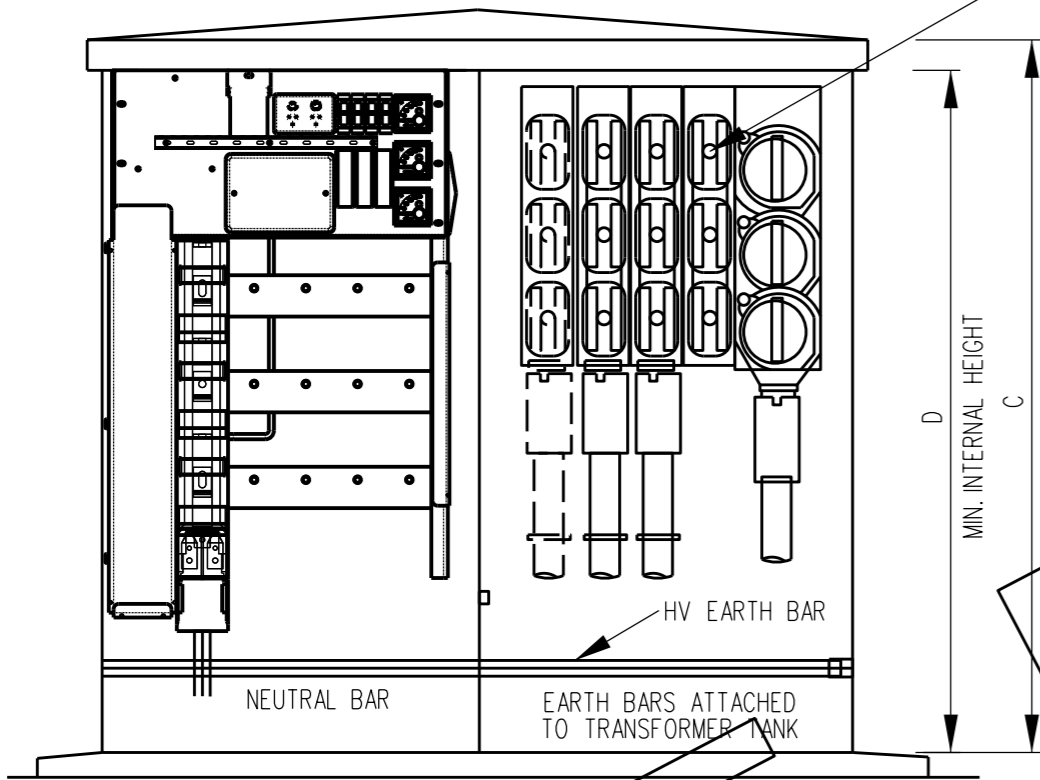
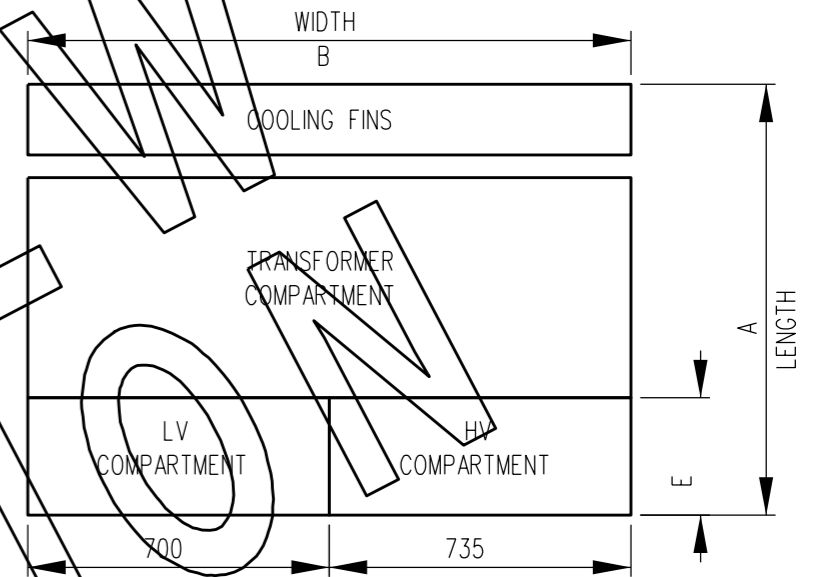


REFER TO SHEET 5

HOLEC MD4

ATTRIBUTE	SUBSTATION DETAILS			
	11kV / 400V		22kV / 400V	
RATING	500KVA	1000KVA	500KVA	1000KVA
A	1773	1935	1773	1935
B	1437	1437	1437	1437
C	1536	1536	1536	1536
D	1465	1465	1465	1465
E	851	851	851	851
MASS (kg)	955	1710	955	1710
ITEM NUMBER	172817	402107	172940	413713



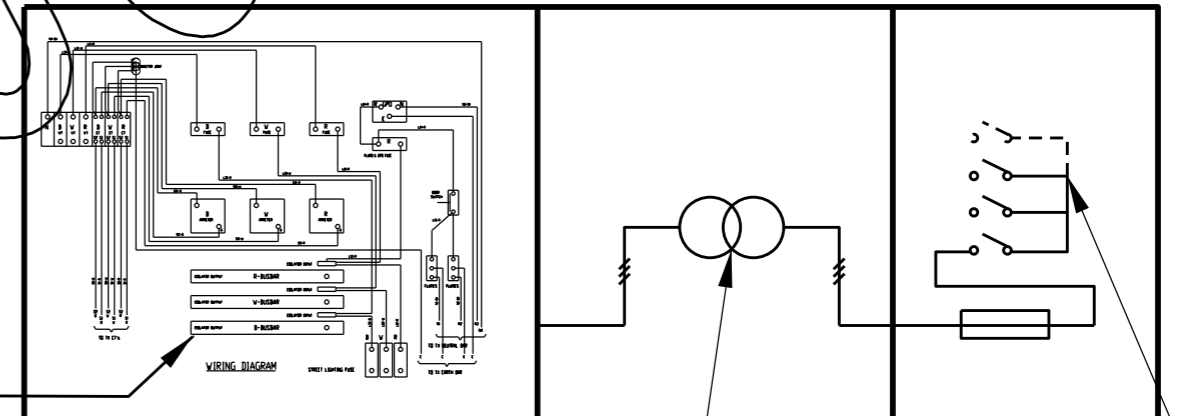
REFURBISHED 7000 SERIES SUBSTATION ITEM NUMBERS						
kVA	11KV			22KV		
315	172809	414697	413197	413695	171195	172932
500	503471	-	-	-	413699	172940
750	172825	413685	413216	413218	413711	172957
1000	413693	-	-	-	413719	-

