

**Alexandrina
Wastewater**

ALEXANDRINA WASTEWATER

T5000 STANDARD DESIGN

METALWORK FABRICATION DRAWING



ELECTRIC CONTROL SOLUTIONS

4 Coongie Avenue
Edwardstown SA 5039
Phone: (08) 7073 3374
Email: ADMIN@ECSOL.COM.AU
WWW.ECSOL.COM.AU

				REVISION: 3	CLIENT: ALEXANDRINA WASTEWATER	SITE: TEMPLATE BUILD
				DRAWN: R CULLINAN	PROJECT: T5000 METALWORK DESIGN	
3	25-11-2025	24-11 REVIEW ACTIONS		CHECKED:	TITLE: T5000 METALWORK DESIGN	
2	23-11-2025	REVIEW ACTIONS		APPROVED:	TITLE PAGE	
1	27-10-2025	EARLY RELEASE DRAFT		DATE: 25-11-2025		
REV	DATE	DESCRIPTION	DRN	JOB No: 9256B	DRAWING No. 9256B	SHEET: 00 NEXT: 01

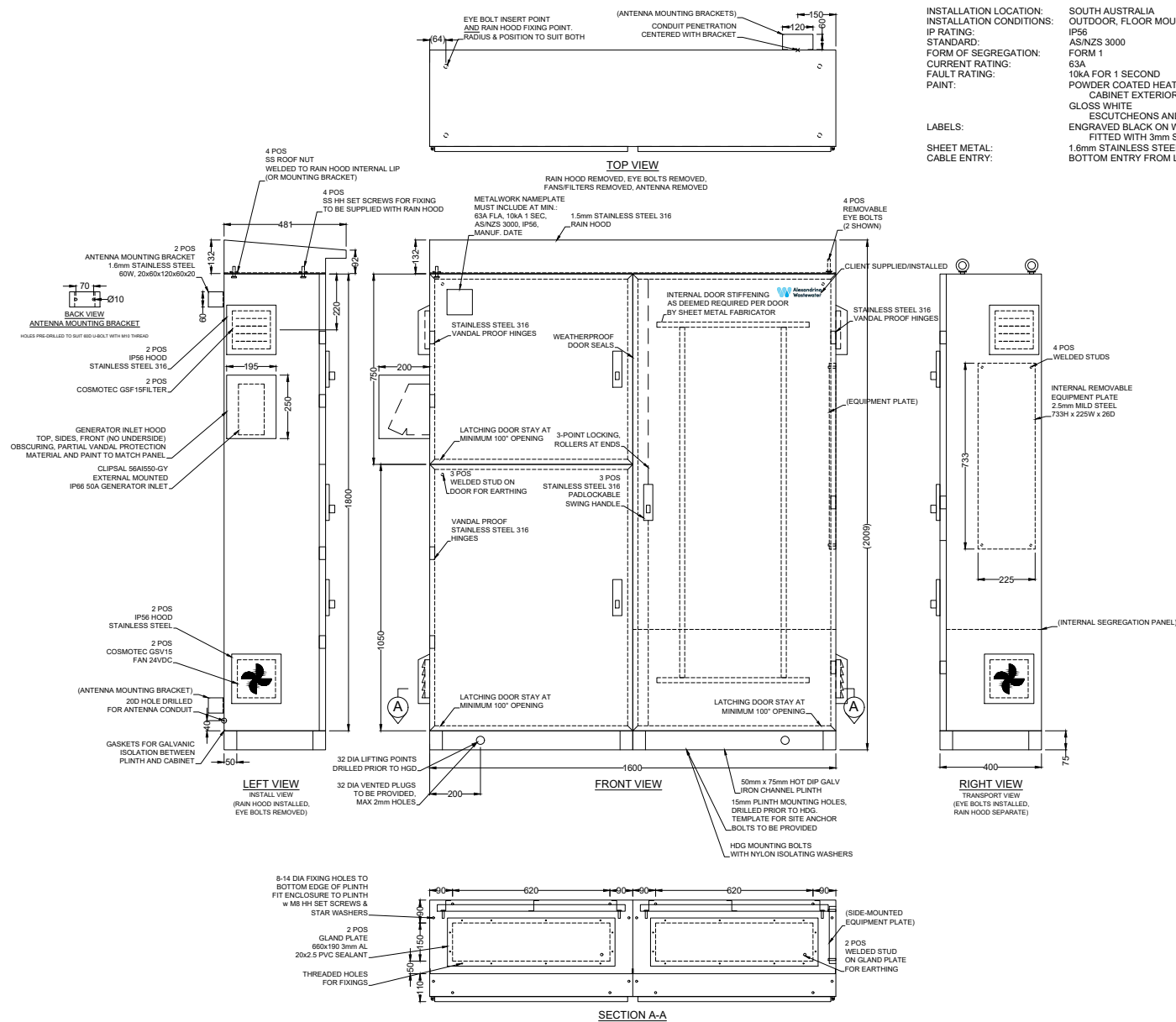
SHEET	DESCRIPTION	VARIANT
00	TITLE PAGE	
01	DRAWING LIST	
10	SWITCHBOARD LAYOUT FRONT & SIDE VIEWS	
20	SWITCHBOARD LAYOUT FRONT VIEW LESS DOORS	T5000
21	SWITCHBOARD LAYOUT FRONT VIEW LESS DOORS & ESCUTCHEONS	T5000
30	SWITCHBOARD LAYOUT FRONT VIEW LESS DOORS	LIVERPOOL
31	SWITCHBOARD LAYOUT FRONT VIEW LESS DOORS & ESCUTCHEONS	LIVERPOOL
99	MODEL	

DRAWING CONTEXT:

This metalwork drawing set is to design and prototype the metalwork for the T5000 standard design and Liverpool Road MCC.

Drawing sheets for escutcheon and back equipment plate components are provided per design.

 ELECTRIC CONTROL SOLUTIONS 4 Coongie Avenue Edwardstown SA 5039 Phone: (08) 7073 3374 Email: ADMIN@ECSOL.COM.AU WWW.ECSOL.COM.AU					REVISION: 3	CLIENT: ALEXANDRINA WASTEWATER	SITE: TEMPLATE BUILD
					DRAWN: R CULLINAN	PROJECT: T5000 METALWORK DESIGN	
	3	25-11-2025	24-11 REVIEW ACTIONS		CHECKED:	TITLE: T5000 METALWORK DESIGN	
	2	23-11-2025	REVIEW ACTIONS		APPROVED:	DRAWING LIST	
	1	27-10-2025	EARLY RELEASE DRAFT		DATE: 25-11-2025		
	REV	DATE	DESCRIPTION	DRN	JOB No: 9256B	DRAWING No. 9256B	SHEET: 01 NEXT: 10



INSTALLATION LOCATION: SOUTH AUSTRALIA
 INSTALLATION CONDITIONS: OUTDOOR, FLOOR MOUNTED
 IP RATING: IP66
 STANDARD: AS/NZS 3000
 FORM OF SEGREGATION: FORM 1
 CURRENT RATING: 63A
 FAULT RATING: 10kA FOR 1 SECOND
 PAINT: POWDER COATED HEAT REFLECTIVE PAPERBARK
 CABINET EXTERIOR AND INTERIOR, RAIN HOOD, FAN/VENT HOODS, EXTERNAL BRACKETS
 GLOSS WHITE
 ESCUTCHEONS AND EQUIPMENT PLATES
 ENGRAVED BLACK ON WHITE TRAFFOLYTE
 FITTED WITH 3mm SS SELF-TAPPING BUTTON HEAD SCREW
 1.6mm STAINLESS STEEL 316 UNLESS SPECIFIED OTHERWISE
 BOTTOM ENTRY FROM LEFT CONTROL SECTION

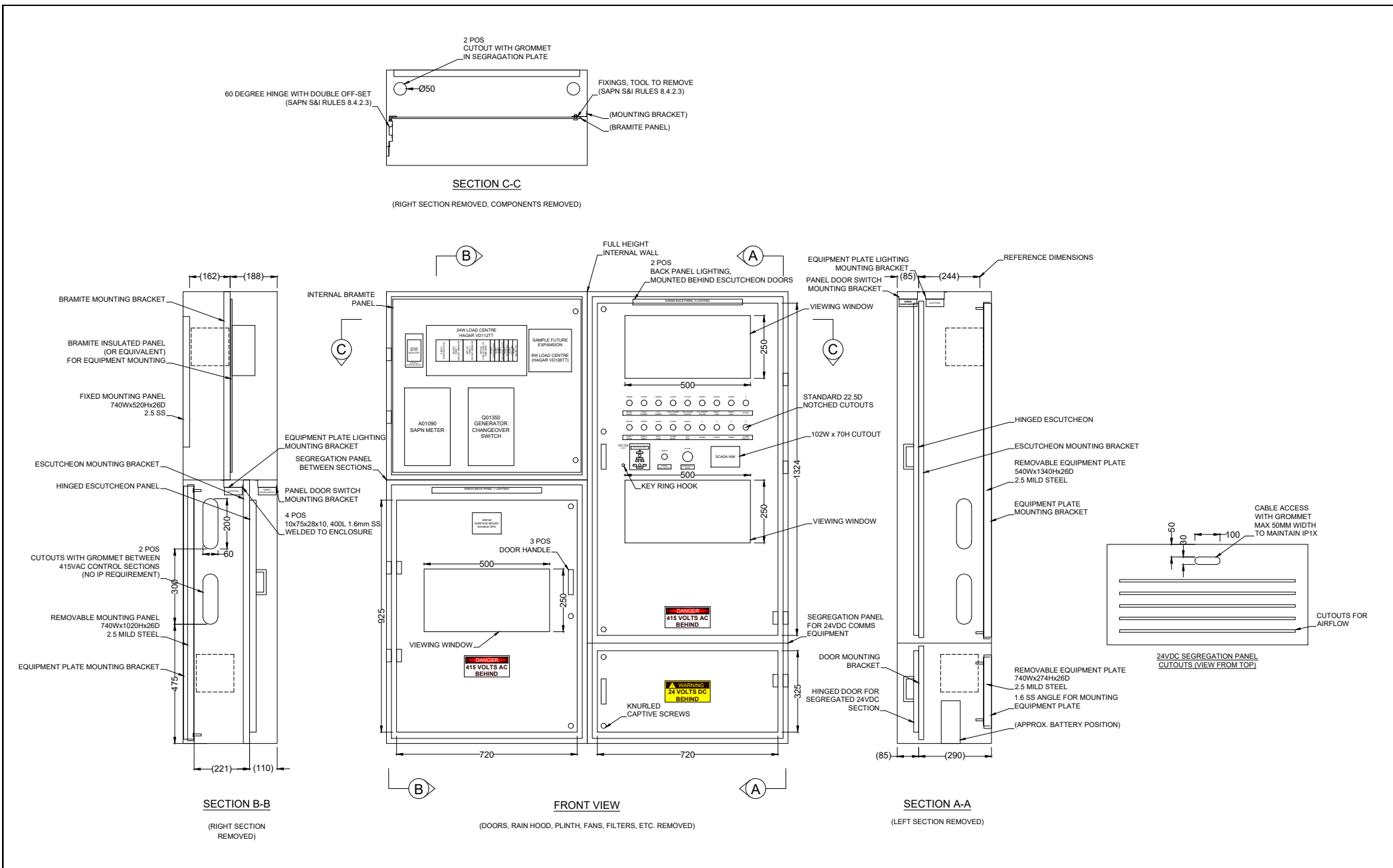
LABELS:
 SHEET METAL:
 CABLE ENTRY:



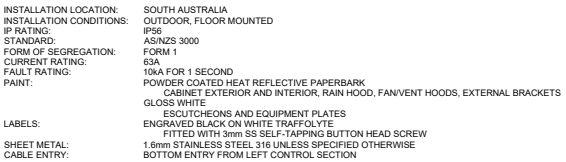
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				REVISION: 3	CLIENT: ALEXANDRINA WASTEWATER	SITE: TEMPLATE BUILD
3	25-11-2025	24-11 REVIEW ACTIONS		DRAWN: R CULLINAN	PROJECT: T5000 METALWORK DESIGN	
2	23-11-2025	REVIEW ACTIONS		CHECKED:	TITLE: T5000 METALWORK DESIGN	
1	27-10-2025	EARLY RELEASE DRAFT		APPROVED:	SWITCHBOARD LAYOUT FRONT & SIDE VIEWS	
				DATE: 25-11-2025		
REV	DATE	DESCRIPTION	DRN	JOB No: 9256B	DRAWING No. 9256B	SHEET: 10
						NEXT: 20



ELECTRIC CONTROL SOLUTIONS 4 Coongie Avenue Edwardstown SA 5039 Phone: (08) 7073 3374 Email: ADMIN@ECSOL.COM.AU WWW.ECSOL.COM.AU				REVISION: 3 DRAWN: R CULLINAN CHECKED: APPROVED: DATE: 25-11-2025	CLIENT: ALEXANDRINA WASTEWATER PROJECT: T5000 METALWORK DESIGN TITLE: T5000 METALWORK DESIGN SWITCHBOARD LAYOUT FRONT VIEW LESS DOORS T5000	SITE: TEMPLATE BUILD
	3 25-11-2025 24-11 REVIEW ACTIONS	2 23-11-2025 REVIEW ACTIONS	1 27-10-2025 EARLY RELEASE DRAFT	REV DATE DESCRIPTION DRN	JOB No: 9256B DRAWING No. 9256B	SHEET: 20 NEXT: 21



