TO: James L. App, City Manager

FROM: Doug Monn, Public Works Director

SUBJECT: Water Treatment Plant Design

DATE: September 3, 2013

NEEDS: For the City Council to consider awarding a contract for Construction Management Services for the water treatment plant construction.

FACTS:

1. The City is designing a treatment plant to use Lake Nacimiento water.

2. The water treatment plant design is 90 % complete.

3. Construction of the Phase-I 2-MGD treatment plant is expected to cost approximately $11.5M.

4. The Project includes:

   Structures - An operations building and structural covers to appropriately house equipment and chemicals

   Chemical Pretreatment – Preoxidation of organic material and manganese, and to improve taste and odor

   Physical Pretreatment – a dissolved air flotation system (DAF) will remove organic material, reduce disinfection-byproduct-formation potential, and improve performance of membrane filters.

   Membrane Microfiltration - Provides a high level of physical filtration, turbidity, and pathogen removal.

   GAC System – Reduce disinfection byproduct formation and improve overall taste and odor characteristics of the water.

   Disinfection Basin and Clearwell: A below grade concrete clearwell will provide the necessary contact time for disinfection. A high-service pumping station will connect downstream to the clearwell for pumping into the distribution system.

5. Construction of the treatment plant is complex and necessitates full-time oversight of a professional construction management team experienced in water treatment plant projects. In January 2012, the City issued a request for proposals (RFP) for construction management services. The scope of work includes:

   - Bidding assistance;
   - Pre-construction conference;
   - Review of contractor's submitted documents for compliance with contract documents;

- Scheduling;
- Regular progress meetings;
- Special meetings;
- Maintenance of a project file database;
- Document compliance with environmental regulations;
- As-built record keeping;
- Maintenance of a project web page for interested public;
- Process shop drawings and other submittals;
- Construction observation;
- Materials testing and special inspections;
- Verify grade of structures and pipelines;
- Coordinate water supply disruptions;
- Coordinate and respond to contractor requests for information;
- Manage change orders;
- Final inspection and verify completion of construction;
- Project close-out;
- Prepare a final construction report; and
- Warranty period review.

6. The City formed a committee of five professionals experienced in large public projects to independently review written proposals and interview firms.

7. Twelve firms submitted and for firms were interviewed: Covello Group, Black & Veatch, AECOM, and West Yost Associates.

8. Based on written proposals, reference checks, and interviews, the selection committee recognized AECOM as one of the two top ranked firms.

ANALYSIS & CONCLUSION:

Staff negotiated a detailed scope of work and fee with AECOM (see Attachment 1). The team that AECOM has assembled for this project has an impressive history of success. Having just completed a $100M project for the City of Oxnard, the team is prepared to transition directly over to the City's WTP project. The lead full-time Construction Manager and Resident Engineer for the City's project (Bobert Stein, P.E.) has over 26 years of experience specializing in municipal water project. Having a Resident Engineer and Construction Manager with this level of experience will help ensure the project is constructed according to plans and specifications while simultaneously minimizing costly schedule delays and change orders. AECOM's fee for this work is $859,652. This is approximately 8% of estimated construction value, which is typical for a project of this size and complexity.

POLICY REFERENCE: Economic Strategy; Integrated Water Resource Plan; Nacimiento Water Project Entitlement Contract.

FISCAL IMPACT: AECOM proposes professional engineering design services for a cost of $859,652. Because of the scope of the Nacimiento Water Treatment Plant Project,

complexities involved in the commissioning of a new public drinking water treatment facility, particularly delays that may occur during start-up and testing and regulatory review, a $103,000 contingency should be included.

The three Nacimiento Water Funds totals $11.47M and total cash reserves of $14.2M.

OPTIONS:

a. Adopt Resolution No. 13-xxx authorizing the City Manager to enter into a contract with AECOM in the amount not to exceed $962,652 to provide full-time construction management services for the construction of the City's new surface water treatment plant.

b. Amend, modify, or reject the above option.

Prepared by: Christopher Alakel, P.E.
Water Resources Manager

Attachments (2)

1) Resolution
2) Scope of Work

RESOLUTION NO. 13-xxx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASO ROBLES
AWARDING A CONTRACT TO AECOM
FOR CONSTRUCTION MANAGEMENT OF THE CITY'S WATER TREATMENT PLANT

WHEREAS, the City of Paso Robles must construct a surface-water treatment plant to treat water from Lake Nacimiento. The project is necessary to increase the quantity and reliability the City's water supply and to alleviate the City's current Level II water shortage

WHEREAS, construction of the Project is highly complex and beyond the capacity of City staff to manage alone. The City requires the services of a professional firm that is experienced in management of complex treatment plant construction projects.

WHEREAS, it would be in the best interest of the City of Paso to retain the services of AECOM for construction management of the new water treatment plant..

THEREFORE, BE IT RESOLVED AS FOLLOWS:

SECTION 1. The City Council does hereby award a contract to AECOM for construction management of the Paso Robles Water Treatment Plant in an amount not to exceed $962,652, and authorizes the City Manager to execute the contract.

PASSED AND ADOPTED by the City Council of the City of Paso Robles this 3rd day of September 2013, by the following votes:

AYES:
NOES:
ABSENT:
ABSTAIN:

Duane Picanco, Mayor

ATTEST:

Caryn Jackson, Deputy City Clerk

Scope of Services - City of El Paso de Robles Nacimiento Water Treatment Plant Project Construction Management Services

Introduction

In response to the City's request, AECOM is pleased to submit to the City our proposed scope of services and project team for the City's Nacimiento Water Treatment Plant Construction Management Services project. We have assembled a local team that will be based out of our San Luis Obispo office. Our team will be led by a seasoned construction manager, Mr. Robert Stein, who has over 26 years of experience in construction management of water/wastewater treatment plant projects. Bob will be supported by Ms. Rosaida Harris, who will act as the construction administration and scheduling lead on the project. Rosaida and Bob have successfully completed numerous small and large projects throughout central and southern California, including two of the most advanced treatment facilities in central California at Oxnard and Fillmore. AECOM is proud of our successes with the City, and we appreciate this opportunity to present you with this proposal to continue our commitment and working partnership with you. We will be happy to discuss our proposed approach and project team with you at any time.

