

To: Peter Kampa, General Manager – Lake Don Pedro CSD

From: Jeff Black, P.E.

Subject: Capital Project Priorities 2019-2020

Date: February 20, 2019

On February 14, 2019 Black Water Consulting Engineers, Inc. (Black Water) met with Pete Kampa (via phone) and system operator Randy Gilgo to review 2016 5-year capital improvement plan and prioritize current and upcoming projects to improve the reliability and performance of the water system. The following is a summary of the priorities discussed.

1. Barge Repair

Project Description

Plans have been completed for repairing and restoring the barge to operation. A contract has been let for the repairs with the objective of having the barge operational in the spring of 2019 prior to the high demand water season and before the repairs to the intake pump are started.

2. Intake Pump

Project Description

The existing station is a duplex pumping system utilizing submersible pumps in Lake McClure. Currently only Pump 1 is operating. The original pump control valve diaphragm is failing and allows raw water to drain back out of the system and into the lake resulting in significant water loss. A secondary ball valve on the pump control valve can be closed to stop the water loss; however this deactivates the automatic control of the pump control valve, essentially rendering it a manual valve. Pump 2 is inoperable and in need of being replaced. It is recommended that Pump 2 be replaced and placed in service before the pump control valve problem is corrected. It is also recommended that instead of replacing the pump control valves with new like valves, that the pumps be equipped with variable frequency drives and/or soft starts. As Pump 1 is currently the only source of surface water for the District, the construction should not begin until the District's pump barge is repaired and placed back into service.

3. Raw Water Main

Project Description

The water main conveying raw surface water from the intake pump station to the water treatment plant is in need of replacement. There are ongoing projects to repair leaks and breaks in the pipe line as they are discovered. It is a likely possibility that the majority of the systems water loss is due to faulty valves at the intake pump. We will analyze this and if it is the case, then the priority for this project will drop and leaks will be managed as needed. This project could also be part of the DWSRF planning grant.

4. Ranchito Well

Project Description

This well was recently rehabilitated. The discharge piping, valves, and flow meter are original and located in a below grade vault. The vault has repeated flooded resulting in access and operational problems, as well as damage to the flow meter. A design has been prepared for relocating the well discharge piping to above grade and improving the well site. Groundwater from this well is necessary as a water supply for properties located outside the Merced Irrigation District Place of Use.

5. DWSRF Planning Study

Project Description

A funding application for a planning grant is being prepared for this work. It is anticipated that the planning study will utilize grant funds to identify, evaluate, and recommend improvement projects that will correct district-wide deficiencies in the electrical and control systems, pump control valves, and piping improvements at the water treatment plant. The application also includes an evaluation for the replacement of the intake system on Lake McClure, and the potential to install a deeper pump set for drought conditions. The resulting engineers report and recommendations will become the basis for a DWSRF construction funding application to complete the design and recommended system projects and repairs.

6. Bluebell Pipe Replacement

Project Description

This pipe is primarily located in cul-de-sacs and ranges between 2 and 4 inches. This pipe requires ongoing maintenance to repair leaks and breaks. The pipe will be replaced with C900 PVC pipe. It is also recommended that mainline valve be replaced as needed with this project.

Current Projects

Service Line Replacement and WTP Meter Vault

Contractor: SCCI

Completion: July 3, 2019

This project includes the replacement of 120 service lines in the highest problem area. The DWSRF planning grant will address the priority and schedule for replacing the remaining service lines in the District.

Altitude Valve Replacement (Alamo, Enebro)

In design

Completion: May 2019

Notice of Intent – Hazard Mitigation Grant Program Application

NOI Submitted 2/15/19

Grant Application Form – anticipated July 2019

Please contact Jeff Black at jeff@blackwater-eng.com, or (209) 322-1817 with any questions.