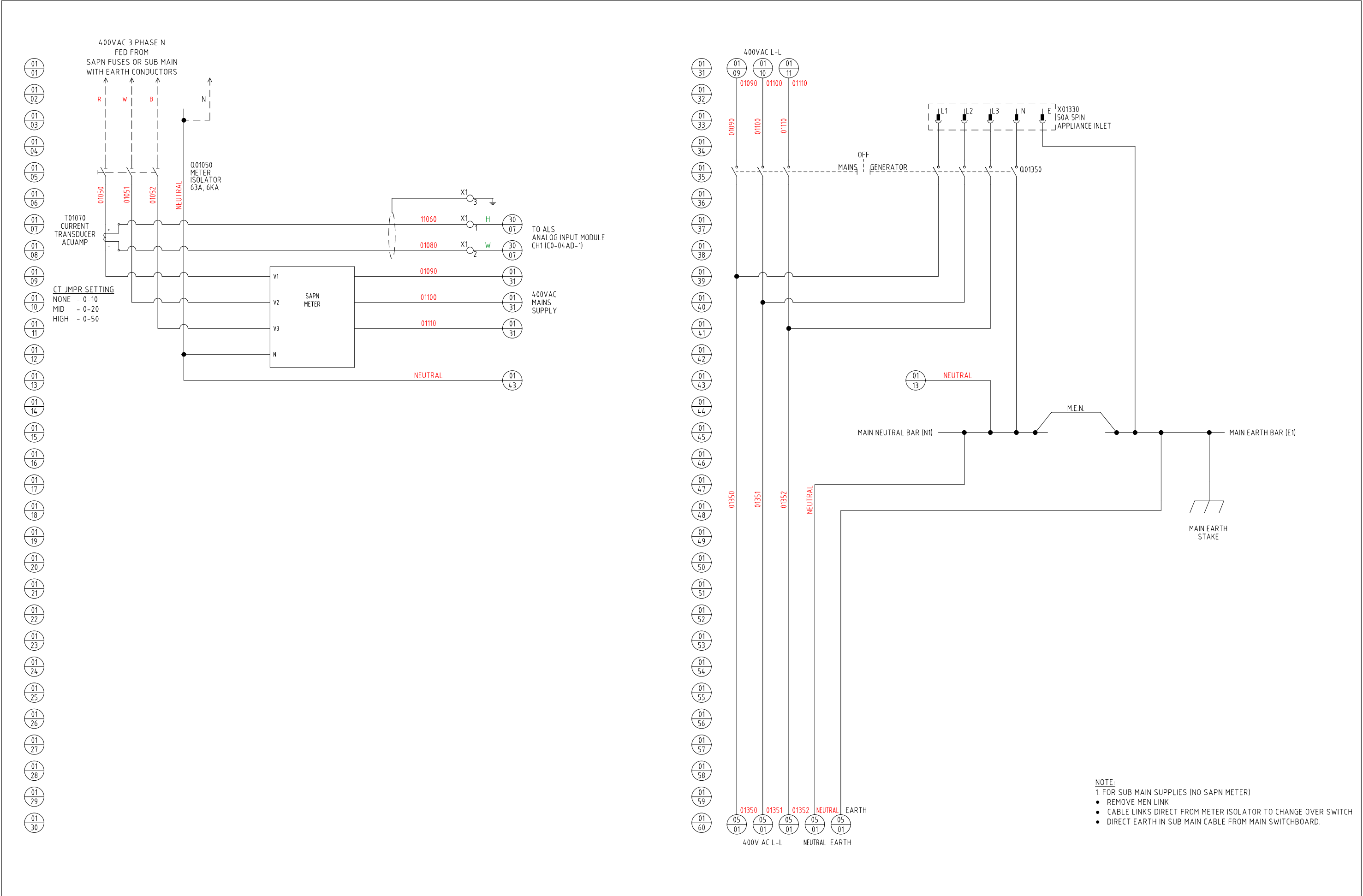
NEXT:



ALEXANDRINA WASTEWATER – T5000 DESIGN
DRAWING REVISION SHEET

JOB NUMBER	REVISION DATE	REVISION NUMBER	BRIEF DESCRIPTION OF DRAWING SPECIFICATIONS OR MODIFICATIONS	DRAWN BY	REQUESTED BY
93939	11.07.2025	A	PRELIMINARY ISSUE	J.Dickinson	A.Kondylas
93939	17.10.2025	B	ISSUED FOR REVIEW	J.Dickinson	A.Kondylas
93939	11.12.2025	C	ISSUED FOR REVIEW	J.Dickinson	A.Kondylas
93939	16.12.2025	D	ISSUED FOR CONSTRUCTION	J.Dickinson	A.Kondylas
93939	25.05.2026	E	DESIGN UPDATES, METALWORK	R.Cullinan	T.Griffen

UP-REV



NOTE:
1. FOR SUB MAIN SUPPLIES (NO SAPN METER)
• REMOVE MEN LINK
• CABLE LINKS DIRECT FROM METER ISOLATOR TO CHANGE OVER SWITCH
• DIRECT EARTH IN SUB MAIN CABLE FROM MAIN SWITCHBOARD.

ISSUE FOR CONSTRUCTION

REVISIONS

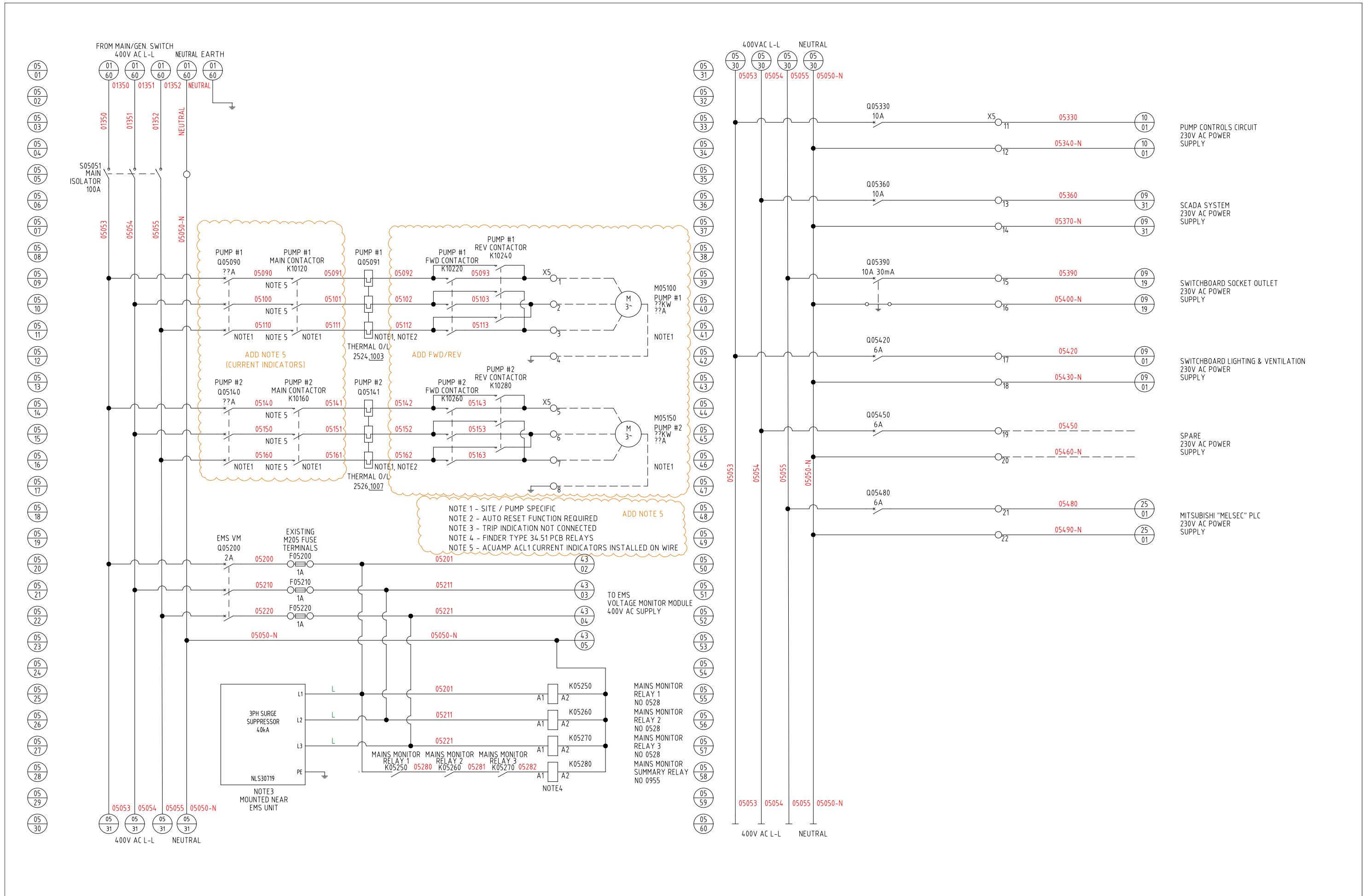
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED:	A.KONDYLAS
DES CKD:	
DRAWN:	J.DICKINSON
DRN CKD:	
APPROVED:	
SCALE:	A3 / N.T.S
DATE:	Apr 2025

PROJECT:	ALEXANDRINA WASTEWATER T5000 DESIGN		
TITLE:	MAIN SWITCHBOARD 400VAC POWER DISTRIBUTION - MAINS/GEN. SWITCH BOX SCHEMATIC DIAGRAM		
DRAWING No.	93939 T5000-93939_01	SHEET:	01
		CONTINUED:	05
REV:	E		



ISSUE FOR CONSTRUCTION

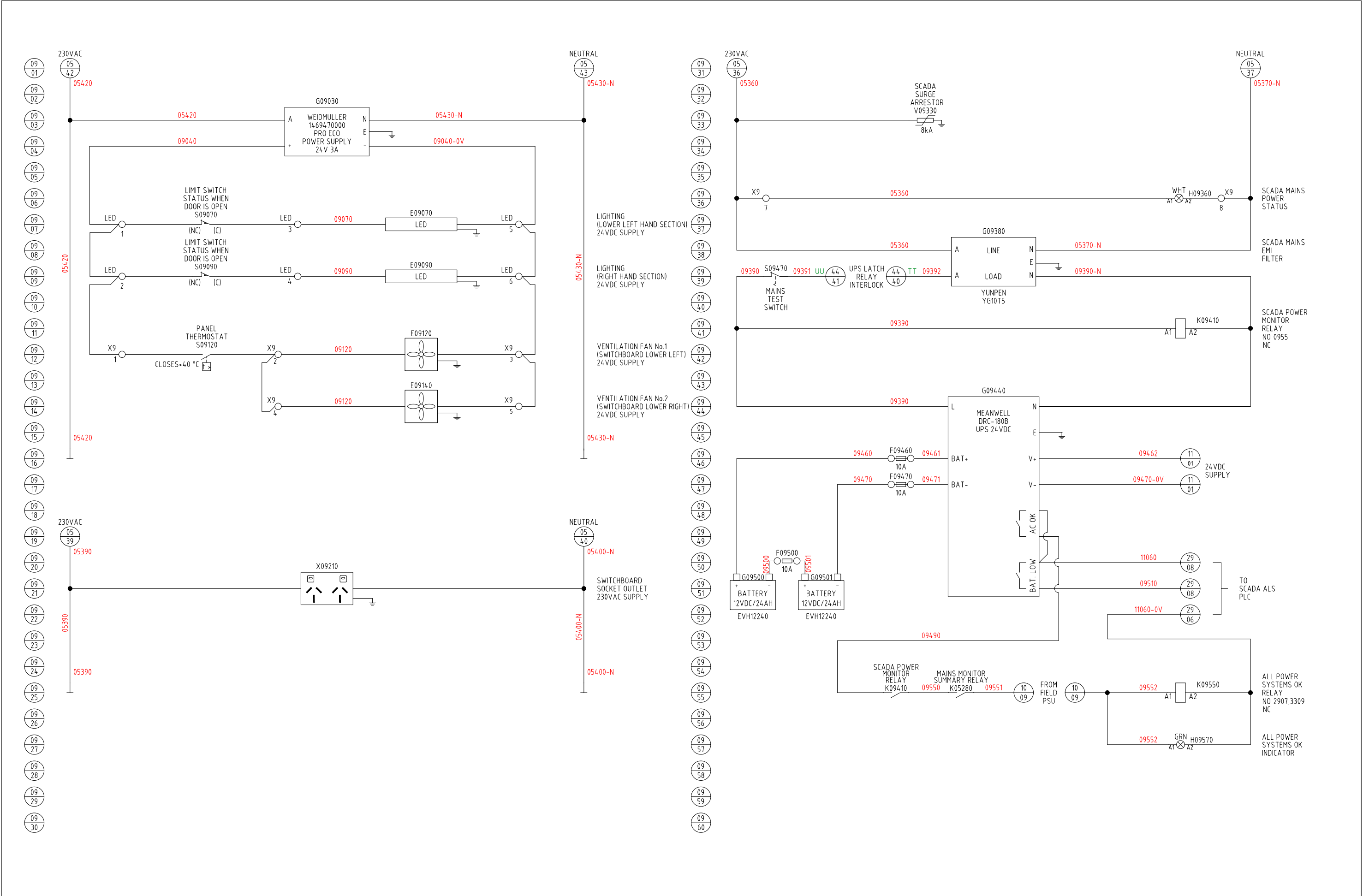
REVISIONS

ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	TITLE: MAIN SWITCHBOARD 400V + 230V AC POWER SCHEMATIC DISTRIBUTION SCHEMATIC DIAGRAM
DRAWN: J.DICKINSON	
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939
DATE: Apr 2025	T5000-93939_05
	SHEET: 05
	CONTINUED: 09
	REV: E



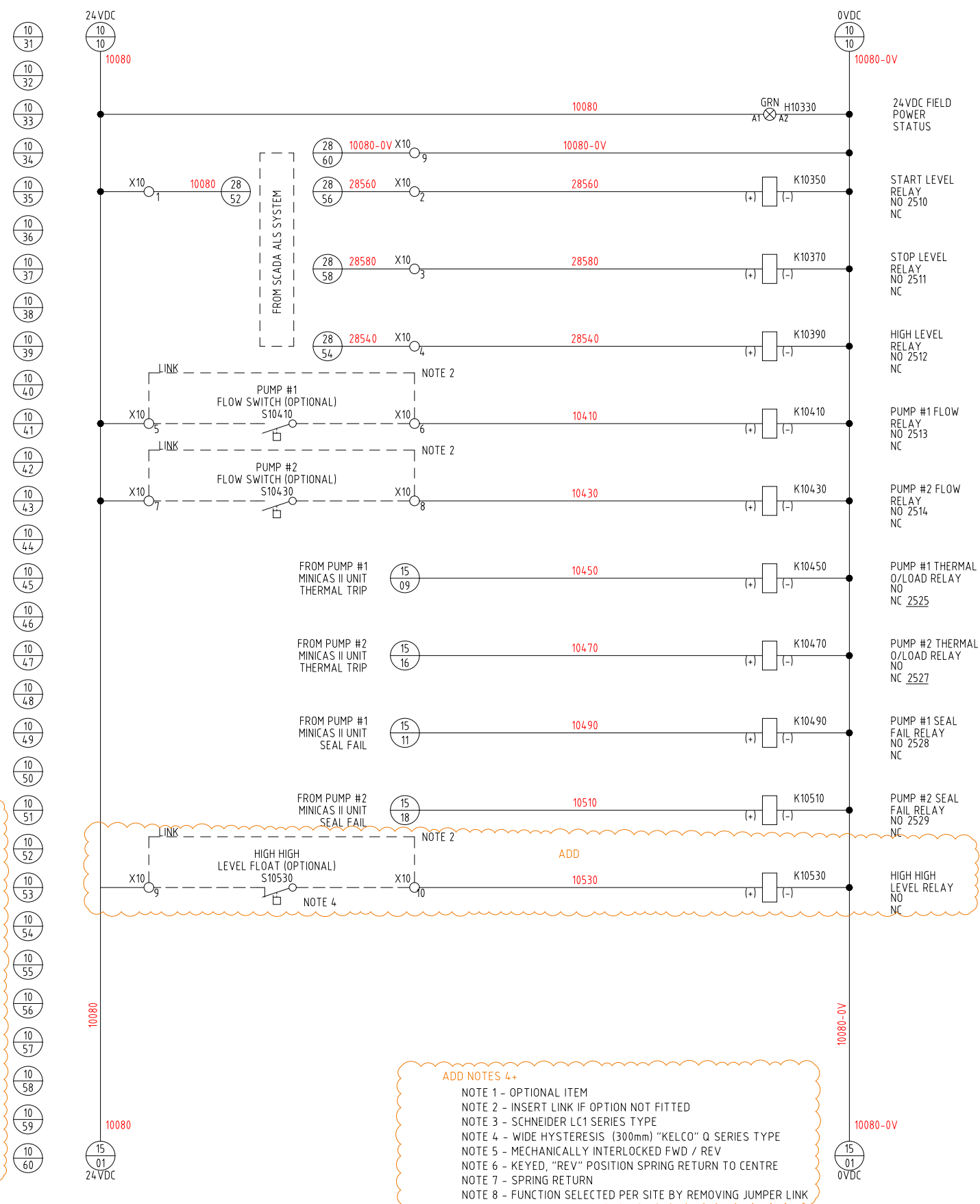
ISSUE FOR CONSTRUCTION

REVISIONS		ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26			DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25			ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25			ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25			ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25			PRELIMINARY ISSUE	J.D.	A.K.	

