

EXISTING 800A BREAKER AT UNIT SUBSTATION#3 (LOCATION: HEADWORKS ELECTRICAL ROOM)

EXISTING 800A BREAKER AT UNIT SUBSTATION#4 (LOCATION: HEADWORKS ELECTRICAL ROOM)

**LOAD SUMMARY MCC-HW1 (480V)**

LOAD	CONNECTED LOAD (A)	RUNNING LOAD (A)
EXISTING LOADS	262.8 A	198.1 A
REMOVED LOADS	-84.2 A	-67.4 A
NEW PP-1 LOADS	164.4 A	128.8 A
<b>TOTALS</b>	<b>343.0 A</b>	<b>259.5 A</b>
KVA:	285.2 KVA	215.8 KVA

**LOAD SUMMARY MCC-HW2 (480V)**

LOAD	CONNECTED LOAD (A)	RUNNING LOAD (A)
EXISTING LOADS	236.2 A	147.4 A
REMOVED LOADS	-55.2 A	-44.2 A
NEW PP-1 LOADS	0.0 A*	0.0 A*
<b>TOTALS</b>	<b>181.0 A</b>	<b>103.2 A</b>
KVA:	150.5 KVA	85.8 KVA

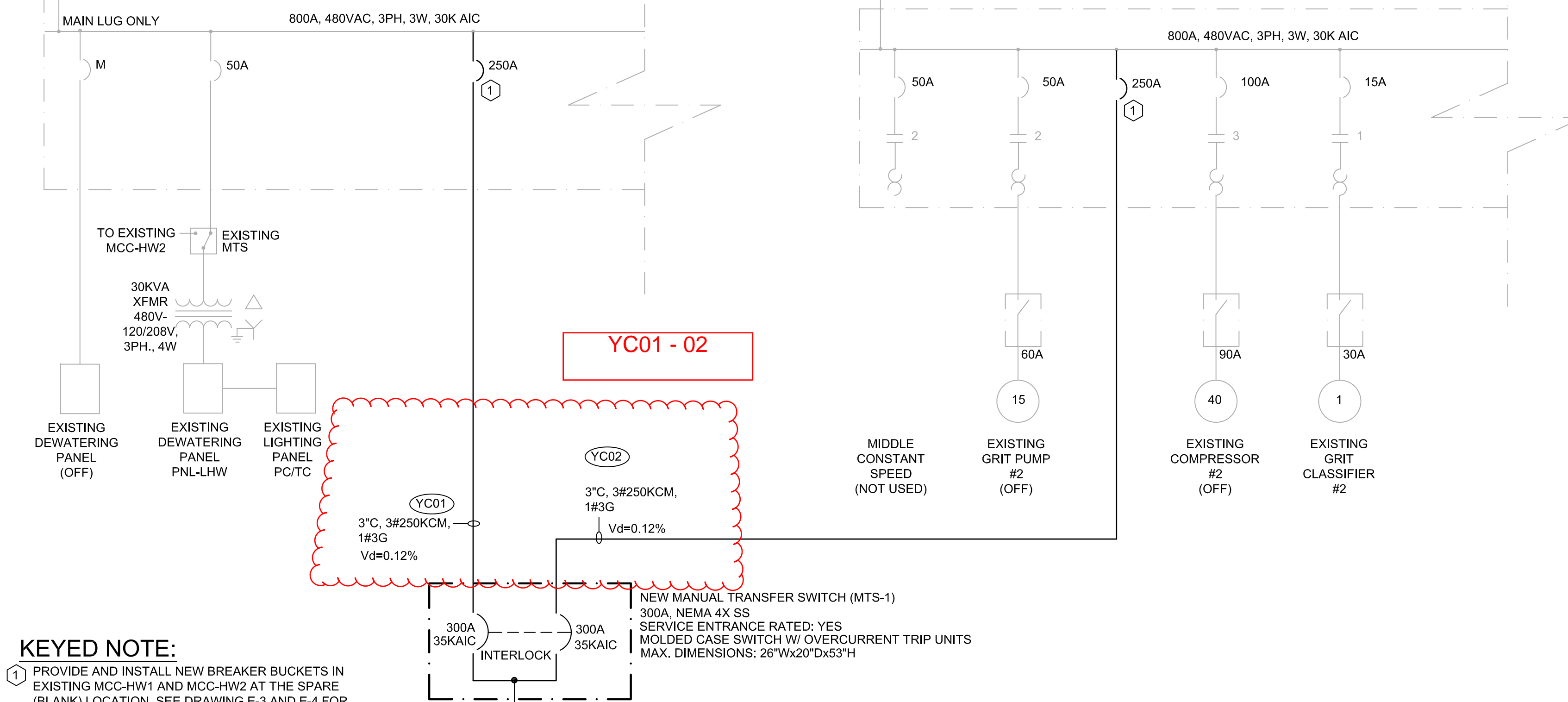
NOTE: PP-1 WILL BE POWERED EITHER FROM MCC-HW1 OR MCC-HW2, NOT AT THE SAME TIME.

