
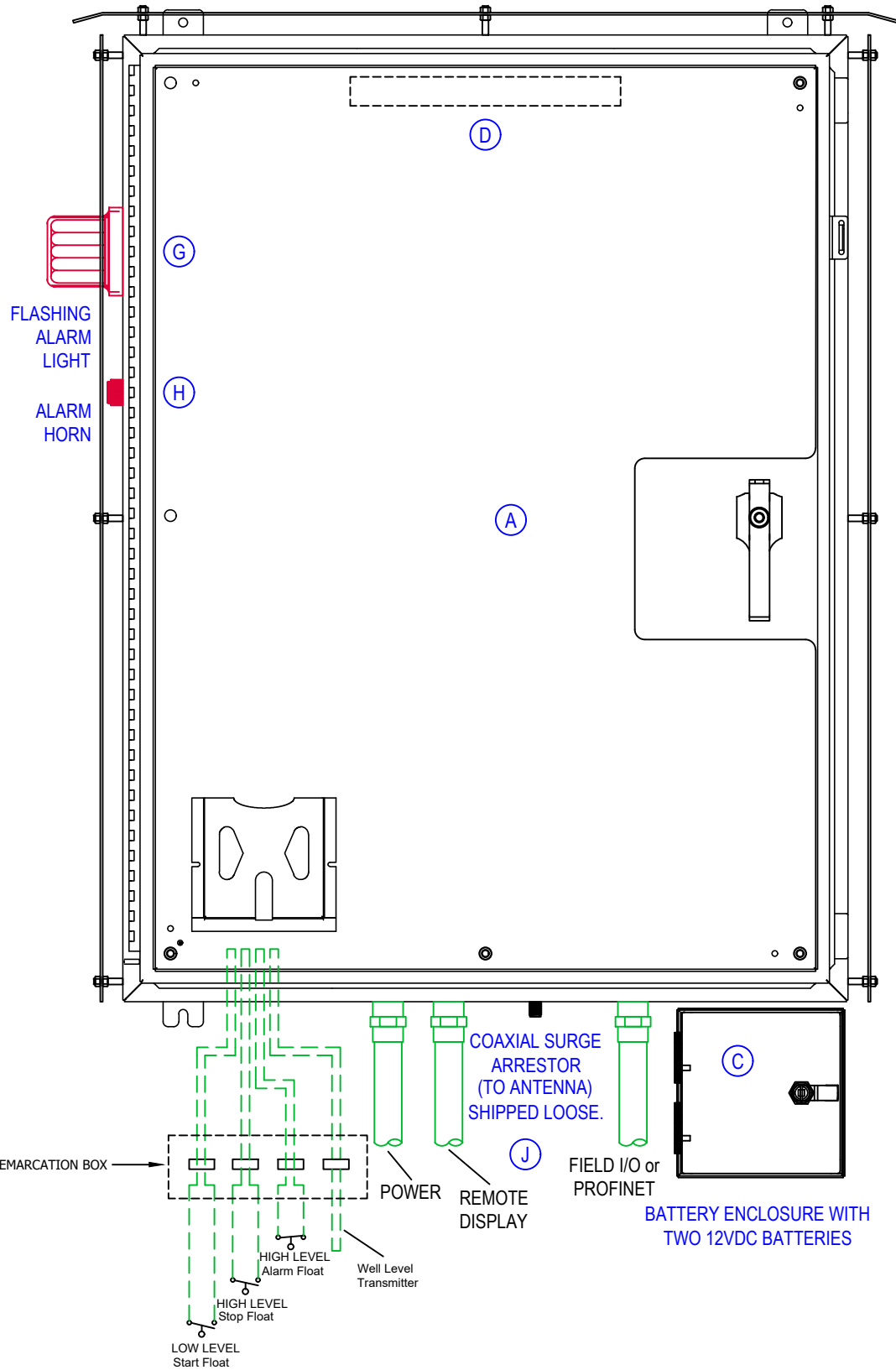


INSTRUCTIONS:

1. CONTRACTOR SHALL USE THIS DRAWING FILE TO CREATE SHOP DRAWINGS FOR JEA REVIEW.
2. PLEASE CONTACT ARISS FAJARDO AT FAJAAJ@JEA.COM FOR QUESTIONS OR ADDITIONAL INFORMATION.
3. DO NOT PRINT THIS SHEET IN SUBMITTAL SET.

NO.	BY	DATE	REVISIONS	<p style="color: green; text-align: center;">ELECTRICAL SCHEMATIC</p> <p style="color: blue; text-align: center;">MANUFACTURER ADDRESS1 ADDRESS2</p> <p style="color: blue; text-align: center;">CONTACT_NAME CONTACT_NUMBER</p>		DESIGNER:	SHEET TITLE: INSTRUCTION SHEET		
6.						DRAWN BY:	PROJECT: --- PROJECT NAME ---		
5.						DATE:	3-PHASE VFD LIFT STATION DIAGRAM		
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3.						DATE:	JOB No:	SHEET	OF
2.						2026 STANDARD PACKAGE, REV. 0	12345678	0	14
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FRONT VIEW



BILL of MATERIAL

QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	OEM	CUSTOM ENCLOSURE	SEE THIS SHEET FOR DETAILS
2	OEM	CUSTOM INNER DOORS	SEE THIS SHEET FOR DETAILS
1	OEM	BATTERY ENCLOSURE	SEE THIS SHEET FOR DETAILS
2	POWER SONIC	PS-12180 F2	BATTERY, LEAD-ACID, 12VDC, 18Ah
1	RITTAL	4140820	13" 20 LED LIGHT 24VDC
--	--	--	--
1	SIEMENS	52PX8A1K / 52BAK	MOMENTARY PUSHBUTTON, 30mm, FLUSH
1	INGRAM PRODUCTS	LX40F	ALARM LIGHT W/ FLASHER, 120VAC, RED
1	INGRAM PRODUCTS	PW120AR	ALARM HORN, ELECTRONIC, 120VAC, RED
--	--	--	--
1	TIMES-PROTECT	LP-STR-NFF	COAXIAL SURGE ARRESTOR (ANTENNA)
1	SIEMENS	6AV2 124-0GC01-0AX0	OPERATOR PANEL, TP700 COMFORT DISPLAY
1	SIEMENS	6AV2 181-8XP00-0AX0	HMI MEMORY CARD, 2GB
2	OMRON	6X283	SNAP ACTION SWITCH (DOOR AJAR)
2	ALLIED	642-2137	ACTUATOR FOR SWITCH
2	OEM	--	INNER/OUTER DOOR STOP KIT, SS
3	SIEMENS	6SL3255-0AA00-4JA0	IOP-2 PANEL
3	SIEMENS	6SL3256-0AP00-0JA0	DOOR MOUNTING KIT
3	SIEMENS	52SX2BAB	3 POSITION MAINTAINED SWITCH, 30mm
12	SIEMENS	52BJK	CONTACT BLOCK, 1NO-1NC
1	MENCOM	LP3-GF-2RJ45-R	GFCI RECPT W/ RJ45, 3A

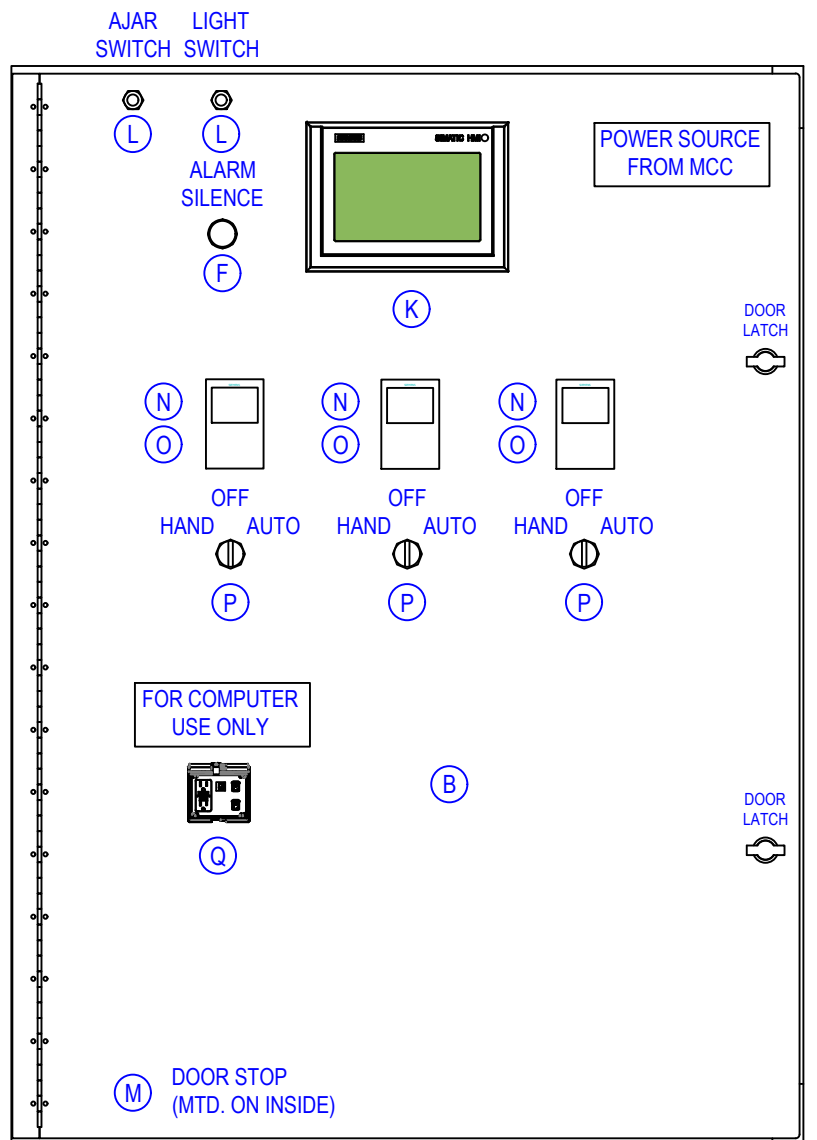
CUSTOM ENCLOSURE:
 48"H x 36"W x 10"D NEMA 12/3R RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM WITH WHITE POLYESTER POWDER COAT FINISH INSIDE AND OUT. OUTER DOORS ARE FITTED WITH A PADLOCKABLE 3-POINT LATCH AND DOOR STOPS.

