



# **Underground Distribution Construction Manual**

## **Section C4 – Other Ground Mounted Plant**

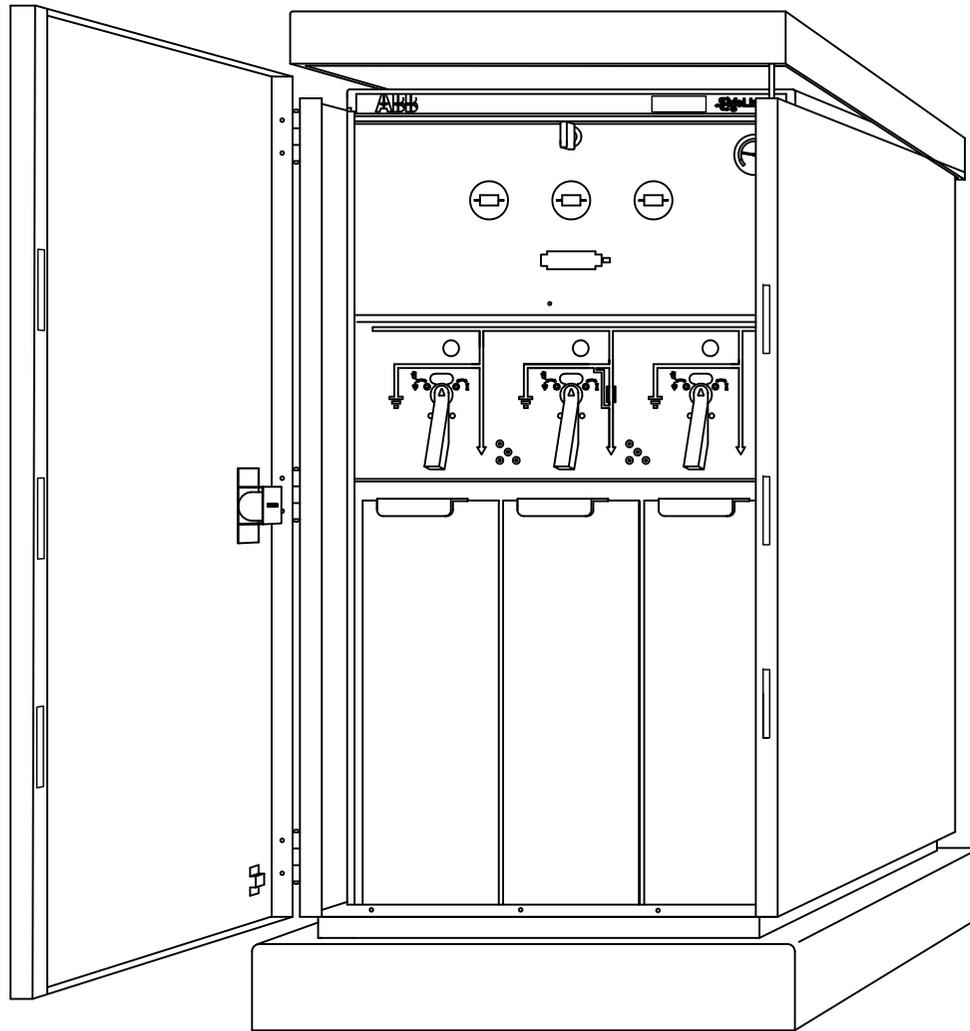
Approved by: A Smith-de Perez

# CIVIL WORKS

## SECTION C4 - OTHER GROUND-MOUNTED PLANT

Sub-Sect.	Description	Sheets
	<b>RING MAIN UNITS</b>	
1.1	ABB SAFELINK RMU - OUTDOOR	4
1.2	SQUARE PADMOUNT AND 3 WAY RMU CMEN CIVIL WORKS AND EARTHING	1
	<b>PILLARS &amp; CABINETS</b>	
2.1	LV DISTRIBUTION SUPPLY CABINETS	7
	<b>LV REGULATORS</b>	
3.1	GRIDCO LV REGULATOR - 150kVA	1

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	E		DATE	07/05/16	DATE	10/10/08	6229-A4   E	
	APPD		A Smith-de Perez	RECD		SECTION	SUB-SECT.	
	CKD		J LANSLEY	CKD	P.BARNEY	C4	0	
	DRN		K De Manser	DWN	F.AMANPOOR	SHT 1 OF 1		FILE UDC-C4-0-1E.DWG
	Added 3.1 LV Regulators			CIVIL WORKS OTHER GROUND-MOUNTED PLANT SECTION INDEX				



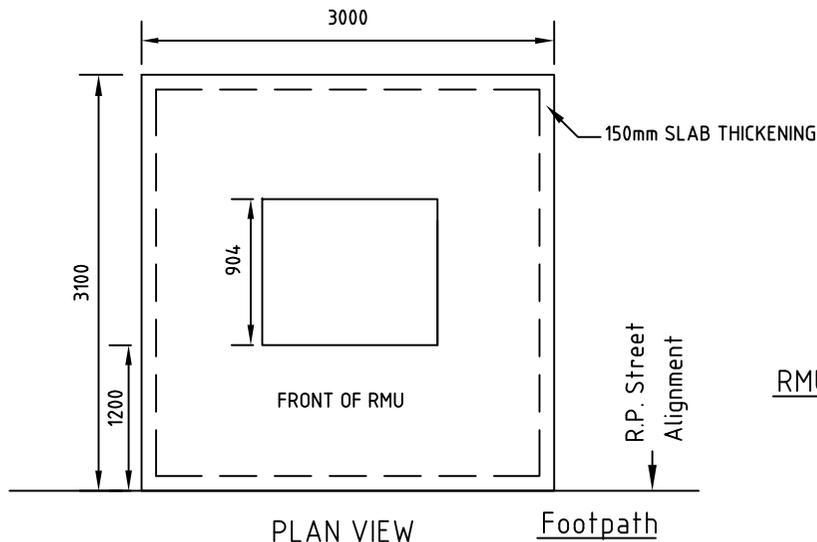
Stock Code	TYPE
19400	CFC
19401	CFCF
19402	CCC
19655	CFCC
19656	CCCC

**INCLUDES:  
 ABB SAFELINK RMU,  
 OUTDOOR ENCLOSURE,  
 CONCRETE MOUNTING PLYNTH**

The detail shown on this sheet for the ABB Safelink outdoor RMU was replicated from the Commercial & Industrial Substation Manual drawing 9287-A4

ORIGINAL ISSUE	A			 © COPYRIGHT 2011 ENERGEX This drawing must not be reproduced in part or whole without written permission from ENERGEX	<b>UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL</b>  <b>CIVIL WORKS</b> <b>OTHER GROUND MOUNTED PLANT</b> <b>RING MAIN UNITS</b> <b>ABB SAFELINK RMU - OUTDOOR</b>	APP'D	R. ENGLISH		CAD			
	B	DATE	12/9/11					DATE	10/10/08	<b>6229-A4   B</b>		
	APPD	R. ENGLISH	CKD			D. TAYLOR	DRN	A. SYMONDS	RECD		SECTION	SUB-SECT.
									CKD	P. BARNEY	C4	1
									DWN	F. AMANPOOR	SHT 1 OF 4	
								FILE UDC-C4-1-1B.DWG				

REMOVE MERLIN GERIN CB,  
 SHOW ABB SAFELINK  
 OUTDOOR RMU DETAIL.



PLAN VIEW

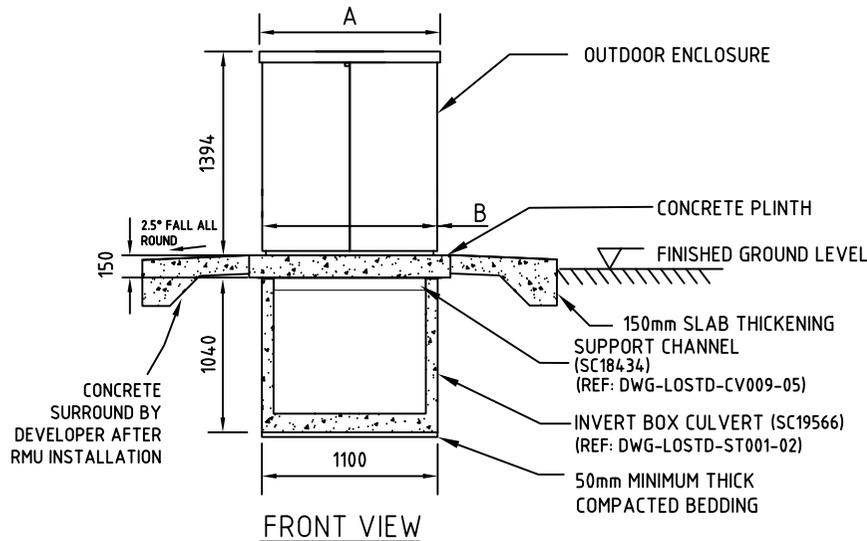
RMU INSTALLED IN PROPERTY

OUTDOOR ENCLOSURE DETAIL

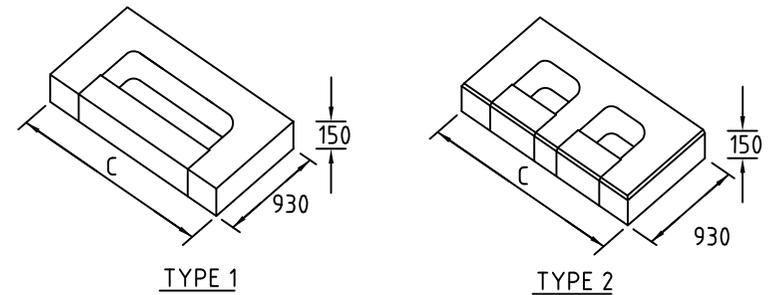
	CFC,CCC	CFCC,CCCC	CFCF
DIM "A"	810	1015	1240
DIM "B"	770	975	1195