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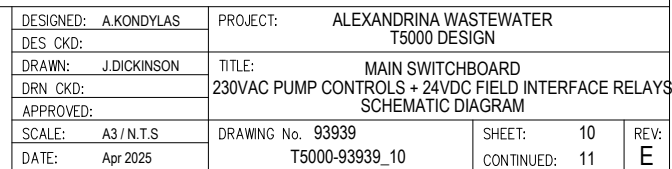
DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	TITLE: MAIN SWITCHBOARD 230VAC POWER DISTRIBUTION SCHEMATIC DIAGRAM
DRAWN: J.DICKINSON	DRAWING No. 93939
DRN CKD:	T5000-93939_09
APPROVED:	SHEET: 09
SCALE: A3 / N.T.S	CONTINUED: 10
DATE: Apr 2025	REV: E

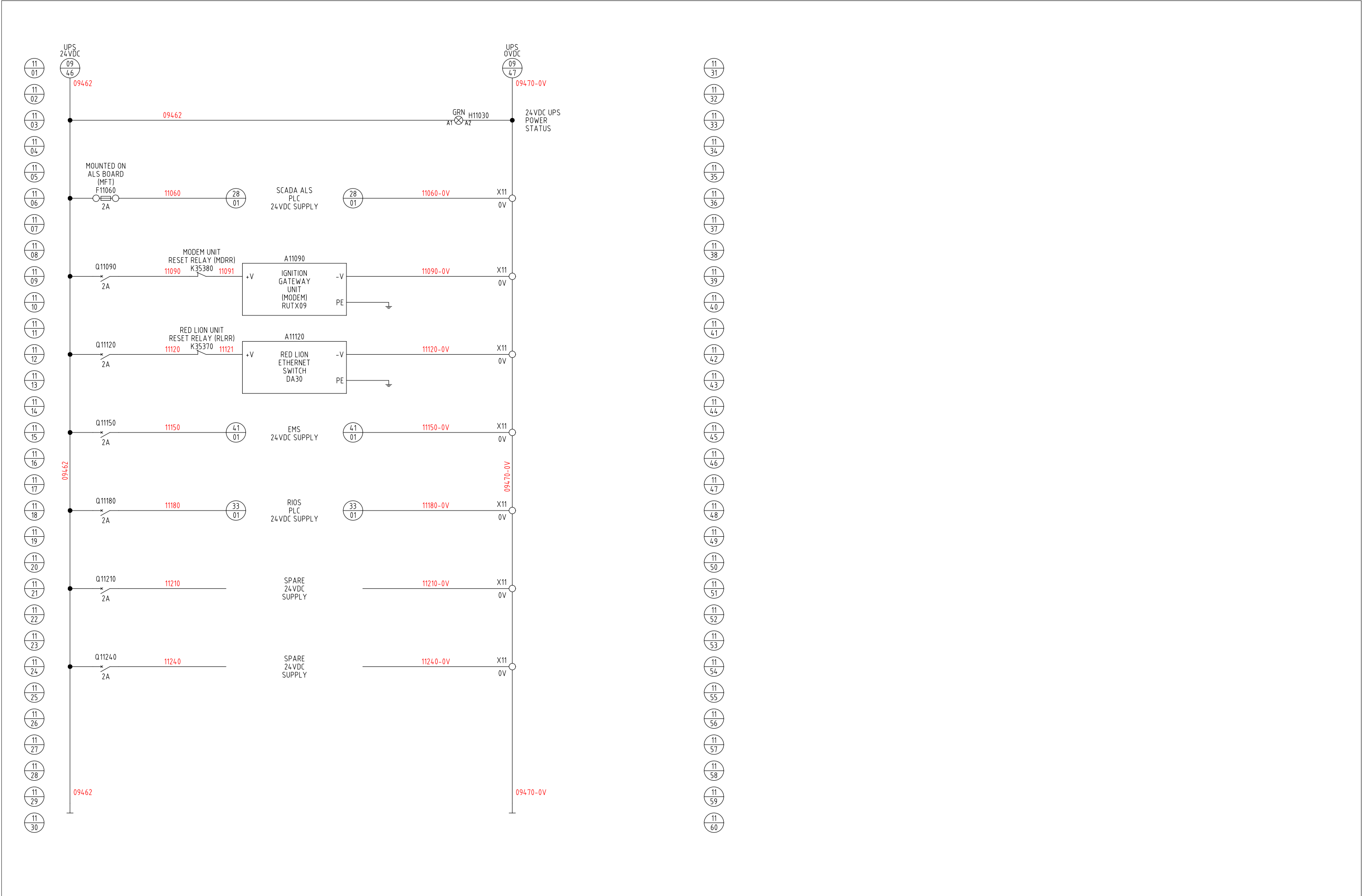


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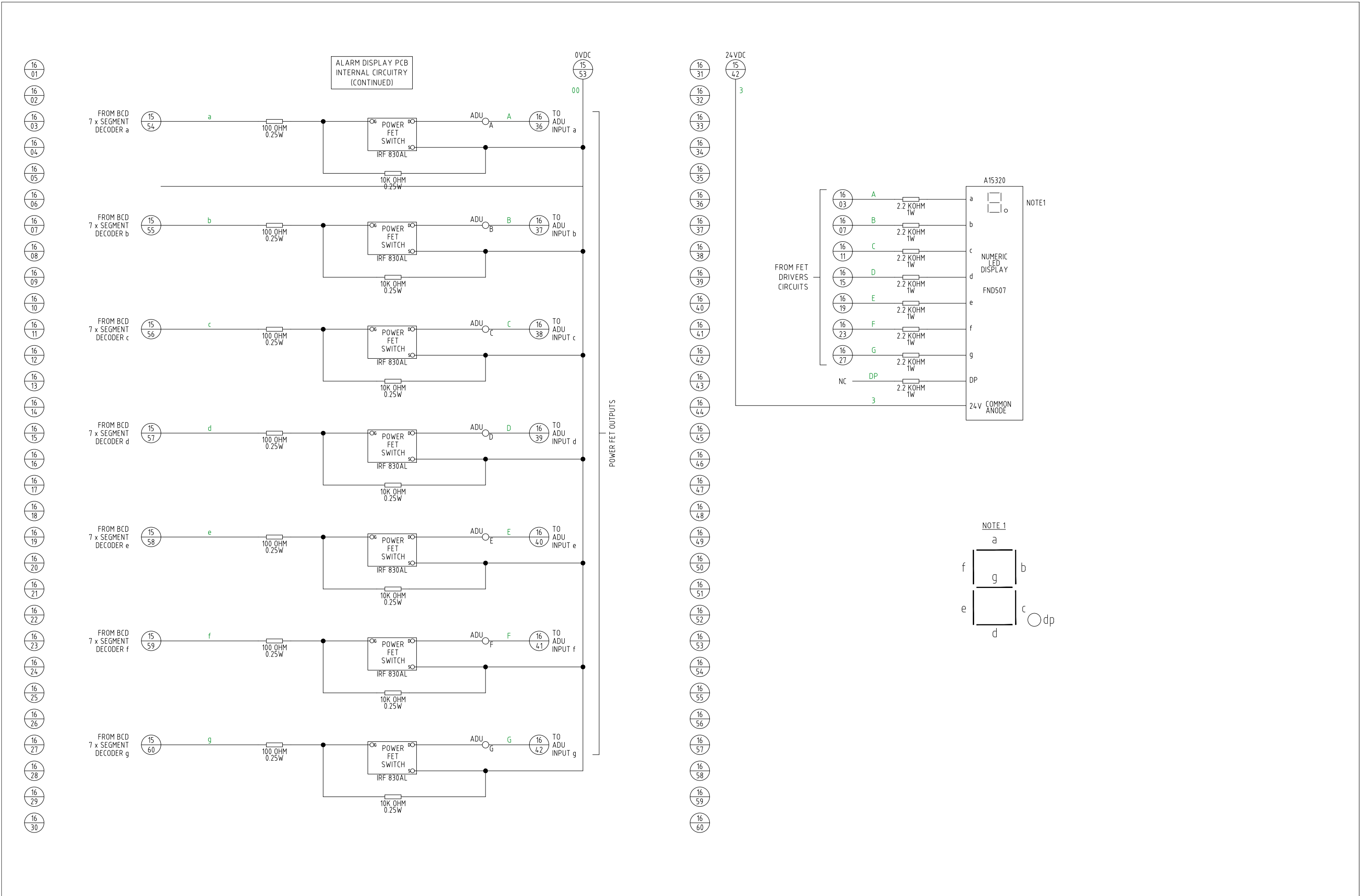
ISSUE FOR
CONSTRUCTION

REVISIONS		ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26			DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25			ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25			ISSUED FOR REVIEW	J.D.	A.K.	
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A	11.07.25			PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS		PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN			
DES. CKD:		TITLE: MAIN SWITCHBOARD 24VDC CONTROLS DISTRIBUTION SCHEMATIC DIAGRAM			
DRAWN: J.DICKINSON					
DRN. CKD:					
APPROVED:					
SCALE: A3 / N.T.S		DRAWING No. 93939		SHEET: 11	REV: E
DATE: Apr 2025		T5000-93939_11		CONTINUED: 15	



ISSUE FOR
CONSTRUCTION

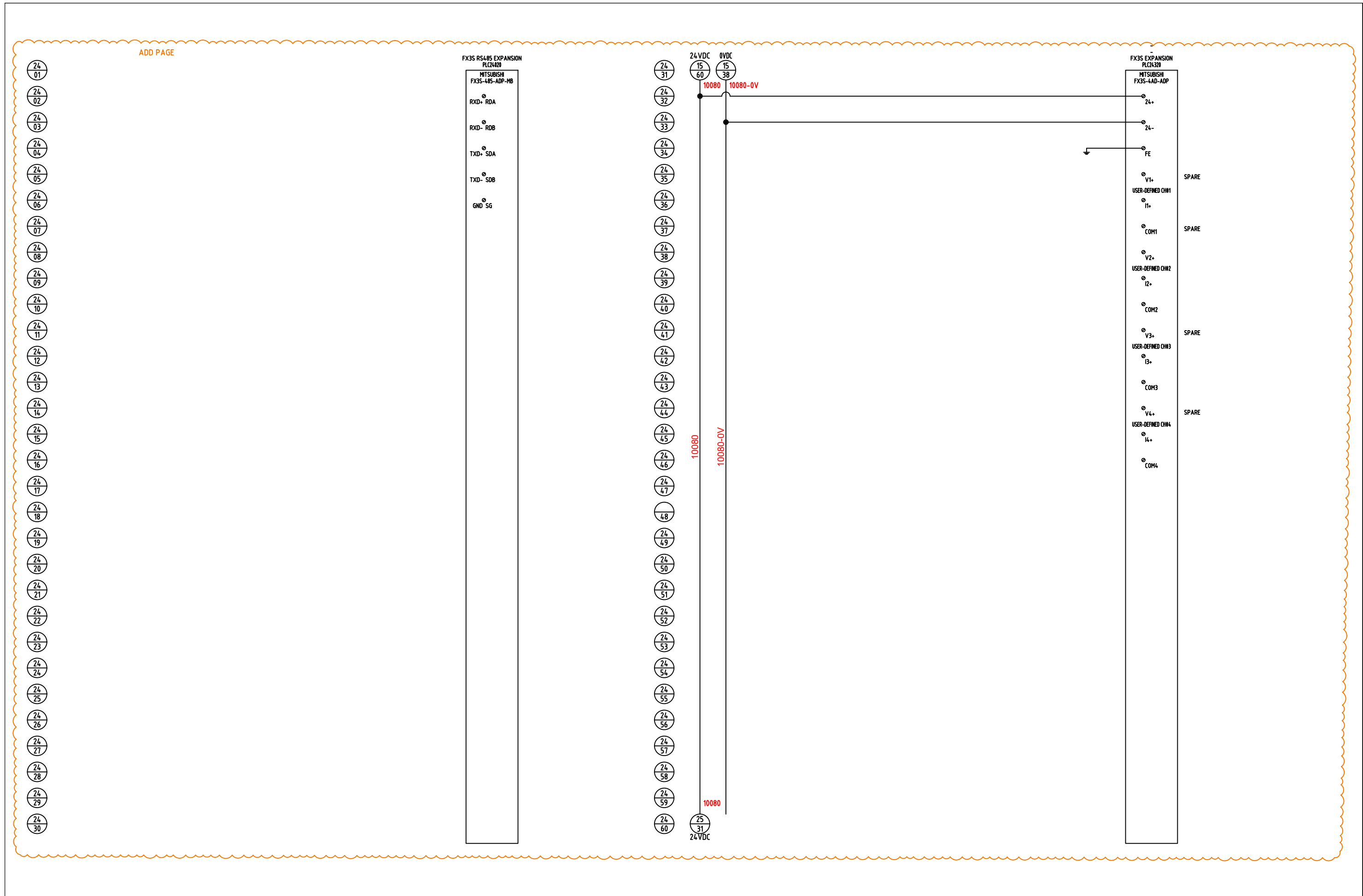
REVISIONS

ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: MAIN SWITCHBOARD ALARM DISPLAY UNIT - PCB SCHEMATIC DIAGRAM
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939
DATE: Apr 2025	SHEET: 16 CONTINUED: 24
	REV: E