REFER TO SHEET 6

DISCONNECTOR WITH TINNED COPPER LINKS:  
 500kVA - 1000A - ITEM NUMBER 406808  
 1000kVA - 2000A (1000x2) - ITEM NUMBER 406811

**NOTES:**

1. COMPRESSION LUGS ARE TO BE USED FOR ALL CABLE CONNECTIONS FOR XLPE AND OTHER ALUMINUM CONDUCTORS. CABLE LUGS WITH FINAL COMPRESSION OVER INSULATION TO EXCLUDE MOISTURE ARE ESSENTIAL.
2. 22kV UNITS HAVE NO INTERNAL HV. SWITCHGEAR CABLE TERMINATION DIRECT ON TO BUSHING, VIA 630 AMP DEAD BREAK ELBOWS 22kV RMU WITH CIRCUIT BREAKER TEE OFF SHALL BE INSTALLED NEXT TO SUBSTATION.
3. LIFTING LUGS TO BE DETACHABLE.
4. THIS DWG. TO BE READ IN CONJUNCTION WITH THE PWC SPECIFICATION STSP 02-006.
5. EACH CABLE ENTERING/LEAVING SUBSTATION IS TO HAVE A DESTINATION TAG (SEE S02-01-08-25).
6. CABLES IN HV AND LV COMPARTMENT TO BE HEAT SHRINK COLORED TO MATCH PHASE AND CONNECTED TO SWITCHGEAR WITH R.W.B. FROM REAR OF CABINET TO FRONT.
7. UNLESS SPECIFIED PACKAGE SUBSTATIONS SHALL BE SUPPLIED WITH LV PANEL EXCLUDING SERVICES STRIPLE FUSE UNITS. ITEM 172940 IS TO BE SUPPLIED WITH A 400A MCCB. ITEM 413713 IS TO BE SUPPLIED WITH A 1250A MCCB. THE MCCB ARE TO BE IN ACCORDANCE WITH PWC SPECIFICATION STSP 02-013.
8. 11kV 1000kVA SUBSTATIONS SHALL HAVE NO INTERNAL HV SWITCHGEAR FITTED. CABLES SHALL BE TERMINATED DIRECT ON TO THE BUSHINGS VIA 630A DEAD BREAK ELBOWS. SUBSTATION HV PROTECTION TO BE OBTAINED FROM THE CIRCUIT BREAKER TEE-OFF OF AN RMU INSTALLED NEXT TO THE SUBSTATION.



430V CABLE TERMINATIONS  
 XLPE UP TO 2x240sq. mm PER PHASE

500kVA OR 1000kVA

ADDITIONAL SWITCH/CABLE  
 TERMINATION MODULE TO BE  
 INSTALLED AS REQUIRED

WEBER OR JEAN MULLER  
 STRIPLE FUSE UNIT  
 FOR: 1000 or 630A.

LV CUBICLE

TRANSFORMER  
 COMPARTMENT

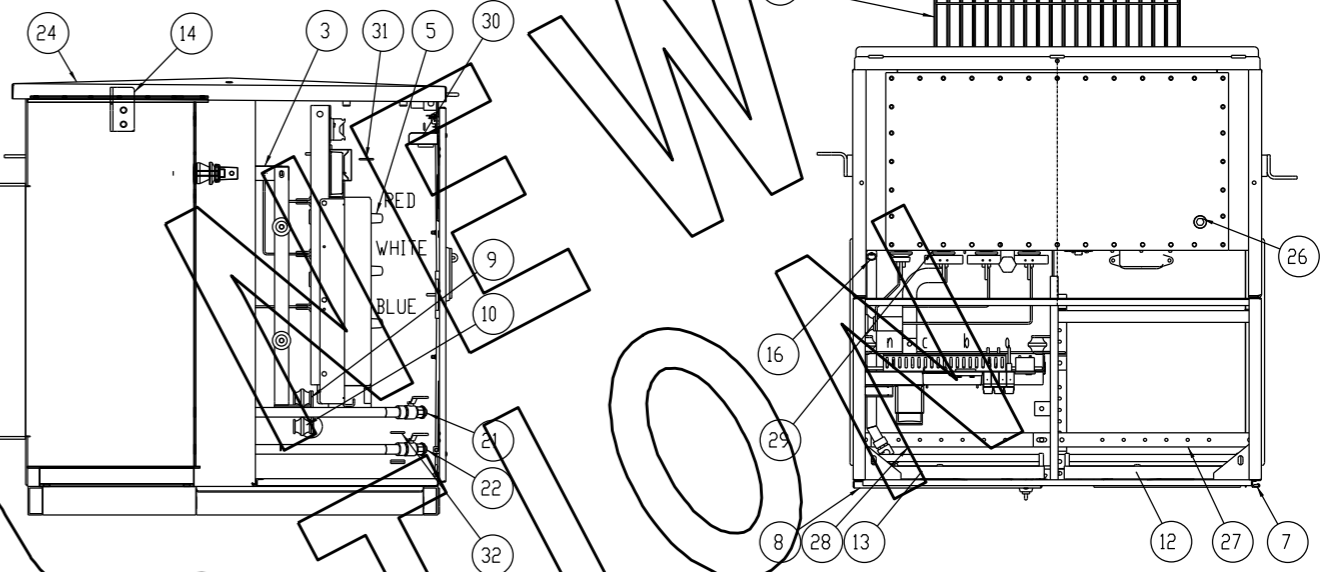
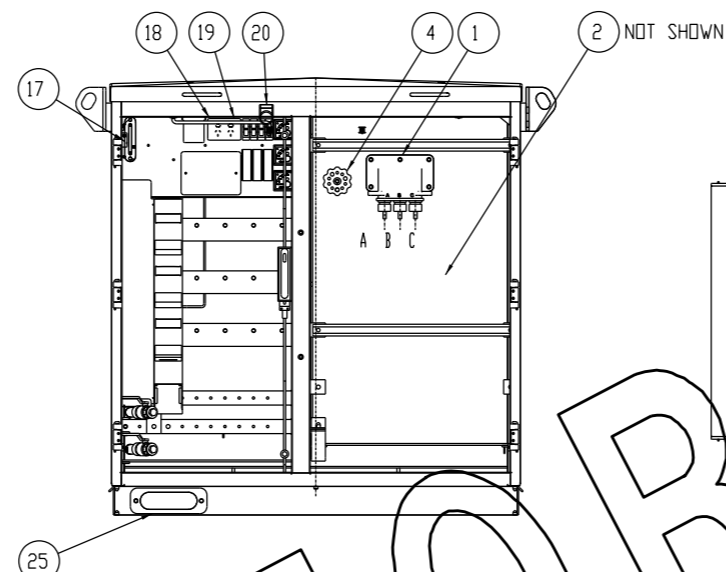
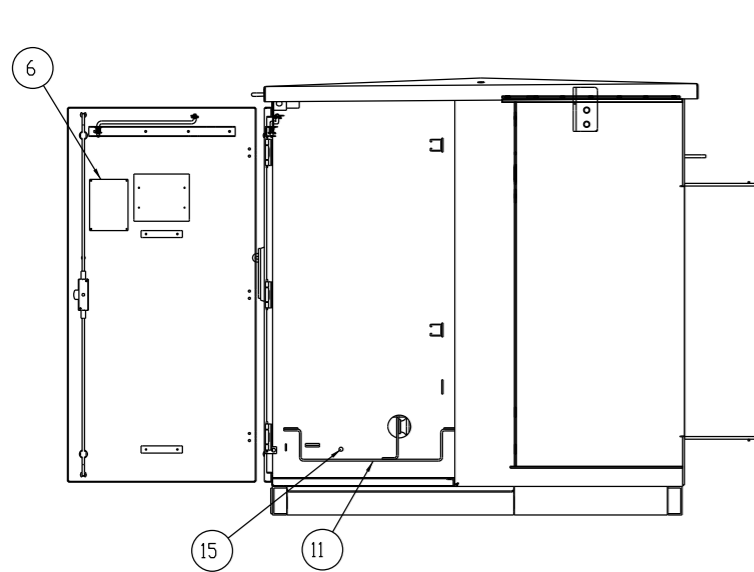
HV CUBICLE

