

# CHARLOTTE COUNTY UTILITIES

## DESIGN STANDARDS FOR REMOTE STATIONS

# LIFT STATION CONTROL PANEL PUMP CONTROLS AND RTU COMBINATION



LIFT STATION PCP AND RTU COMBO	
Sheet Number	Sheet Title
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E1.3	BACKPANEL DETAIL AND BILL OF MATERIAL
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E1.5	TERMINAL BLOCK AND EXTERNAL CONNECTION DETAIL
E1.6	CONTROL POWER WIRING
E1.7	CONTROL AND EMC-SEL DIAGRAM
E1.8	PANEL MOUNTING DETAIL

**SHEET INDEX**

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023
REVISIONS		

CHARLOTTE COUNTY UTILITIES DEPARTMENT

NOTE: PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL. FOR EACH INSTALLATION A SPECIFIC SET OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS (IF DEEMED NECESSARY BY THE DESIGN ENGINEER) MUST BE PREPARED.



**CHARLOTTE COUNTY UTILITIES - REMOTE  
SITES CONTROL PANEL STANDARDS**

**LIFT STATION PCP AND RTU COMBO  
COVER SHEET AND DRAWING INDEX**

DATE: OCTOBER 2023
MCE PROJ. # 07169-0012
DRAWN: CJA
DESIGNED: CJA
CHECKED: EEB
PROJ. MGR.: EEB

SCALE
HORIZONTAL:
VERTICAL:

**E1.0**

DRAWING NO.

1

REVISION

STATUS:

# ELECTRICAL SYMBOLS

## ISA-5.3 LOOP SYMBOLS

### DISTRIBUTED CONTROL/SHARED DISPLAY SYMBOLS

	NORMALLY ACCESSIBLE TO OPERATOR
	AUXILLIARY OPERATOR'S INTERFACE DEVICE
	NOT NORMALLY ACCESSIBLE TO OPERATOR

### COMPUTER SYMBOLS

	NORMALLY ACCESSIBLE TO OPERATOR
	NOT NORMALLY ACCESSIBLE TO OPERATOR

### LOGIC AND SEQUENTIAL CONTROL SYMBOLS

	GENERAL LOGIC
	DISTRIBUTED INTERCONNECTING CONTROLLER, NOT NORMALLY ACCESSIBLE TO OPERATOR
	DISTRIBUTED INTERCONNECTING CONTROLLER, NORMALLY ACCESSIBLE TO OPERATOR
	COMPUTATION/SIGNAL CONDITIONING
	SYSTEM/SOFTWARE/NETWORK LINK

## DEVICE SYMBOLS

	RELAY COIL
	CONTACT, N.O.
	CONTACT, N.C.
	TIMER RELAY COIL
	TIME-ON DELAY, N.O. CONTACT
	TIME-ON DELAY, N.C. CONTACT
	TIME-OFF DELAY, N.O. CONTACT
	TIME-OFF DELAY, N.C. CONTACT
	PUSH BUTTON, N.O. CONTACT
	PUSH BUTTON, N.C. CONTACT
	MUSHROOM HEAD PUSH BUTTON, N.O. CONTACT
	MUSHROOM HEAD PUSH BUTTON, N.C. CONTACT
	SELECTOR SWITCH, N.O. CONTACT
	SELECTOR SWITCH, N.C. CONTACT
	LIMIT SWITCH, N.O. CONTACT
	LIMIT SWITCH, N.C. CONTACT
	PRESSURE SWITCH, N.O. CONTACT
	PRESSURE SWITCH, N.C. CONTACT

## DEVICE SYMBOLS

	TEMPERATURE SWITCH, N.O. CONTACT
	TEMPERATURE SWITCH, N.C. CONTACT
	FLOW SWITCH, N.O. CONTACT
	FLOW SWITCH, N.C. CONTACT
	FLOAT SWITCH, N.O. CONTACT
	FLOAT SWITCH, N.C. CONTACT
	FOOT SWITCH, N.O. CONTACT
	FOOT SWITCH, N.C. CONTACT
	TOGGLE SWITCH, N.O. CONTACT
	TOGGLE SWITCH, N.C. CONTACT
	THERMAL OVERLOAD
	SOLENOID
	HORN
	PILOT LIGHT W - WHITE G - GREEN A - AMBER R - RED B - BLUE
	PILOT LIGHT, PUSH TO TEST
	FUSE
	CIRCUIT BREAKER
	GROUND

## DEVICE SYMBOLS

	CONTROL POWER TRANSFORMER
	CURRENT TRANSFORMER
	POTENTIOMETER
	RESISTOR
	CAPACITOR, ELECTROLYTIC
	DIODE
	ZENER DIODE
	BATTERY
	TERMINAL BLOCK, "PTB 120VAC"
	TERMINAL BLOCK, "DIGITAL INPUT"
	TERMINAL BLOCK, "DRY CONTACT"
	TERMINAL BLOCK, "ANALOG SIGNAL"
	TERMINAL BLOCK, OTHER (SPECIFY)
	ELAPSED TIME METER

## WIRE SYMBOLS

	CONDUCTORS, WITH JUNCTION
	CONDUCTORS, NOT CONNECTED
	SHIELDED CABLE
	TWISTED-PAIR CABLE
	FIELD WIRING

## ABBREVIATIONS

AIT	ANALYSIS INDICATING TRANSMITTER
AFD	ADJUST FREQUENCY DRIVE
BC	BYPASS CONTACTOR
BFI	BLOWN FUSE INDICATOR
C	CONTACTOR
CB	CIRCUIT BREAKER
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CRI	CONTROL RELAY, INTRINSIC
CRL	CONTROL RELAY, LATCH
DFR	DRIVE FAIL RELAY
DI	DIGITAL INDICATOR
DUP	DUPLEXOR
DRR	DRIVE RUN RELAY
DSC	DISCONNECT SWITCH
ETM	ELAPSED TIME METER
FIT	FLOW INDICATING TRANSMITTER
FS	FLOAT SWITCH
FSR	FLOAT SWITCH RELAY
FU	FUSE
GRD	GROUND
HS	HAND SWITCH
IC	ISOLATION CONTACTOR
ISO	SIGNAL ISOLATOR/BOOSTER
LT	PILOT LIGHT
LIT	LEVEL INDICATING TRANSMITTER
LS	LIMIT SWITCH
M	MOTOR STARTER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MSP	MAIN SURGE PROTECTOR
OL	OVERLOAD
PB	PUSH BUTTON
PDB	POWER DISTRIBUTION BLOCK
PIT	PRESSURE INDICATING TRANSMITTER
RIO	REMOTE I/O PANEL
POT	POTENTIOMETER
PM	PHASE MONITOR
PS	POWER SUPPLY
RCR	RUN COMMAND RELAY
RES	RESISTOR
S	SWITCH
SP	SURGE PROTECTOR
SS	SELECTOR SWITCH
SSRV	SOLID STATE REDUCED VOLTAGE STARTER
TB	TERMINAL BOARD, TERMINAL BLOCK
TC	TIME CLOCK
TR	TIME DELAY RELAY
TS	TEMPERATURE SWITCH
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER
ZS	LIMIT SWITCH

NOTES:  
ALL SYMBOLS MAY NOT BE UTILIZED FOR THIS PROJECT.  
ADDITIONAL SYMBOLS NOT SHOWN ON THIS DRAWING MAY BE SHOWN ELSEWHERE ON THE ELECTRICAL DRAWINGS.

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023

REVISIONS

### CHARLOTTE COUNTY UTILITIES DEPARTMENT

NOTE: PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL. FOR EACH INSTALLATION A SPECIFIC SET OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS (IF DEEMED NECESSARY BY THE DESIGN ENGINEER) MUST BE PREPARED.



### CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS

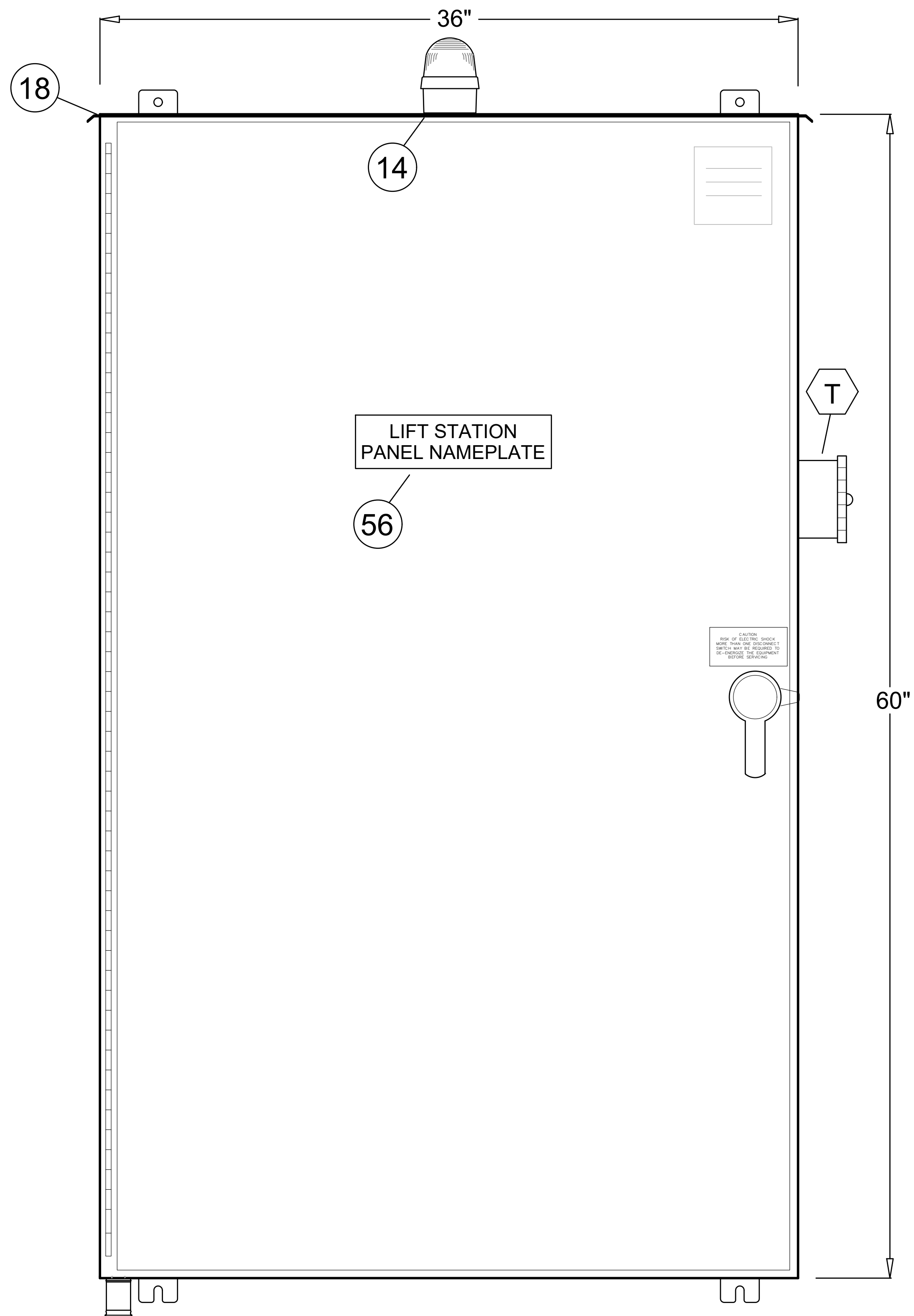
#### LIFT STATION PCP AND RTU COMBO ELECTRICAL SYMBOLS

DATE: OCTOBER 2023
MCE PROJ. # 07169-0012
DRAWN: CJA
DESIGNED: CJA
CHECKED: EEB
PROJ. MGR.: EEB

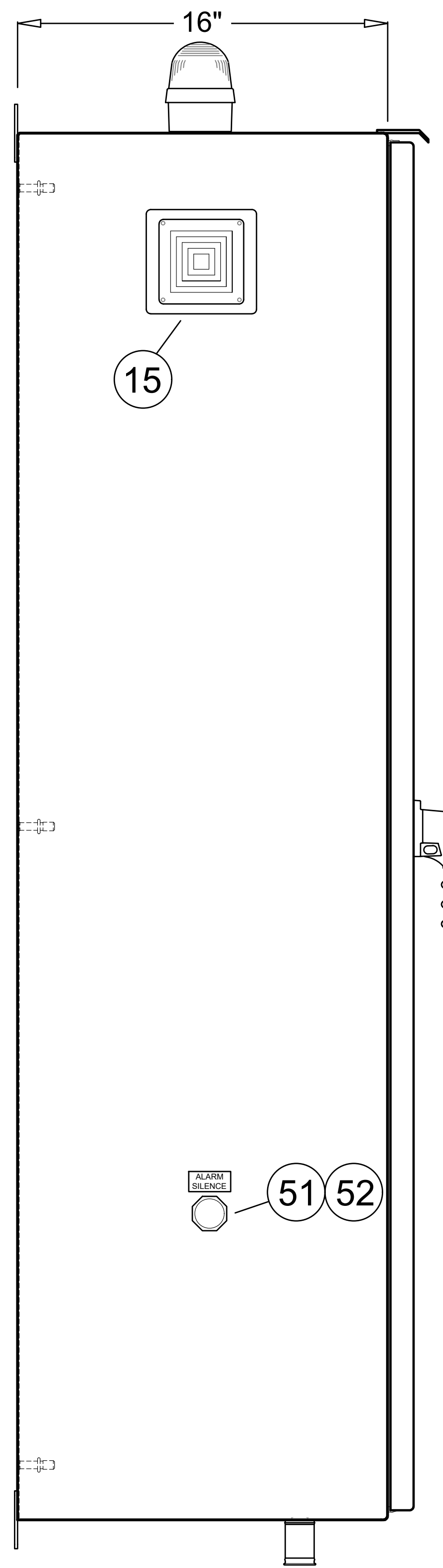
SCALE
HORIZONTAL:
VERTICAL:

<b>E1.1</b>
DRAWING NO.
1
REVISION

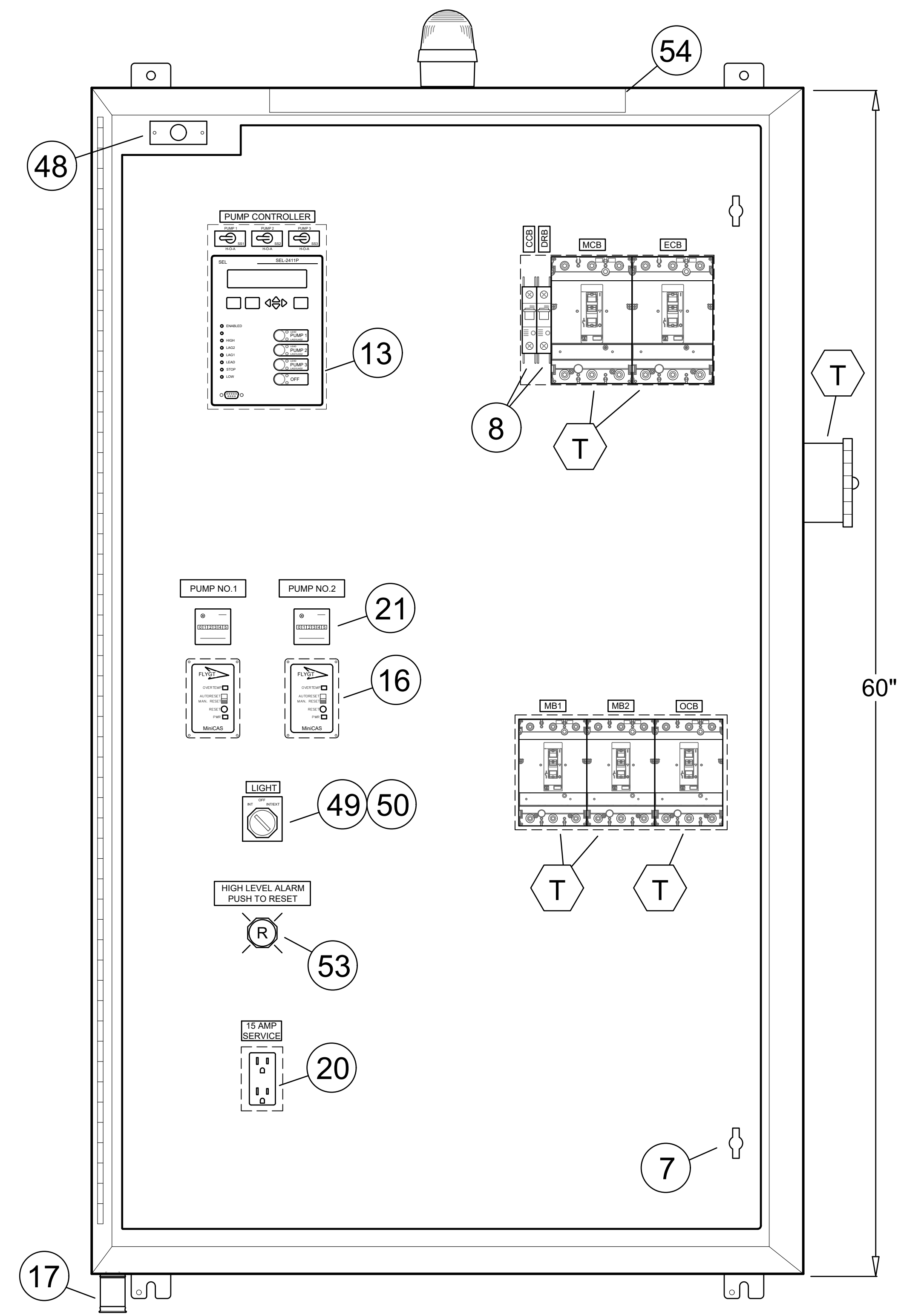
STATUS:



FRONT ENCLOSURE VIEW



LEFT SIDE VIEW



INNER DOOR VIEW

NOTES: ITEM NUMBERS REFER TO BILL OF MATERIALS SHOWN ON SHEET E1.3.  
ITEMS REFERENCED "T" REFER TO COMPONENT TABLE ON SHEET E1.4