SafeLink with ABB stand

	CFC,CCC,CFDF	CFCC,CCCC,CFCD	CFCF
HEIGHT (mm)	1381	1381	1381
WIDTH (mm)	733	936	1160
DEPTH (mm)	801	806	806
WEIGHT(Kg)	280	350	415



FRONT VIEW



CONCRETE PLINTH DETAIL

	CFC,CCC,CF	CFCC,CCCC	CFCF
TYPE	1	1	2
DIM "C"	945	1155	1375
WEIGHT(Kg)	215	260	350

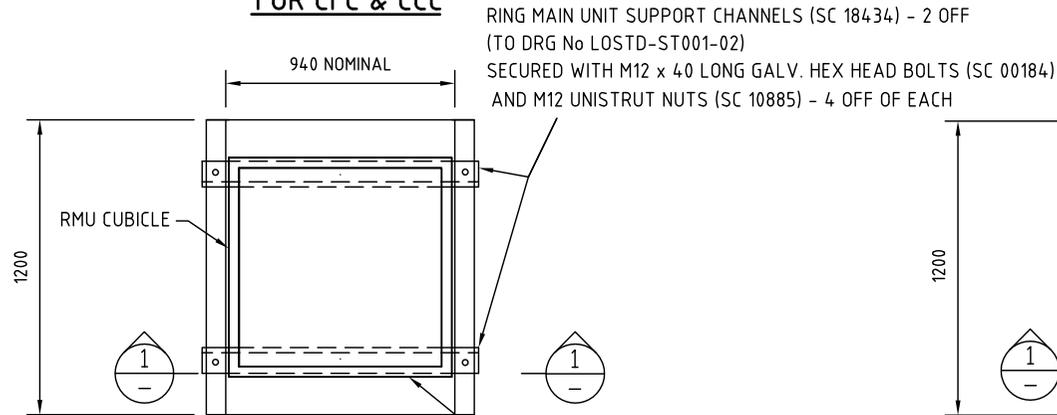
All Dimensions are in mm

Not To Scale

The detail shown on this sheet for the ABB Safelink outdoor RMU was replicated from the Commercial & Industrial Substation Manual Section 14

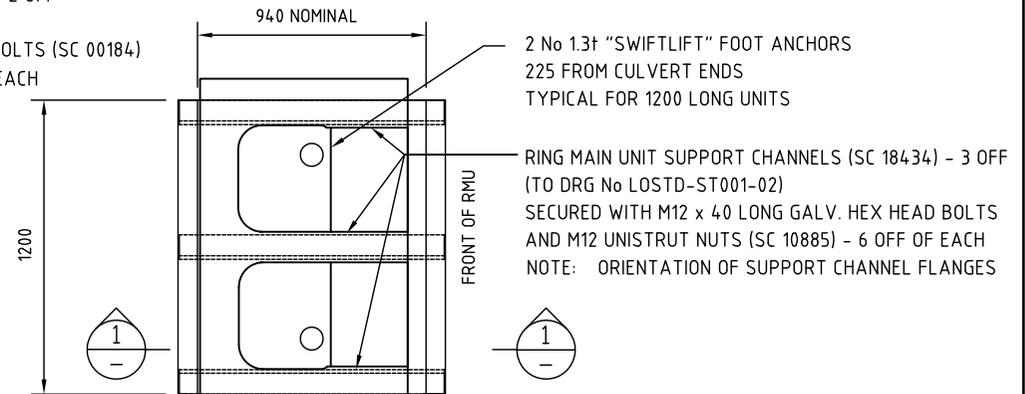
A	ORIGINAL ISSUE	 © COPYRIGHT 2017 ENERGEX This drawing must not be reproduced in part or whole without written permission from ENERGEX	UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL CIVIL WORKS OTHER GROUND MOUNTED PLANT RING MAIN UNITS ABB SAFELINK RMU - OUTDOOR	APP'D	R. ENGLISH	CAD 6229-A4   C SECTION C4   SUB-SECT. 1 SHT 2 OF 4 FILE UDC-C4-1-2C.DWG	
	DATE			16/5/17	RECD		
	APPD			J.LANSLEY	CKD		P.BARNEY
	DRN			P.RELF	DWN		F.AMANPOOR
	RMU DIMENSIONS UPDATED SITE INCREASED 3.1x3M						

**FOR CFC & CCC**



RING MAIN UNIT SUPPORT CHANNELS (SC 18434) - 2 OFF  
(TO DRG No LOSTD-ST001-02)  
SECURED WITH M12 x 40 LONG GALV. HEX HEAD BOLTS (SC 00184)  
AND M12 UNISTRUT NUTS (SC 10885) - 4 OFF OF EACH

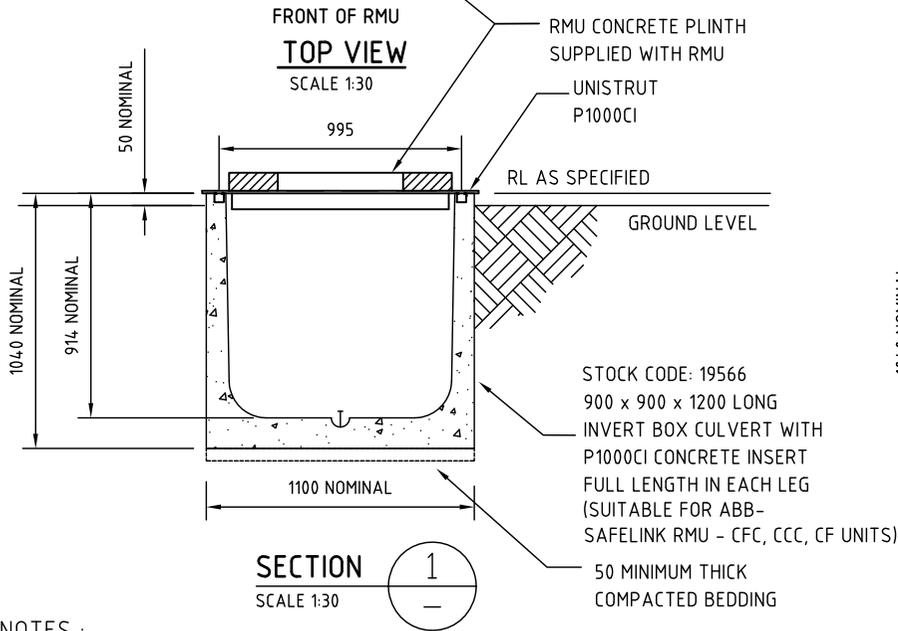
**FOR CFCC & CCCC**



2 No 1.3t "SWIFTLIFT" FOOT ANCHORS  
225 FROM CULVERT ENDS  
TYPICAL FOR 1200 LONG UNITS

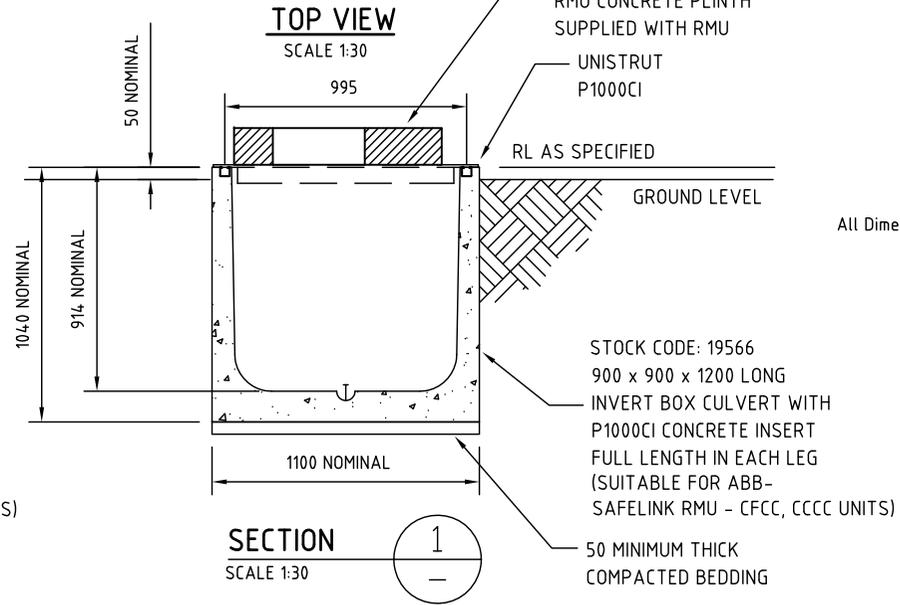
RING MAIN UNIT SUPPORT CHANNELS (SC 18434) - 3 OFF  
(TO DRG No LOSTD-ST001-02)  
SECURED WITH M12 x 40 LONG GALV. HEX HEAD BOLTS  
AND M12 UNISTRUT NUTS (SC 10885) - 6 OFF OF EACH  
NOTE: ORIENTATION OF SUPPORT CHANNEL FLANGES

**FRONT OF RMU  
TOP VIEW  
SCALE 1:30**



**SECTION  
SCALE 1:30**

**FRONT OF RMU  
TOP VIEW  
SCALE 1:30**



**SECTION  
SCALE 1:30**

All Dimensions are in mm

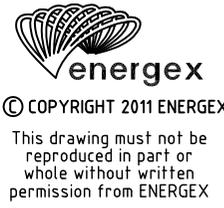
**NOTES :**

1. INVERT BOX CULVERTS TO AS 1597, AND COMPLYING TO MRD (QLD) SPECIFICATION FORM 61R THESE ITEMS ARE NON-STANDARD - SO EARLY ORDERING IS REQUIRED.
2. INVERT BOX CULVERTS TO BE FILLED WITH APPROVED FILLING BY ENERGEX, WHICH SHALL BE SOLIDLY PACKED AND CAREFULLY HAND RAMMED AFTER CABLES HAVE BEEN INSTALLED. APPROVED FILLING AND BEDDING MATERIAL SHALL COMPRISE FINE SAND OR STONE FREE FRIABLE LOAM. CABLE TRENCHING SHALL NOT BE BACKFILLED WITH CLAY OR ROCK.
3. REFER TO DWG LOSTD-CV009-05 FOR DETAILS OF CIVIL FOUNDATION WORKS.

