

Denis M. O'Malley, PE, PMP, DEE

5007 Claycord Court
Concord, California 94521
(925) 682-3472

Experience Summary

Mr. O'Malley has more than 40 years of experience in environmental engineering including engineering studies, design and construction management of sewage collection, treatment and disposal facilities; water supply, treatment and distribution facilities; and hazardous materials management projects. He frequently provides value engineering, scheduling, cost estimating, claims management, forensic, and dispute resolution support services. He also conducts constructability reviews; his design and construction experience benefit projects at the planning and early design stages as he presents considerations and solutions based on his experiences working in the field.

Mr. O'Malley holds a certification from the Dispute Resolution Board Foundation (DRBF) and from Caltrans evidencing that he has received training in the Dispute Review Board (ORB) process and meets the relevant organization's requirements for DRB panel members.

Education

M.S., *Environmental Engineering*,
Stanford University, California,
1972

B.S., *Engineering*, Loyola
University of Los Angeles,
California, 1971

Registration

Professional Engineer C23992,
California, 1974;

Certification

- DRB Foundation DRB Administrator/Member
- Caltrans DRB Member/Dispute Resolution Advisor (DRA)
- FA/CPR/AED
- Confined Space Entry
- OSHA 10-Hour Construction Safety
- Project Management Professional (PMP) 1467845

Training

- QSD/QSP
- FA/CPR/AED
- Confined Space Entry
- OSHA 10-Hour Construction Safety

Relevant Expertise

- Dispute resolution
- Claims prevention/management
- Arbitration and litigation support
- Forensic engineering
- Construction management
- Risk management planning
- Value engineering
- Constructability review
- Treatment facilities planning and design

Dispute Resolution Boards

DRB member, SFPUC Seismic Update of Bay Division Pipeline Nos. 3 & 4 at the Hayward Fault Project: \$31,320,000 bid for construction to reduce the risk of pipeline failure in a major seismic event at the Hayward Fault. The project is located at the intersection of Mission Boulevard and I-680 in Fremont CA. Portions of the project are constructed under I-680, requiring extensive coordination with Caltrans. Work includes a new articulated concrete vault; 72- to 78-inch diameter welded steel pipe; 72-inch-diameter slip joint; 96-inch-diameter steel pipe; 96-inch diameter expansion joint; concrete vault; concrete encasement of existing 96-inch diameter pipe, modifications to an existing slip joint vault, slip-lining existing 96-inch diameter pipe; 12-inch and 30-inch diameter water pipelines; drainage improvements and utility relocation.

DRB Member, SFPUC University Mound Reservoir North Basin Seismic Upgrades Project: \$29,597,000 bid for construction of seismic retrofit and upgrade to the north basin, which includes installation of internal moment resisting frames, strengthening of internal structural elements, installation of seismically resistant roof joints, and installation of solar reflective roof coating.

DRB member, SFPUC Lake Merced Pump Station Essential Upgrade Project: \$31,584,000 bid for construction of a new pump station and electrical utility buildings, seismic upgrade of the existing station structure. In addition, outdated mechanical and electrical systems will be replaced with new pumps, motors, emergency generators, surge tanks, electrical distribution, and station control systems

DRB member, SFPUC Sutro Reservoir Rehabilitation and Seismic Upgrade Project: \$ 28,586,000 bid for construction to seismically retrofit the roof and supporting structures, upgrade the foundation, install drainage system on the reservoir embankment, improve the reservoir under drain, spall and crack repair of the roof structure, install concrete lining, install new ventilations on the side walls, upgrade the outlet system, and install waterproofing on the roof.

DRB member, SCVWD South Bay Advanced Recycled Water Treatment Facility (ARWTF) Project: \$42,380,000 bid for the construction of a new pre-engineered 235-foot by 135-foot metal building founded on a concrete mat foundation. The building will house the new membrane filtration system, reverse osmosis filtration system, the ultra violet disinfection system, associated control and process systems and an operations/control room, several chemical storage, pumping and metering areas outside the structure, a 2.25 MG and a 225,000 gallon stainless steel storage tanks founded on precast pre-stressed driven concrete piles. The project will tie into the WPCP in three locations and connect to the new facility with three new pipe lines: 1,300 LF 36-inch secondary effluent line, 2,500 LF 16-inch backwash waste line, 4,600 LF 12-inch reject water line - all installed using trenchless construction. Pumps used in the facility range in size/type from 500 HP vertical diffusion pumps to 0.5 HP diaphragm pumps.