NO	DESCRIPTION	DRN	DATE	CKD	APPD
26	UPDATED NOTES 4 & 7 & TITLE. REMOVED REFERENCE TO 300 & 750 kVA SUBSTATIONS. SET TO NOT FOR NEW CONSTRUCTION. ADDED 22kV SUBSTATIONS.	A.N.	NOV'20	B.V.	B.C.
25	SUPERSEDED BY S02-01-07-17	A.T.	DEC'12	B.C.	S.C.
24	NOTE 8 CHANGED, NOTE 9 REMOVED	C.W.M.	MAR'10	B.C.	S.C.
23	FIXED TEXT ALIGNMENT	C.W.M.	MAR'10	B.C.	S.C.
22	NOTE 9 ADDED	C.W.M.	DEC'09	B.C.	S.C.
21	NOTE 2 CHANGED	J.C.	NOV'08	B.C.	S.C.
20	TABLE DIMENSIONS ADDED	J.C.	MAY'08	B.C.	S.C.



DES	R.C.	POWER STANDARD DRAWING	
DRN	K.I.	SUBSTATIONS	
CKD	C.C.	PACKAGE - 7000 SERIES	
APPD	...	GENERAL ARRANGEMENT 1 OF 5	
SCALE	N.T.S.	A3	DRAWING NUMBER S02-01-07-01_1
ISSUED	DEC 04		
ALL DIM. IN mm			
DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY	