The detail shown on this sheet for the ABB Safelink outdoor RMU was replicated from the Commercial & Industrial Substation Manual drawing 8994-A4

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		<b>CIVIL WORKS OTHER GROUND MOUNTED PLANT RING MAIN UNITS ABB SAFELINK RMU - OUTDOOR</b>		DATE	12/9/11	<b>6229-A4   A</b>	
				RECD	D. TAYLOR	SECTION	SUB-SECT.
		CKD	K. GOSDEN	C4		1	
		DWN	A. SYMONDS	SHT 3		OF 4	
				FILE UDC-C4-1-3A.DWG			

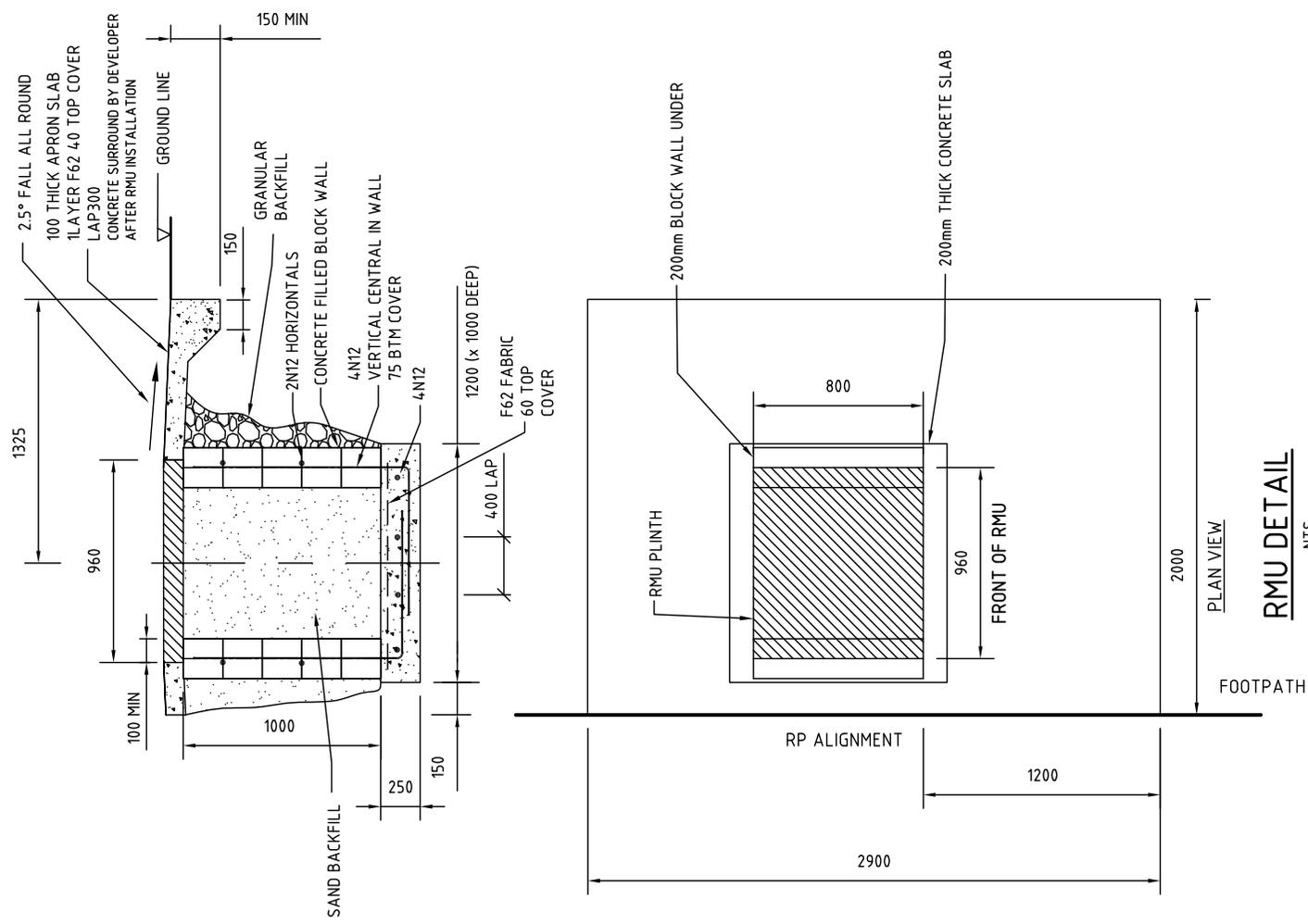
**A** ORIGINAL ISSUE



**UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL**  
**CIVIL WORKS**  
**OTHER GROUND MOUNTED PLANT**  
**RING MAIN UNITS**  
**ABB SAFELINK RMU - OUTDOOR**

APP'D	R. ENGLISH		CAD
DATE	12/9/11	<b>6229-A4</b>	<b>A</b>
RECD	D. TAYLOR	SECTION	SUB-SECT.
CKD	K. GOSDEN	<b>C4</b>	<b>1</b>
DWN	A. SYMONDS	SHT 4 OF 4	
FILE UDC-C4-1-4A.DWG			

The detail shown on this sheet for the ABB Safelink outdoor RMU was replicated from the Commercial & Industrial Substation Manual drawing 8991-A4



**RMU INSTALLED ON FOOTPATH**

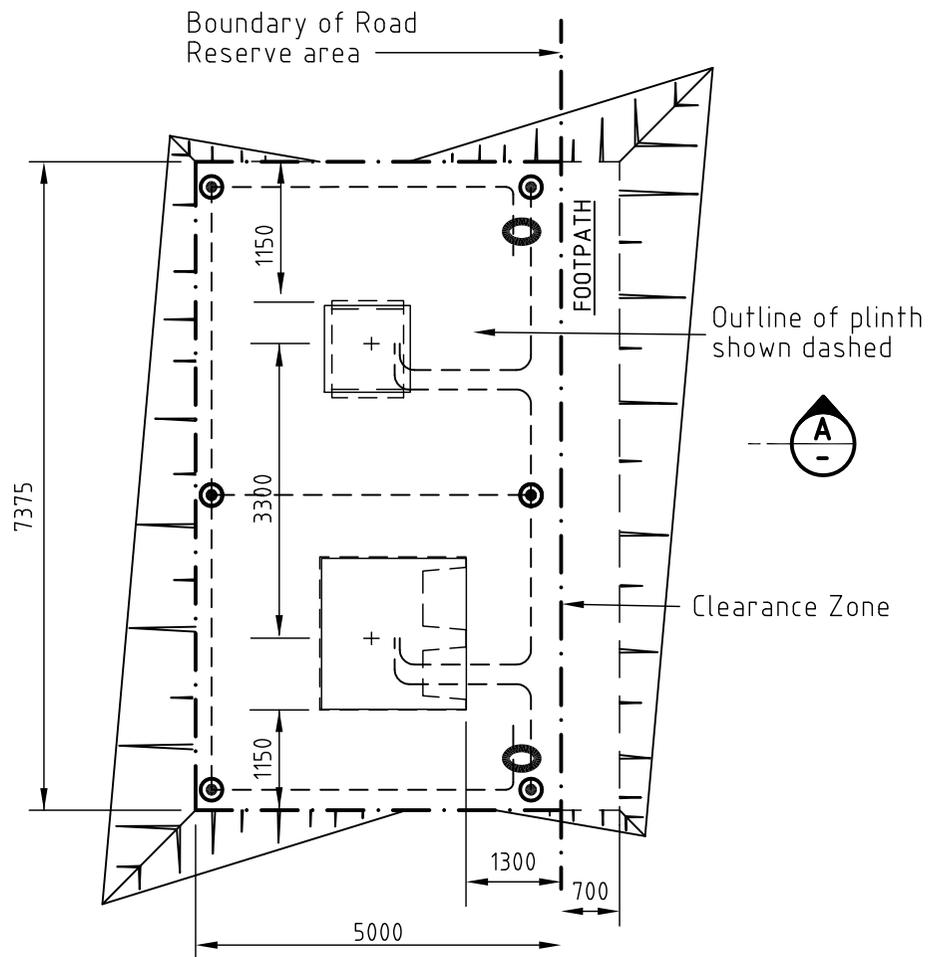
Concrete Strengths

	F'c	Slump	Aggregate Size (Max)
Footing	25MPa	75	20mm
Blockwork/ Core Filling	20MPa	150	10mm

