



Anne E. Prudhel, P.E.

Anne Prudhel has 17 years of experience in planning, design, and construction of water and wastewater infrastructure, including wastewater pipeline design and rehabilitation, wastewater collection system planning, reclaimed water facilities, storm-water pipeline design, and water distribution facilities. She is Carollo's Chief of Infrastructure Design, and she has successfully designed and managed more than 150,000 feet of sewer rehabilitation and replacement.

Education

BS Civil Engineering,
University of the Pacific,
2002

BS Engineering
Management, University
of the Pacific, 2002

Licenses

Civil Engineer, California

Professional Affiliations

American Society of Civil
Engineers

Bay Area Water Works
Association

Relevant Experience

→ Project engineer for pipeline preliminary design for the City of Modesto, California, River Trunk Realignment, Beard Brook Siphon and Cannery Segregation Line (CSL) Improvements. The City's wastewater collection and treatment system is divided into two separate systems: the domestic system and the segregated cannery process water system. The main objectives of the project are to address capacity and structural deficiencies in the Sutter and River Trunk systems, as well as capacity and operations and maintenance (O&M) issues associated with the Beard Brook Siphon. During conceptual development, additional objectives were identified: address CSL peak flow limitations, improve River Trunk O&M access, and mitigate vulnerability of river washout. Eight pipeline reaches were evaluated and designed to address the main objectives of project. New 54- to 84-inch-diameter sewers in excess of 30 feet deep were evaluated to relocate the River Trunk sewer out of the Tuolumne River floodplain. In addition to the gravity sewer relocation, a new 54.5-mgd pump station approximately 80 feet deep was designed.

→ Project manager for the Santa Cruz County Sanitation District, California, 07-08 Sewer Improvements – Felt Street and 17th Avenue. Responsible for condition assessment, alternatives evaluation, and final design of 6,500 feet of 8 through 24-inch gravity sewer. Design included cured-in-place pipe, open-cut, and guided boring to consolidate multiple sewers and increase system capacity.

→ Project manager for the Santa Cruz County Sanitation District, California, 08-09 Sewer Improvements – Upper Rodeo Gulch. Responsible for alternatives analysis and preliminary design to reroute the existing Upper Rodeo Gulch trunk sewer out of the gulch and into public right-of-way, as well

as address additional capacity needed to lift a moratorium.

→ Project manager for Santa Cruz County Sanitation District, California, 07-08 and 08-09 Sewer Improvements – Noble Gulch Area. Responsible for predesign and final design of 6,600 feet of 15-inch gravity sewer trunk line, including plans, specifications, and the cost estimate. Construction methods include open-cut, sliplining, horizontal directional drilling, and micro-tunneling.

→ Project manager for the Town of Hillsborough, California, Crystal Springs/El Cerro to Phase II Sewer Improvements, which included final design for replacement of approximately 11,000 feet of 8- to 18-inch gravity sewer with 26- to 28-inch HDPE using open cut through a culturally and environmentally sensitive area. The pipeline is located along a narrow, winding road within an affluent community and fronts an elementary school in one location.

→ Project manager for the Dublin San Ramon Services, California, Dublin Trunk Sewer Rehabilitation. The project included cured-in-place rehabilitation of 8,200 feet of 33, 36, 39, and 42-inch gravity trunk sewer. The project included design of a complicated bypass system and detailed traffic control plans. The project fronted neighborhoods and a congested commercial corridor within the cities of Dublin and Pleasanton and required coordination with multiple agencies including Caltrans, Zone 7, and the cities of Dublin and Pleasanton.

→ Pipeline engineer for preliminary and final design of the California Department of Corrections and Rehabilitation California Men's Colony Trunk Sewer Replacement. The project included modeling of the existing interceptor system and design and construction of 5,000 feet of replacement interceptor sewer and two screening stations. The design was necessary to eliminate sig-

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nificant inflow and infiltration and to prevent ongoing sewer overflows.

→ Project engineer for the Ross Valley Sanitary District, California, William/Holcomb/Meadowood Capacity Improvements. Responsible for preparation of plans, specifications, and cost estimates to replace approximately 2,200 feet of existing 6- to 12-inch-diameter sewer pipe with 14- to 20-inch-diameter sewer pipe. Also provided construction method evaluation of pipe bursting and open-cut construction.

→ Project engineer for the City of Livermore, California, miscellaneous sanitary sewer main improvements. The project involved reviewing CCTV inspection tapes, obtaining and evaluating existing utility information, and investigating field conditions to develop the conceptual design memo for rehabilitation of seven difficult reaches of sanitary sewer. Reaches ranged from 250 feet to 1,500 feet each and included 6- to 12-inch-diameter pipelines. Recommendations on rehabilitation and replacement methods, including pipebursting, horizontal directional drilling, open-cut, spot repairs, and rerouting, were provided with a cost analysis for each.

→ QA/QC for the North Valley Regional Recycled Water Program Pipeline Design for the City of Turlock, California. The project includes the final design of 7.1 miles of 42-inch, welded steel pipe, three trenchless micro-tunnel crossings, a flow control facility, and ancillary facilities. Construction cost is \$27.7 million

→ Staff engineer for evaluation of the existing condition of the Washington Avenue trunk sewers for the Oro Loma Sanitation District, California. The study included review of CCTV inspection data and field investigations to determine the existing condition of 24- and 30-inch-diameter trunk sewers, including crossings of I-880 in San Leandro, and offered recommended solutions for deficiencies identified. Developed various levels of improvements, with associated estimates of probable engineering and construction costs, to allow the District to select the most tenable project

→ Project engineer for design of Vallejo Sanitation and Flood Control District, California, Mariposa Street Sewer Improvements. Responsible for preparation of plans, specifications, and cost estimate. The design included installation of 4,800 feet of 15- and 12-inch HDPE sewer by pipe bursting.

→ Design manager for the Los Carneros Water District, California, Recycled Water Pipeline design and project manager for engineering services during construction. The project included design of approximately 46,000 feet of 6- through 20-inch C900/C905 PVC pipe installed by open cut, 100 feet installed by jack and bore, 60 feet of ductile iron pipe for an elevated bridge crossing, and 106 customer connections. Other efforts included coordinating the environmental work, obtaining a California Department of Fish and Wildlife Streambed Alteration Agreement, preparing and submitting the Clean Water State Revolving Fund (CWSRF) application packages, and assembling and submitting the Final Budget Approval package to obtain the final CWSRF agreement allowing for construction disbursements.

→ Principal/QA/QC for design of the \$30 million Marina Coast Water District, California, Regional Urban Water Augmentation Project. The project includes design of 40,000 feet of 16- through 24-inch ductile iron pipe, a 2.5-MG steel reservoir, and multiple customer turnouts. Project highlights include extensive project coordination with the Monterey Regional Water Pollution Control Agency to ensure the system design sufficiently provided irrigation service and groundwater injection well capacity. The pipeline is designed for high pressure service, up to 250 psi and fully restrained. Additional project challenges included determining requirements for five jurisdictional agencies and coordination with ongoing development projects within the City of Marina.

→ Project engineer for a design-build project consisting of approximately 3,200 feet of 24-inch PVC trunk sewer for the City of Livermore, California. The project required extensive coordination with the City, developer, and contractor.



Education

BS Civil Engineering,
Columbia University, 1991
BA Physics, Reed College,
1991

Licenses

Civil Engineer, California

Jill Shankel, P.E.

Jill Shankel has 23 years of experience in water and wastewater infrastructure planning, design, and construction, including recent pipeline design and rehabilitation projects throughout California. In addition, she has extensive permitting experience for pipelines, including permits from cities and counties, Caltrans, Department of Fish and Game, and the US Army Corps of Engineers. Jill's representative experience includes the following:

Relevant Experience

- Project engineer for the Santa Cruz County Sanitation District Upper Rodeo Creek Trunk Sewer Alternatives Analysis.
- Project engineer for the Town of Hillsborough, California, Crystal Springs/El Cerreto Phase II Sewer Improvements, which included final design for replacement of approximately 11,000 feet of 8- to 18-inch gravity sewer with 26- to 28-inch HDPE using open cut through a culturally and environmentally sensitive area. The pipeline is located along a narrow, winding road within an affluent community and fronts an elementary school in one location.
- Staff engineer responsible for the design and permitting of 1,200 feet of new 8-inch sanitary sewer through bay mud and contaminated soils using pilot tube microtunneling, bore and jack, and open cut construction for the Rodeo Sanitary District, California Marina Development Sanitary Sewer Improvements Project.
- Project engineer for Rodeo Sanitary District, California, Rodeo Creek Bridge Force Main Realignment project. Responsibilities included the design, permitting, ESDC, and SRF funding support for a 20-inch steel pipe bridge across a flood control channel adjacent to a bridge, railroad, and San Francisco Bay.
- Project engineer for the Dublin San Ramon Services, California, Davona-Berwick Sewer Replacement. The project included evaluation of construction methods to replace a sagging 8-inch sewer adjacent to a creek, as well as an alternative routing analysis. Ultimately, final design included 330 feet of new 8-inch sewer over an existing culvert and abandonment of the existing 8-inch sewer adjacent to the creek. Rerouting eliminated the need for environmental permits and costly slope stabilization.
- Project engineer responsible for the design of Napa Sanitation District, California, Sarco Creek Sewer Replacement project that included relocation of 14-inch steel and 18-inch PVC sewer and manholes in a creek bed and Caltrans right-of-way.
- Project engineer for On-Call Services for the City of San Mateo, including an emergency force main repair design for a pipe on a bridge over an inlet to the bay, and an alternatives analysis for the Delaware Trunk Sewer Rehabilitation project.
- Project engineer for the Delta Diablo Sanitation District's Pittsburg Recycled Water Pipeline Rehabilitation project, which included preliminary and final design for sliplining approximately 5,300 of existing 20- and 30-inch asbestos cement pipe. Responsible for completing all required permitting and development of plans, specifications, and cost estimate. Provided submittal review and RFI responses during construction.
- Staff engineer responsible for the design of the Ralston Court Lift Station and 800 feet of dual 4-inch HDPE sewer force mains and 1000 feet of 8-inch PVC sanitary sewer for the Oro Loma Sanitary District, California.
- Staff engineer responsible for condition assessments of the City of Palo Alto, California, 72-inch RCP interceptor and their 54-inch marine outfall as part of the Palo Alto Wastewater Treatment Plant Long-term Facilities Plan. The study also looked at the impact of sea level rise and the cost of rehabilitation and replacement of the existing interceptor and outfall.
- Staff engineer responsible for the Central Contra Costa Sanitary District, California, Opinion of Probable Cost and Feasibility Analysis for New Outfall project.