HEAT SHIELDS FABRICATED FROM .125 MARINE GRADE ALUMINUM SHALL BE INSTALLED ON FRONT, BACK, TOP, AND SIDES. HOLES SHALL BE CUT IN SHIELD FOR ALARM LIGHT AND HORN. HEAT SHIELDS SHALL ALSO HAVE WHITE POLYESTER POWDER COAT FINISH ON ALL SIDES.

REFER TO "VOLUME III: APPROVED MATERIALS" FOR APPROVED ENCLOSURE MANUFACTURERS.

BATTERY ENCLOSURE:
 8"H x 8"W x 8"D FABRICATED FROM .125 MARINE GRADE ALUMINUM. OUTER DOOR IS FITTED WITH PADLOCKABLE QUARTER-TURN LATCH. TO BE SHIPPED LOOSE AND INSTALLED IN THE FIELD VIA BOLTS.

INNER DOOR VIEW



HINGED INNER DOORS:
 FABRICATED FROM .125 ALUMINUM WITH CONTINUOUS HINGE, TWIST LATCHES, AND DOOR STOP MOUNTED ON INSIDE OF EACH.

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ELECTRICAL SCHEMATIC

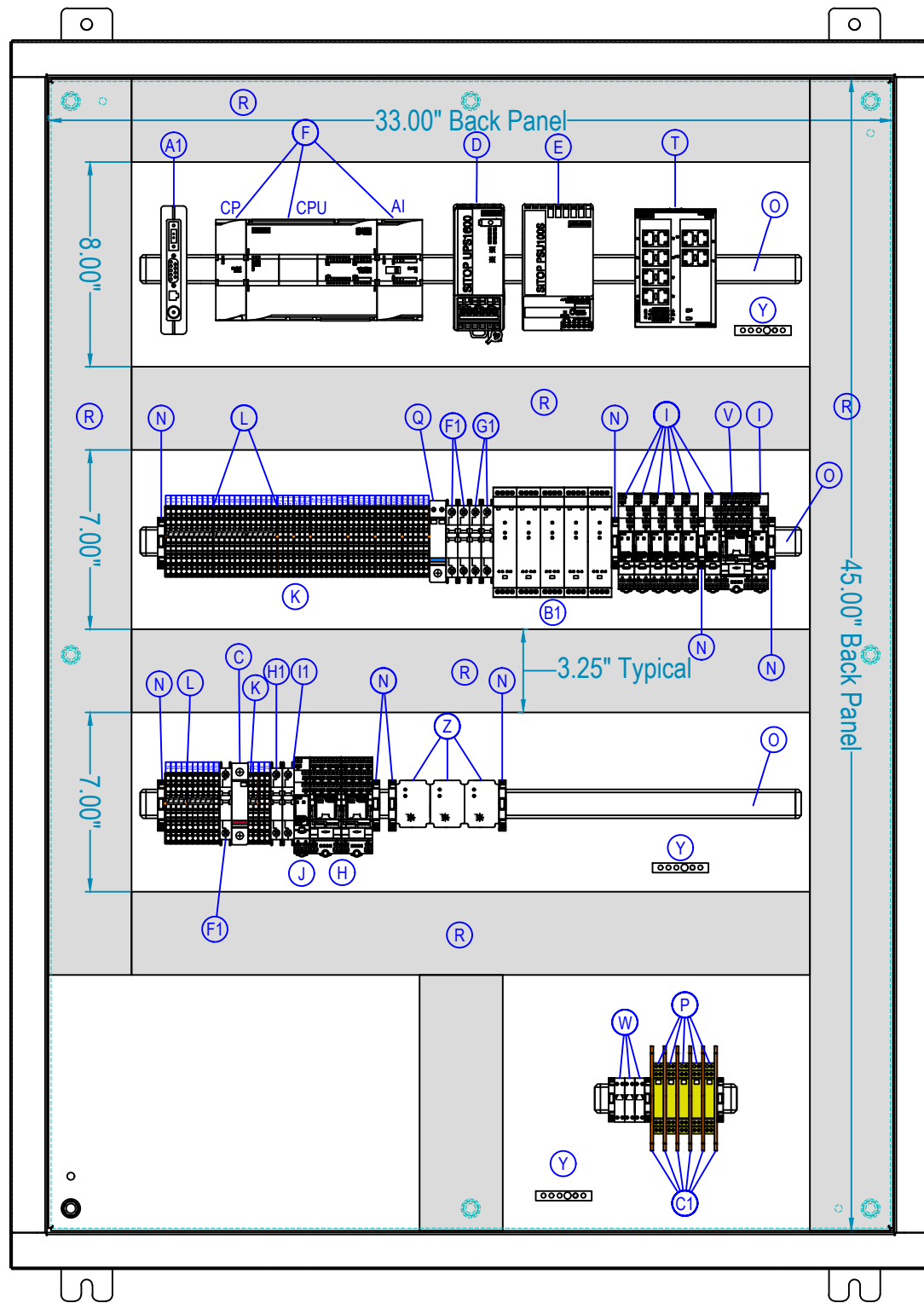
MANUFACTURER
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 2026 STANDARD PACKAGE, REV. 0

SHEET TITLE: SCADA RTU - FRONT VIEW
 PROJECT: --- PROJECT NAME ---
 3-PHASE VFD LIFT STATION DIAGRAM
 JOB No: 12345678 SHEET 2 OF 14

BACK PANEL LAYOUT



BACK PANEL:
45" H x 33" W. FABRICATED FROM 12ga. CARBON STEEL WITH
WHITE INDUSTRIAL GRADE ENAMEL FINISH.

REFER TO "VOLUME III: APPROVED MATERIALS" FOR
APPROVED ENCLOSURE MANUFACTURERS.

BILL of MATERIAL

QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A	1	OEM	CUSTOM BACK PANEL
B	--	--	--
C	1	CITEL	DS41S-120
D	1	SIEMENS	6AG113-43AB00-7AY0
E	1	SIEMENS	6AG133-42BA20-4AA0
F	1	SIEMENS	6AG1215-1AG40-4XB0
	1	SIEMENS	6ES795-48LC04-0AA0
	1	SIEMENS	6AG123-14HF32-4XB0
	1	SIEMENS	6AG1241-1AH32-4XB0
	1	SIEMENS	6ES7231-5PA30-0XB0
G	--	--	--
H	2	FINDER	58P481205060
I	7	FINDER	4CP190245050
J	1	FINDER	4CP181205060
K	65	WAGO	2002-1401
L	20	WAGO	2002-1492
M	20	WAGO	2002-400
N	10	WAGO	249-116
O	1	WAGO	210-112
P	5	CITEL	DLAW-24D3
Q	1	CITEL	DS220S-24DC
R	4	PANDUIT	3" W X 3" H X 72" L
S	--	--	--
T	1	SIEMENS	6GK5112-0BA00-2AB2
U	--	--	--
V	1	FINDER	58P490245050
W	3	PHOENIX	2313931
X	--	--	--
Y	2	SIEMENS	ECGB5
Z	3	MACROMATIC	TCP2G100
1	---	---	RADIO, SPREAD-SPECTRUM, UNLICENSED
	---	---	DIN RAIL MOUNT KIT
A1	---	---	RADIO ANTENNA CABLE
	---	---	---
B1	5	PR ELECTRONICS	4114
	5	PR ELECTRONICS	4501
C1	5	WAGO	2002-1492
D1	3	SIEMENS	6GK1901-1BB10-2AA0
E1	2	SIEMENS	6XV1840-2AH10
F1	3	SIEMENS	5SJ4110-7HG41
G1	2	SIEMENS	5SJ4103-7HG40
H1	1	SIEMENS	5SJ4105-7HG40
I1	1	SIEMENS	5SJ4102-7HG40

