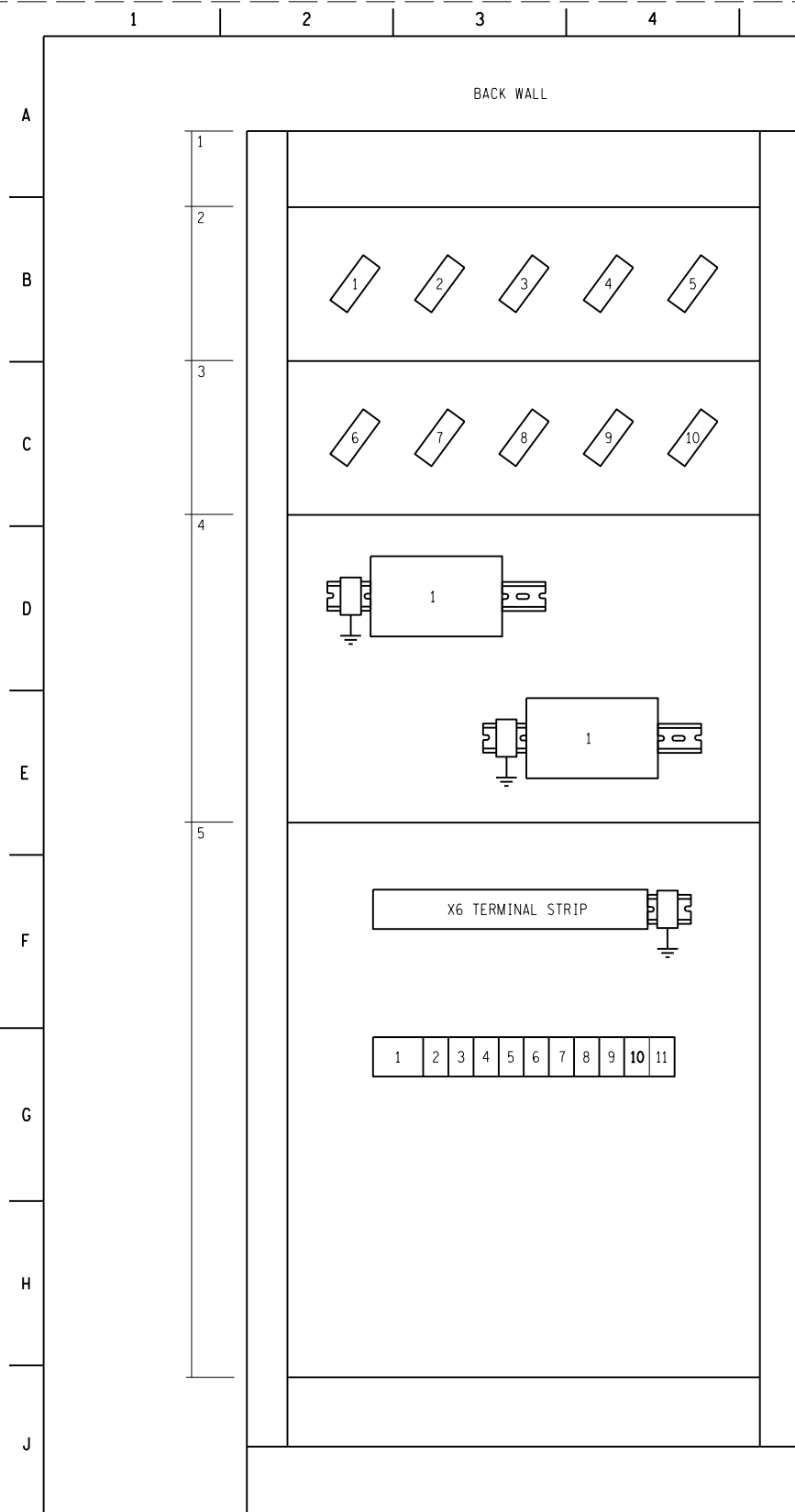


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LOCATION		DESIGNATION	DESCRIPTION	TYPE	MANUFACTURER
1	1	BLANK			
2	1	PD1	MAIN 1 PIU PLUG DISCONNECTOR	16 WAY	
	2	PD2	MAIN 1 PIU PLUG DISCONNECTOR	32 WAY	HARTING
	3	PD3	MAIN 1 PIU PLUG DISCONNECTOR	32 WAY	HARTING
	4	PD4	MAIN 1 PIU PLUG DISCONNECTOR	32 WAY	HARTING
	5	PD5	MAIN 1 PIU PLUG DISCONNECTOR	32 WAY	HARTING
3	1	PD6	MAIN 2 PIU PLUG DISCONNECTOR	16 WAY	HARTING
	2	PD7	MAIN 2 PIU PLUG DISCONNECTOR	32 WAY	HARTING
	3	PD8	MAIN 2 PIU PLUG DISCONNECTOR	32 WAY	HARTING
	4	PD9	MAIN 2 PIU PLUG DISCONNECTOR	32 WAY	HARTING
	5	PD10	MAIN 2 PIU PLUG DISCONNECTOR	32 WAY	HARTING
4	1	FPB(M1)	FIBER PATCH BOX MAIN 1	32 WAY	HARTING
	2	FPB(M2)	FIBER PATCH BOX MAIN 2		
5	1	SSR	SECURE SUPPLY RELAY		
	2	SSR1	SECURE SUPPLY RELAY 1		
	3	SSR2	SECURE SUPPLY RELAY 2		
	4	LCR	LAMP CHECK RELAY		
	5	ACF	AC SUPPLY FAIL RELAY		
	6	DU1	DIODE UNIT 1	(4-WAY TRIPPING)	
	7	DU2	DIODE UNIT 2	(4-WAY TRIPPING)	
	8	DU3	DIODE UNIT 3	(4-WAY TRIPPING)	
	9	SNUB(R)	SNUBBER CIRCUIT - RED PHASE BREAKER CLOSING	ISSO1	
	10	SNUB(W)	SNUBBER CIRCUIT - WHITE PHASE BREAKER CLOSING	ISSO1	
	11	SNUB(B)	SNUBBER CIRCUIT - BLUE PHASE BREAKER CLOSING	ISSO1	
		X6.1-X6.55	SPRING TERMINALS	M10/10,RS	
		X6.E	EARTH TERMINAL	M6/8P	

REPLACE * WITH VOLTAGE LEVEL
110V DC = 110
220V DC = 220

EACH 16-WAY PLUG DISCONNECTOR CONSISTS OF THE FOLLOWING PARTS:

JB/PIU SIDE	DESCRIPTION	QTY	PART NUMBER	MANUFACTURER	MANUAL REF
JB SIDE	HAN-A METAL BULKHEAD HOUSING	1	09 20 016 0301	HARTING	31.21
JB SIDE	HAN-A SCREW TERMINAL INSERT-FEMALE (1-16)	1	09 20 016 2812	HARTING	01.09
JB SIDE	GUIDE PIN	2*	09 33 000 9908	HARTING	95.08
JB SIDE	GUIDE BUSHING	2*	09 33 000 9909	HARTING	95.08
PIU SIDE	HAN-A METAL HOOD WITH SIDE ENTRY FOR CABLE	1	19 20 016 0546	HARTING	31.20
PIU SIDE	HAN-A SCREW TERMINAL INSERT-MALE (1-16)	1	09 20 016 2612	HARTING	01.09
PIU SIDE	GUIDE PIN	2*	09 33 000 9908	HARTING	95.08
PIU SIDE	GUIDE BUSHING	2*	09 33 000 9909	HARTING	95.08

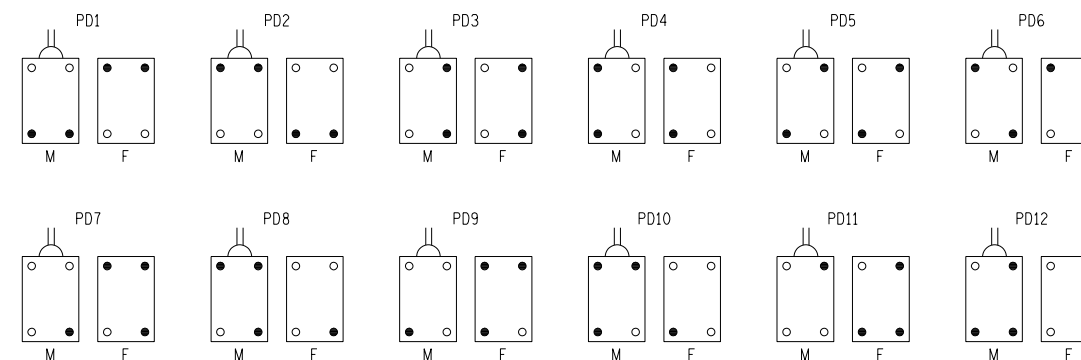
EACH 32-WAY PLUG DISCONNECTOR CONSISTS OF THE FOLLOWING PARTS:

JB/PIU SIDE	DESCRIPTION	QTY	PART NUMBER	MANUFACTURER	MANUAL REF
JB SIDE	HAN-A METAL BULKHEAD HOUSING	1	09 20 032 0301	HARTING	31.24
JB SIDE	HAN-A SCREW TERMINAL INSERT-FEMALE (1-16)	1	09 20 016 2812	HARTING	01.09
JB SIDE	HAN-A SCREW TERMINAL INSERT-FEMALE (17-32)	1	09 20 016 2813	HARTING	01.09
JB SIDE	GUIDE PIN	2*	09 33 000 9908	HARTING	95.08
JB SIDE	GUIDE BUSHING	2*	09 33 000 9909	HARTING	95.08
PIU SIDE	HAN-A METAL HOOD WITH SIDE ENTRY FOR CABLE	1	19 20 032 0527	HARTING	31.23
PIU SIDE	HAN-A SCREW TERMINAL INSERT-MALE (1-16)	1	09 20 016 2612	HARTING	01.09
PIU SIDE	HAN-A SCREW TERMINAL INSERT-MALE (17-32)	1	09 20 016 2613	HARTING	01.09
PIU SIDE	GUIDE PIN	2*	09 33 000 9908	HARTING	95.08
PIU SIDE	GUIDE BUSHING	2*	09 33 000 9909	HARTING	95.08

* EACH COMPLETE PLUG DISCONNECTOR (INCLUDING JB SIDE AND PIU SIDE) USES 4 GUIDE PINS AND 4 GUIDE BUSHES. DEPENDING ON THE SPECIFIC CODING (BASED ON THE PD NUMBER), THESE PINS/BUSHES MAY BE UNEVENLY SPLIT BETWEEN THE JB SIDE AND THE PIU SIDE (SEE CODING DIAGRAMS BELOW).





PLUG DISCONNECTOR ASSEMBLY INSTRUCTIONS:

1. ALL JB SIDE (FEMALE) HARTING CONNECTORS TO BE ASSEMBLED WITH TERMINAL 1 BOTTOM LEFT HAND CORNER.
2. ALL PIU SIDE HARTING CONNECTORS TO BE ASSEMBLED WITH HOOD CABLE ENTRY FROM THE TOP AND TERMINAL INSERTS TO MATCH CORRESPONDING FEMALE ASSEMBLY.
3. GUIDE PINS & BUSHINGS ALWAYS APPLIED TO CORNER SCREW POSITIONS ONLY.
4. PLUG DISCONNECTORS (PD's) TO BE CODED BASED ON THE PD NUMBER IN THE APPLICATION AS FOLLOWS (VIEWED FROM THE MATING FACES OF THE CONNECTORS):