Project Understanding

The City of El Paso de Robles ("City", "Paso Robles") is a project participant in the Nacimiento Water project (NWP) implemented by the San Luis Obispo County Flood Control and Water Conservation District. The NWP is a regional water supply system that conveys raw water from Lake Nacimiento to communities in San Luis Obispo County, including the City of Paso Robles.

The City will be constructing a surface water treatment plant to treat surface water received from Lake Nacimiento, with the goal of utilizing this additional water source to increase supply reliability, particularly during the summer months. The treatment plant will be located on an 18-acre City-owned parcel within the City limits. The plant is designed to provide a daily treatment capacity of approximately 2.0-2.5 MGD of potable water meeting state drinking water requirements. The primary components include membrane treatment, dissolved air flotation, GAC vessels, chemical feed systems, clearwell, equalization basin, 5,000 square foot pre-engineered metal building, pump stations, and yard piping.

The Design Engineer's opinion of probable construction cost is approximately $9,000,000. Construction will be financed with local City funds and possibly State Integrated Regional Water Management funds. The total construction duration for the treatment plant is estimated to be one year.

SCOPE OF SERVICES

1000 - Preconstruction Phase Services

AECOM shall complete the following tasks:

Task 1010 - Bidding Assistance

Attend the pre-bid conference and the bid opening. The Resident Engineer (RE) will assist the City and Design Engineer in evaluating and reviewing bid proposals, subcontractors, suppliers, and requests for substitute materials and equipment. Examine, organize, and inventory the Escrow Bid Documents submitted by the two lowest bidders.

Task 1020 – Preconstruction Conference

Conduct a pre-construction conference and site tour with the City, involved agencies, utilities, and the Contractor's team as they prepare to mobilize for the project. The RE will review plans and specifications with the Contractor in an effort to facilitate the Contractor's understanding of the project. The RE will review the Contractor's construction schedule for the project, including equipment, labor, and supervision planning. The RE will review appropriate protocols and procedures detailed in the construction documentation. The RE will apprise the Contractor of contract requirements regarding security matters such as fences, lighting, and posting of signs. AECOM will prepare meeting minutes for the pre-construction meeting.

Task 1030 – Preconstruction Documents
Review the Contractor's surety bonds, certificates of insurance, preliminary schedules and other documents required prior to construction for general compliance with the contract documents. Provide the City recommendations based on the findings of the preconstruction documents review.

2000 - Construction Phase Services

Task 2010 – Team Building Workshop
Attend team building workshop with the Contractor, the City and the City's representatives. The City will provide a facilitator.

Task 2020 – Scheduling
Review the Contractor's schedule to verify that the project is being executed in general accordance with the requirements of the contract documents. Monitor the Contractor's compliance with the agreed-upon scheduling requirements.

AECOM's major task associated with the overall schedule requirements will be to:

- Review the Contractor's schedule to determine that it is properly prepared, that the milestones dates meet the overall schedule, and that no major conflicts exist.
- Review progress attained against the approved schedule to adequately record work-in-place, detect any potential delays, and review the Contractor's plan for implementation of remedial measures when appropriate, to recover or maintain progress.
- In conjunction with the City, negotiate schedule adjustments with the Contractor, which may be required due to weather, change orders, or other impacts requiring schedule adjustments.

Task 2030 – Progress Meetings
Conduct weekly progress meetings with the Contractor and City representatives. The principal purpose of the project coordination meetings will be to:

- Review progress and quality.
- Review submittal and RFI logs.
- Notify the attendees of any construction deficiencies.
- Discuss labor, material, and equipment related to upcoming work.
- Address team coordination matters.
- Review maintenance of "as-built" drawings throughout construction.

AECOM will chair these meetings and conduct each meeting according to a published agenda and have meeting summaries prepared and promptly distributed. Meeting summaries will detail action items, the discussions that ensued, and announce the time and date of the next meeting.

Task 2040 – Special Meetings
Conduct up to ten (10) meetings with the Project Team and Contractor to address special issues such as pre-submittals, mobilization of major sub-contractors, change order negotiations and startup.

Task 2050 – Project File Database
Provide a centralized document system utilizing Primavera Contract Manager for the Water Treatment Plant Project. The development and implementation of the centralized document system will include:

- Design of the centralized document system to support project file database.
- Procurement of the software and licenses for the system. AECOM assumes that the number of licenses required is: AECOM (1), City (1) and Contractor (1) for a total of three (3) licenses.
- Documents to be tracked in the system include:
  - Project drawings
  - Project specifications
  - Drawings and specification addendums
  - Correspondence
  - Submittals / shop drawings
  - Requests for information (RFI)
  - Change orders and change order requests
  - Meeting agendas and meeting summaries
  - Daily reports
  - Inspection reports
  - Testing reports
  - Project schedules
  - Progress payments
  - Permits
  - Warranties
- Centralized document system will be web-based
- The City will require the Contractor to utilize the centralized document system for management and transfer of all the project related documentation and correspondence.

Task 2060– Submittal Processing
Receive from Contractor up to five hundred (500) sets of specified submittals and O & M manuals. Transmit these to design engineer for review. Maintain a log

and manage shop drawings and sample/submittal review process to determine the following:

- All short-term look-ahead schedules contain critical submittal dates, and the logs reflect the same.
- Submittals are reviewed in accordance with the contract documents and returned to the Contractor.
- Logs are updated on a regular basis.
- Shop drawings have been reviewed and returned before associated work has begun.
- A copy of all submittals is maintained in the file.

Subsequent to the review, return submittal to the Contractor and forward a copy to the City.

Task 2070 – Construction Observation

Implement observation guidelines for monitoring the quality of the Contractor's work. Conduct field observation and prepare documentation (daily reports) of construction tasks including but not limited to construction staging, utility coordination, process, mechanical, electrical, instrumentation, traffic access, pedestrian access, drainage, NPDES requirements, concrete, grading, pipeline, building construction, base and surfacing, lighting, landscaping, and erosion control.

Upon witnessing (and discussing with City) materials, erection or installation process, or levels of quality that do not meet the requirements of the construction contract documents, issue a Non-Conformance Report notifying the Contractor of such deviation and inquire about the Contractor's proposed corrective action. Copies will be forwarded to the City.

The Contractor has sole responsibility for compliance with safety requirements on the construction contract. AECOM's staff will monitor the Contractor's general compliance with its safety program and advise the City of observed deficiencies.