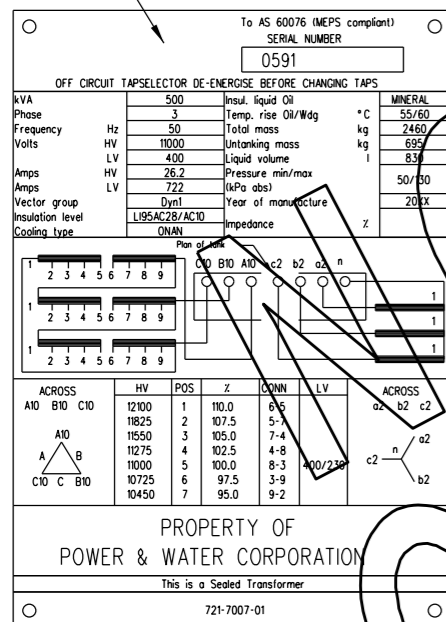




FRONT VIEW WITH DOORS REMOVED

PLAN VIEW WITH UNIT COVER REMOVED

MANUFACTURER LOGO



DESCRIPTION LIST

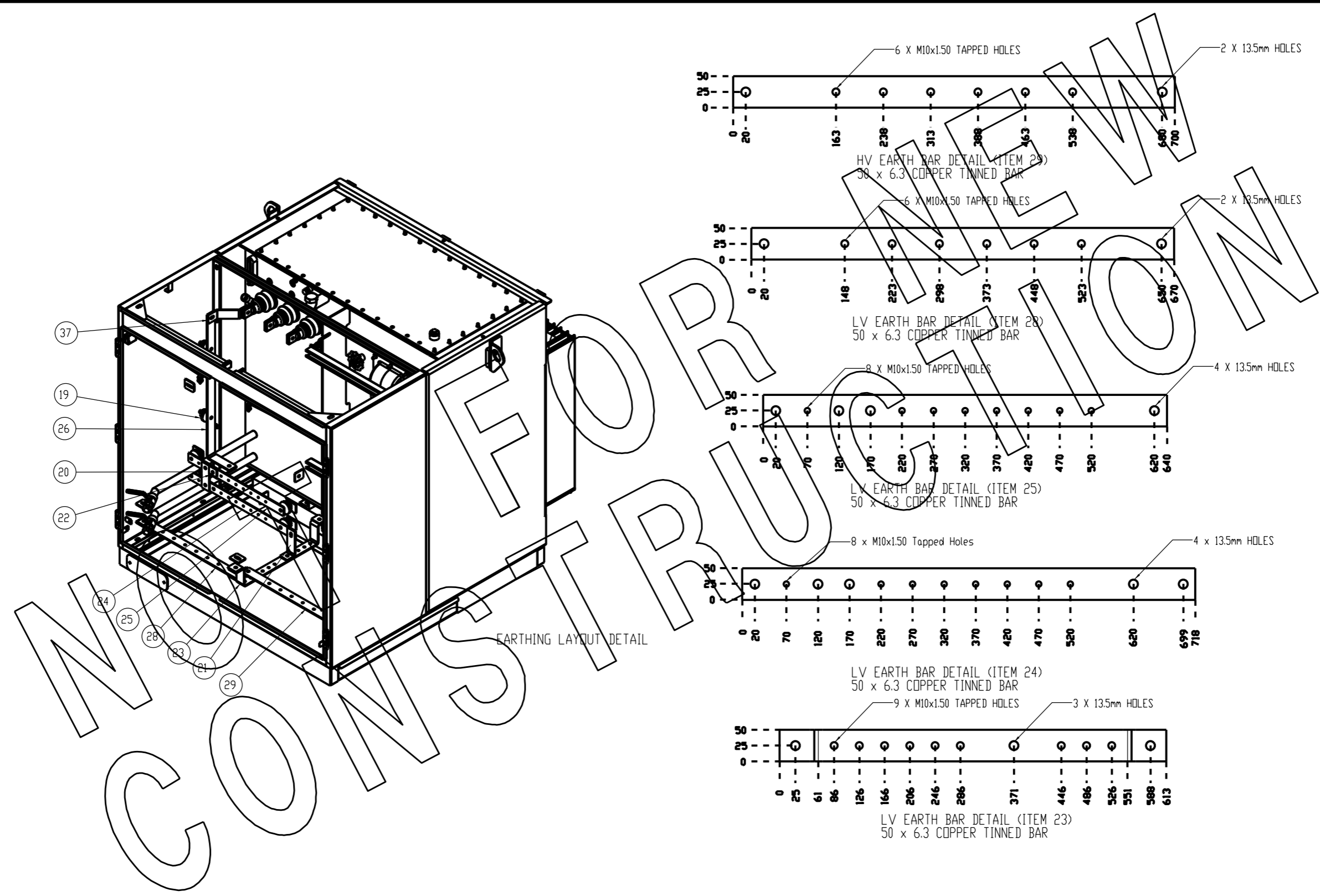
- HV EPOXY TERMINAL BLOCK SIMILAR TO REYBOLLE TYPE CRP13B/CUS
- HOLEX MD4 SWITCHGEAR SUPPLIED & FITTED BY CUSTOMER (2 x UNISTRUT SUPPORTS FITTED)
- LV BUSHING ZEP 2/3/3m HOLE IN PALM #14
- OFF CIRCUIT TAPSELECTOR 5 POSITION WITH LOCKING FACILITIES
- LV SWITCHGEAR 1000A GENERATOR STRIP, 3 x MDI'S, TEST BLOCK, DOUBLE GPO, 3 x 63A FUSE BASE'S FOR FUTURE STREET LIGHTING, PROVISION FOR FITTING 4 x 630A FUSE STRIPS, CONNECTING SWITCHGEAR BUS WORK TO HAVE BOTH ENDS FITTED WITH COLOURED HEATSHRINK TO ID. PHASE
- RATING AND DIAGRAM PLATE, OWNERSHIP PLATE AND PROVIION FOR MOUNTING PWC NUMBER PLATE STREET LIGHTING PANEL ON INSIDE OF LV DOOR OR ON LV SWITCHGEAR
- HV DOOR INTER-LOCKED WITH LV DOOR WITH OVERCENTRE LATCH, PROVISION FOR PAD LOCKING SEALING RUBBER 3 x CONSEALED HINGES AND DOOR STAY
- LV DOOR WITH SWING HANDLE (3 POINT LOCKING) WITH PROVISION FOR PAD LOCKING, SEALING RUBBER, 3 x CONSEALED HINGES AND DOOR STAY
- INSULATED NEUTRAL BAR 50 x 6.3 TINNED COPPER COMPLETE WITH TEN (10) TAPPED HOLES M10 & REMOVABLE LINK TO EARTH BAR
- INSULATED LV EARTH BAR 50 x 6.3 TINNED COPPER
- HV EARTH BAR 50 x 6.3 TINNED COPPER COMPLETE WITH NINE (9) HOLES #11 & REMOVABLE LINK TO LV EARTH BAR
- HV COMPARTMENT BATTEN FLUORESCENT LIGHT 20W OR LED EQUIVALENT
- LV COMPARTMENT BATTEN FLUORESCENT LIGHT 20W OR LED EQUIVALENT
- REMOVABLE LIFTING LUGS SLOT 40x60
- LIFTING LUGS STORAGE HOLE #14 IN DIVIDING PANEL
- THERMOMETER POCKET
- FLUSH TYPE OIL GAUGE MARKED AT 15°C (BACKGROUND ON WALL OF TANK PAINTED WHITE BEHIND PERPEX)
- PRESSURE RELIEF VALVE
- SEALING PLUG
- FILLER CAP #40 NDM.
- FILTER BALL VALVE #25 NDM.
- DRAIN BALL VALVE #25 NDM.
- COOLING FINS
- CUBICLE COVER WITH M10 TAPPED BOSSES FOR LIFTING AND HANDLES TO AID REMOVAL OF COVER
- BASE FRAME 100 x 50 CHANNEL GALVANISED WITH GENERATOR CABLE ACCESS POINT (COVER PLATE BOLT ON)
- SOCKET #25 NDM. (WTC USE ONLY)
- HV EARTH BAR
- LV EARTH BAR
- CT,s 500/5A FOR MDI'S (MOUNTED ON LV BUSHING) IAW STSP 02-013
- LIGHT SWITCH BRACKET
- E-MAIL ANTENNA MOUNTING LUG (CENTRE PANEL)
- 2 x LUGS (FOR MOUNTING AUX. NEUTRAL BAR IF REQUIRED)

\*SERIAL NUMBER, YEAR OF MANUFACTURE AND IMPENANCE (4.00% NDM.) STAMPED AFTER TEST

20	CHANGED SUPERSEDED TO NOT FOR NEW CONSTRUCTION. UPDATED TITLE. UPDATED NAMEPLATE, NOTES 12, 13 & 29.	A.N.	NOV'20	B.V.	B.C.
19	SUPERSEDED BY S02-01-07-17	A.T.	DEC'12	B.C.	B.C.
18	NOTE 7 AMENDED	C.M.	AUG '10	B.C.	S.C.
17	SHEETS 2-5 ADDED	J.C.	SEP '07	B.C.	B.C.
NO	DESCRIPTION	DRN	DATE	CKD	APPD
AMENDMENTS					



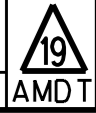
DES	R.C.	POWER STANDARD DRAWING	
DRN	K.I.	<b>SUBSTATIONS</b>	
CKD	C.C.	<b>PACKAGE - 7000 SERIES</b>	
APPD	...	<b>GENERAL ARRANGEMENT 2 OF 5</b>	
SCALE	N.T.S.	A3	DRAWING NUMBER S02-01-07-01_2
ISSUED	DEC 04		
ALL DIM. IN mm			
DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY	