Jill Shankel, P.E.

- Quality control for the Marina Coast Water District, California, Recycled Water Pipeline project that included 40,000 feet of 16- and 24-inch recycled water transmission main.
- Quality control for the Los Carneros Water District, California, Recycled Water Pipeline project. Responsibilities included pre-design and final design of approximately 46,000 feet of 6- through 20-inch PVC pipe installed by open cut, 100 feet installed by jack and bore, 60 feet of ductile iron pipe for an elevated bridge crossing, and 106 customer connections.
- Staff engineer for a series of potable reuse technical memoranda for the Santa Clara Valley Water District, California, regarding infrastructure and cost for direct injection wells, surface water augmentation, and percolation pond systems.
- Project manager for the East Bay Municipal Utility District, California, East Bayshore Recycled Water Project Facilities Plan. Work included meeting with more than 25 customers, local planning agencies, and permitting agencies to present future project; managing consultant for the environmental impact report; modeling distribution system; and evaluating retrofit requirements, distribution system pipe sizing, pump station and storage requirements, recycled water demands, and cost estimates for facilities. She also applied for and received a State Water Resources Control Board grant.
- Staff engineer for the design of a 24-inch-diameter reclaimed water pipeline, injection wells, and chemical feed system modifications for City of Livermore, California. Responsible for writing the specifications, performing hydraulic analyses, and providing cost estimates.
- Project engineer for the RP-4 Outfall for the Inland Empire Utilities Agency in Chino Hills, California (formerly Chino Basin Municipal Water District). Assisted in writing the preliminary design report and determining transmission and distribution pipe sizes for the recycled water distribution system. Performed pipeline alignment analysis, hydraulic surge analysis, and cost estimates. Designed 44,000 linear feet (LF) of 42-inch-diameter steel recycled water outfall, including plans, specifications, and cost estimates.
- Project engineer/designer for 13 miles of 54-inch-diameter recycled water pipeline and 30-inch-diameter brine pipeline for the Eastern Municipal Water District in Perris, California. The project was bid in three phases under three contracts. Work included pipeline alignment studies, cost analyses, pipe coating studies, and hydraulic surge analyses, as well as all plans, specifications, and cost estimates. Also served as project engineer for the associated sodium bisulfite dechlorination and discharge facility built under a separate contract.
- Staff engineer for an evaluation of West County Wastewater District's existing sanitary sewer system estimating and modeling storm water infiltration and groundwater intrusion in Richmond, California.
- Staff engineer responsible for design of the odor control biofilters, including drawings and specifications, for the City of Modesto, California.
- Staff engineer for the design of the disinfection facility, including liquid hydrogen peroxide and sodium hypochlorite feed systems, for the Orange County Sanitation District in Fountain Valley, California.
- Pipeline engineer for the City of Sacramento, California, E.A. Fairbairn Water Treatment Plant (EAFWTP): Long-Term Water Treatment Capacity Evaluation project task. Work involved evaluation to determine feasible alignment alternatives for conveyance of raw water from either a Sacramento River (up to 42,000 lf of 72-inch steel pipe with jack-and-bore and microtunnel crossings) or American River intake to the EAFWTP, and treated water pipeline to Florin Reservoir (19,000 lf of 54-inch/66-inch steel pipe with jack-and-bore crossing).
- Lead designer for 17 miles of 72-inch-diameter steel pipeline with two microtunnel crossings for the East Bay Municipal Utility District, California, Folsom South Canal Connection. Helped to acquire environmental permits, property acquisition, and coordinated with pumping plant/intake projects. Project was bid in three contracts and included a 600 LF river crossing.



Tim F. Taylor, P.E.

Education

MS Civil and Environmental Engineering, San Jose State University, 1994

BS Civil and Environmental Engineering, California Polytechnic State University, San Luis Obispo, 1986

Management Action Program (MAP), Pleasanton, CA

Truckee North Tahoe Leadership Training Course, Truckee/North Tahoe Area

Licenses

Civil Engineer, California, Idaho, Nevada

Professional Engineer, Oregon, Washington, Hawaii

Professional Affiliations

Water Environment Federation

Water Environment Federation Collection Systems Committee (Previous Member)

California Water Environment Association, Sierra Section, Board of Directors (2008 President)

Truckee Donner Public Utility District Board of Directors (2007 and 2008 President)

Tim Taylor, Carollo's Director of Infrastructure Practice, has served as project manager for numerous water and wastewater infrastructure and treatment projects. With more than 31 years of experience in engineering design, construction, and project management for water distribution systems, gravity sewer collection systems, pump stations, water and wastewater treatment facilities, geographic information system (GIS) and modeling projects, Mr. Taylor is proficient in all aspects of management, technical engineering, modeling, GIS, and design software. He has designed pipelines ranging from small collector sewers to major interceptor lines up to 84 inches in diameter, as well as pump stations ranging in size from a few hundred gpm up to 60 mgd.

Relevant Experience

→ Principal-in-charge and quality assurance/quality control for the Santa Cruz County Sanitation District, California, On-Call FY07-08 and FY08-09 Sewer Improvements, which involved design of more than 20,000 feet of sewer improvements with pipes ranging from 6 to 30 inches in diameter. The contract comprised seven separate sewer improvement projects and spans four separate areas: Noble Gulch, Harper Street, Felt/Rodeo Streets, and Schwan Lake. Much of the work on these projects was located in sensitive riparian habitats, in residential areas, along state beaches, and in commercial zones. Construction methodologies included open-cut construction, pipe bursting, pipe reaming, sliplining, horizontal directional drilling, auger boring, and cured-in-place pipe lining.

→ Principal-in-charge and quality assurance/quality control for the Town of Hillsborough, California, Crystal Springs Sewer Improvements, Phases I and II. Reviewed Carollo's rehabilitation program, which included the use of trenchless technologies such as pipe bursting to minimize impacts on heritage oaks and other environmentally sensitive areas. Trenchless technologies coupled with open cut trenching reduced costs for the overall rehabilitation efforts and limited the impacts to the public.

→ Project manager for the City of Modesto, California, River Trunk Realignment, Beard Brook Siphon and Cannery Segregation Line (CSL) Improvements. The City's wastewater collection and treatment system is divided into two separate systems: the domestic

system and the segregated cannery process water system. The main objectives of the project are to address capacity and structural deficiencies in the Sutter and River Trunk systems, as well as capacity and operations and maintenance (O&M) issues associated with the Beard Brook Siphon. During conceptual development, additional objectives were identified: addressing CSL peak flow limitations, improving River Trunk O&M access, and mitigating the vulnerability of river washout. Eight pipeline reaches were evaluated and designed to address the main objectives of the project. New 54- to 84-inch-diameter sewers in excess of 30 feet deep were evaluated to relocate the River Trunk sewer out of the Tuolumne River floodplain. In addition to the gravity sewer relocation, a new 54.5-mgd pump station approximately 80 feet deep was designed.

→ Project manager for the City of Modesto, California, River Trunk Pipeline. This project included design and permitting for 8,500 feet of 48- to 54-inch gravity pipeline. The pipeline alignment runs down a residential street and is 40 feet deep in some sections. The project team evaluated the use of microtunneling as an option to open-cut construction. The project is the second phase of a three-phase project for the City to eliminate a high-risk gravity trunk sewer routed along the edge of the Tuolumne River.

→ Project manager for the City of Modesto, California, River Trunk Rehabilitation, which evaluated rehabilitation methods for 2,600 feet of 45- and 48-inch-diameter reinforced concrete pipe on Gallo Winery property. Due to severe corrosion and lack of access to the

Awards

Special District
Leadership and
Management, Special
District and Local
Government Institute,
2007

Tim F. Taylor, P.E.

pipe, the pipeline failed in one section in December 2014. An emergency repair was performed to temporarily support the failing pipeline. The rehabilitation design uses the sliplining process as the best suited technology. Due to the difficult site access requirements, coordination efforts between the City of Modesto, Carollo, Gallo Winery officials, and operations staff was critical for a successful project. The final design included a geotechnical investigation, survey with aerial photography, and preparation of plans, specifications, and cost estimates.

→ Project manager for design of 9,500 feet of 30-inch and 36-inch trunk sewer for the Carpenter Road Relief Trunk for the City of Modesto, California. The preliminary design phase evaluated alternatives to address the aging infrastructure capacity restrictions and mitigate costs associated with a full interceptor reconstruction project.

By maximizing the capacity of existing facilities in the project area, the project team was able to reduce the amount of replacement and lower project costs, saving the City over \$7 million.

→ Project manager for the City of Simi Valley, California, Sanitary Sewer Trunk Rehabilitation Capital Improvements. The project included rehabilitation of over 10,800 feet of gravity sewer pipeline, ranging in size from 10 to 39 inches in diameter, using cured-in-place pipe. Four separate bid packages were developed and included extensive bypass pumping and traffic control requirements.

→ Technical advisor for the City of Las Vegas, Nevada, Downtown Interceptor Sewer Rehabilitation. The project included fast-track design for trenchless rehabilitation of 10,915 feet of unlined reinforced concrete interceptor pipe, diversion structure rehabilitation, development of temporary bypass pumping of sewage during construction, pipeline cleaning and inspection, design of a bypass pumping and piping system with 24-inch HDPE pipe, and control of odor and noise.

→ Technical reviewer for the South Tahoe Public Utility District, California, A-Line Replacement. The project included

installation of 52,800 feet (10 miles) of 30-inch-diameter, 250-psi pressure rated, ductile iron force main along residential streets and State Highways 50 and 89. In addition to conventional cut-and-cover techniques, two jack-and-bore operations (120 feet each) and one 1,200-foot horizontal directional drill (HDD) operation were used to install the new pipe. The horizontal directional drill operation installed the new pipe under the environmentally sensitive Trout Creek and the adjacent meadow without disturbing the surface.