DRB liaison for owner and contractor on Pleasant Grove WWTP, Roseville, California: \$85-million new facility

Construction Claims Management

Representative projects include:

- Pleasant Grove WWTP, Roseville, California
- Randolph Water Treatment Plant (WTP), Tucson, Arizona
- Joshua Street WPCP, Albany, Georgia
- Kamole Weir WTP Improvements, Maui, Hawaii
- Las Vegas Street WWTP, Advanced Wastewater Treatment, City of Colorado Springs, Colorado
- Groundwater cleanup project for confidential industrial client in Southern California.

Arbitration and Litigation Support Services

Representative projects in arbitration, litigation and expert witness testimony include:

- Confidential public agency in California, on behalf of agency, successfully defending against allegations of criminal violations of the Clean Water Act
- MBR WWTP, on behalf of confidential Design/Build contractor, during mediation successfully assisted in reducing \$0.5-million claim against contractor to \$10,000 settlement
- East Lynn Combined Sewer Overflow Abatement System, Lynn, Massachusetts, on behalf of the contractor, which reached a satisfactory settlement (undisclosed)
- NEORS Westery Wastewater Treatment Center, Cleveland, Ohio, on behalf of District, which received a settlement, receiving an estimated \$25 million
- WWTP, Mission, Texas, on behalf of design engineer, which accepted a settlement of undisclosed amount
- City of Garland's Duck Creek WWTP, Sunnyvale, Texas, on behalf of City, which received a settlement of \$10+ million from design engineer and contractor.
- Construction dispute arbitrator as member of American Arbitration Association's Panel of Construction Arbitrators.

Construction Management

Pleasant Grove Wastewater Treatment Plant (WWTP) UV Design Assist Project, City of Roseville, California

Project Manager. Denis managed this project under the design/assist project delivery method that involved constructing an \$18-million facility modification to provide UV disinfection to meet the California Toxics Rule. Denis directed the construction management (CM) team from contract negotiations through startup. He oversaw contract administration, field engineering and inspection, testing and startup services, and Quality Assurance/Quality Control (QA/QC) of the CM team activities.

Folsom South Canal Connection, East Bay Municipal Utilities District (EBMUD), California

Contract Strategist and QA/QC. Denis directed efforts to develop contracting strategies and value engineering. He provided QA/QC oversight on work products to the client. The project included value engineering, contracting strategy and planning, cost estimating and scheduling at the 30, 60, 90 and 100 percent design levels, and dealt with 20 miles of 72-inch-diameter steel pipe, two raw water pumping stations, jack-and-bores, tunneling and open cut through California's wine country. Estimated construction cost: \$217 million.

Pleasant Grove WWTP, City of Roseville, California

Project Manager. This project involved constructing an \$85 million wastewater treatment facility. Denis provided constructability/bidability review at 50 and 75 percent design levels, prequalified general contractors and electrical subcontractors, prenegotiated equipment purchases, provided contract administration, conducted field engineering and inspection, and provided testing and startup services. The project included the following major elements: influent interceptor, headworks, aerated grit basin, oxidation ditches, secondary clarifiers, sand filters, chlorine contact basins, a reclaimed water pump station, aerated sludge holding tanks, sludge dewatering building, a filter support building, chemical building, two electrical control buildings, an administration building, a maintenance building, a return activated sludge (RAS)/waste activated sludge (WAS) pump station, effluent storage ponds, a stormwater storage pond, an emergency storage pond, outfall pipeline, outfall structure and miscellaneous yard structures.

Design/Build 1.2 Megawatt Cogeneration System, Union Sanitary District (USD), Union City, California

Project Manager. Denis managed the Design-Build project to design and build a 1.2-MW digester gas cogeneration project at the 30-mgd WWTP. He prepared the fast-track design documents, accelerated delivery equipment procurement documents, and provided construction management and inspection for this \$1.4 million project. This project incorporated an innovative digester gas purification system (siloxane removal) and extremely low engine exhaust emissions.