**LOAD SUMMARY PP-1 (480V)**

LOAD	CONNECTED LOAD (A)	RUNNING LOAD (A)
RAS#4	40.0 A	32.0 A
RAS#5	40.0 A	32.0 A
RAS#6	40.0 A	32.0 A
WAS#3	7.6 A	6.1 A
WAS#4	7.6 A	6.1 A
SCUM PUMP#1	7.6 A	6.1 A
SCUM PUMP#2	7.6 A	6.1 A
CLARIFIER#3	1.6 A	1.3 A
CLARIFIER#4	1.6 A	1.3 A
XFMR 15TX-3/PANEL 15LP-1	10.8 A	5.8 A
<b>TOTALS</b>	<b>164.4 A</b>	<b>128.8 A</b>
KVA:	136.7 KVA	107.1 KVA

**EXISTING MOTOR CONTROL CENTER- HW1**  
LOCATION: HEADWORKS ELECTRICAL ROOM

**EXISTING MOTOR CONTROL CENTER- HW2**  
LOCATION: HEADWORKS ELECTRICAL ROOM

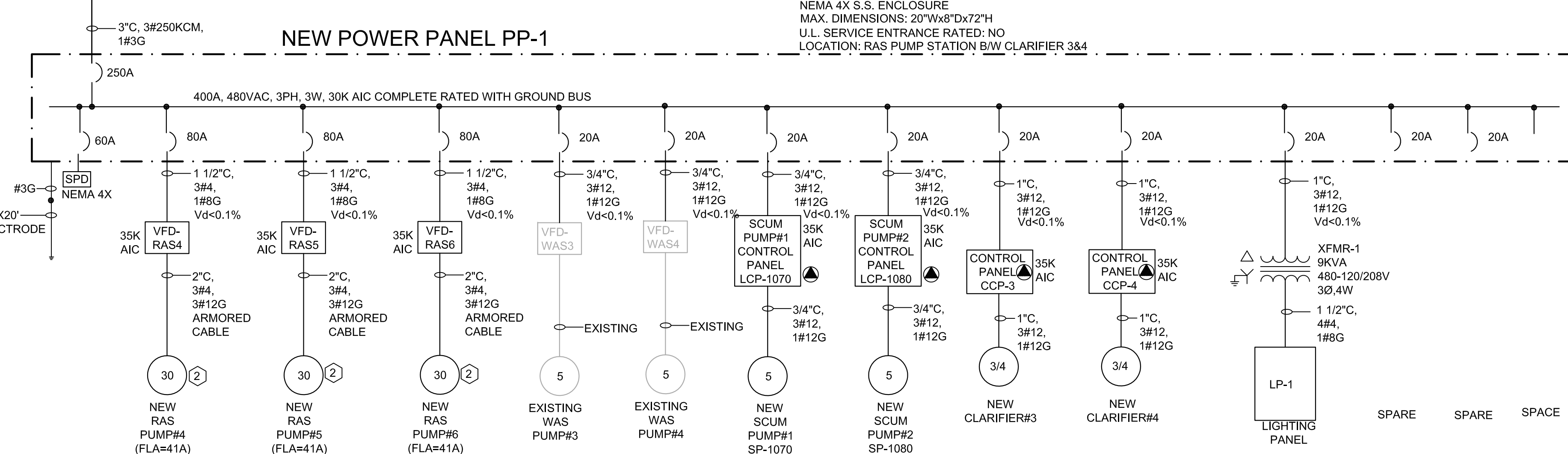
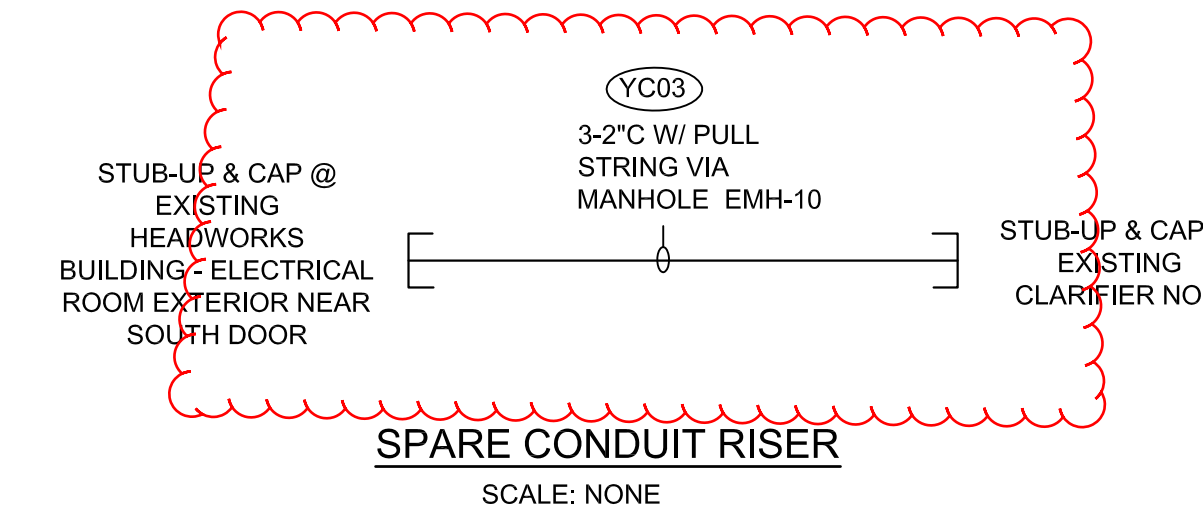