→ Project manager for the City of Santa Clara, California, Trimble Road Trunk Sanitary Sewer Condition Assessment. The project included identification of specific rehabilitation and replacement needs of over 13,000 feet of sanitary sewer pipes. The sewer included 15-inch and 24-inch diameter siphons, 33-inch and 48-inch diameter gravity sewers, and 49 manholes and junction structures. The process included review of the existing sanitary sewer system map and available historical data, sewer line and manhole inspection and evaluation, hydrogen sulfide monitoring, and preparation of a condition assessment report.

→ Project manager for the Folsom East 1B Interceptor for the Sacramento Regional County Sanitation District, California. This project included design of 15,000 feet of 54-inch to 72-inch sewer interceptor piping that was 40 feet in depth. A key feature was design of a vortex drop structure that allows the pipeline to go over a major concrete box culvert and then under an access tunnel. This structure provided a 13-foot vertical drop and assisted in eliminating potential odor issues. The project also included design of large junction structures for future interceptor connections and coordination between a road-widening project and construction of a light rail system. Due to the depth of cover on the interceptor, close coordination with the geotechnical engineer was a major concern for the client.



Ryan F. Orgill, P.E.

Ryan Orgill has more than 14 years of experience in master planning, hydraulic modeling, sewer system management planning, urban water management planning, and geographic information systems (GIS). He is an expert in all aspects of computer modeling for water, sewer, and storm drainage, including modeling of complex operations such as variable frequency drives and overflow weirs.

Education

BS Civil Engineering,
California State
University, Fresno, 2006

Licenses

Civil Engineer, Nevada,
California

Professional Affiliations

American Water Works
Association

California Water
Environment Association
- Central San Joaquin
Section

Relevant Experience

→ Hydraulic modeling lead for the ongoing City of Modesto, California, Wastewater Collection System Master Plan. The hydraulic model was originally constructed in H2OMap Sewer as part of the previous master plan. In advance of the wastewater collection system master plan update, the City contracted with Carollo to convert the hydraulic model from H2OMap Sewer to the more advanced InfoSWMM platform. Responsibilities as part of the master plan update included updating and recalibrating the InfoSWMM hydraulic model, which involved more sophisticated simulation of storm drainage system cross connections within the InfoSWMM model. Other responsibilities include development of existing and future wastewater flow projections, improvement alternatives to mitigate existing capacity deficiencies and to service future growth, and a capital improvement plan.

→ Project manager for the ongoing Truckee Sanitary District, California, 2017 Hydraulic Modeling Assistance. The District hired Carollo provide assistance with the development and calibration of three of their four existing wastewater collection system models. The models are being calibrated to peak dry and peak wet weather flow conditions using flow monitoring data from the 2016 and 2017 storm season.

→ Project engineer for the Washoe County, Nevada, Pleasant Valley Interceptor (PVI) Alternatives Evaluation Study. Responsible for using the County's collection system hydraulic model to develop alternatives for Reach 3 and 4 of the proposed PVI.

→ Project engineer for the City of Fresno, California, Collection System Master Plan. Responsible for hydraulic model update and calibration of the City's all-pipe sewer system hydraulic model under dry and wet weather conditions, development of improvement projects to mitigate capacity

deficiencies, and development of a capital improvement plan for the City.

→ Project engineer for the City of Oakland, California, Sanitary Sewer Collection System Master Plan. Responsible for construction of the City's hydraulic computer model using the InfoSWMM modeling software package, model calibration, capacity analysis, development of improvement projects to mitigate capacity deficiencies, capital improvement cost estimate, and preparation of a technical report documenting the results of the analysis for submission to the U.S. Environmental Protection Agency in accordance with the City's Stipulated Order. Construction of the City's hydraulic model included digitization of the major collection system facilities into the InfoSWMM hydraulic modeling software program, with several complex overflow structures and connections to the East Bay Municipal Utility District (EBMUD) interceptor. The model was calibrated to 140 flow monitoring locations for both dry and wet weather flow conditions, approximately half of which recorded flow at City connection points to the EBMUD interceptor system.

→ Collection system engineer for the West County Wastewater District, California, District-Wide Master Plan. Responsible for preparation and calibration of a dynamic collection system model to evaluate wet weather storm events to simulate existing flow conditions.

→ Project engineer for the City of Tulare, California, Sewer, Water, and Storm Drainage Master Plans and Sewer System Management Plan. Tasks included creation and calibration of a dynamic hydraulic sewer system model to evaluate flow monitoring data, development of flow routing criteria, and evaluation of the existing sanitary sewer system to mitigate deficiencies to serve future growth.

Ryan F. Orgill, P.E.

→ Project engineer for the City of Turlock, California, Sanitary Sewer and Storm Water Master Plans. Responsible for overseeing the construction of the City's sewer and storm drainage system hydraulic models. The City's sewer collection system includes numerous direct storm drainage connections to the sewer system in the City's downtown area. As part of the analysis, several improvement alternatives were considered to alleviate capacity deficiencies in the majority of the sewer collection system in the downtown area, including replacing existing sewer pipelines with larger diameter sewers or removal of the direct storm drainage connections to the sewer. Costs associated with each alternative were prepared and presented to City staff, along with the pros and cons of each approach. Ultimately, the City's preferred alternative was to segregate the sewer and storm drainage collection systems. Preferred improvements to the sewer and storm drainage systems were incorporated into the Sanitary Sewer and Storm Water Master Plan reports.

→ Project engineer for the City of Chico, California, Sanitary Sewer Master Plan Update. Responsible for conversion and update of the City's previous HYRDA collection system model to the InfoSWMM hydraulic modeling software application. Current average and peak wet weather flows were developed based on the City's historical flow data, as well as the results of the temporary flow monitoring projects. Build out average and peak flows were projected for future land use areas, as identified in the City's General Plan Update. The project was calibrated to dry and wet weather flow conditions, and the collection system was analyzed under current and build out peak flow conditions. Several pipeline improvement routing options were considered and analyzed based on costs and other non-cost factors, and the preferred improvement alternatives were included in the master plan report.

→ Engineer for the City of Oceanside, California, Sewer System Master Plan. Responsible for system evaluation, hydraulic modeling, development of the Sewer Master Plan report, and custom model training for City staff.

→ Project engineer for the City of Cotati, California, Sewer and Water System Master Plans. Responsible for hydraulic model development and calibration, existing and build out analysis of the water and sewer systems, development of capital improvements to mitigate existing deficiencies and to service future growth, development of a staged capital improvement plan, and development of the final Sewer and Water System Master Plan reports.

→ Staff engineer for the Port of Oakland, California, Port-Wide Sewer System Management Plan, which was prepared to meet the requirements of both the State and the Regional Water Quality Control Boards. As part of the project, responsibilities included development of several supporting documents specific to the Port. These include a System Evaluation and Capacity Assurance Plan (SECAP), sanitary sewer design and construction standards, sanitary sewer use ordinances, an overflow emergency response plan, and a fats, oils, and grease control plan. The SECAP included development and calibration of a fully dynamic hydraulic model of the sewer collection system calibrated to both dry weather and wet weather conditions, evaluation of the collection system for existing and future design flow conditions, recommendations for capital improvements to mitigate deficiencies, condition assessment of sanitary sewer facilities in the Port, and development of costs associated with the proposed capital improvements.

→ Staff engineer for the Elsinore Valley Municipal Water District, California, Wastewater Master Plan Update. Responsible for development and calibration of the District's hydraulic computer model, evaluation of the District's existing collection systems, development of improvement recommendations to mitigate existing deficiencies and serve future growth, and preparation of the District's master plan report.

→ Hydraulic staff engineer for the City of Galt, California, Wastewater Collection, Water Distribution, and Storm Drainage Master Plans.



Brian W. Avon, P.E.

Brian Avon brings more than 11 years of experience in design, preparing contract documents and cost estimates, and facilitating the acquisition of permits. His work has included systems evaluation, pipeline design and condition evaluation, development of rehabilitation/ replacement improvements, construction, geotechnical engineering, and preparation of cost estimates and implementation schedules. He is adept at determining the feasibility of using trenchless construction methods, particularly under creeks and culverts.

Education

BS Civil Engineering,
University of the Pacific,
2007

BS Business
Administration, University
of Southern California,
2004

Licenses

Civil Engineer, California

Professional Engineer,
Washington

Professional Engineer,
Colorado

Certification

Certificate, Pipeline
Assessment Program,
NASSCO, California, 2010

Relevant Experience

→ Project engineer for Santa Cruz County Sanitation District, California, Upper Rodeo Gulch Sewer Improvements Project. The project includes the replacement of 2,000 feet of linear sewer pipe. Construction methods will include open-cut, pipe bursting, horizontal directional drilling, and jack/bore.

→ Project engineer for Santa Cruz County Sanitation District, California, Estates Drive Borregas Gulch Sewer Improvements Project. The project includes the replacement of 2,200 feet of linear sewer pipe. Construction methods will include open-cut, pipe bursting, and jack/bore.

→ Engineer for the Harper Street, Schwan Lake, Felt Street, and Noble Gulch Sewer Improvement Projects for the Santa Cruz County Sanitation District, California. The project includes the relocation and/or replacement of more than 15,000 feet of sewer pipe. Work includes location of the existing lines, design of the new pipeline, and assistance in facilitating the acquisition of permits.

→ Project director/technical lead for a confidential client for replacement of approximately 3,960 feet of vintage 8 and 12 inch pipe with 3,670 feet of new 12 inch pipe via horizontal directional drilling (HDD) and open cut. The HDD was designed to go under the American River and under a 60 foot deep flood wall. The new pipeline will be installed parallel to the existing pipe and the existing pipe will be decommissioned.

→ Project engineer for Ross Valley Sanitary District, California, Sir Francis Drake Sewer Improvements Project. The project includes the replacement of 3,800 feet of linear sewer pipe. Construction methods will include open-cut, sliplining, and pipe bursting.

→ Project director/technical lead for a confidential client for replacement of approximately 700 feet of steel pipe via horizontal directional drilling within a residential area of the City of Santa Cruz. The project included a feasibility analysis, routing study, geotechnical analysis, and detailed design.

