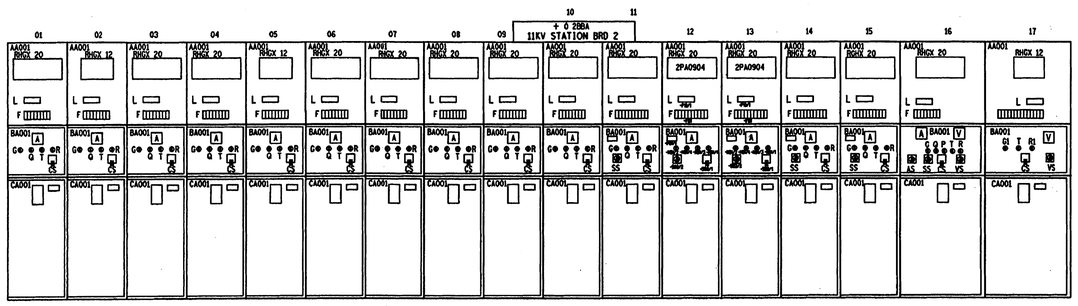
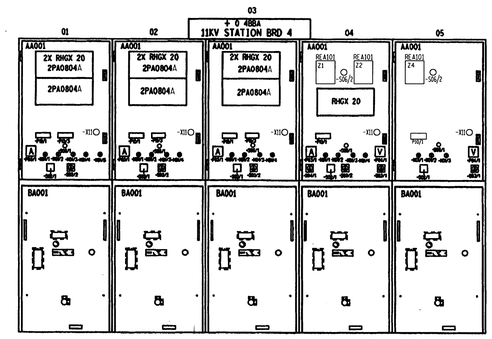
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	380V 500KVA CONTRACTOR YARD SUPPLY	11KV CONVEYOR BRD 2 FDR	380V UNITS 5 & 6 STANDBY BRD FDR	380V UNITS 3 & 4 STANDBY BRD FDR	11KV COMPOUND BRD 2 FDR	380V 275KV RELAY HOUSE BRD 2 FDR	380V 400KV YARD BRD 2 FDR	380V DISTRIBUTION BRD 2 FDR	3,3KV SUBSTATION BRD 2B FDR	3,3KV SUBSTATION BRD 2A FDR	11KV C.W. SOUTH RESERVE PUMP	380V 1,5MVA CONTRACTOR TNFR SOUTH	380V 1,5MVA CONTRACTOR TNFR NORTH	ELECTRIC FEED PUMP 2B	ELECTRIC FEED PUMP 1B	INCOMER FROM STATION TNFR 2	CABLE ISOLATOR BETWEEN STATION BRD'S 1 & 2
	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	20KA	31,5kA	31,5kA
	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A	2000A
	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	400A VCB V4/1	1250A VCB V4/6	1250A VCB V4/6	1250A VCB V4/6	1250A VCB V4/6	2000A VCB V7/1	2000A VCB V7/1
	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS	MWS
	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC
	3 x 30/1 10P15	3 x 400/1 10P15	3 x 75/1 10P15	3 x 75/1 10P15	3 x 100/1 10P15	3 x 30/1 10P15	3 x 30/1 10P15	3 x 30/1 10P15	3 x 500/1 10P15	3 x 500/1 10P15	3 x 250/1 10P15	3 x 400/1 10P15	3 x 400/1 10P15	3 x 400/1 10P15	3 x 400/1 10P15	6 x 2000/1 10P15	
	1 x 30/1 CL3	1 x 400/1 CL3	1 x 75/1 CL3	1 x 75/1 CL3	1 x 100/1 CL3	1 x 30/1 CL3	1 x 30/1 CL3	1 x 30/1 CL3	1 x 500/1 CL3	1 x 500/1 CL3	1 x 250/1 CL3	1 x 400/1 CL3	1 x 400/1 CL3	1 x 400/1 CL3	1 x 400/1 CL3	3 x 2000/1 CL3	
	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	
												2PA0904	2PA0904				
	26,3A	220A	40A	40A	50A	26,3A	26,3A	26,3A	253A	253A	210A	84 1/5 10VA	84 1/5 10VA	344	344	183TA	183TA
																11KV/110V 50 VA CL1 (C)	11KV/110V 50 VA CL1 (B)
	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	EPW 3 S	9X EPW IV	6X EPW IV
	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	EXX 3 SCV	9X EXX 1VCV	6X EXX 1VCV
	21798	21799	21800	21801	21802	21803	21804	21805	21806	21807	21808	21809	21810	21811	21812	21813	21833

