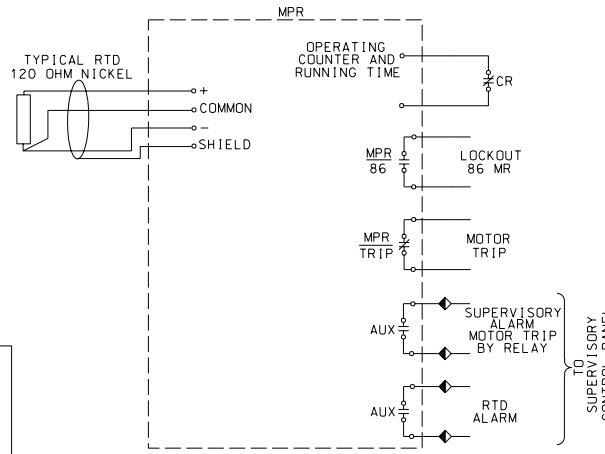
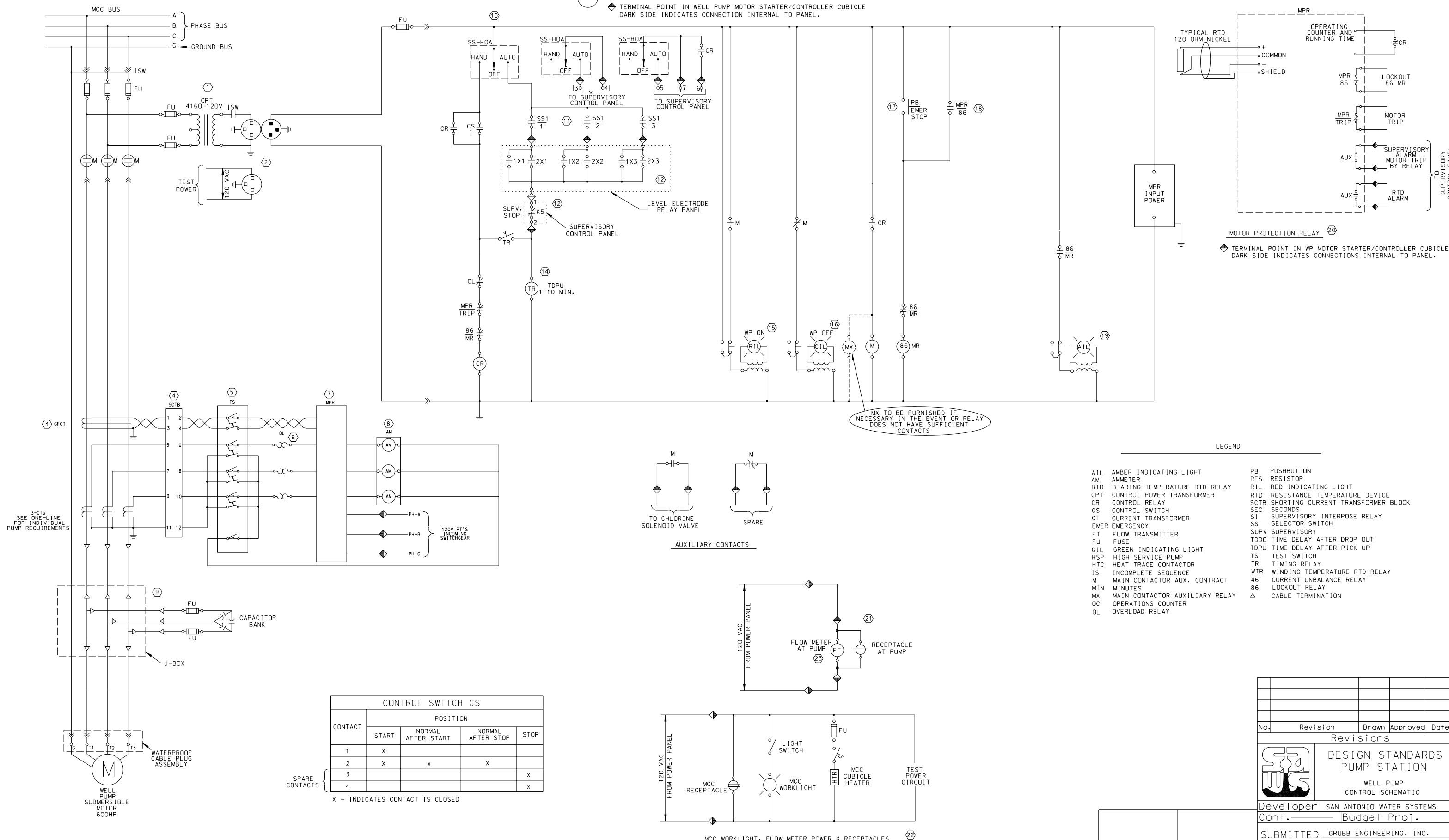
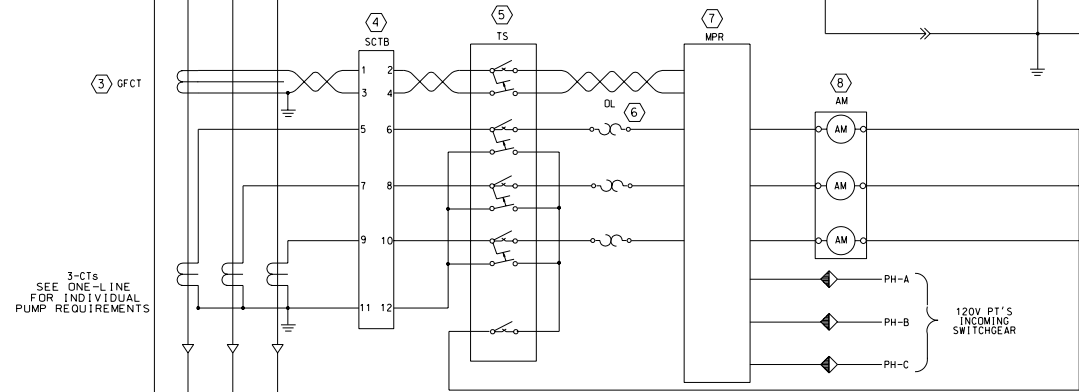