→ Project director/technical lead for a confidential client for replacement of existing 24 and 22 inch steel pipe with approximately 12,300 feet of new 36-inch pipe to provide needed capacity and replace aging infrastructure. Construction methods included open cut, microtunneling, and horizontal directional drilling. The project included a feasibility analysis, routing study, geotechnical analysis, trenchless design, risk assessment, and detailed design.

→ Project engineer for the City of Santa Clara, California, Trimble Road Trunk Sanitary Sewer Condition Assessment. The project included the identification of specific rehabilitation and replacement needs of over 13,000 linear feet of sanitary sewer pipes. The sewer included 15- and 24-inch diameter siphons, 33- and 48-inch diameter gravity sewers, and 49 manholes and junction structures. The process included the review of the existing sanitary sewer system map, available historical data, sewer line and manhole inspection and evaluation, hydrogen sulfide monitoring, and the preparation of a condition assessment report.

→ Project engineer for the West County Wastewater District, California, Garrity Creek Siphon Project. The project included the emergency installation of a 500-foot double-barrel siphon by horizontal directional drilling under Garrity Creek to replace an exposed sanitary sewer. Responsibilities included hydraulic modeling of the old and proposed sewer, sewer design, permitting

Brian W. Avon, P.E.

assistance, plans, specifications, and engineering services during construction.

→ Staff engineer for the City of Santa Clara, California, Monroe Street, Chromite Drive, Machado Avenue, and Nobili Avenue Sewer Improvements design project. The project included removing approximately 9,300 feet of existing sewers ranging from 10- to 18-inches in diameter and constructing new 12- to 24- inch sewers. Project was located in a residential neighborhood and included two siphon creek crossings. A parallel siphon was installed by horizontal directional drilling to replace one of the existing siphons. New lower service laterals were also replaced as part of this project. Evaluated multiple construction methods to determine the best solution for constructing the new sewers; performed hydraulic calculations to verify new slopes would accommodate future flows; responsible for plans, specifications, cost estimate, and lead project meetings.

→ Staff engineer for the Sanitary District No. 1 of Marin County, California, William/Holcomb/Meadowood Capacity Improvements Project. Included 3,000 lf of sewer replacement by open-cut construction methods to provide additional capacity required.

→ Engineer for the Rehabilitation and Replacement of Tara Hills Force Main for the West County Wastewater District, in Richmond, California. Responsibilities included surveying the location of the existing force main and drafting all relevant data into AUTOCAD.

→ Project engineer for the Central Contra Costa Sanitary District, California, Recycled Water Distribution System. The project will provide recycled water to irrigation users in Concord near I-680 south of Buchanan Fields Airport. The new three-mile-long recycled water main will tie into an existing 24-inch transmission line at the Buchanan Fields Golf Course. It will provide a drought-proof water supply for landscape irrigation of local businesses, office parks, and landscape medians in an area of Concord where predominantly turf-style landscaping irrigation currently consumes up to 255 acre-feet

of potable water each year. When complete, it will reduce dependence on potable Delta water supplies, improve water supply reliability for irrigation customers, reduce wastewater discharge to the Delta, and increase water use efficiency.

→ Project engineer for Phase II of the Sewer Improvement Project for the City of Santa Clara, California. The project involved the replacement and upsizing of 8,900 linear feet of vitrified clay pipe (VCP) and the replacement of 138 lateral mains using various trenchless technologies and traditional open cut replacement methods. Project responsibilities included preparation of the pre-design report, contract drawings, specifications, and cost estimate for the project.

→ Engineer for the final design of the Middle River Intake project, part of the Alternative Intake Project (AIP) for the Contra Costa Water District (CCWD), California. The AIP provides CCWD with 162 mgd of raw drinking water pumping capacity from the Sacramento-San Joaquin River Delta. The AIP also improves delivered water quality, operational flexibility, and creates a net benefit to the Delta fisheries by relocating screened intakes and changing the timing of diversions. The AIP comprises three projects: the Middle River Intake project setback levee and site work, intake and pump station, and conveyance pipeline. The setback levee project included a clay core levee and 200,000 cubic yards of earthwork. The conveyance pipeline project included a three-mile, 72-inch pipeline and a 90-foot-deep tunnel crossing under the Old River

→ Project engineer for the City of Oxnard, California, 5th Street Utility Improvements and Resurfacing Project. The fast-track project included the installation of approximately 8,600 feet of new 12- to 16-inch recycled water mains, 750 feet of new 8-inch potable water pipe, and 150 feet of 12-inch sanitary sewer pipe replacement. The project was located in the middle of a major city road. Responsibilities included utility investigation, pipeline design, plans and specifications development, cost estimates, and lead project meetings.



Mike E. Dadik, P.E., S.E.

Mike Dadik, an associate vice president with Carollo, has 27 years of experience in structural design of water, wastewater, transportation, and civil engineering projects. Since joining Carollo, he has overseen the structural design of numerous projects ranging from water and wastewater treatment plant construction and expansion to pump station seismic retrofits. Mike has extensive experience supporting pipelines across waterways either through design of standalone pipe bridges or affixing pipelines to existing bridge structures.

Education

BS Civil Engineering,
Arizona State University,
1996

Licenses

Civil Engineer, California
Structural Engineer,
California, Nevada
Civil/Structural Engineer,
Washington, Oregon

Professional Affiliations

American Society of Civil
Engineers
Chi Epsilon (National Civil
Engineering Honor
Society)
Engineers Without
Borders, Technical
Advisory Committee
Structural Engineers
Association of Northern
California
Tau Beta Pi (National
Engineering Honor
Society)
NACE International
Society for Protective
Coatings, Northern
California Chapter
Steering Committee
Governor's Office of
Emergency Services,
ATC-20 Trained
Responder

Relevant Experience

→ Structural engineer for the Town of Hillsborough, California, El Cerrito Crystal Springs Phase 2 Sewer Improvements, which included final design for replacement of 11,000 feet of 8- to 18-inch gravity sewer with 26- to 28-inch HDPE using open cut through a culturally and environmentally sensitive area. The pipeline is located along a narrow, winding road within an affluent community and fronts an elementary school in one location.

→ Structural engineer for the Rodeo Sanitary District's sewage force main pipe bridge crossing Rodeo Creek.

→ Structural engineer for Santa Cruz County Sanitation District, California, 07-08 and 08-09 Sewer Improvements – Noble Gulch Area. Responsible for predesign and final design of 6,600 feet of 15-inch gravity sewer trunk line. Construction methods include open-cut, sliplining, horizontal directional drilling, and micro-tunneling.

→ Structural engineer for pipeline design for the City of Modesto, California, River Trunk Realignment, Beard Brook Siphon and Cannery Segregation Line (CSL) Improvements. The main objectives of the project is to address capacity and structural deficiencies in the Sutter and River Trunk systems, as well as capacity and operations and maintenance (O&M) issues associated with the Beard Brook Siphon. Eight pipeline reaches were evaluated and designed to address the main objectives of project. New 54- to 84-inch-diameter sewers in excess of 30 feet deep were evaluated to relocate the River Trunk sewer out of the Tuolumne River floodplain. In addition to the gravity sewer relocation, a new 54.5-mgd pump station approximately 80 feet deep was designed.

→ Structural engineer for design and construction of the Fairfield-Suisun Sewer District, California, LedgeWood Creek Outfall. Design included a new outfall from the Fairfield-Suisun Wastewater Treatment Plant to LedgeWood Creek. The project included approximately 8,000 feet of 42-inch pipe.

→ Structural engineer for the California Department of Corrections and Rehabilitation California Men's Colony Water Distribution System Replacement. This project included design for replacement of more than 112,000 feet of distribution piping, eight pipe bridges ranging from 65 feet to 214 feet long, two booster pump stations, and reservoir modifications. Responsible for development of structural plans, specifications, and cost estimating.

→ Structural engineer for the North Valley Regional Recycled Water Program for the City of Modesto, California. Highlights of the \$80 million project include design of a retrofitted 30-mgd recycled water pump station with three - 1,000 horsepower pumps, 12 miles of 42-inch-diameter pipeline that includes more than 2,800 feet of horizontal directionally drilled construction beneath the San Joaquin River, micro-tunneling beneath a Caltrans highway and a discharge structure to the Delta-Mendota Canal. The project serves two primary purposes: eliminates discharges to the San Joaquin River and is a regional solution to address water supply shortages by using recycled water for agricultural irrigation.

→ Structural engineer for Phase 2A of the A-Line Relief Interceptor for the Central Contra Costa Sanitary District, California. The project involved design and construction of 96-inch or 102-inch concrete pipe to extend the interceptor from the Buchanan Fields Golf Course approximately 3,100 feet, a significant portion of which was tunneled.

Mike E. Dadik, P.E., S.E.

It also incorporated design and construction of approximately 1,550 feet of 42-inch and 72-inch interceptor to connect influent sewers to the A-Line. The project included a new two-story below-grade metering structure and four significant pipeline junction structures. Shoring requirements including tunnel boring machine jacking forces.

→ Project manager/structural engineer for the Delta Diablo Sanitation District, California, Primary Influent Pipeline and Grit Chambers Repairs Project. This project included rehabilitation of 140 feet of 42-inch diameter primary influent piping using the CIPP method, repair of existing damaged concrete at the aerated grit chambers, and application of protective coatings over damaged concrete surfaces. Unique aspects of this fast-track project included detailed construction sequencing and bypass pumping plan to enable rehabilitation of the pipeline and channels while maintaining reliable operation of the treatment plant.

→ Structural engineer for emergency pump station modifications for the City of Palo Alto, California. Work included immediate response to a situation that arose during regular maintenance that threatened the City's water distribution system. Emergency repairs were made allowing time to design and install a permanent repair.

→ Structural engineer for design of a seismic retrofit of the Mallard Reservoir inlet/outlet tower as part of the Raw Water Seismic Improvements for the Contra Costa Water District, Concord, California. This project involved substantial modifications to the 75-year-old inlet/outlet tower located in the reservoir.

→ Structural engineer for the Harding Drain Bypass Pump Station and Pipeline Project for the City of Turlock, California. The Project includes a new pump station with 22 mgd of final effluent pumping capacity, 6 miles of 36-inch welded steel piping, a 48-inch diameter microtunnel, a junction structure for connection to the existing discharge facilities, installation of piping through the San Joaquin River levee, and an outfall structure for discharge to the San Joaquin River.