	1	2	3	4	5			
	UNIT BRD 4 FDR	UNIT BRD 5 FDR	UNIT BRD 6 FDR	INCOMER FROM STATION TNFR 4	CABLE ISOLATOR BETWEEN STATION BRD'S 3 & 4		BUS ZONE PANEL	
	40kA	40kA	40kA	40kA	40kA			
	2500A	2500A	2500A	2500A	2500A			
	2500A	2500A	2500A	2500A	2500A			
	3AH	3AH	3AH	3AH	3AH			
	220V DC STC	220V DC STC	220V DC STC	220V DC STC	220V DC STC			
	3 x 2500/1 10P10	3 x 2500/1 10P10	3 x 2500/1 10P10	3 x 2500/1 10P10	3 x 2500/1 10P10		ABB	
	1 x 2500/1 CL1 5VA	1 x 2500/1 CL1 5VA	1 x 2500/1 CL1 5VA	3 x 2500/1 CL0,5 10VA				
	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX	3 x 2000/1 CLX				
	3 x 2200/1 CLX	3 x 2200/1 CLX	3 x 2200/1 CLX	3 x 3000/1 CLX				
	2PA0804A	2PA0804A	2PA0804A	EXISTING				
	2100A	2100A	2100A					
	40kA	40kA	40kA	40kA	40kA			
				11KV/110V 50 VA CL0,2 (C)	11KV/110V 50 VA CL0,2 (B)			
					2X 6X EPW IV			
	4X3X EXX 1VCV	4X3X EXX 1VCV	4X3X EXX 1VCV	4X3X EXX 1VCV	4X3X EXX 1VCV			
	21814	21815	21816	21817	21834		22081	

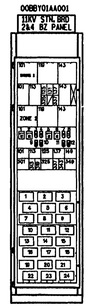
PANEL NUMBER	
CIRCUIT LABEL	
UNIT SERIAL NUMBER	
CB/CONTACTOR FUSE BREAKING CAPACITY	
BUSBAR RATING	
CB RATING	
TYPE	
TRIP DETAILS	MECHANISM
PROTECTION	
METERING	
BUS ZONE	
DIFFERENTIAL	CURRENT TRANSFORMERS
PROTECTION TYPE	
CIRCUIT AMPS	
AUX CT	
SHORT CCT BUSBAR RATING (3SEK)	
VOLTAGE TRANSFORMERS: C FOR CABLE VT, B FOR BUSBAR VT	
EXISTING CABLE DETAILS	
JOINT CABLE DETAILS	
SCHEMATIC DIAGRAM	
PICTORIAL DIAGRAM	
PANEL CUT-OUTS	
DOOR CUT-OUTS	
JOB NUMBER	
ESKOM DRW NUMBER 19.41/	



FRONT VIEW



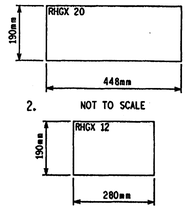
FRONT VIEW

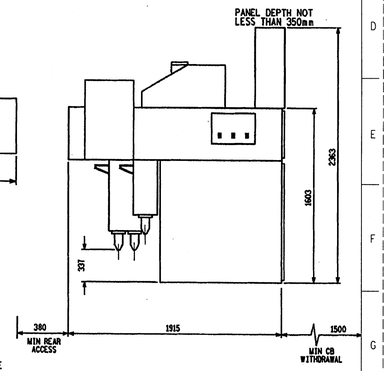


FRONT DOOR MOUNTING PLATE = D

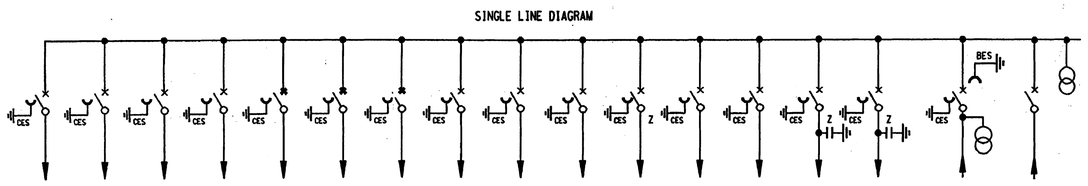
NOTES:

1. 2PA PROTECTION SCHEME CUTOUTS
2. NOT TO SCALE
3. FOR BUS ZONE PANEL DETAILS SEE 19.41/22081 SHT 1-19
4. 2 PA PROTECTION SCHEME AND BUS ZONE SUPPLIED BY ESKOM
5. USE MAKERS DRAWINGS FOR ERECTION OF PANELS
6.