SCOPE OF WORK

1. CONCRETE BASE SLAB AND BLOCK WALLS INSTALLED BY DEVELOPER BEFORE RMU INSTALLATION.
2. EARTH GRID SUPPLIED AND INSTALLED TOGETHER WITH RMU BY ENERGEX.
3. SAND BACKFILL AROUND CABLES AND INSTALL SURROUND SLAB BY DEVELOPER AFTER RMU INSTALLATION.
4. TWO PARALLEL BLOCK WALLS CAN BE BUILT UNDER EITHER END OF ISOLATOR TO SUIT CABLE INSTALLATION.
5. EARTH GRID REQUIREMENT SHALL BE 1 ohm MAX. WHEN RMU CUBICLE INSTALLED ON FOOTPATH

RMU DETAIL  
NTS

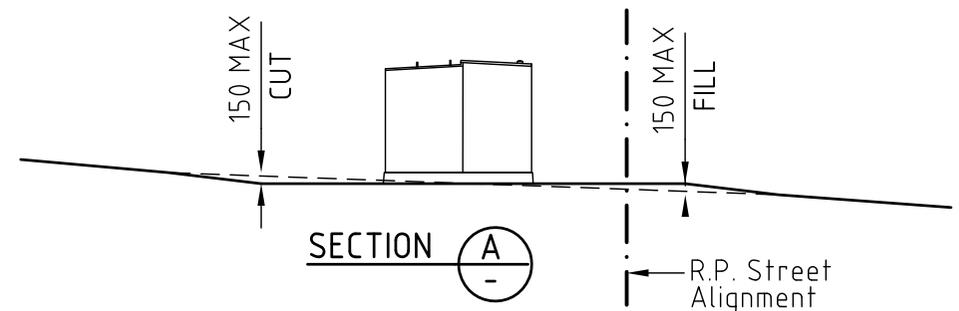


**PLAN**

The clearance zone is to be maintained free from metallic objects, buildings and structures, including their foundations.

**NOTE:**

1. ENERGEX's padmount clearance zone shall be levelled and surrounding area graded to ensure no water ponding.
2. No services other than the Energex's electric cables shall pass through this substation site.
3. No services other than Energex's earth grid shall pass through the space between RMU & transformer.
4. Clear access to the transformer & RMU shall be maintained for ENERGEX's personnel and heavy equipment.
5. After installation is complete the site surface is to be finished with a concrete slab.
6. Mature landscaping (including trees, sprinklers etc.) shall not encroach onto the substation site.
7. Refer Energex underground distribution construction drawing 6229-C3-2.2 for standard unculvert foundation details.
8. Refer Energex underground distribution construction drawing 6229-C4-1 Sheet 3 for RMU culvert foundation details.
9. Separation between centers of culverts is 3300mm



**SECTION A**

Earthing generally in accordance with E2-4.5 Sheet 1

ORIGINAL ISSUE

A

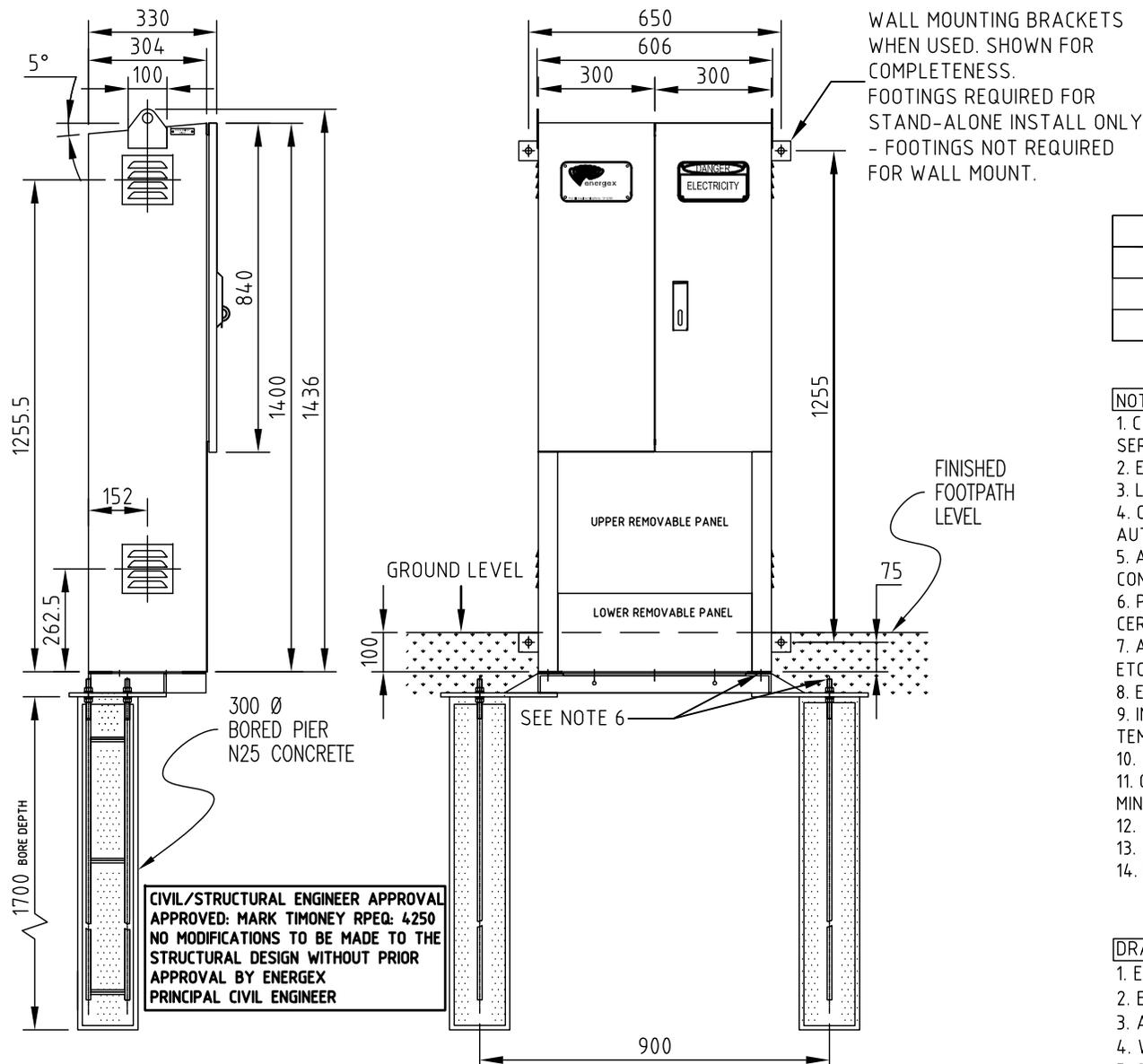


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UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL

CIVIL WORKS & EARTHING  
 SQUARE TYPE PADMOUNT & THREE  
 WAY RMU - CMEN AREA  
 SLOPING SITE - MAXIMUM CUT & FILL

APP'D	20/8/15	CAD	
DATE	A.PEREZ	6229-A4   A	
RECD		SECTION	SUB-SECT.
CKD		C4	1.2
DWN	J.LANSLEY	SHT 1 OF 1	
FILE UDC-C4-1.2-1A.DWG			



WALL MOUNTING BRACKETS WHEN USED. SHOWN FOR COMPLETENESS. FOOTINGS REQUIRED FOR STAND-ALONE INSTALL ONLY - FOOTINGS NOT REQUIRED FOR WALL MOUNT.

CIVIL LAYOUT TYPICAL FOR ITEMS:		
Item	Compatible Unit	Weight (Kg)
SC21876	SC0021876	105
SC21877	SC0021877	105

**NOTES**

1. CONTRACTOR TO CONFIRM LOCATION OF ALL EXISTING INGROUND SERVICES & ENERGEX CONDUITS PRIOR TO COMMENCING CONSTRUCTION.
2. EXCAVATE & EXPOSE EXISTING CONDUITS IN WORK AREA.
3. LOCATE PROPERTY BOUNDARY PRIOR TO CONSTRUCTION.
4. CONFIRM/FIND FOOTPATH LEVELS WITH DEVELOPER OR LOCAL AUTHORITY PRIOR TO WORK COMMENCING.
5. ALL WORKMANSHIP & MATERIALS TO BE IN ACCORDANCE WITH AS3600 CONCRETE STRUCTURES CODE.
6. PROPRIETY CABINET BASE & SUPPORT LEGS SUPPLIED WITH CABINET. CERTIFIED FOR STRENGTH & DURABILITY BY OTHERS.
7. AFTER CONFIRMATION OF PROPERTY BOUNDARY & EXISTING SERVICES ETC. BORE 300 Ø HOLES.
8. EXCAVATE 150 mm TO LEVEL OF TOP OF PIERS.
9. INSTALL CABINET SUPPORT LEGS & CONNECT USING SUPPORT LEG TEMPLATE.
10. POUR BORED PIERS.
11. CABINET NOT TO BE INSTALLED UNTIL FOUNDATIONS HAVE BEEN CURED MINIMUM 4 DAYS.
12. REMOVE SUPPORT LEG TEMPLATE, INSTALL BASE PLATE & CABINET.
13. REINSTATE FOOTPATH TO LEVEL.
14. EARTHING REQUIREMENTS AS PER UDC SECTION E7.

