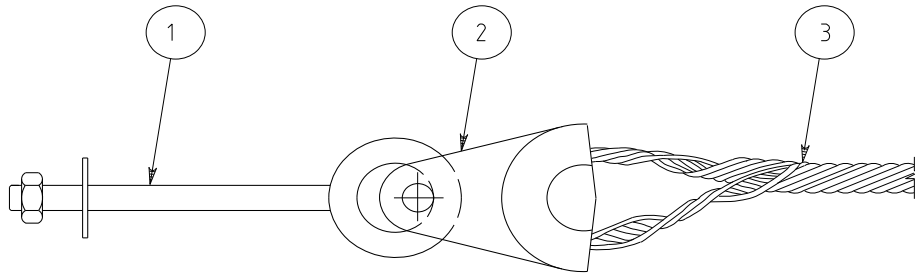
CU		CU DESCRIPTION			
RE2_3/275SC		Running earth angle – 3/2.75 SCGZ			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CB0017	Hook	1	ea	
2	CB0068	Bracket	1	ea	
3	CA0055	Angle assembly	1	ea	
4	CF0661	Helical termination	2	ea	

CU		CU DESCRIPTION			
RE2_7/160SC		Running earth angle – 7/1.60 SCGZ			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CB0017	Hook	1	ea	
2	CB0068	Bracket	1	ea	
3	CA0055	Angle assembly	1	ea	
4	CF0669	Helical termination	2	ea	

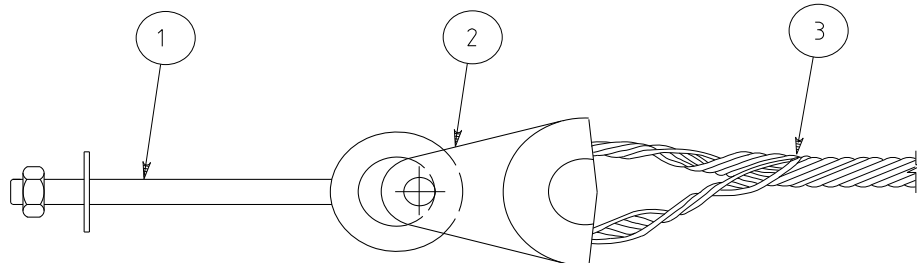


CU		CU DESCRIPTION			
RE2_7/250AA		Running earth angle – 7/2.50 AAC / AAAC			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CB0017	Hook	1	ea	
2	CS0068	Bracket	1	ea	
3	CC0167	Angle assembly	1	ea	

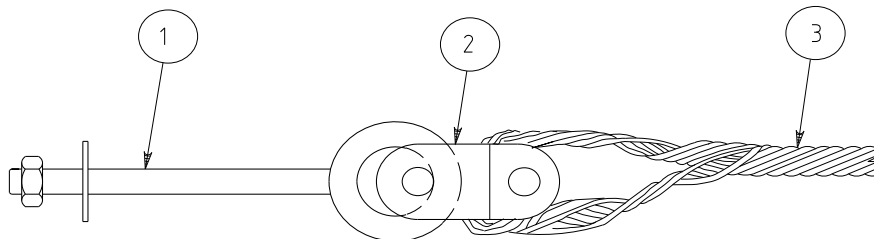
CU		CU DESCRIPTION			
RE2_7/475AA		Running earth angle – 7/4.75 to 19/3.25 AAC / AAAC			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CB0017	Hook	1	ea	
2	CS0068	Bracket	1	ea	
3	CC0166	Angle assembly	1	ea	



ALUMINIUM CONDUCTOR  
(AAC & AAAC)



STEEL CONDUCTOR  
(SCAC)



STEEL CONDUCTOR  
(SCGZ)

<p><b>HORIZON</b> <b>POWER</b></p> <p>DISTRIBUTION DESIGN CATALOGUE</p> <p>OPERATIONS DIVISION</p>	COMPATIBLE UNIT	REVISION 3	DATE FEB 2020
	RUNNING EARTH TERMINATION	DRAWING No RE3	