→ Lead structural engineer for the City of Lebanon, Oregon, Water Supply Treatment Improvements. This project will replace an aged and failing water treatment plant. Carollo was selected by the City to review prior planning work to validate project elements and estimated costs and to provide permitting, design, construction management, startup, and commissioning services for the water supply project. The project scope includes an intake on the South Santiam River, raw water pump station, raw water pipeline, water treatment plant, and potable water transmission main.

→ Project manager for Alameda County Water District, California, Appian Tank Upgrade Project. Project elements include replacement of the steel 0.75-MG steel tank and 3500 feet of transmission pipeline, and access road upgrades traversing upland grass habitat. The tank is the only water storage in the pressure zone requiring temporary backup power and pumping to maintain reliable service.

→ Structural engineer for design of the expansion and seismic retrofit of the Irvington Pump Station for the Union Sanitary District, Fremont, California. The 32-foot-deep pump station is reinforced concrete below grade and masonry construction above grade. Work included pump station expansion and seismic retrofit, surge tower modifications, and force main evaluation. The pump station retrofit design replaced the existing concrete roof with a steel roof capable of supporting the masonry walls in a seismic event. The below grade expansion encountered unusual shoring considerations, with the existing structure supporting one side of the excavation. The surge tower work added 5 feet to the existing 75-foot-tall concrete surge tower. The additional height required retrofitting the tower foundation to provide global seismic stability. The force main work included evaluation and analysis of five miles of twin 33-inch force main.

Structural engineer for the Headworks Rehabilitation and Bypass Pumping Project for the City of Hayward, California. The project evaluated concrete deterioration caused by hydrogen sulfide induced corrosion.



Education

BS Agricultural
Engineering, California
Polytechnic State
University, San Luis
Obispo, 1990

Graduate Studies, Civil
Engineering, University of
California, Berkeley

Licenses

Civil Engineer, California

Professional Affiliations

American Concrete
Institute

SAVE International

American Society of Civil
Engineers

American Water Works
Association

Construction
Management Association
of America

Michael R. Warriner, P.E.

Michael Warriner is a vice president and chief construction manager with Carollo Engineers. His duties include supervision of field staff and administration and coordination of construction management services with clients, their attorneys, and design engineers. Specific responsibilities include arranging and conducting pre-bid conferences, attending bid openings, and making recommendations concerning responsiveness of the bids and bidders. Mike secures permits for construction, reviews and analyzes construction schedules and monthly updates, evaluates and negotiates costs of change orders, assists clients in claims resolution, monitors contractor-certified payrolls and safety programs, provides monthly construction progress reports to clients, and makes recommendations on final project acceptance once work is complete. He also monitors all construction activities, which are recorded and documented with document-tracking software that facilitates timely response to submittals, clarifications, and correspondence.

Prior to joining Carollo, Mike served as senior project manager and practice area leader for water and wastewater construction management projects for Swinerton Management and Consulting, Inc. He also served as senior engineer and operations superintendent for the Contra Costa Water District (CCWD) in Concord, California. His duties included field inspection and supervision of resident engineers and field inspectors, as well as consulting on design alternatives, construction scenarios, and project delivery methods. Mike provided constructability reviews to CCWD and other agencies as a third-party review. He served as resident engineer for a number of CCWD projects. Duties included coordinating activities between CCWD, design engineer, and contractor; reviewing construction schedules and monthly updates; processing submittals and O&M manuals; responding to public comments and questions; documenting construction; evaluating and negotiating change orders; assisting in claims resolution; reviewing and processing contractors' monthly and final progress payment requests; monitoring certified payrolls; coordinating design clarifications between contractor and design engineer; maintaining as-built record drawings; providing punch lists and final inspection; and coordinating startup, testing, and training. Mike also coordinated outside services including surveying, materials testing, pile monitoring, specialty inspection services, and soil testing.

Relevant Experience

→ Construction manager during the \$2.5 million sewer replacement for the Vallejo Sanitation and Flood Control District, California. This work included installation of 4,500 feet of 8-inch through 24-inch sanitary and storm sewer pipelines and man-hole replacements. The pipeline replacement incorporated several different methods, including pipe bursting, open-trench replacement, and in-situ lining.

→ Construction advisor for the City of San Mateo, California, Los Prados Sanitary Sewer Relief construction management services.

→ Construction manager for the City of San Bruno, California, Cedar Mills Storm Drain Repairs. The project required visual inspection of one mile of 60-inch storm

drain sewer underneath a new residential neighborhood and development of repair procedures to correct surface cracking and age-related deterioration of the storm sewer. Also provided inspection of the repairs and documentation that the corrected storm sewer was acceptable for service.

→ Construction manager for the Recycled Water Pipeline project, Napa Sanitation District/Los Carneros Water District, California. Carollo provided full construction management services on this recycled water pipeline project that features nine miles of 8- to 20-inch pipeline including both a jack and bore section and a constructed abutment bridge crossing over a sensitive waterway. The pipeline, as constructed, was a combination of PVC bell-and-spigot, fusible PVC, and welded steel sections.

Michael R. Warriner, P.E.

→ Construction manager for the Central Contra Costa Sanitary District, California, Recycled Water Distribution Extension project. Key elements of this \$4 million project included installation of more than two miles of 6- to 14-inch pipelines, including 2,000 lf of 14-inch pipeline by HDD methods. Duties included overall management for field personnel, schedule review, and change order negotiations with the contractor.

→ Resident engineer for design of pipeline replacement projects in Contra Costa and Alameda Counties. Work involved calculating economic pipe sizes, selecting materials, designing trench cross-sections, and preparing engineer's estimates.

→ Construction manager for closeout of CCWD's \$115 million Multi-Purpose Pipeline. The project included a 22-mile-long pipeline and associated pump stations to transfer up to 20 mgd of treated water between two treatment plants. Responsible for resolving claims, warranty issues, and incomplete work and negotiating settlements between vendors and contractors.

→ Construction manager of CCWD \$15 million Pipelines Replacement and Renewal Program. Work involved replacement of treated water distribution and transmission mains up to 30 inches in diameter. Pipe materials included PVC, HDPE, ductile iron, and welded steel. Work involved permitting with local cities, developing traffic plans, developing and managing outage plans for consumer areas, and responding to public concerns about work on streets.

Site planning and constructability review for the \$6 million connection between the Mokelumne and Los Vaqueros pipelines, located in northern California. Also served as interagency liaison between the East Bay Municipal Utility District and Contra Costa Water District

→ Resident engineer responsible for closeout of CCWD's \$450 million Los Vaqueros Project. The project included construction of a 192-foot dam, pump stations, river intake, and associated pipelines. Duties included reviewing the construction schedule and monthly updates; processing submittals and O&M manuals; documenting construction

utilizing reports, diaries, photos, and correspondence; evaluating and negotiating change orders; assisting in claims resolution; reviewing and processing contractor's monthly and final progress payment requests; monitoring certified payrolls; maintaining as-built record drawings; providing punch lists and final inspection; and coordinating startup, testing, and training. Successfully negotiated and settled claims totaling \$6 million between the general contractor and subcontractors over the duration of the project.

→ Construction manager responsible for the Delta Water Supply Project Intake and Pump Station Facility for the City of Stockton, California. This \$17 million project includes a backup levee, crackstopper sheet piling, cofferdam sheet piling, CISS pile supported foundation and roadway, river intake wetwell, pump station building, and 54-inch welded steel pipeline. Duties included monitoring permit compliance, coordination of construction activities, management of inspection and material testing team, claims avoidance, dispute resolution, processing payment requests, negotiating change orders, and document management.

→ Construction manager for closeout of CCWD's \$115 million Multi-Purpose Pipeline. This project included a 22-mile-long pipeline and associated pump stations to transfer up to 20 mgd of treated water between two treatment plants. Responsible for resolving claims, warranty issues, and incomplete work and negotiating settlements between vendors and contractors.

→ Construction manager for construction of the Coastside County Water District, California, \$4.5 million Phase 3 El Granada Transmission Pipeline Replacement. Work consisted of installing 14,000 feet of 16-inch ductile iron pipe, including four creek undercrossings and seven roadway undercrossings, by jack and bore. Responsible for close coordination with the environmental permitting process, implementing environmental and cultural monitoring, and public awareness and outreach.

Christine M. Leptien-Parks, P.E., P.L.S.

LCC Engineering & Surveying, Inc.



EDUCATION – REGISTRATION

SAN JOSE STATE UNIVERSITY - SAN JOSE, CA
Bachelor of Science in Civil Engineering (May 1996)

REGISTERED PROFESSIONAL ENGINEER IN CALIFORNIA
CE 59061

LICENSED PROFESSIONAL LAND SURVEYOR IN CALIFORNIA
LS 7893



EXPERIENCE

Christine began working part-time for LCC in 1992, and joined the firm full-time in May of 1996 upon completion of her undergraduate education. She obtained her license to practice civil engineering in February 1999. Since then, she has been directly responsible for the preparation of plans, specifications and estimates for streets, parking lots, parks, utilities, storm drains, and wastewater facilities. Christine has also had extensive field experience as both a Chainman and a Party Chief on our survey crews over the years, leading her to obtain a license to practice land surveying in August 2003. Christine became a Principal in the firm in February 2008. Christine has been involved in most of LCC's major projects over the last eighteen years, and in recent years has led design teams and survey teams as Project Manager on numerous projects including the following:

REPRESENTATIVE PROJECTS

Mt. View Sanitary District – LCC has been the On-Call District Engineer and Surveyor for the District (located in Martinez, CA) for over 30 years (1985 - Present) with various plant and pipeline related projects including the 2012 Sewer Rehabilitation Project, and most recently, surveying, mapping, and construction staking for a new Ferrous Chloride Container Project.

City of Martinez – Projects include: Water Treatment Plant Seismic Retrofit Project and Chemical Container Construction Project. Both projects involved Topographic Surveys and Construction Staking.

Contra Costa Water District – Projects include: On-Call Surveying Services; Victoria Island Alternative Intake Project Surveys; Rock Slough Surveys; Martinez Canal Topographic Surveys; and Oakley and Antioch Canal Boundary Surveys.