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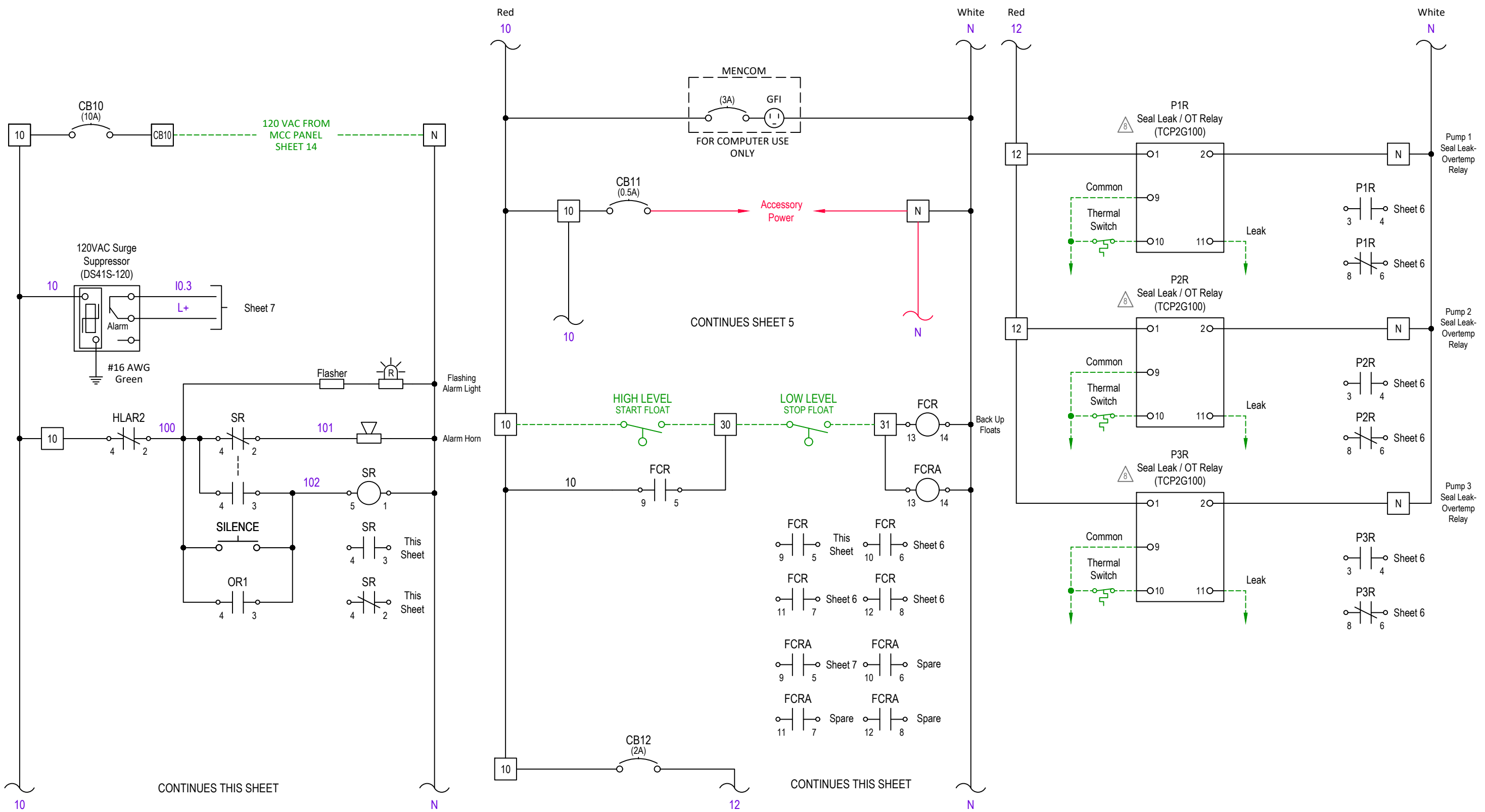
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SHEET TITLE:
SCADA RTU - BACK PANEL LAYOUT
PROJECT:
--- PROJECT NAME ---
3-PHASE VFD LIFT STATION DIAGRAM
JOB No: 12345678 SHEET 3 OF 14



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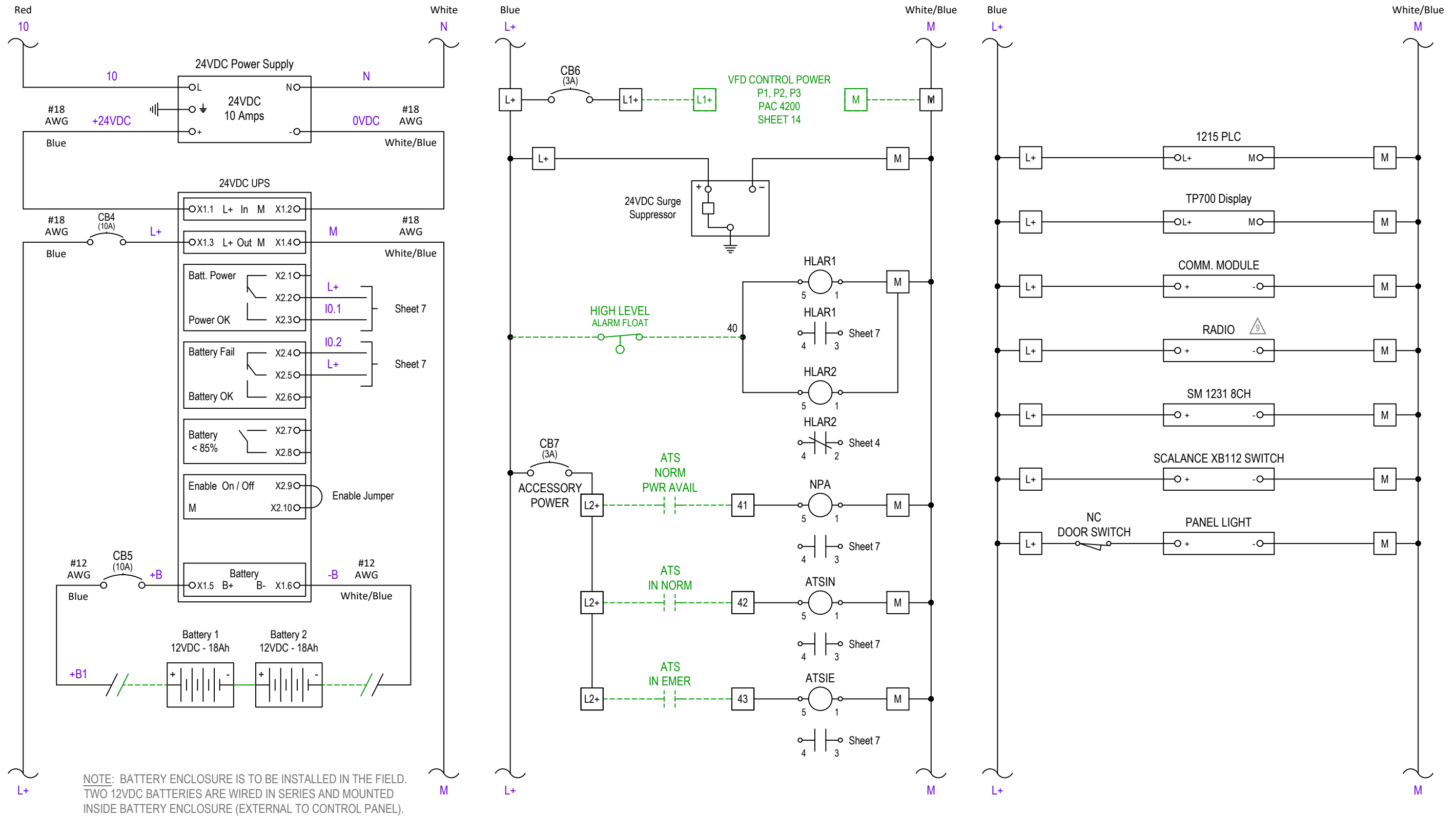
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SHEET TITLE:
SCADA RTU - 120 VAC VOLTAGE

PROJECT:
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3-PHASE VFD LIFT STATION DIAGRAM