NO	DESCRIPTION	DRN	DATE	CKD	APPD
19	CHANGED SUPERSEDED TO NOT FOR NEW CONSTRUCTION. UPDATED TITLE	A.N.	NOV'20	B.V.	B.C.
18	ADDED DETAIL TO EARTH BARS.	A.T.	DEC'12	B.C.	B.C.
17	SUPERSEDED BY S02-01-07-17	J.C.	SEP'07	B.C.	S.C.
16	SHEETS 2-5 ADDED	K.I.	SEP'06	R.S.	S.C.
15	NOTE 7 AMENDED	K.I.	JUL'06	R.S.	S.C.
14	UPDATE INDICATOR PANEL	K.I.	JUL'06	B.C.	B.C.
13	UPDATE TRANSFORMER GA	K.I.	MAR'05	C.C.	C.C.
12	ADD NOTES 6 & 7, STOCK CODE ADDED.	K.I.	DEC'04	R.C.	C.F.
11	INSERT NEW TRANSFORMER TABLE ADDED NEW DISCONNECTOR NOTES	R.C.	SEP'04	A.S.	C.F.
11	750kVA & 1000kVA TRANSFORMER DATA ADDED	R.C.	SEP'04	A.S.	C.F.
AMENDMENTS					

  
**PowerWater**  
 NORTHERN TERRITORY

DES	R.C.	POWER STANDARD DRAWING	
DRN	K.I.	<b>SUBSTATIONS</b> <b>PACKAGE - 7000 SERIES</b> <b>GENERAL ARRANGEMENT 3 OF 5</b>	
CKD	C.C.		
APPD	...		
SCALE	N.T.S.	<b>A3</b>	<b>DRAWING NUMBER</b> <b>S02-01-07-01_3</b>
ISSUED	DEC 04		
ALL DIM. IN mm			
DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY	

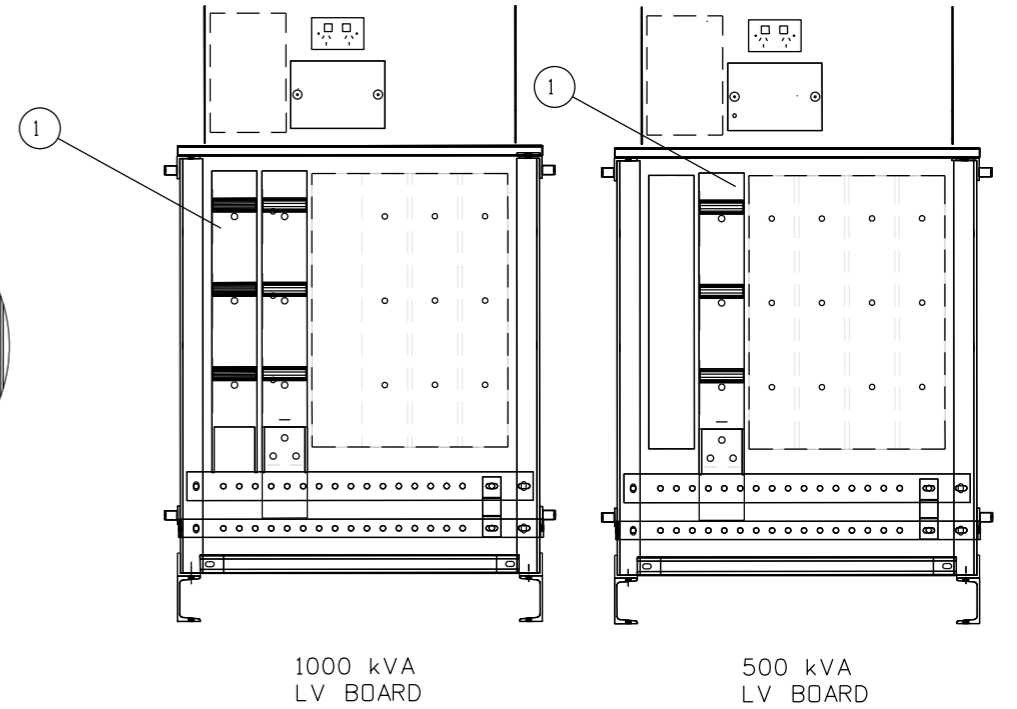
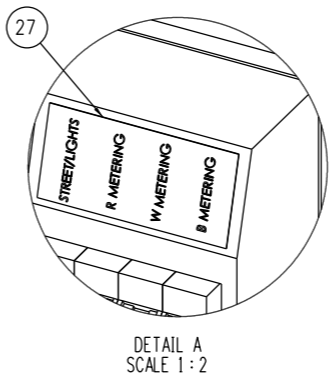
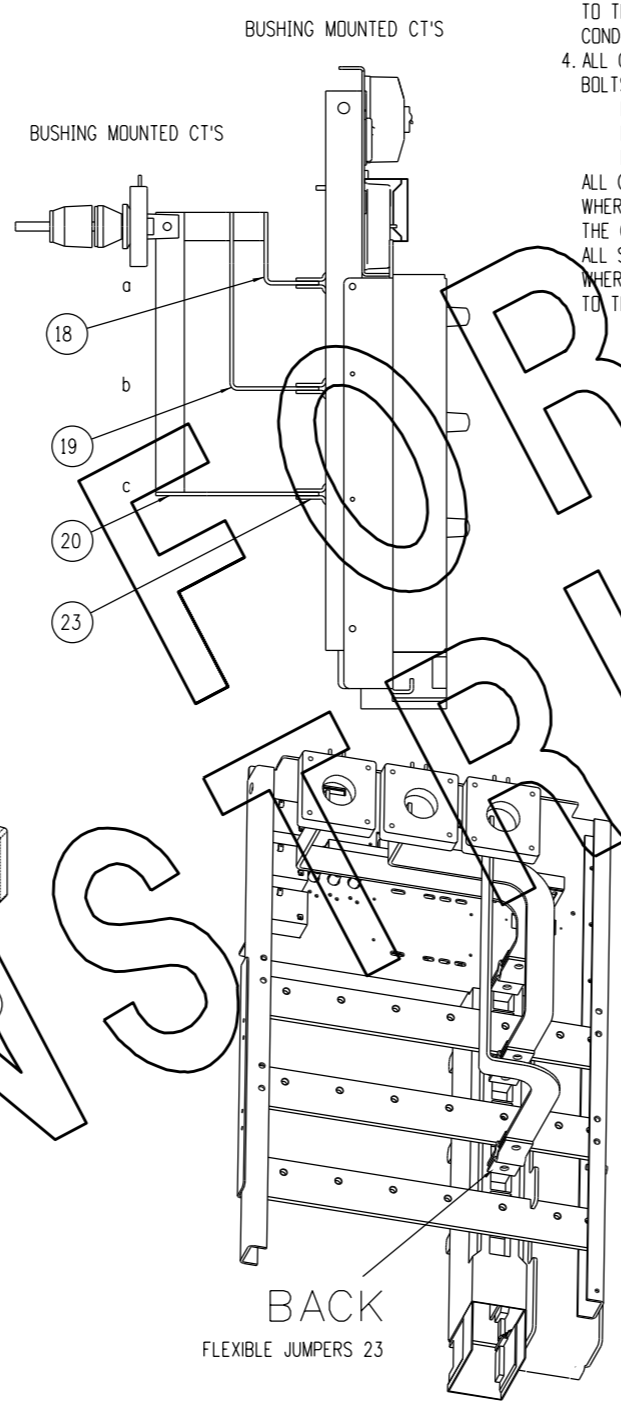
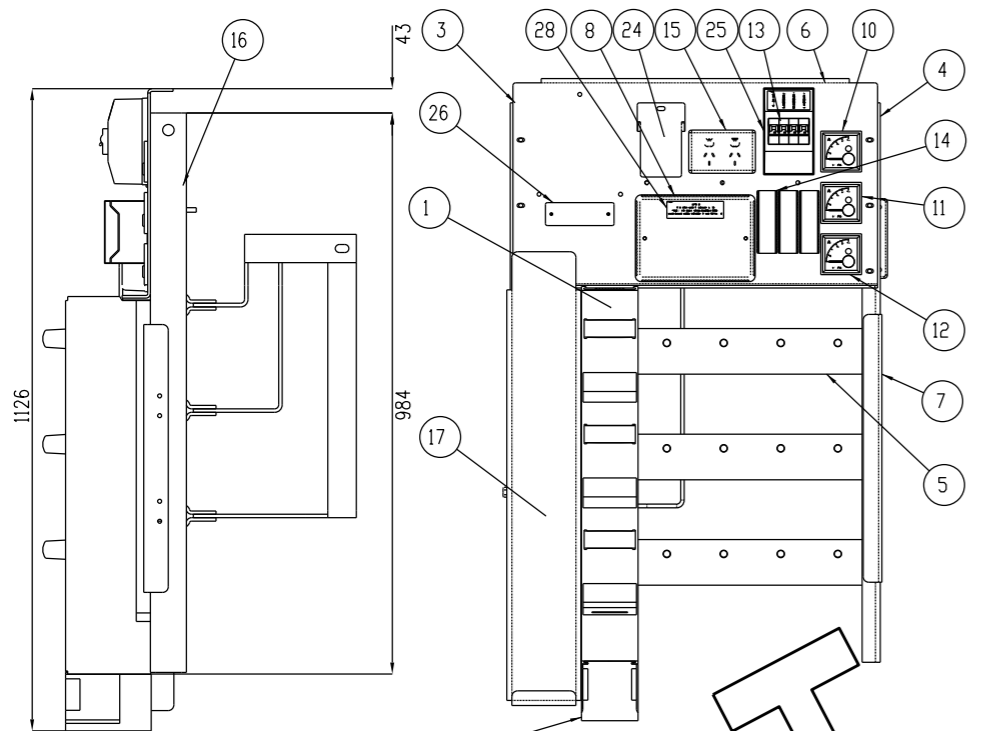


