

FIRM EXPERIENCE



Owner Reference

Ms. Siew Ching Chin
Project Manager
City of Palo Alto
250 Hamilton Avenue
Palo Alto, CA 94301
(650) 838-2917

Project Size

\$12M

Team Members

- Jeff Mohr, PE
- Peter Symonds, PE
- Sandy Schuler, PE
- Marcus Spain

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Primary Sedimentation and Electrical Rehabilitation, Palo Alto, CA | Ongoing

The City of Palo Alto (City) identified a significant need to rehabilitate existing facilities at the Regional Water Quality Control Plant (RWQCP), which have been subject to failures, leading to partial process outages and expensive maintenance. These facilities consist of the Primary Sedimentation Tanks (PSTs) and what the City has referred to as the Top-Deck electrical infrastructure, consisting of Motor Control Centers (MCCs) E, F, and G. To address these deteriorating systems, the City developed the current Project and hired Kennedy Jenks with the goal of rehabilitating and upgrading these systems to provide reliable service for at least the next 20 years.

Electrical design involved extensive planning to maximize uptime for each system. This led to an 8-step sequencing plan to place and prepare distribution equipment for transition with a minimum of disruption.

Instrumentation and control was designed to be compatible with the City's existing SCADA and PLC systems. Control will utilize local PLCs via the existing SCADA system and automation of PST equipment control will be used where most appropriate.

Relevant features included:

- Evaluation of electrical and instrumentation systems
- Alternative analysis for replacement of new MCCs, F, G, H
- Integration of new equipment into electrical system
- Control scheme to integrate new equipment into existing Plant SCADA
- MCC load transfers
- Removal of MCCs
- Installation and connection of new MCCs, including two small 1200A MCCs
- Relocation of existing loads to new MCCs
- Addition of new distribution panels
- Provisions for future switchboards to replace obsolete substations

Owner



FIRM EXPERIENCE



Owner Reference

2

Teresa Herrera
Plant Manager
Silicon Valley Clean Water
1400 Radio Road
Redwood City, CA 94065
(650) 591-7121

Project Size

\$8M

Team Members

- Peter Symonds, PE
- Sandy Schuler, PE
- Marcus Spain

WWTP Reliability Improvements, Redwood City, CA | 2017

Silicon Valley Clean Water (SVCW) was undertaking improvements to the reliability of the WWTP serving the cities of Belmont, Redwood City, San Carlos and the West Bay Sanitary District. SVCW is currently engaged in a multi-year CIP to address aging systems and to improve reliability of the treatment works and the conveyance system.

This project included the installation of new MCC's and VFD's for both pumps and blowers and new Instrumentation and control systems for several process areas to provide reliability improvements. Kennedy Jenks served as owner's representative, helping SVCW prepare preliminary design and a Basis of Design Report and creating bridging documents to bring on a Design Build team for final completion.

Power and electrical distribution system upgrades included:

- Existing MCCs including new VFDS associated with new Aeration Blowers
- Existing MCCs and new VFDs associated with Dewatering System Improvements
- Existing MCCs associated with a new backup water system for the Plant's Standby Generator System

Instrumentation and control system upgrades included:

- Existing PLCs and SCADA associated with Aeration Blowers
- Existing PLCs, SCADA and various specialty control panels associated with the Dewatering System Improvements
- Existing PLCs and SCADA associated with the new backup water system for the Plant's Standby Generator System

Owner



FIRM EXPERIENCE



Owner Reference

3

Ms. Tina Pham
Senior Engineer
City of San Jose
700 Los Esteros Road
San Jose, CA 95134
(408) 635-2099

Project Size

\$31M

Team Members

- Jeff Mohr, PE, CEM
- Peter Symonds, PE
- Sandy Schuler, PE
- Marcus Spain

Filter Rehabilitation and Electrical Upgrades, San Jose, CA | Ongoing

The City of San Jose City is rehabilitating the entire tertiary process comprising the Influent Pump Station, Filtration Process, Chlorine Contact Basins, Backwash Process and auxiliary systems. **Of the estimated \$31M construction, over 40% comprise electrical and instrumentation upgrades.**