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023
REVISIONS		

CHARLOTTE COUNTY UTILITIES DEPARTMENT

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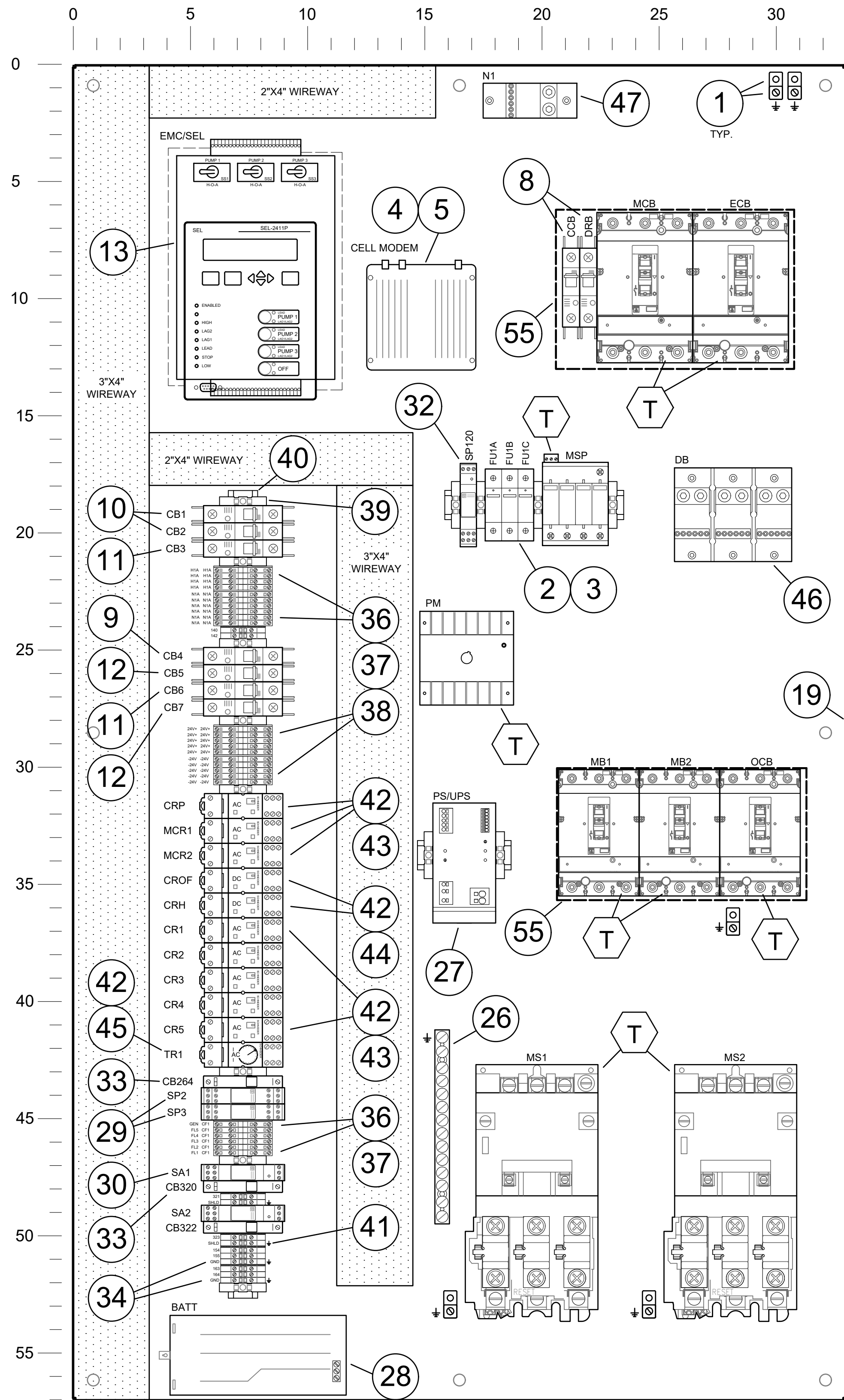


CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS

LIFT STATION PCP AND RTU COMBO ENCLOSURE DETAILS

DATE: OCTOBER 2023	SCALE
MCE PROJ. # 07169-0012	HORIZONTAL: E1.2
DRAWN: CJA	VERTICAL:
DESIGNED: CJA	1
CHECKED: EEB	REVISION
PROJ. MGR.: EEB	

STATUS:



NOTE: ITEMS REFERENCED "T" REFER TO COMPONENT TABLE ON SHEET E1.4

BACKPANEL VIEW

ID	QTY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION
1	5	BURNDY	KA2U	GROUND LUG, #2-14
2	3	BUSSMANN	FNQ-R-1	CLASS CC FUSE, 1 AMP, TIME DELAY
3	1	BUSSMANN	CHCC3DIU	CLASS CC FINGERSAFE FUSE HOLDER WITH INDICATOR
4	1	CRADLEPOINT	S700-C4D-WIRELESS ROUTER	CRADLEPOINT S700 SERIES, VERIZON
5	1	CRADLEPOINT	170656-002	RADIO DIN RAIL BRACKET
6	1	CRADLEPOINT	698-2700MHz 12dbi	WIDE-BAND WIFI 4G LTE & 5G GSM UMTS CDMA 12DBI OUTDOOR OMNI DIRECTIONAL CELLULAR ANTENNA
7	1	CUSTOM	PANEL SHOP	12GA. STEEL INNER DOOR DEADFRONT, BLACK POLYESTER POWDERCOATED
8	2	EATON	FAZ-C15/1-NA	CIRCUIT BREAKER, 15 AMP
9	1	EATON	FAZ-C10/1-NA	CIRCUIT BREAKER, 10 AMP
10	2	EATON	FAZ-C1/1-NA	CIRCUIT BREAKER, 1 AMP
11	2	EATON	FAZ-C5/1-NA	CIRCUIT BREAKER, 5 AMP
12	2	EATON	FAZ-C3/1-NA	CIRCUIT BREAKER, 3 AMP
13	1	EMC	SEL-70C1	SEL-2411P CONTROLLER WITH HOUSING KIT AND WIRING HARNESS
14	1	FEDERAL SIGNAL	LP3T-120R	120VAC RED ALARM STROBE
15	1	FEDERAL SIGNAL	350TR-120VAC	NEMA 4X ALARM HORN WITH GASKET
16	2	FLYGT	14-407129	MINICAS FLANGE DOOR MOUNTABLE PUMP MONITOR RELAY, 120V
17	1	HOFFMAN	AVDR4SS4	H20MIT VENT DRAIN, 4X, 304 STAINLESS STEEL
18	1	HOFFMAN	A60H3616SS6LP3PT-CUSTOM	60"H X 36"W X 16"D TYPE 4X SS 316 ENCLOSURE WITH DRIPSHIELD
19	1	HOFFMAN	A60P36	BACKPANEL FOR 60"x36" ENCLOSURE
20	1	HUBBELL	GFRST15SNAPW	GFCI RECEPTACLE, 15A, 120V
21	2	INTERMATIC	UWZ48E-120U	120VAC ELAPSED TIME METER
22	1	PANDUIT	F2X4LG6	SLOTTED WIREWAY, GRAY, 2"x4", 6' STICK
23	1	PANDUIT	C2LG6	2" WIREWAY COVER, GRAY, 6' STICK
24	1	PANDUIT	F3X4LG6	SLOTTED WIREWAY, GRAY, 3"x4", 6' STICK
25	1	PANDUIT	C3LG6	3" WIREWAY COVER, GRAY, 6' STICK
26	1	PANDUIT	UGB2-0-414-12	GROUND BAR, #14-4AWG
27	1	PHOENIX CONTACT	2907161	24VDC UPS AND POWER SUPPLY MODULE, 10 AMP
28	1	PHOENIX CONTACT	1274117	24VDC BACKUP BATTERY, 4 Ah
29	2	PHOENIX CONTACT	2800982	PLUG TRAB SURGE PROTECTOR WITH BASE, 24VDC, 4-POINT
30	2	PHOENIX CONTACT	2800976	ANALOG SIGNAL SURGE PROTECTOR WITH BASE
32	1	PHOENIX CONTACT	2907918	120VAC SURGE PROTECTOR WITH STATUS, PLUG AND BASE
33	2	PHOENIX CONTACT	0916603	THERMOMAGNETIC DEVICE CIRCUIT BREAKER, 1/2A
34	10	PHOENIX CONTACT	3044102	STANDARD TERMINAL BLOCK, 30A
35	4	PHOENIX CONTACT	3047028	STANDARD TERMINAL BLOCK END BARRIER
36	30	PHOENIX CONTACT	3044814	2-TIER ISOLATED TERMINAL BLOCK
37	6	PHOENIX CONTACT	3047293	2-TIER TERMINAL BLOCK END COVER
38	8	PHOENIX CONTACT	3030271	2-TIER TERMINAL BLOCK JUMPER BRIDGE
39	16	PHOENIX CONTACT	0800886	DIN RAIL END BRACKET
40	1	PHOENIX CONTACT	0801733	STANDARD DIN RAIL, 2M
41	5	PHOENIX CONTACT	30-44-12-8	GROUNDING TERMINAL BLOCK
42	11	SCHNEIDER	70-782EL8-1	RELAY BASE, 8-PIN
43	8	SCHNEIDER	792XBXM4L-120A	DPDT RELAY, 120VAC, WITH INDICATOR AND TEST LATCH
44	2	SCHNEIDER	792XBXM4L-24D	DPDT RELAY, 24VDC, WITH INDICATOR AND TEST LATCH
45	1	SCHNEIDER	TDR782XBXA-110A	DPDT ON-DELAY TIMER, 120VAC
46	1	SQUARE D	9080LBC363206	3-POLE DISTRIBUTION BLOCK, (2) LINE #14-2/0, (6) LOAD #14-#4
47	1	SQUARE D	9080LBC163206	1-POLE DISTRIBUTION BLOCK, (2) LINE #14-2/0, (6) LOAD #14-#4
48	1	SQUARE D	9007MS02S0200	INTRUSION SWITCH WITH CUSTOM MOUNTING BRACKET
49	1	SQUARE D	9001SKS43B	3-POSITION SELECTOR SWITCH WITH 3 CONTACTS
50	2	SQUARE D	9001KA1	CONTACT BLOCK, 1NO-1NC
51	1	SQUARE D	9001SKR1U	MOMENTARY PUSH-BUTTON
52	2	SQUARE D	9001KA2	CONTACT BLOCK, 1NO
53	1	SQUARE D	9001K1L1RH13	ILLUMINATED PUSHBUTTON, RED, 120V, 1NO-1NC
54	1	UTILTECH	0877623	UNDERCABINET LIGHT, 120VAC, WITH 18' LED BULB
55	2	CUSTOM	PANEL SHOP	CUSTOM ELEVATED CIRCUIT BREAKER SHELF
56	-	CUSTOM	PANEL SHOP	ENGRAVED PHENOLIC NAMEPLATES, WHITE TEXT WITH BLACK BACKGROUND