**DRAWING REFERENCES**

1. EQUIPMENT LAYOUT(SC21876).....UDC-E3-2.1-1A
2. EQUIPMENT LAYOUT(SC21877).....UDC-E3-2.1-2A
3. ADAPTOR PLATE DETAIL.....UDC-C4-2.1-6A
4. WALL MOUNT BRACKET DETAIL.....UDC-C4-2.1-7A
5. SUPPORT LEG DETAIL.....UDC-C4-2.1-10A

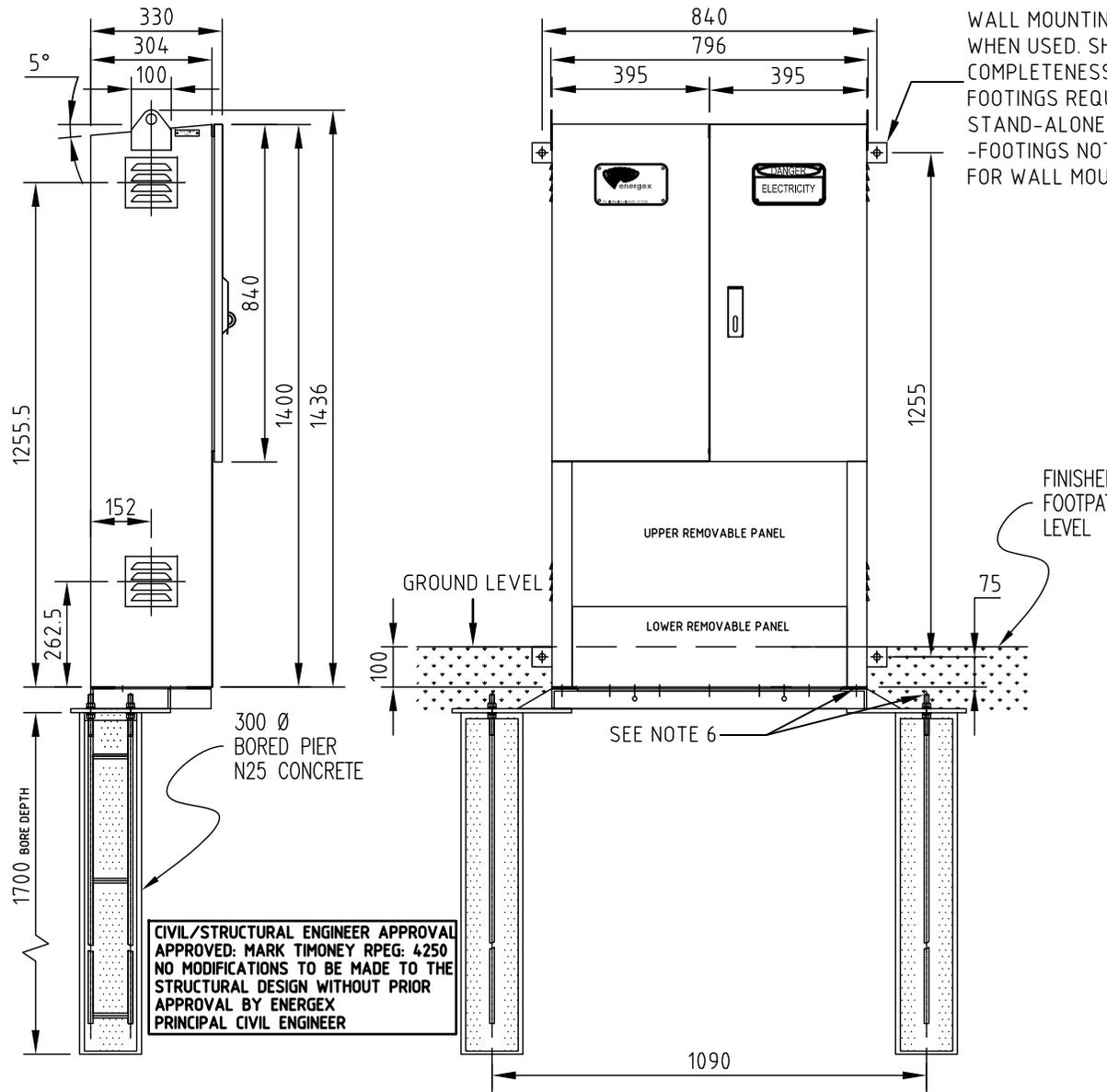
**CIVIL/STRUCTURAL ENGINEER APPROVAL**  
 APPROVED: MARK TIMONEY RPEQ: 4250  
 NO MODIFICATIONS TO BE MADE TO THE  
 STRUCTURAL DESIGN WITHOUT PRIOR  
 APPROVAL BY ENERGEX  
 PRINCIPAL CIVIL ENGINEER

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**UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL**  
**CIVIL WORKS**  
**OTHER UNDERGROUND EQUIPMENT**  
**LV DISTIBUTION SUPPLY CABINETS**

APP'D	A.SMITH	CAD	
DATE	07/01/14	<b>6229-A4</b>	<b>A</b>
RECD	J.LANSLEY	SECTION	SUB-SECT.
CKD	B.BRUNSMANN	<b>C4</b>	<b>2.1</b>
DWN	K.POULSEN	SHT 1 OF 7	
FILE UDC-C4-2.1-1A.DWG			



WALL MOUNTING BRACKETS WHEN USED. SHOWN FOR COMPLETENESS. FOOTINGS REQUIRED FOR STAND-ALONE INSTALL ONLY -FOOTINGS NOT REQUIRED FOR WALL MOUNT.

CIVIL LAYOUT TYPICAL FOR ITEMS:		
Item	Compatible Unit	Weight (Kg)
SC21878	SC0021878	150
SC21879	SC0021879	150
SC21880	SC0021880	150

**NOTES**

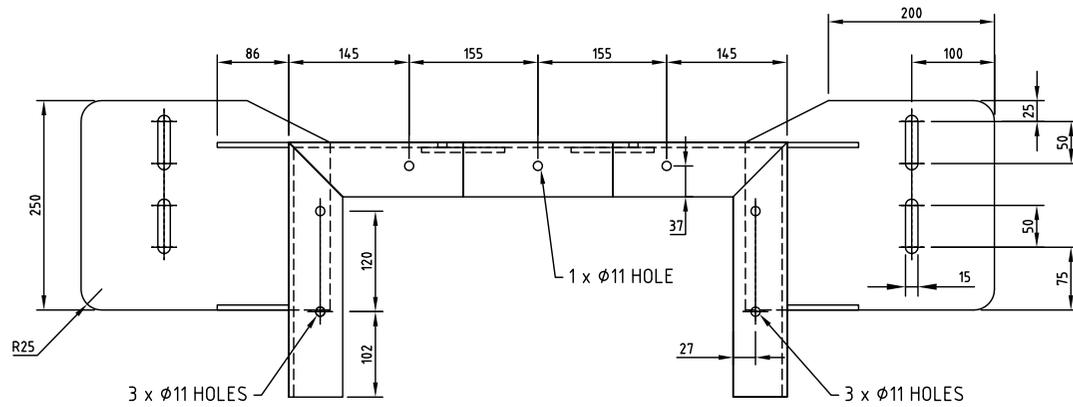
1. CONTRACTOR TO CONFIRM LOCATION OF ALL EXISTING INGROUND SERVICES & ENERGEX CONDUITS PRIOR TO COMMENCING CONSTRUCTION.
2. EXCAVATE & EXPOSE EXISTING CONDUITS IN WORK AREA.
3. LOCATE PROPERTY BOUNDARY PRIOR TO CONSTRUCTION.
4. CONFIRM/FIND FOOTPATH LEVELS WITH DEVELOPER OR LOCAL AUTHORITY PRIOR TO WORK COMMENCING.
5. ALL WORKMANSHIP & MATERIALS TO BE IN ACCORDANCE WITH AS3600 CONCRETE STRUCTURES CODE.
6. PROPRIETY CABINET BASE & SUPPORT LEGS SUPPLIED WITH CABINET. CERTIFIED FOR STRENGTH & DURABILITY BY OTHERS.
7. AFTER CONFIRMATION OF PROPERTY BOUNDARY & EXISTING SERVICES ETC. BORE 300 Ø HOLES.
8. EXCAVATE 150 mm TO LEVEL OF TOP OF PIERS.
9. INSTALL CABINET SUPPORT LEGS & CONNECT USING SUPPORT LEG TEMPLATE.
10. POUR BORED PIERS.
11. CABINET NOT TO BE INSTALLED UNTIL FOUNDATIONS HAVE BEEN CURED MINIMUM 4 DAYS.
12. REMOVE SUPPORT LEG TEMPLATE, INSTALL BASE PLATE & CABINET.
13. REINSTATE FOOTPATH TO LEVEL.
14. EARTHING REQUIREMENTS AS PER UDC SECTION E7.

