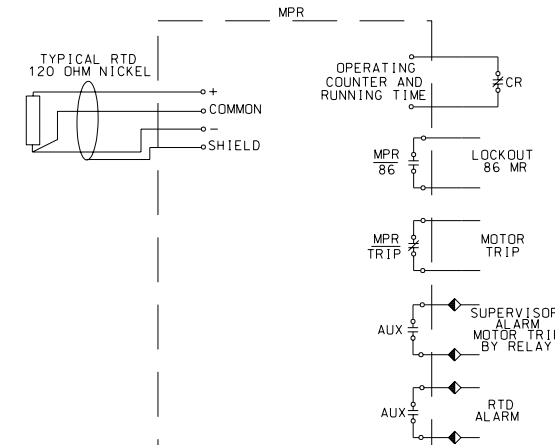
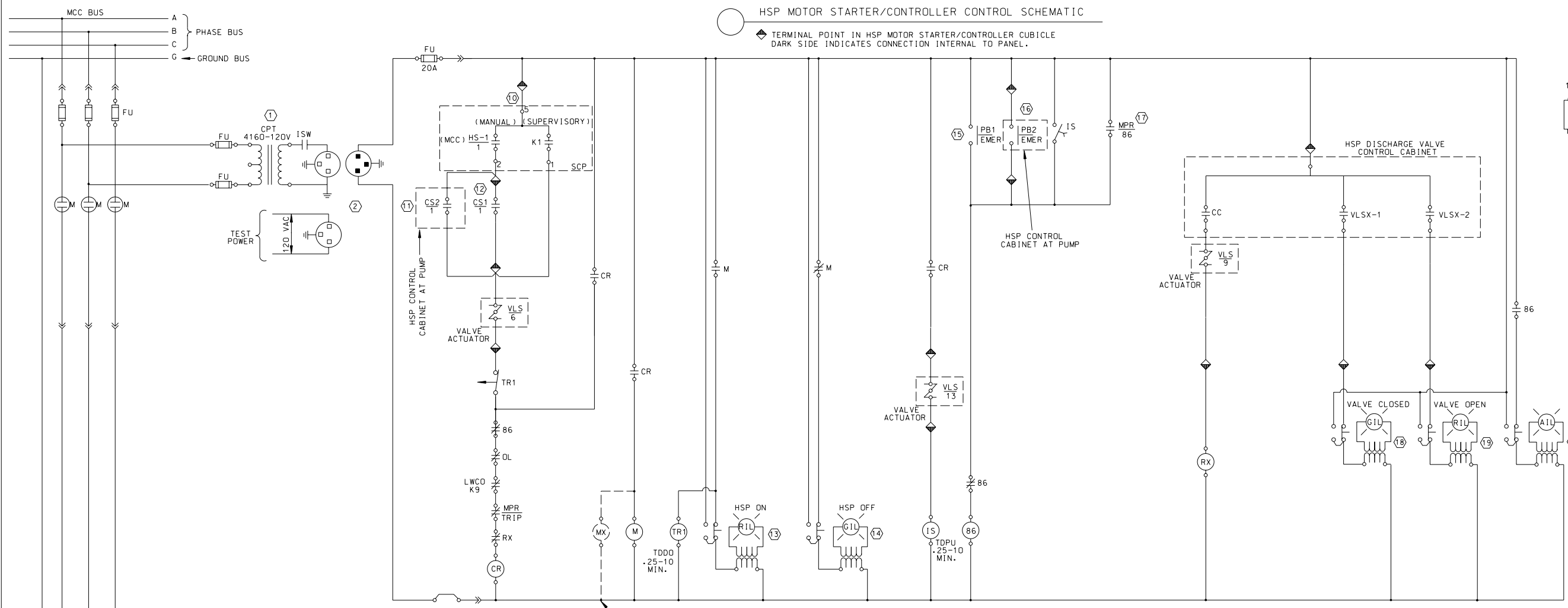
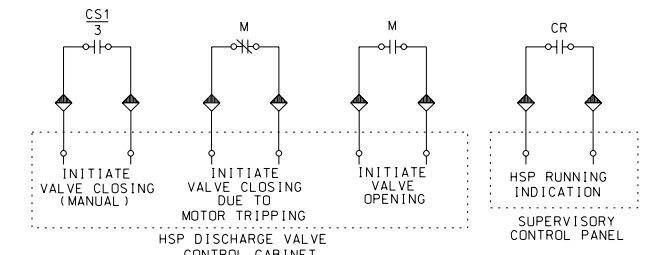
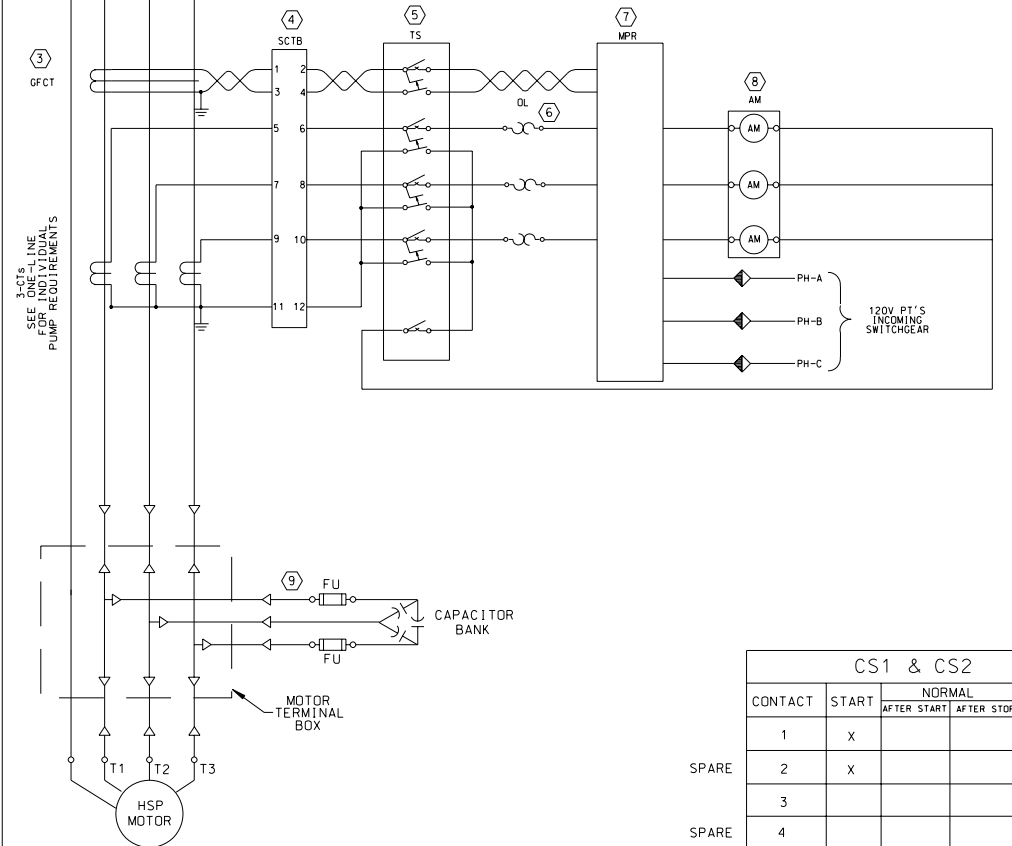