**KEYED NOTE:**

- 1 PROVIDE AND INSTALL NEW BREAKER BUCKETS IN EXISTING MCC-HW1 AND MCC-HW2 AT THE SPARE (BLANK) LOCATION. SEE DRAWING E-3 AND E-4 FOR EXISTING MCC ELEVATION AND FIELD VERIFY. NEW BREAKER SHALL MATCH EXISTING IN STYLE AND AIC RATING. PROVIDE AND INSTALL BLANK COVER IF NEEDED. MAKE ALL NECESSARY CONNECTIONS, TERMINATIONS, MODIFICATIONS, ETC. FOR A COMPLETE AND WORKING MCC SYSTEM IN PLACE.
- 2 NEW MOTOR FOR RAS PUMPS ARE LOW RPM MOTOR CONTRACTOR SHALL COORDINATE WITH RAS PUMP SUPPLIER (SPECIFICATION 11312) FOR ACTUAL FULL LOAD AMPS OF THE MOTOR BEFORE BIDDING AND ADJUST CONDUITS/CABLES, BREAKER, VFD, ETC. ACCORDINGLY WITHOUT ADDITIONAL COST TO THE OWNER.

YC01 - 02

YC03



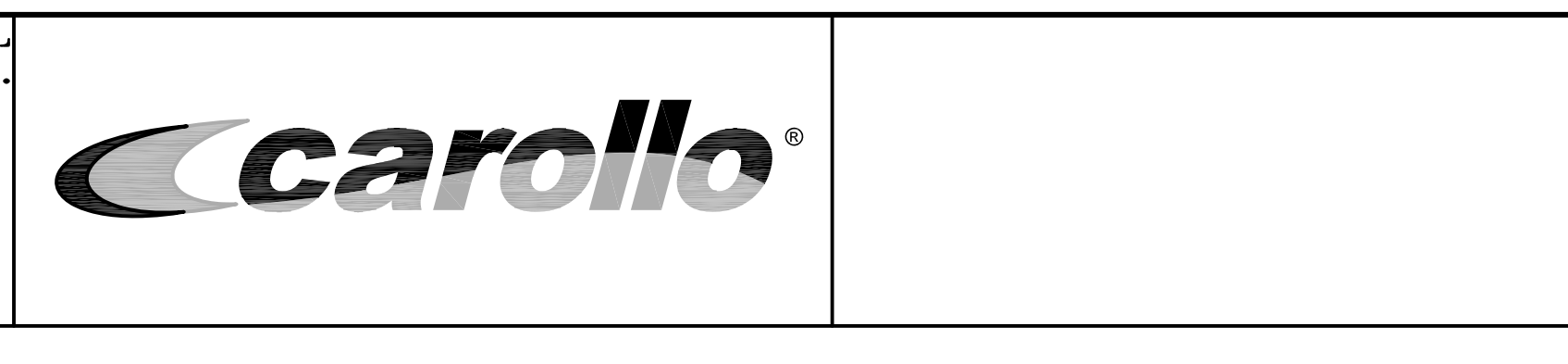
**NEW POWER PANEL PP-1 ONE LINE DIAGRAM**  
SCALE: NONE