BILL OF MATERIALS

NOTES:

- BILL OF MATERIALS IS PROVIDED FOR EXAMPLE ONLY. PANEL COMPONENTS WILL VARY WITH EACH SPECIFIC LIFT STATION. CONTROL PANEL MANUFACTURER TO PROVIDE A COMPLETE LIST OF CONTROL PANEL MATERIALS FOR COUNTY APPROVAL BEFORE FABRICATION.
- CONTROL PANEL TO BE UL508A LISTED TYPE 4X.

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023

CHARLOTTE COUNTY UTILITIES DEPARTMENT

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CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS

LIFT STATION PCP AND RTU COMBO BACKPANEL DETAIL AND BILL OF MATERIAL

DATE: OCTOBER 2023	SCALE: HORIZONTAL: E1.3
MCE PROJ.# 07169-0012	VERTICAL: 1
DRAWN: CJA	REVISION: 1
DESIGNED: CJA	
CHECKED: EEB	
PROJ. MGR.: EEB	

STATUS:

COMPONENT REFERENCE TABLE																	
SERVICE VOLTAGE	MCB/SERVICE	MAIN BREAKER PART#	GENERATOR RECEPTACLE	RECEPTACLE PART#	MAIN SURGE PROTECTOR	PHASE MONITOR	ODOR CONTROL BREAKER PART#	TOTAL PANEL FLA	PUMP HP	PHASE	PUMP FLA (PER NEC)	MOTOR BREAKER AMPS	MOTOR BREAKER PART#	WIRE SIZE	STARTER SIZE	STARTER PART#	OVERLOAD PART#
208/120VAC, 3PH, 4W	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910360	ATC-SLA-208-AFE	SQD-HDL36030	48.375	3	3	10.6	20	SQD-HDL36020	12	1	SQD-8536-SOC3V02	SQD-B15.5
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910360	ATC-SLA-208-AFE	SQD-HDL36030	65.625	5	3	17.5	35	SQD-HDL36035	12	1	SQD-8536-SOC3V02	SQD-B25.0
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910360	ATC-SLA-208-AFE	SQD-HDL36030	82.375	7.5	3	24.2	50	SQD-HDL36050	10	1	SQD-8536-SOC3V02	SQD-B36.0
	150	SQD-HDL36150	150	RS-DS2414MP000	PC-2910360	ATC-SLA-208-AFE	SQD-HDL36030	98.875	10	3	30.8	60	SQD-HDL36060	8	2	SQD-8536-SOD3V02	SQD-B45.0
	150	SQD-HDL36150	150	RS-DS2414MP000	PC-2910360	ATC-SLA-208-AFE	SQD-HDL36030	137.375	15	3	46.2	90	SQD-HDL36090	6	2	SQD-8536-SOD3V02	SQD-C58.0
240/120VAC, 1PH, 3W	100	SQD-HDL26100	100	RS-DS1314MP000	(2) PC-2910368	ATC-58072	SQD-HDL26030	55.00	1	1	8	15	SQD-HDL26015	12	1	SQD-8536-SOC3V02	SQD-B11.5
	100	SQD-HDL26100	100	RS-DS1314MP000	(2) PC-2910368	ATC-58072	SQD-HDL26030	65.00	2	1	12	25	SQD-HDL26025	12	1	SQD-8536-SOC3V02	SQD-B17.5
	100	SQD-HDL26100	100	RS-DS1314MP000	(2) PC-2910368	ATC-58072	SQD-HDL26030	77.50	3	1	17	35	SQD-HDL26035	12	1	SQD-8536-SOC3V02	SQD-B25.0
	150	SQD-HDL26150	150	RS-DS2314MP000	(2) PC-2910368	ATC-58072	SQD-HDL26030	105.00	5	1	28	60	SQD-HDL26060	10	1	SQD-8536-SOC3V02	SQD-B40.0
	150	SQD-HDL26150	150	RS-DS2314MP000	(2) PC-2910368	ATC-58072	SQD-HDL26030	135.00	7.5	1	40	80	SQD-HDL26080	8	1	SQD-8536-SOC3V02	SQD-C51.0
	200	SQD-JDL26200	200	RS-DS2314MP000	(2) PC-2910368	ATC-58072	SQD-HDL26030	160.00	10	1	50	90	SQD-HDL26090	6	2	SQD-8536-SOD3V02	SQD-C58.0
240/120VAC, 3PH, 4W	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	36.00	2	3	6.8	15	SQD-HDL36015	12	1	SQD-8536-SOC3V02	SQD-B10.2
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	43.00	3	3	9.6	20	SQD-HDL36020	12	1	SQD-8536-SOC3V02	SQD-B15.5
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	57.00	5	3	15.2	30	SQD-HDL36030	12	1	SQD-8536-SOC3V02	SQD-B22.0
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	74.00	7.5	3	22	45	SQD-HDL36045	10	1	SQD-8536-SOC3V02	SQD-B32.0
	150	SQD-HDL36150	150	RS-DS2414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	89.00	10	3	28	60	SQD-HDL36060	10	2	SQD-8536-SOD3V02	SQD-B40.0
	150	SQD-HDL36150	150	RS-DS2414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	124.00	15	3	42	80	SQD-HDL36080	6	2	SQD-8536-SOD3V02	SQD-B15.5
	200	SQD-JDL36200	200	RS-DS2414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	154.00	20	3	54	90	SQD-HDL36090	4	-	AB-150-C60NBD	-
	200	SQD-JDL36200	200	RS-DS2414MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	189.00	25	3	68	100	SQD-HDL36100	4	-	AB-150-C85NBD	-
250	SQD-JDL36250	250	RS-DS4141MP000	PC-2910371	ATC-SLA-230-ALE	SQD-HDL36030	219.00	30	3	80	110	SQD-HDL36110	2	-	AB-150-C85NBD	-	
480/277VAC, 3PH, 4W (NEUTRAL NOT USED)	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	28.50	5	3	7.6	15	SQD-HDL36015	12	1	SQD-8536-SOC3V02	SQD-B11.5
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	44.50	10	3	14	25	SQD-HDL36025	12	1	SQD-8536-SOC3V02	SQD-B22.0
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	62.00	15	3	21	40	SQD-HDL36040	10	2	SQD-8536-SOD3V02	SQD-B32.0
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	77.00	20	3	27	60	SQD-HDL36060	10	-	AB-150-C30NBD	-
	100	SQD-HDL36100	100	RS-DS1414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	94.50	25	3	34	70	SQD-HDL36070	8	-	AB-150-C37NBD	-
	150	SQD-HDL36150	150	RS-DS2414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	109.50	30	3	40	80	SQD-HDL36080	8	-	AB-150-C43NBD	-
	150	SQD-HDL36150	150	RS-DS2414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	139.50	40	3	52	90	SQD-HDL36090	6	-	AB-150-C60NBD	-
	200	SQD-JDL36200	200	RS-DS2414MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	172.00	50	3	65	100	SQD-HDL36100	4	-	AB-150-C85NBD	-
250	SQD-JDL36250	250	RS-DS4141MP000	PC-2910386	ATC-SLA-440-ALE	SQD-HDL36030	202.00	60	3	77	110	SQD-HDL36110	2	-	AB-150-C85NBD	-	

NOTES:  
SQD - SQUARE D  
ATC - ATC/DIVERSIFIED ELECTRONICS  
RS - RUSSELLSTOLL  
AB- ALLEN BRADLEY  
PC - PHOENIX CONTACT

NOTES:

- COMPONENT REFERENCE TABLE IS PROVIDED FOR REFERENCE ONLY. ALL PANEL POWER COMPONENTS AND MOTOR CONTROL COMPONENTS TO BE DETERMINED BY PANEL MANUFACTURER BASED ON SITE SPECIFIC REQUIREMENTS.
- ALL MATERIAL SELECTED SHALL MEET UL508A AND NEC REQUIREMENTS. SITE SPECIFIC MATERIAL LIST TO BE PROVIDED TO COUNTY FOR APPROVAL.
- GENERATOR RECEPTACLE AND ODOR CONTROL COMPONENTS PROVIDED BASED ON SITE SPECIFIC REQUIREMENTS.
- 480VAC PANELS TO BE PROVIDED WITH 480V/120V CONTROL PANEL TRANSFORMER (NOT SHOWN).