ISSUE FOR
CONSTRUCTION

REVISIONS

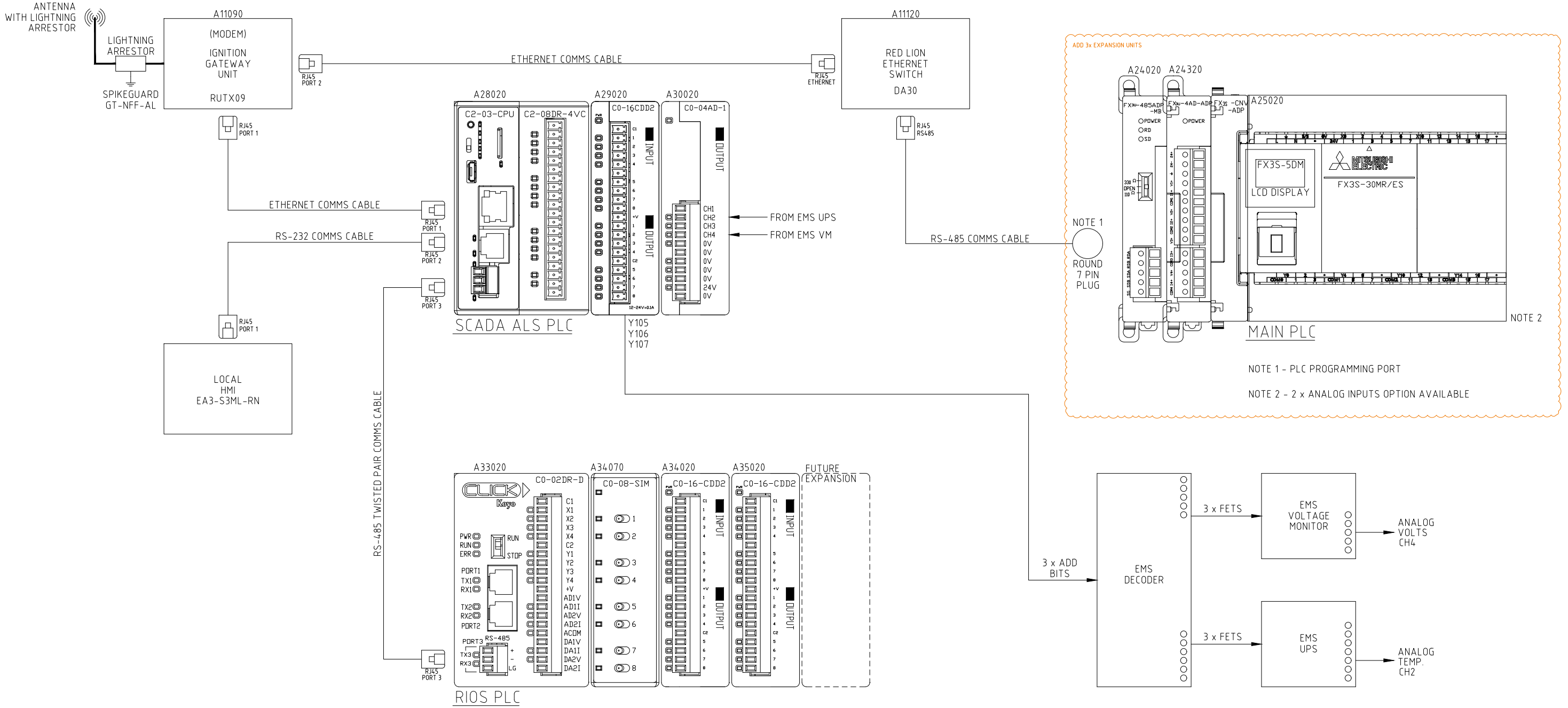
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED:	A.KONDYLAS
DES CKD:	
DRAWN:	J.DICKINSON
DRN CKD:	
APPROVED:	
SCALE:	A3 / N.T.S
DATE:	Apr 2025

PROJECT:	ALEXANDRINA WASTEWATER T5000 DESIGN
TITLE:	MAIN SWITCHBOARD PLC RS485 & ANALOG INPUT MODULES SCHEMATIC DIAGRAM
DRAWING No.	93939
SHEET:	24
CONTINUED:	25
REV:	E



ISSUE FOR CONSTRUCTION

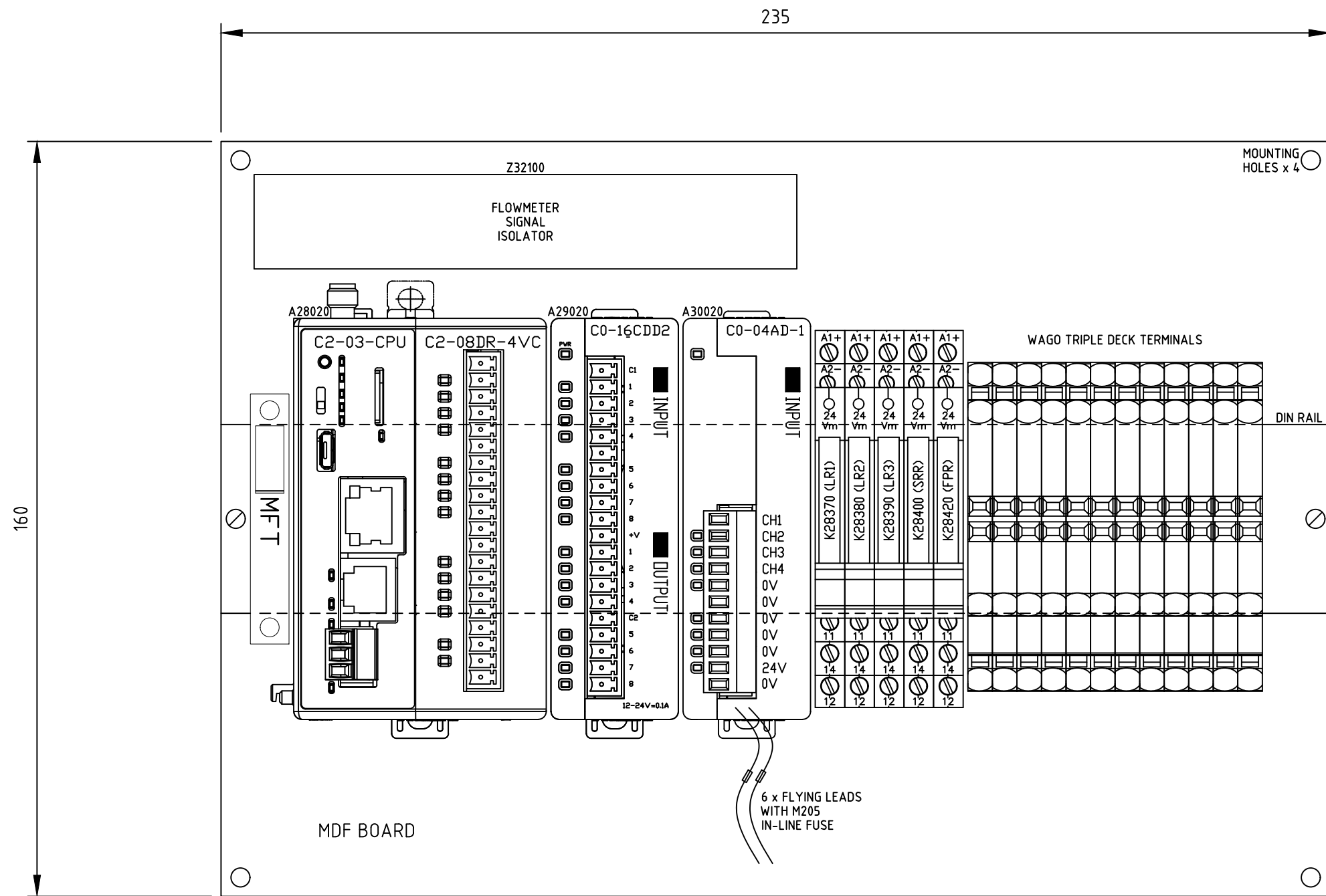
REVISIONS

ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: MAIN SWITCHBOARD PLC SYSTEM TOPOLOGY
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939 T5000-93939_26
DATE: Apr 2025	SHEET: 26 CONTINUED: 27 REV: E



ISSUE FOR CONSTRUCTION

REVISIONS					
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
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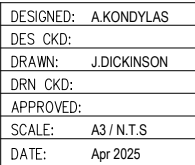


DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN		
DES CKD:			
DRAWN: J.DICKINSON	TITLE: MAIN SWITCHBOARD SCADA ALS PLC BOARD LAYOUT		
DRN CKD:			
APPROVED:			
SCALE: A3 / N.T.S			
DATE: Apr 2025	DRAWING No. 93939 T5000-93939_27	SHEET: 27 CONTINUED: 28	REV: E

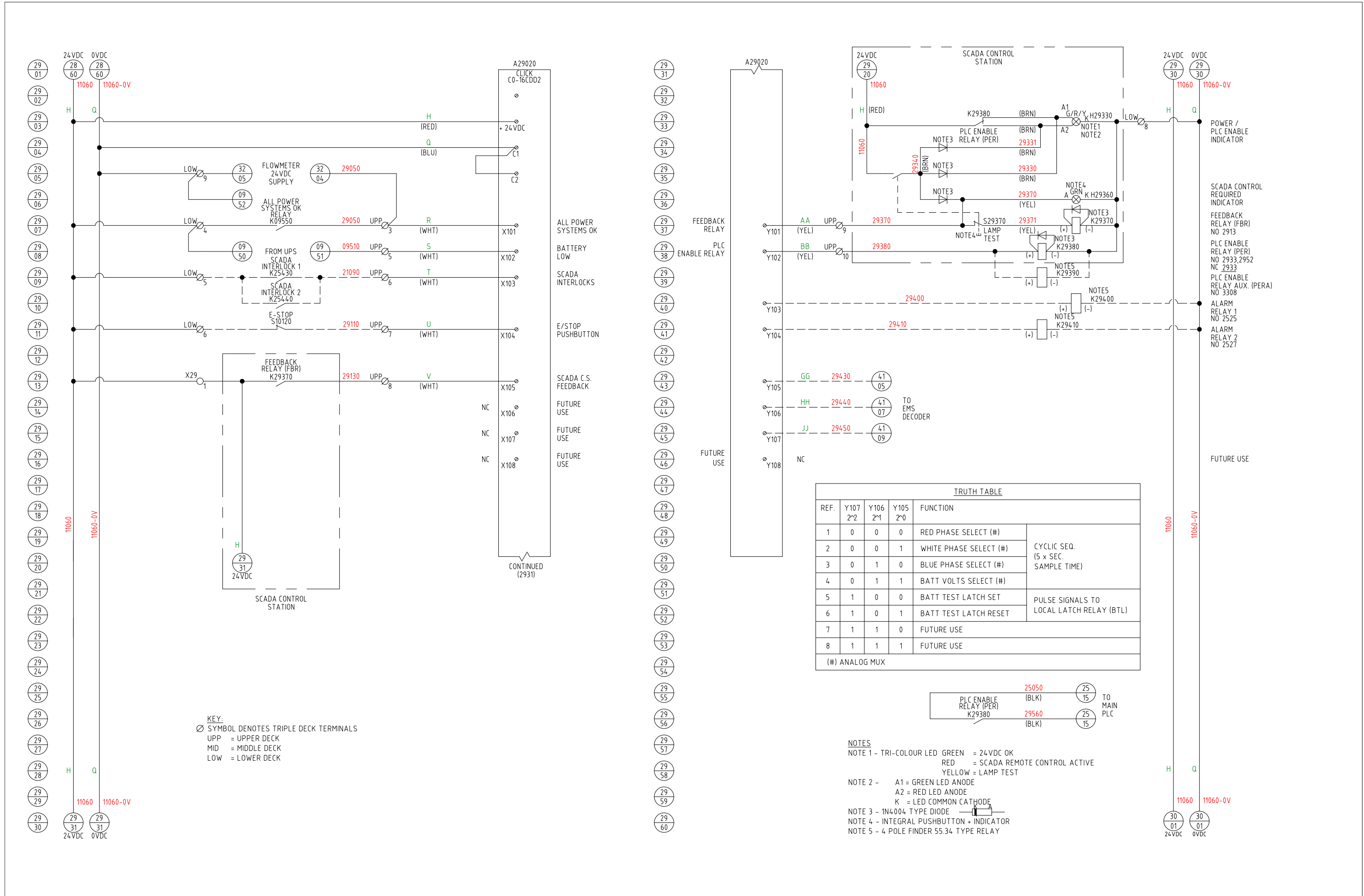


REVISIONS

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PROJECT:	ALEXANDRINA WASTEWATER T5000 DESIGN		
TITLE:	MAIN SWITCHBOARD SCADA ALS PLC INPUT & OUTPUT MODULE SCHEMATIC DIAGRAM		
DRAWING No. 93939	SHEET: 28	REV:	E
T5000-93939_28	CONTINUED: 29		



ISSUE FOR CONSTRUCTION

REVISIONS		ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK			R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION			J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW			J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW			J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE			J.D.	A.K.	