Maintain a photographic log of construction activities and provide the City copies of significant photographs.

Task 2080 – Stormwater Pollution Prevention Plan

AECOM will review the Storm Water Pollution Prevention Plan (SWPPP) submitted by the contractor and will monitor and document the contractor's general conformance with the SWPPP. Filing of the SWPPP with the State Water Resources Control Board SMARTS System is assumed to be completed by the City.

Task 2090 – Request for Information (RFI)

Review, coordinate and respond to Contractor's Requests for Information (RFI). When appropriate, recommendations, suggestions and alternatives shall be provided to the Contractor, and/or the City. Maintain a log of RFI's.

Task 2100 – Change Orders

Investigate proposed change orders submitted by the Contractor or requested by the City. Change order submittals will include supporting records. AECOM's investigation will include the impacts on the project schedule and budget, and will include a recommendation for approval or disapproval.

AECOM will:

- Assemble documentation to include such items as inspection reports, test reports, drawings, sketches, photographs, and other materials as required.
- Prepare change order estimates consisting of a cost estimate conforming to the City's procedures and forms; assess the impacts of the proposed change on the Contractor's schedule and operations; and prepare a written report summarizing the impact of the proposed change in terms of extra cost, cost savings, schedule, and effect on Contractor's obligations.
- Evaluate the Contractor's price proposals for reasonableness and accuracy of construction quantities, rates and unit prices, and time and schedule impacts.
- Maintain a change order log as a means to tracking change order proposals through the review and approval process.

Task 2110 – Progress Pay Estimates

Review, for general compliance with contract documents, Contractor's monthly progress payment requests, and construction contract records and reports specified to be submitted. Compile recommendations and forward to the City.

3000 - Specialty Services

Task 3010 – Materials Testing and Special Inspection

As a subconsultant to AECOM, Earth Systems Pacific will provide materials testing and special inspections during construction. The materials testing and special inspections will be conducted in accordance with City-approved frequencies and procedures in accordance with the construction contract plans

and specifications. Testing will be performed in accordance with the applicable materials testing manuals. AECOM will review the results of all testing materials quality inspections and will then make recommendations for acceptance of work in general compliance with the contract documents or remedial actions required to correct unacceptable portions of the Contractor's work.

Task 3020 – Labor Compliance

AECOM's State-certified subconsultant, Golden State LLC, will provide a Labor Compliance Program to monitor the Contractor's labor compliance, which includes the following:

- Pre-Job Conference. Conduct a pre-job conference with the Contractor and subcontractors listed in the bid before commencement of the work. Labor compliance requirements will be discussed and copies of the suggested reporting forms furnished. Records of the conferences will be kept on file.
- Monthly Audit of Contractor Certified Payroll. Review certified payrolls submitted by the Contractor and his subcontractors to verify compliance with the requirements of prevailing wage. Monitor that Apprenticeship requirements are being met.
- Monthly On-Site Interview. Conduct random on-site Contractor employee interviews on a monthly basis as required by the Labor Compliance Program.
- Violation Enforcement and Recommendations. Communicate potential violations to City and provide recommended action.
- Annual Reporting to the Department of Industrial Relations (DIR). Compile and submit a summary report to the DIR. The report will be submitted annually during construction and at the conclusion of the project.

Task 3030 – Start-up and Commissioning Coordination

AECOM will serve as the start-up and commissioning liaison coordinating with the Contractor to develop and implement a start-up and commissioning plan.

AECOM will provide start-up and commissioning observation services to assist the City with the monitoring and acceptance of the operational testing of various components of the Nacimiento Water Treatment Plant.

AECOM will perform the following tasks:

- Coordinate Contractors' start-up and commissioning activities and compare to contract document requirements, Operations Plan and Acceptance Plan. Advise City of nonconformance issues. AECOM will coordinate with City staff, Contractor(s), systems integrator, and Construction Management team start-up specialists.
- Review The Contractors' Operational Testing Plan and Acceptance Plan and advise the City as to status of the scheduled tasks.
- Coordinate up to six (6) Contractor/Client meetings to review start-up status.

4000 - Post Construction Services

Task 4010 – Final Inspection and Punch List

Evaluate the substantially complete facilities to confirm general compliance and/or identify discrepancies and deficiencies in the work performed by the Contractor. Compile punch list, transmit to the Contractor and monitor completion of the punch list items. Report to the City on the completion of the project, and make recommendations regarding project acceptance, retention of funds, and final payment to the Contractor.

Task 4020 – Project Close-out

Coordinate project close-out negotiations with the City and Contractor. Provide recommendations to the City addressing payment, lien releases, and final change orders.

Task 4030 – Final Report

Prepare and submit a final Construction Report, including the following:

- Operations manuals for equipment furnished by the Contractor.
- Testing records.

Task 4040– Processing of Record Drawings

Maintain a hard copy file of the construction drawings at the onsite office for the purpose of documenting field changes, as-built conditions and approved changes. After receiving the contractor's mark-ups of all changes and as-built conditions AECOM will transmit the final as-builts to the design engineer for processing of record drawings.

Task 4050 – Warranty Period Review

Visit the Project with the City and Engineer prior to the end of the one-year warranty period to observe any apparent defects. Recommend any required replacements or corrections.

Staffing Level of Effort

The following level of staffing effort is anticipated for the City of Paso Robles Nacimiento Water Treatment Plant Project. This level of staffing effort is based on a Construction duration of 12 months.

Pre-Construction Period	
Staffing Summary 1 Month Duration (4 weeks)	
Principal Engineer	14 MH
Resident Engineer	44 MH
Resident Inspector	36 MH
Clerical	44 MH
Total	**138 MH**

Construction Period	
On-Site Staffing Summary 12 Month Duration (52weeks)	
Principal Engineer/Quality Management	120 MH
Resident Engineer	40 MH/wk → 2,080 MH
Resident Inspector	24 MH/wk → 1,248 MH
Clerical	16 MH/wk → 832 MH
Total	**4,280 MH**

Post-Construction Period	
Staffing Summary 2 Month Duration (8weeks)	
Principal Engineer/Quality Management	28 MH
Resident Engineer	16 MH/wk → 128 MH
Resident Inspector	64 MH
Clerical	64 MH
Total	**284 MH**

Additional Engineering Services

All construction phase engineering work to be performed by AECOM cannot be defined in detail at this time. Additional engineering work related to the project, and not included in the Scope of Work, may be required. Such work is classified as Special Engineering Services. These additional tasks could include the following:

- Engineering services during the permitting process for compiling supplemental permit applications, completing redesigns, and attending meetings with permitting agencies to clarify and resolve issues.
- Engineering services for (1) compiling and researching right-of-way documents; (2) compilation of permanent and construction easements (inclusive of legal descriptions); and (3) compiling Record of Surveys.
- Assistance to the City in mediation, arbitration or litigation arising from the construction of the project.
- Preparation for and attendance at meetings associated with the project but not specifically defined as Planned Engineering Services.
- Consultation or other services on matters not otherwise provided for in this Agreement.
- Administration of or participation in Alternative Dispute Resolution processes inclusive of Disputes Review Board.
- Water quality monitoring for NPDES compliance.
- Consultant services for contaminated soil/water or hazardous materials.
- Review of traffic control plans.
- Review of shoring plans.
- Permitting services related to groundwater, stormwater or discharge of wastewater.

Special Engineering Services are to be authorized by the City and agreed upon by AECOM on an individual task order basis. Prior to commencement of work for each task, AECOM shall compile and submit a scope of work and estimated not-to-exceed cost.

City Furnished Items

- Technical support by the project geotechnical consultant.
- Field office.

Supplemental Conditions

Reuse: Any reuse of AECOM's prepared Work, except for the specific purposes intended hereunder, will be at City's sole risk and without liability or legal exposure to AECOM or its subconsultants.

Safety: City agrees that in accordance with generally accepted construction practices, the construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the Project, including safety of all persons and property, and that this requirement shall be made to apply continuously and not be limited to normal working hours. AECOM shall not have control over or charge of, and shall not be responsible for, construction means, methods, techniques, sequences or procedures, as these are solely the responsibility of the construction contractor. AECOM shall not have the authority to stop the work of the construction contractor. In no event shall AECOM be liable for the acts or omissions of any construction contractors, their subcontractors, any of their agents or employees, or any other persons or entities performing any work related to this project, or for the failure of any them to carry out construction work under contract with the City.

Contractor Indemnification Additional Insured Status: City agrees to obtain and maintain for the benefit of AECOM the same indemnities and insurance benefits obtained for the protection of City from any contractor or subcontractor working on the project and shall obtain from that contractor or subcontractor insurance certificates evidencing AECOM as an additional named insured.

Entitled to Rely: Consistent with the professional standard of care and unless otherwise specifically provided herein, AECOM shall be entitled to rely upon the accuracy of data and information provided by City or others without independent review or evaluation.

Opinions of Construction Cost: Any Opinion of the Construction Cost prepared by AECOM represents its judgment as a design professional and is supplied for the general guidance of City. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such opinions as compared to contractor bids or actual cost to City.

Hazardous Materials: Notwithstanding anything in this Agreement, AECOM shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure to persons to hazardous materials in any form, at the Project Site.

Fee Estimate

AECOM shall be compensated monthly with progress payments by the City for services provided by AECOM during the previous month pursuant to the Agreement and in accordance with AECOM's Hourly Rate Schedule (Exhibit B), which is attached hereto and made a part of this Agreement. Payment of invoices approved by the City shall be made within 30 calendar days from receipt of invoice by the City. Compensation for AECOM's scope of services, as described herein, shall be made on a time-and-materials basis with an initial not-to-exceed fee amount of **$859,652** (Refer to Project Budget on the following page).

Project Budget

Nacimiento Water Treatment Plant Project
Construction Management

City of Paso Robles

Task Description	Personnel Hours					Budget		
	Principal/Quality Management	Resident Engineer	Resident Inspector/Construction Inspection Support	Clerical	Total Hours	Labor	Non-Labor Fee	Total
1000 - Preconstruction Phase Services								
1010 Bidding Assistance	2	12	20	12	46	$ 6,110	$ 306	$ 6,416
1020 Preconstruction Conference	6	16	8		30	$ 4,950	$ 248	$ 5,198
1030 Preconstruction Documents	6	16	8	32	62	$ 7,350	$ 368	$ 7,718
					-	$ -		$ -
					-	$ -		$ -
Subtotal	**14**	**44**	**36**	**44**	**138**	**$ 18,410**	**$ 921**	**$ 19,331**
2000 - Construction Services								
2010 Team Building Workshop	16	4	10		30	$ 5,040	$ 252	$ 5,292
2020 Scheduling	12		100		112	$ 16,220	$ 811	$ 17,031
2030 Progress Meetings	24	32	150	80	286	$ 36,880	$ 1,844	$ 38,724
2040 Special Meetings	16		60	32	108	$ 13,760	$ 688	$ 14,448
2050 Project File Database	4	200	60	400	664	$ 73,140	$ 3,657	$ 76,797
2060 Submittal Processing		200	200	200	600	$ 77,000	$ 3,850	$ 80,850
2070 Construction Observation		600	1,040		1,640	$ 247,600	$ 12,380	$ 259,980
2080 Stormwater Pollution Prevention Plan		32	80		112	$ 16,640	$ 832	$ 17,472
2090 Request for Information	16	60	80	40	196	$ 27,360	$ 1,368	$ 28,728
2100 Change Orders	16	80	200	40	336	$ 47,560	$ 2,378	$ 49,938
2110 Progress Pay Estimates	16	40	100	40	196	$ 26,760	$ 1,338	$ 28,098
					-	$ -		$ -
Subtotal	**120**	**1,248**	**2,080**	**832**	**4,280**	**$ 587,960**	**$ 29,398**	**$ 617,358**