JOB No: 12345678 SHEET 4 OF 14



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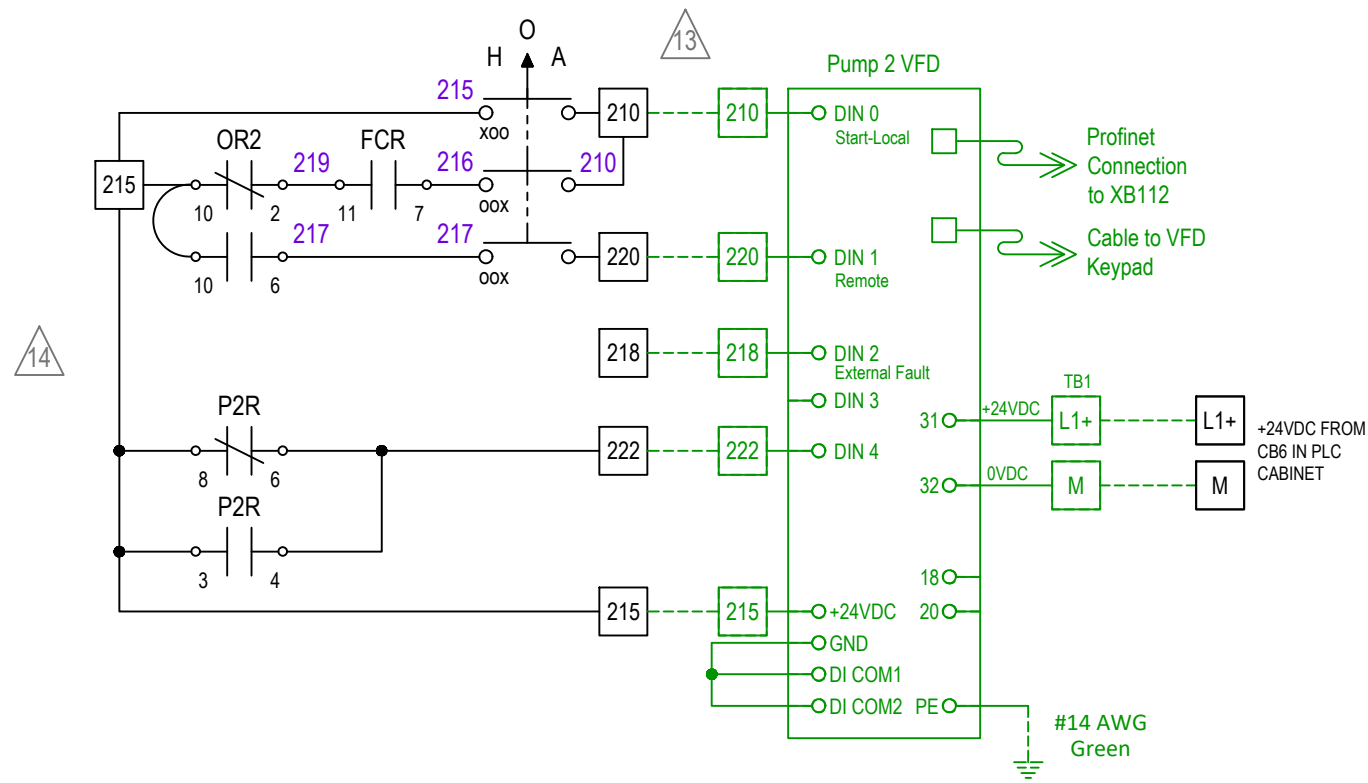
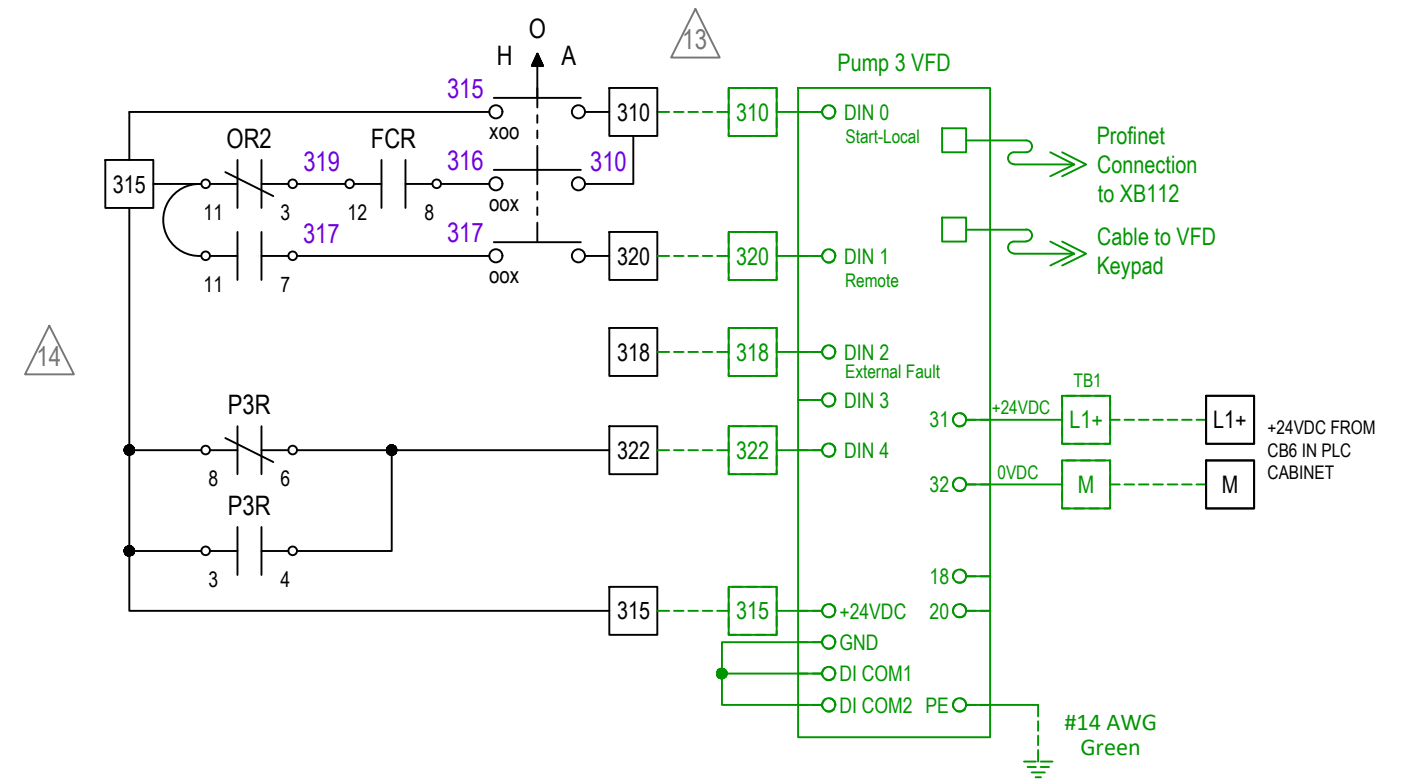
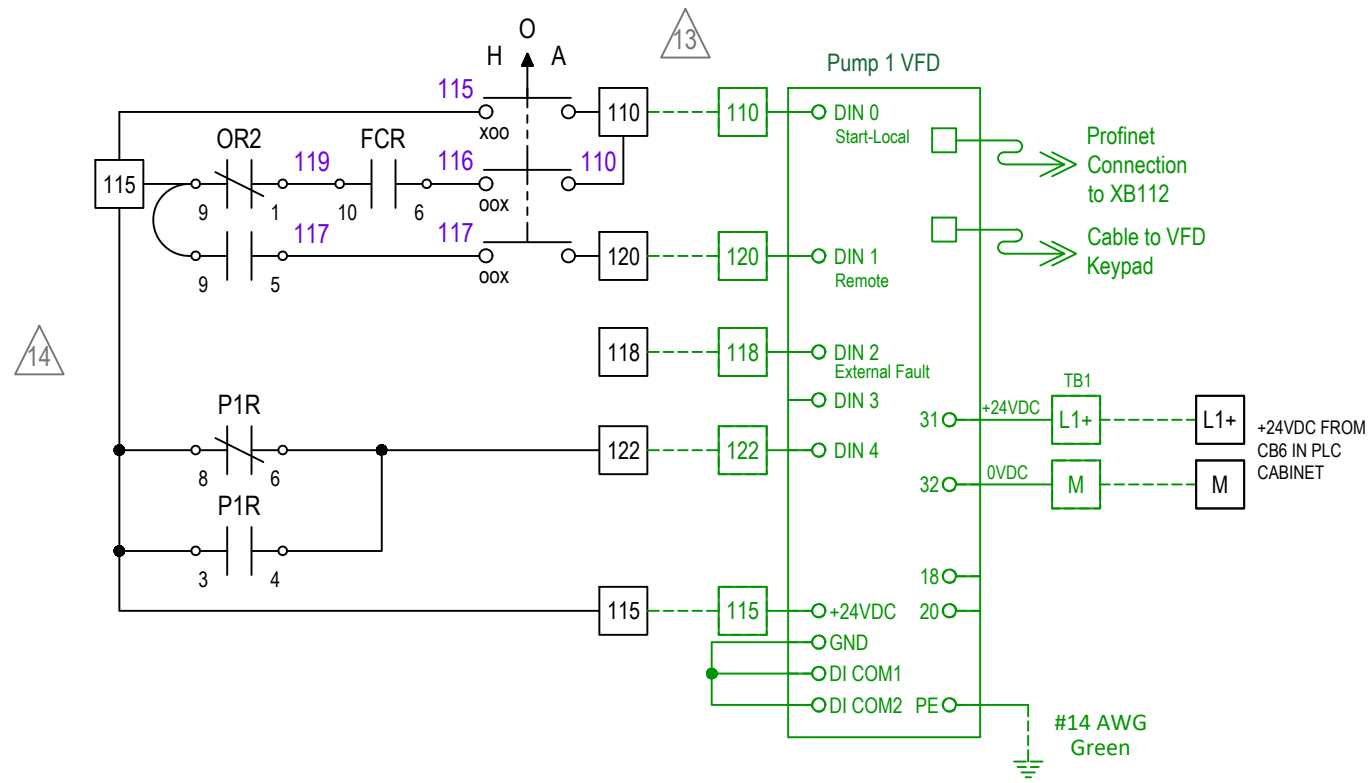
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SHEET TITLE:
SCADA RTU - 24 VDC VOLTAGE
 PROJECT:
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3-PHASE VFD LIFT STATION DIAGRAM
 JOB No: 12345678 SHEET 5 OF 14



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SHEET TITLE:
SCADA RTU - VFD CONTROL WIRING

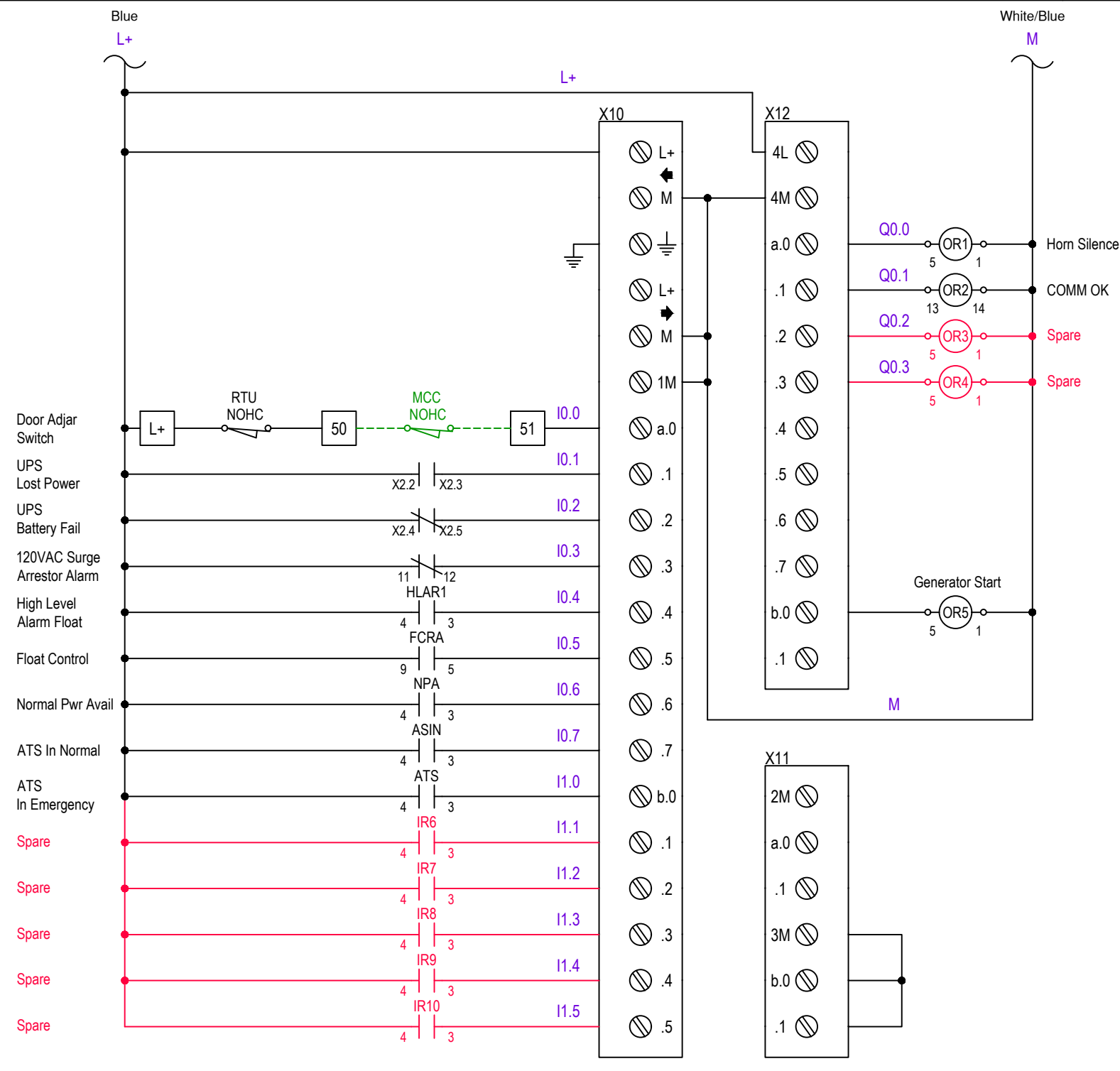
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3-PHASE VFD LIFT STATION DIAGRAM