East Mission Gorge Trunk Sewer Rehabilitation, Mission Trails Regional Park, San Diego, California

Construction Manager. This project was constructed in accordance with stringent environmental constraints, during the winter months only, in a river gorge in a federally protected habitat inside the park. Construction occurred under the watchful eyes of environmentalists, the Regional Park Rangers, the U.S. Fish and Wildlife Service, and other federal, state and local agencies. The trunk sewer was kept in service during construction. The project included installing cured-in-place pipe (CIPP) in approximately 30,000 feet of deteriorated concrete pipe, rehabilitating more than 100 manholes using various materials, and employing environmental mitigation measures for protected habitat along the alignment.

San Francisco International Airport Master Plan Expansion Program, Utilities Relocation Projects, City and County of San Francisco, California

Project Manager. This series of 12 separate construction projects totaling more than \$150 million relocated existing utilities (water, domestic and industrial wastewater sewers, storm sewers, fuel and gas lines, and electrical and telephone ducts) to accommodate constructing new terminal facilities and tenant improvements. In addition to the construction challenges in and around an international airport, extensive coordination was required with the following regulatory agencies: Federal Aviation Administration, San Francisco Bay Regional Water Quality Control Board, California Department of Health Services, County of San Mateo, City and County of San Francisco, and the U.S. Fish and Wildlife Service (USFWS). For construction in areas west of Highway 101, stringent environmental constraints were specified and enforced, most notably protecting the

endangered San Francisco garter snake. The USFWS routinely monitored construction activities to confirm compliance with specified mitigation measures.

Bradshaw Interceptor Section 7A, Sacramento Regional County Sanitation District (SRCSD), Sacramento, California

Principal-in-Charge. Denis provided construction management oversight services for the Bradshaw 7A Pipeline project. This project included 13,700 LF of 54-inch-, 84-inch- and 90-inch-diameter RCP, a junction structure, and 250 LF of 84-inch-diameter reinforced concrete pipe (RCP) direct jack tunneling. This was a follow-on project to the Van Maren Pump Station for the County's Upper Northwest Interceptor projects. Brown and Caldwell was brought on at 70 percent design to provide a comprehensive constructability review. Denis' team provided bid assistance and onsite construction management services that included contract administration and field inspection.

Van Maren Pumping Station Section 8, SRCSD, Sacramento, California

Principal-in-Charge. Denis provided inspection services oversight for this \$12-million project. The main components included a pumping station and operations building, open-cut 48-inch-diameter sanitary sewer pipeline, and dual 30-inch-diameter ductile iron force mains.

Central Avenue Phase II Sewer Replacement Project, USD, Union City, California

Technical Advisor. This \$1 million project involved constructing approximately 5,000 feet of PVC pipe ranging in size from 8 to 18 inches in diameter, and included replacing 30 laterals and 15 manholes, and repaving streets to City standards.

Injection/Extraction Well System, Santa Clara Valley Water District (SCVWD), Santa Clara, California

Construction Manager. Denis managed the construction of 50 injection/ extraction wells for the SCVWD. Construction was completed in an environmentally sensitive wildlife preserve in a wetlands area adjacent to the San Francisco Bay. In addition to managing construction activities, Denis negotiated and coordinated with the following agencies that were interested in the project and the affected areas: State Water Resources Control Board, Department of Water Resources, U.S. Corps of Engineers, City of Palo Alto, Santa Clara County and Stanford University. Although hampered by weather and regulatory delays, construction was completed successfully, and regulatory agencies approved revegetating affected areas.

Effluent Outfall, Aliso Water Management Agency (AWMA), Laguna Niguel, California

Construction Manager. As part of a program to construct a regional wastewater collection, treatment and disposal system, AWMA constructed an outfall (both ocean and land portions) to convey treated effluent from the regional treatment in Laguna Niguel to Aliso Canyon. The pipelines' land portion connected to the ocean portion at Aliso Creek in South Laguna, and was constructed through a defined nature area and a golf course. Maintaining positive relations with the surrounding community and businesses adjacent to the construction areas, and coordination with the State Water Resources Control Board, California Fish and Game, Orange County and the U.S. Coast Guard were essential to successful project completion.