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DESIGNED: A.KONDYLAS
DES CKD:
DRAWN: J.DICKINSON
DRN CKD:
APPROVED:
SCALE: A3 / N.T.S
DATE: Apr 2025

PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
TITLE: MAIN SWITCHBOARD SCADA ALS PLC COMBO MODULE SCHEMATIC DIAGRAM
DRAWING No. 93939 T5000-93939_29
SHEET: 29 CONTINUED: 30
REV: E



ISSUE FOR
CONSTRUCTION

REVISIONS

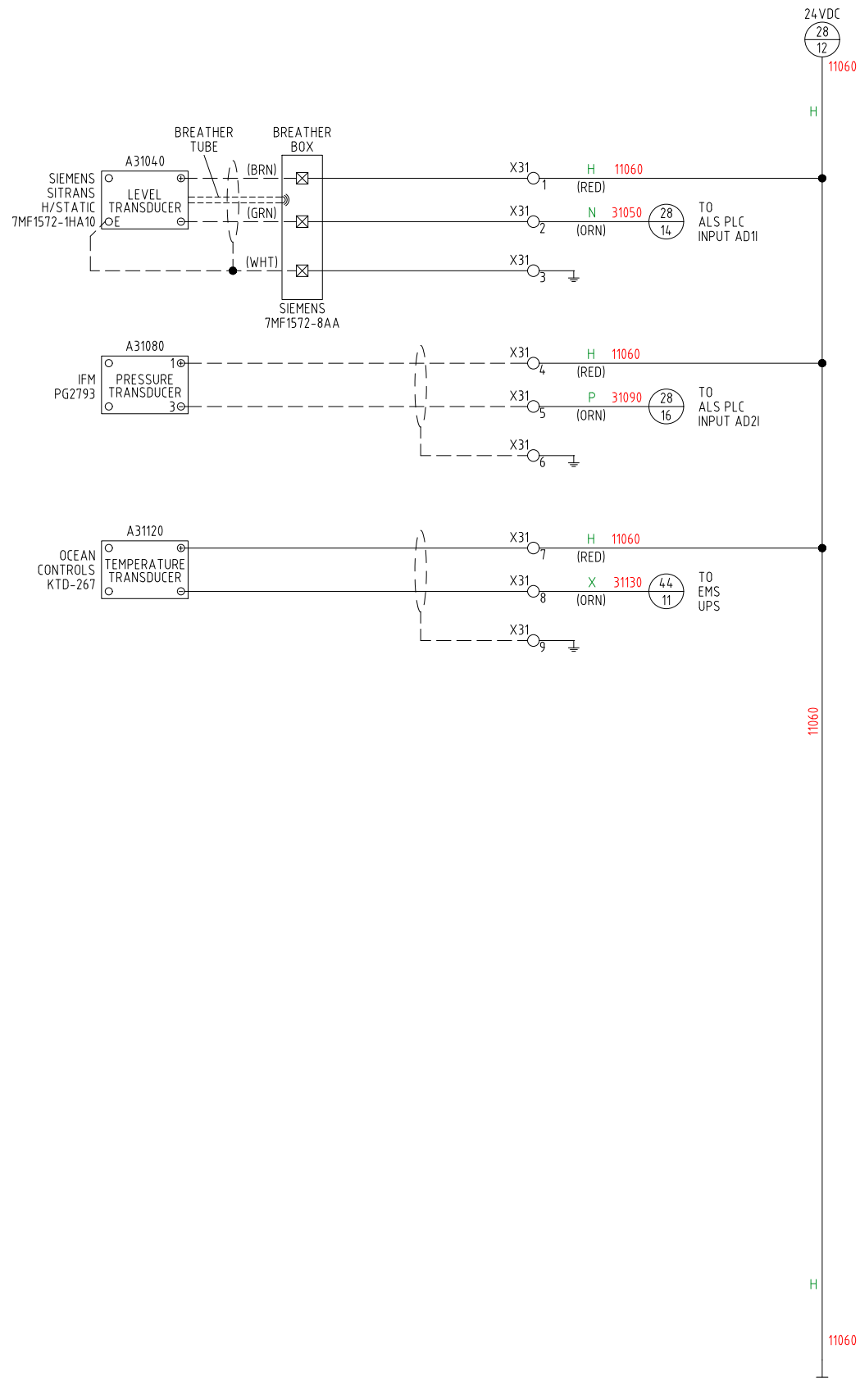
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
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DESIGNED:	A.KONDYLAS
DES CKD:	
DRAWN:	J.DICKINSON
DRN CKD:	
APPROVED:	
SCALE:	A3 / N.T.S
DATE:	Apr 2025

PROJECT:	ALEXANDRINA WASTEWATER T5000 DESIGN		
TITLE:	MAIN SWITCHBOARD SCADA ALS PLC ANALOG INPUT MODULE SCHEMATIC DIAGRAM		
DRAWING No.	93939 T5000-93939_30	SHEET: 30	REV: E
		CONTINUED: 31	



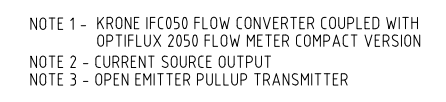
ISSUE FOR CONSTRUCTION

REVISIONS			ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: MAIN SWITCHBOARD ALS TRANSDUCERS SCHEMATIC DIAGRAM
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939
DATE: Apr 2025	SHEET: 31 CONTINUED: 32
	REV: E

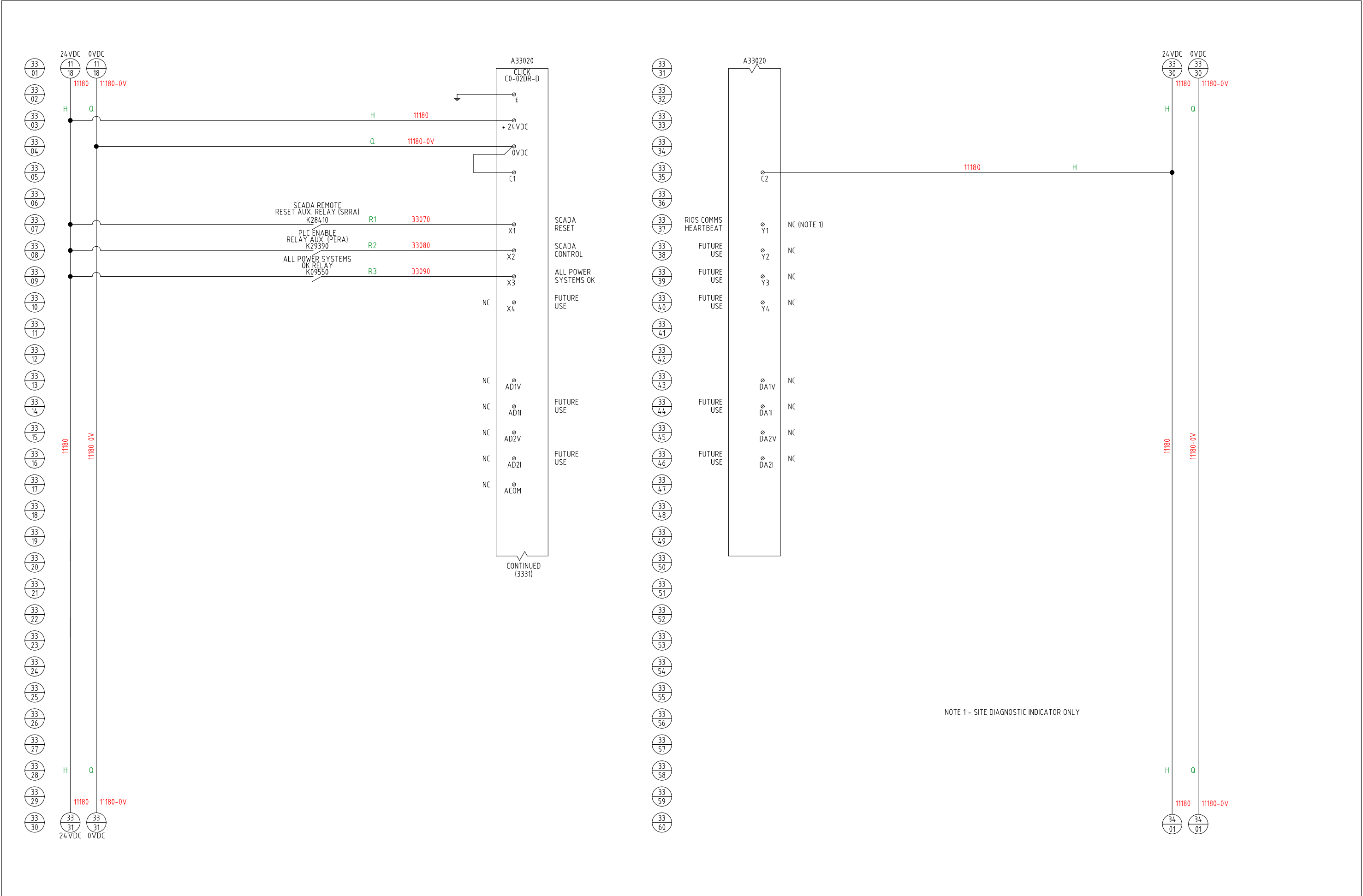


REVIEWS	E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
	D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
	C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
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	A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	
	ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD



**Alexandrina
Wastewater**

DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN		
DES CKD:	TITLE: MAIN SWITCHBOARD FLOWMETER TRANSMITTER SCHEMATIC DIAGRAM		
DRAWN: J.DICKINSON			
DRN CKD:			
APPROVED:			
SCALE: A3 / N.T.S	DRAWING No. 93939	SHEET: 32	REV:
DATE: Apr 2025	T5000-93939_32	CONTINUED: 33	E



ISSUE FOR CONSTRUCTION

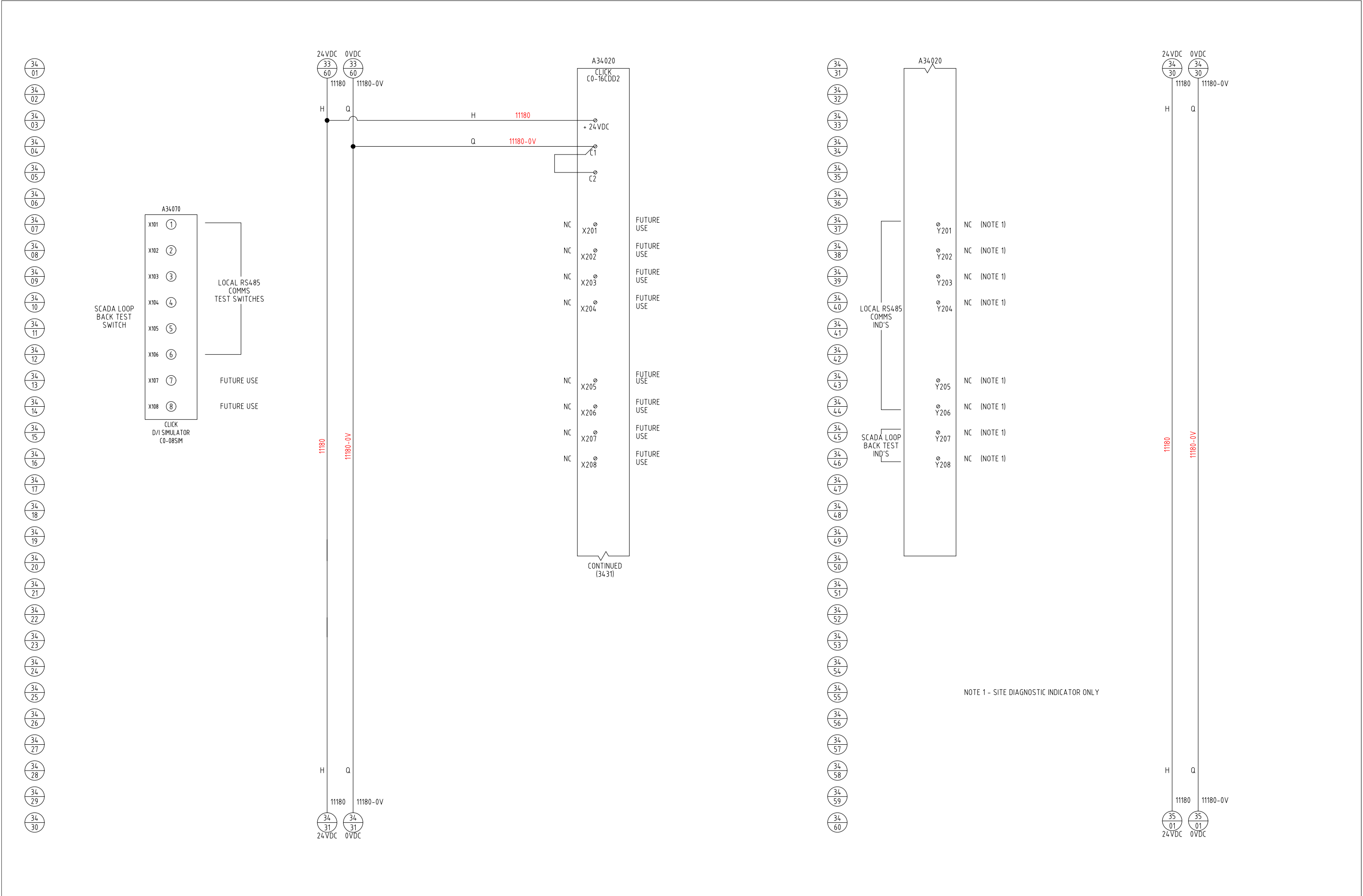
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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: MAIN SWITCHBOARD RIOS PLC INPUT & OUTPUT MODULE SCHEMATIC DIAGRAM
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939
DATE: Apr 2025	T5000-93939_33
	SHEET: 33
	CONTINUED: 34
	REV: E