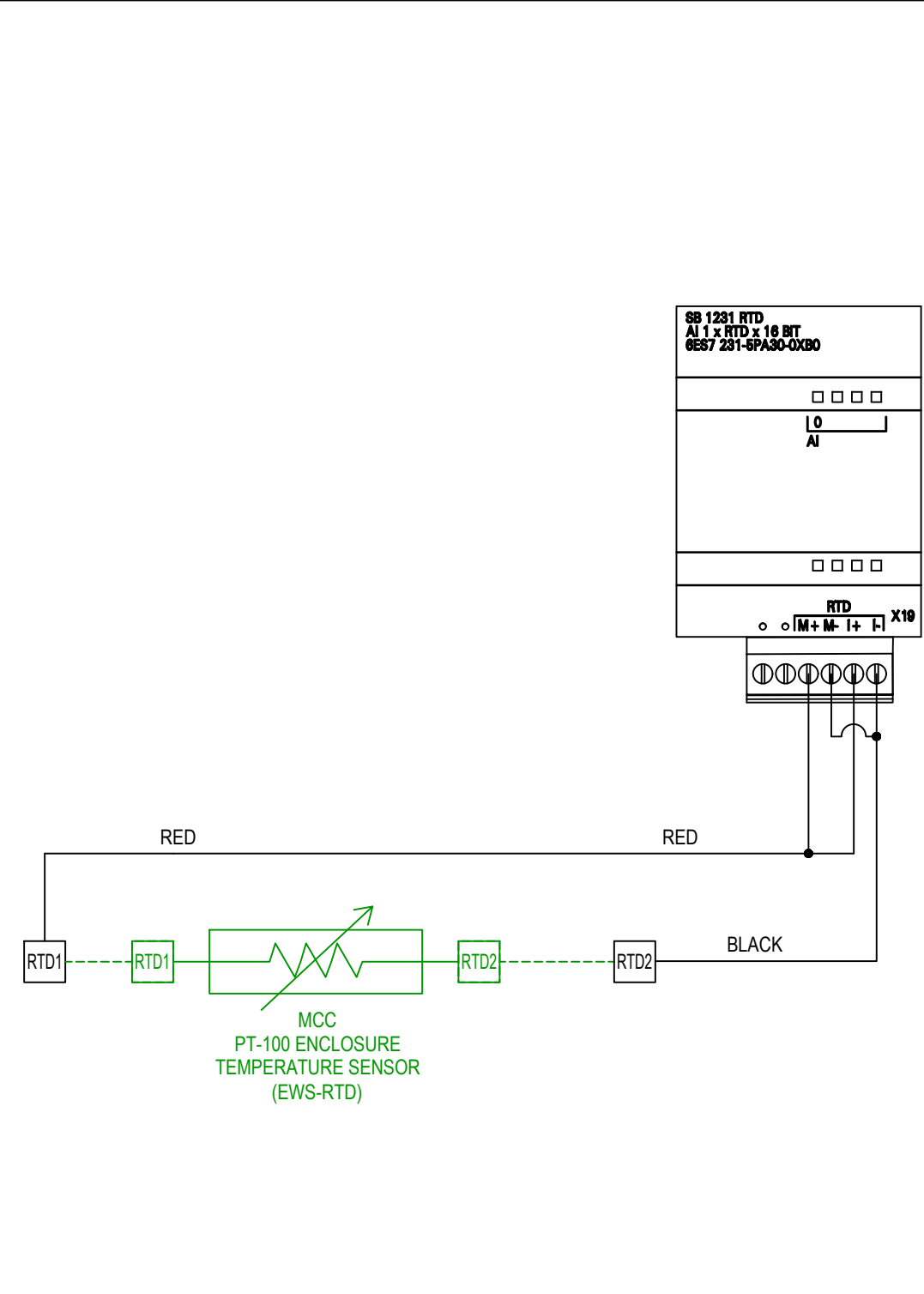
JOB No: 12345678 SHEET 6 OF 14

RACK: 0 SLOT: 1

RACK: 0 SLOT: 1.3



6AG1 215-1AG40-4XB0	
14 Digital Input	
10 Digital Output	
L+	L+ = +24V
M	M = DC COM
GND	GND
L+	
M	M = DC COM
1M	1M = DC COM
a.0	Input 0.0
.1	Input 0.1
.2	Input 0.2
.3	Input 0.3
.4	Input 0.4
.5	Input 0.5
.6	Input 0.6
.7	Input 0.7
b.0	Input 1.0
.1	Input 1.1
.2	Input 1.2
.3	Input 1.3
.4	Input 1.4
.5	Input 1.5
4L	4L = +24V
4M	4M = DC COM
a.0	Output 0.0
.1	Output 0.1
.2	Output 0.2
.3	Output 0.3
.4	Output 0.4
.5	Output 0.5
.6	Output 0.6
.7	Output 0.7
b.0	Output 1.0
b.1	Output 1.1
2M	2M = DC COM
a.0	Output 0.0
.1	Output 0.1
3M	2M = DC COM
b.0	Input 0.0
b.1	Input 0.1



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ELECTRICAL SCHEMATIC

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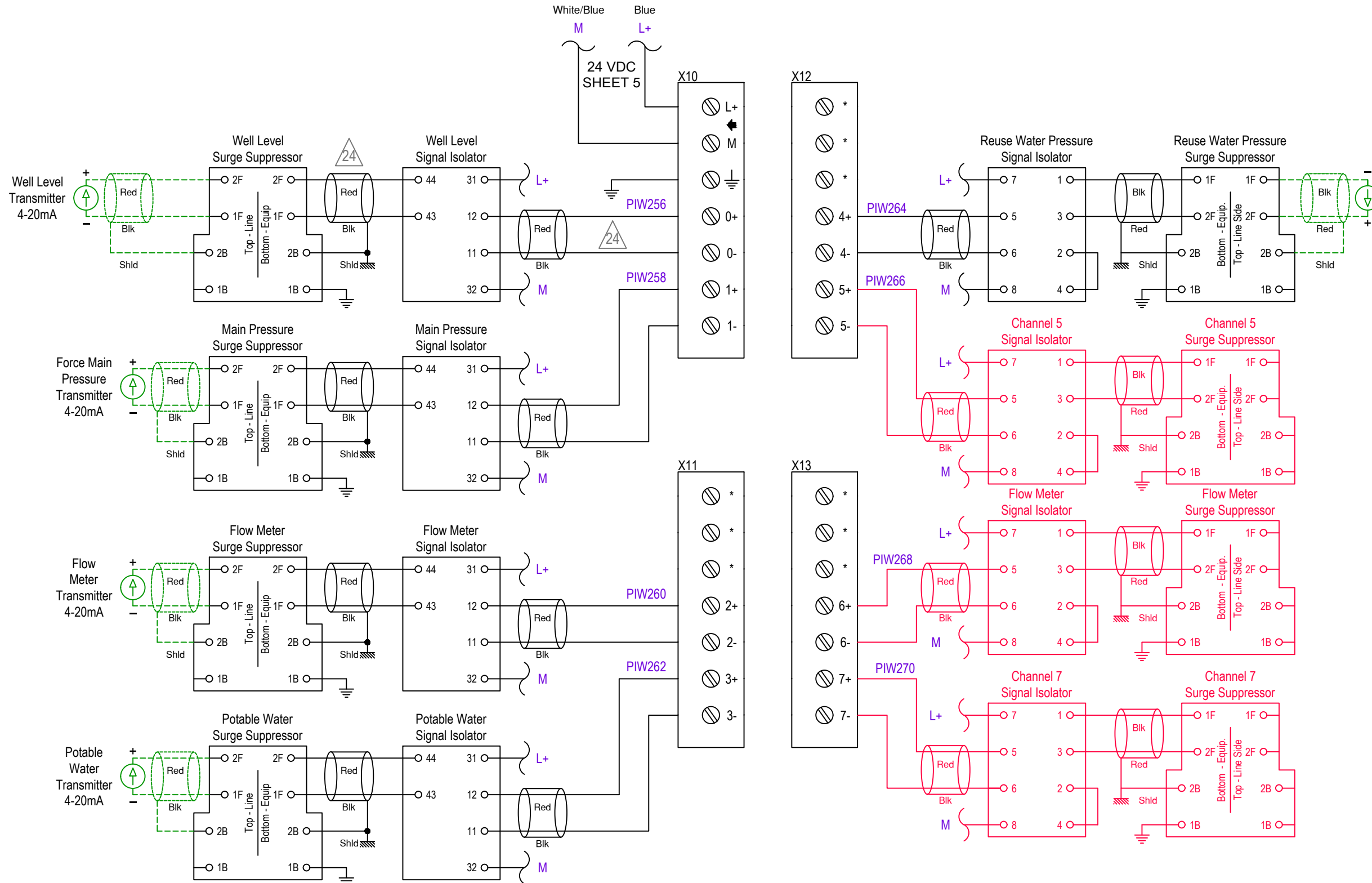
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SHEET TITLE:
SCADA RTU - PLC DIGITAL I/O