Dublin San Ramon Services District (DSRSD) – Projects include: DERWA Recycled Water Plant Expansion Project, Topographic Survey; and Dublin Trunk Sewer Rehabilitation Project, Topographic Surveys and Mapping.

Sewerage Agency of Southern Marin (SASM) – Projects include: SASM Treatment Plant Five Year CIP Upgrades Project, Topographic and Utility Surveys of entire Treatment Plant.

City of Pittsburg – Projects include: Water Treatment Plant Mapping Project, Topographic and Boundary Surveys; and Surveying & Mapping for 2010 Sewer Project.

Martinez Unified School District (MUSD) – Vicente Briones Classroom and Parking Lot Project (Spring 2014) AND Las Juntas Elementary School (Summer 2013) AND Martinez Junior High School Bldg D Settlement Monitoring (2012) AND Alhambra High School Track and Field Improvements (2012) AND District Office Parking Lot (2008) AND Alhambra High School All Weather Football and Baseball Field (2007)

City of Concord – Projects include: On-Call Surveying Services; Survey for Citywide Sanitary Assessment; Galindo / Clayton ALTA/ACSM Mapping Project; and Market / Willow Pass Boundary and Utility Surveys (Redevelopment Agency).

Delta Diablo Sanitation District – Projects include: Surveying & Mapping for Raw Water Pipeline Rehabilitation Project.

TECHNICAL SKILLS

Christine has over twenty (20) years experience working with AutoCAD (a computer aided drafting program) and Civil 3D programs. She is experienced in using a TDS Survey Data Collection and Topcon Data Collection programs along with Topcon Total Stations. Christine also has extensively used Topcon RTK GPS equipment for various survey and mapping applications.

AFFILIATIONS

California Land Surveyors Association (CLSA)
East Bay Municipal Engineers (EBME)

American Society of Civil Engineers (ASCE)
American Council of Engineering Companies (ACEC)

Kevin J. Krajewski, P.E.

Flow Monitoring Practice Leader

Education

B.S., Mechanical Engineering,
University of California – Davis,
1995

Registration

Mechanical Engineer, CA (M31744)

Joined V&A

1996

Total Years of Experience

17 years

Training and Certifications

- ◆ National Association of Sewer Service Companies (NASSCO) Pipe and Manhole Assessment Certification, 2007
- ◆ Asbestos Awareness
- ◆ Confined Space Entry-Certified
- ◆ Basic CPR/First Aid

Publications

- ◆ "Collection System Flow Monitoring Technology at EBMUD," WEFTEC Annual Conference, 2009
- ◆ "Sacramento Regional County Sanitation District Interceptor Sulfide Generation Model," WEFTEC Annual Conference, 2007
- ◆ "Sacramento Regional County Sanitation District Interceptor Sulfide Generation Model," WEFTEC Annual Conference, 2007
- ◆ "Ahead of The Flow," Public Works Magazine, 2006
- ◆ "Oro Loma Sanitary District Bockman Lift Station: Flow Monitoring and I/I Analysis – A Case Study," CWEA Conference, 2004
- ◆ "Cost-Effective Collection System Assessment," HWEA Collection Systems Conference, 2003

Experience Summary

Kevin Krajewski's experience includes flow monitoring, condition assessment, design, and cost analysis of sanitary and storm sewer facilities and collection systems. He has developed inventory and condition assessment databases for collection systems. Kevin has served as the QA/QC advisor and data manager on dozens of projects for V&A. In addition, he has managed multiple flow monitoring projects and provided field support throughout California.

Relevant Project Experience

- **City of Modesto Flow Monitoring project, CA** - Completed sanitary sewer flow monitoring and inflow and infiltration (I/I) analysis. The project was conducted over a 3-month period at 35 flow monitoring sites, chosen to be the best model 10 basins and multiple sub-basins within the City collection system.
- **City of San Jose North San Jose Storm water Flow Monitoring Services, CA** - Installed flow meters in various locations in the storm water system to monitor storm sewer flow and rainfall within the area. Downloaded rainfall data from monitoring sites and performed a cursory quality control check for accurate and valid information. Produced final reports for use by the City.
- **East Bay Municipal Utility District Flow Monitoring Technologies Study that included 31 flow monitoring sites for 40 months and rainfall monitoring at 7 locations, CA** - Compared and evaluated 10 different flow monitors to evaluate the efficacy of various flow metering types and technologies. The results, conclusions and recommendations of the study solely took into account the needs of EBMUD with the goal of establishing several permanent flow monitoring sites utilizing the equipment best suited for the site conditions.
- **City of San Jose, CA –Sanitary Sewer System Manhole Condition Assessment and Flow Monitoring. Project** -- Conducted an initial condition assessment of 51 manholes along an inactive sanitary sewer alignment located within the Canoas Creek easement. Reviewed 3,380 linear feet of CCTV video and completed 21 flow monitoring projects totaling 211 flow monitoring sites over 52 weeks.
- **El Dorado Irrigation District Sewer, CA – Flow Monitoring and Condition Assessment** -- Completed corrosion condition assessment and report for 6 lift stations. Provided installation, maintenance, calibration and download services for 14 open channel flow meters, 16 pump station loggers and 7 rain gauges during a 3-month period for an I/I study. Prepared I/I analysis, report and remediation recommendations.
- **Sewerage Agency of Southern Marin, CA, Sanitary Sewer Flow Monitoring and Inflow/Infiltration Study** -- Flow monitoring and inflow and infiltration (I/I) analysis at 34 locations within the collection system. The majority of the flow monitoring was conducted over a three-month period.

DAN JONES

Potholing



Dan Jones, Project Manager/Estimator, manages all types of underground utilities and general engineering projects from \$1,000 to \$5,000,000. Dan has over 23 years of experience in the construction industry. He has performed most aspects of utility construction himself, providing a practical insight into project management. During his tenure, Dan has experienced all aspects of Arrow Construction, ranging from a Laborer, Operator, Foreman, Purchasing Manager, and Estimator/Project Manager. Dan joined the team in 2000. During this time, Dan attended Sac State and has successfully completed several courses in Project Management, and Construction Financial Management. He currently operates out of our Sacramento office.

Education

Studies in Project Management and Construction Financial Management, Sacramento State University

Recent Potholing Experience:

- Sacramento Regional County Sanitation District – EchoWater Project Flow Equalization Project
- Sacramento Regional County Sanitation District – EchoWater Project Return Activated Sludge Pumping Project
- Sacramento Regional County Sanitation District – EchoWater Project Nitrifying Sidestream Treatment Project
- Caltrans – Positive Location of Underground Utilities Area 3
- City of Sacramento – Potholing Various Locations
- Brown Construction – Tercero Student Housing
- Caltrans – Area 6 Potholing
- University of California, Davis – Ongoing Services

Title
Principal

Education

B.S. in Business Administration-
Marketing, California State
University, Chico

B.A. in Geography, California State
University, Chico

Experience
25 years

Affiliations

Association of California Water
Agencies

California WaterReuse Association

Summary

Steve Brown has over 25 years of experience specializing in providing environmental, regulatory, and public relations support for a variety of water resources, engineering, solid waste, and energy projects. He has direct experience in preparing environmental compliance documents to meet the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements, conducting management audits, following legislative and regulatory changes for clients, and coordinating public involvement programs for a wide variety of public and private projects.

Steve's broad background includes a strong understanding and knowledge of the institutional framework for allocating and managing water resources in California and the western United States. He has significant experience and expertise in successfully completing environmental compliance documentation and obtaining all of the necessary federal, state, and local regulatory approvals for linear projects including pipelines and canals.

Relevant Experience

Integrated Water Resources Folsom Water Supply and Conveyance Project, City of Folsom

Project Manager. Steve managed the preparation of the environmental impact report/environmental impact statement (EIR/EIS) for the City of Folsom's proposed Water Supply and Conveyance Project to serve the planned Folsom Specific Plan Area. The proposed development consists of 10,093 dwelling units on approximately 3,600 acres of land located south of Highway 50 and currently lacks a sufficient water supply. The City is proposing to acquire the water rights totaling 8,000 acre-feet of water per year (AFY) from the Natomas Central Mutual Water Company (NCMWC) and conveying it to the Folsom Specific Plan Area. Steve identified and evaluated the environmental impacts of the various alternatives to get the water to the Folsom Specific Plan Area. This analysis was incorporated into the overall EIR/EIS to meet both CEQA and NEPA requirements. The City certified the document on June 14, 2011.

San Francisco Bay Division Pipeline 3 and 4 Crossover Facilities, San Francisco Public Utilities Commission

Environmental Project Manager. Steve managed the preparation of the Initial Study/Mitigated Negative Declaration for the San Francisco Bay Division Pipelines 3 and 4 Crossover Facilities Project. The project involves the construction of three crossover facilities to interconnect the San Francisco Public Utilities Commission's (SFPUC's) Bay Division Pipelines Number (No.) 3 and No. 4 to improve system reliability in the event of an earthquake. Crossover valves and connections would be constructed within subsurface, concrete - lined vaults, which would be approximately 61 by 35 feet in area and 20 feet deep. An emergency generator, propane tank, and communication equipment would be installed on two concrete pads adjacent to each vault, and at one location (Guadalupe River site), a third pad would support a transformer.

Los Carneros - Recycled Water Pipeline Project, Los Carneros Water District

Project Manager. Steve is preparing an Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact on the Los Carneros Recycled Water Pipeline Project that proposes to construct an approximately 12-mile recycled water pipeline to serve the 5,700 acres of agricultural land within the District. The Proposed Project would consist of a 6 to 24-inch pipeline system that would connect to the planned 24-inch recycled water pipeline to serve the Stanly Ranch/St. Regis area from the Napa Sanitation District's Imola Wastewater Treatment Plant. The Los Carneros Project would connect to the end of the Stanly Ranch/St. Regis pipeline and construct a new pipeline system from that point on for approximately 12 miles up and through the District. The proposed pipeline system would be located within existing roadway and would not require any pump stations or storage facilities. The Proposed Project would serve approximately 140 parcel or 3,400 acres of irrigable land within the District with a recycled water supply that meets Title 22 requirements of approximately 1,650 acre-feet per year.