North Interceptor Wet Weather Facilities, East Bay Municipal Utility District (EBMUD), Oakland, California

Office Engineer. As part of its long-term program to address wet-weather flows, EBMUD constructed 10,000 feet of 30-inch- to 60-inch-diameter pipe and a 24-mgd pump station through the residential and industrial areas in Albany, Berkeley and Richmond. The project included both force main and gravity pipe, with pipeline sections supported on piles. Much of the pipeline paralleled Interstate 80, which required coordination with the California Department of Health Services, Pacific Gas and Electric, California Department of Transportation, and the cities of Albany, Berkeley and Richmond. The project included three bore-and-jack sections under I-80 in Albany, under I-580 in Richmond and under the Southern Pacific Railroad lines. Hazardous materials management and disposal was also a key issue for this project.

Water Reclamation Plant Expansion (30 mgd), Central Contra Costa Sanitary District, Martinez, California

Assistant Resident Engineer. Denis assisted the Resident Engineer in managing the expansion and process modification project that included high lime addition primary sedimentation tanks, fine-bubble diffusion activated sludge (including steam turbine-driven centrifugal blowers), secondary clarification, nitrification and denitrification, chlorine disinfection, anaerobic sludge digestion and sludge incineration (with lime recovery).

Sewer Rehabilitation, Narragansett Bay Water Quality Management Commission, Providence, Rhode Island

Assistant Project Engineer. The Narragansett Bay Water Quality Management District Commission retained Brown and Caldwell to rehabilitate the Allens Avenue Interceptor in Providence. The interceptor was a 102-inch-diameter brick sewer built in the late 1890s. With invert about 30 feet below road surface, the sewer carries 50 mgd of wastewater during dry weather and as much as 150 mgd of wet-weather flow. Because of groundwater eroding surrounding soil foundations, the sewer deteriorated and suffered structural damage.

Raw sewage was diverted to Narragansett Bay under a two-week permit from Environmental Protection Agency (EPA). The contractor worked 24/7 to complete as much stabilization as possible within the time allowed. Brown and Caldwell provided a resident engineer and an inspector for three daily shifts. The resident engineers worked under a Brown and Caldwell construction manager. Temporary facilities for the construction manager, resident engineers and inspectors were established near the site to facilitate immediate communication with the contractor and the owner.

To help ensure worker protection, a shoring system was installed in the threatened sewer section. Steel ribs and wood lagging were then installed to provide a more permanent structure. Finally, the entire length was covered with shotcrete to provide corrosion protection for the steel and to optimize the flow line for the sewage.

Duck Creek WWTP (30 mgd) Modifications, Garland, Texas

Project Director. This eight-year program culminated in constructing modifications necessary to convert a physical/chemical treatment process to the trickling filter/solids contact process (the first wastewater treatment facility in Texas to use this process). In addition to the technical challenges during construction, Denis negotiated and coordinated with five federal and state agencies regarding environmental mitigation measures, interim and final discharge permits, and funding; participated as an expert witness in litigation related to previous construction projects; and conducted briefings for city council, the public and other affected parties regarding environmental, technical and socioeconomic issues.

Construction included modifying the headworks and primary sedimentation tanks, converting the rock media trickling filters to 16-foot-deep plastic media trickling filters, new fine-bubble diffusion solids contact tanks, converting secondary clarifiers to provide additional depth and capacity, new secondary clarifiers, converting carbon contact tanks to gravity filters, and modifying chlorine disinfection.

Honouliuli WWTP Expansion, Unit 1A, City and County of Honolulu, Hawaii

Quality Assurance Officer. Under consent decree terms, the client constructed new secondary treatment facilities (\$24 million) and a new maintenance building (\$4 million), with each project constructed by separate contractors on the same site. The secondary treatment facilities project included implementing the trickling filter/solids contact process (a process pioneered by Brown and Caldwell), two biotowers, 75,000-gallon solids contact tanks, 17,000-gallon solids reaeration tanks, two clarifiers, and 2-meter gravity belt thickeners housed in a new building. The maintenance building's key components included a two-story mechanical maintenance shop with overhead crane, electronics shop, equipment storage, and parts storage and staging. The secondary treatment facilities were completed ahead of schedule, thereby meeting the compliance deadline prescribed in the consent decree.