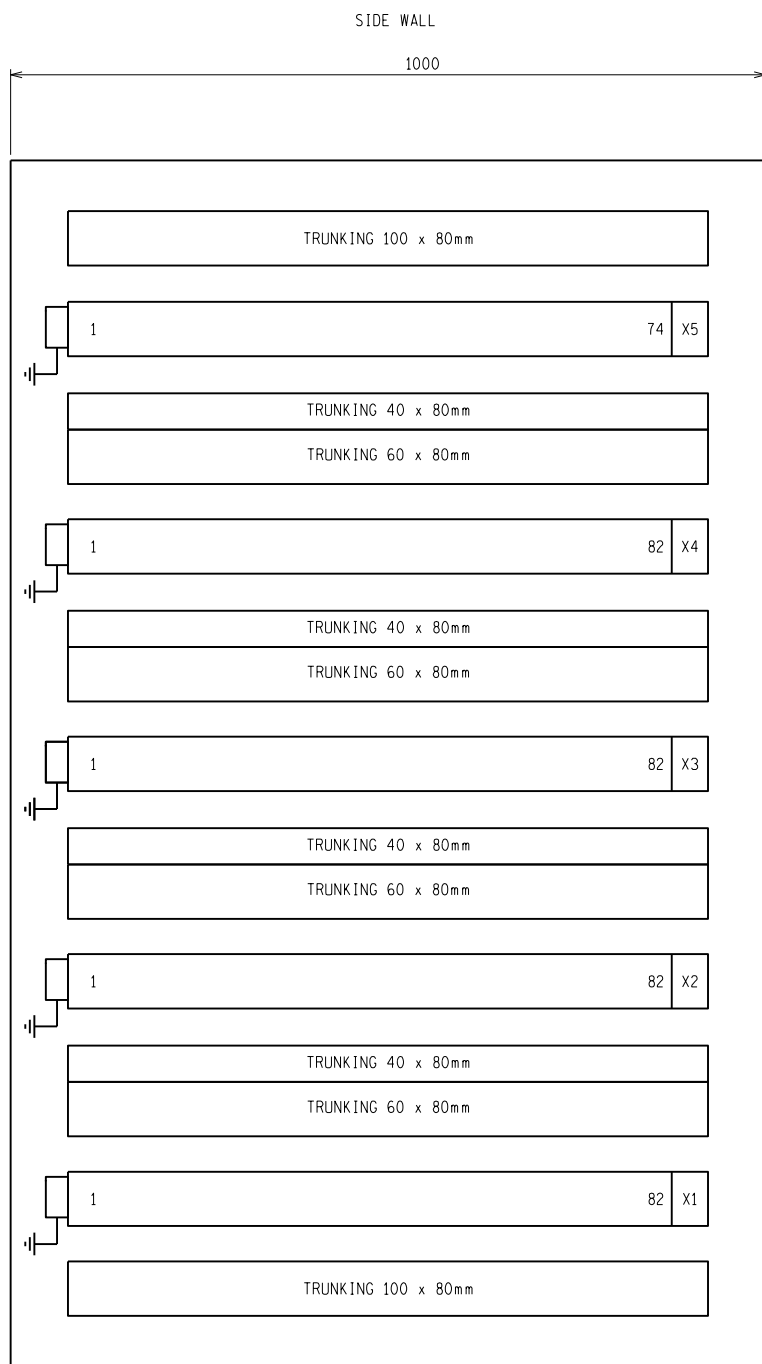
○ = GUIDE BUSHING
● = GUIDE PIN

[illegible]

REV	REVISION DESCRIPTION		BY	CHKD	APP	DATE
PROJECT APPROVED	DESIGN APPROVED B. QWABE	 Eskom	Eskom Holdings SOC Ltd Reg No 2002/015527/30			
DATE	DATE 11/03/2019					
PROJECT CHECKED	DESIGN CHECKED P. MASHIGO	 Eskom	Eskom Holdings SOC Ltd Reg No 2002/015527/30			
DATE	DATE 11/03/2019					
PROJECT DRAWN BY	DESIGN DRAWN BY R. VILJOEN	 Eskom	Eskom Holdings SOC Ltd Reg No 2002/015527/30			
DATE	DATE 21/02/2019					
SCALE		 Eskom	SHEET NUMBER		REVISION	
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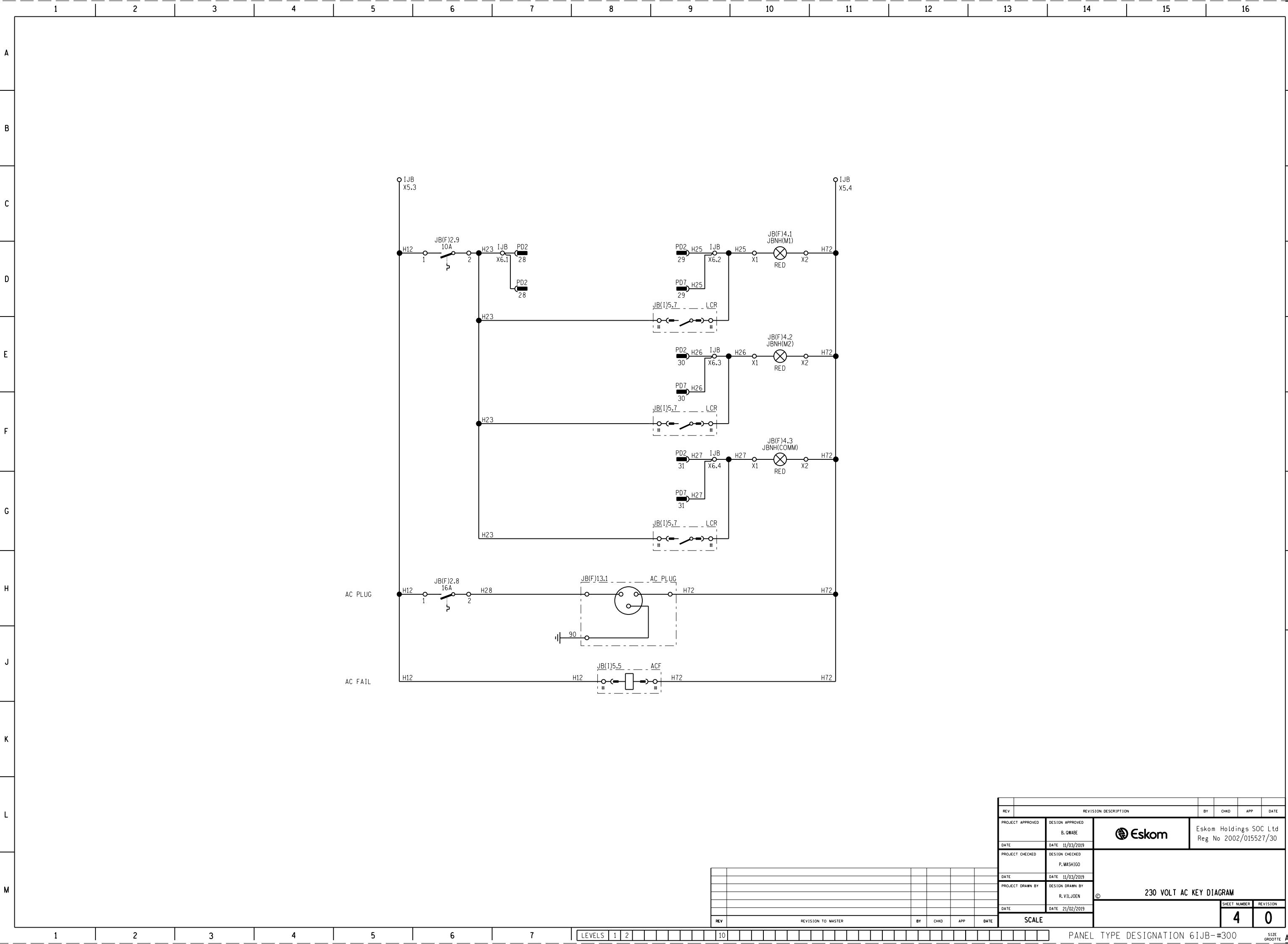
CONSTRUCTION/WIRING INSTRUCTIONS:

1. ALL WIRING IS 600/1000V, 1.5SQMM EXCEPT AC HEATER AND MOTOR SUPPLIES (TO ISOLATION MCBs) WHICH ARE 4SQMM. EARTHING LEADS ARE 2.5SQMM.
2. ALL WIRES ARE TERMINATED WITH HOOK BLADE LUGS. CONNECTIONS TO PDs TO USE BOOTLACE LUGS.
3. WIRES ARE NUMBERED ON BOTH END AS INDICATED.
4. MCBs TO BE WIRED WITH SOURCE-SIDE ON TOP.
5. LOR SWITCH TO BE FITTED WITH A REAR SUPPORT BRACKET WHICH ALSO PREVENTS 'BACK OF THE HAND CONTACT WITH EXPOSED LIVE PARTS.

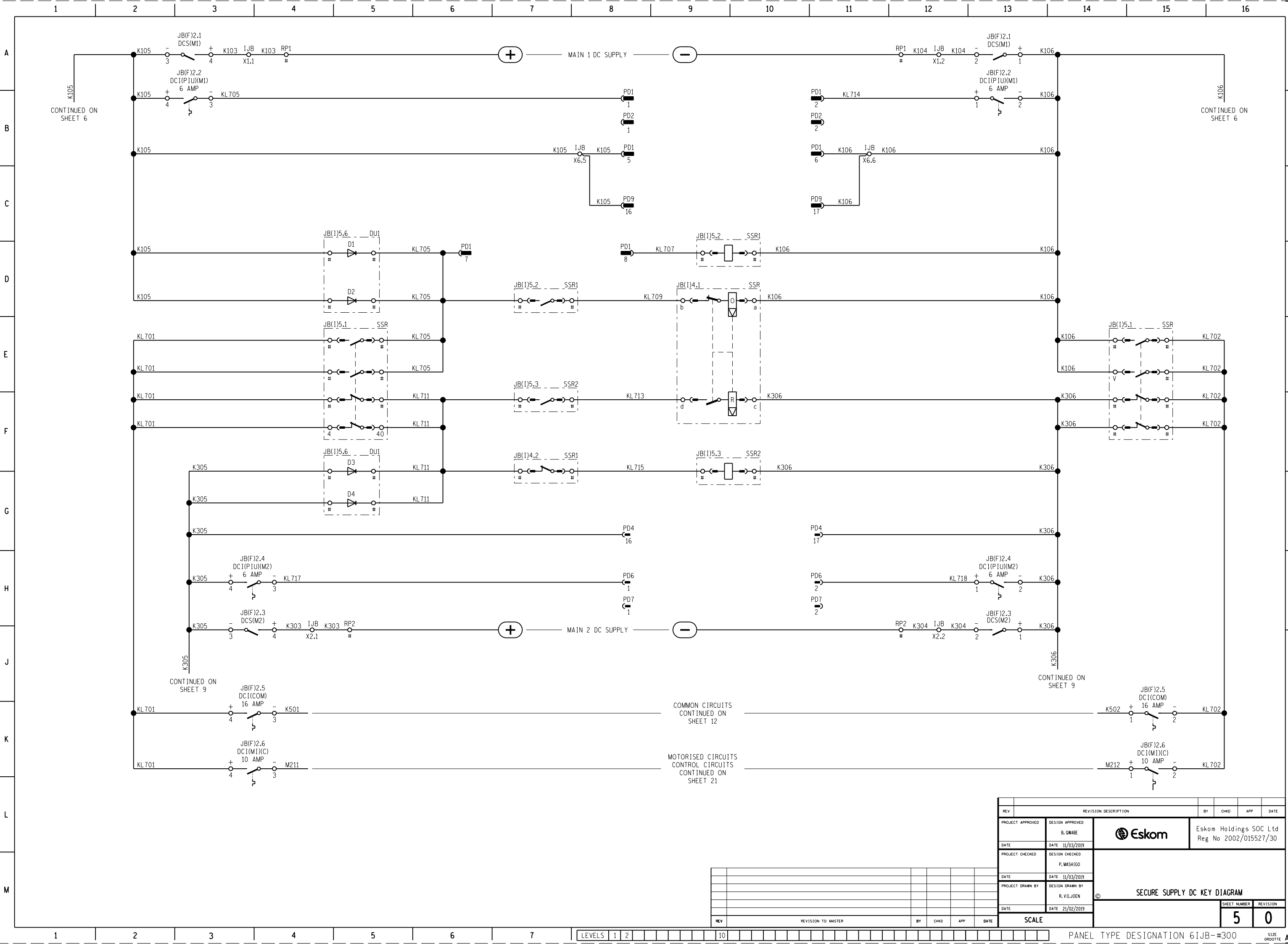


LOCATION		DESIGNATION	DESCRIPTION	TYPE	MANUFACTURER
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	X1.E		EARTH TERMINAL	M6/8P	
	X2	1-82	SPRING TERMINALS	M10/10.RS	
	X2.E		EARTH TERMINAL	M6/8P	
	X3	1-82	SPRING TERMINALS	M10/10.RS	
	X3.E		EARTH TERMINAL	M6/8P	
	X4	1-82	SPRING TERMINALS	M10/10.RS	
	X4.E		EARTH TERMINAL	M6/8P	
	X5	1-4	TERMINALS	M35/26.FF	
	X5	5-74	SPRING TERMINALS	M10/10.RS	
X5.E	EARTH TERMINAL		M6/8P		