REV	DATE	BY	DESCRIPTION

DESIGNED	TW
DRAWN	
DGU	
CHECKED	
PFH	
DATE	
MARCH 2013	

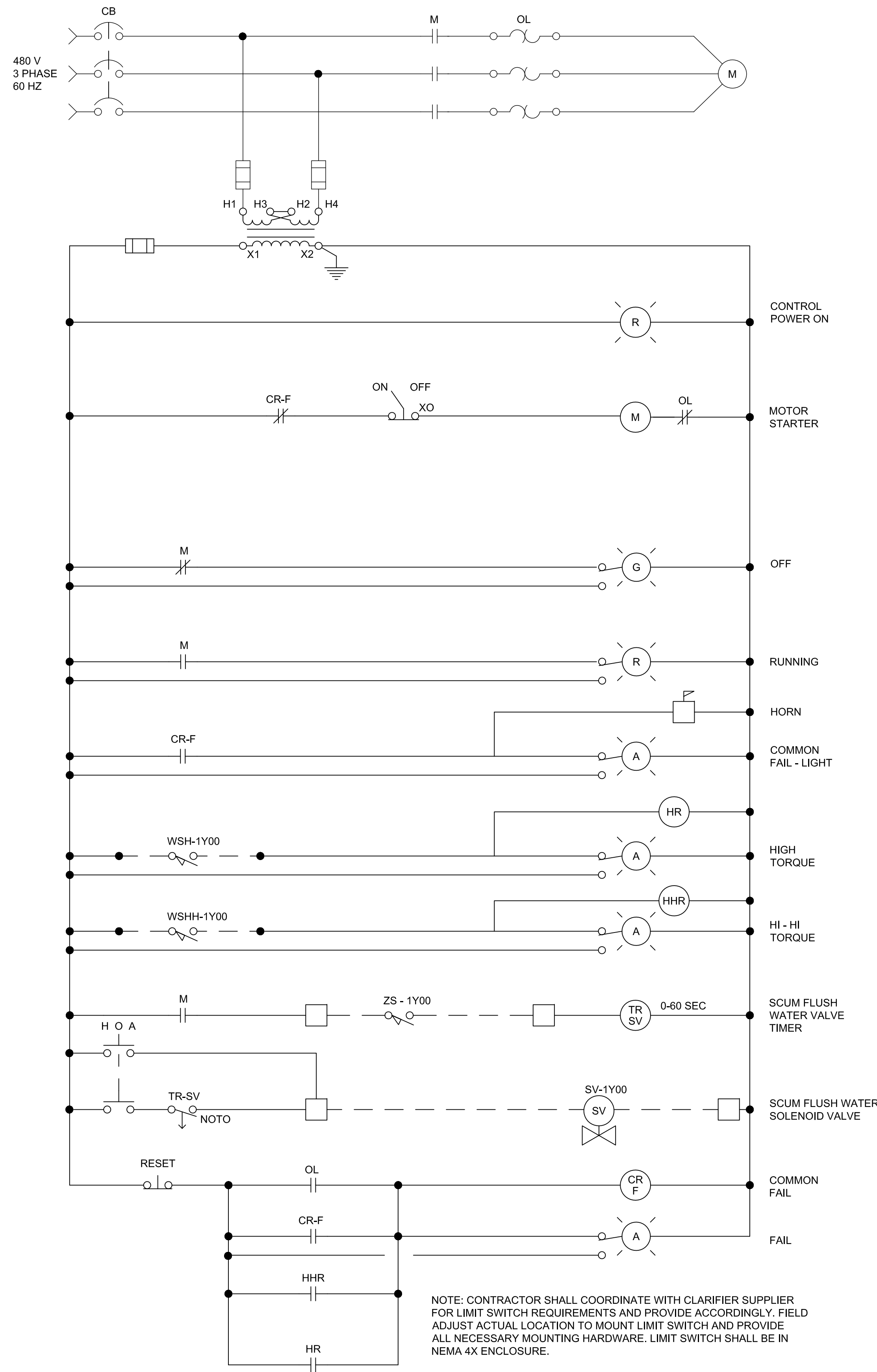
**HILLERS ELECTRICAL ENGINEERING, INC.**  
23257 STATE ROAD 7, SUITE 100  
BOCA RATON, FLORIDA 33428  
(561) 451-6165  
(561) 451-4886 FAX  
LICENSE NO: EB 0006877