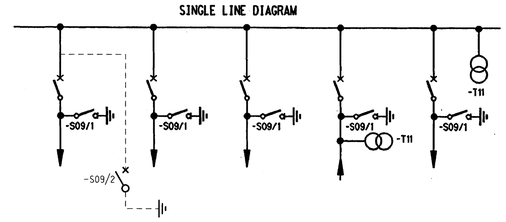




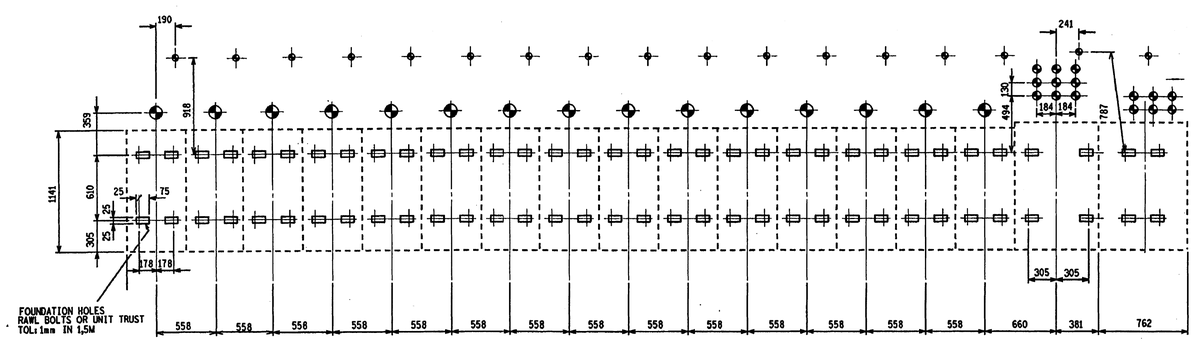
SIDE VIEW



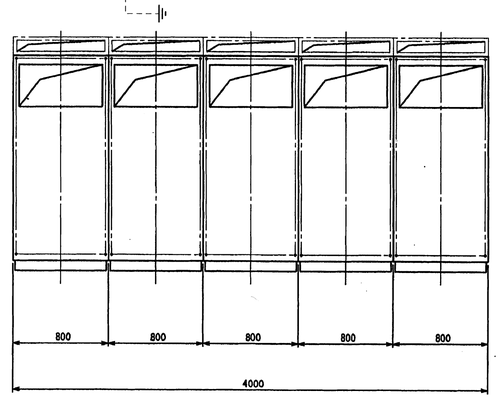
SINGLE LINE DIAGRAM

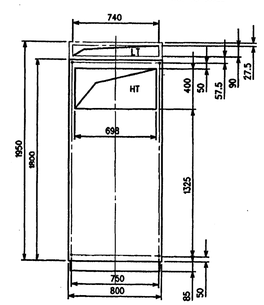


SINGLE LINE DIAGRAM

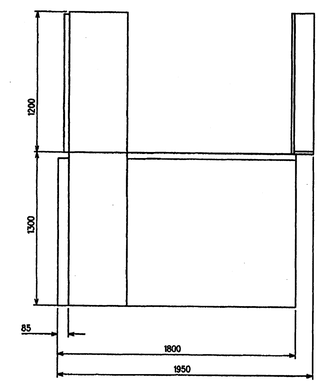


FOUNDATION PLAN





FOUNDATION PLAN



	BUS ZONE
38768	ARC PROT
0.41/304	SINGLE LINE
21834	JOGGLE STATION BRD 4
21833	JOGGLE STATION BRD 2
21817	INC STATION TNFR 3
21816	UNIT BRD 6 FDR
21815	UNIT BRD 5 FDR
21814	UNIT BRD 4 FDR
21813	INC STATION TNFR 2
21812	E.F.P 1B
21811	E.F.P 2B
21810	E.F.P 4B
21809	E.F.P 6B
21808	C.W. SOUTH
21807	SUBSTATION BRD 2A
21806	SUBSTATION BRD 2B
21805	DISTRIBUTION BRD 2
21804	400KV YARD BRD 2
21803	275KV RELAHOUSE BRD 2
21802	COMPOUND BRD 2
21801	UNITS 3,4 STANDBY BRD
21800	UNITS 5,6 STANDBY BRD
21799	CONVEYOR BRD 2
21798	380V 500KVA TNFR
0.19/ SHT 3	BUS WIRING
21797 SHT 2	3rd LEVEL COMP.LST
21797 SHT 3	PANEL ARRANGEMENT
19.41/	REFERENCE DRAWINGS