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023

REVISIONS

CHARLOTTE COUNTY UTILITIES DEPARTMENT

NOTE: PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL. FOR EACH INSTALLATION A SPECIFIC SET OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS (IF DEEMED NECESSARY BY THE DESIGN ENGINEER) MUST BE PREPARED.



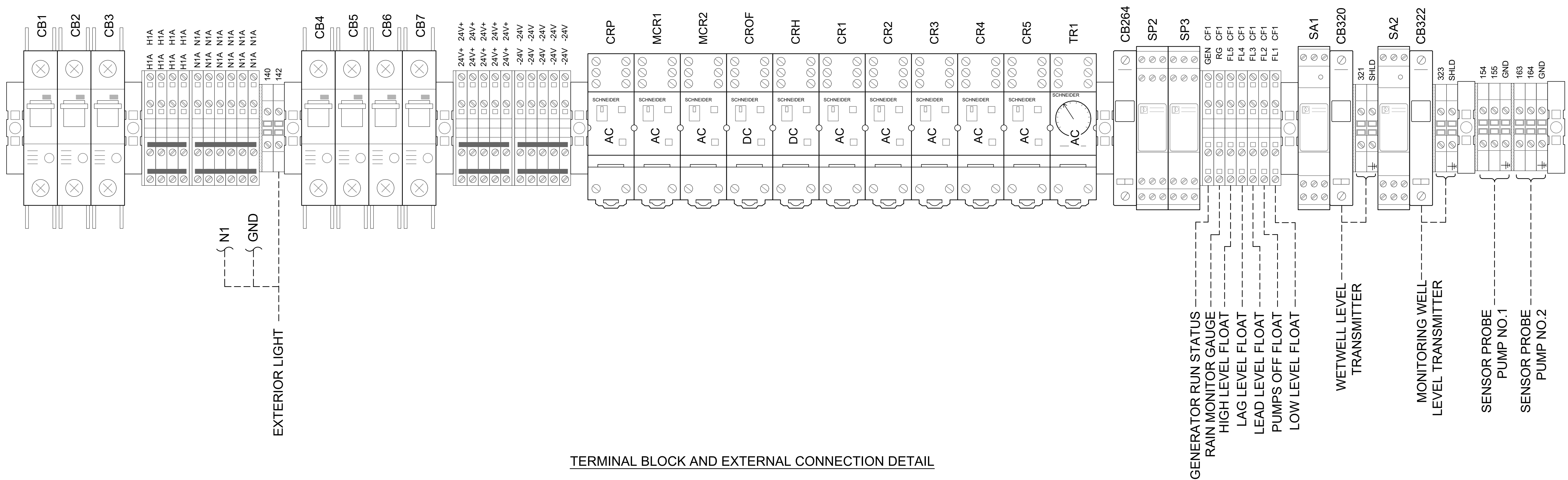
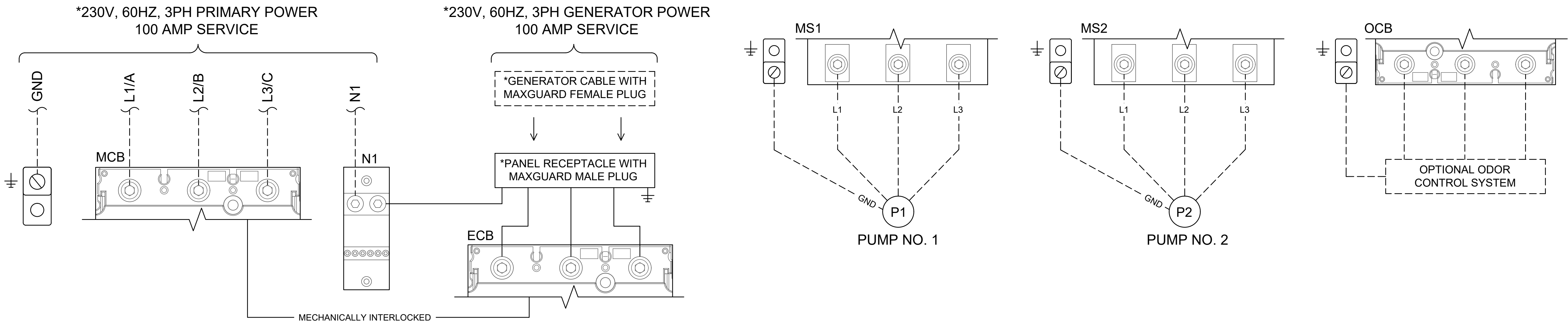
CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS

LIFT STATION PCP AND RTU COMBO COMPONENT REFERENCE TABLE

DATE: OCTOBER 2023
MCE PROJ. # 07169-0012
DRAWN: CJA
DESIGNED: CJA
CHECKED: EEB
PROJ. MGR: EEB

SCALE	E1.4
HORIZONTAL:	
VERTICAL:	1
	REVISION

STATUS:



TERMINAL BLOCK AND EXTERNAL CONNECTION DETAIL

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023

REVISIONS

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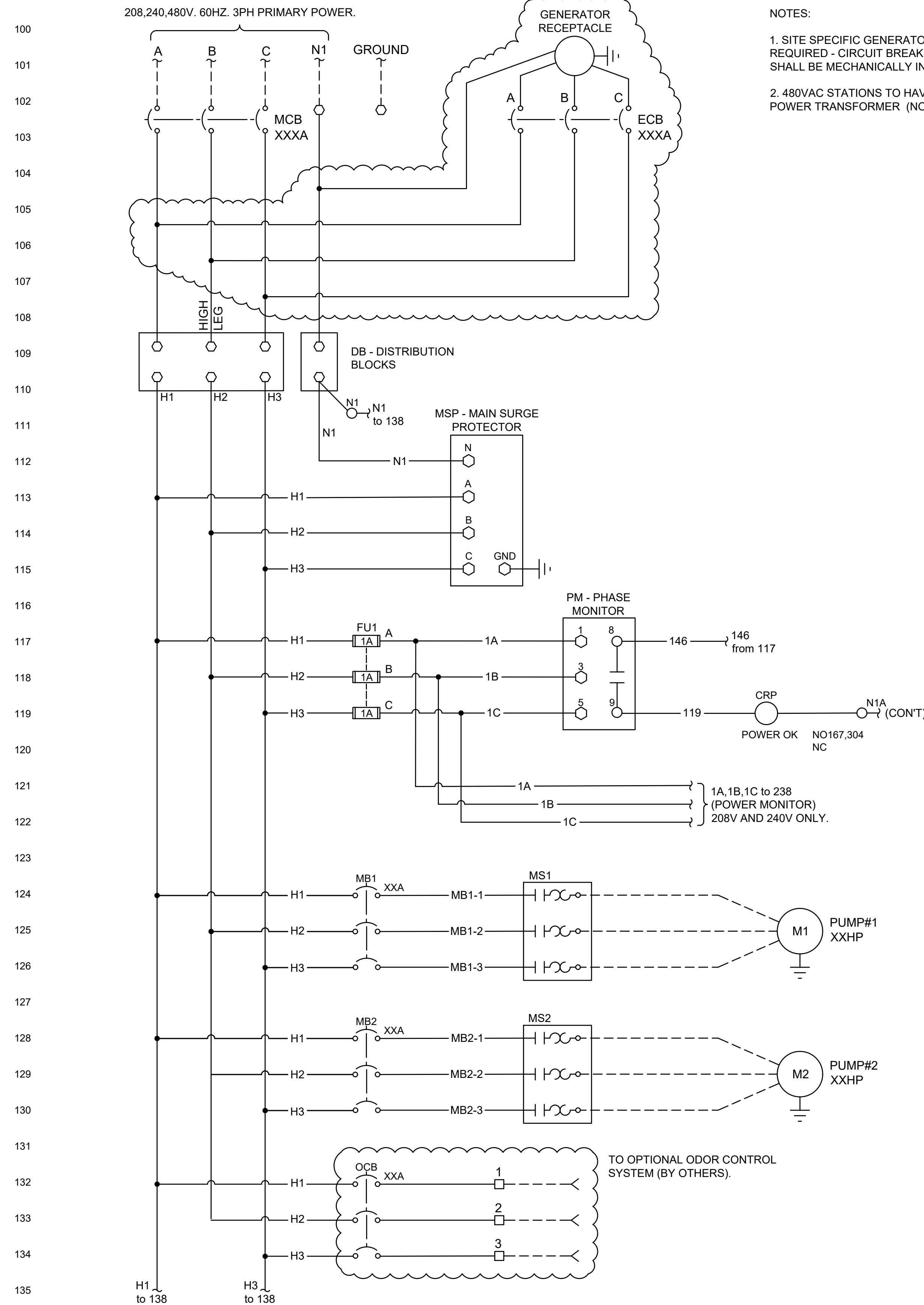
**CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS**