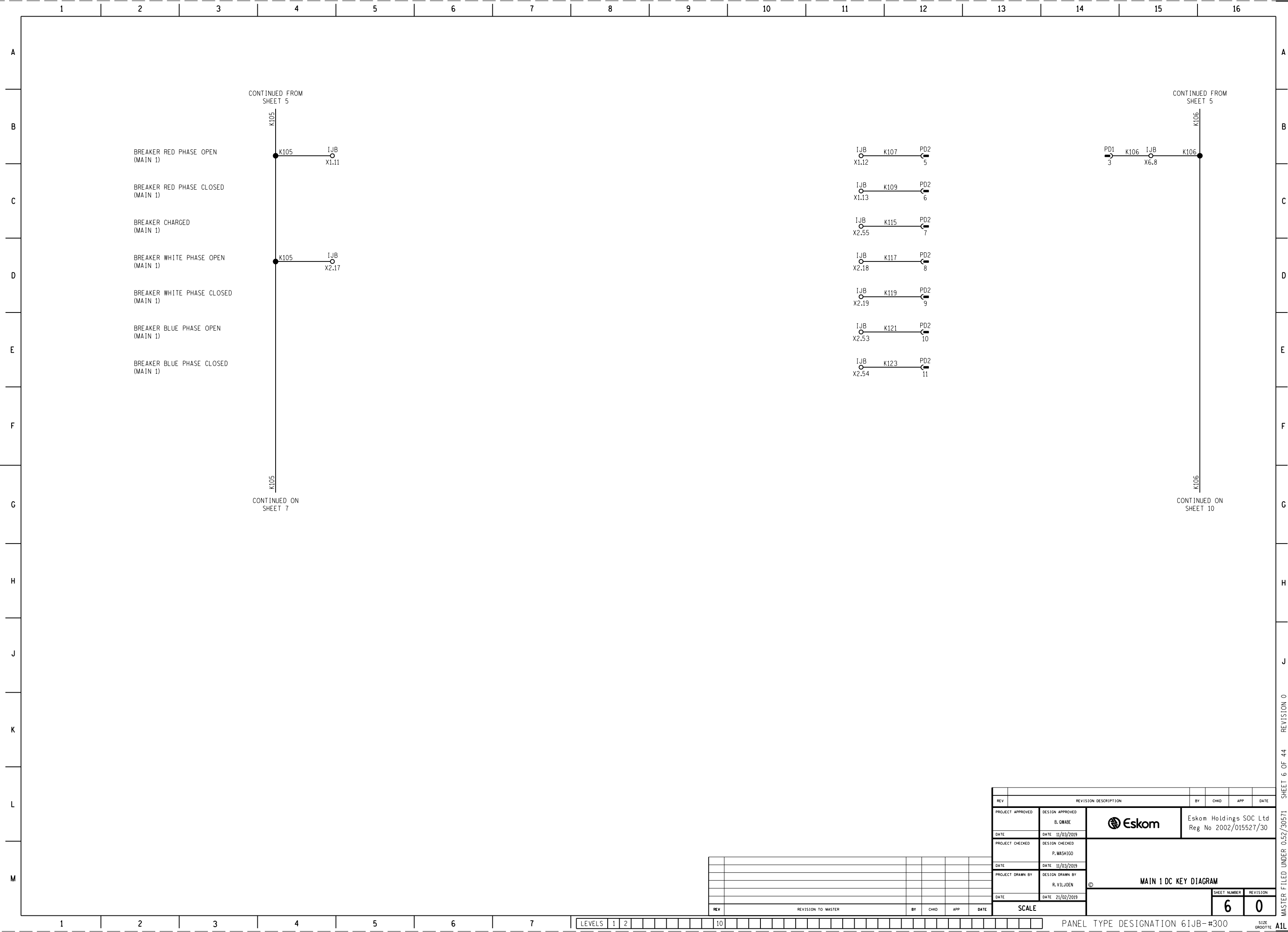
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		B. QWABE					
DATE		DATE 11/03/2019					
PROJECT CHECKED		DESIGN CHECKED					
		P. MASHIGO					
DATE		DATE 11/03/2019					
PROJECT DRAWN BY		DESIGN DRAWN BY					
		R. VILJOEN		JB REAR TERMINAL LAYOUT			
DATE		DATE 21/02/2021					
SCALE				SHEET NUMBER		REVISION	
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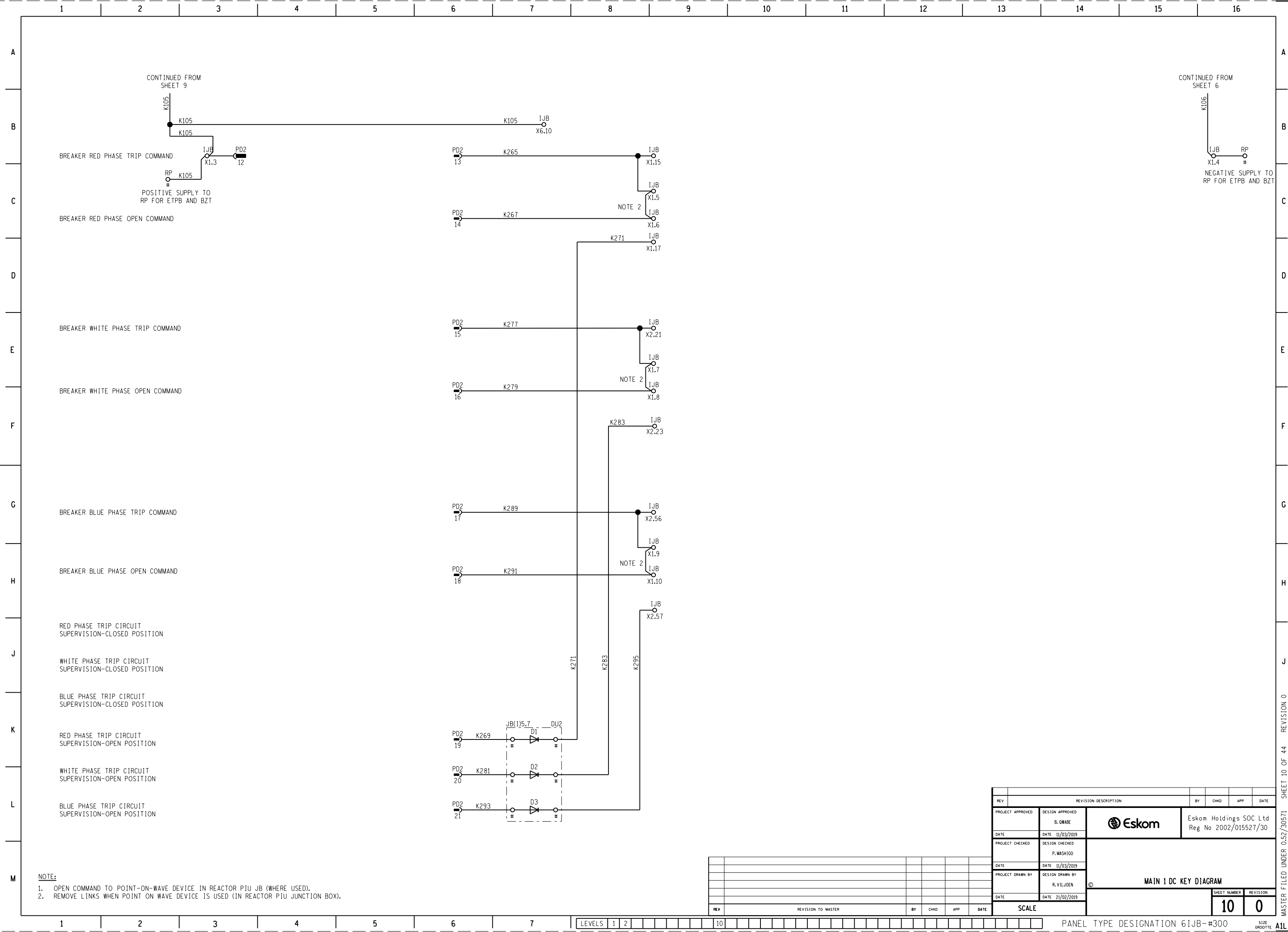


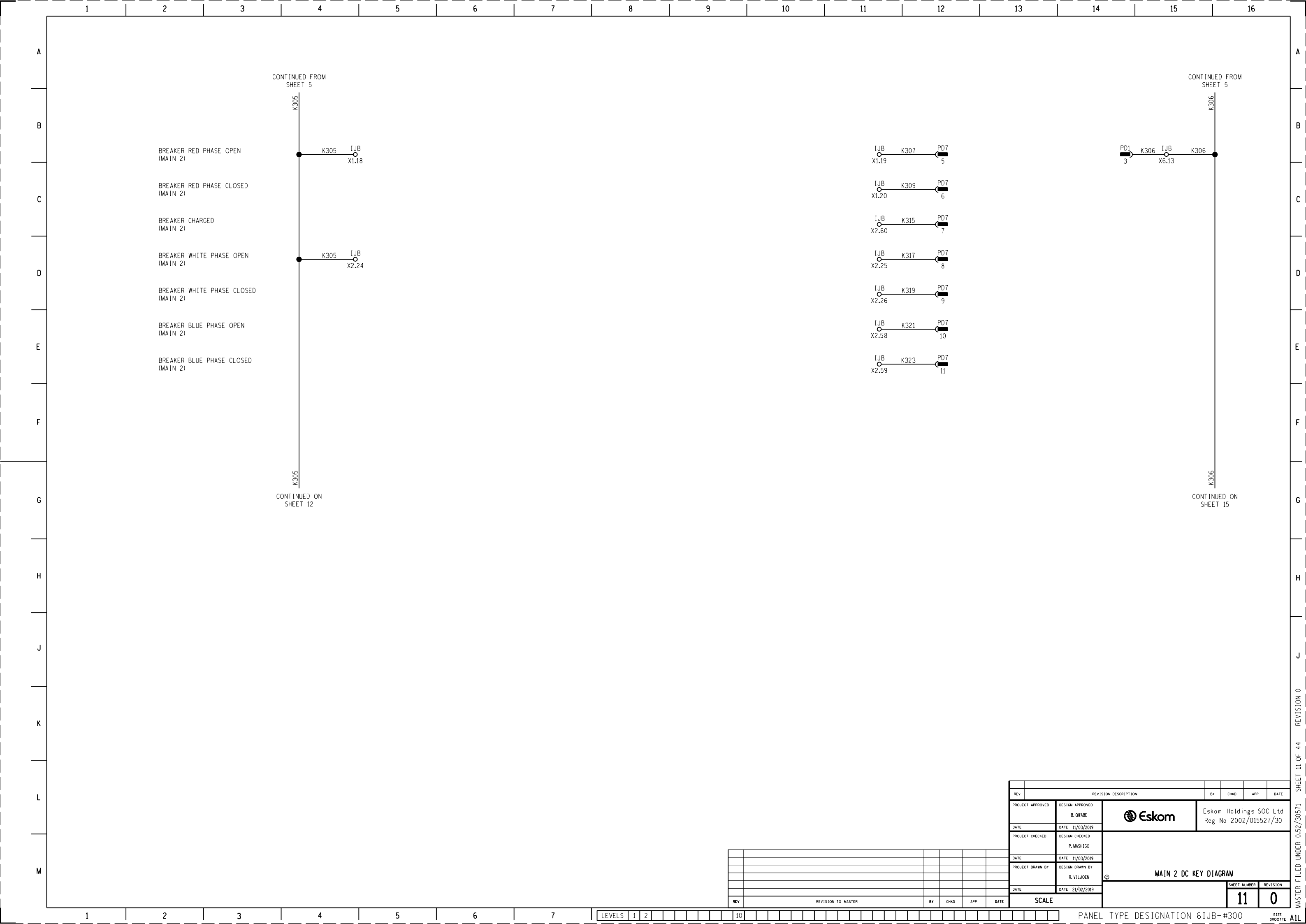
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PROJECT CHECKED	DESIGN CHECKED				
	P. MASHIGO				
DATE	DATE				
	11/03/2019				
PROJECT DRAWN BY	DESIGN DRAWN BY				
	R. VILJOEN				
DATE	DATE				
	21/02/2019				
SCALE					
230 VOLT AC KEY DIAGRAM					
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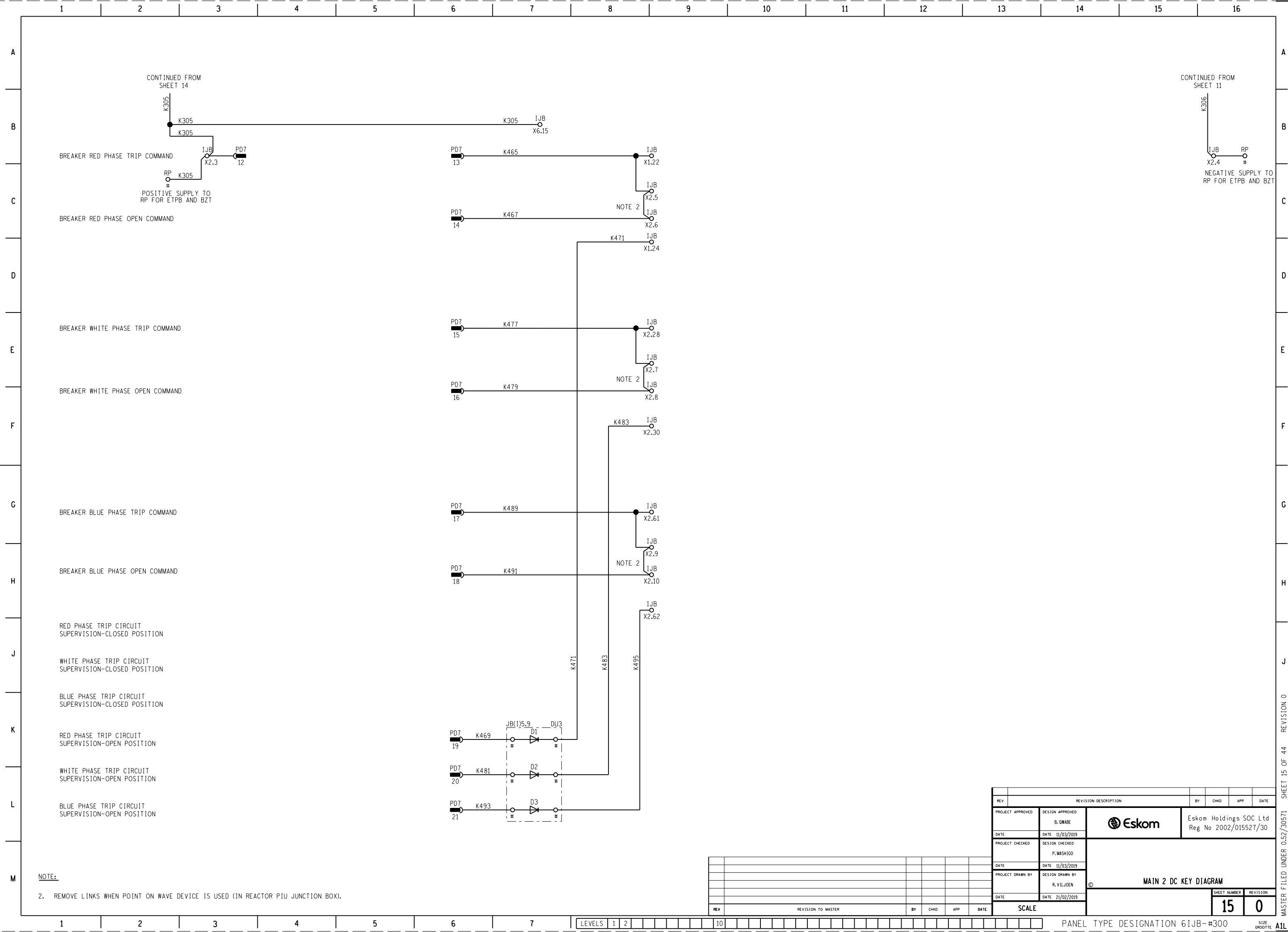