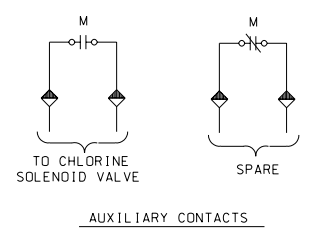
# WELL PUMP MOTOR STARTER/CONTROLLER CONTROL SCHEMATIC



**MOTOR PROTECTION RELAY**  
 TERMINAL POINT IN WP MOTOR STARTER/CONTROLLER CUBICLE. DARK SIDE INDICATES CONNECTIONS INTERNAL TO PANEL.



3-CTs SEE ONE-LINE FOR INDIVIDUAL PUMP REQUIREMENTS



AUXILIARY CONTACTS

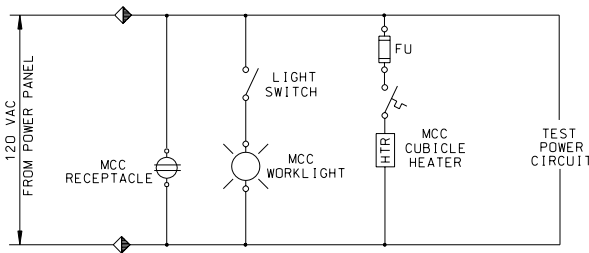
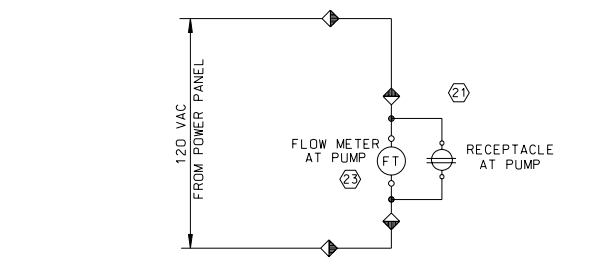
MX TO BE FURNISHED IF NECESSARY IN THE EVENT CR RELAY DOES NOT HAVE SUFFICIENT CONTACTS

**LEGEND**

- |      |                                |      |                                    |
|------|--------------------------------|------|------------------------------------|
| AIL  | AMBER INDICATING LIGHT         | PB   | PUSHBUTTON                         |
| AM   | AMMETER                        | RES  | RESISTOR                           |
| BTR  | BEARING TEMPERATURE RTD RELAY  | RIL  | RED INDICATING LIGHT               |
| CPT  | CONTROL POWER TRANSFORMER      | RTD  | RESISTANCE TEMPERATURE DEVICE      |
| CR   | CONTROL RELAY                  | SCTB | SHORTING CURRENT TRANSFORMER BLOCK |
| CS   | CONTROL SWITCH                 | SEC  | SECONDS                            |
| CT   | CURRENT TRANSFORMER            | S1   | SUPERVISORY INTERPOSE RELAY        |
| EMER | EMERGENCY                      | SS   | SELECTOR SWITCH                    |
| FT   | FLOW TRANSMITTER               | SUPV | SUPERVISORY                        |
| FU   | FUSE                           | TDDO | TIME DELAY AFTER DROP OUT          |
| GIL  | GREEN INDICATING LIGHT         | TDPU | TIME DELAY AFTER PICK UP           |
| HSP  | HIGH SERVICE PUMP              | TR   | TIMING RELAY                       |
| HTC  | HEAT TRACE CONTACTOR           | WTR  | WINDING TEMPERATURE RTD RELAY      |
| IS   | INCOMPLETE SEQUENCE            | 46   | CURRENT UNBALANCE RELAY            |
| M    | MAIN CONTACTOR AUX. CONTRACT   | 86   | LOCKOUT RELAY                      |
| MIN  | MINUTES                        | Δ    | CABLE TERMINATION                  |
| MX   | MAIN CONTACTOR AUXILIARY RELAY |      |                                    |
| OC   | OPERATIONS COUNTER             |      |                                    |
| OL   | OVERLOAD RELAY                 |      |                                    |

CONTACT	POSITION			
	START	NORMAL AFTER START	NORMAL AFTER STOP	STOP
1	X			
2	X	X	X	
3				X
4				X

X - INDICATES CONTACT IS CLOSED



TERMINAL POINT IN MOTOR STARTER/CONTROLLER CUBICLE. DARK SIDE INDICATES CONNECTION INTERNAL TO PANEL.

No.	Revision	Drawn	Approved	Date
Revisions				
<b>DESIGN STANDARDS PUMP STATION</b> WELL PUMP CONTROL SCHEMATIC				
Developer SAN ANTONIO WATER SYSTEMS				
Cont. Budget Proj.				
SUBMITTED GRUBB ENGINEERING, INC.				
APPROVED _____				
Map No.				Sheet
Section No.				
Dr. RgjlCh	Job No.			E06