El&C improvements are closely coordinated to mitigate impacts on other projects overlapping in area, scope and construction window. **Construction of improvements will require extensive construction sequencing and phasing.**

Relevant features include:

- Improvements addressed aging infrastructure and will result in enhanced reliability, process efficiency, safety, and operability
- Involved over 12-months of planning and coordination with the program O&M staff given construction would require a full-plant shutdown for extended periods of time
- Provided extensive condition assessment, conceptual, and preliminary design
- Currently beginning design-phase services
- Replacing Transformers S6-T1 and S6-T2, S12-T1 and S12-T2 including medium voltage cable feeds
- Replacing LV Switchgear S6 and MV Switchgear S12
- Replacing MCCs AF1, AF2, AD1, AD2, AE1, AE2
- Rebalancing switchgear loads

Owner



FIRM EXPERIENCE



Owner Reference

4

Ken Glotzbach
Wastewater Utility Manager
City of Roseville
2005 Hilltop Circle
Roseville, CA 95747
(916) 774-5754

Project Size

\$80M

Team Members

- Jeff Mohr, PE, CEM
- Peter Symonds, PE
- Sandy Schuler, PE
- Marcus Spain

Pleasant Grove Wastewater Treatment Expansion, Roseville, CA | 2018

The City of Roseville is expanding capacity of the Pleasant Grove WWTP by 40% to address accelerated regional growth by adding new processes comprising primary clarifiers, gravity belt thickeners, anaerobic digestion, odor control and auxiliary system. The \$80M improvements, of which **20% were EI&C, were delivered using the Design-Assist Delivery method.**

Kennedy Jenks provided planning, predesign and design services for all disciplines. Construction of improvements will be sequenced to allow the WWTP to remain fully functional. Partial shutdowns are planned for critical tie-ins and power bus modifications, which require a power outage at each Switchgear.

Power and electrical distribution system upgrades included:

- Modification of existing Switchgear 1 to add two new feeder breakers
- Modification of Switchgear 2 to add a new feeder breaker
- New MCCs to handle the power loads from the primary clarifiers, digesters and solids thickening processes

Instrumentation and control system modifications were tailored to the City's Process Control System Standards and included:

- New and modifications of existing PLCs and SCADA and expansion of fire alarm system, security system, fiber optic network, and data communication
- New technologies comprising: conductivity probes, radar level probes, and SCADA-accessible video surveillance

Owner



FIRM EXPERIENCE



Owner Reference

Mr. Paul Sciuto
General Manager
Monterey One Water
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Monterey, CA 93940
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Project Size

\$115M

Team Members

- Jeff Mohr, PE, CEM
- Alex Page, PE, QSP
- Peter Symonds, PE
- Sandy Schuler, PE
- Marcus Spain

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Monterey One Water Advanced Water Purification Facility, Monterey, CA | Ongoing

The Monterey One Water Agency (M1W) and Monterey Peninsula Water Management District partnered to create Pure Water Monterey, a \$115M groundwater replenishment project.

The 4 MGD Advanced Water Purification Facility (AWPF) is the first Indirect Potable Reuse (IPR) facility in Northern California and uses ozone pre-oxidation, microfiltration, reverse osmosis, UV advanced oxidation, and post-treatment stabilization processes.

Kennedy Jenks led the planning, permitting and design, successfully delivering the 30% design for the AWPF in 12 weeks.

Power and electrical distribution system upgrades included:

- 21kVA Switchgear with provisions to tie into Waste Management Co-gen Facility one half mile away
- Two 3720kVA transformers at 21kV:480V
- Two 4000A LV Main-Tie Switchboards and Smart-MCCs all with power monitors communicating to SCADA

Instrumentation and control system upgrades included:

- Communication system consisted of Control System, Corporate System, and SCADA System separated by isolated managed switches
- Control system included the remote control panels and local control stations

Owner