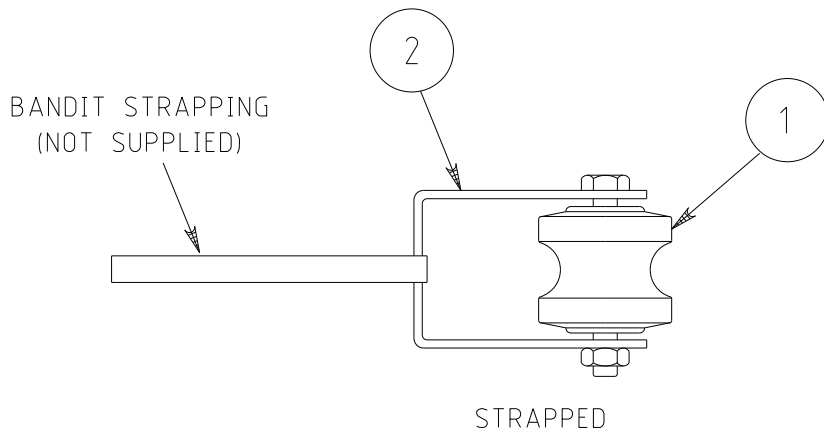
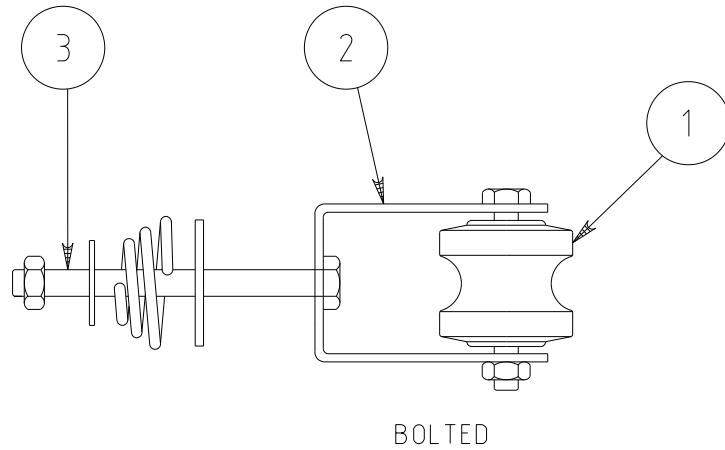
CU		CU DESCRIPTION			
RE3_3/275AC		Running earth termination – 3/2.75 SCAC			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CT0011	clevis thimble alum	1	ea	
3	CF0700	Helical termination	1	ea	

CU		CU DESCRIPTION			
RE3_3/275SC		Running earth termination – 3/2.75 SCGZ			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CT0037	clevis thimble steel	1	ea	
3	CF0661	Helical termination	1	ea	

CU		CU DESCRIPTION			
RE3_7/160SC		Running earth termination – 7/1.60 SCGZ			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CT0037	clevis thimble steel	1	ea	
3	CF0669	Helical termination	1	ea	

CU		CU DESCRIPTION			
RE3_7/250AA		Running earth termination – 7/2.50 AAC/AAAC			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CT0011	clevis thimble alum	1	ea	
3	CF0752	Helical termination	1	ea	