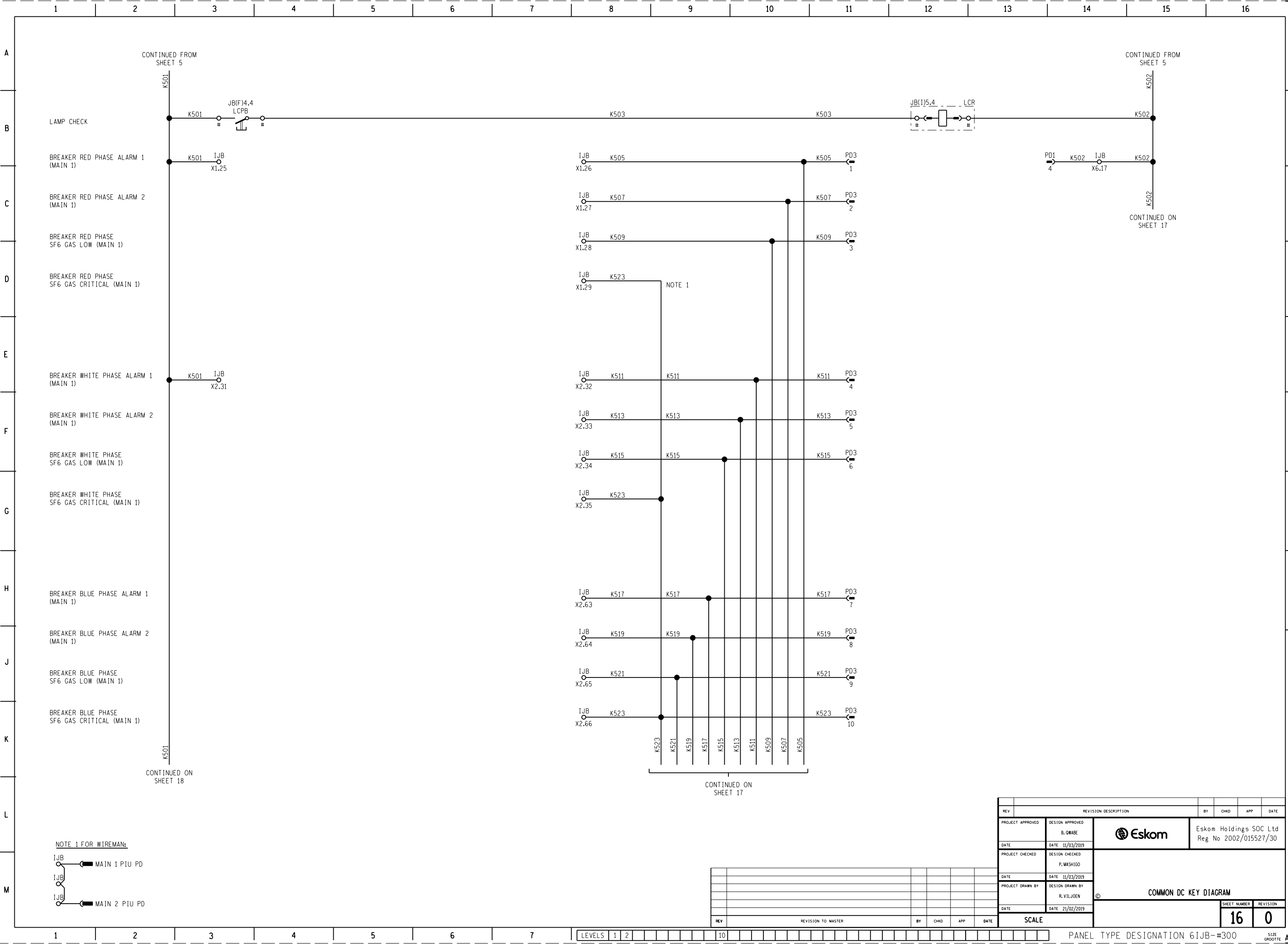
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2	DESIGN APPROVED				
3	DATE	11/03/2019			
4	PROJECT CHECKED	P.MASHIGO			
5	DESIGN CHECKED				
6	DATE	11/03/2019			
7	PROJECT DRAWN BY	R.VILJOEN			
8	DESIGN DRAWN BY				
9	DATE	21/02/2019			
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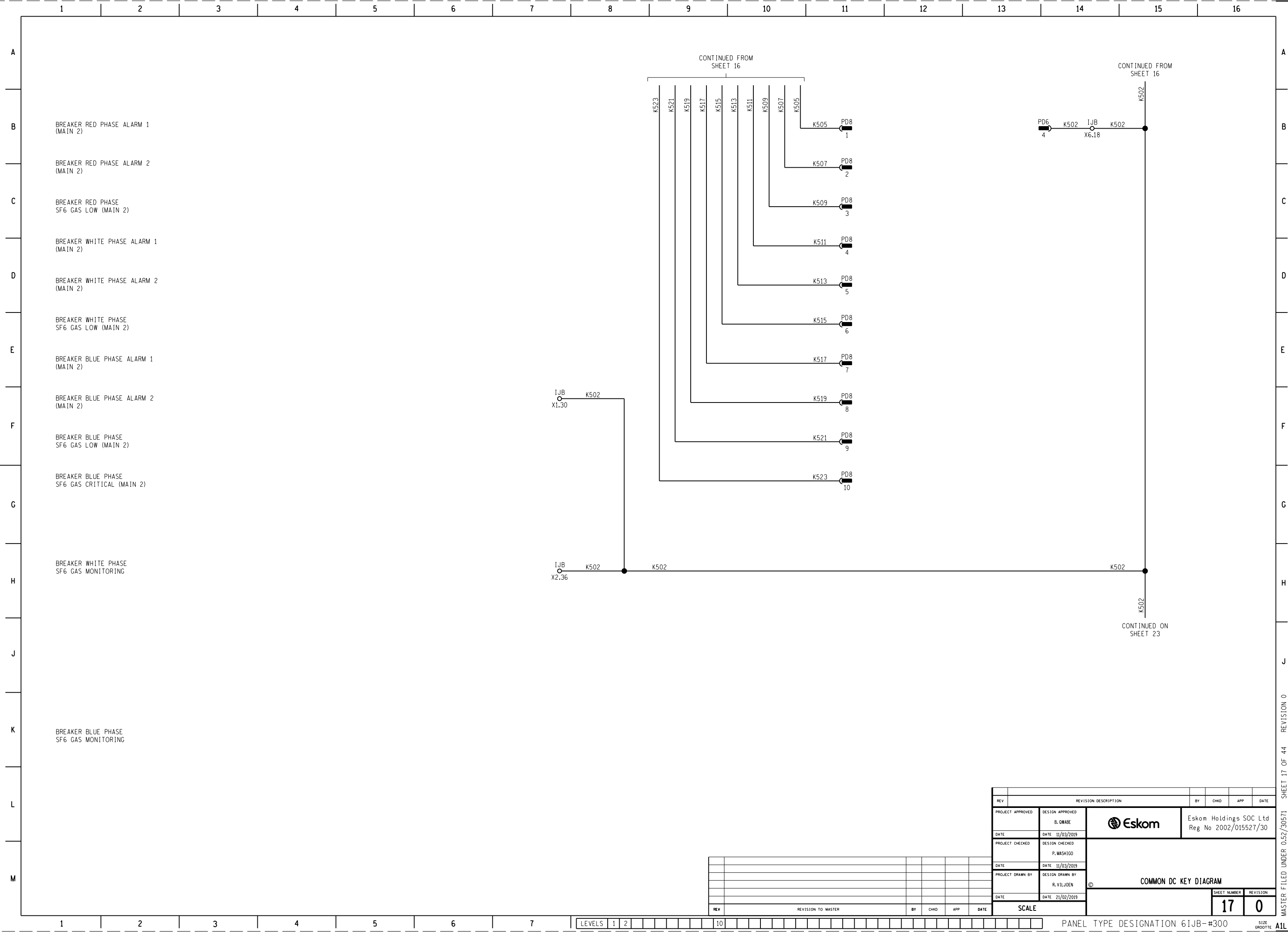