**DRAWING REFERENCES**

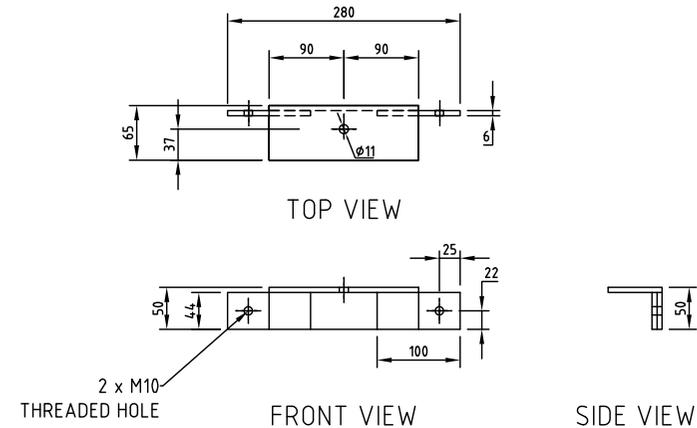
1. EQUIPMENT LAYOUT(SC21878).....	UDC-E3-2.1-3A
2. EQUIPMENT LAYOUT(SC21879).....	UDC-E3-2.1-4A
3. EQUIPMENT LAYOUT(SC21880).....	UDC-E3-2.1-5A
4. ADAPTOR PLATE DETAIL.....	UDC-C4-2.1-8A
5. WALL MOUNT BRACKET DETAIL.....	UDC-C4-2.1-9A
6. SUPPORT LEG DETAIL.....	UDC-C4-2.1-10A

CIVIL/STRUCTURAL ENGINEER APPROVAL  
 APPROVED: MARK TIMONEY RPEG: 4250  
 NO MODIFICATIONS TO BE MADE TO THE  
 STRUCTURAL DESIGN WITHOUT PRIOR  
 APPROVAL BY ENERGEX  
 PRINCIPAL CIVIL ENGINEER

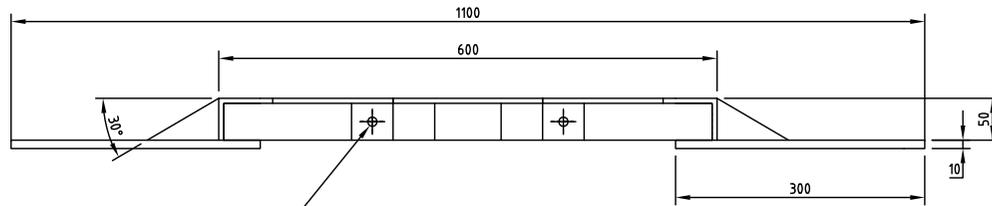
ORIGINAL ISSUE	<p>ENERGEX          COPYRIGHT 2012 ENERGEX          This drawing must not be reproduced in part or whole without written permission from ENERGEX</p>	<b>UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL</b>		APP'D	A.SMITH		CAD	
		<b>CIVIL WORKS</b>		DATE	07/01/14	<b>6229-A4   A</b>		
				RECD	J.LANSLEY	SECTION	SUB-SECT.	
		<b>OTHER UNDERGROUND EQUIPMENT</b>		CKD	B.BRUNSMANN	<b>C4   2.1</b>		
				<b>LV DISTIBUTION SUPPLY CABINETS</b>		DWN	K.POULSEN	SHT 2 OF 7
				FILE UDC-C4-2.1-2A.DWG				



1. BASE PLATE TOP VIEW  
(SHOWN ASSEMBLED WITH PART 2)



2. BASE PLATE JOINER



1 x Ø11 HOLE ON BASE PLATE  
BOTH LH & RH SIDES  
2 x M10 THREADED HOLES  
ON JOINER

1. BASE PLATE FRONT VIEW  
(SHOWN ASSEMBLED WITH PART 2)

DESCRIPTION

CANTILEVER ADAPTOR PLATE SUIT SC21876 & SC21877.

NOTES

- ALL ITEMS THIS DRAWING GRADE 304 STAINLESS STEEL, ELECTROSTATIC POWDER COATED - DULUX APO GREY WITH RIPPLE FINISH.

DRAWING REFERENCES

- CIVIL WORKS.....UDC-C4-2.1-1A

COMPATIBLE UNIT SC0023161

ENERGEX STOCKCODE 23161

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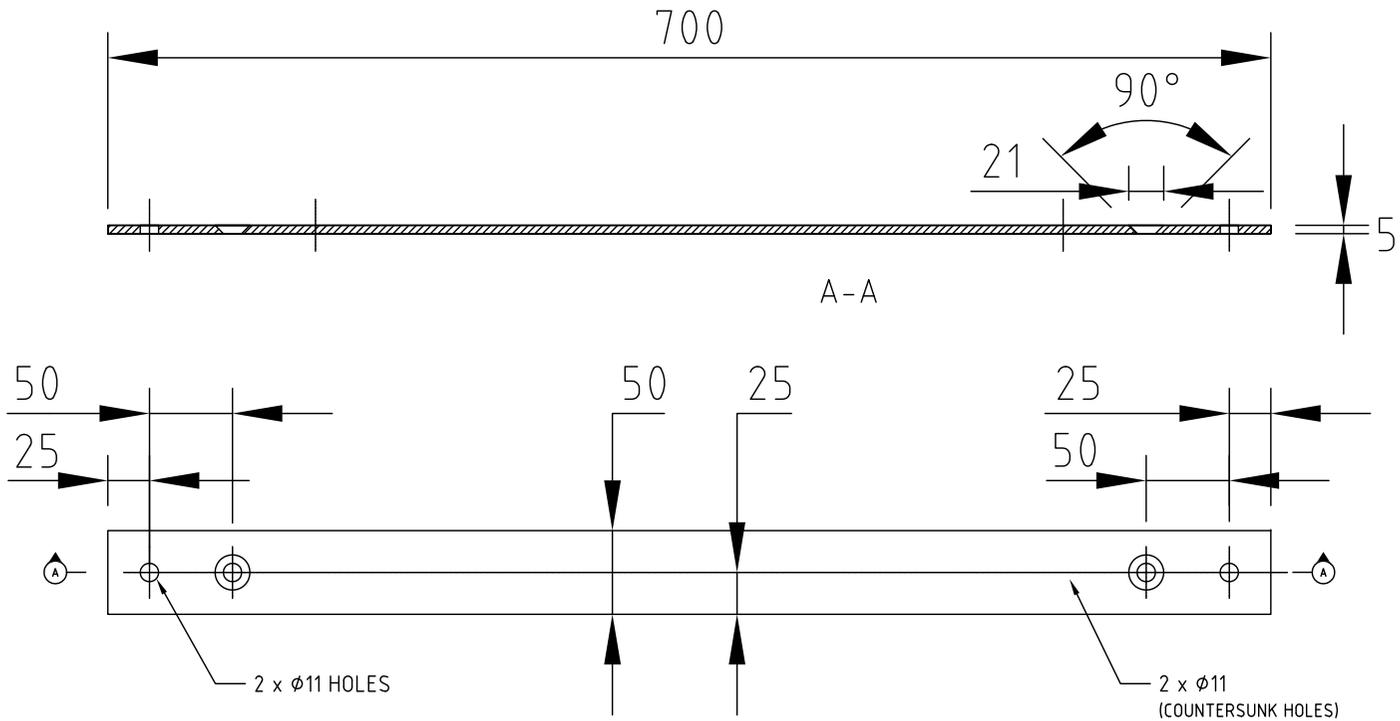
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UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL

CIVIL WORKS  
OTHER GROUND MOUNTED EQUIPMENT  
LV DISTRIBUTION SUPPLY CABINETS

APP'D	A.SMITH	CAD	
DATE	07/01/14	6229-A4	A
RECD	J.LANSLEY	SECTION	SUB-SECT.
CKD	B.BRUNSMANN	C4	2.1
DWN	K. POULSEN	SHT 3 OF 7	
FILE UDC-C4-2.1-3A.DWG			



FRONT VIEW

**NOTES**

1. WALL MOUNT BRACKET IS OPTIONAL.
2. MATERIAL: 304 STAINLESS STEEL BAR NATURAL FINISH.
3. QUANTITY: 2 OF
4. 4 OF M10 X25mm STAINLESS STEEL COUNTERSUNK SCREWS C/W NUT, FLAT & SPRING WASHER.

**DESCRIPTION**

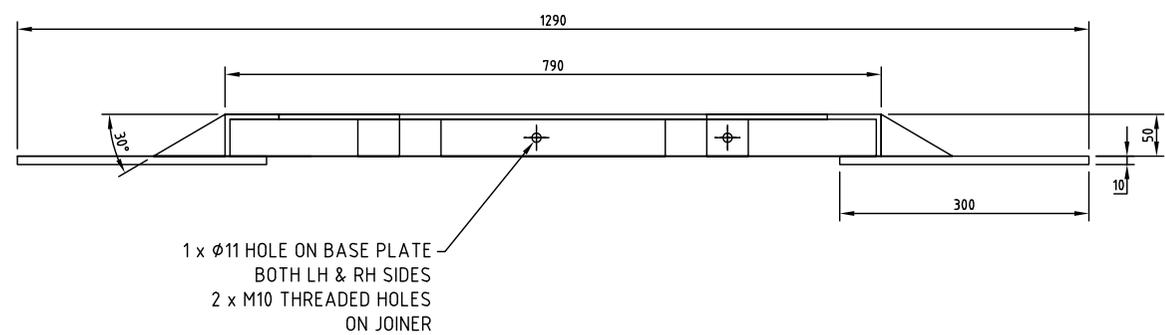
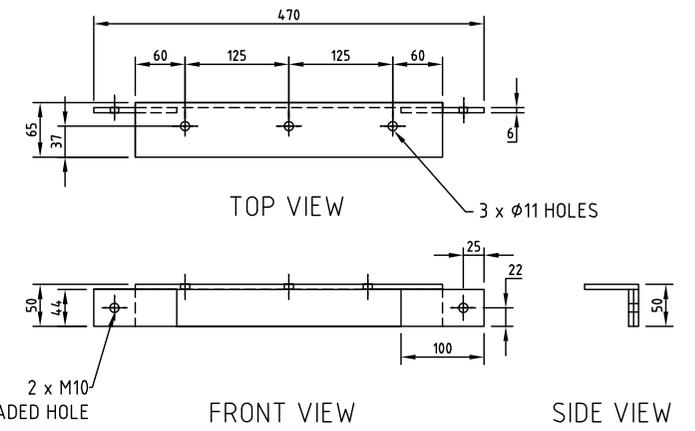
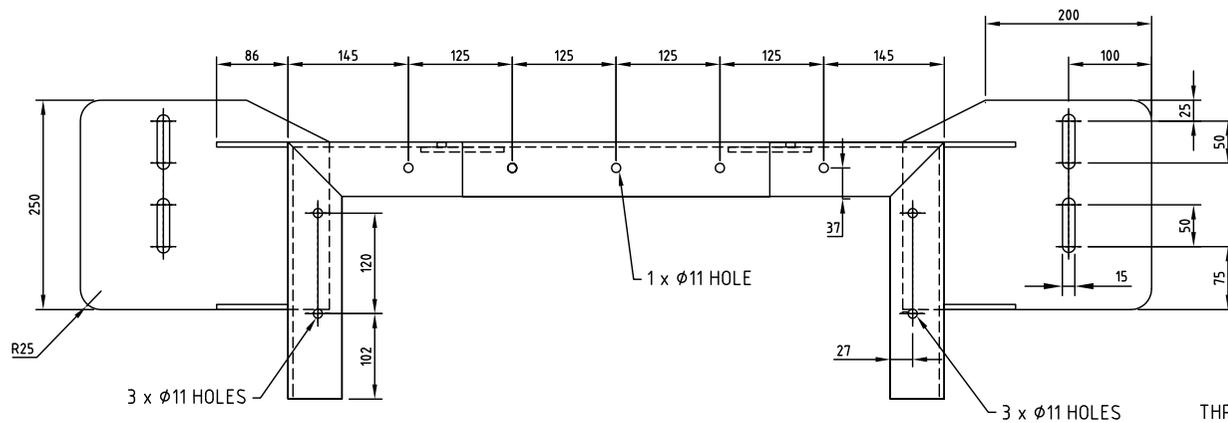
LV DISTRIBUTION CABINET WALL MOUNTED BRACKET TO SUIT SC21876 & SC21877.