Project Budget

Nacimiento Water Treatment Plant Project
Construction Management

City of Paso Robles

Task Description	Personnel Hours					Budget		
	Principal/Quality Management	Resident Engineer	Resident Inspector/Construction Inspection Support	Clerical	Total Hours	Labor	Non-Labor Fee	Total
3000 - Specialty Services								
3010 Materials Testing and Special Inspection					-	$ -	$ 120,000	$ 120,000
3020 Labor Compliance					-	$ -	$ 42,000	$ 42,000
3030 Start-Up and Commissioning Coordination	24	76			100	$ 17,360	$ 868	$ 18,228
					-	$ -		$ -
Subtotal	**24**	**76**	**-**	**-**	**100**	**$ 17,360**	**$ 162,868**	**$ 180,228**
4000 - Post Construction Services								
4010 Final Inspection and Punch List		40	-	20	60	$ 8,300	$ 415	$ 8,715
4020 Project Close-out	12	32	32	24	100	$ 13,940	$ 697	$ 14,637
4030 Final Report	8	22		20	50	$ 6,720	$ 336	$ 7,056
4040 Processing of Record Drawings		24	32		56	$ 8,560	$ 428	$ 8,988
4050 Warranty Period Review	8	10	-		18	$ 3,180	$ 159	$ 3,339
					-	$ -		$ -
Subtotal	**28**	**128**	**64**	**64**	**284**	**$ 40,700**	**$ 2,035**	**$ 42,735**
Total	**186**	**1,496**	**2,180**	**940**	**4,802**	**$ 664,430**	**$ 195,222**	**$ 859,652**

Personnel Category	$/HR
Principal/Quality Management	$185.00
Resident Engineer	$170.00
Resident Inspector/Construction Inspection Support	$140.00
Clerical	$75.00

Paso Robles will benefit from a comprehensive construction management team that has delivered complex water treatment projects for both small and large clients.

Team Section Contents

AECOM has been entrusted with the management of more than $300 billion in major capital programs worldwide across all market sectors, including water and wastewater.

Oxnard Advanced Water Purification Facility

Fresno T3 Water Storage and Treatment Facility

AECOM Team Overview

The AECOM team's goal is to protect the City of Paso Robles' interest with well-defined and consistent best practices, state-of-the-art tools, and top-notch professionals. Our team is supported by our specialty subconsultants, with whom we have worked successfully in the past.

Our clients count on us for reliable, high-quality facilities, conforming to plans and specifications, tested and commissioned on schedule. They trust us to facilitate communications, monitor progress, control costs, manage schedules, furnish valuable documentation, anticipate problems, and develop solutions that work in today's complex regulatory, institutional, and public policy settings.

Locally Based Experts

In the U.S. alone, AECOM has more than 15,000 employees, including 3,000 in the state and 200 based in San Luis Obispo, Santa Barbara, and Ventura counties — providing the City of Paso Robles quick access to a diverse pool of resources beyond those we present in our organizational chart. Because we are based locally, we are also familiar with the local suppliers, labor pool, and other resources that the contractor will draw upon to execute the work. Because we are a large global firm with specialists in all aspects of water treatment facility design and construction, we also are familiar with all national vendors/suppliers of the specialty equipment to be procured for the City's project.

Three Reasons the AECOM Team is the Superior Team:

1. **Our proven construction manager, Bob Stein,** who has 26 years of experience in construction management of wastewater treatment facilities, including for two of the most advanced facilities on the Central Coast.
2. **Access to a large bench of AECOM expertise** in all aspects of water treatment plant design, construction, and operations to advise the City and facilitate solutions to potential issues during construction.
3. **Our local project team, staffed with professionals who understand the City**, as they have successfully delivered numerous projects for Paso Robles for the past 10 years.

Experience with the City

Our team has worked with the City of Paso Robles on successful projects since 2002, some involving very complicated permitting and technical challenges. Thus, we are well familiar with City processes and policies, having worked with your staff on a day-to-day basis. For the Water Treatment Plant CM, AECOM has the ability to bring an in-house team that covers all bases — and we can do this much more cost-effectively and with lower overhead than a firm without an established office in San Luis Obispo County.

Team Structure

AECOM's ability to gather this particular collection of individuals to deliver services for the WTP CM project means the City of Paso Robles gets both a locally based and fully available team.

The AECOM team comprises some of our best technical minds, who will collaborate to help manage the construction of the Paso Robles Water Treatment Plant. By taking staff from the $100 million City of Oxnard GREAT program that recently came to an end, **we are able to offer the City a local team that has been working together in the same capacity for the past six years**. As a result, the City will not be faced with a consultant that may require time mobilizing resources or "getting themselves organized."

How our construction management team is structured has a large influence on the project's successful outcome. Our team structure, demonstrated in our organizational chart on the following page, is arranged to encourage collaboration, establish channels of communication and accountability, and clearly define responsibilities of all team members to deliver technically sound, quality-assured products.

Our team is led by Construction Manager Bob Stein, who will represent the AECOM team as the single point of responsibility and communication for the City of Paso Robles.

Bob will have prime responsibility and final authority for the work. He will be supported by our Principal-in-Charge Ben Horn who has more than 40 years of experience in planning, design and construction administration for water and wastewater treatment, water transmission and distribution systems.

While Ben's line of communication connects mostly to Bob, he will also be available in the event an administrative or technical issue is unable to be resolved by Bob alone. Bob will also routinely check in with the City's Project Manager Christopher Alakel to make sure our team is consistently meeting Paso Robles' expectations.

The AECOM team also includes key subconsultants who are very familiar to the City and with whom AECOM has enjoyed a successful relationship on many projects. **Earth Systems Pacific** will provide geotechnical and materials testing services and **Golden State Labor Compliance** will be responsible for labor compliance monitoring.