**NOTES**

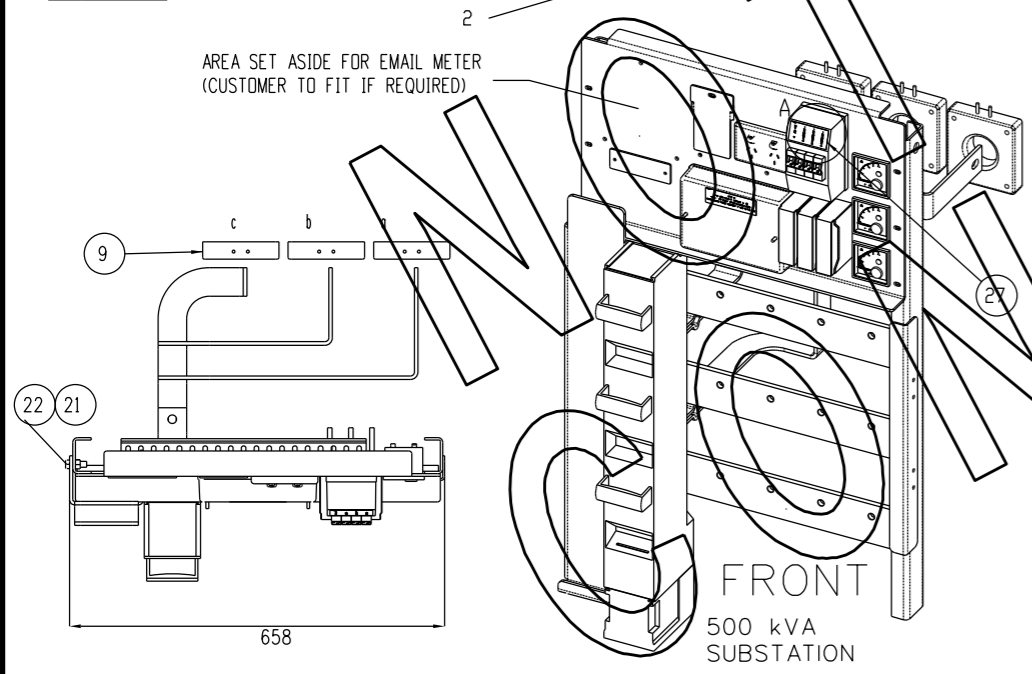
1. ALL CONNECTING BUS WORK TO BE MARKED BOTH ENDS WITH COLOURED HEAT SHRINK TO IDENTIFY PHASES
2. THE GENERATOR LUGS TO BE MARKED WITH COLOURED DOTS TO IDENTIFY PHASES
3. FOR 1000kVA SUBSTATIONS: STREELIGHT CONTROL PANEL SHALL BE MOUNTED ON THE LV COMPARTMENT DOOR.  
25 sq mm FLEXIBLE CABLE SHALL BE USED TO CONNECT THE STREET LIGHT CONTROL PANEL TO THE STREET LIGHT FUSES (ITEM 14) FLEXIBLE CABLE SHALL BE PROTECTED BY FLEXIBLE CONDUIT WHEN IT IS NEAR THE DOOR JOINT.
4. ALL CURRENT CARRYING BOLTED CONNECTIONS SHALL BE VIA CLASS 8.8 STAINLESS STEEL BOLTS TO THE FOLLOWING TORQUE SPECIFICATIONS:  
M8: 10-15NM  
M10: 30-35NM  
M12: 35-40NM  
ALL CONNECTIONS SHALL USE A SPRING WASHER BETWEEN A FLAT WASHER AND THE NUT. WHERE CAPTIVE NUTS ARE USED THE SPRING WASHER SHALL BE ON THE BOLT SIDE OF THE CONNECTION.  
ALL STAINLESS STEEL BOLTS REQUIRE A COATING OF ANTI-SIEZE BEFORE INSTALLATION. WHERE MULTIPLE BOLTS ARE USED TO MAKE A CONNECTION, DO NOT APPLY FULL TORQUE TO THE BOLTS ON THE FIRST PASS.

