

Featured Project

Zone 7 SCADA System

Pleasanton, California



ArcSine Engineering designed an upgrade for SCADA and control systems for Zone 7, a water wholesaler serving water retailers in Pleasanton, Livermore, and Dublin, California.

Highlights:

- Excellent results outside of the traditional design-bid-build procurement system.
- Evaluation of multiple technical alternatives.
- PLC/HMI based system with features typically found on larger systems.

The Zone 7 water distribution system consists of two water treatment plants, wells, reservoirs, stream gauging stations, turnouts, metering stations, and valve stations. This \$5.9 million project replaced the control systems at the two treatment plants and 29 of the remote facilities. The planning phase included an evaluation of technology alternatives and the setting of standards for the future projects at Zone 7. The new system is a modern, open architecture-based control system including PLC's, local and wide area networks, fiber optic and radio communications, and a PC-based operator interface system.

The project used 900 MHz and 2.4 GHz unlicensed wireless Ethernet radio. The self-healing mesh radio configuration overcame difficult terrain interference issues, while providing redundant plant-to-plant and remote site communications paths. The new system includes a triple redundant relational database history system and interface to a computerized maintenance management system.

ArcSine's work on this project included the following services:

- Identify monitoring and instrumentation needs for existing and planned sites over a 15-year period. Develop criteria.
- Coordinate with Zone 7 customers to establish requirements for sharing data and facilities at turnouts.
- Coordinate with State of California Department of Resources for stream gauge data sharing.
- Design electrical, instrumentation and controls, and communications.
- Provide extensive support during construction.
- System-wide PLC, HMI, and communications programming by ArcSine's Chief Programmer.
- Follow-up field services and programming.

**Electrical
Programming
Power Distribution
Construction Services
Instrumentation/Controls
Water/Wastewater**