LEGEND	
A	AMMETER
B	MOTOR PROTECTION RELAY (SPAM 150 C)
C	MASTER TRIP LOCKOUT RELAY (RXMVB 2)
D	INTERPOSING TRIP/CLOSE RELAY (RXSF1)
E	TRIP REPEAT RELAY (RXME1)
F	FUSE
R	INDICATION LAMP RED VCB CLOSED
G	INDICATION LAMP GREEN VCB OPEN
H	BUCHHOLZ TRIP RELAY (RXSF1)
J	TRFR NEUTRAL / E/F RELAY (RXIL 23)
K	UNDERVOLTAGE TRIP RELAY (SPAU 120)
L	PK-2 TEST BLOCK 6 WAY
M	INTERPOSING RELAY
N	AUTO CHANGE OVER RELAY (RXSF1)
O	MASTER TRIP RESET (SWISSTAC)
RHM	RUNNING HOUR METER
CES	CABLE EARTH SWITCH
R1	INDICATION LAMP RED VCB CLOSED
V	VOLTMETER
BES	BUSBAR EARTH SWITCH
Z	ZORC SURGE ARRESTOR
AS	AMMETER SWITCH
CS	CONTROL SWITCH TRIP/NEUTRAL/CLOSE
SS	SELECTOR SWITCH LOCAL/REMOTE
VS	VOLTMETER SWITCH
T	INDICATION LAMP WHITE CB RACKED IN SERVICE POSITION
P	INDICATION LAMP WHITE CB RACKED IN BUSBAR EARTH POSITION
Q	INDICATION LAMP WHITE CB RACKED IN CABLE EARTH POSITION

NOTE:
1. SEE STATION BOARD 4 DRWG NO 19.41/25373
FOR 3 RD LEVEL KKS LEGEND ON + 0 4BBA01AA001
TO + 0 4BBA05AA001 AND + 0 2BBA12AA001 AND 0 2BBA13AA001

MARK UPS	D	AS BUILT			
	C	AS BUILT			
	B	AS BUILT			
	A	AS BUILT			
6		ACCEPTANCE			
		APPROV. KKS			
REV		STATUS	NAME	SIGNED	DATE

DEL	2BBA	4BBA	
1 2 3 4 5 6 X	AB	SHT NO 000	HOLDER

Ptm WITBANK DESIGN CONTROL

	NAME	SIGNED	COMMENTS	DATE	REFERENCE	REV.J
DESIGN REVIEW COMMITTEE					Ptm W1-09	
CLIENT ACCEPT					PLANT IDENTIFICATION	
					ENGINEERING PROPOSAL	

THIS DRAWING HAS BEEN CREATED ON A C.A.D. SYSTEM AND ANY AMENDMENT TO THE DRAWING MUST BE EFFECTED ON Y ON THE SAME C.A.D. SYSTEM

THE C.A.D. REFERENCE NUMBER IS: (19.41)21797C00.R06

19	6	05-2004	RE-DESIGN SMGR RECTIFICATION	WJNJP	GJ
2/6	0		FIRST ISSUE		
D.O.	REV	DATE	** REVISION **	REV BY	CHKD BY	AUTH BY	KKS APP
			INDEX REFERENCE :				

AUTHORISED BY :	P.SMEDEMA	APPROVED BY :	M.VISSER
KKS APP	G.F.	05/2004	ESKOM HOLDINGS LTD. REG. No. 2002/015527/06
CHKD BY	M.V.	05/2004	
DRAWN BY	L.Z.B	05/2004	
SCALE	N.T.S.		

ARNOT POWER STATION
11KV STATION BOARD 2
11KV STATION BRD 4
PANEL ARRANGEMENT

SHEET 1

Eskom 19.41/ 21797 REV 6

SIZE UNOOTIL AOL