LIFT STATION PCP AND RTU COMBO

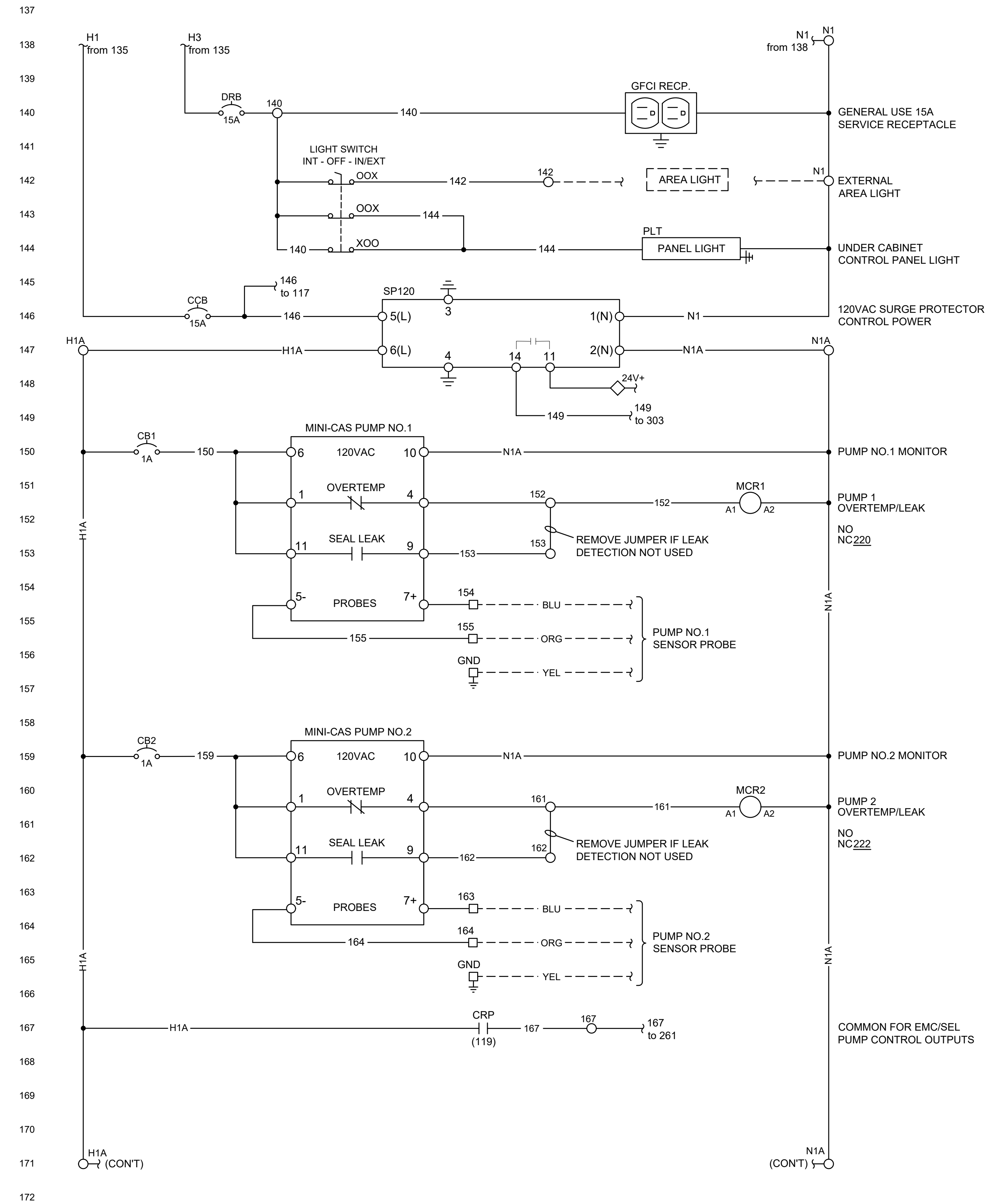
**TERMINAL BLOCK AND EXTERNAL CONNECTION DETAIL**

DATE: OCTOBER 2023	SCALE	<b>E1.5</b> DRAWING NO. 1 REVISION
MCE PROJ. # 07169-0012	HORIZONTAL:	
DRAWN: CJA	VERTICAL:	
DESIGNED: CJA		
CHECKED: EEB		
PROJ. MGR: EEB		

STATUS:



- NOTES:
1. SITE SPECIFIC GENERATOR RECEPTACLE IF REQUIRED - CIRCUIT BREAKERS MCB AND ECB SHALL BE MECHANICALLY INTERLOCKED.
  2. 480VAC STATIONS TO HAVE 480V/120V CONTROL POWER TRANSFORMER (NOT SHOWN).



REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023

REVISIONS

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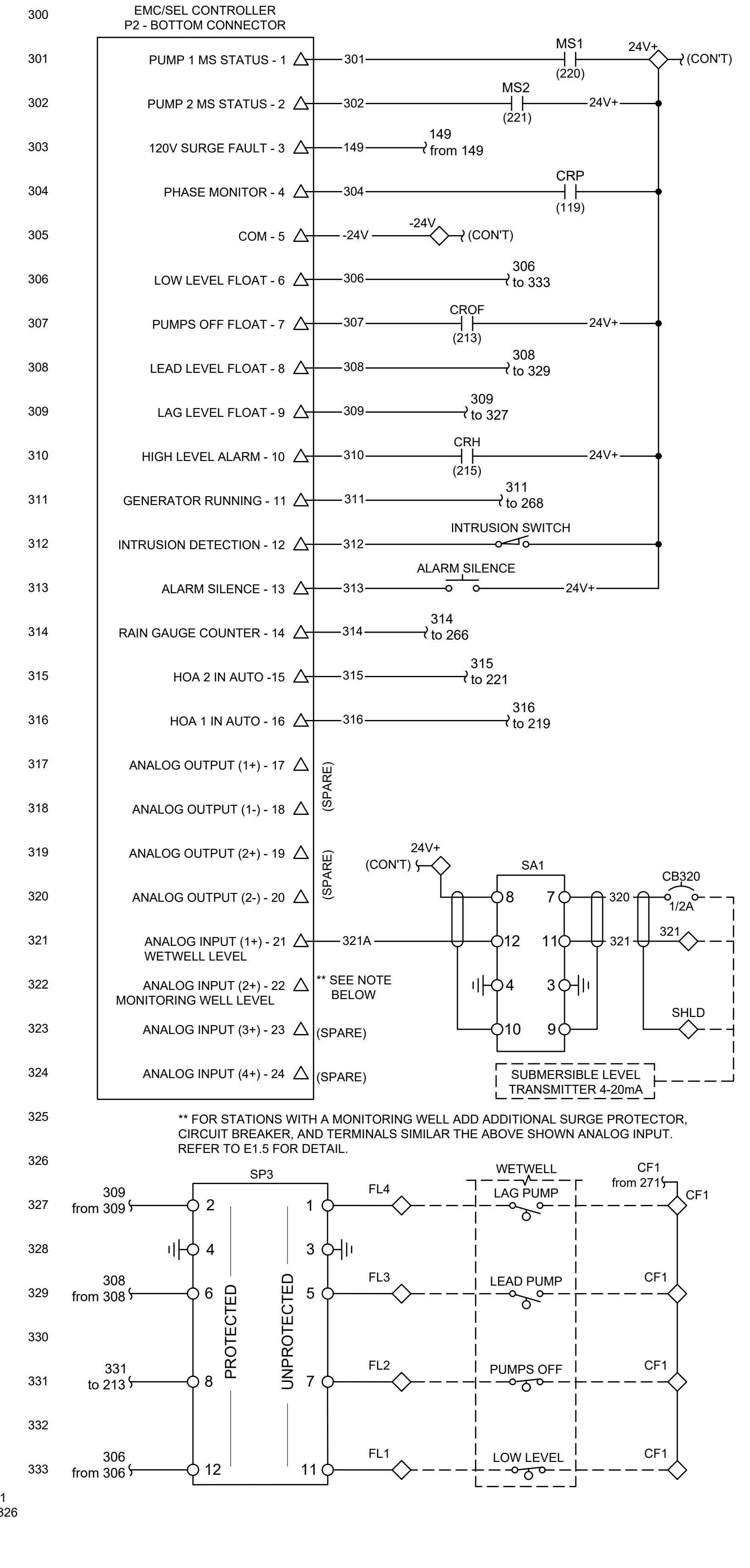
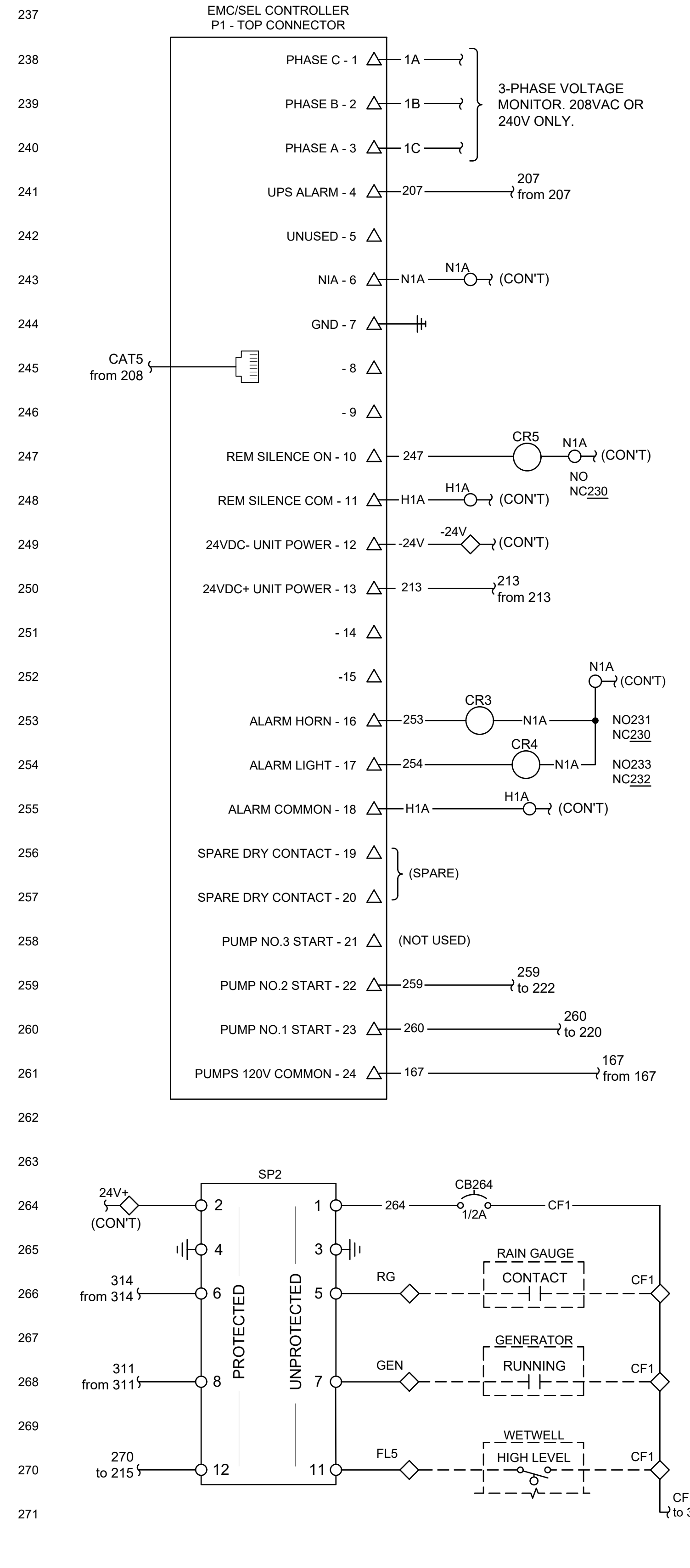
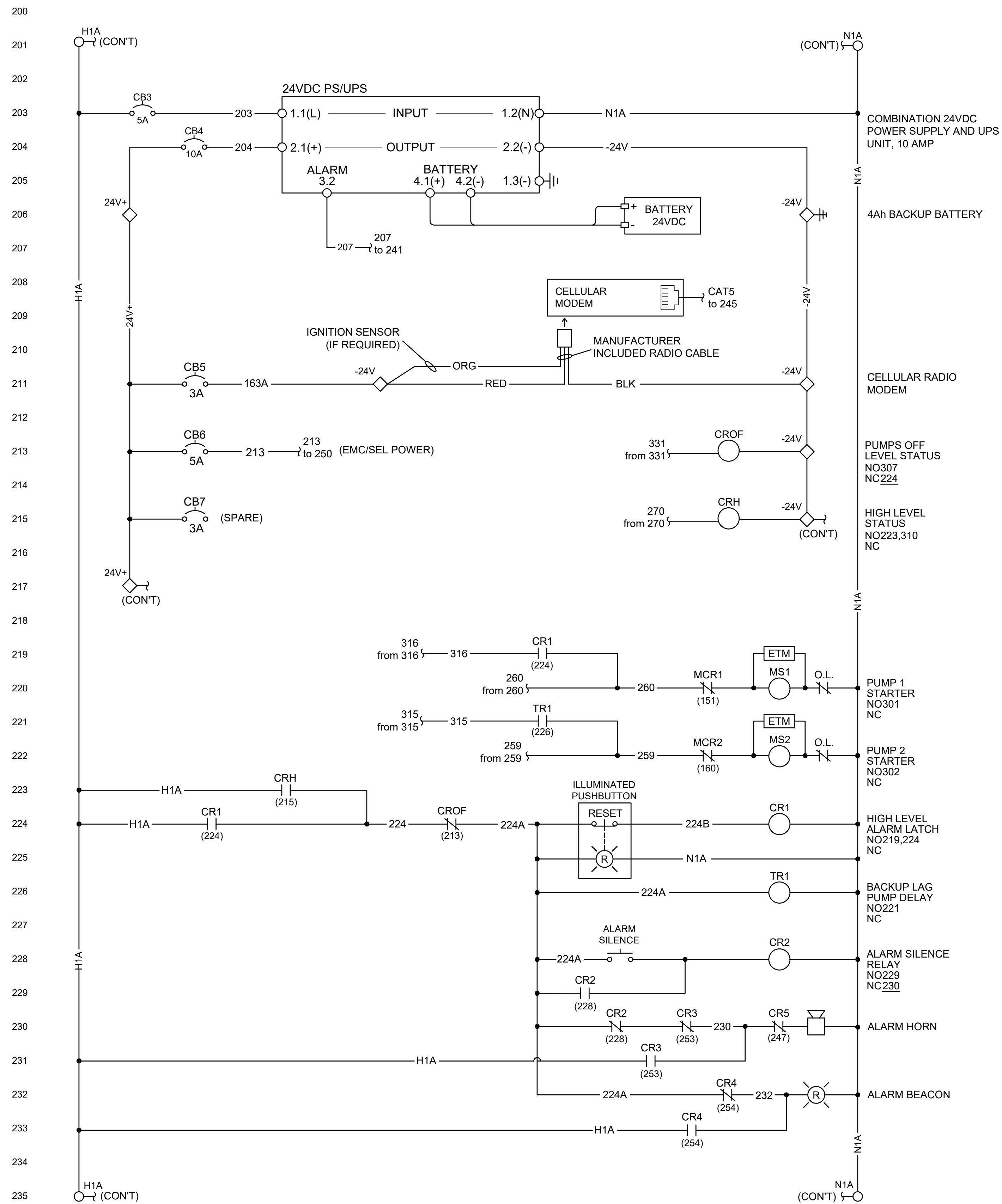
CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS

LIFT STATION PCP AND RTU COMBO CONTROL POWER WIRING

DATE: OCTOBER 2023  
MCE PROJ. # 07169-0012  
DRAWN: CJA  
DESIGNED: CJA  
CHECKED: EEB  
PROJ. MGR.: EEB

SCALE: HORIZONTAL: E1.6  
VERTICAL: 1  
DRAWING NO.: 1  
REVISION:

STATUS:



\*\* FOR STATIONS WITH A MONITORING WELL ADD ADDITIONAL SURGE PROTECTOR, CIRCUIT BREAKER, AND TERMINALS SIMILAR THE ABOVE SHOWN ANALOG INPUT. REFER TO E1.5 FOR DETAIL.

REV	DESCRIPTION	DATE
2	REVISED	AUG-2024
1	REVISED	OCT-2023
0	STANDARDS	MAR-2023

REVISIONS

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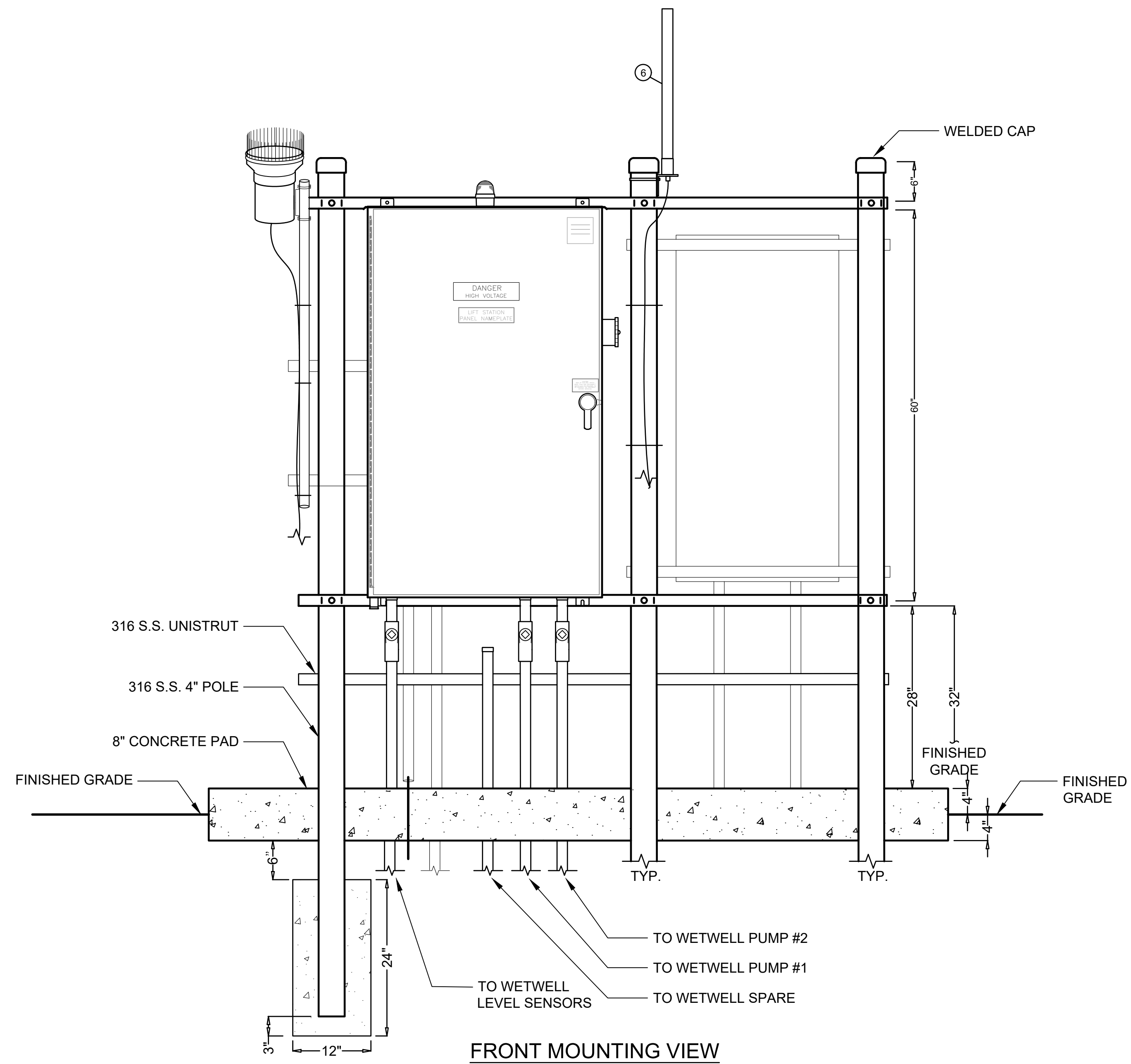
**CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS**