WWTP Expansion, City of Benicia, California

Principal-in-Charge. The City expanded its wastewater treatment facilities to provide additional secondary treatment capacity, sludge thickening, sludge belt filter presses, digester modifications, and other treatment plant upgrades. The construction was completed without any adverse impact on the environmentally sensitive wetlands adjacent to the construction site.

Prequalification of Prime Contractors and Subcontractors

- Microtunneling contractors for various projects, USD, Union City, California
- Utoy Creek Water Reclamation Center Improvements, Atlanta, Georgia:
 - Contract 1: \$108-million WWTP expansion
 - Contract 2: \$20-million administration, laboratory, and maintenance buildings
- South River Water Reclamation Center Improvements, Atlanta, Georgia: \$70-million plant expansion
- East Area Combined Sewer Overflow (CSO) Facilities Improvements, Atlanta, Georgia: \$16-million CSO improvements
- R. M. Clayton Water Reclamation Center Improvements, Atlanta, Georgia:
 - Contract 2: \$100-million plant expansion
 - Contract 3: \$100-million plant expansion
- Pleasant Grove WWTP, Roseville, California: \$85-million new facility
- Easterly WWTP Expansion, Vacaville, California: \$65 million.

Constructability Reviews

As Review Team Leader, representative projects include:

- Pleasant Grove WWTP, Roseville, California
- WWTP Expansion, Benicia, California
- Sacramento River WTP, Sacramento, California, \$80 million water treatment plant expansion and modifications.
- Butler Drive Water Reclamation Facility, \$100-million MBR wastewater treatment facility.

As Review Team Member, representative projects include:

- WPCF Upgrade and Capacity Restoration, \$58 million, San Leandro, California

Value Engineering (VE)

- VE constructability review team leader and value engineering team member for the City of Peoria's planned 10-mgd Butler Drive Water Reclamation Facility. Estimated construction cost: \$100+ million.
- Value analysis team member for the City of Los Angeles Central Outfall Sewer Rehabilitation Project for a 60-inch by 73-inch brick sewer, 14,000 LF, original capacity of 100 cfs, constructed in 1904.
- VE team member on 30 percent design for the Croton WTP at Mosholu, which had a 144 mgd average and 290 mgd maximum flow. Estimated construction cost: \$1.2 billion.
- VE team member for Roosevelt Roads Elementary School design, United States Navy.
- VE team member for two utilities relocation project designs that were part of the San Francisco International Airport Master Plan Expansion Program.
- Completed Module I value engineering training.

Water Supply, Treatment, Distribution and Conservation

- Investigation of Plastic Pipe Failures, American Water Works Association Research Foundation.
- Investigation of Cement-Mortar Lining Failures, American Water Works Association Research Foundation.
- Alameda County Water District, Fremont, California
- Design Review and Revision, Mission San Jose WTP (12 mgd).

- Study of Water Supply, Treatment, and Distribution System, Los Banos, California.

Confidential Client, Fort Worth, Texas

Project Engineer. Denis helped design a 42-inch-diameter water transmission pipeline.

Residential Retrofit Water Conservation Program, City of San Jose, California

Project Engineer. Denis investigated and evaluated industrial water conservation techniques and cost effectiveness in semiconductor, printed circuit, paper recycling and food processing plants.

Wastewater Collection, Treatment, Disposal and Reclamation

- Disinfection alternatives study for the Oro Loma Sanitary District, California.
- Monterey Regional Water Pollution Control Agency preliminary design report and design of coating system rehabilitation, including design of permanent bypass. Developed chemical (FeCl₃ and NaOH) addition systems, monitoring program, scrubber system evaluation, and prechlorination system modifications for reduction and control of H₂S generation.
- Sewage master plan, RMPP, odor control study, industrial discharges assessment, and pretreatment program development, Benicia, California.
- Waste load allocation studies for industrial clients, Arkansas and Louisiana.
- Wastewater master plan, Corpus Christi, Texas.
- Wastewater rate study, Oklahoma City, Oklahoma.
- Technical investigation and review of sewage collector and interceptor system, Suffolk County Sewer District No. 3, New York.
- Coordination check for design of 50-mgd WWTP, Appleton, Wisconsin.