**DRAWING REFERENCES**

1. CIVIL WORKS.....UDC-C4-2.1-1A

COMPATIBLE UNIT SC0022754  
ENERGEX STOCKCODE 22754

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		<b>CIVIL WORKS</b> <b>OTHER GROUND MOUNTED EQUIPMENT</b> <b>LV DISTRIBUTION SUPPLY CABINETS</b>		DATE	08/01/14	<b>6229-A4   A</b>	
				RECD	J.LANSLEY	SECTION	SUB-SECT.
				CKD	B.BRUNSMANN	C4	2.1
				DWN	K. POULSEN	SHT 4 OF 7	
				FILE UDC-C4-2.1-4A.DWG			



**DESCRIPTION**

CANTILEVER ADAPTOR PLATE SUIT SC21878, SC21879 & SC21880.

**NOTES**

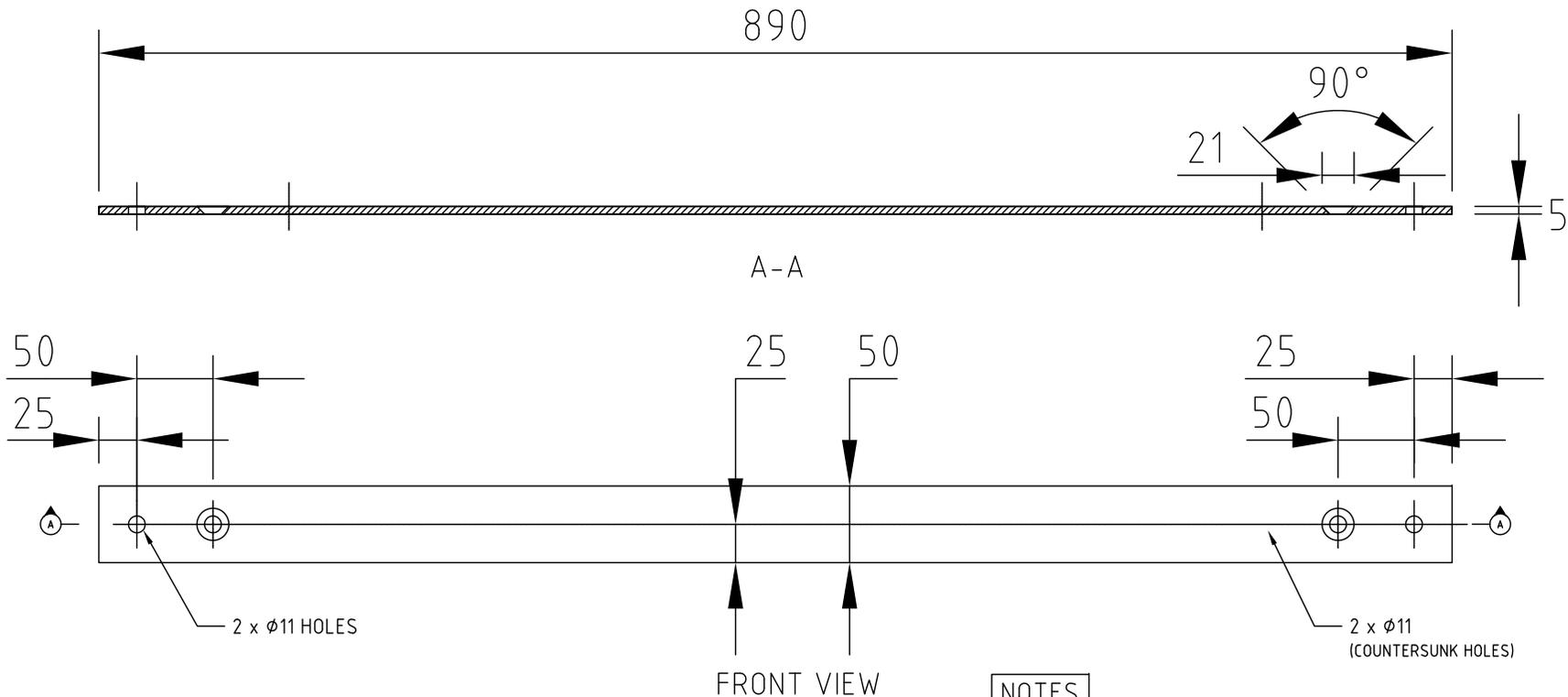
- ALL ITEMS THIS DRAWING GRADE 304 STAINLESS STEEL, ELECTROSTATIC POWDER COATED - DULUX APO GREY WITH RIPPLE FINISH.

**DRAWING REFERENCES**

- CIVIL WORKS.....UDC-C4-2.1-3A

COMPATIBLE UNIT SC0022030  
ENERGEX STOCKCODE 22030

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		<b>CIVIL WORKS OTHER GROUND MOUNTED EQUIPMENT LV DISTRIBUTION SUPPLY CABINETS</b>		DATE	08/01/14	<b>6229-A4</b>		A
				RECD	J.LANSLEY	SECTION	SUB-SECT.	
				CKD	B.BRUNSMANN	C4	2.1	
				DWN	K. POULSEN	SHT 5 OF 7		
				FILE UDC-C4-2.1-5A.DWG				



**DESCRIPTION**

LV DISTRIBUTION CABINET WALL MOUNTED BRACKET  
TO SUIT SC21878, SC21879 & SC21880.

**NOTES**

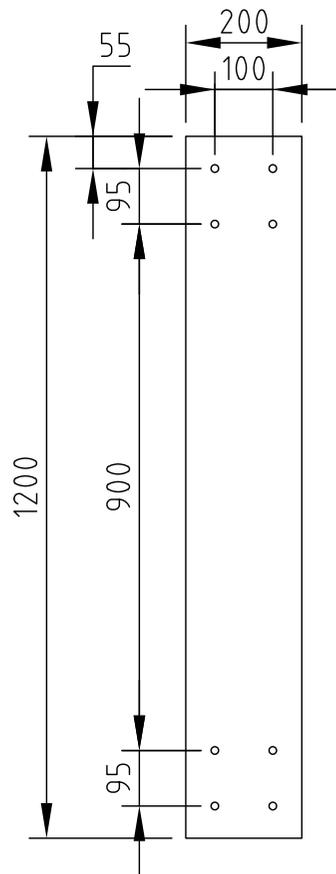
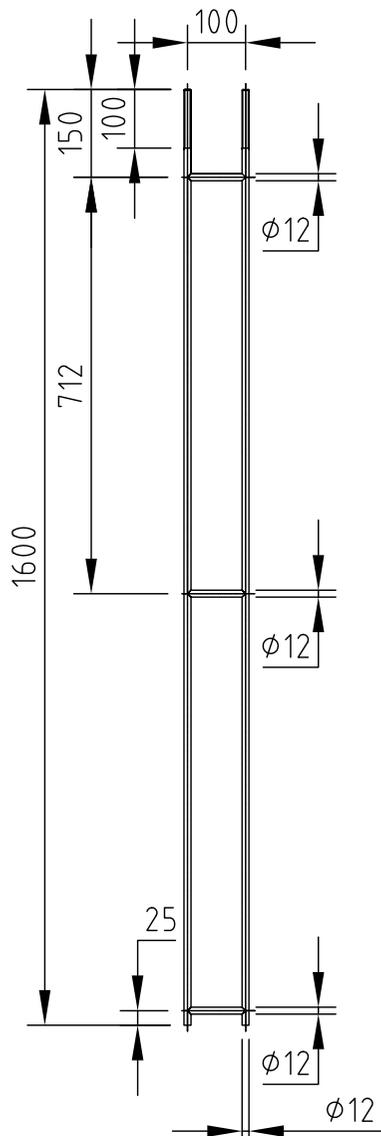
1. WALL MOUNT BRACKET IS OPTIONAL.
2. MATERIAL: 304 STAINLESS STEEL BAR NATURAL FINISH.
3. QUANTITY: 2 OF
4. 4 OF M10 X25mm STAINLESS STEEL COUNTERSUNK SCREWS C/W NUT, FLAT & SPRING WASHER.