ITEM NO.	DESCRIPTION	Default QTY.
1	JEAN MULLER 1000/2000A GENERATOR ISOLATOR	1
2	BARRIER JEAN MULLER 630A FUSE STRIP	1
3	SUPPPORT BUSBARS	1
4	SUPPORT BUSBARS	1
5	BUSBAR	3
6	BARRIER CLEAR	1
7	BARRIER - STREET LIGHTING SUPPORT	1
8	BOX TEST CLIPSAL CLI 1008	1
9	CT 800/5A EPOXY IAW STSP 02-012	3
10	METER MAX DEMAND 0-800/5A RED	1
11	METER MAX DEMAND 0-800/5A WHITE	1
12	METER MAX DEMAND 0-800/5A BLUE	1
13	CIRCUIT BREAKER 10A 4.5kA 1 PHASE MCB	4
14	FUSE HOLDER 63 Amp	3
15	SOCKET GND 10A CLIPSAL 25	1
16	TRUNK SLOTTED DUCT DSD 25x50x430LG	1
17	BARRIER STREET LIGHTING SUPPORT	1
18	BUSBAR 40x10 'a' phase	1
19	BUSBAR 40x10 'b' phase	1
20	BUSBAR 40x10 'c' phase	1
21	SETSCREW M10 x 30 NYLON 6/6	3
22	NUT M10 NYLON	3
23	50 x 0.3 COPPER STRIP (38// PER PHASE)	15M
24	BARRIER COVER PLATE	1
25	NUT DODGE M12	18

REFER PAGES 2 AND 3 FOR FASTENERS AND WIRING DETAILS



AREA SET ASIDE FOR EMAIL METER (CUSTOMER TO FIT IF REQUIRED)



FRONT  
500 kVA  
SUBSTATION

BACK  
FLEXIBLE JUMPERS 23

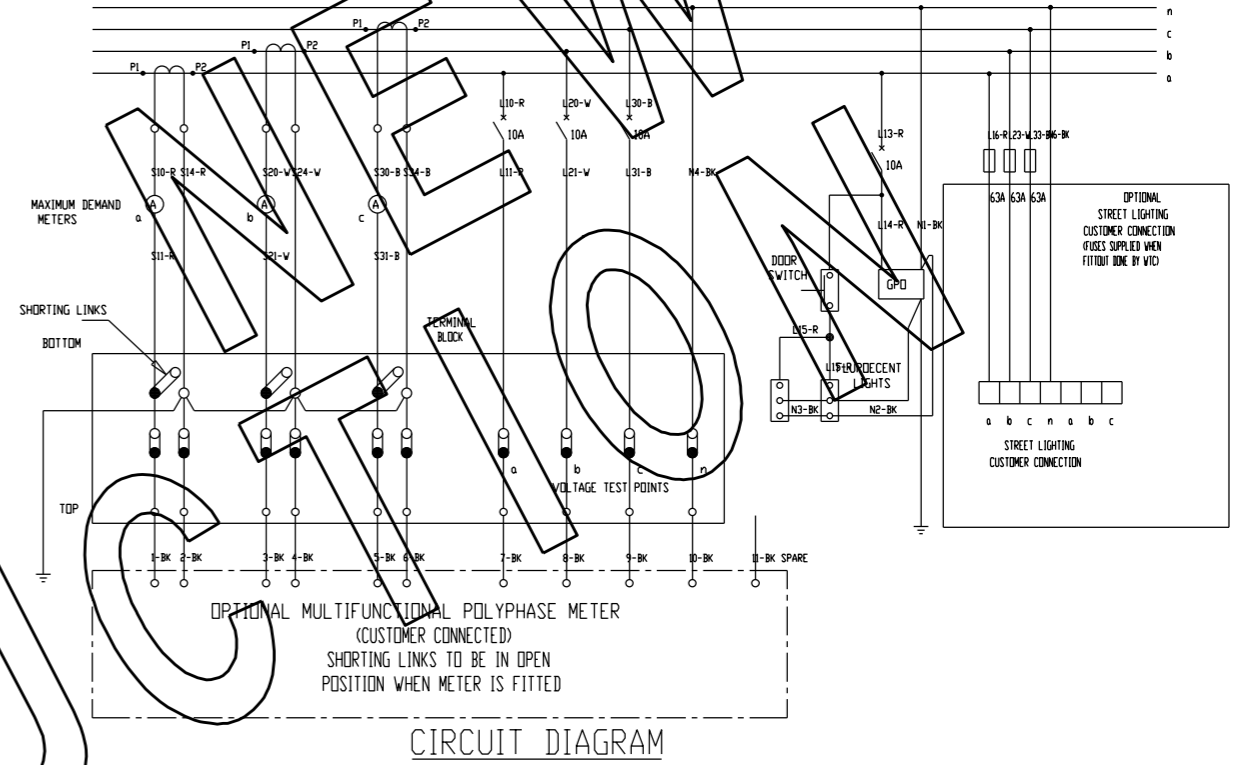
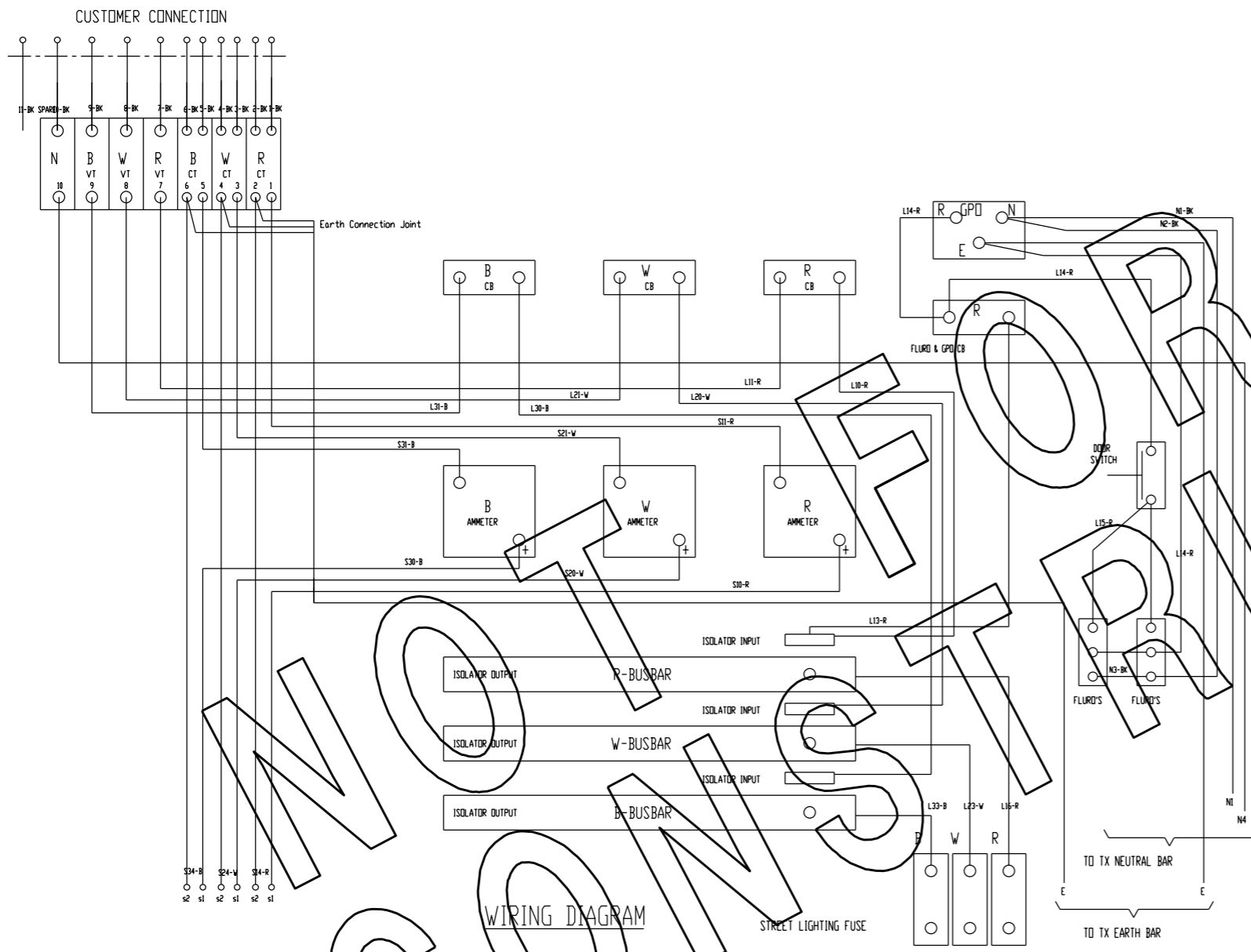
1000 kVA  
LV BOARD