San Francisco Bay Division Pipeline 3 and 4 Crossover Facilities, San Francisco Public Utilities Commission

Environmental Project Manager. Steve managed the preparation of the Initial Study/Mitigated Negative Declaration for the San Francisco Bay Division Pipelines 3 and 4 Crossover Facilities Project. The project involves the construction of three crossover facilities to interconnect the San Francisco Public Utilities Commission's (SFPUC's) Bay Division Pipelines Number (No.) 3 and No. 4 to improve system reliability in the event of an earthquake. Crossover valves and connections would be constructed within subsurface, concrete - lined vaults, which would be approximately 61 by 35 feet in area and 20 feet deep. An emergency generator, propane tank, and communication equipment would be installed on two concrete pads adjacent to each vault, and at one location (Guadalupe River site), a third pad would support a transformer.

Sanitary Sewer Rehabilitation and Replacement Project, Napa Sanitation District

Project Manager. Steve managed the environmental documentation that analyzed the potential effects of the District's proposed sanitary sewer rehabilitation and replacement project on East Spring Street and Montecito Boulevards in the City of Napa, California. The purpose of the project is to correct infiltration and inflow (I/I) problems and bring the existing system up to current District standards. Phase I of the project consisted of slip-lining approximately 11,500 linear feet of pipeline. Phase II included replacing approximately 5,000 linear feet of pipeline with new polyvinyl chloride (PVC) pipe. Steve managed the preparation of all of the CEQA documentation as well as CEQA-Plus documents including a separate Cultural Resources Investigation Report and a Biological Resources Effects report to support obtaining State Revolving Funds from the State Board through the U.S. Environmental Protection Agency.

Harding Drain Bypass Project EIR, City of Turlock

Project Manager. Managed the EIR for this six-mile, 60-inch pipeline that would convey the City's tertiary treated water directly to the San Joaquin River for discharge and disposal, bypassing the Harding Drain. Steve assisted the City in developing the Petition for Change in Discharge for the State Water Resources Control Board, and permitting strategies for the necessary federal, state, and local permits and regulatory approvals, including a Section 404 Permit, 401 Water Quality Certification, NPDES Discharge Permit, 1601 Streambed Alteration Agreement, and encroachment permits.

Wastewater Pipeline/Outfall Project EIR, City of Ceres

Project Manager. Managed the environmental documentation and permitting for this 18-inch, 13-mile pipeline and pump station, planned to convey up to two million gallons per day (mgd) of primarily treated wastewater from the city's wastewater treatment plant to the city of Turlock's wastewater treatment plant. The project team developed a developed a mitigation monitoring and reporting plan strategy to reduce the environmental impact to less-than-significant levels as well as a permitting strategy to obtain the necessary permits for construction.

Kramer Junction Pipeline, City of Adelanto

Project Manager. Managed the preparation of environmental compliance documents and permits for the construction of a 32-mile natural gas pipeline from Kramer Junction to the City of Adelanto, California. He successfully applied for and obtained a 401 Water Quality Certification for the 40 dry wash crossings from the Regional Water Quality Control Board, and assisted in obtaining the right-of-way grants and the development of the compensation agreements for the mitigation measures including the purchase of habitat for the desert tortoise.

South Trunk Sanitary Sewer Relief Project, City of San Mateo

Project Manager. Steve managed the preparation of an Initial Study/Mitigated Negative Declaration for the City of San Mateo' proposed capacity improvements to the South Trunk Sanitary Sewer System to allow the City to move forward with its planned new development and redevelopment in the South Trunk area. The proposed project included the construction of approximately 8,500 linear feet of new sanitary sewer pipelines ranging in size from 15 inches to 24 inches in diameter to serve the planned new development and the redevelopment areas. This project was one of the mitigation measures identified in the City's General Plan Update EIR and agreed to as part of the approvals for the new development and redevelopment in the area. This project was successfully completed on a fast track basis and was on time and with budget.

EDUCATION

M.S., Civil Engineering (Geotechnical), University of California at Berkeley, 1984
B.S., Civil Engineering, University of California at Berkeley, 1983

ACCOMPLISHMENTS

Managed more than 120 public works geotechnical investigation and geo-design projects
Invited lecturer on geosynthetics, slope stability, and erosion control
Former co-Chairman of the Slope Technology Committee of IECA
Designer of over 150 geogrid reinforced slopes and retaining walls

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
International Erosion Control Association
American Public Works Association
Post Tensioning Institute

International Geotextile Society
California Geotechnical Engineers Association
Floodplain Management Association
East Bay Municipal Engineers

REPRESENTATIVE EXPERIENCE

Zone 13 Line B Pump Station San Leandro, CA
Principal in Charge and technical reviewer for a geotechnical investigation and report for a new below grade storm water pump station at the west end of Davis Street in an area historically prone to flooding during 3 to 5 year events. The 25 foot deep pump station includes a sump structure, pump house, and discharge flume into SF Bay. The geotechnical investigation addressed foundation and both temporary and permanent excavation design issues.

Hilltop Green Lift Station New Wet Well Richmond, CA
Principal in Charge and technical reviewer for geotechnical services to support design of the West County Wastewater District's Hilltop Green Lift Station. The sewer system lift station improvements include construction of a larger wet well to improve operational efficiency of the lift station. Specifically, the larger wet well will allow enough well volume to be stored so that the force main will be completely flushed thereby reducing the solids accumulation within the force main. Scope included completion of a geotechnical subsurface exploration, an evaluation of surface and subsurface site conditions, and development of geotechnical recommendations pertaining to the design and construction of the new wet well.

Culverts Below I-880 Fremont, CA
Principal in Charge and technical reviewer for twin culverts below I-880 to increase the storm water conveyance capacity of Laguna Creek (Zone 6, Line E) for the Alameda County Flood Control and Water Conservation District. Completed geotechnical data and design reports for the trenchless portions of the project and provided civil and structural design services for the upstream and downstream concrete transition structures. The project design includes advancing two 110 inch steel casings below the freeway using pilot tube-guided auger bores with less than 4 feet of cover. The project was designed jointly by District staff and CE&G staff and was reviewed and approved by Caltrans.

Wet Weather Equalization and Upland Ecotone Restoration San Lorenzo, CA
Principal in Charge and Quality control manager for a geotechnical investigation, design recommendations report, and construction support services for Ecotone/Wet Weather Equalization and restoration at the Oro Loma Sanitary District Water Treatment Plant in San Lorenzo. Work included preliminary geotechnical studies, subsurface investigation, and geotechnical design recommendations. The project consists of the construction of an equalization facility for treated wastewater, including construction of a perimeter earth dike, pipelines, manhole structures, and inlet and outlet structures over a variable thickness of undocumented fill and Young Bay Mud.

Bair Island Force Main Redwood City, CA
Managed the geotechnical exploration for a new 48-inch forced sewer main near Bair Island Slough. Duties for the project included historical research of the project area, collection of previous exploration data, coordination with local and state permitting agencies, coordination with multiple consulting and development agencies, coordination with the drilling subcontractors, field investigation, laboratory testing selection, and report development. The field investigation included five over-land exploratory borings utilizing a track mounted all-terrain drilling rig and four over-water exploratory borings utilizing a barge mounted drilling rig.

Glorietta Boulevard Culvert Orinda, CA
Principal engineer for a geotechnical study and design of trenchless replacement of 290 feet of collapsing 60 inch corrugated metal pipe culvert beneath developed residential properties. The geotechnical work included drilling and sampling of three borings using limited access equipment. Design included development of plans and specifications for the trenchless replacement of the existing pipe, including preliminary design and layout of launching and receiving shafts in residential yards.

Penitencia WTP Landslide

San Jose, CA

Principal geotechnical engineer and technical reviewer for a landslide study and Landslide Displacement Hazard Analysis (LDHA), and the development of geotechnical design recommendations for seismic retrofit of three large diameter water pipelines. The project includes three adjacent pipelines that service the Penitencia Water Treatment Plant (PWTP) which is located over the slow-moving Penitencia Creek Landslide. All three pipelines cross the stable Santa Clara Valley floor onto the landslide mass. CE&G's scope included meetings and consultations with the project team, completion of finite element seismic displacement analyses of landslide, management of the geotechnical investigation, geotechnical review of design documents, evaluation of existing data, development and implementation of a subsurface exploration and laboratory testing program, engineering analyses, evaluation of existing implementation and development of a long-term geotechnical monitoring plan, preparation of a technical memorandum regarding Landslide and Seismic Hazards Evaluation, and development of geotechnical analyses models for alternatives feasibility. CE&G also coordinated with DWR, SCVWD, and the PWTP, during the project.

Lakeshore Storm Drain Improvements

Oakland, CA

Managed the geotechnical investigation for a new pre-cast box culvert at Lake Shore Avenue. Work was completed as part of an award-winning project undertaken by the Alameda County Flood Control District. The project included construction of a 3,000 foot long 6x8 foot pre-cast concrete box culvert adjacent to an existing cast-in-place box constructed in the early 1960s. The outfall of the line discharges into Lake Merritt. Variable soil conditions along the alignment required that the downstream 1,200 feet of the line be supported on driven piles while the remainder of the project could be constructed using conventional methods.

Sewer Relief Pipeline

Oakland, CA

Managed the geotechnical study for the design and construction of a new 5,500 linear foot, 66 inch diameter reinforced concrete sanitary sewer relief system in west Oakland. Project crossed from alluvial soil through Bay Mud and required special shoring and foundation treatment.

North Lane Storm Water Mitigation

Orinda, CA

Quality control manager and technical reviewer for an ongoing geotechnical report and PS&E for an approximately 1,200 foot long, 60 inch diameter reinforced concrete pipe storm drain to convey storm water runoff from the west end of North Lane to San Pablo Creek in Orinda. The downstream 400 foot portion of the storm drain will be constructed below Camino Pablo and an East Bay MUD water treatment facility using trenchless installation techniques. The scope of work also included preparation of full PS&E for the trenchless portions of the project.

Zone 5 Line M Channel Improvements

Union City, CA

Project manager for a geotechnical investigation, geotechnical report, floodwall and outfall structure design on behalf of the Alameda County Flood Control District for improvements of a flood control channel and outfall structure. The project included preparation of structural calculations, plans, specifications, and engineer's estimate for a new outfall structure headwall, end wall, wing walls, sluice gate well, and for 1,250 linear feet of pile-supported floodwalls on an existing earth lined flood control channel and levee.