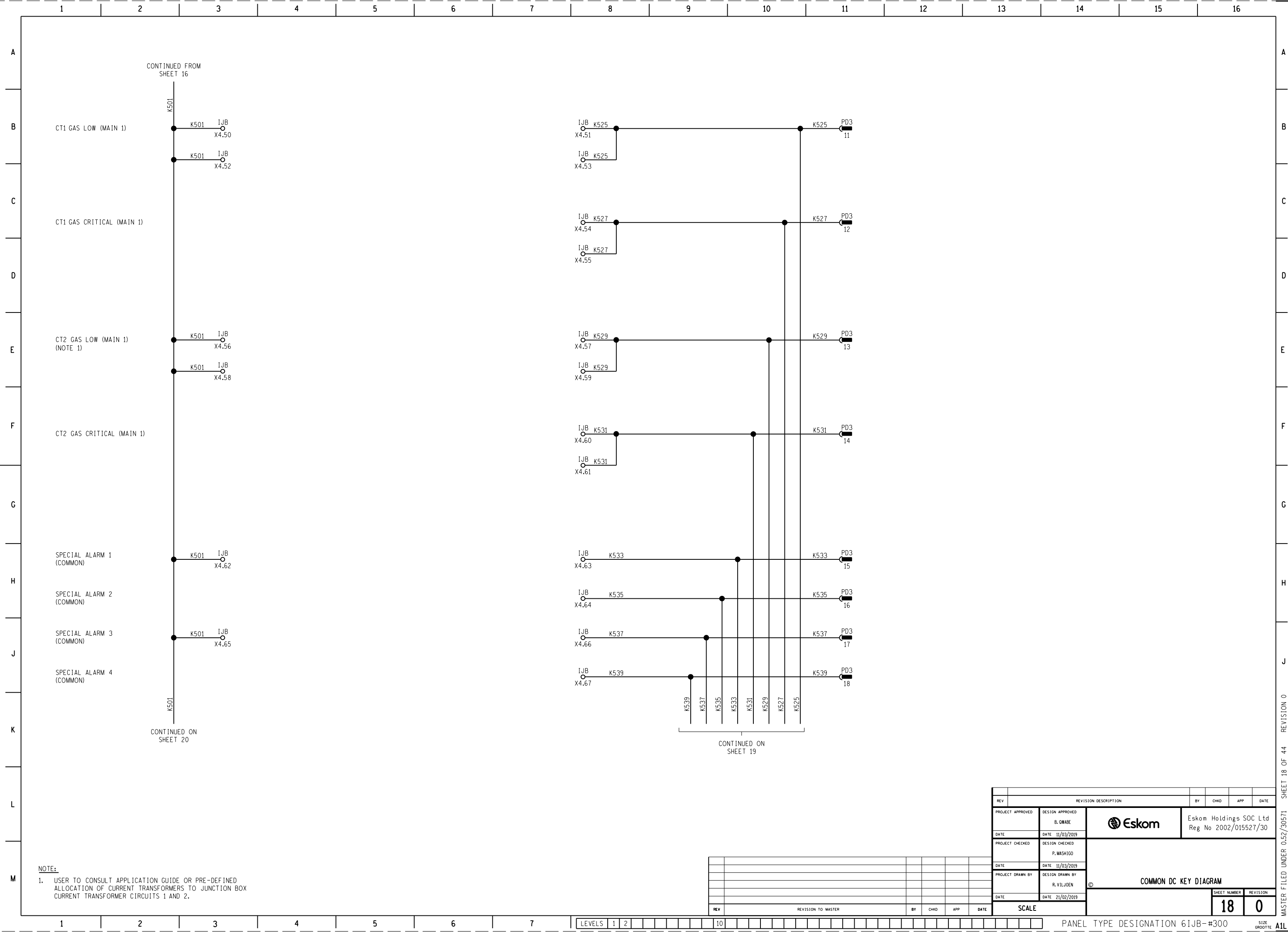


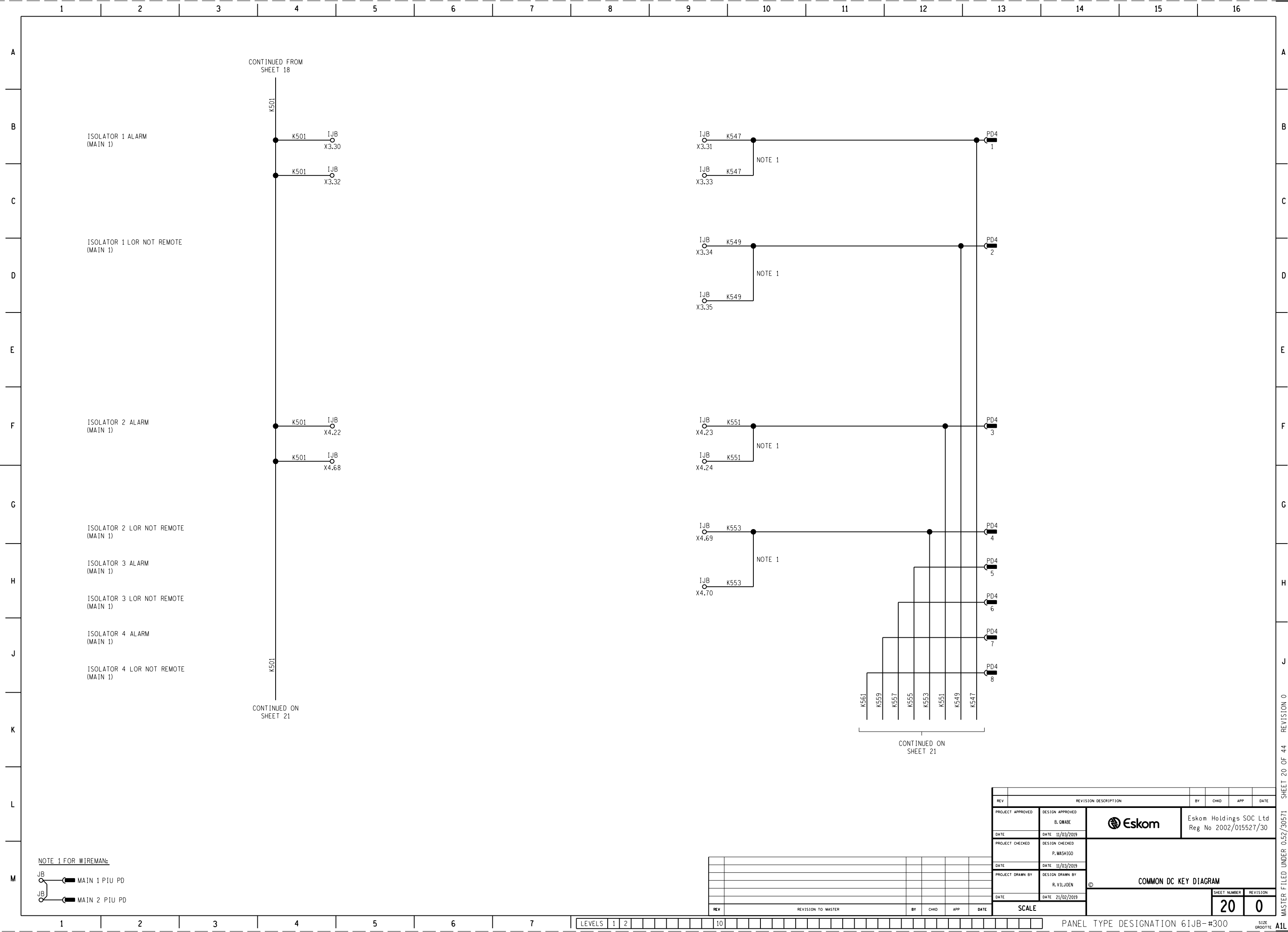


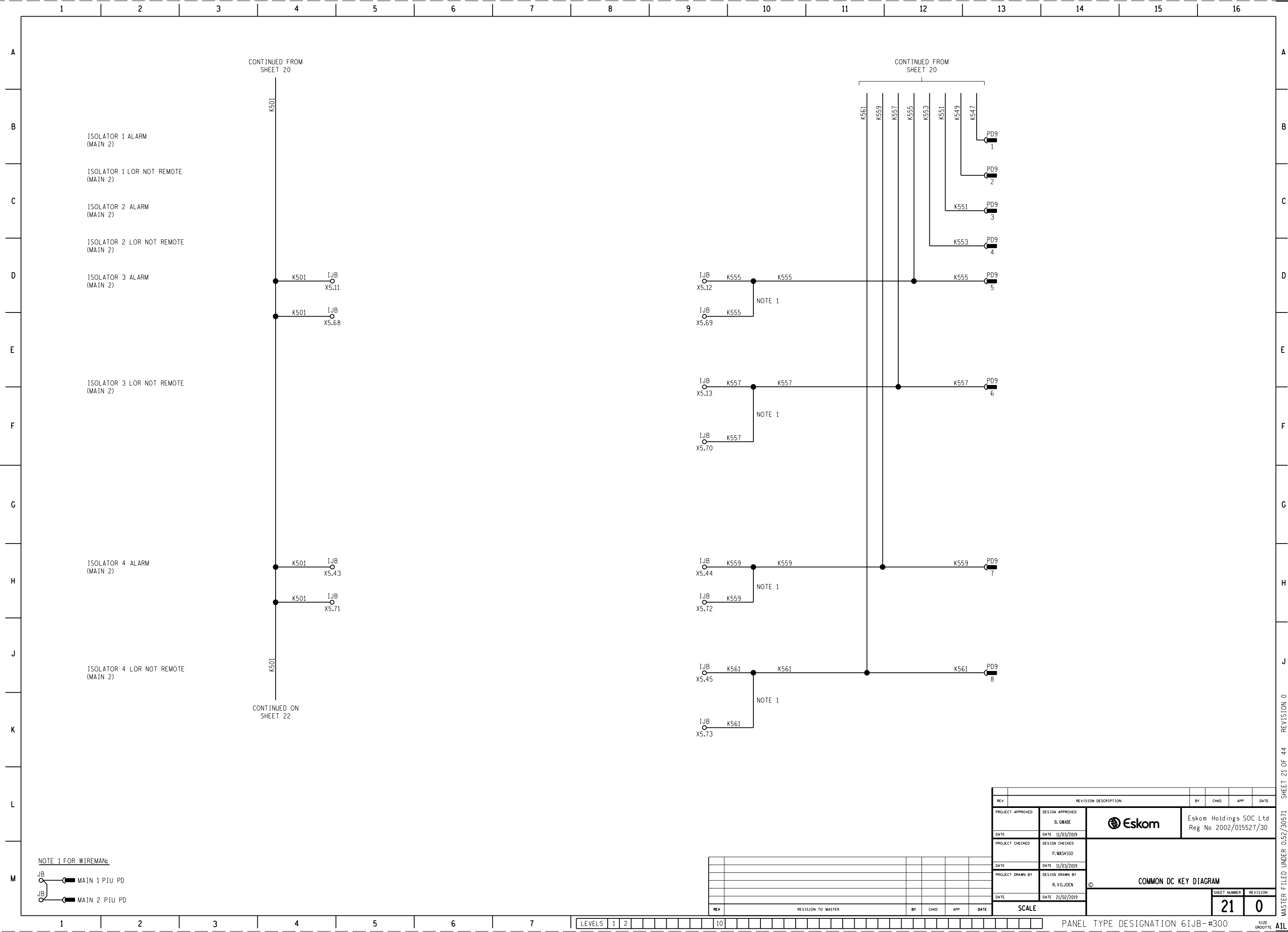


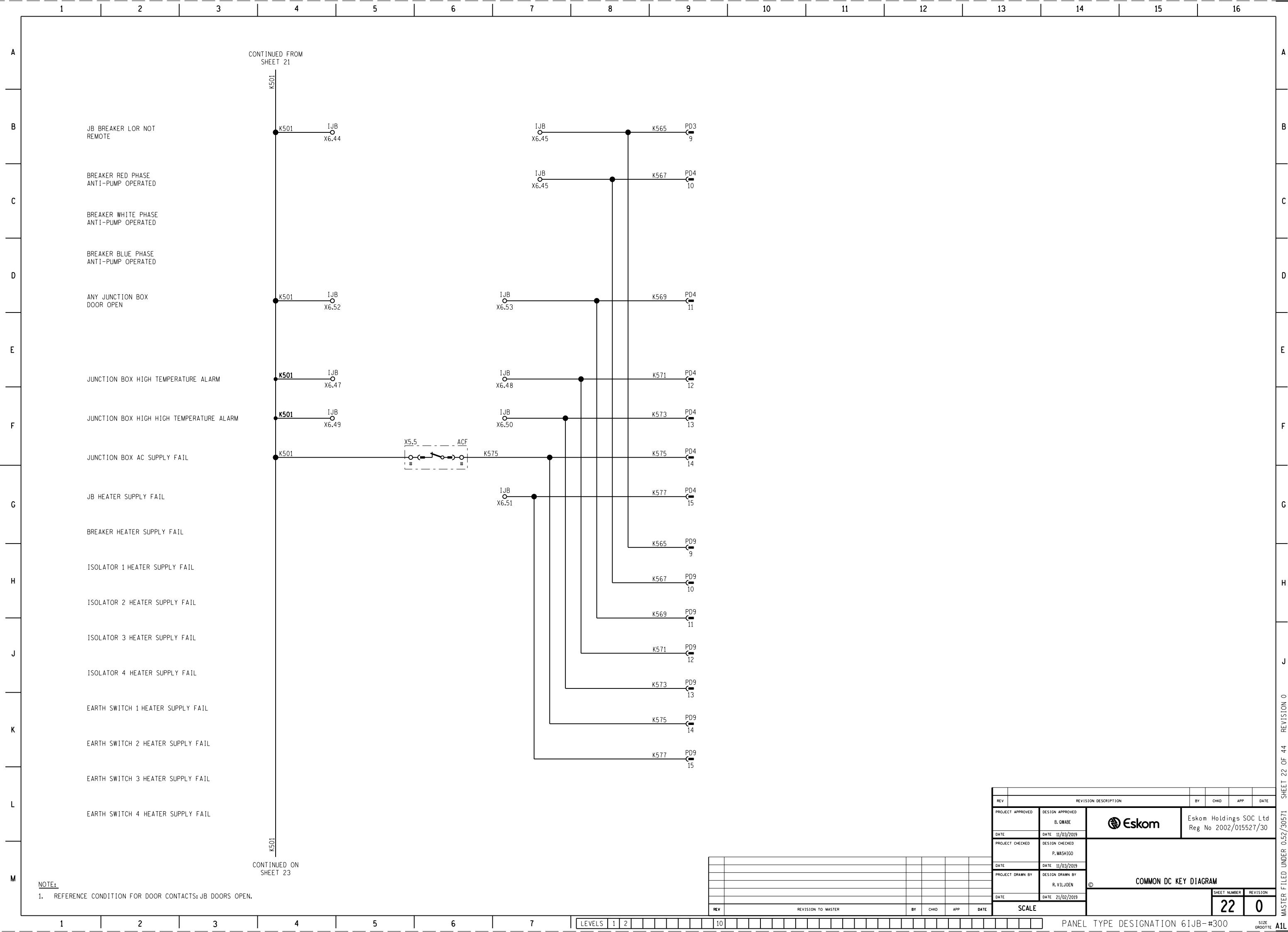
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	P. MASHIGO				
DATE	DATE 11/03/2019				
PROJECT DRAWN BY	DESIGN DRAWN BY				
	R. VILJOEN				
DATE	DATE 21/02/2019				
SCALE					
COMMON DC KEY DIAGRAM					
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REVISION 0					

