

RRWD - PUMPHOUSE UPGRADES - DISTRIBUTION AND METERING

The purpose of this project was two-fold, (1) to install a system distribution online water meter, and (2) to convert to 2 independent pumping systems, able to be isolated with valves and controls as backup.

- (1) Installing the water meter required the removal of a 54-inch section of 6-inch ductile iron pipe in the primary line, including a 4-inch flange valve, flange fittings, and plumbing no longer in use from the original pump system. That process required temporary operation using our backup system.
- (2) To operate independently using the backup pump, plumbing, valve, and routing changes were needed in the secondary line. Once that was completed and operational, the meter line was done.

With both the primary and secondary lines operational and tested independently, the final step was to install the electronic additions to the Mission Communications system. This system, which monitors all sensors around the pumphouse and reservoir, sends a variety of signals using cell phone technology to the MC computer in Atlanta. That transmits all status to us online, including various messages relating to important alarm conditions that we have set up to monitor, by em and cell.



THE FORGROUND LEFT IS THE 6" DUCTILE IRON PIPES BEFORE CONVERSION - NEW METER GOES HERE



PART OF THE IRON PIPES REMOVED



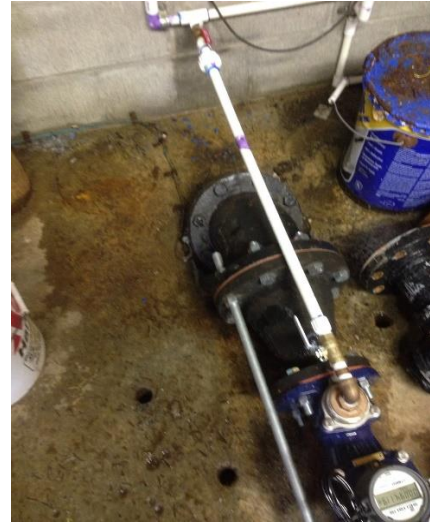
SECONDARY DISTRIBUTION PLUMBING BEFORE CONVERSION



SECONDARY DISTRIBUTION AFTER CONVERSION
PRIMARY AND SECONDARY PUMPS
CAN NOW OPERATE INDEPENDENTLY



THE NEW METERING MEASURES ALL WATER FLOW INTO THE DISTRIBUTION SYSTEM AND SENDS SIGNALS TO MISSION COMMUNICATIONS FOR ONLINE DISPLAY



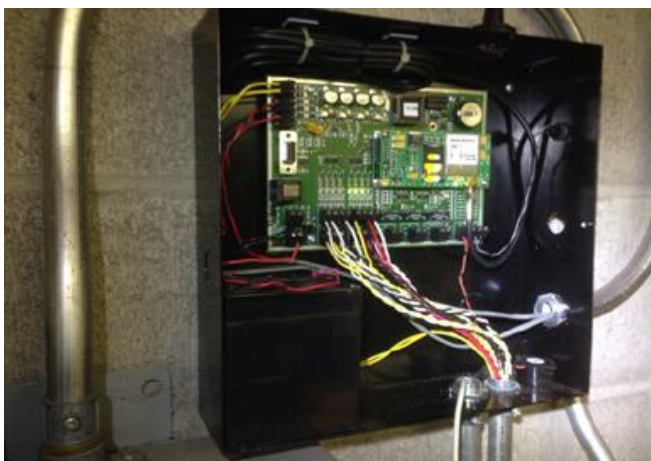
PRESSURE LINE TO CONTROL SWITCHING PRIMARY AND SECONDARY PUMPS CAN OPERATE INDEPENDENTLY