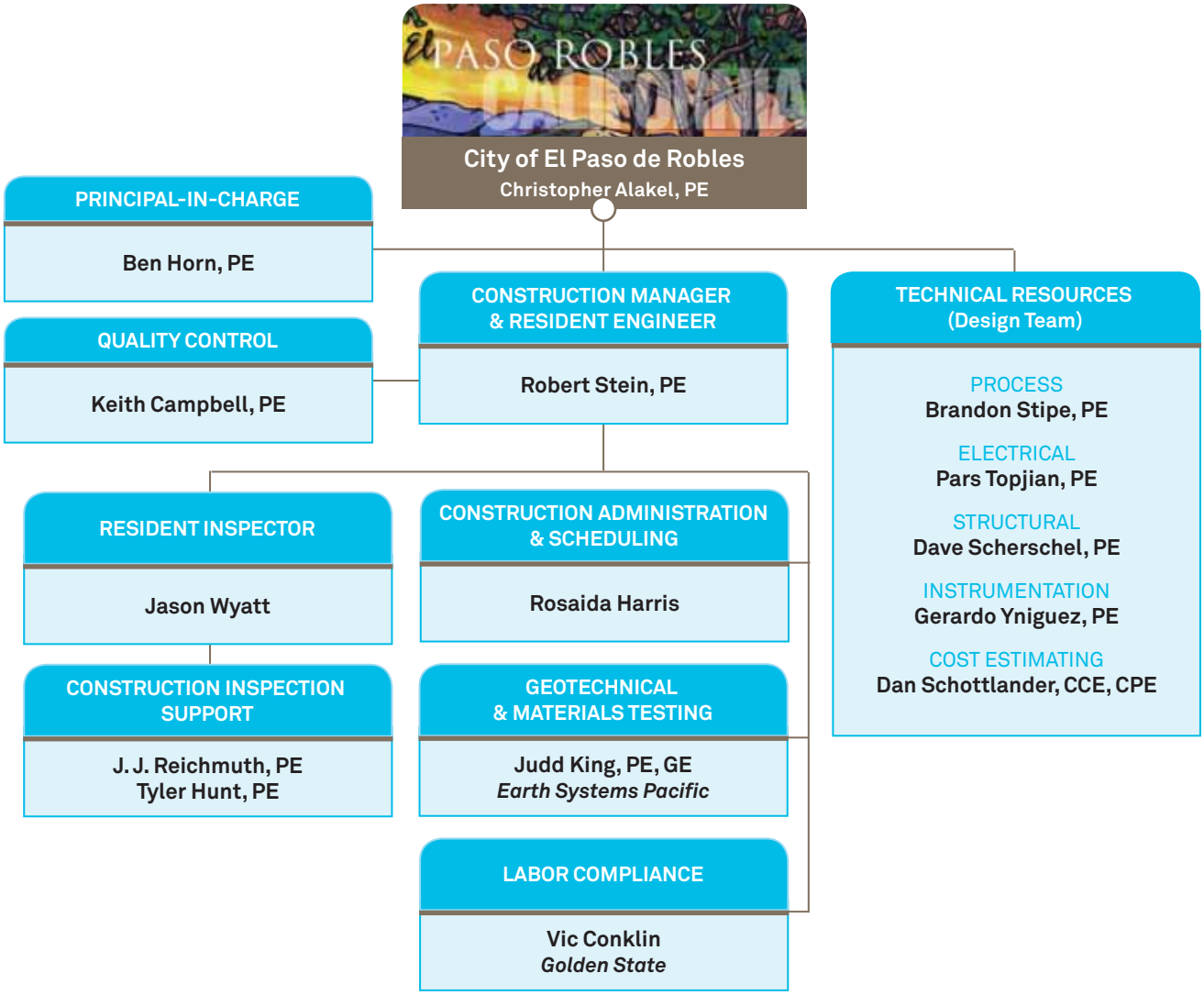
Availability & Adjustments for Construction

Prior to writing any name on our organizational chart, AECOM carefully reviewed not only each person's experience with relation to this project, but also their availability and commitment. We determined that each project team member has sufficient availability to provide the services for which they are assigned.

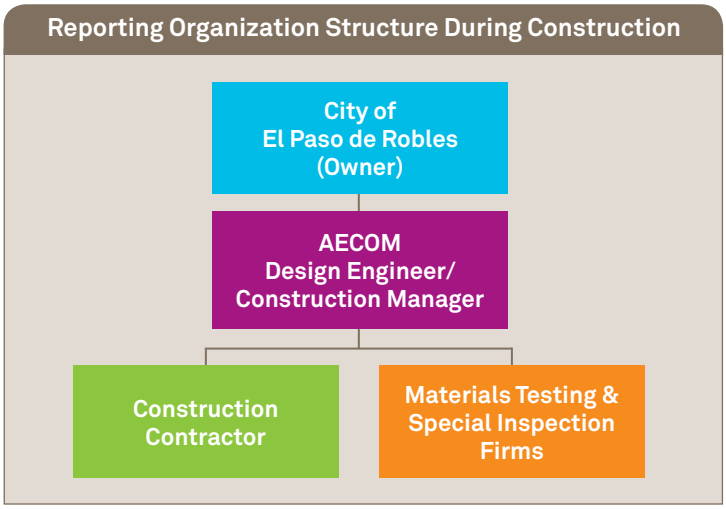
AECOM also understands the need to adjust staffing on the project based on the different phases that will be required during construction. As an example, we know we can reduce staffing during the contractor's mobilization activities and demolition phases. Also, the construction phases of the new facilities will require a higher staffing level of effort. Through the duration of the project, we will continously review staffing needs and will build flexibility into our staffing plan to avoid unneccessary expenses.

Resumes for AECOM team members, showing education, registrations, years of experience and relevant projects, are provided at the end of this section.

The AECOM Team Organization Chart



AECOM will represent the City of Paso Robles in an agency construction manager role, acting in the City's interests at every stage of the project as your trusted advisor.



Key Team Members

Bob Stein, P.E., Construction Manager & Resident Engineer

PHASES: Pre-Construction, Construction, Post-Construction

Education:	BS, Civil Engineering, San Diego State University, California, 1987
Registration:	Professional Engineer (Civil), CA, #C53670

Mr. Stein has more than 26 years of experience in construction management of municipal water and wastewater projects. As the third-party construction manager, he has worked on two of the most advanced facilities on the Central Coast — the City of Oxnard's Advanced Purification Facility and the City of Fillmore's Water Recycling Plant (**Section 04**), the latter of which resulted in a 0.3% occurence of change orders.

Bob is a proven field leader, problem solver, and hands-on negotiator who will take the initiate to promote partnering among all parties while prioritizing the interests of the City.

He is just completing the project at Oxnard and will be ready in time to bring his same team with him to Paso Robles for the WTP CM project.

As construction manager and resident engineer, Bob will be responsible for managing the inspectors, subconsultants, and technical specialists. As the resident engineer at the site, he will monitor the contractors' work to confirm that the requirements of the City's plans and specifications are being followed and that the approved project schedule is being met. Of special importance on the WTP CM project, Bob will closely facilitate communication and coordination between the contractors' work at the site with the City's operations staff to maintain operations of the existing treatment plant during construction. He will also manage and negotiate change orders consistent with the City's requirements and manage the RFI and submittal processes between the contractor, design engineer, and the City.