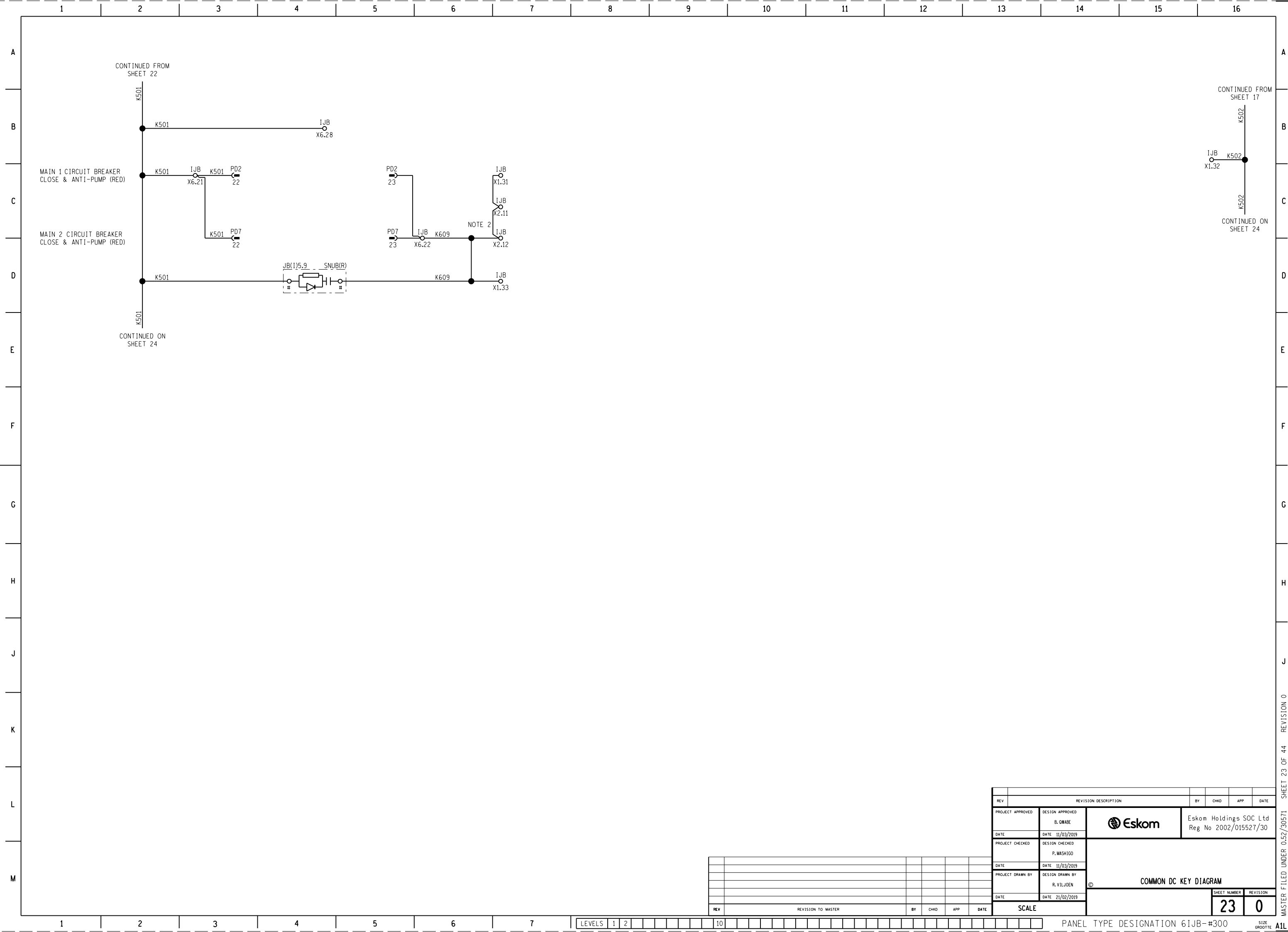


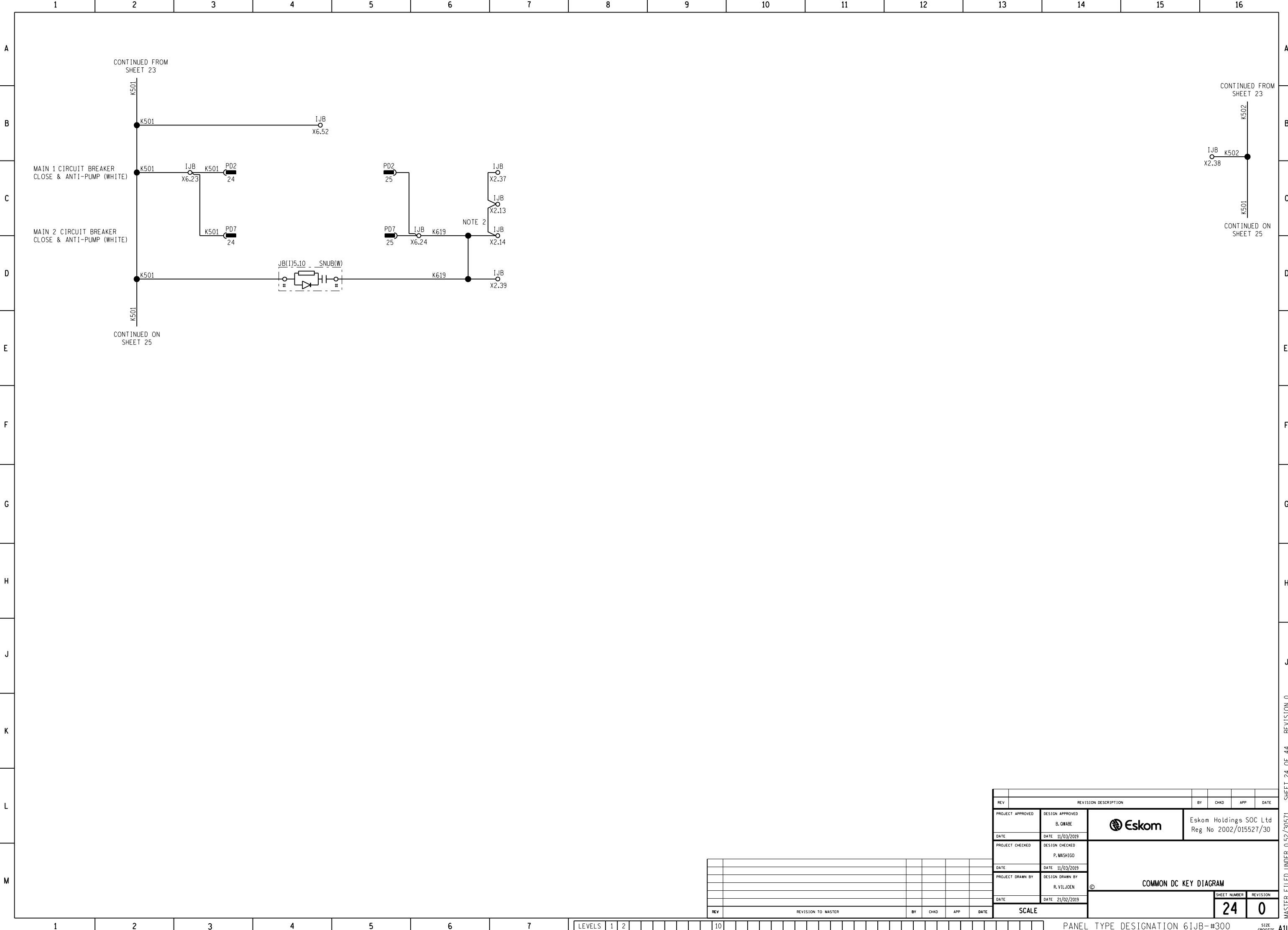




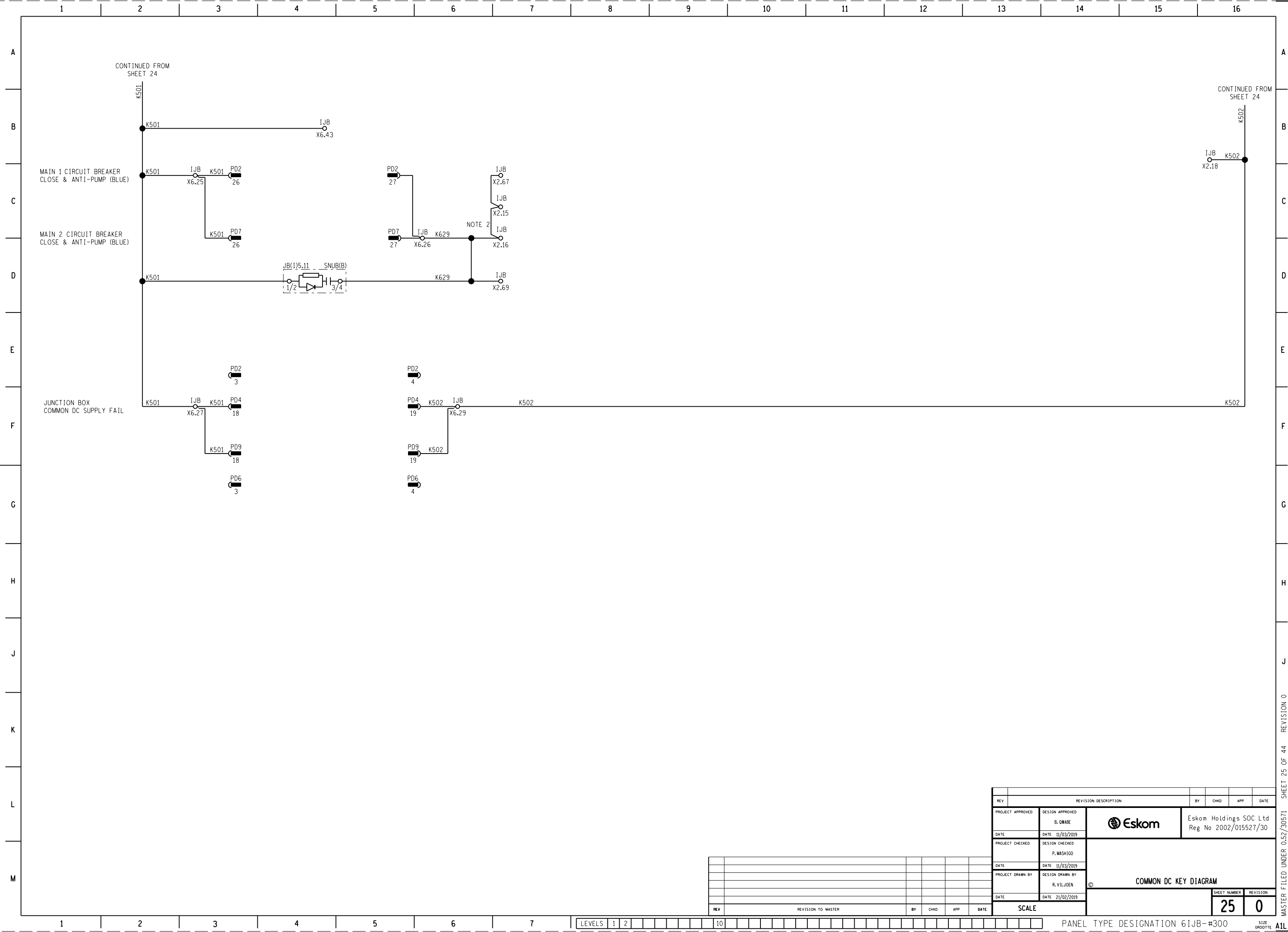


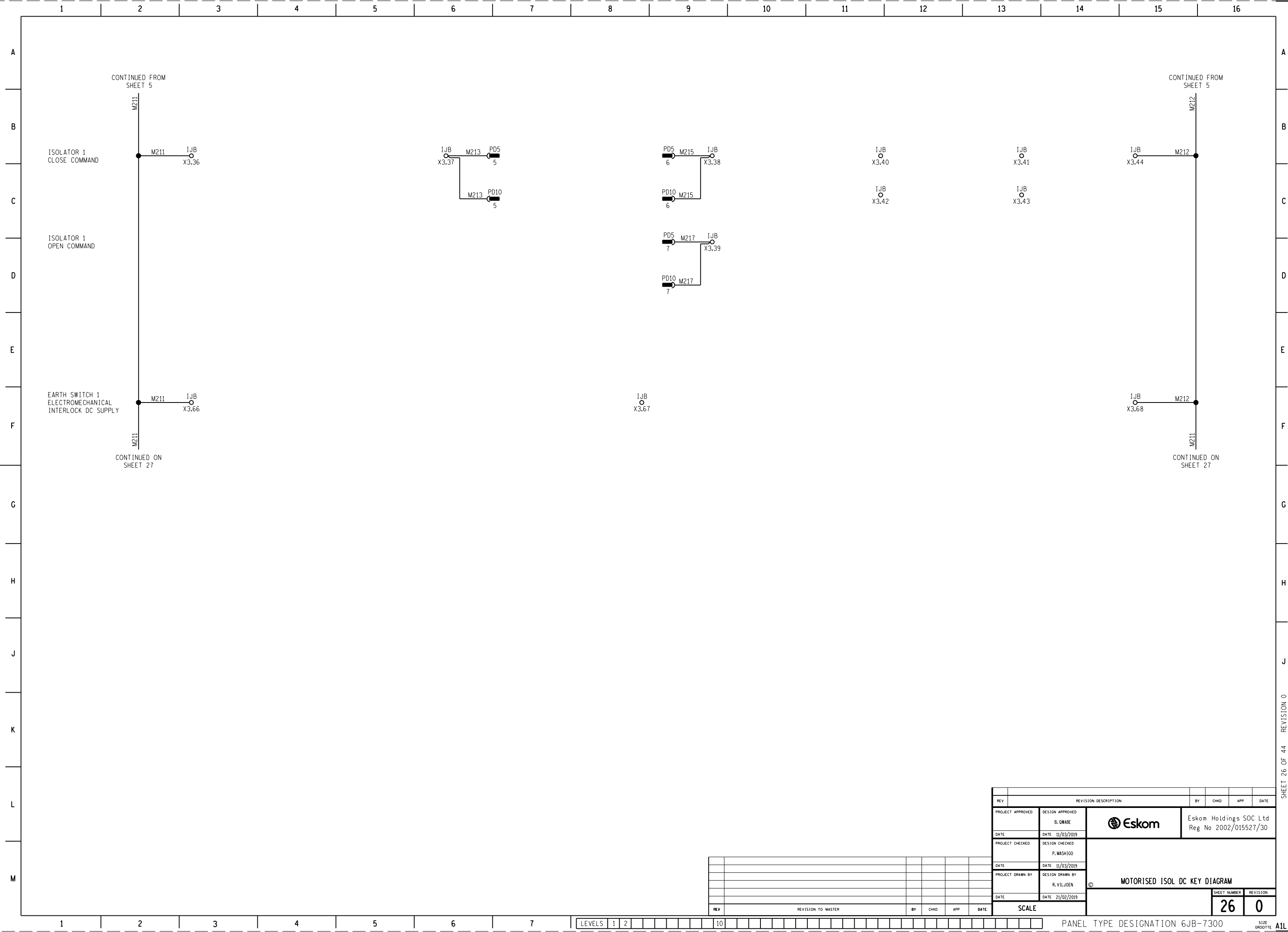


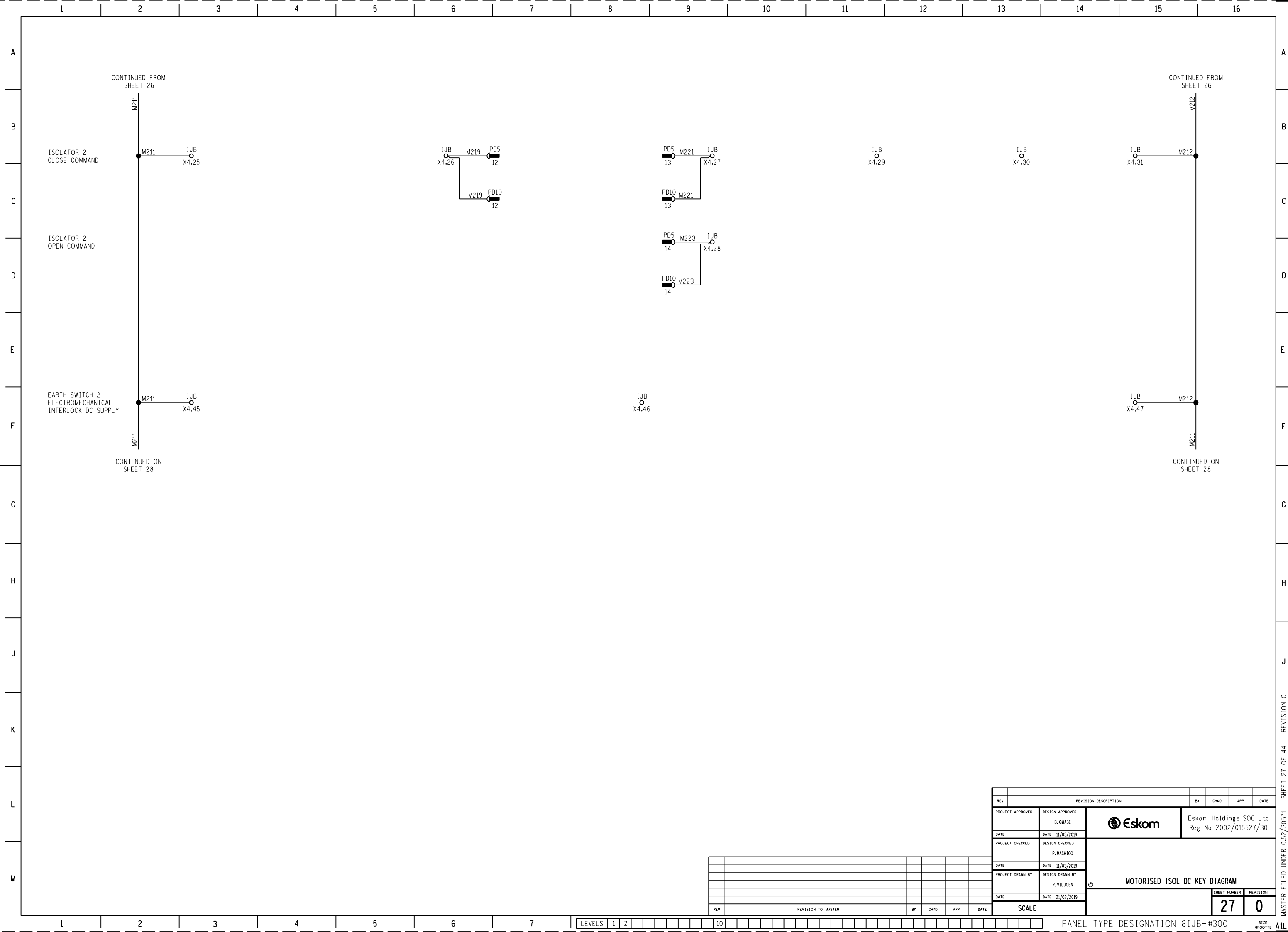


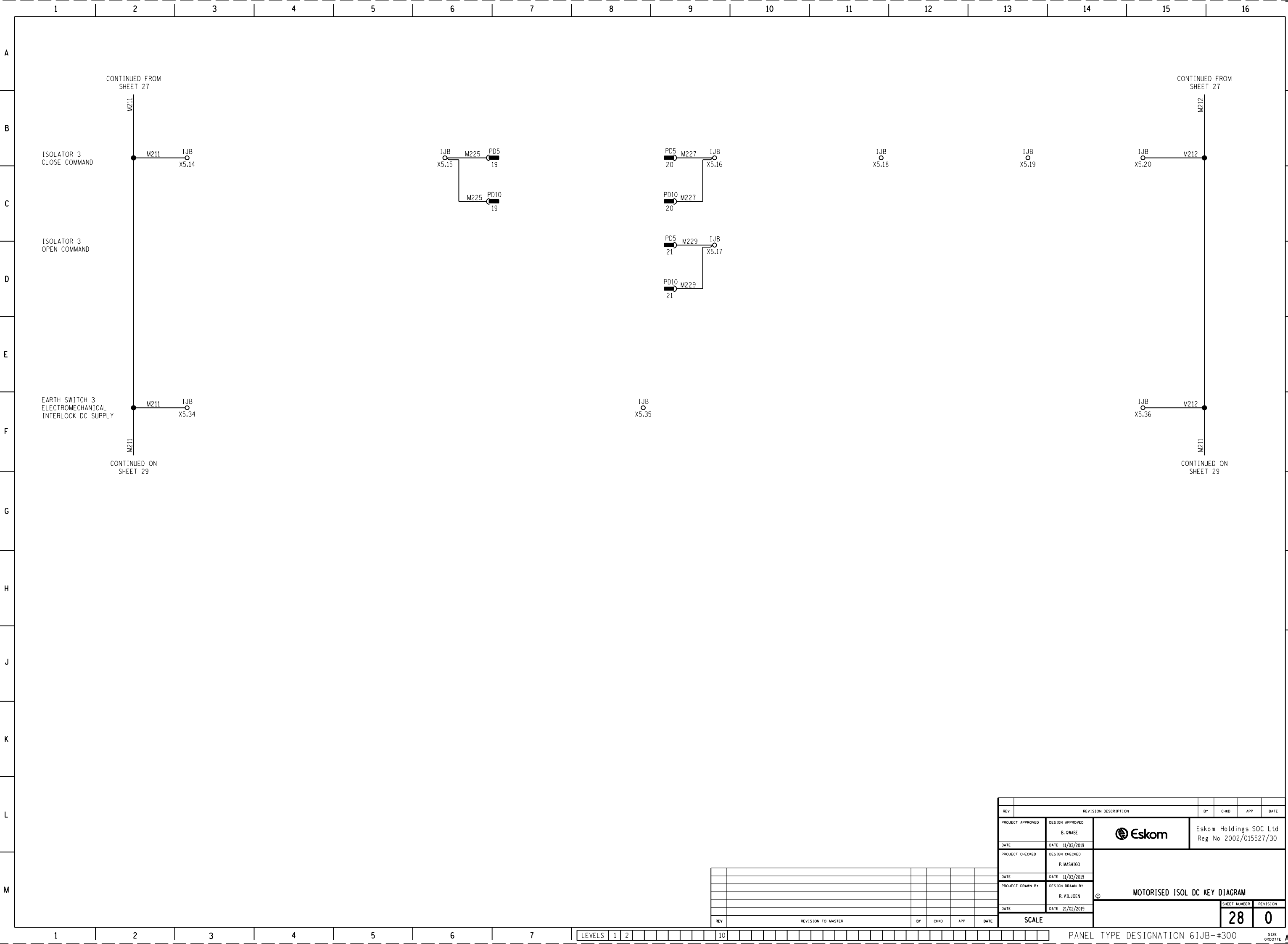


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		B. QWABE					
DATE		DATE 11/03/2019		<div><div><div></div></div><div>COMMON DC KEY DIAGRAM</div></div>			