ISSUE FOR
CONSTRUCTION

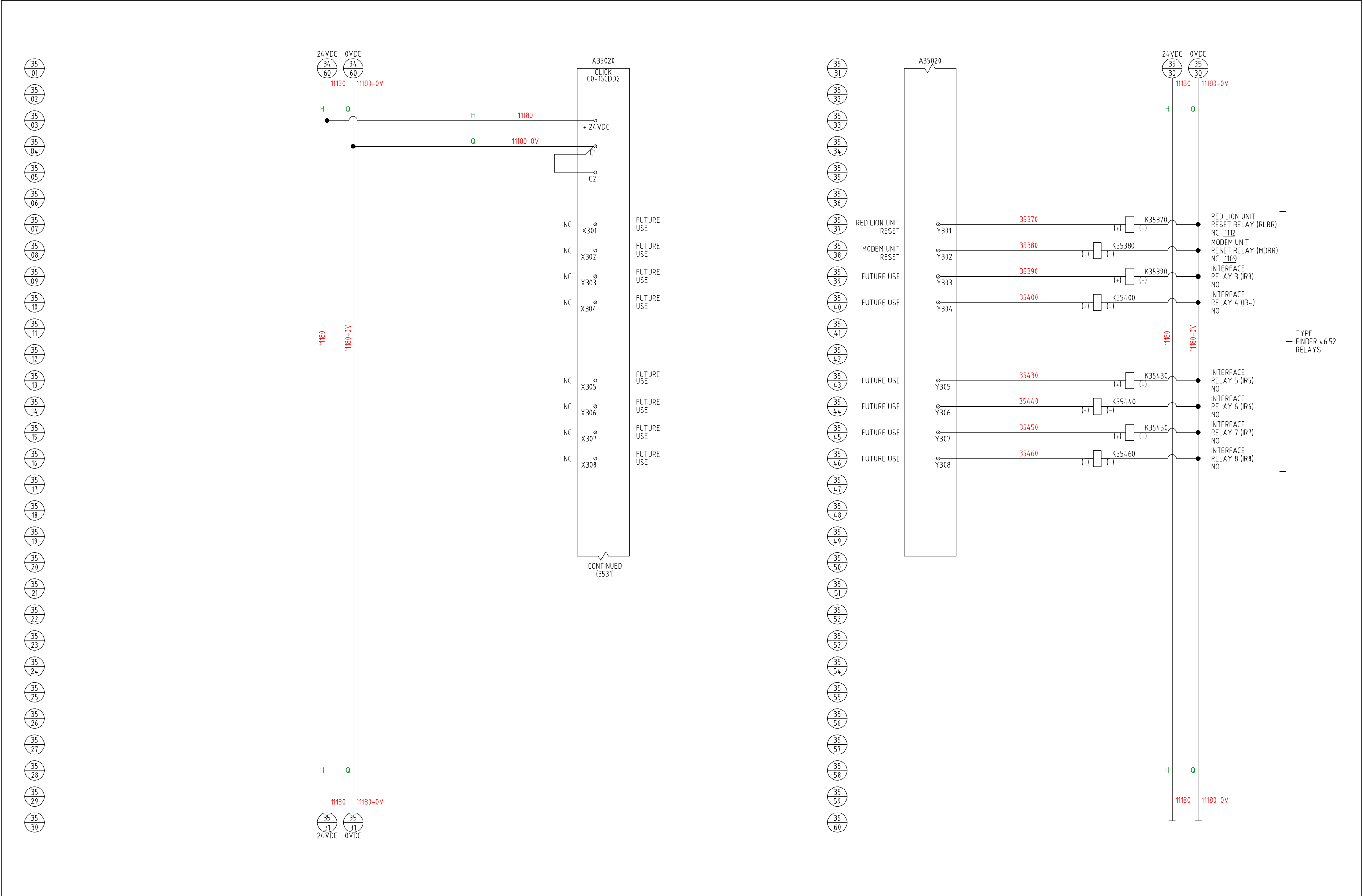
REVISIONS

ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
C	11.12.25	ISSUED FOR REVIEW	J.D.	A.K.	
B	17.10.25	ISSUED FOR REVIEW	J.D.	A.K.	
A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	TITLE: MAIN SWITCHBOARD RIOS PLC COMBO MODULE 1 SCHEMATIC DIAGRAM
DRAWN: J.DICKINSON	DRAWING No. 93939
DRN CKD:	SHEET: 34
APPROVED:	CONTINUED: 35
SCALE: A3 / N.T.S	REV: E
DATE: Apr 2025	



ISSUE FOR
CONSTRUCTION

REVISIONS

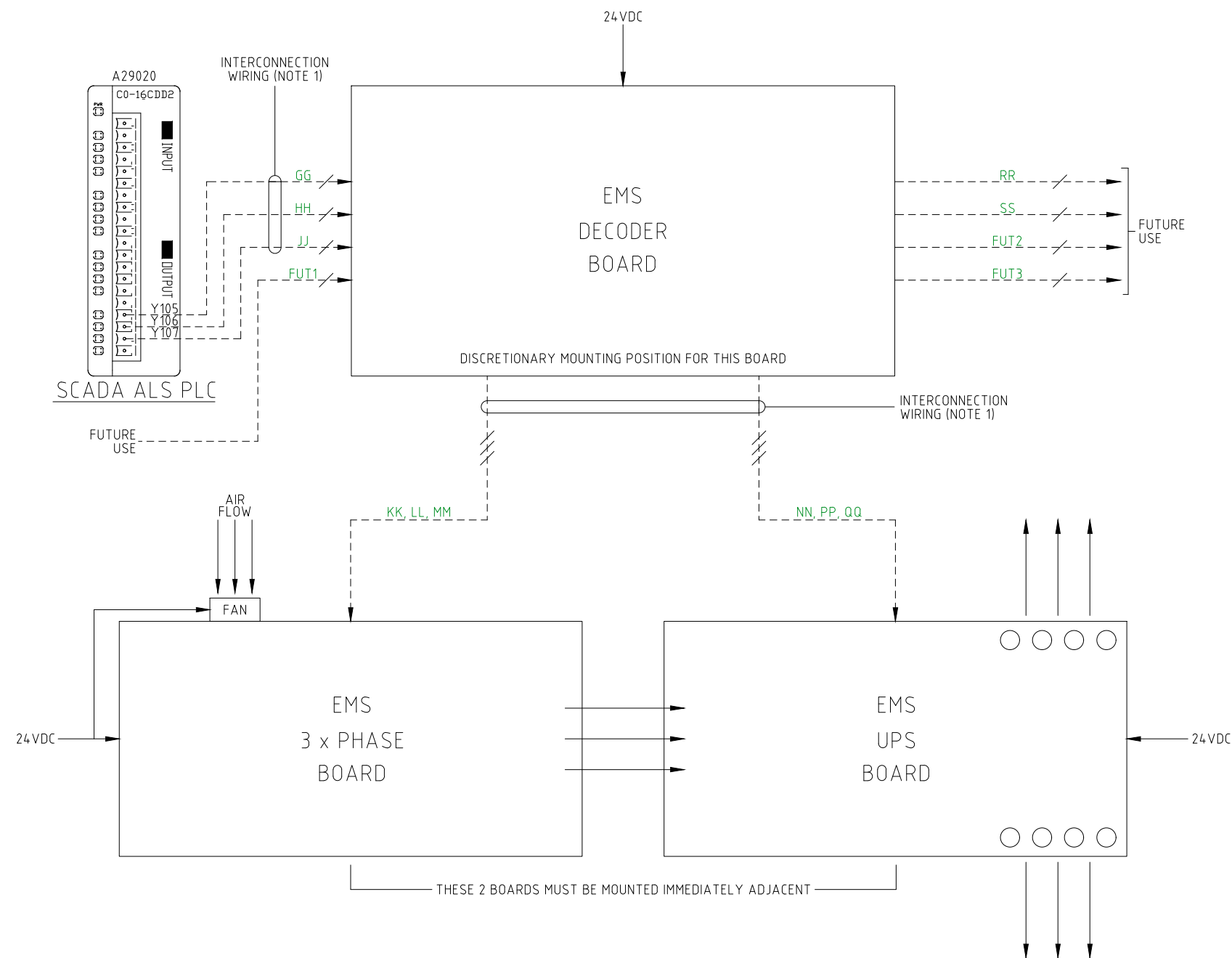
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
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D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
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A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DES CKD:	
DRAWN:	J.DICKINSON
DRN CKD:	
APPROVED:	
SCALE:	A3 / N.T.S
DATE:	Apr 2025

PROJECT:	ALEXANDRINA WASTEWATER T5000 DESIGN		
TITLE:	MAIN SWITCHBOARD RIOS PLC COMBO MODULE 2 SCHEMATIC DIAGRAM		
DRAWING No.	93939	SHEET:	35
T5000-93939_35		CONTINUED:	40
REV:	E		



NOTE 1 - 0.75mm² RED FLEXIBLE CABLE
600V / 1KV RATING

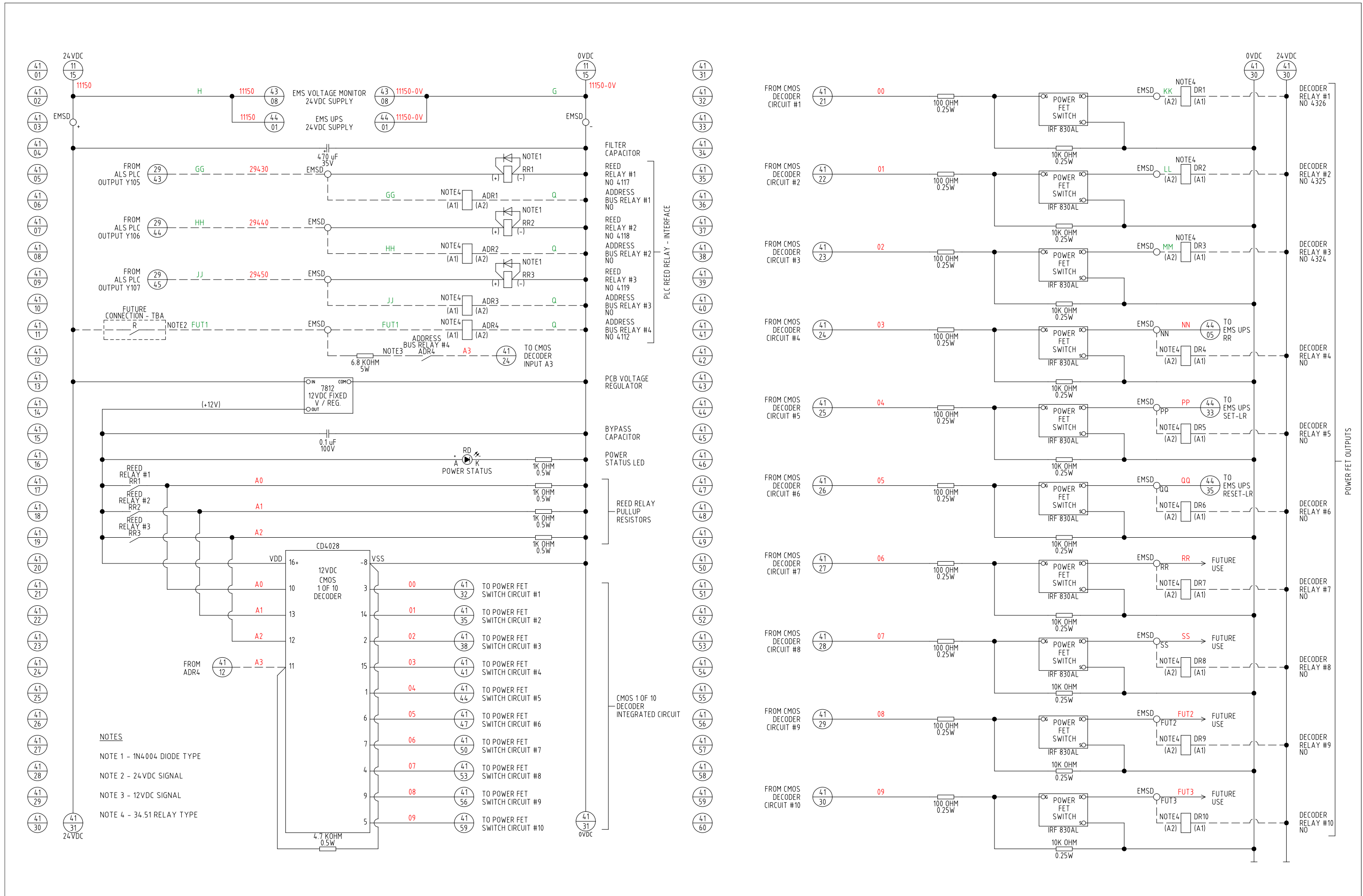
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A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.		

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DRAWN: J.DICKINSON	TITLE: SCADA ALS EMS MODULES INTERCONNECTION WIRING DIAGRAM
SCALE: A3 / N.T.S	DRAWING No. 93939
DATE: Apr 2025	T5000-93939_40
	SHEET: 40
	CONTINUED: 41
	REV: E



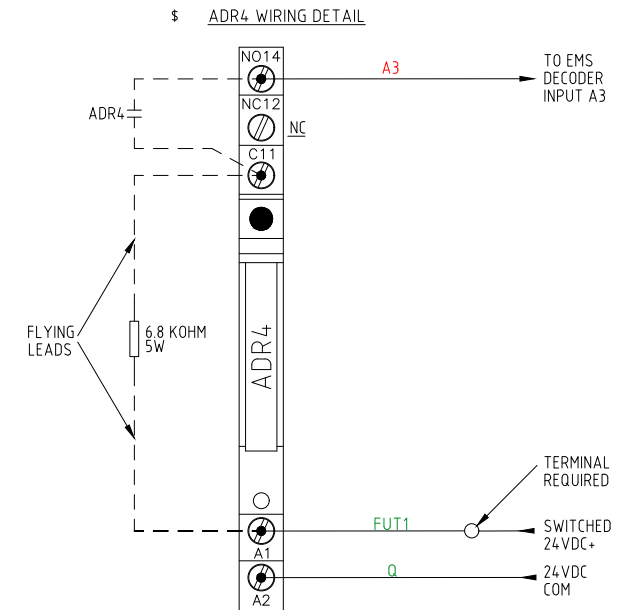
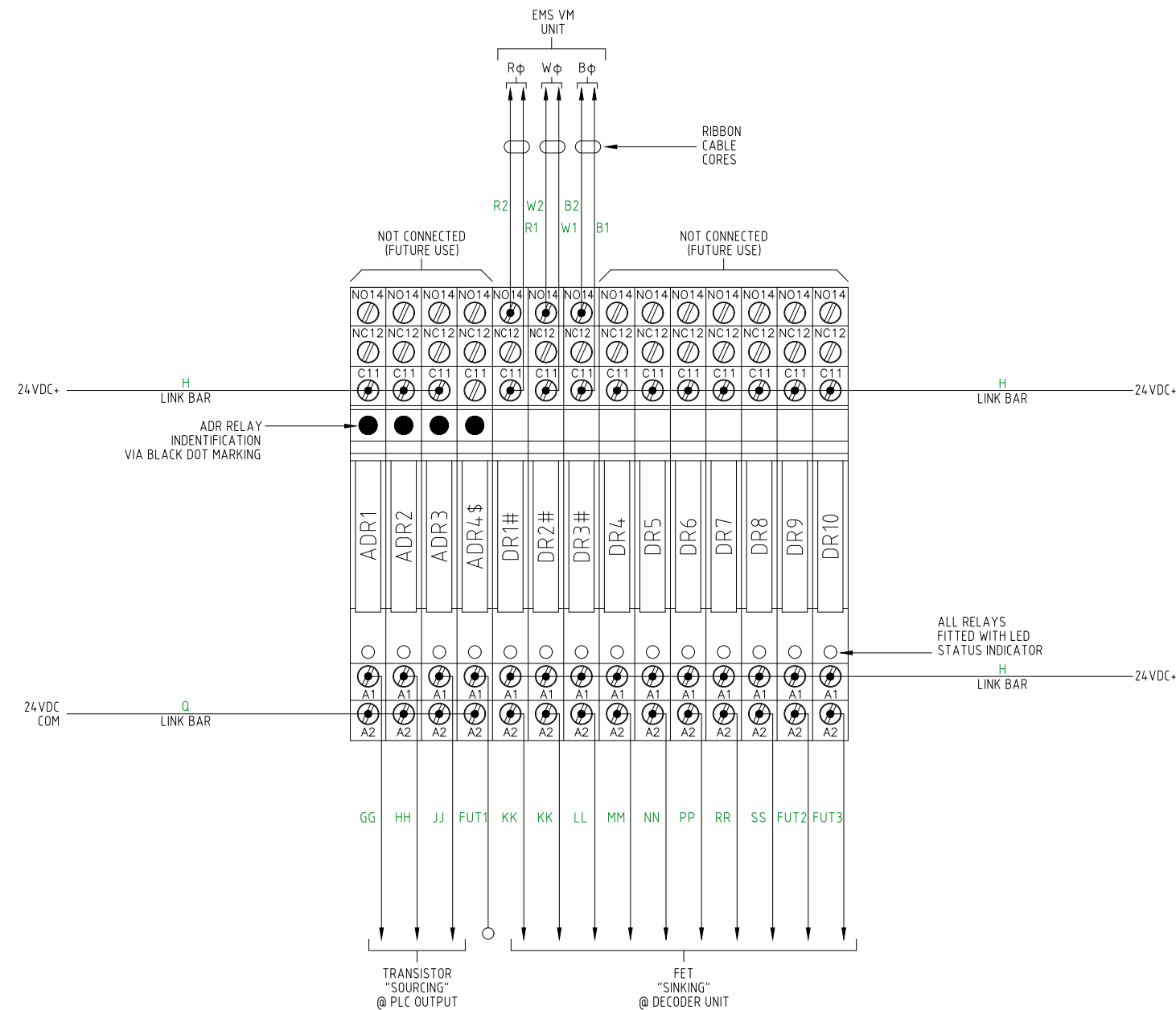
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A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DJINKINSON	TITLE: SCADA ALS EMS DECODER INTERNAL WIRING DIAGRAM
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939 T5000-93939_41
DATE: Apr 2025	SHEET: 41 CONTINUED: 42 REV: E