THEIN WIN, P.E.  
No. 65722



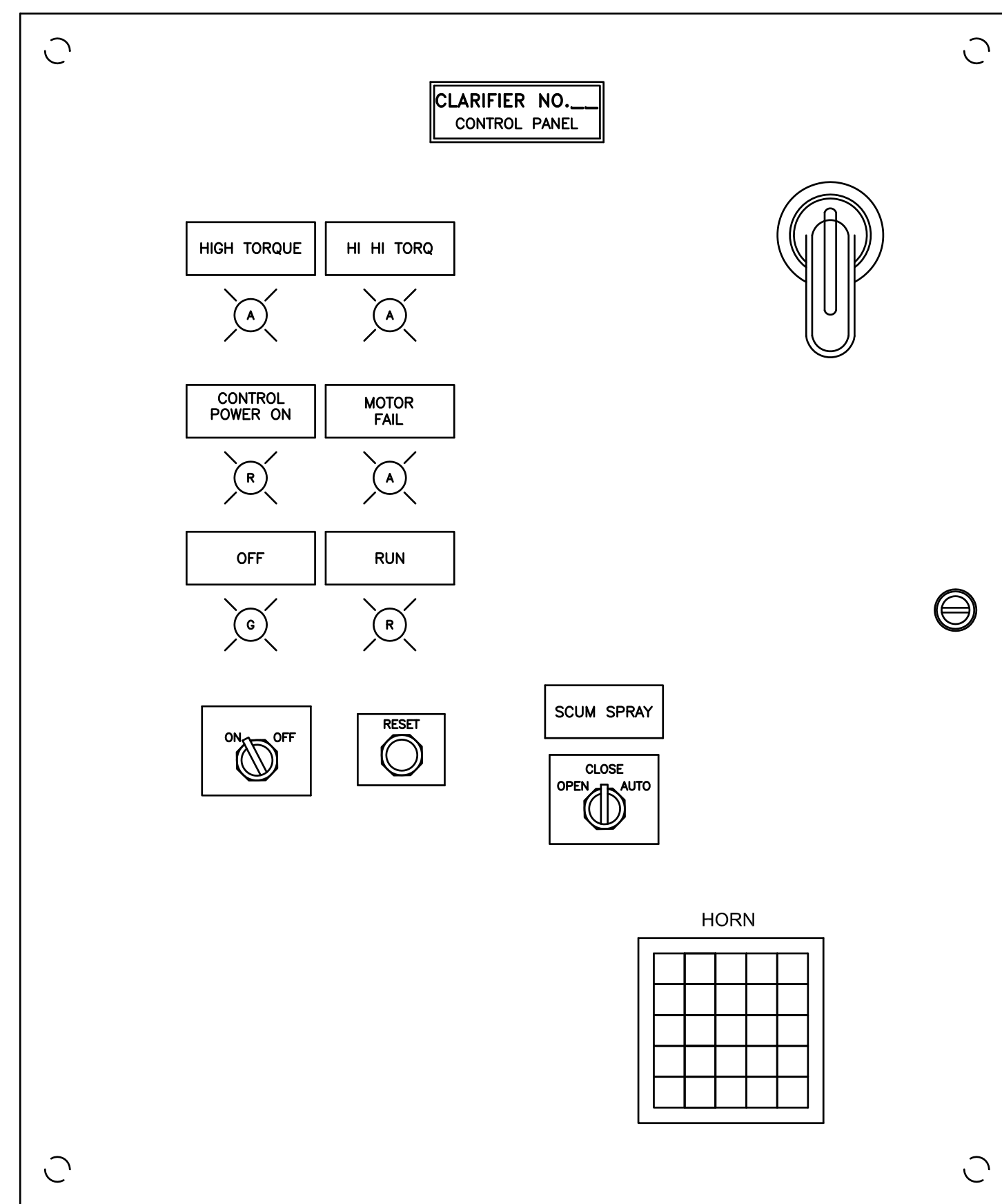
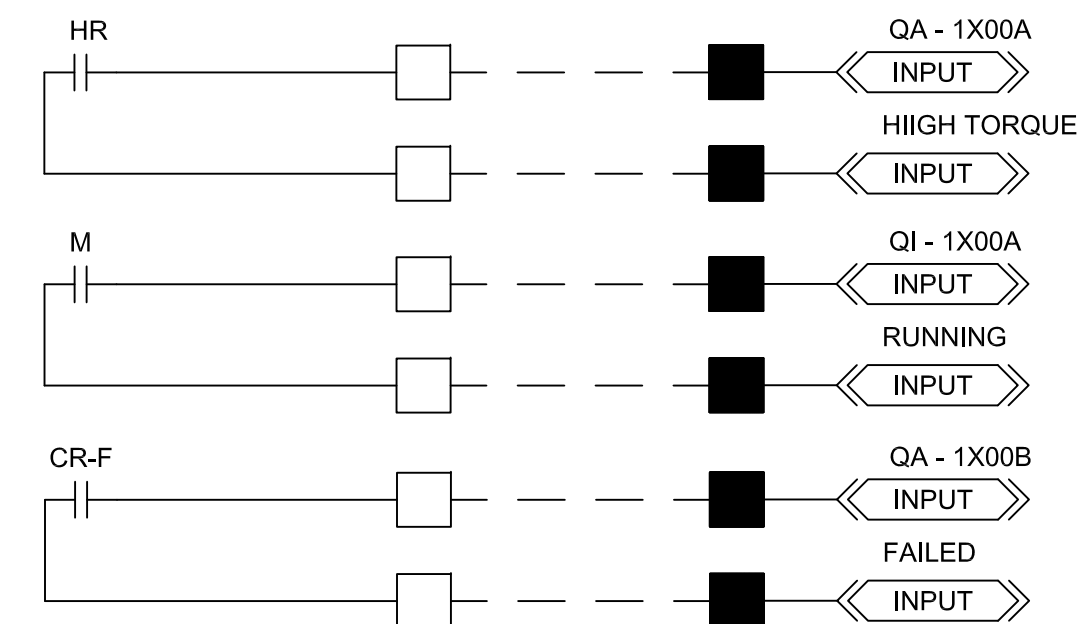
MANATEE COUNTY
SWWRF CLARIFIER 3&4 REHABILITATION
ELECTRICAL
NEW POWER PANEL PP-1 ONE LINE DIAGRAM