PROJECT CHECKED		DESIGN CHECKED					
		P. MASHIGO					
DATE		DATE 11/03/2019		<div><div><div></div></div><div>©</div></div>			
PROJECT DRAWN BY		DESIGN DRAWN BY					
		R. VILJOEN					
DATE		DATE 21/02/2019		<div><div><div></div></div><div>©</div></div>			
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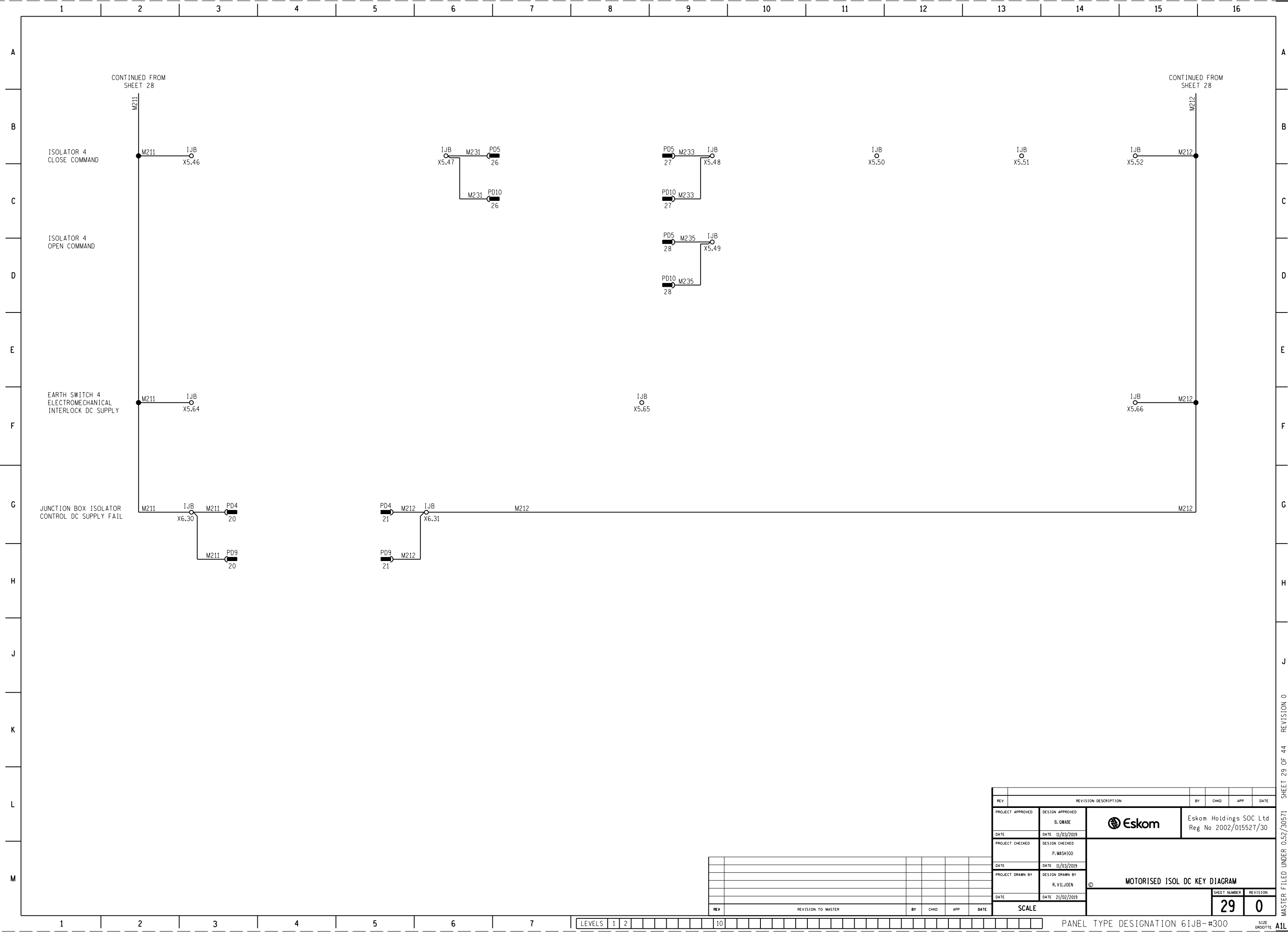