Westerly Process Options Analysis, Northeast Ohio Regional Sewer District, Cleveland, Ohio

Project Director. Denis analyzed this 50-mgd average, 100-mgd maximum physical/chemical treatment plant, assessing the existing treatment process, evaluating biological treatment process alternatives and developing the recommended project plan.

Village Creek WWTP, Fort Worth, Texas

Principal-in-Charge. Denis designed anaerobic digestion, thickening and dewatering facilities, and sludge-only landfill disposal for the 125-mgd plant.

Dallas Central and White Rock WWTPs, City of Dallas, Texas

Principal-in-Charge. Denis designed anaerobic digestion, thickening and dewatering facilities; a digester-gas-fueled engine cogeneration facility; maintenance facilities; and the 140-mgd WWTPs.

Trinity River Authority WWTP, Grand Prairie, Texas

Principal-in-Charge. Denis supervised the designed and construction management for anaerobic digestion and digester gas-fueled engine cogeneration facilities at this 50-mgd WWTP.

201 Facilities Plan, Fort Smith, Arkansas

Project Manager. Existing facilities included a 10-mgd activated sludge plant and a 10-mgd trickling filter plant. Denis' duties included creating the facilities plan and assisting during design, interim operations and construction for modifications to both plants. Denis also provided expert witness testimony.

WWTP, Selma-Kingsburg-Fowler County Sanitation District, California

Project Engineer. Denis prepared the bid documents for a 10-mgd WWTP expansion. This project was unique in that it was bid on a total life cycle basis and was the first WWTP in California to employ dome-style fine bubble diffusers.

Laguna WWTP Expansion, City of Santa Rosa, California

Project Engineer. Denis designed the activated sludge system and the multifuel cogeneration system that used IC engines driving positive displacement blowers for a 15-mgd WWTP expansion.

Wastewater Treatment Facilities Plan, City of Los Banos, California

Project Manager. Denis prepared the facilities plan for the expansion of the sewage collection, treatment and disposal system. The treatment process used lagoons, a process pioneered in California by Dr. Caldwell

Hazardous Materials Management

Confidential Clients, Texas and California

Project Engineer. Denis completed investigations, assessments, removals and remediation programs for underground storage tanks.

Confidential Industrial Clients, Texas and Arkansas

Project Engineer. Denis completed investigation, assessment and closure of surface impoundments and buried tanks at several sites.

United Parcel Service, Houston, Texas

Project Engineer. Denis developed spill prevention control and countermeasures (SPCC) plans for five distribution facilities.

Risk Management

Throughout his career, he has addressed issues associated with the use of gaseous and liquid chemicals used in water and wastewater treatment plants. He completed training by the AIChE on "The Use of Hazard and Operability (HAZOP) Studies in Process Analysis," which included consideration of the OSHA Process Safety Management (PSM) Standard (20 CFR 1910.119). As project manager, he prepared Risk Management and Prevention Programs (RMPP, California requirement prior to 1998), Risk Management Plans (RMP), and Process Safety Management Plans (PSM Plans to achieve compliance with the PSM Standard), and assisted clients in developing strategies for working with administering agencies:

His experience in conducting Process Hazard Analyses (PHA), including both checklists and Hazard and Operability (HAZOP) Studies, is demonstrated by the following projects for which he was the PHA facilitator as well as the project manager. For several projects, he also completed a PSM Plan.