VERIFY SCALES	JOB NO. 7880J10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. E-5
0 1"	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	



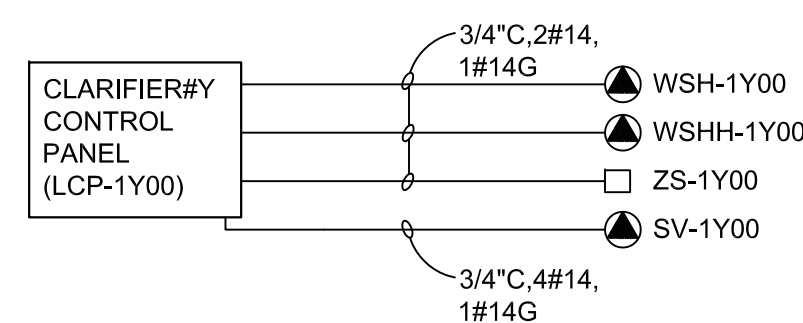
**CLARIFIER NO.Y CONTROL PANEL SCHEMATIC DIAGRAM**

NOT TO SCALE  
Y=3,4



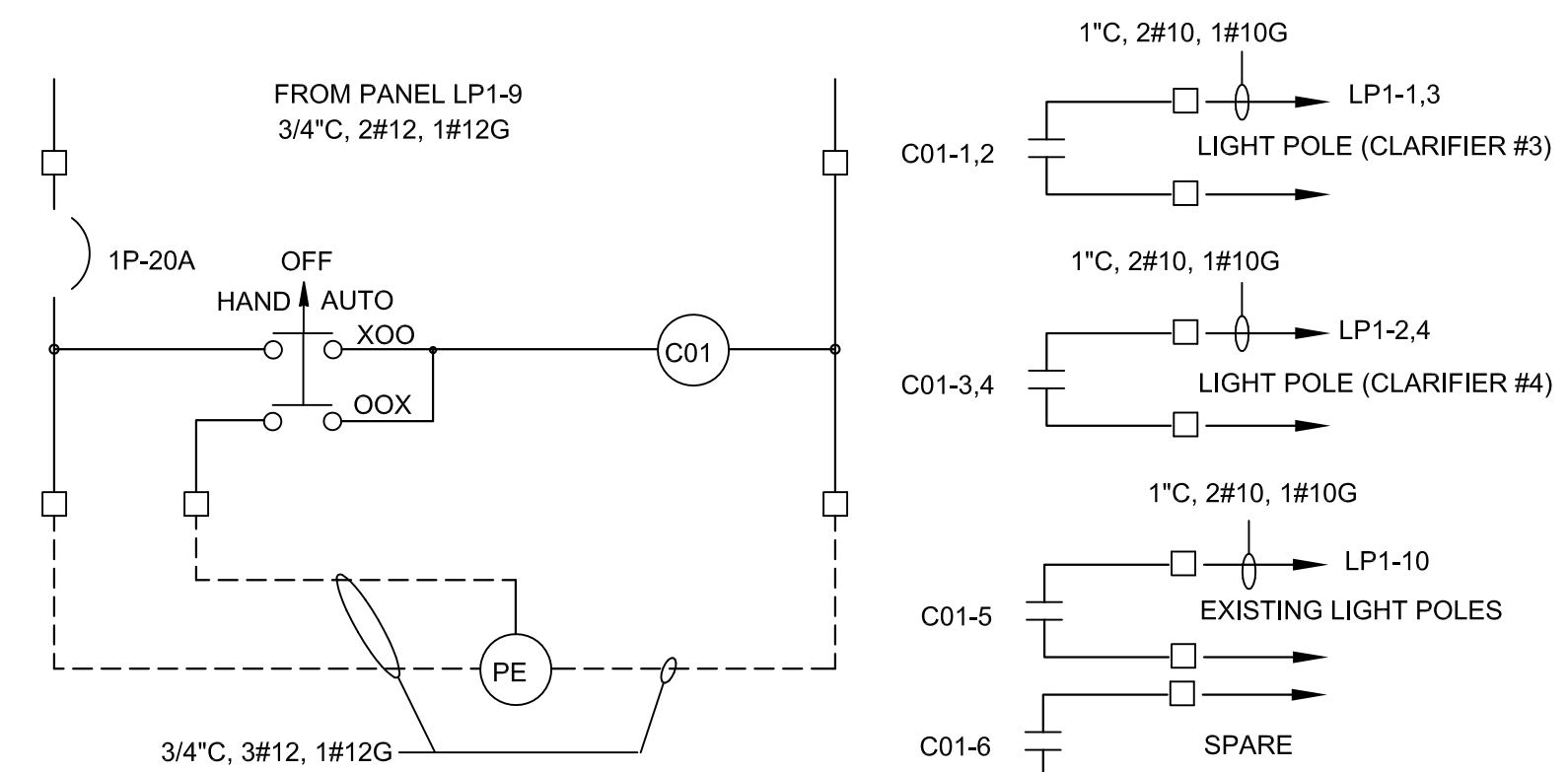
**CLARIFIER NO.Y CONTROL PANEL LAYOUT**

NOT TO SCALE  
Y=3,4



**CLARIFIER NO.Y CONTROL PANEL RISER**

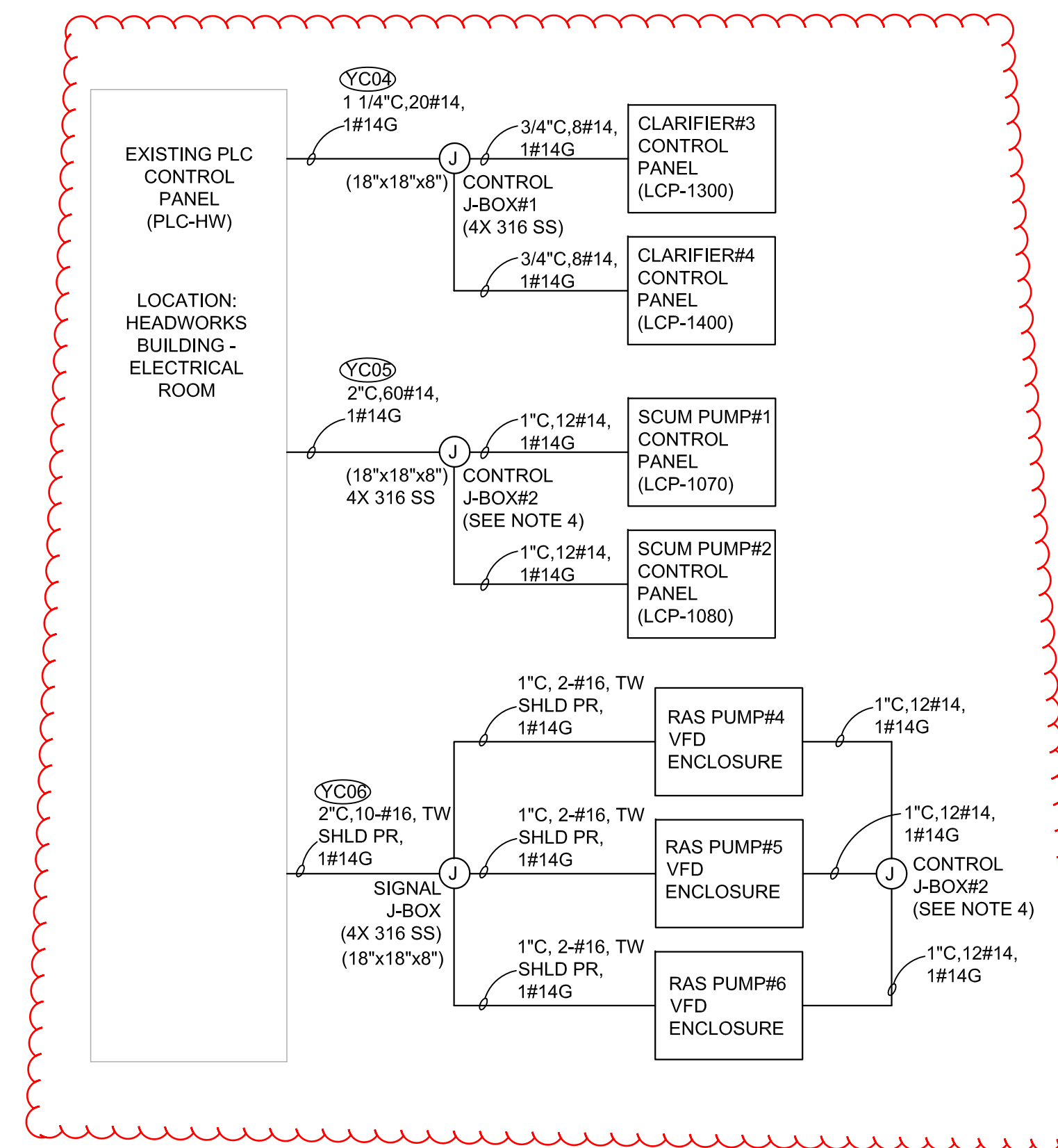
NOT TO SCALE  
Y=3,4



**LIGHTING CONTROL (CO1) SCHEMATIC**

SCALE: NONE

YC04 - 06