PROJECT:
--- PROJECT NAME ---

3-PHASE VFD LIFT STATION DIAGRAM

JOB No: 12345678 SHEET 7 OF 14



6AG1 231-4HF32-4XB0	
8 Analog Input	
L+	L+ = +24V
M	M = DC COM
GND	GND
0+	CH0 + => PIW256
0-	CH0 -
1+	CH1 + => PIW258
1-	CH1 -
*	
*	
*	
2+	CH2 + => PIW260
2-	CH2 -
3+	CH3 + => PIW262
3-	CH3 -
*	
*	
*	
4+	CH4 + => PIW264
4-	CH4 -
5+	CH5 + => PIW266
5-	CH5 -
*	
*	
6+	CH6 + => PIW268
6-	CH6 -
7+	CH7 + => PIW270
7-	CH7 -

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ELECTRICAL SCHEMATIC

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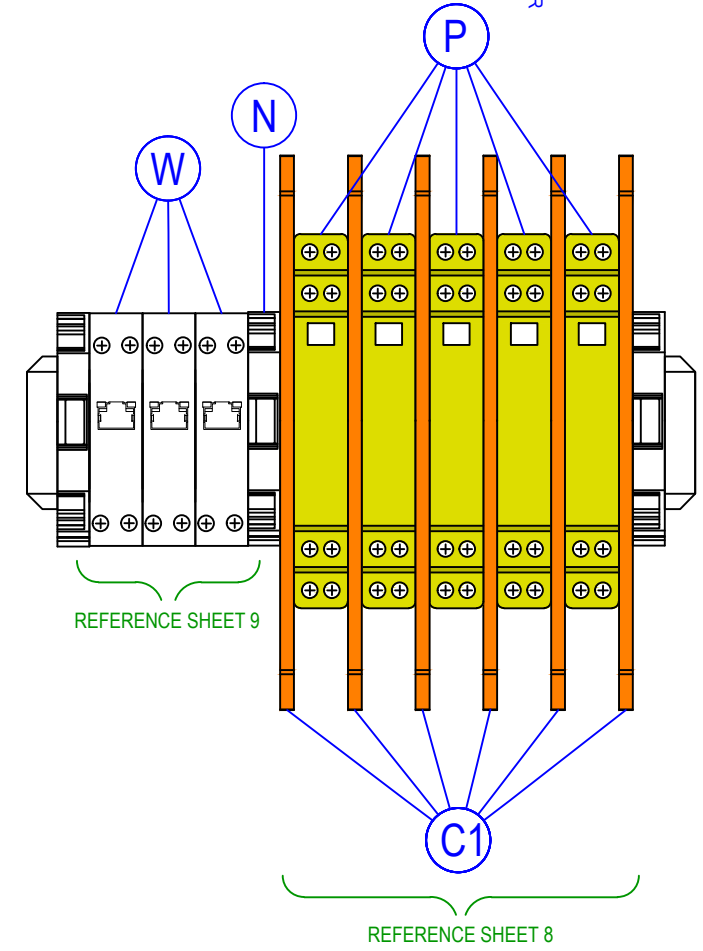
SHEET TITLE:
SCADA RTU - PLC ANALOG INPUT

PROJECT:
--- PROJECT NAME ---

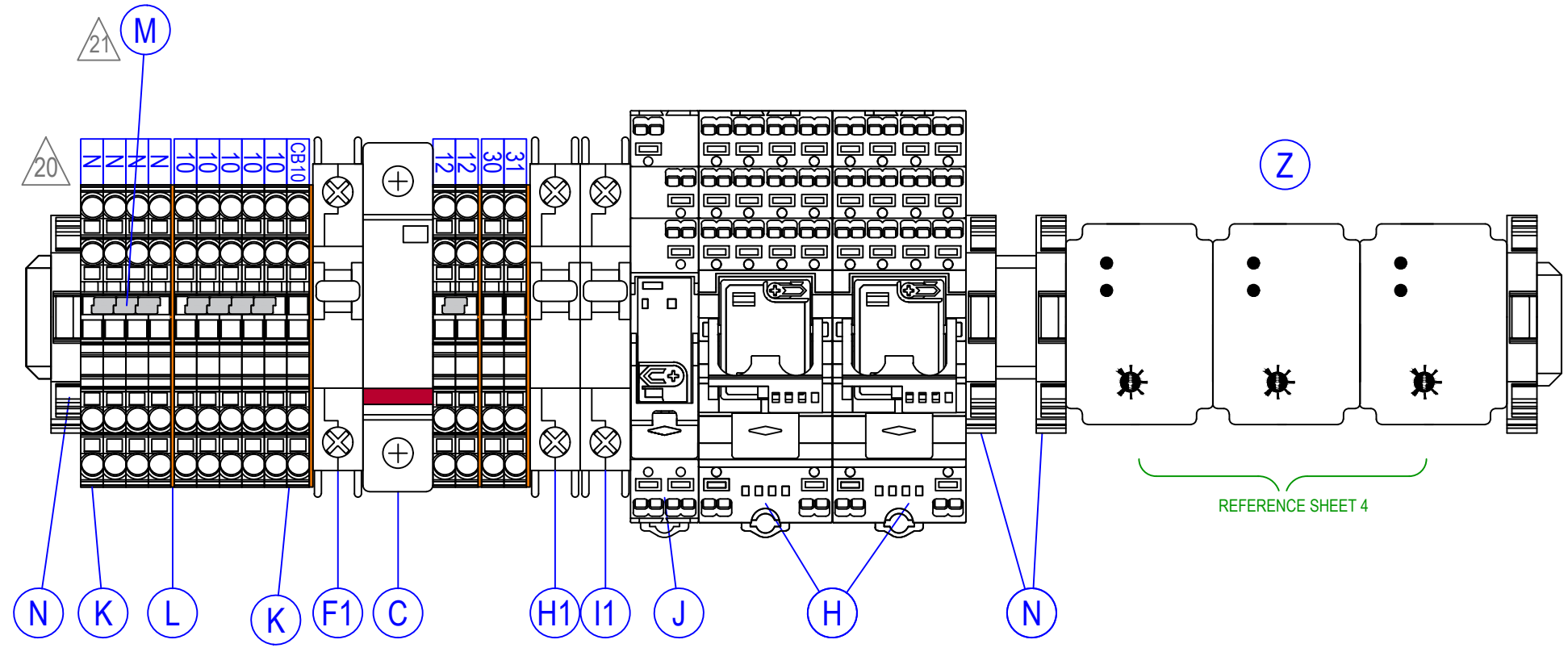
3-PHASE VFD LIFT STATION DIAGRAM

JOB No: 12345678 SHEET 8 OF 14

- REUSE WATER PRESS XMITTER SURGE SUPPRESSOR
- POTABLE WATER PRESSURE XMITTER SURGE SUPPRESSOR
- FLOW METER SURGE SUPPRESSOR
- MAIN PRESSURE XMITTER SURGE SUPPRESSOR
- WELL LEVEL SURGE SUPPRESSOR
- GENERATOR PROFINET NETWORK ISOLATOR
- PONY PUMP PROFINET NETWORK ISOLATOR
- FLOW METER PROFINET NETWORK ISOLATOR



- P3R - PUMP 3
- P2R - PUMP 2
- P1R - PUMP 1
- FCRA - RELAY - FLOAT CONTROL
- FCR - RELAY - FLOAT CONTROL
- SR - RELAY - ALARM SILENCE
- CB12 - 2 AMPS - FIELD DEVICES
- CB11 - 0.5 AMPS - ACCESSORY POWER
- 120VAC SURGE SUPPRESSOR
- CB10 - 10 AMPS - CONTROL PANEL POWER



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ELECTRICAL SCHEMATIC

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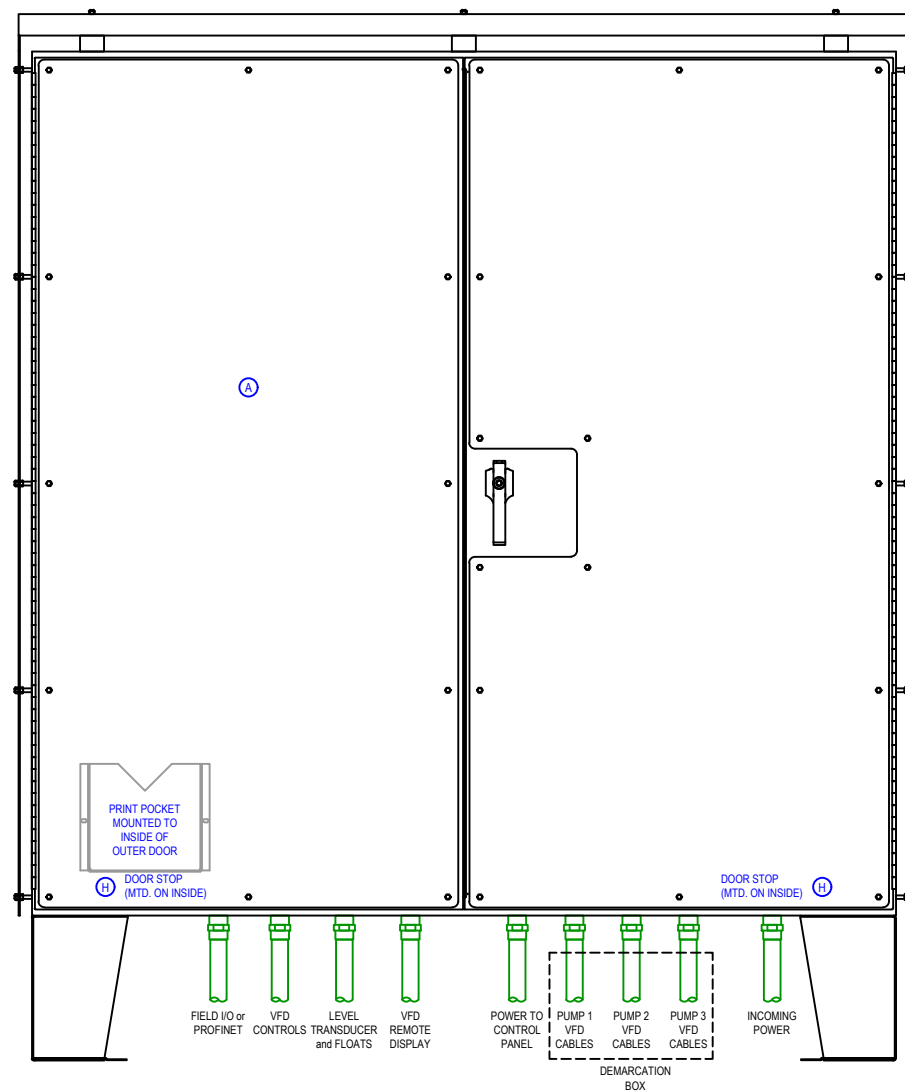
SHEET TITLE:
SCADA RTU - 120 VAC TERMINAL BLOCK LAYOUT