- RMPP and PSM Plan, Contra Costa Water District's Randall-Bold Water Treatment Plant (RBWTP), chlorine, Contra Costa County, California.
- RMPP and PSM Plan, Delta Diablo Sanitation District's Antioch facilities, chlorine and sulfur dioxide, Contra Costa County, California.
- RMPP, Benicia Water Treatment Plant, chlorine; Solano County, California
- RMPP, Benicia Wastewater Treatment Plant, chlorine and sulfur dioxide; Solano County, California.
- RMP, City of Antioch's Water Treatment Plant, chlorine and ammonia, Contra Costa County, California.
- RMP, City of Lompoc Water Treatment Plant, chlorine, five-year update, Santa Barbara County, California.
- RMP, City of Benicia's Water Treatment Plant, chlorine, Solano County, California.
- RMP, Confidential Industrial Client, ammonia, Stanislaus County, California.
- RMP, Confidential Industrial Client, ammonia, Alameda County, California.
- RMP, Confidential Industrial Client, ammonia, Chehalis, Washington.
- RMP, UC Davis Medical Center Cogeneration Plant, aqueous ammonia, Sacramento County, California.
- RMP (Draft), Lihue Wastewater Treatment Plant, chlorine, County of Kauai, Hawaii
- RMP, Riverside Water Pollution Control Facility, chlorine, five-year update, Riverside California

- RMP, Waikoloa Wastewater Treatment Plant, chlorine, conducted in response to EPA audit, County of Hawaii, Hawaii
- RMP and PSM Plan Strategy, chlorine, for seven sites at MCLB, Barstow California

Other Projects and Activities

- Design review, Cutthroat Trout Fish Hatchery, Pyramid Lake Indian Tribal Enterprises, Nevada.
- Public relations, Hyperion WWTP, Los Angeles, California.
- Permit assistance for air quality, water, and wastewater facilities for private and public clients.
- Assistant supervisor for engineering standards department. Developed and revised standard specifications and drawings.
- Participated in program reviewing short-circuit and earthquake reaction of substation structures and transmission towers. Primary effort in this program involved developing mathematical computer models of structures in the substation and transmission system.
- Served in U.S. Marine Corps for three years in various engineering organizations.

Memberships

American Arbitration Association
American Society of Civil Engineers
American Water Works Association
Association for the Advancement of Cost Engineering International
Construction Management Association of America
Dispute Resolution Board Foundation
Project Management Institute
Society of American Value Engineers International
Water Environment Federation

Publications/Presentations

1. "Distribute Resolution Boards: A Risk Management Tool," presented at 2011 California Water Environment Association Annual Conference
2. Quality in the Constructed Project, ASCE Manual 73, Third Edition." contributing author, S. Williams, editor, 2011.
3. "Ethics in the Technological Enterprise - A Pragmatic Approach," presented at the 2008 California Water Environment Association Northern Regional Training Conference
4. "Prequalification of Contractors, a Risk Management Tool," with J. M. Teplin, presented at 2006 California Water Environment Association Annual Conference
5. "Managing Construction and Post-Construction Monitoring of the East Mission Gorge Trunk Sewer Rehabilitation Project, San Diego, California," with P. J. Barden, M. E. Conner, M. Busdosh, Ph.D., J.A. Shoaf. Water Environment Specialty Conference, 2001 A Collection Systems Odyssey: Integrating O&M and Wet Weather Solutions, 2001.
6. "Construction of the East Mission Gorge Trunk Sewer Rehabilitation Project, San Diego, California," with P. J. Barden, M. E. Conner, M. L. Hale. *Proceedings of the American Society of Civil Engineers Specialty Conference, Pipelines in the Constructed Environment*. 1998.
7. "Risk Management and Prevention Program (RMPP)/Accidental Release Program (ARP)," presented at 7th Annual California Statewide Community Awareness & Emergency Response (CAER) Conference, 1995.
8. "Odor Control Study, Benicia Wastewater Treatment Plant," presented at the 1990 California Water Pollution Control Association Annual Conference.
9. "How Wastewater Treatment Plants Utilize Digester Gas," *Water/Engineering and Management*. August 1987.
10. "Designing for Trickling Filter/Solids Contact Process Applications," with R. C. Fedotoff, D. T. Merrill, M. C. R. Owen, and D. S. Parker, presented at the 1982 Water Pollution Control Federation Annual Conference, St. Louis, Missouri.
11. "Management of Submittals to Reduce Liability," with L. B. Dunlap, *Proceedings of the ASCE Conference on Reducing Risk and Liability Through Better Specifications and Inspection*. 1981.
12. "Energy Recovery from Wastewater Treatment Plant Sludge," with R. B. Sieger, Energy Conservation in the Design of Water Quality Control Facilities, *Proceedings of the Fourth Mid-American Conference on Environmental Engineering Design*. 1979.