Peralta Creek Improvements

Oakland, CA

Quality control manager and technical reviewer for geotechnical investigation and design of creekbank stabilization systems as part of an Alameda County Flood Control District-led project to improve the capacity and habitat of a section of open flood control channel and creek in the Oakland flatlands. Work included subsurface borings and laboratory testing; preparation of a geotechnical design memorandum; design of new variable batter soil nail retaining walls and cantilever reinforced masonry retaining walls; stabilization of existing unengineered retaining walls; and engineering services during construction.

Zone 4 Line A Channel Improvements

Hayward, CA

Geotechnical manager for investigations and design assistance for widening and stabilization of 2,500 linear feet of an existing earth lined flood control channel and levee. Project included analysis and design of 2 to 3 foot high retaining/flood walls and stability assessment of proposed channel and levee modifications.

Hennessey Creek Improvements

Fairfield, CA

Managed geotechnical investigation to develop design parameters and construction recommendations for the concrete lined channel and reinforced concrete box culvert which included geologic research, exploratory drilling, and laboratory testing. Oversaw design of portions of the reinforced concrete channel walls, a concrete drainage inlet for normal flow conditions, and a 40 foot long reinforced concrete box culvert for flood conditions.

Galindo Creek Channel Repairs

Concord, CA

Managed preparation of PS&E and provided permitting assistance and construction observation services for restoration of 1,200 feet of concrete lined channelized creek through a residential neighborhood. Work included investigations, design, construction observations and testing, and permitting assistance through coordination with Cal DFG, USACE, and SFBWQCB.

San Leandro Creek Restoration

San Leandro, CA

Investigation, design, and preparation of PS&E for federally funded repairs of three properties located along San Leandro Creek following flood damages. Project included sheetpiles, rock slope protection, shoring, and a planted geocell faced, geogrid reinforced slope.

DAVID C. MATHY, PRINCIPAL

Education

B.S. Civil Engineering, California State Polytechnic University, Pomona, 1976

M.S. Geotechnical Engineering, University of California Berkeley, 1979

Professional Registrations

Civil Engineer, California, 1977

Geotechnical Engineer, California, 1987

Professional Affiliations

American Society of Civil Engineers

North American Society for Trenchless Technology

Northern California Pipe Users Group

Experience

Dave Mathy founded DCM Engineering in 1984 and served as President and Principal Engineer from 1984 through 2008. For 25 years at DCM Engineering, Dave supervised and directed the engineering staff in geotechnical engineering investigations evaluating soil, bedrock and groundwater conditions for the construction of new commercial and industrial developments, and the rehabilitation and construction of new infrastructure with emphasis on pipelines, pump stations, water tanks and reservoirs and water and wastewater treatment plant works. Experience in foundation engineering includes conventional footings, mats, post-tensioned slabs, drilled piers and driven piles with site conditions varying from bedrock to Bay Mud. Site stability evaluations have included expansive soils, hillside soil creep, landsliding, Bay Mud consolidation, seismic shaking and liquefaction. In 2008, Dave sold DCM Engineering to GeoEngineers of Seattle, Washington and served as Managing Principal of the Walnut Creek office through 2011. In 2011, Dave retired from GeoEngineers to found DCM Consulting, Inc. Through DCM Consulting, Inc., Dave will continue to provide geotechnical and trenchless engineering services to owners, designers and contractors throughout California as an independent consultant.

For the past 20 years, Dave's technical focus has been on pipelines for water, wastewater, and recycled water systems. Experience in pipeline projects includes conventional open-cut construction with shoring and dewatering evaluations, and trenchless technologies including slip-lining, cured-in-place pipe, pipe bursting, pipe reaming, horizontal directional drilling, pipe ramming, auger bore and jack, pilot tube guided boring and earth pressure balance and microtunnel pipe jacking. Dave has been responsible for the geotechnical engineering evaluation of over 75,000 linear feet of microtunnel pipeline installation in Northern California and has presented over twenty technical papers on microtunneling and trenchless technologies at various engineering conferences across the country. In 1998, Dave was part of the project team that received Trenchless Technology magazine's Project of the Year Award for Central Contra Costa Sanitary District's South Orinda (microtunneling) Sewer Improvements Project. In 2006, Dave received NASTT's Industry Achievement Award for 15 years of contributions to the Trenchless Industry. In 2008, Dave received NASTT's Outstanding Paper of the Year Award for "Microtunneling Beneath the Napa River," presented at the 2007 No Dig conference in San Diego, California. In 2009, Dave was the geotechnical lead for Central Contra Costa Sanitary

District's A-Line Interceptor Sewer Project which was first runner up in Trenchless Technology magazine's Project of the Year Award. The A-Line Relief Interceptor is a 96-inch RCP pipeline installed by EPBM tunneling in two pipe jack drives of 1,700 feet and 1,350 feet. These are among the longest single-pass pipe jacks completed up to 2009 in California.

Representative Project Experience

- Lower Warren Avenue Sewer Improvements, Union Sanitary District
- Upper Fremont Boulevard Microtunneling, Union Sanitary District
- Freeway 880 Microtunneling, Union Sanitary District
- Stevenson Boulevard Corridor Improvements, Union Sanitary District
- Boyce Avenue Gravity Sewer, Union Sanitary District
- Lower Hetch Hetchy Corridor Sewer, Union Sanitary District
- Alvarado Boulevard Trunk Sewer Microtunneling, Union Sanitary District
- A-Line Relief Interceptor Sewer, Central Contra Costa Sanitary District
- Martinez Wastewater Treatment Plant UV Disinfection Facility, Central Contra Costa Sanitary District
- Freeway 680 Microtunneling, Central Contra Costa Sanitary District
- South Orinda Microtunneling, Central Contra Costa Sanitary District
- Downtown Martinez Sewer Improvements and Relocations, Central Contra Costa Sanitary District
- Vessing Sewer Renovations, Central Contra Costa Sanitary District
- Los Prados Sewer Improvements, City of San Mateo
- South Trunk Sewer Improvements, City of San Mateo
- Pleasanton to San Leandro Export Facilities Pipeline, Livermore-Amador Valley Water Management Agency
- 16-Mile Water Transmission Main, Sonoma County Water Agency
- Napa River Sanitary Sewer Siphon, Napa Sanitation District
- Recycled Water Pipeline and Reservoir, City of Petaluma
- 60-inch Brick Interceptor Replacement Phase 1B, City of San Jose
- Wastewater Treatment Plant Improvements, Dublin San Ramon Services District
- Pittsburg Citywide Sewer Improvements, Delta Diablo Sanitary District
- Marsten Outfall Pipeline, City of Burlingame
- South Interceptor Conveyance, Vallejo Flood and Wastewater District
- Ryder Street Storage Basin, Vallejo Flood and Wastewater District
- Winding/Olson/Plumeria Sewer Rehabilitation, CSD-1
- Boulder Creek Sewer Improvements, City of Redding
- Recycled Water System and Reservoir, City of Healdsburg

Prior Experience

2008-2011, Managing Principal, DCM/GeoEngineers, Walnut Creek, California

1984-2008, President and Principal Engineer, DCM Engineering, Walnut Creek, California

1980-1984, Engineering Manager, J.H. Kleinfelder & Associates, Walnut Creek, California

1979-1980, Project Engineer, J.H. Kleinfelder & Associates, Walnut Creek, California

1978-1979, Staff Engineer, Diablo Soil Engineers, Lafayette, California

1977-1978, Lecturer, California State Polytechnic University, Pomona, California

LARRY CASTELLANOS, SR/WA, R/W-AC

Industry experience since 1990



CURRENT RESPONSIBILITIES

Larry Castellanos joined **Associated Right of Way Services, Inc.**, in 1997, and currently serves as **Vice President of Operations** and **Right of Way Consultant**. Mr. Castellanos is responsible for project management of multi-faceted projects involving property appraisal, acquisition, and relocation throughout the San Francisco Bay Area, Central Valley, and Sacramento region. He has negotiated full and partial acquisitions numbering in the hundreds on improved, unimproved, agricultural, commercial, industrial, residential, multi-tenant, and public agency properties in Northern California. Extremely knowledgeable in federal and state guidelines and experienced in redevelopment, transportation, flood control, and pipeline projects, Mr. Castellanos often conducts informational presentations about the right of way and acquisition

process to public agency boards, staff, and legal counsel.

Mr. Castellanos began his career at AR/WS as an Acquisition Consultant and Appraiser before being promoted to Appraisal Manager. While managing the company's appraisal division, he worked closely with public agency legal counsel on appraisal report preparation and reviewed appraisals for federally funded projects. He coordinated the hiring of specialists in hazardous waste, vineyards, wetlands, and fixtures and equipment; and prepared full and complex partial acquisition eminent domain appraisal reports for commercial, industrial, residential, and agricultural properties.

PRIOR EXPERIENCE

Prior to joining the AR/WS team, Mr. Castellanos was a Right of Way Agent for the **California Department of Transportation**, for 7 years, where he gained acquisition and appraisal experience. Responsible for preparing and presenting written offers for real property acquisitions, Mr. Castellanos negotiated full and partial acquisitions of commercial and industrial property, including contaminated parcels. He closed escrow on approximately \$30M worth of property in 2.5 years; negotiated and settled the full acquisition of a multi-tenant commercial office property in excess of \$15M; and acted as liaison between grantors and all functions within Caltrans. As an appraiser with Caltrans, Mr. Castellanos prepared eminent domain appraisal reports for valuation of fee simple, temporary, permanent, and replacement easements. His assignments included full and partial acquisitions of residential, commercial, and special purpose properties, as well as contaminated land. He worked closely with acquisition experts during negotiations, and reviewed appraisals prepared by independent and staff appraisers.

Mr. Castellanos is approved to teach *Principles of Real Estate Appraisal, Easement Valuation* and the Valuation of Partial Acquisitions for the International Right of Way Association.

EDUCATION

University of San Francisco, MBA,
Finance

California State University,
Sacramento, BS, Finance

LICENSES AND CERTIFICATES

State of California Certified
General Real Estate Appraiser No.
AG026501

State of California Real Estate
Broker License No. 01223935

SR/WA, Senior Member,
International Right of Way
Association

R/W-AC, Appraisal Certified,
International Right of Way
Association