

Reverse Osmosis Solution from H2O Engineering Solves Water Quality Issues on 23-Parcel Commercial Property in San Luis Obispo, CA

CHALLENGE

East Airport Park Association, which manages a 23-parcel commercial property near the airport in the coastal town of San Luis Obispo, CA, recently began soliciting new tenants for its build-to-suit property. The existing water system provided a potable, but generally poor quality water supply with high TDS, hardness, nitrate, and barium. New and potential tenants requested a high quality water supply consistent with larger community systems.

The project presented significant challenges due to limited space for equipment, short project timeline, and the need to integrate the solution into the existing water delivery system.

The East Airport Park Association turned to H2O Engineering, Inc. and Wallace Group for a solution to clean up the well water and provide peace of mind to tenant applicants.

SOLUTION

The team at H2O Engineering recommended reverse osmosis for the primary filtration to remove barium and TDS. The recommended solution is a low energy consumption system, employing a variable frequency drive for the boost pump to further reduce energy requirements. The system is built with smart PLC/HMI controls, requiring very little human input to maintain optimal performance. The system also employs water blending to reduce the corrosive impacts of pure water. The blending process increases the efficiency of the entire project by maximizing water recovery from the well.

H2O Engineering partnered with Wallace Group for civil engineering required for the project.

RESULTS

H2O Engineering designed, manufactured, and installed the reverse osmosis system within the customer's desired timeline. The system was integrated into the existing equipment building and controls were tied into the existing site SCADA system. As a result of the reverse osmosis technology, water at the East Park Airport Association property exceeded the customer's requirements. The Association and its tenants benefit from a high water recovery rate, low energy consumption, and quality drinking water. H2O Engineering now provides monthly monitoring and maintenance for the system.

PROJECT SNAPSHOT

EXISTING CONDITIONS:

- (3) Wells with 1400-3100 mg/l Total Dissolved Solids (TDS) and High Barium
- (2) 100,000 Gallon Holding Tanks
- (23) Commercial Parcels

H2O SOLUTION:

- Equilibrium Tank w/ Level Transmitter
- Automated pH Control and Antiscalant Pretreatment Dosing
- 30 GPM Reverse Osmosis System
- Low Energy RO Membrane Elements
- Variable Frequency-Driven Boost Pump
- PLC/HMI Controls w/ Remote Alarming
- Finished Water Blending to Increase Overall Recovery

RESULTS:

- Tenant Satisfaction
- Low TDS and Nitrates in the Drinking Water
- High Overall System Recovery
- Low Energy Consumption
- Limited Site Impact