500 kVA  
LV BOARD

NO	DESCRIPTION	DRN	DATE	CKD	APPD
22	CHANGED SUPERSEDED TO NOT FOR NEW CONSTRUCTION. REMOVED REFERENCES TO 300 & 750kVA. FIXED FORMATTING ERRORS. EDITED ITEMS 1 & 9 DESCRIPTIONS.	A.N.	NOV'20	B.V.	B.C.
21	SUPERSEDED BY S02-01-07-17	A.T.	DEC'12	B.C.	B.C.
20	NOTE 4 ADDED	C.C.	NOV'11	A.T.	S.C.
19	CAPTIVE NUTS ADDED	C.M.	AUG'10	A.T.	S.C.
18	750kVA LV PANNEL ADDED, NOTE 3 ADDED	J.C./C.M	DEC '09	A.T.	S.C.



DES	R.C.	POWER STANDARD DRAWING	
DRN	K.I.	SUBSTATIONS	
CKD	C.C.	PACKAGE - 7000 SERIES	
APPD	...	GENERAL ARRANGEMENT 4 OF 5	
SCALE	N.T.S.	A3	DRAWING NUMBER S02-01-07-01_4
ISSUED	DEC 04		
ALL DIM. IN	mm	CAD PRODUCT - DO NOT AMEND MANUALLY	
DRAFTING STANDARD TO A.S.1100		AMDT	



**LEGEND:**

CT1-CT3 TRANSFORMERS CURRENT METERING

WIRE NUMBER  
 H70-R R - RED BK - BLACK  
 W - WHITE BN - BROWN  
 B - BLUE GY - GREY

TOP  
 BOTTOM TEST BOX SLIDE LINKS

- NOTES:**
- ALL FUSES CONNECTED FROM LV SWITCHBOARD AND WIRED USING 7/1.04mm 0.6/1kV ALL OTHER WIRING 7/0.67mm 0.6/1kV
  - NEUTRAL & EARTH CONNECTIONS MADE TO FRONT NEUTRAL BAR

NO	DESCRIPTION	DRN	DATE	CKD	APPD
20	CHANGED FROM SUPERSEDED TO NOT FOR NEW CONSTRUCTION. CHANGED TITLE.	A.N.	NOV'20	B.V.	B.C.
19	SUPERSEDED BY S02-01-07-17	A.T.	DEC'12	B.C.	B.C.
18	STREET LIGHT WIRING ADDED	C.M.	NOV'10	A.T.	B.C.
17	SHEETS 2-5 ADDED	J.C.	SEP '07	B.C.	B.C.
16	NOTE 7 AMENDED	K.I.	SEP '06	R.S.	S.C.
15	UPDATE INDICATOR PANEL	K.I.	SEP '06	R.S.	S.C.
14	UPDATE TRANSFORMER GA	K.I.	JUL '06	B.C.	B.C.
13	ADD NOTES 6 & 7, STOCK CODE ADDED.	K.I.	MAR '05	C.C.	C.C.
12	INSERT NEW TRANSFORMER TABLE ADDED NEW DISCONNECTOR NOTES	K.I.	DEC 04	R.C.	...



DES	R.C.	POWER STANDARD DRAWING	
DRN	K.I.	<b>SUBSTATIONS</b>	
CKD	C.C.	<b>PACKAGE - 7000 SERIES</b>	
APPD	...	<b>GENERAL ARRANGEMENT 5 OF 5</b>	
SCALE	N.T.S.	A3	DRAWING NUMBER S02-01-07-01_5
ISSUED	DEC 04		
ALL DIM.	IN mm	DRAFTING STANDARD TO A.S.1100	
CAD PRODUCT - DO NOT AMEND MANUALLY		AMDT	