# HSP MOTOR STARTER/CONTROLLER CONTROL SCHEMATIC

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



◆ TERMINAL POINT IN HSP MOTOR STARTER/CONTROLLER CUBICLE.  
DARK SIDE INDICATES CONNECTIONS INTERNAL TO PANEL.



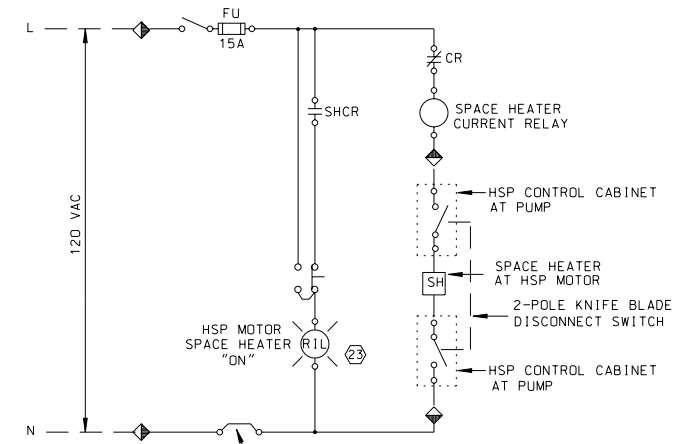
**LEGEND**

AIL	AMBER INDICATING LIGHT	OL	OVERLOAD RELAY
AM	AMMETER	PB	PUSHBUTTON
CAP	CAPACITOR	RES	RESISTOR
CC	CLOSE CIRCUIT/COIL	RIL	RED INDICATING LIGHT
CPT	CONTROL POWER TRANSFORMER	RTD	RESISTANCE TEMPERATURE DEVICE
CS	CONTROL SWITCH	RX	PUMP SHUTDOWN AUXILIARY RELAY
CT	CURRENT TRANSFORMER	SCTB	SHORTING CURRENT TRANSFORMER BLOCK
EMER	EMERGENCY	SEC	SECONDS
FU	FUSE	SUPV	SUPERVISORY
GIL	GREEN INDICATING LIGHT	TC	TRIP CIRCUIT
HS-1	2-POSITION SELECTOR SWITCH (SCP-MCC)	TDDO	TIME DELAY AFTER DROP OUT
HSP	HIGH SERVICE PUMP	TDDO	TIME DELAY AFTER PICK UP
IS	INCOMPLETE SEQUENCE RELAY	TM	TIMING METER
LWCO/K9	LOW WATER CUT OFF	TO	TIMED OPENING
M	MAIN CONTACTOR AUX. CONTACT	TS	TEST SWITCH
MIN	MINUTES	VLS	VALVE LIMIT SWITCH
MOV	MOTOR OPERATED VALVE	VLSX	VALVE LIMIT SWITCH AUXILIARY RELAY
		86	LOCKOUT RELAY

**CS1 & CS2**

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

X - INDICATES CONTACT IS CLOSED



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

1	ADD K9 IN RUN CKT	EC	RG	7/3/02
No.	Revision	Drawn	Approved	Date

**Revisions**

**DESIGN STANDARDS PUMP STATION**

HSP CONTROL SCHEMATIC

Developer: SAN ANTONIO WATER SYSTEM  
 Cont.: Budget Proj.

SUBMITTED: GRUBB ENGINEERING, INC.  
 APPROVED: \_\_\_\_\_

Map No. \_\_\_\_\_ Sheet \_\_\_\_\_  
 Section No. \_\_\_\_\_  
 Dr. RDGj|Ch Job No. \_\_\_\_\_ E07