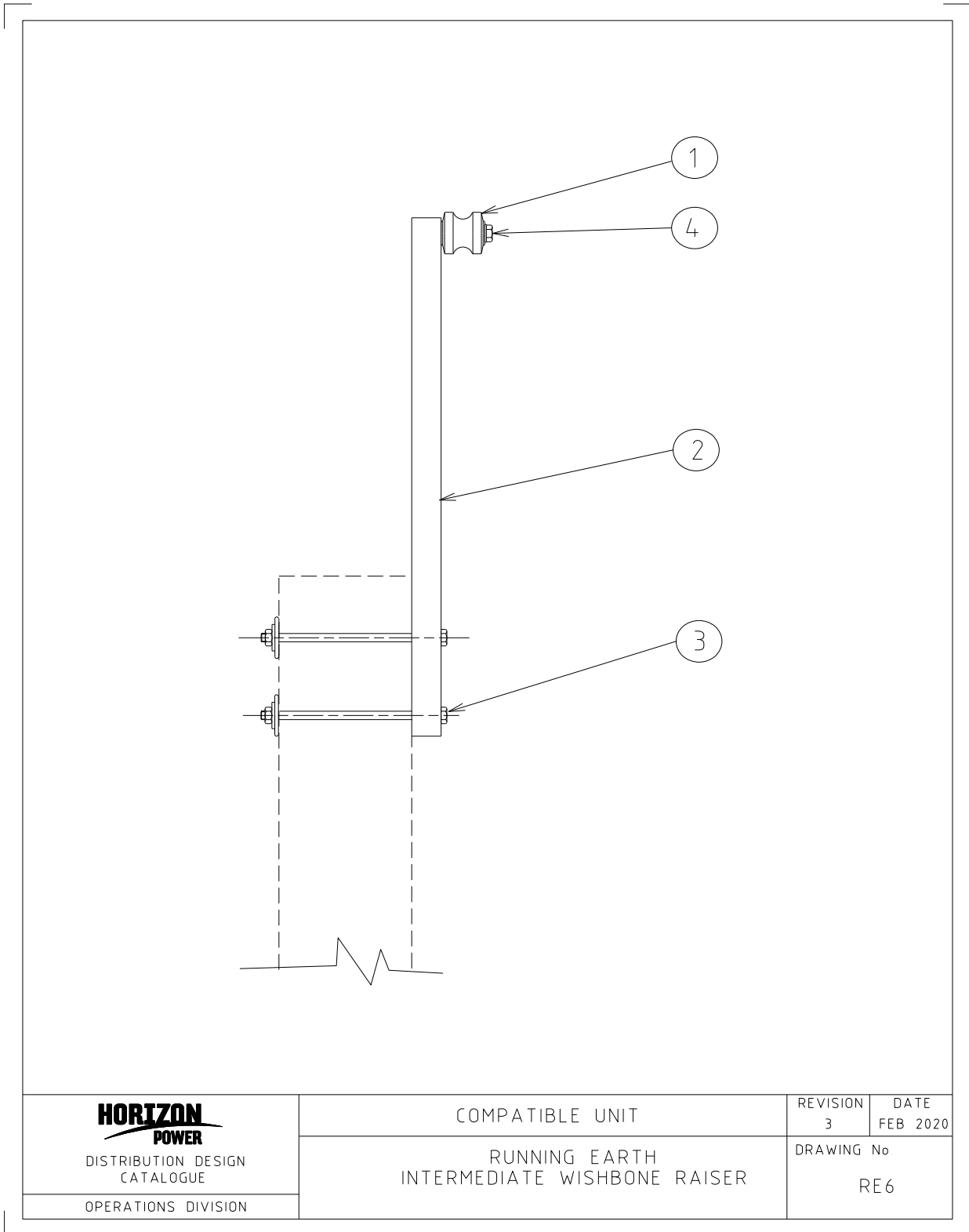
CU		CU DESCRIPTION			
RE3_7/475AA		Running earth termination – 7/4.75 AAC/AAAC			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6024	16 dia eyebolt 350 long with nut and washer	1	ea	
2	CT0011	clevis thimble alum	1	ea	
3	CF0757	Helical termination	1	ea	



 DISTRIBUTION DESIGN CATALOGUE OPERATIONS DIVISION	COMPATIBLE UNIT	REVISION 3	DATE FEB 2020
	RUNNING EARTH INTERMEDIATE ANGLE 2° TO 10° (BOLTED / STRAPPED)	DRAWING No. RE4	

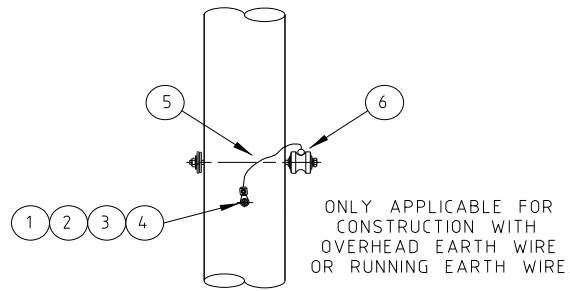
CU		CU DESCRIPTION			
RE4B		Running earth intermediate angle 2° to 10° - Bolted			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	IA0256	shackle insulator	1	ea	
2	CB0316	clevis U style with nut and bolt	1	ea	
3	AB6733	Pole bolt - M16 x 400 mm long with nut and washers	1	ea	

CU		CU DESCRIPTION			
RE4S		Running earth intermediate angle 2° to 10° - Strapped			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	IA0256	shackle insulator	1	ea	
2	CB0316	clevis U style with nut and bolt	1	ea	

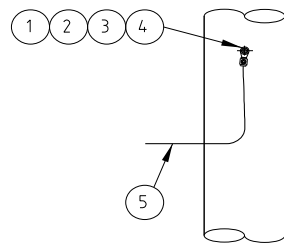


CU		CU DESCRIPTION			
RE6		Running earth intermediate raiser			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	IA0256	shackle insulator	1	ea	
2	CB0170	earth raiser bracket	1	ea	
3	AB6733	Pole bolt - M16 x 400 mm long with nut and washers	2	ea	
4	AB4611	Bolt – M16 x 120 mm long with nut and washers	1	ea	





POLE TOP

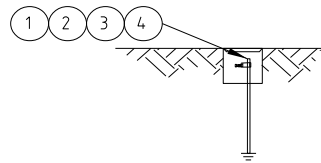


POLE BASE

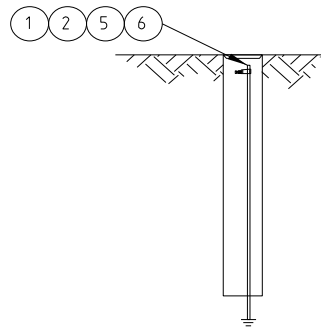
<b>HORIZON</b> <b>POWER</b> DISTRIBUTION CONSTRUCTION STANDARDS OPERATIONS DIVISION	COMPATIBLE UNIT	REVISION 1	DATE FEB 2020
	EARTHING STEEL POLE	DRAWING No RE11	

CU		CU DESCRIPTION			
RE11B		Earthing – Steel pole (Pole Base)			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB2959	Screw M12 x 40 mm long	1	ea	
2	AW2607	washer flat 1/2IN	1	ea	
3	AW2429	washer spring M12	1	ea	
4	FL1465	terminal lug eye	1	ea	
5	EE1264	cable 70 mm <sup>2</sup> PVC insulated	1	mtr	

CU		CU DESCRIPTION			
RE11T		Earthing – Steel pole (Pole Top)			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB2959	Screw M12 x 40 mm long	1	ea	
2	AW2607	washer flat 1/2IN	1	ea	
3	AW2429	washer spring M12	1	ea	
4	FL1465	terminal lug eye	1	ea	
5	EE1264	cable 70 mm <sup>2</sup> PVC insulated	1	mtr	
6	CC0125	Bi metal parallel grove clamp 3/2.75; 7/2.50	1	ea	



STANDARD EARTHING  
STAKE



DEEP BORE  
EARTHING STAKE

<p><b>HORIZON</b> <b>POWER</b></p> <p>DISTRIBUTION CONSTRUCTION STANDARDS</p> <p>OPERATIONS DIVISION</p>	COMPATIBLE UNIT	REVISION 1	DATE FEB 2020
	EARTHING STAKE	DRAWING No RE12	

CU		CU DESCRIPTION			
RE12S		Earthing stake - Standard			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CE0201	Earth terminal box	1	ea	
2	CE0058	Earthing clamp	1	ea	
3	CE0078	Coupling Tube ALM NO OCT15	1	ea	
4	CE0135	Rod section 1.4 m long 15 mm diam ALM CTE	2	ea	

CU		CU DESCRIPTION			
RE12D		Earthing stake – Deep Bore			
ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CE0201	Earth terminal box	1	ea	
2	CE0058	Earthing clamp	1	ea	
5	CE0079	Coupling Tube threaded	2	ea	
6	CE0140	Rod section 3.1 m long 14 mm diam threaded	3	ea	

## APPENDIX A – REVISION INFORMATION

(Informative) Horizon Power has endeavoured to provide standards of the highest quality and would appreciate notification if any errors are found or even queries raised.

Each Standard makes use of its own comment sheet which is maintained throughout the life of the standard, which lists all comments made by stakeholders regarding the standard.

The document **DM# 2304418** can be used to record any errors or queries found in or pertaining to this standard, which can then be addressed whenever the standard gets reviewed.

Date	Rev No.	Notes
	0	Western Power Supplied
01/07/2009	1	Original Horizon Power issue
09/10/2010	2	Change of Document Control
11/01/2012	3	Change in Document Control, Drawings revised and CUTE1, RE2_7/474AA & RE5 Titles updated.
21/01/2014	4	Change in Document format
2/07/2018	5	Remove switchwire and add in earthing, remove "Wishbone" from RE6 wording
22/06/2020	6	Renamed RE1B to RE1 Removed RE1S Update Item numbers on RE2 CU lists OS0055 is replaced with CB0017 and CS0068 on RE2 CU lists