**PLC-HW CONTROL PANEL RISER**

NOT TO SCALE

**NOTES:**

- NOT ALL CONDUITS AND CABLES SHOWN. SEE OTHER PLAN DRAWINGS FOR ADDITIONAL CONDUITS AND CABLES.
- CONTRACTOR IS ALLOWED TO COMBINE CONTROL AND INSTRUMENTATION WIRE AS LONG AS WORK IS ACCOMPLISHED IN ACCORDANCE WITH THE NEC.
- FOR CLARIFICATION, X-#16 TW SHLD PR = X SETS OF #16 TWISTED SHIELDED PAIR. TW SHLD PR IS TYPE B - INSTRUMENTATION CABLE AS PER SPECIFICATION 16120.
- J-BOX#2 IS THE SAME JUNCTION BOX FOR CONNECTING SCUM PUMP CONTROL PANELS AND RAS PUMPS VFD ENCLOSURES.
- ALL J-BOX SIZE SHOWN IS FOR MINIMUM SIZE ONLY. CONTRACTOR SHALL ADJUST THE SIZE AS NEEDED BASED ON THE ACTUAL CONDUIT CONFIGURATION AND QUANTITY.

REV	DATE	BY	DESCRIPTION

DESIGNED	TW
DRAWN	DGU
CHECKED	PFH
DATE	MARCH 2013

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MANATEE COUNTY  
SWWRF CLARIFIER 3&4 REHABILITATION  
ELECTRICAL  
CLARIFIER CONTROL PANEL SCHEMATIC DIAGRAM

VERIFY SCALES	JOB NO. 7880J10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. E-6
0 1"	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	