Ben Horn, P.E., Principal-in-Charge

PHASES: Pre-Construction, Construction, Post-Construction

Education:	BS, Civil Engineering, California State University, Fresno, 1969
Registration:	Professional Engineer, CA, #C23028

Mr. Horn has been with AECOM for nearly 40 years. He is experienced in planning, design and construction administration for water and wastewater treatment, water transmission and distribution systems, collection facilities, and miscellaneous municipal improvements. He has gained vast experience in water system infrastructure design as Project Manager for the Antelope Valley-East Kern Water Agency, which distributes California State Project Water to the approximately 2,800 square miles of the Antelope Valley. He was responsible for planning, design and construction administration for the Agency's improvements to their water treatment plants, which includes the Eastside Water Treatment Expansion No. 1, Quartz Hill Water Treatment Plant Expansion, and the Acton Water Treatment Plant Expansion.

As managing engineer of AECOM's Bakersfield office, Ben's regular responsibilities include management and resource allocation for complex multi-disciplined projects throughout the county.

As principal-in-charge, Ben will serve as a resource to the team and will provide Bob Stein with the corporate support required to meet schedules, budgets, and staffing needs. He will also monitor the project at critical junctures to make certain that the team is performing to AECOM's and the City's highest standards.

Keith Campbell, P.E., Quality Control

PHASES: Pre-Construction, Construction, Post-Construction

Education:	BS, Civil Engineering, California State University, Fresno, 1984
Registration:	Professional Engineer (Civil), CA, #C41863

Mr. Campbell has directed several billion dollars in planning, design, and construction projects during his 27-year tenure with AECOM. He specializes in management of coordinated project planning, design, and construction management of interdisciplinary teams on a wide range of projects and programs, including for water treatment and wastewater treatment facilities.

Keith managed AECOM's design consulting and construction management-focused Central California District of more than 100 employees for 10 years and was responsible for execution of hundreds of projects totaling $200 million in construction value annually.

In the role of quality control, Keith will be responsible for periodic review of the project status, performing quarterly reviews of processes, files, documentation, and the overall health of the project. These reviews will include meetings with the City's Project Manager Christopher Alakel, AECOM's Principal-in-Charge Ben Horn, and Construction Manager Bob Stein, to verify client satisfaction and to offer assistance as needed. Keith will be involved throughout the duration of the project to confirm that project construction management performance is in accordance with AECOM's quality standards.

Rosaida Harris, Construction Administration & Scheduling

PHASES: Pre-Construction, Construction, Post-Construction

Education:	BS, Civil Engineering, University of Utah, 1988

Ms. Harris has more than 20 years of experience with complex capital projects, with responsibility for cost evaluation, procurement, contractor management, safety plans and scheduling. She served as Assistant Resident Engineer on the recently completed Oxnard GREAT program and Construction Manager for the City of Fillmore's Water Recycling Plant project. On both projects, she worked alongside Construction Manager Bob Stein, and they collectively saw both projects through many successes — and professional awards.

Rosaida's specialties on the project will entail document management including processing of submittals, RFIs, pay estimates, general correspondence, field/testing reports, design clarifications, and change orders. She will also use numerous data management systems including Primavera Contract Manager and can provide additional support for on-site inspections, scheduling of inspectors, testing labs, and technical specialists.

Jason Wyatt, Resident Inspector

PHASES: Pre-Construction, Construction, Post-Construction

Education:	Construction Management Certification, California State University, Dominguez Hills, 2013 Graduate Apprenticeship Program, Southern California Pipe Trades School, Bakersfield

Mr. Wyatt is a resident inspector with 13 years of experience focused in engineering and construction observation/inspections. He has five years of construction experience as a pipe fitter and has worked with Bob Stein on numerous AECOM Bakersfield office projects. Jason has served as resident inspector/construction observer on a variety of projects such as the City of Tehachapi Wastewater Treatment Plant Improvements, East Niles CSD Well 21 Arsenic Treatment and Booster Pump Station, as well as various tanks and pump stations for the District.

In the role of Resident Inspector, Mr. Wyatt will serve as Bob's right-hand-man, coordinating the inspections and keeping the team on track in their various disciplines for conformance to the City's specifications. He will also be available for face-to-face meetings with the City, if required.

Earth Systems Pacific

Earth Systems Pacific (Earth Systems) brings a history of working with the City of Paso Robles, technical knowledge of your wastewater treatment plant, and successful experience on projects similar in scope to the WTP CM project, such as Oxnard's GREAT program (presented in **Section 04**), Fillmore's Water Recycling Plant, and Lompoc's Water Treatment Plant Booster Pump Station and Electrical System Upgrade, all on which they worked alongside AECOM.

Role:	Geotechnical & Materials Testing
Firm Information	4378 Old Santa Fe Road, San Luis Obispo, CA 93401 T 805.544.3276 • F 805.544.1786

Earth Systems provides expertise in the fields of geotechnical engineering, geology, special inspection, soils and materials testing, and environmental assessment. They are part of the Earth Systems companies, which have been operating in California since 1969. Earth Systems maintains a field office in Paso Robles and is headquartered in nearby San Luis Obispo. Every member of their local senior engineering staff has over 25 years of experience on geotechnical projects.

Golden State Labor Compliance

Golden State Labor Compliance (Golden State) has a longtime, established relationship with AECOM. They have successfully provided labor compliance services for many of AECOM's clients and have worked closely with our team on the Oxnard and Fillmore projects.

Role:	Labor Compliance
Firm Information	38733 Ninth Street, Suite W Palmdale, CA 93550 T 661.267.0940

Founded in 2003, Golden State takes the burden of compliance off the clients and construction managers for which it works, successfully explaining the basic requirements of a labor compliance program and the labor laws underlying such a program's implementation.

Golden State has created procedures, forms, formats, and relationships that make the key difference in ensuring and simplifying compliance, and they are sensitive to the specific needs and perceptions of the affected parties. All administrative, investigatory, and legislative/regulatory support services statewide are based out of those offices with field service and jobsite inspection activities being provided by regionally based, bilingual field inspectors, backed by senior field personnel.

AECOM team resumes are presented in the following pages, arranged according to our organizational chart in the Team Section. Resumes are for AECOM staff, except where otherwise noted, and include a brief biography, a sampling of related project experience, education, registrations/licenses, professional affiliations, and awards.