- # NOTES
- 1 - DR1, DR2 & DR3 RELAYS MAY BE OPTIONAL SSR TYPE.
 - 2 - SSR TERMINAL "13+" = "11"

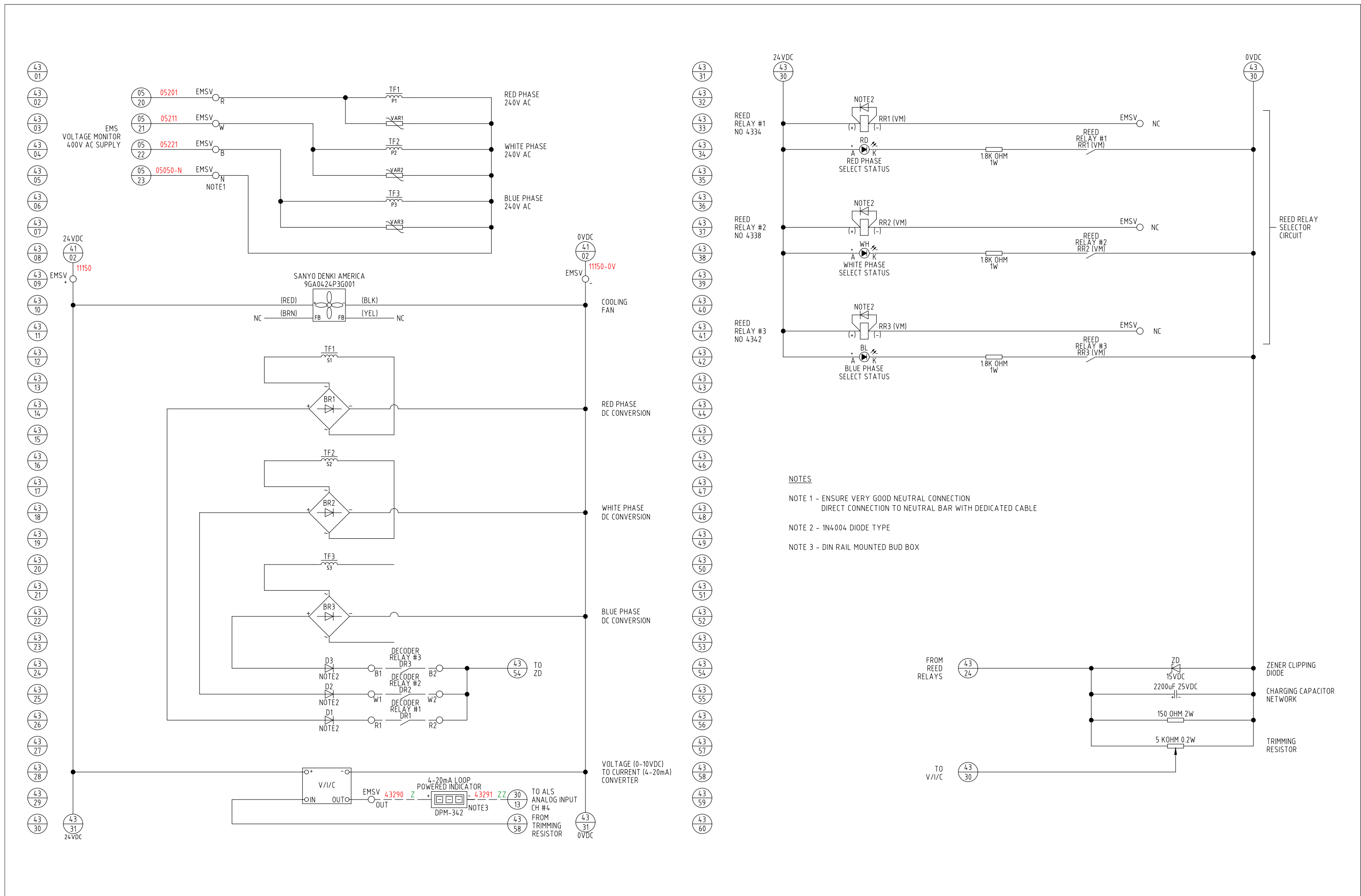
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A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.			

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	TITLE: SCADA ALS EMS DECODER INTERFACE RELAYS WIRING DIAGRAM
DRAWN: J.DICKINSON	
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939
DATE: Apr 2025	T5000-93939_42
	SHEET: 42
	CONTINUED: 43
	REV: E



ISSUE FOR CONSTRUCTION

REVISIONS

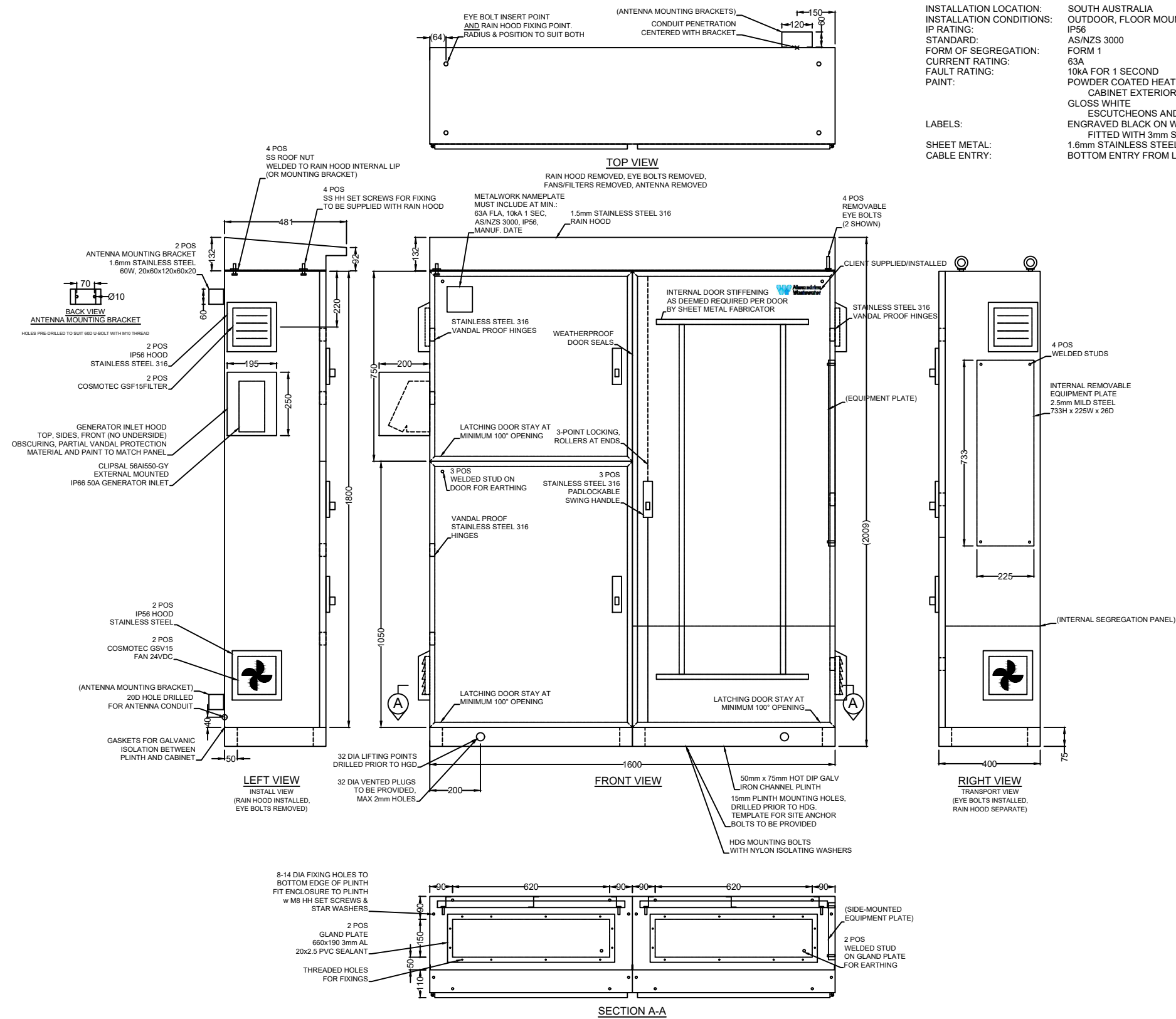
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
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A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: SCADA ALS EMS VOLTAGE MONITOR INTERNAL WIRING DIAGRAM
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939 T5000-93939_43
DATE: Apr 2025	SHEET: 43 CONTINUED: 44 REV: E

REPLACE
GA &
METALWORK



INSTALLATION LOCATION: SOUTH AUSTRALIA
INSTALLATION CONDITIONS: OUTDOOR, FLOOR MOUNTED
IP RATING: IP66
STANDARD: AS/NZS 3000
FORM OF SEGREGATION: FORM 1
CURRENT RATING: 63A
FAULT RATING: 10kA FOR 1 SECOND
PAINT: POWDER COATED HEAT REFLECTIVE PAPERBARK
CABINET EXTERIOR AND INTERIOR, RAIN HOOD, FAN/VENT HOODS, EXTERNAL BRACKETS
GLOSS WHITE
ESCUTCHEONS AND EQUIPMENT PLATES
ENGRAVED BLACK ON WHITE TRAFFOLYTE
FITTED WITH 3mm SS SELF-TAPPING BUTTON HEAD SCREW
SHEET METAL: 1.6mm STAINLESS STEEL 316 UNLESS SPECIFIED OTHERWISE
CABLE ENTRY: BOTTOM ENTRY FROM LEFT CONTROL SECTION

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CONSTRUCTION

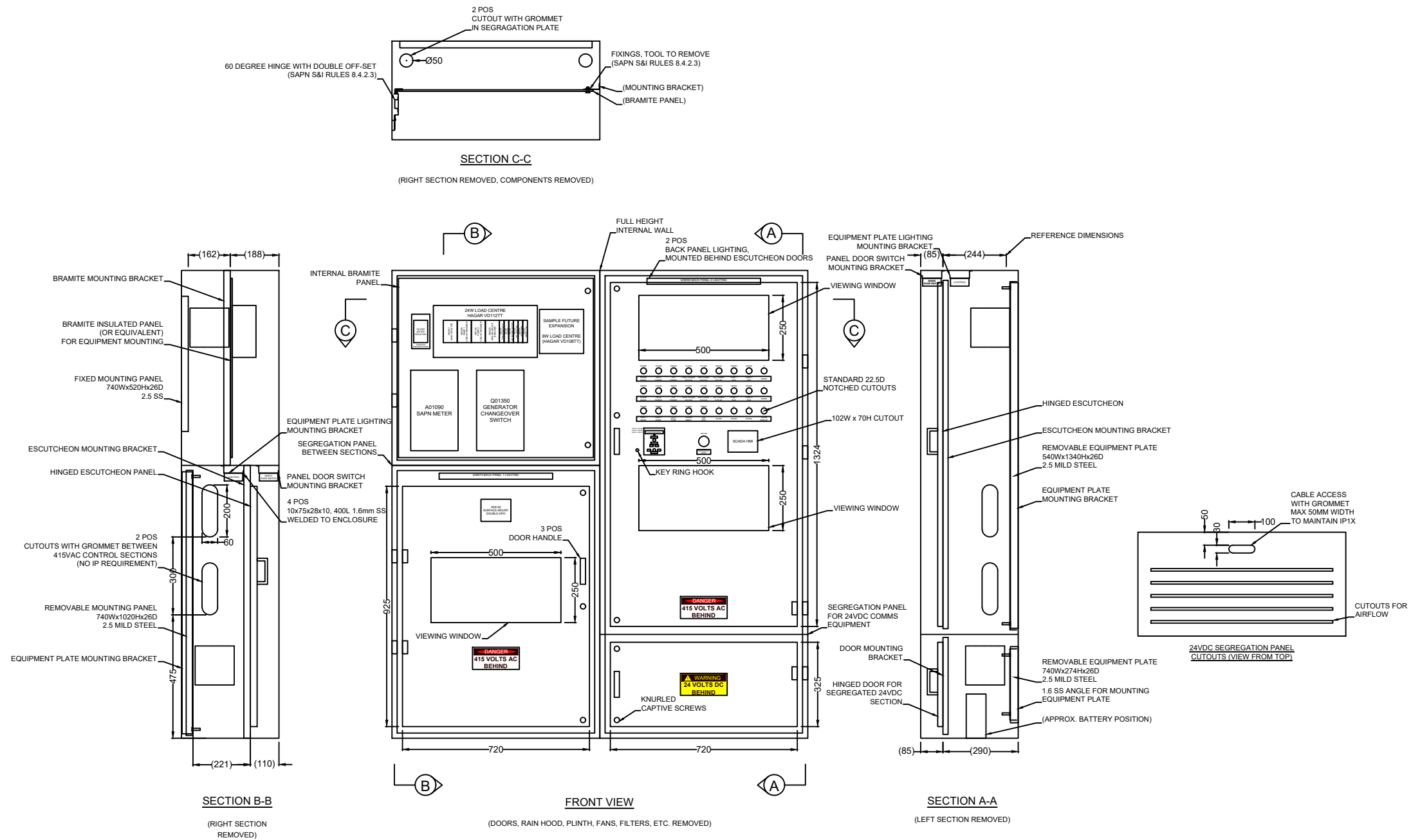
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: GENERAL ARRANGEMENT EXTERIOR
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939 T5000-93939_45
DATE: Apr 2025	SHEET: 45 CONTINUED: 46 REV: E