OLD PRESSURE TANK REMOVED



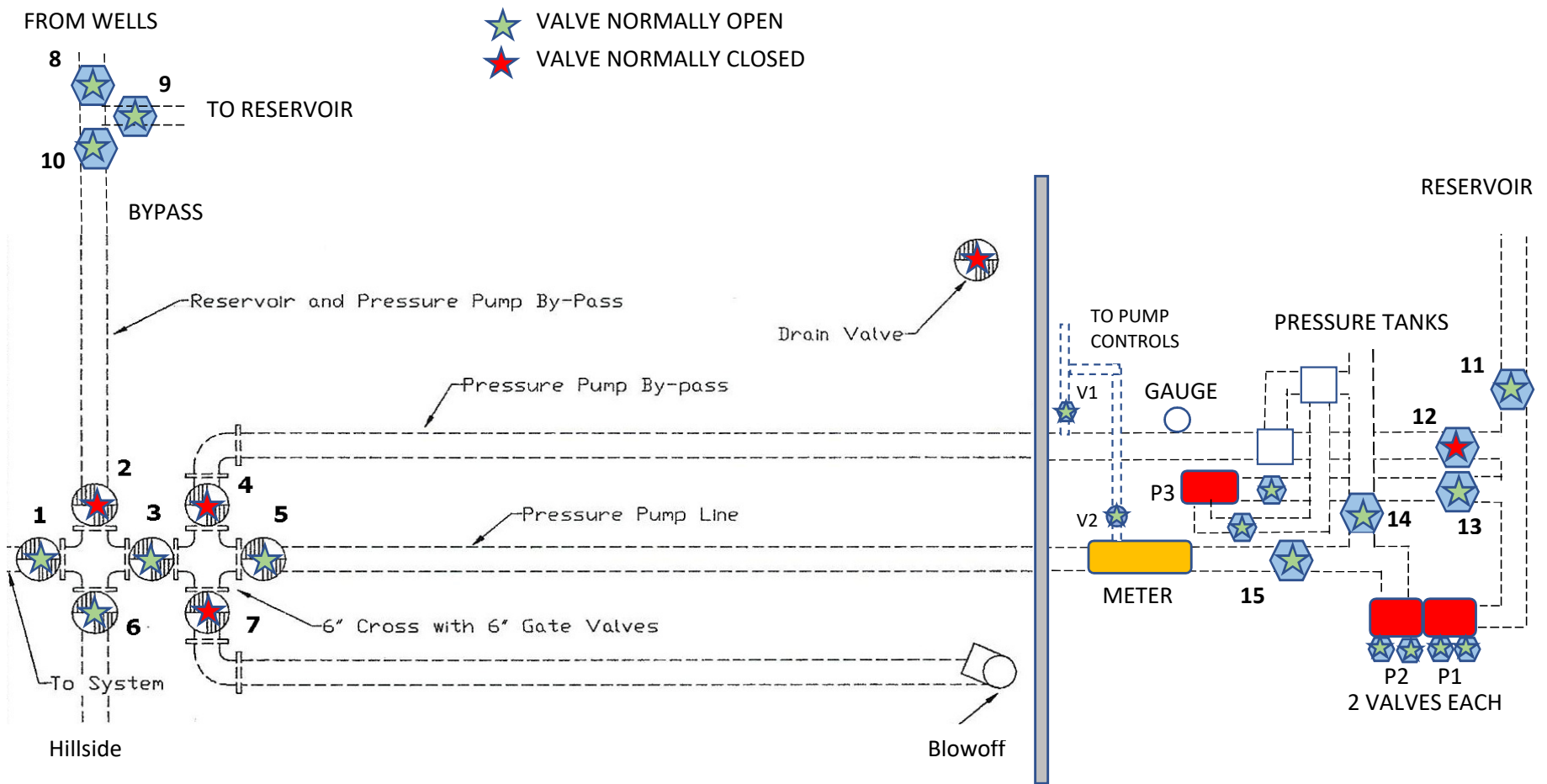
ADDED SHELVING IN PLACE OF PRESSURE TANK - 2' X 2' X 5'



MISSION COMMUNICATIONS BEFORE ADDING ELECTRONICS FOR METER



MISSION COMMUNICATIONS AFTER ADDING ELECTRONICS FOR METER



Normal Operation

1 - OPEN	TO SYSTEM	11 - OPEN	FROM RESERVOIR
2 - CLOSED	RES BYPASS	12 - CLOSED	TO BYPASS
3 - OPEN	CENTER	13 - OPEN	TO PUMP #3
4 - CLOSED	PH BYPASS	14 - OPEN	CROSSOVER
5 - OPEN	PH TO MAIN	15 - OPEN	TO METER & MAIN
6 - OPEN	TO HILLSIDE		
7 - CLOSED	BLOWOFF	P1	OPEN
8 - OPEN	FROM WELLS	P2	OPEN
9 - OPEN	TO RESERVOIR	P3	OPEN
10 - OPEN	RES BYPASS	V1-2	OPEN
			PUMP #1 - 2 VALVES
			PUMP #2 - 2 VALVES
			PUMP #3 - 2 VALVES
			TO PRESSURE SWITCHES