LIFT STATION PCP AND RTU COMBO  
**CONTROL AND EMC-SEL DIAGRAM**

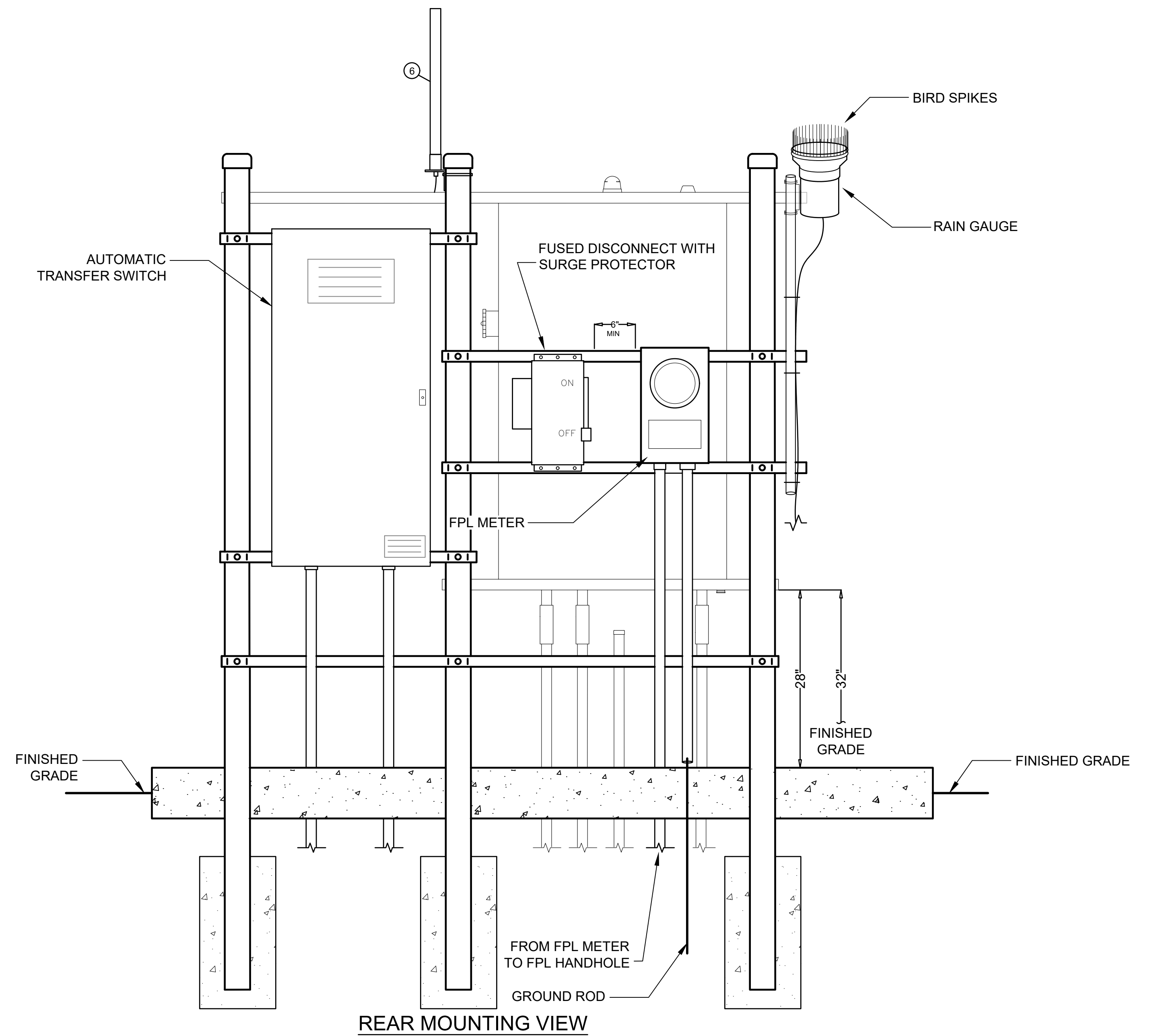
DATE: OCTOBER 2023	SCALE: HORIZONTAL: <b>E1.7</b>
MCE PROJ. # 07169-0012	VERTICAL: 1 REVISION
DRAWN: CJA	
DESIGNED: CJA	
CHECKED: EEB	
PROJ. MGR.: EEB	

STATUS:





**FRONT MOUNTING VIEW**



**REAR MOUNTING VIEW**

**DETAIL NOTES:**

1. CONDUIT(S) DEPICTED ON FRONT ELEVATIONS ARE SHOWN TO CONVEY DESIGN INTENT AND DO NOT DEPICT ACTUAL SIZES OR QUANTITIES. CONTRACTOR SHALL REFERENCE ALL PROJECT SPECIFIC ENGINEERING DRAWINGS FOR MINIMUM CONDUIT AND CONDUCTOR REQUIREMENTS AND COORDINATE WITH CCU FOR EQUIPMENT LAYOUT.
2. ALL EXPOSED CONDUIT SHALL BE RIGID TYPE 316 STAINLESS STEEL CONDUIT. UNDERGROUND CONDUIT TO THE WETWELL SHALL BE SCHEDULE 80 PVC.
3. GROUND CONDUIT SHALL BE 1/2" SCHEDULE 80 PVC. GROUND WIRE TO BE SIZE NUMBER 6.
4. THE PUMP CONTROL PANEL/RTU PANEL SHALL HAVE A PAD LOCKABLE HANDLE, 3-POINT LATCH.
5. ALL CONDUIT(S) SHALL ENTER THE BOTTOM OF ALL ENCLOSURES WITH DIE-CAST STAINLESS STEEL CONDUIT HUBS - CHASE/CLOSE CONDUIT NIPPLES AND SIDE ENTRIES ARE NOT ACCEPTABLE.

6. WETWELL CONDUITS SHALL HAVE "EYS" EXPLOSION PROOF CLASS 1 SEAL-OFF. ALL NON-WETWELL CONDUIT ENTRIES SHALL HAVE MOISTURE SEALANT APPLIED AFTER ACCEPTED START-UP AND COMMISSIONING WITH APPROVED DUCT SEAL.
7. ALL CONDUIT SUPPORTS, CLAMPS, HANGERS, FASTENERS, BOLTS, NUTS, SCREWS, WASHERS, AND STRUT-CHANNEL SHALL BE STAINLESS-STEEL.
8. STRUT-CHANNEL SHALL NOT BE BENT, DRILLED, CUT OR OTHERWISE MODIFIED TO PRODUCE FITTINGS, BRACES OR BRACKETS FOR CONDUIT AND EQUIPMENT SUPPORTS.
9. ENGRAVED WARNING LABEL STATING "DANDER HIGH VOLTAGE" SHALL BE AFFIXED TO THE OUTSIDE OF THE ENCLOSURE DOOR AND BE SECURED USING ADHESIVE OR CEMENT.
10. IF REQUIRED, ONE (1) INCH PVC AND/OR TYPE 316 STAINLESS STEEL CONDUIT BETWEEN THE PUMP CONTROL PANEL/RTU AND THE AREA LIGHT, THE STANDBY GENERATOR, AND/OR THE ODOR CONTROL SYSTEM IN ACCORDANCE WITH THE PROJECT SPECIFIC ENGINEERING DRAWINGS. (NOT SHOWN).
11. TEXAS ELECTRONICS TR-525USW TIPPING BUCKET RAIN GAUGE WITH DRY CONTACT AND BIRD SPIKES. MOUNT TO EQUIPMENT RACK.

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**CHARLOTTE COUNTY UTILITIES - REMOTE SITES CONTROL PANEL STANDARDS**

**LIFT STATION PCP AND RTU COMBO PANEL MOUNTING DETAIL**

DATE: OCTOBER 2023	SCALE
MCE PROJ. # 07169-0012	HORIZONTAL: <b>E1.8</b>
DRAWN: CJA	VERTICAL:
DESIGNED: CJA	1
CHECKED: EEB	REVISION
PROJ. MGR.: EEB	

STATUS: