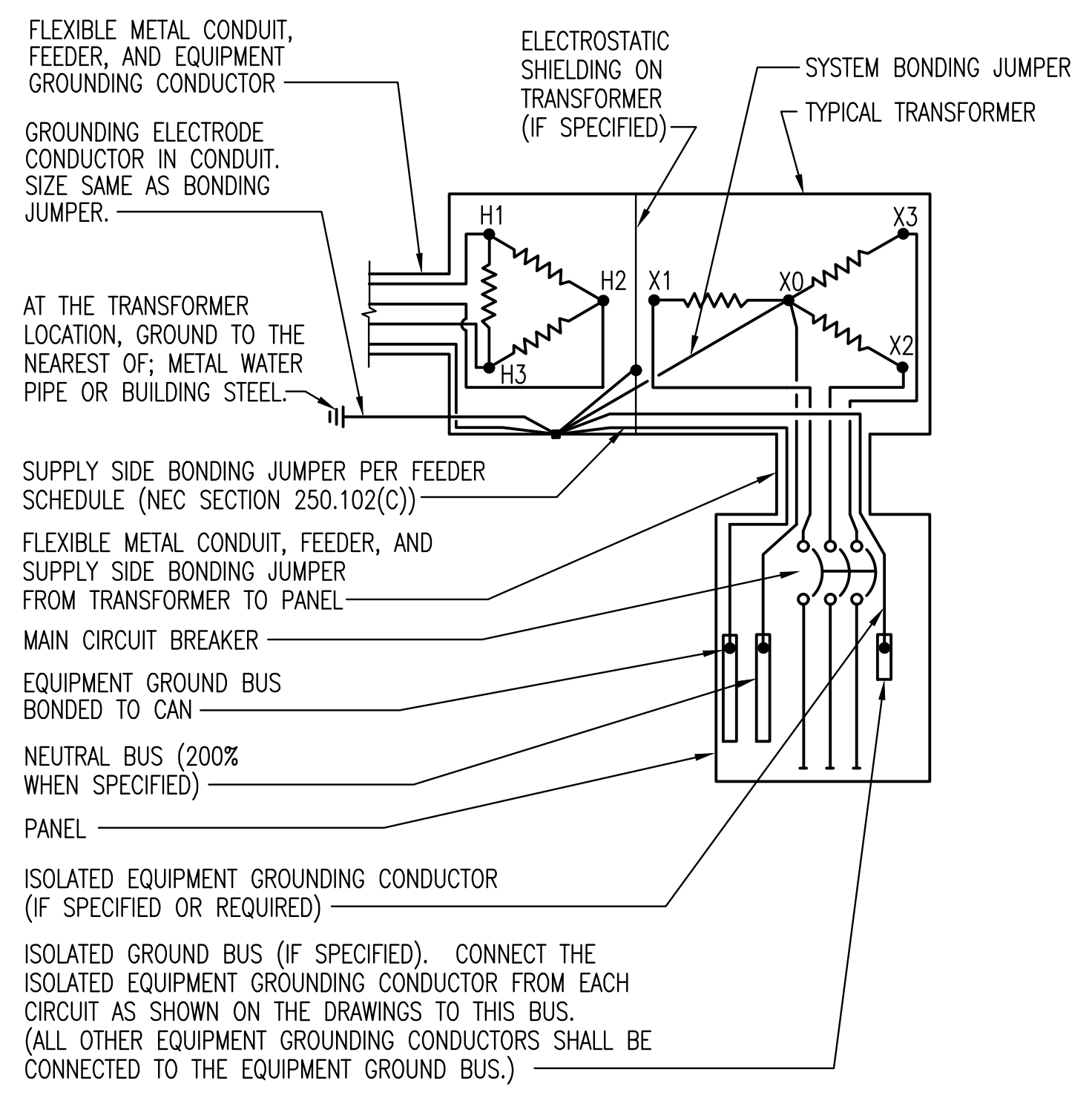


4 CONTROL PANEL 'CP' (EXISTING)										LOCATION: 37TH STREET		
CIRCUIT NO.	EQUIPMENT SERVED/ MARK	CONNECT			DESCRIPTION/FUNCTION	CONDUCTORS IN CABLE	DISCRETE	ANALOG	DIGITAL	INPUT	OUTPUT	REMARKS
		DEVICE	CTL.	PNL STARTER								
1	P-1	-	-	X	DRIVE RUN INDICATION	2	X	-	-	X	-	
2		-	-	X	DRIVE HAND INDICATION	2	X	-	-	X	-	
3		-	-	X	DRIVE OFF INDICATION	2	X	-	-	X	-	
4		-	-	X	DRIVE REMOTE INDICATION	2	X	-	-	X	-	
5		-	-	X	DRIVE START/STOP R.C.	2	X	-	-	-	X	
6		-	-	X	DRIVE FAIL ALARM	2	X	-	-	X	-	
7		-	-	X	DRIVE SPEED CONTROL	TSPR	-	X	-	-	X	
8		-	-	X	DRIVE SPEED INDICATION	TSPR	-	X	-	X	-	
9		-	-	X	DRIVE CURRENT POWER CONSUMPTION	TSPR	-	X	-	X	-	
10		-	-	X	MOTOR FAILURE	2	X	-	-	X	-	
11	P-2	-	-	X	DRIVE RUN INDICATION	2	X	-	-	X	-	
12		-	-	X	DRIVE HAND INDICATION	2	X	-	-	X	-	
13		-	-	X	DRIVE OFF INDICATION	2	X	-	-	X	-	
14		-	-	X	DRIVE REMOTE INDICATION	2	X	-	-	X	-	
15		-	-	X	DRIVE START/STOP R.C.	2	X	-	-	-	X	
16		-	-	X	DRIVE FAIL ALARM	2	X	-	-	X	-	
17		-	-	X	DRIVE SPEED CONTROL	TSPR	-	X	-	-	X	
18		-	-	X	DRIVE SPEED INDICATION	TSPR	-	X	-	X	-	
19		-	-	X	DRIVE CURRENT POWER CONSUMPTION	TSPR	-	X	-	X	-	
20		-	-	X	MOTOR FAILURE	2	X	-	-	X	-	
21	P-3	-	-	X	DRIVE RUN INDICATION	2	X	-	-	X	-	
22		-	-	X	DRIVE HAND INDICATION	2	X	-	-	X	-	
23		-	-	X	DRIVE OFF INDICATION	2	X	-	-	X	-	
24		-	-	X	DRIVE REMOTE INDICATION	2	X	-	-	X	-	
25		-	-	X	DRIVE START/STOP R.C.	2	X	-	-	-	X	
26		-	-	X	DRIVE FAIL ALARM	2	X	-	-	X	-	
27		-	-	X	DRIVE SPEED CONTROL	TSPR	-	X	-	-	X	
28		-	-	X	DRIVE SPEED INDICATION	TSPR	-	X	-	X	-	
29		-	-	X	DRIVE CURRENT POWER CONSUMPTION	TSPR	-	X	-	X	-	
30		-	-	X	MOTOR FAILURE	2	X	-	-	X	-	
31	CV-1	X	-	-	P-1 CHECK VALVE - LIMIT SWITCH	2	X	-	-	X	-	
32	CV-2	X	-	-	P-2 CHECK VALVE - LIMIT SWITCH	2	X	-	-	X	-	
33	CV-3	X	-	-	P-3 CHECK VALVE - LIMIT SWITCH	2	X	-	-	X	-	
34	PE-1	X	-	-	PRESSURE	TSPR	-	X	-	X	-	
35		X	-	-	HIGH PRESSURE SWITCH	2	X	-	-	X	-	
36		X	-	-	LOW PRESSURE SWITCH	2	X	-	-	X	-	
37	PE-2	X	-	-	PRESSURE	TSPR	-	X	-	X	-	
38		X	-	-	HIGH PRESSURE SWITCH	2	X	-	-	X	-	
39		X	-	-	LOW PRESSURE SWITCH	2	X	-	-	X	-	
40	PE-3	X	-	-	PRESSURE	TSPR	-	X	-	X	-	
41		X	-	-	HIGH PRESSURE SWITCH	2	X	-	-	X	-	
42		X	-	-	LOW PRESSURE SWITCH	2	X	-	-	X	-	
43	PE-4	X	-	-	PRESSURE	TSPR	-	X	-	X	-	
44		X	-	-	HIGH PRESSURE SWITCH	2	X	-	-	X	-	
45		X	-	-	LOW PRESSURE SWITCH	2	X	-	-	X	-	
46	PE-5	X	-	-	PRESSURE	TSPR	-	X	-	X	-	
47		X	-	-	HIGH PRESSURE SWITCH	2	X	-	-	X	-	
48		X	-	-	LOW PRESSURE SWITCH	2	X	-	-	X	-	
49	PE-6	X	-	-	PRESSURE	TSPR	-	X	-	X	-	
50		X	-	-	HIGH PRESSURE SWITCH	2	X	-	-	X	-	
51		X	-	-	LOW PRESSURE SWITCH	2	X	-	-	X	-	
52	CA-1	X	-	-	CHLORINE ANALYZER	TSPR	-	X	-	X	-	
53	LEAK ALARM	X	-	-	AREA LEAK ALARM	2	X	-	-	X	-	
54	RTU-1	X	-	-	SPACE TEMPERATURE	TSPR	-	X	-	X	-	
55		X	-	-	COOLING MODE	2	X	-	-	X	-	
56		X	-	-	HEATING MODE	2	X	-	-	X	-	
57		X	-	-	RTU ALARM	2	X	-	-	X	-	
58												
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CONTROL PANEL NOTES:

1. A CONDUIT FOR ANALOG CABLE SHALL TERMINATE IN EQUIPMENT ENCLOSURE AS CLOSE AS POSSIBLE TO THE TERMINALS. CABLES SHALL NOT PASS NEAR TO CABLES OR EQUIPMENT OPERATING ABOVE 24V.
2. INTERNAL AND EXTERNAL I/O SHALL BE LANDED ON TERMINAL STRIPS.
3. I/O IDENTIFIED ON CONTROL DIAGRAM SHEETS ARE FOR INPUTS & OUTPUTS EXTERNAL TO THE EQUIPMENT CONTROL PANEL. I/O NECESSARY FOR THE COMPLETE FUNCTIONALITY OF THE EQUIPMENT (INTERNAL I/O) SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER. THE CONTRACTOR SHALL FURNISH & INSTALL CONDUIT AND WIRE REQUIRED FOR COMPLETE FUNCTIONALITY OF EQUIPMENT AS SPECIFIED AND AS IDENTIFIED BY THE MANUFACTURER. THE CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER TO DETERMINE FIELD WIRING REQUIREMENTS.
4. PROVIDE ADDITIONAL TERMINALS AND CARDS AS REQUIRED FOR EQUIPMENT CONNECTIONS. PROVIDE PROGRAMMING AS REQUIRED FOR EQUIPMENT CONTROL AND TO INTEGRATE WITH EXISTING CONTROL SYSTEM.
5. PROVIDE COMMUNICATION INTERFACE AND PROGRAMMING AS REQUIRED TO CONVERT FROM BACNET PROTOCOL PROVIDED BY RTU CONTROL PANEL.



1 TYPICAL TRANSFORMER GROUNDING DETAIL
NO SCALE

NOTE: WHERE METAL WATER PIPING OR BUILDING STEEL IS UNAVAILABLE, GROUND TO ANY OF THE OTHER ELECTRODES IDENTIFIED IN NEC SECTION 250.52(A).

Saved: 12-11-2018 11:45:06 AM by SMS
Plot Scale: 1:1 12-19-2018 2:26:02 PM by CGL
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No.	Revision	By	Date
CITY OF WICHITA, KANSAS			
ELECTRICAL DETAILS			
37TH STREET BOOSTER PUMP STATION IMPROVEMENTS			
		PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA WICHITA, KS 67202 316-262-2691 www.pec1.com	
Designed by	RWW	Job No.	34-170920-000
Drawn by	MAL	Date	DECEMBER 2018
		Sht. E1.2 of	