REPLACE
GA &
METALWORK



ISSUE FOR
CONSTRUCTION

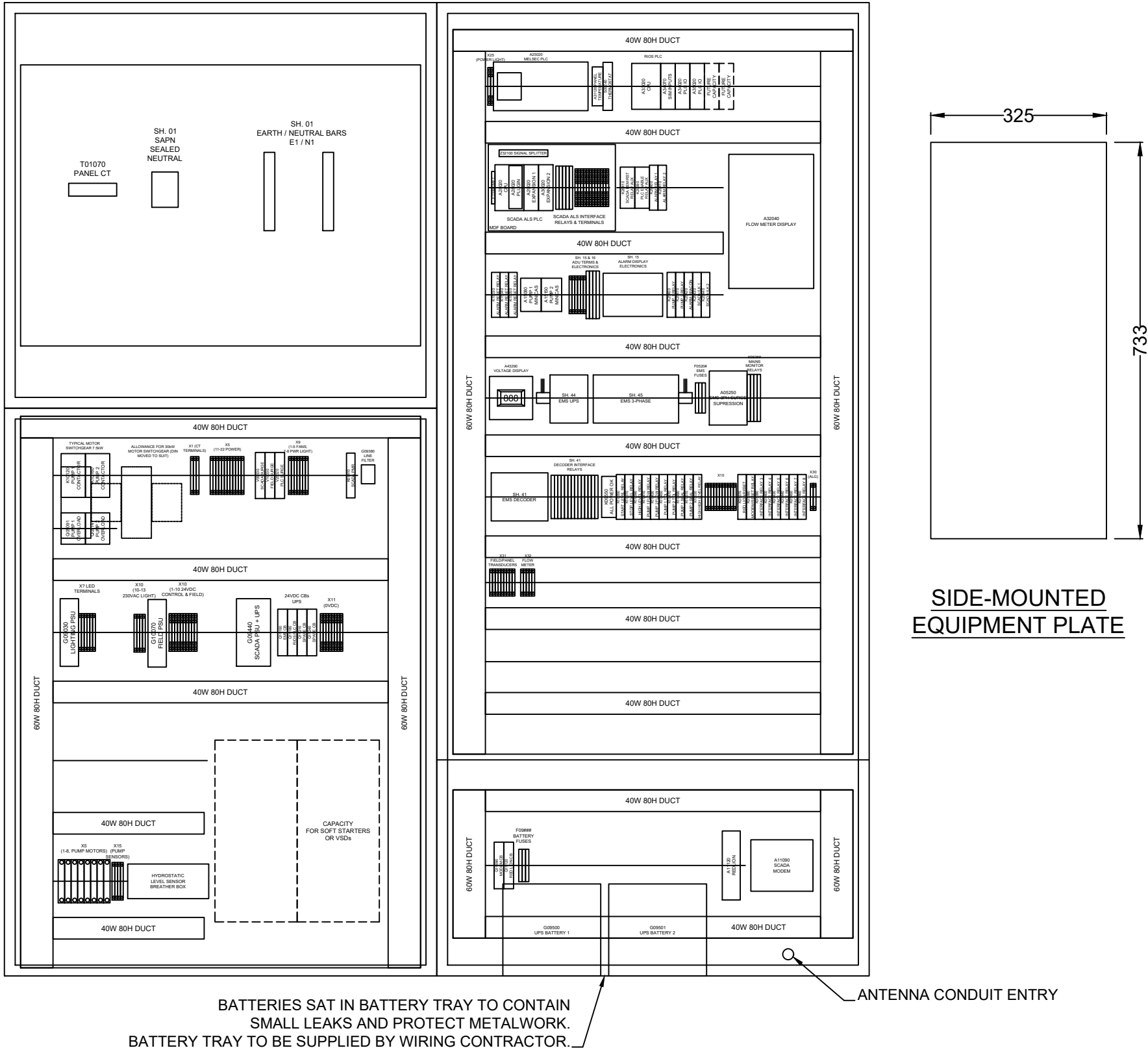
ISSUE	DATE	DESCRIPTION	DRN	CKD	APPD
E	25.05.26	DESIGN UPDATES, METALWORK	R.C.	T.G.	
D	16.12.25	ISSUED FOR CONSTRUCTION	J.D.	A.K.	
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A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	

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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN
DES CKD:	
DRAWN: J.DICKINSON	TITLE: GENERAL ARRANGEMENT ESCUTCHEONS
DRN CKD:	
APPROVED:	
SCALE: A3 / N.T.S	DRAWING No. 93939 T5000-93939_46
DATE: Apr 2025	SHEET: 46 CONTINUED: 47 REV: E

REPLACE GA & METALWORK



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	A	11.07.25	PRELIMINARY ISSUE	J.D.	A.K.	
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DESIGNED: A.KONDYLAS	PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN		
DES CKD:	TITLE: GENERAL ARRANGEMENT EQUIPMENT PLATES		
DRAWN: J.DICKINSON			
DRN CKD:			
APPROVED:			
SCALE: A3 / N.T.S	DRAWING No. 93939	SHEET: 47	REV: E
DATE: Apr 2025	T5000-93939-47	CONTINUED: 49	

TABLE 1
DEVICE TYPE

CODE	DEVICE TYPE	EXAMPLE
A	ASSEMBLIES, SUBASSEMBLIES	PLC, IO MODULES
B	TRANSDUCERS	
C	CAPACITORS	
D	BINARY ELEMENTS, DELAY DEVICES, STORAGE DEVICES	
E	MISCELLANEOUS	
F	PROTECTIVE DEVICES	FUSE, SURGE DIVERTER
G	GENERATORS, POWER SUPPLIES	
H	SIGNALLING DEVICES	
J	–	
K	RELAYS, CONTACTORS	
L	INDUCTORS, REACTORS	
M	MOTORS	
N	ANALOG ELEMENTS	
P	MEASURING EQUIPMENT, TESTING EQUIPMENT	POWER METER
Q	SWITCHING DEVICES FOR POWER CIRCUITS	
R	RESISTORS	
S	SWITCHING DEVICES FOR CONTROL CIRCUITS, SELECTOR SWITCHES	
T	TRANSFORMERS, VOLTAGE REGULATORS (POWER)	
U	MODULATORS, CHANGERS	RADIO, VSD
V	TUBES, SEMICONDUCTORS	
W	TRANSMISSION PATHS, WAVEGUIDES, ANTENNAS	
X	TERMINALS, PLUGS, SOCKETS	
Y	ELECTRICALLY OPERATED MECHANICAL DEVICES	
Z	NETWORKS, HYBRID TRANSFORMERS, FILTERS, EQUALIZERS, LIMITERS	SIGNAL SPLITTER TRANSIENT BARRIER

NOTE 1: MNEMONICS CAN BE FOUND IN TS 0300
NOTE 2: CABLE TYPES CAN BE FOUND IN TS 0300
NOTE 3: CONDUCTOR SIZING AND INSULATION RATING CAN BE FOUND IN TS 0300

TABLE 2
DRAWING CONVENTION

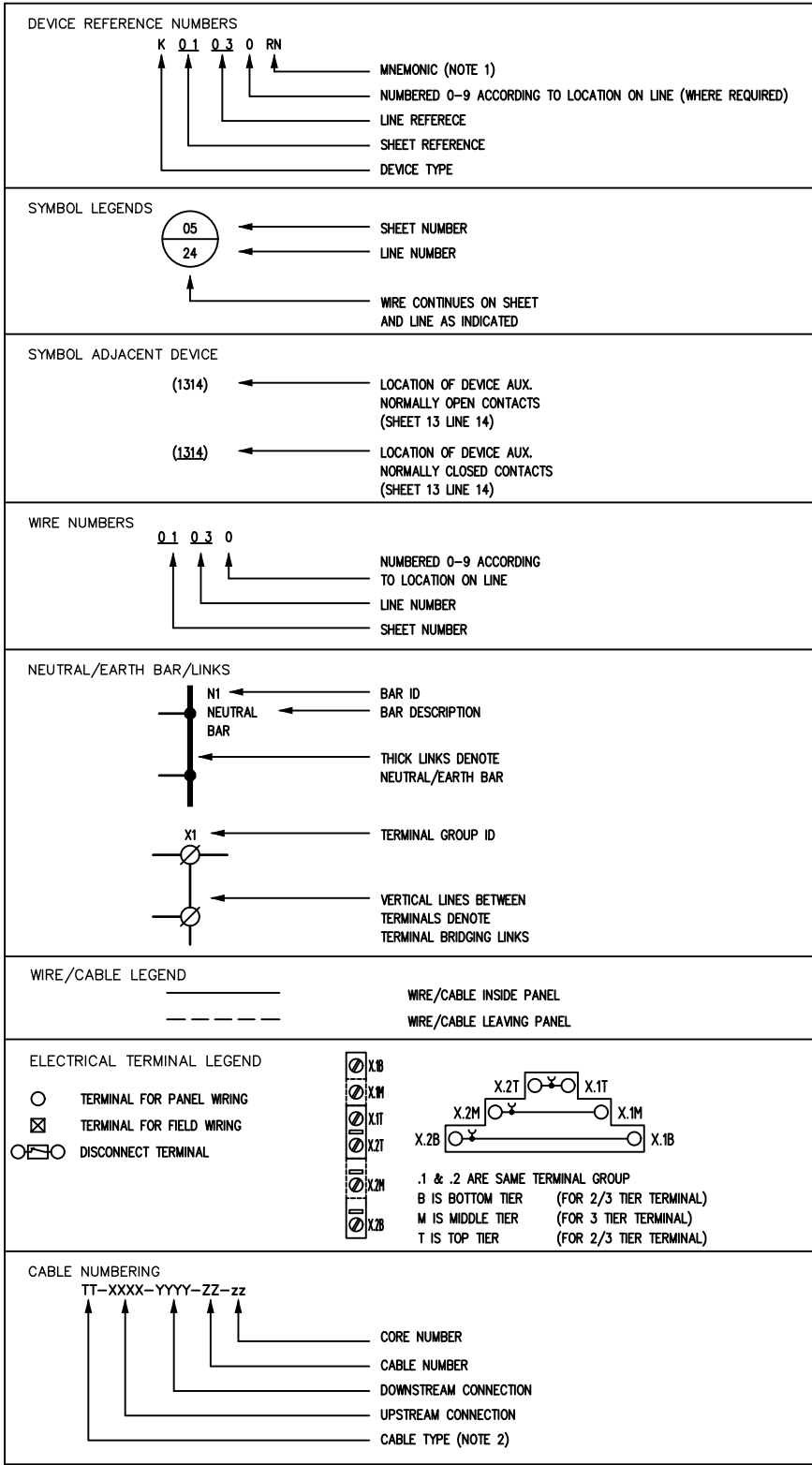


TABLE 3
WIRING STANDARD

APPLICATION DESCRIPTION	COLOUR	CONDUCTOR MIN. SIZE	INSULATION MIN. RATING
400VAC L–L POWER			
L1 PHASE	RED	2.5mm²	V90 0.6kV
L2 PHASE	WHITE	2.5mm²	V90 0.6kV
L3 PHASE	BLUE	2.5mm²	V90 0.6kV
NEUTRAL	BLACK	2.5mm²	V90 0.6kV
EARTH	GRN/YEL	2.5mm²	V90 0.6kV
CURRENT TRANSFORMERS	PHASE COLOUR	4.0mm²	V90 0.6kV
230VAC POWER AND CONTROL			
ACTIVE	WHITE	0.5mm²	V90 0.6kV
NEUTRAL	BLACK	0.5mm²	V90 0.6kV
110VAC POWER AND CONTROL			
ACTIVE	GREY	0.5mm²	V90 0.6kV
NEUTRAL	GREY	0.5mm²	V90 0.6kV
24VAC CONTROL			
ACTIVE	GREY	0.5mm²	V90 0.6kV
NEUTRAL (0VAC)	GREY	0.5mm²	V90 0.6kV
24VDC CONTROL			
POSITIVE	RED	0.5mm²	V90 0.6kV
NEGATIVE	BLUE	0.5mm²	V90 0.6kV
12VDC CONTROL			
POSITIVE	RED	0.5mm²	V90 0.6kV
NEGATIVE	BLUE	0.5mm²	V90 0.6kV
ANALOG LOOPS			
UNSCREENED	ORANGE	0.5mm²	V90 0.6kV
SCREENED	AS SUPPLIED	0.5mm²	V90 0.6kV
PLC/RTU SIGNAL WIRING			
230VAC	WHITE	0.5mm²	V90 0.6kV
24VAC	GREY	0.5mm²	V90 0.6kV
24VDC	RED	0.5mm²	V90 0.6kV
0VDC	BLUE	0.5mm²	V90 0.6kV
DATA			
BUSINESS NETWORK	BLUE	0.22mm²	CAT5E
CONTROL	GREEN	0.22mm²	CAT5E
DEVICE LEVEL	RED	0.22mm²	CAT5E
NON–ETHERNET	YELLOW	0.22mm²	CAT5E

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DESIGNED: A.KONDYLAS
DES CKD:
DRAWN: J.DICKINSON
DRN CKD:
APPROVED:
SCALE: A3 / N.T.S
DATE: Apr 2025

PROJECT: ALEXANDRINA WASTEWATER T5000 DESIGN		
TITLE: DRAWING CONVENTIONS & WIRING STANDARD		
DRAWING No. 93939 T5000-93939_49	SHEET: 49 CONTINUED:	REV: E