PROJECT:
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3-PHASE VFD LIFT STATION DIAGRAM

JOB No: 12345678 SHEET 11 OF 14

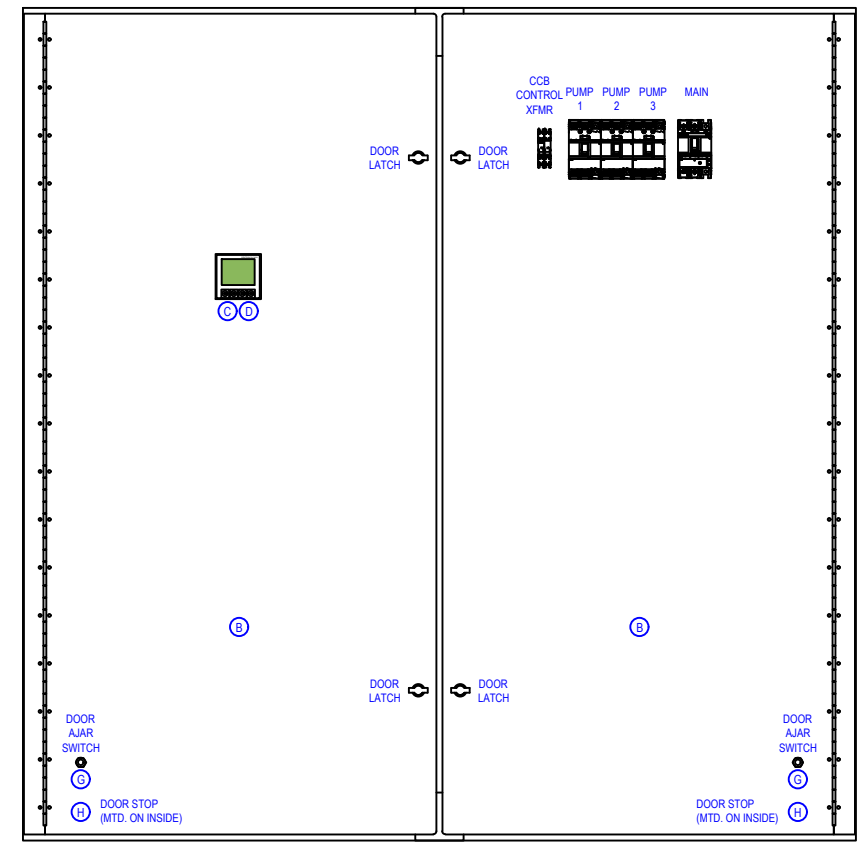
FRONT VIEW



BILL of MATERIAL				
	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
△	A	1	OEM	CUSTOM ENCLOSURE SEE THIS SHEET FOR DETAILS
△	B	2	OEM	CUSTOM INNER DOORS SEE THIS SHEET FOR DETAILS
	C	1	SIEMENS	7KM4220-0BA01-1EA0 SENTRON PAC4220
	D	1	SIEMENS	7KM9300-0AE02-0AA0 PROFINET EXPANSION MODULE
	E	--	--	--
△	F	1	APT	S50A277V3Y SURGE PROTECTOR, 480V WYE
	G	2	OMRON	6X283 SNAP ACTION SWITCH (DOOR AJAR)
		2	ALLIED	642-2137 ACTUATOR FOR SWITCH
	H	4	OEM	-- INNER/OUTER DOOR STOP KIT, SS
	I	--	--	--
	J	--	--	--



INNER DOOR VIEW



TWO HINGED INNER DOORS:
FABRICATED FROM .125 ALUMINUM WITH CONTINUOUS HINGE, TWIST LATCHES, AND DOOR STOP MOUNTED ON INSIDE OF EACH.

CUSTOM ENCLOSURE:
NEMA 12/3R RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM WITH WHITE POLYESTER POWDER COAT FINISH INSIDE AND OUT. OUTER DOORS ARE FITTED WITH A PADLOCKABLE 3-POINT LATCH AND DOOR STOPS. ENCLOSURE IS MOUNTED ON 12-INCH TYPE 316 STAINLESS STEEL LEGS.

HEAT SHIELDS FABRICATED FROM .125 MARINE GRADE ALUMINUM SHALL BE INSTALLED ON FRONT, BACK, TOP, AND SIDES. HOLES SHALL BE CUT IN SHIELD FOR ALARM LIGHT AND HORN. HEAT SHIELDS SHALL ALSO HAVE WHITE POLYESTER POWDER COAT FINISH ON ALL SIDES.

REFER TO ENCLOSURE SPECIFICATIONS FOR FURTHER DETAILS.

REFER TO "VOLUME III: APPROVED MATERIALS" FOR APPROVED ENCLOSURE MANUFACTURERS.

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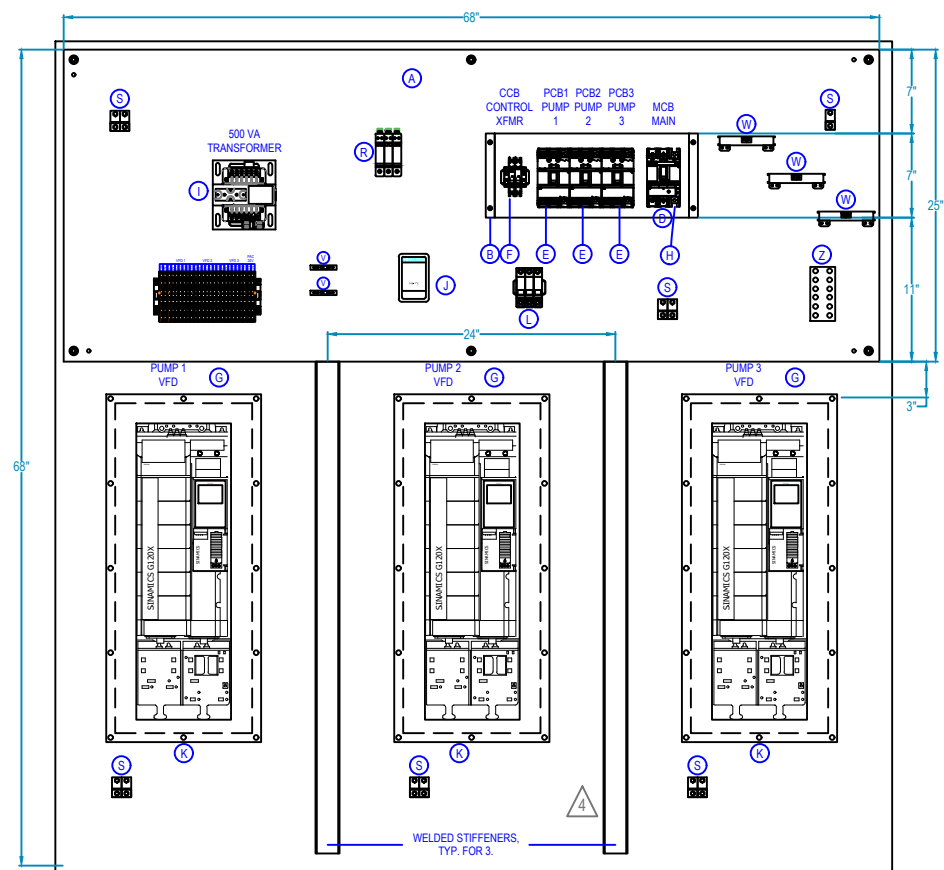
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MANUFACTURER
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2026 STANDARD PACKAGE, REV. 0

SHEET TITLE: **MCC - FRONT PANEL VIEW**
PROJECT: **--- PROJECT NAME ---**
3-PHASE VFD LIFT STATION DIAGRAM
JOB No: **12345678** SHEET **12** OF **14**

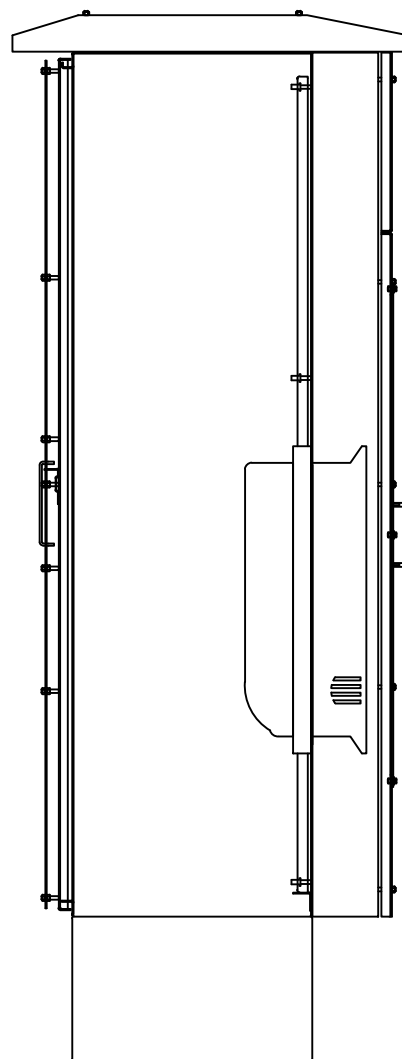
BACK PANEL LAYOUT



BACK PANEL:
FABRICATED FROM 10ga. CARBON STEEL WITH WHITE INDUSTRIAL GRADE ENAMEL FINISH.