**DRAWING REFERENCES**

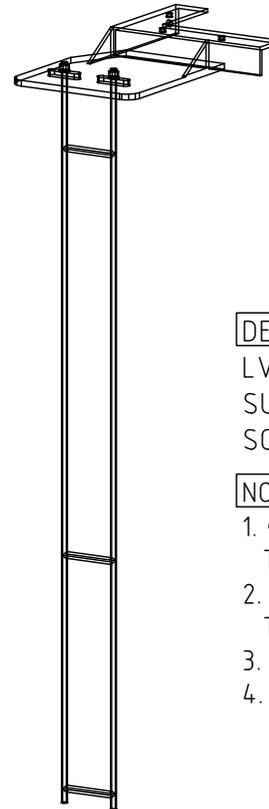
1. CIVIL WORKS.....UDC-C4-2.1-3A

COMPATIBLE UNIT SC0022755  
ENERGEX STOCKCODE 22755

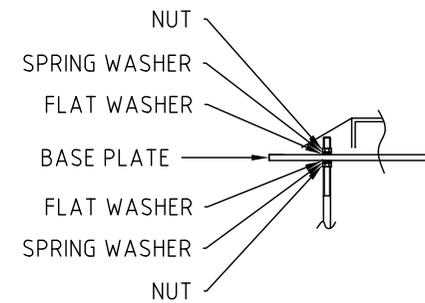
ORIGINAL ISSUE	 © COPYRIGHT 2012 ENERGEX This drawing must not be reproduced in part or whole without written permission from ENERGEX	UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL		APP'D	A.SMITH		CAD	
		CIVIL WORKS OTHER GROUND MOUNTED EQUIPMENT LV DISTRIBUTION SUPPLY CABINETS		DATE	08/01/14	<b>6229-A4</b>		A
				RECD	J.LANSLEY	SECTION	SUB-SECT.	
				CKD	B.BRUNSMANN	C4	2.1	
				DWN	K. POULSEN	SHT 6 OF 7		
				FILE UDC-C4-2.1-6A.DWG				



SUPPORT LEG  
POSITIONING GUIDE



ASSEMBLY WITH  
BASEPLATE



**DESCRIPTION**

LV DISTRIBUTION CABINET TWO HOLE RAG BOLT ASSEMBLY  
SUPPORT LEGS TO SUIT ADAPTOR PLATE SC22030 AND  
SC23161.

**NOTES**

1.  $\phi 12$  STAINLESS STEEL (GRADE 304) ROD, THREADED AT THE TOP.
2. 3 x STIFFENING BRACES STAINLESS STEEL (GRADE 304) WELDED TO THE MAIN SUPPORT.
3. QTY REQUIRED: 2 OF.
4. INSTALLATION REQUIREMENTS:  
8 X M12 NUTS (GRADE 304 STAINLESS STEEL)  
8 X M12 FLAT WASHER (GRADE 304 STAINLESS STEEL)  
8 X M12 SPRING WASHER (GRADE 304 STAINLESS STEEL)
5. 1 X SUPPORT LEG POSITIONING GUIDE (ALUMINIUM 3mm THICK).

**DRAWING REFERENCES**

1. ADAPTOR PLATE DETAIL (SC22030).....UDC-C4-2.1-6A
2. ADAPTOR PLATE DETAIL (SC23161).....UDC-C4-2.1-8A

COMPATIBLE UNIT SC0022031

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ORIGINAL ISSUE

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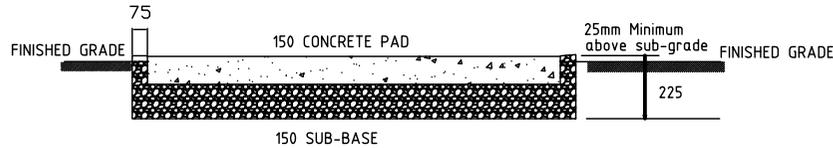
UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL

CIVIL WORKS  
OTHER GROUND MOUNTED EQUIPMENT  
LV DISTRIBUTION SUPPLY CABINETS

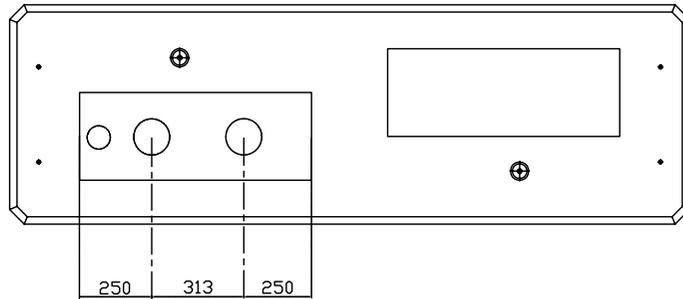
APP'D	A.SMITH	CAD	
DATE	08/01/14	<b>6229-A4</b>	<b>A</b>
RECD	J.LANSLEY	SECTION	SUB-SECT.
CKD	B.BRUNSMANN	C4	2.1
DWN	K. POULSEN	SHT 7 OF 7	
FILE UDC-C4-2.1-7A.DWG			

**CONSTRUCTION NOTES:**

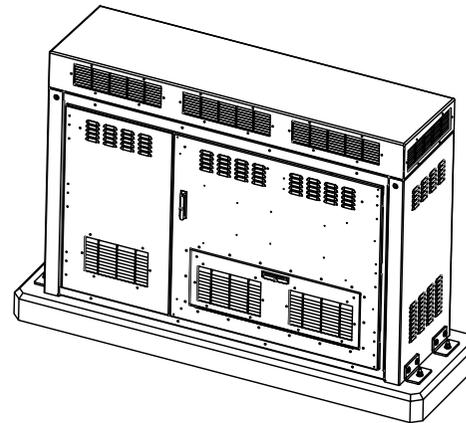
1. THE REGULATOR SHALL BE INSTALLED ON THE 0-900MM ALIGNMENT, WITH DOORS FACING OUT TO ROADWAY.
2. THE AREA UNDER THE PAD SHALL BE EXCAVATED TO THE REQUIRED DEPTH AS INDICATED BELOW (WITH A TOLERANCE OF 25MM, OR TO A DEPTH NECESSARY TO REACH FIRM, UNDISTURBED MATERIAL, WHICHEVER IS DEEPER. THE MATERIAL CAN BE CONSIDERED FIRM IF IT CANNOT BE PENETRATED BY THUMB EXCEPT WITH MODERATE EFFORT. IF THE GROUND SURFACE IS SLOPED, THEN PREPARE THE BOTTOM OF EXCAVATED SOIL SURFACE TO BE AS LEVEL AS PRACTICAL IN BOTH DIRECTIONS.  
IF GROUND CONDITIONS ARE WORSE THAN FIRM, CONTACT ENERGEX CIVIL/STRUCTURAL ENGINEER FOR INSTRUCTION.



3. THE CONCRETE PAD SHALL BE SUPPORTED ON A SUB-BASE OF SAND, GRAVEL, OR 19MM CRUSHED STONE, FREE FROM ROOTS, TRASH, WOOD SCRAPS AND OTHER EXTRANEIOUS MATERIALS. THE GRANULAR SUB-BASE IS TO BE A MINIMUM OF 150MM THICK AND SHALL BE THOROUGHLY COMPACTED WITH A VIBRATORY COMPACTOR TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT AS MEASURED BY ASTM D698.
4. THE CONCRETE PAD'S TOP SURFACE MUST BE INSTALLED AS LEVEL AS PRACTICAL IN BOTH DIRECTIONS WITH ABSOLUTELY NO HIGH OR LOW SPOTS.
5. THE CONTRACTOR IS TO VERIFY THE ELEVATION AND LOCATION OF ALL EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION. ANY 'KNOWN' UTILITY LINES DAMAGED WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. IF ANY 'UNKNOWN' UTILITY LINES ARE ENCOUNTERED WHEN EXCAVATING THE CONTRACTOR IS TO CEASE ALL EXCAVATION ACTIVITY UNTIL THE ENGINEER AND OWNER ARE NOTIFIED AND INSTRUCTIONS ARE PROVIDED ABOUT HOW TO PROCEED.
6. NO CONCRETE SHALL BE PLACED AGAINST ANY SUB-GRADE CONTAINING WATER, ICE, FROST, OR LOOSE MATERIAL.
7. INSTALL 1 X 40 & 2 X 100MM CONDUIT BENDS FOR LV CABLES AND EARTH AS PER DRAWING BELOW. CONDUIT BENDS TO FINISH FLUSH WITH BOTTOM OF PLINTH.



FRONT OF REGULATOR



**NOTES**

1. Lift with 4 x lifting rings (provided) at top of unit
2. Secure to plinth with 4 x 19mm bolts provided.
3. Weight of unit=770kg

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		CIVIL WORKS OTHER GROUND MOUNTED EQUIPMENT GRIDCO LV REGULATOR - 150KVA		DATE 17/3/2016	6229-A4	A
				RECD -	SECTION C4	SUB-SECT. 3.1
		CKD T.MILFORD	SHT 1 OF 1			
		DWN J.LANSLEY	FILE UDC-C4-3.1-1A.DWG			