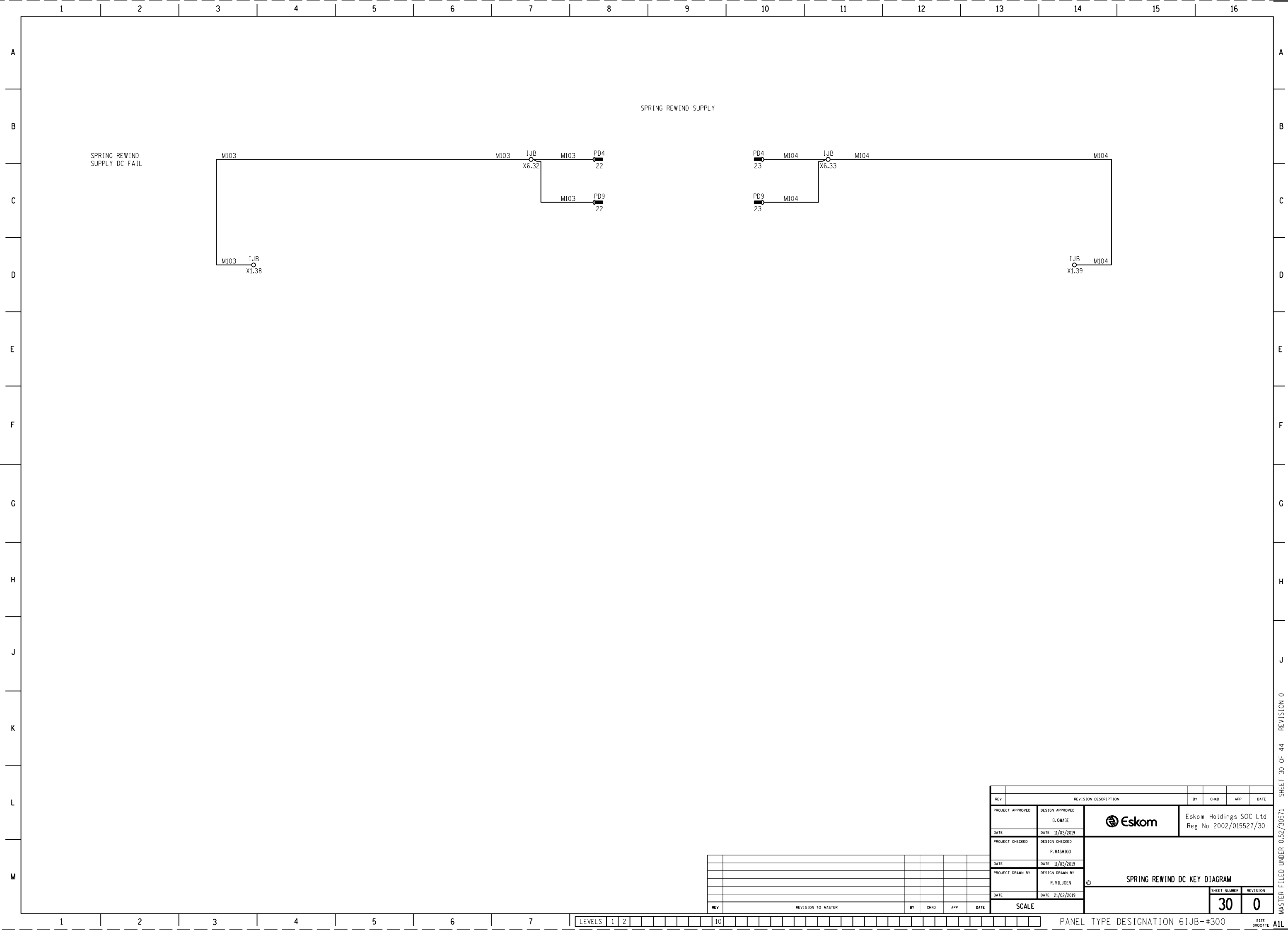


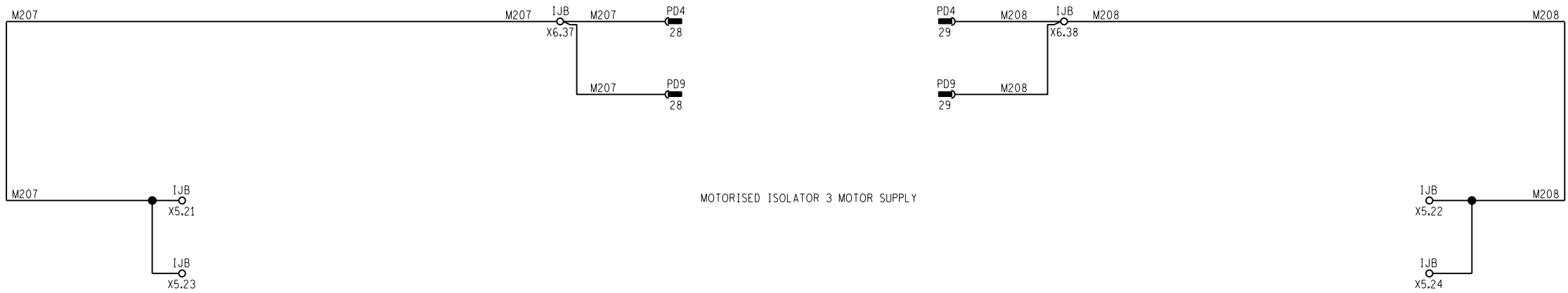
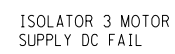





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DATE		DATE		Eskom Holdings SOC Ltd			
PROJECT CHECKED		DESIGN CHECKED		Reg No 2002/015527/30			
DATE		DATE		MOTORISED ISOL DC KEY DIAGRAM			
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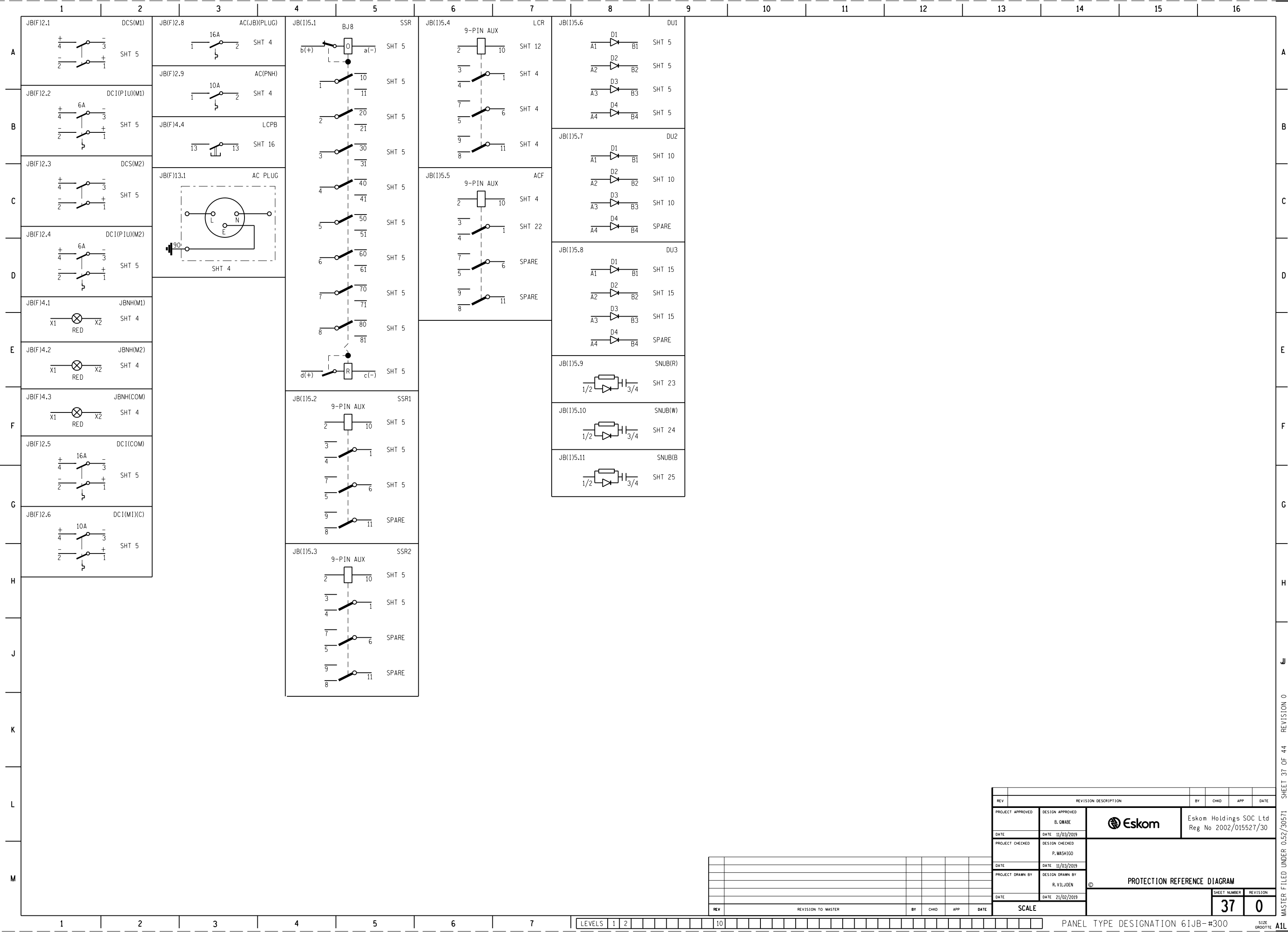






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PROJECT APPROVED	DESIGN APPROVED B. QWABE	 Eskom	Eskom Holdings SOC Ltd Reg No 2002/015527/30			
DATE	DATE 11/03/2019					
PROJECT CHECKED	DESIGN CHECKED P. MASHIGO					
DATE	DATE 11/03/2019	MOTORISED ISOLATOR MOTOR SUPPLY				
PROJECT DRAWN BY	DESIGN DRAWN BY R. VILJOEN					
DATE	DATE 21/02/2019					
SCALE			SHEET NUMBER		REVISION	
			33		0	

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Diagram illustrating the layout of a cable tray system, showing two main sections: ISOLATOR 1 and EARTH SWITCH 1.

ISOLATOR 1: A large rectangular area containing a grid of cable positions. The grid is labeled with cable numbers (e.g., H72, P201#, P11#, P7#, P9#, P5#, P3#, M204, M203, M204, M203, M212, -, -, -, M217, M215, M213, M211, K549, K547, K501, K547, K501, K341, K335, K333, K337, K331, K305, K141, K135, K131, K133, K137, K131, K105, D71, D71, D51, D31, D11, B71, B71, B51, B31, B11, A71, A71, A51, A31, A11) and cable sizes (e.g., 59, 58, 57, 56, 55, 54, 53, 52, 51, 50, 49, 48, 47, 46, 45, 44, 43, 42, 41, 40, 39, 38, 37, 36, 35, 34, 33, 32, 31, 30, 29, 28, 27, 26, 25, 24, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1). The grid is divided into sections labeled A through M and 1 through 16.

EARTH SWITCH 1: A smaller rectangular area containing a grid of cable positions. The grid is labeled with cable numbers (e.g., M212, -, M211, K391, K385, K305, K191, K185, K105) and cable sizes (e.g., 82, 81, 80, 79, 78, 77, 76, 75, 74, 73, 72, 71, 70, 69, 68, 67, 66, 65, 64, 63, 62, 61, 60). The grid is divided into sections labeled A through M and 1 through 16.

Legend:

- CABLE NUMBER
- CABLE SIZE
- NUMBER OF SPARES
- DESTINATION

Revision Table:

REV	REVISION DESCRIPTION	BY	CHKD	APP	DATE
1	PROJECT APPROVED				
2	DESIGN APPROVED				
3	DATE				
4	PROJECT CHECKED				
5	DESIGN CHECKED				
6	DATE				
7	PROJECT DRAWN BY				
8	DESIGN DRAWN BY				
9	DATE				

Scale:

SCALE	BY	CHKD	APP	DATE
10				

Project Information:

PROJECT APPROVED	DESIGN APPROVED	DATE	PROJECT CHECKED	DESIGN CHECKED	DATE	PROJECT DRAWN BY	DESIGN DRAWN BY	DATE
	B. QWABE	11/03/2019		P. MASHIGO	11/03/2019		R. VILJOEN	21/02/2019

Company Information:

Eskom Holdings SOC Ltd
Reg No 2002/015527/30

Diagram Title: CABLING DIAGRAM

Sheet Information: SHEET 42 OF 44 REVISION 0

Master File: MASTER FILED UNDER 052/30571

Panel Type Designation: 61JB-#300

Size: 42 x 0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
A																A			
B																B			
C	EARTH SWITCH 2							H72	49								C		
								H21	48									D	
								M212	47									E	
									46									F	
								M211	45									G	
								K403	44									H	
								K397	43									J	
								K305	42									K	
								K203	41									L	
								K197	40									M	
D	ISOLATOR 2							K105	39										
								H72	38										
								H17	37										
								P207#	36										
								P205#	35										
								P3#	34										
								M206	33										
								M205	32										
								M212	31										
								M205	30										
E	CTs							M206	29										
								M223	28										
								M221	27										
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F	CT GAS/ SPECIAL ALARMS							K305	19										
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H								CABLE NUMBER											
								CABLE SIZE											
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								DESTINATION											
J																			
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