REFER TO "VOLUME III: APPROVED MATERIALS" FOR APPROVED ENCLOSURE MANUFACTURERS.

RIGHT SIDE VIEW



Installation of Flange Mount VFDs:

Provide cut-outs in the back of the enclosure to accept VFD aluminum mounting plates. Mounting plates shall be attached to studs on the back of the enclosure and gasketed.

VFDs are to be bolted to these plates with the heat sinks extending outside the enclosure for cooling.

Consult VFD manufacturer's installation guide for flange mount cut-out dimensions and recommended instructions. See General Note #4 for additional details and requirements. Dimensions of cut-out must be shown on drawing.

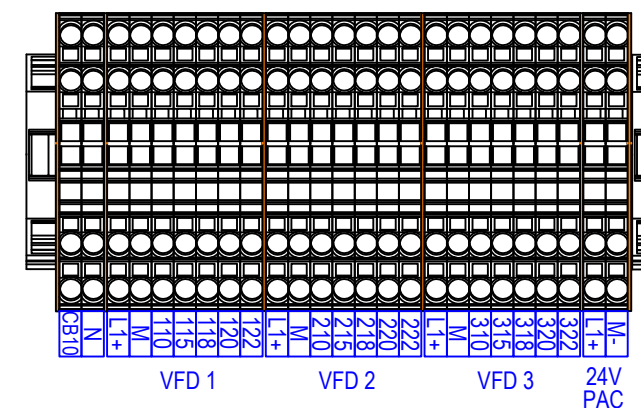
The rear sunshield shall have a removable cover with handles to allow access to the VFD heat sinks for cleaning and maintenance. The heat shield will have studs with wing nuts for attaching the removable cover.

Seal all penetrations.

BILL of MATERIAL

QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A 1	OEM	CUSTOM BACK PANEL	SEE THIS SHEET FOR DETAILS
B 1	OEM	BREAKER MOUNT	TO RAISE CBs FLUSH WITH INNER DOOR
C --	--	--	--
D 1	SIEMENS	3VA5220-5ED31-0AA0	MCB, 3P, 200A
E 3	SIEMENS	3VA5110-5ED31-0AA0	PCB1 AND PCB2, 3P, 100A
F 1	SIEMENS	5SJ4203-7HG42	CCB, 2P, 3A, 480V
G 3	SIEMENS	6SL3230-XXXX	SINAMICS G120X
G 3	SIEMENS	6SL3261-XXXX	VFD FLANGE MOUNTING KIT
G 3	SIEMENS	6SL305-4AG00-2AA0	SINAMICS SD CARD, 512 MB
H 1	SIEMENS	3TA6FG04	POWER DISTRIBUTION LUGS, KIT OF 3
I 1	SIEMENS	MT0500A	CONTROL TRANSFORMER, 500VA
J 1	OMEGA	EWS RTD	PT100 TEMPERATURE SENSOR, RTD
K 3	OEM	VFD MOUNTING PLATE	SEE THIS SHEET FOR DETAILS
L 3	BUSSMANN	FNQ-R-1	FUSE, CLASS CC REJECTION, 600V, 1A
M 25	WAGO	2002-1401	TERMINAL, 2002, SPRING, GRAY
N 5	WAGO	2002-1492	TERMINAL END / PART. PLATE, ORANGE
O -	WAGO	2002-400	ADJACENT JUMPER, 2-WAY CONTINUOUS
P 10	WAGO	249-116	TERMINAL END STOP, GRAY
Q -	WAGO	210-112	2M DIN RAIL, GALVANIZED, SLOTTED
R 1	CITEL	DS43S-480	PRIMARY SPD, TYPE 1, 480V WYE
S 9	PANDUIT	LAMA2-14-QY	GROUND LUG, DUAL-RATED, #2-14AWG
T --	--	--	--
U 1	PANDUIT	1.5"W x 3"H x 72"L	WIREWAY, HINGE COVER, WIDE FINGER
V 2	SIEMENS	ECGB5	EQUIPMENT GROUND BAR, 5-POINT
W 3	SIEMENS	PDS-CTSC-021	CURRENT XFMR, 200:5 RATIO, SPLIT CORE
X 3	SIEMENS	6GK1901-1BB10-2AA0	PROFINET CONNECTOR, SIPLUS
Y 2	SIEMENS	6XV1840-2AH10	PROFINET CABLE, FAST CONNECT
Z 1	EI GAUGE TECH	EI-SB-6TC	CT SHORTING BLOCK

TERMINAL STRIP DETAIL



REFERENCE SHEET 6

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ELECTRICAL SCHEMATIC

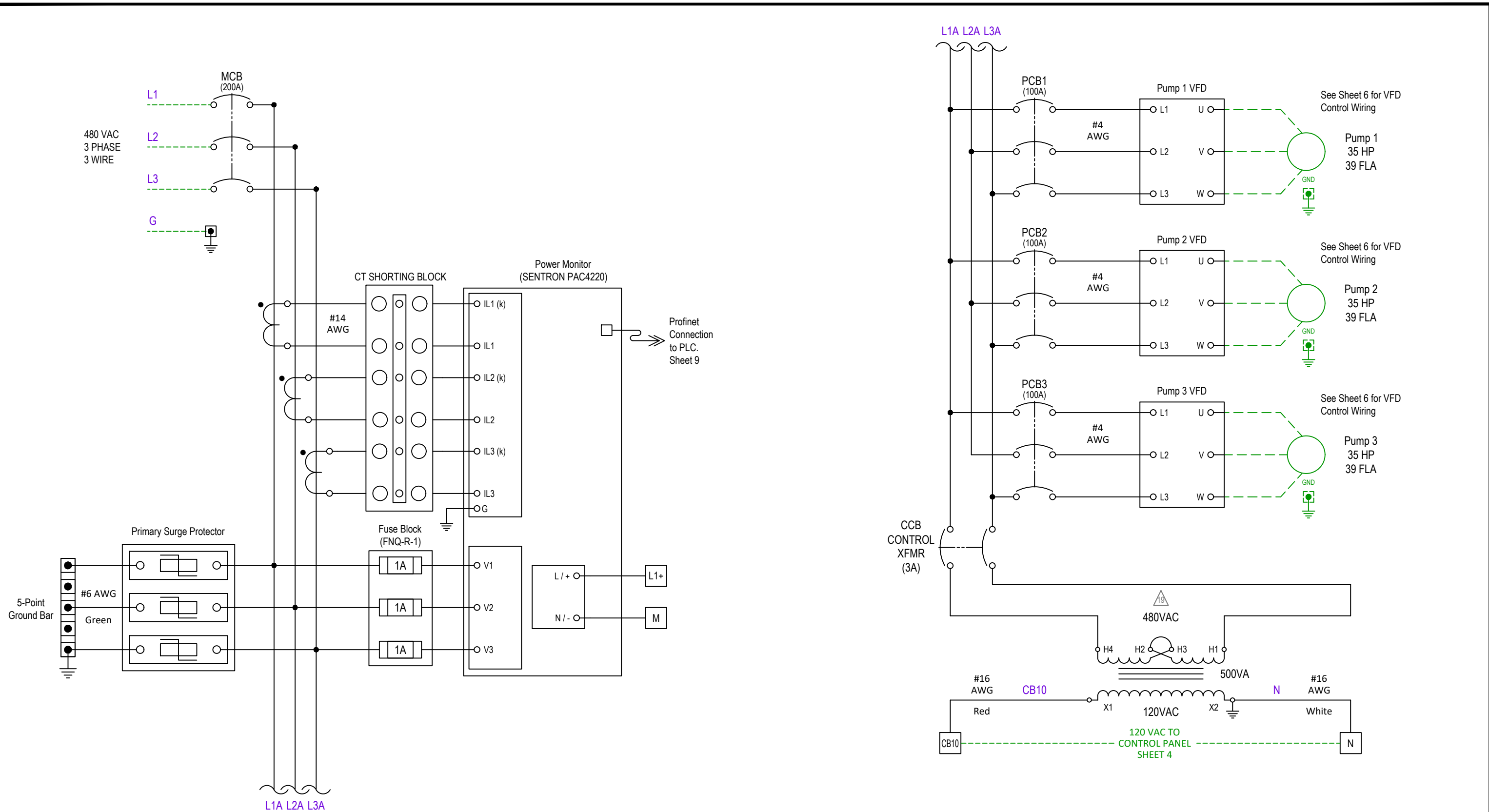
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2026 STANDARD PACKAGE, REV. 0

SHEET TITLE: **MCC - BACK PANEL LAYOUT**
PROJECT: **--- PROJECT NAME ---**
3-PHASE VFD LIFT STATION DIAGRAM
JOB No: **12345678** SHEET **13** OF **14**



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CONTACT_NUMBER



DESIGNER:
DRAWN BY:
DATE:
CHECKED BY:
DATE:
2026 STANDARD PACKAGE, REV. 0

SHEET TITLE:
MCC - PANEL MAIN VAC VOLTAGE

PROJECT:
--- PROJECT NAME ---

3-PHASE VFD LIFT STATION DIAGRAM

JOB No: 12345678 SHEET 14 OF 14