Bob Stein, PE

Construction Manager & Resident Engineer

Education
BS, Civil Engineering, San Diego State University, CA, 1987

Registration
Professional Engineer (Civil), CA, #C53670

Awards
Making Ventura Even Better, "In recognition of your leadership on the Victoria Avenue / US 101 Interchange Project," 2001, City of Ventura

Marvin M. Black Excellence In Partnering Award, 2002, Associated General Contractors of America

AON Build America Awards, 2002, Environmental Category

Engineering Excellence Honor Award, 2003, Consulting Engineers and Land Surveyors of California

Engineering Excellence Honor Award, 2003, American Council of Engineering Companies

Engineering Excellence Merit Award, 2005, Consulting Engineers and Land Surveyors of California

Project Achievement Award, 2005, Construction Management Association of America, Southern California Chapter

Fillmore Water Recycling Project Awards

Mr. Stein has more than 25 years experience in construction management of municipal construction projects, including water and wastewater treatment plants, water, sewer, and storm drain pipelines, pump stations, concrete and steel reservoirs, building structures, roadways, and bridges.

Bob ***has worked on two of the most advanced facilities on the Central Coast*** — the City of Oxnard's Advanced Purification Facility and the City of Fillmore's Water Recycling Plant, ***which resulted in a 0.3% occurence of change orders***.

Mr. Stein also specializes in the processing contractors' correspondence, clarifications, submittals, payment requests and change orders, in addition to the analysis, processing of and resolution of contractors' claims. He has also expertly managed the coordination of design personnel and specialty consultants (materials testing, survey, environmental, etc.), utility companies, and permit agencies through project work and schedules.

He is a proven field leader, problem solver, and hands-on negotiator who will take the initiate to promote partnering among all parties while ***prioritizing the interests of the City***.

He is just completing Oxnard's Advanced Water Purification Facility, and ***will be ready in time to bring his team with him to Paso Robles***.

Project Experience

The Oxnard GREAT Program, City of Oxnard, CA. Resident Engineer for the City of Oxnard's Advanced Water Purification Facility (AWPF). The $54 million Oxnard's Advanced Water Purification Facility is a "state-of-the-art" water treatment facility which receives secondary treated effluent from the city of Oxnard wastewater treatment plant, and treats the water to Title 22 compliant recycled water. The major components of the AWPF are a lift pump station, microfiltration, reverse osmosis filtration, ultraviolet disinfection and a finish water pump station. The project also includes numerous pipeline installations in Perkins Avenue, including two jack-and-bore crossings beneath Ventura County Railway railroad tracks. Responsibilities include resident engineering, construction administration, on-site observations, submittal, RFI, change orders and payment and schedule management.

Water Recycling Facility, City of Fillmore, CA. Senior Engineer for this $42 million Design-Build-Operate (DBO) project which included the construction of a new state-of-the-art water recycling plant in the City of Fillmore. Responsible for oversight of design and construction as the City's Representative. Includes contract administration, on-site observations, design reviews, submittal reviews and monitoring of permit requirements.

Water Treatment Plant Booster Pump Station Improvements, City of Lompoc, CA. Senior Engineer for this $2 Million pump station project, which included the replacement of water distribution pumps located at the water treatment plant. The work included the replacement of four (4) 250hp pumps and construction of a new electrical service building which services electrical to the treatment plant. Responsibilities included

Bob Stein, PE (page 2)

contract administration, on-site observations, submittal & RFI reviews and change order management.

Water Treatment Plant Booster Pump Station Improvements, City of Lompoc, CA. Senior Engineer for this $2 Million pump station project, which included the replacement of water distribution pumps located at the water treatment plant. The work included the replacement of four (4) 250hp pumps and construction of a new electrical service building which services electrical to the treatment plant. Responsibilities included contract administration, on-site observations, submittal & RFI reviews and change order management.

Acton Water Treatment Plant and Eastside Water Treatment Plant, Antelope Valley-East Kern Water Agency, Quartz Hill, CA. Assistant Resident Engineer and Inspector during the construction of the Antelope Valley-East Kern Water Agency's Acton Water Treatment Plant ($10 million) and Eastside Water Treatment Plant ($3 million). Major work items on these projects included a post-tensioned reinforced concrete reservoir (1.6 mg), reinforced concrete treatment structures, earthwork, and subgrade preparation, steel reservoir, piping, mechanical equipment, chemical feed and storage equipment, main control building, pump stations, standby generator electrical and instrumentation, site grading and access roads. The projects included extensive reinforced concrete construction of walls, decks, slabs and foundations for a main control building, sedimentation basins, filters, piping galleries and hydraulic channels. Related mechanical, chemical, process, electrical and instrumentation equipment were also a part of these projects.

Water Treatment Plant Expansion #3, Antelope Valley-East Kern Water Agency, Quartz Hill, CA. Resident Engineer and Inspector during construction. Major work items on this $2 million project included extensive earthwork and shotcrete lining for sludge drying beds, site piping, and access roads. Also included was the construction of a pump station enclosed in a masonry building.

Effluent Pipeline Project, City of Fillmore, CA. Senior Engineer for this $2 million pipeline project which included the installation of approximately 3½ miles of pipeline in the City of Fillmore to convey Title 22 compliant recycled water. The pipeline consists of ductile iron and PVC pipe materials ranging in size from 6-inches to 18-inches in diameter. The project also includes jack and bore crossings beneath State Highway 26 and Highway 23, and a Fillmore and Western railroad crossing. Responsibilities include contract administration, on-site observations, submittal of RFI reviews and change order management.

Owens Lake Shallow Flooding Irrigation Project, Los Angeles Department of Water and Power (LADWP), Los Angeles, CA. As On-site engineer, provided design-related support for the for Barnard Construction Company. Responsible for construction observation, on-site design support, processing of contractor's RFIs, and submittals. The $75 million design-build project includes design and construction services for over 5 miles of 60-inch conveyance pipeline, 15 miles of 30- to 48-inch-diameter fiberglass mainlines to provide a "backbone" for water delivery through the site; and over 125 miles of PVC 6- to 27-inch-diameter submains, more than 22 pump stations in addition to 35 miles of roads and berms for implementing a shallow flood irrigation system for LADWP to control particulate emissions for a 10,000-acre area in Inyo County, CA.

Edison Wastewater Collection System Improvements, East Niles Community Services District, Bakersfield, CA. Served as Resident Engineer. Project included the installation of over 3 miles of sewer mains and laterals to serve the community of East Niles.

Vincent Reservoir and Pump Station, AVEK, Kern County, CA. Served as Resident Engineer / Inspector. Project facilities included a pump station with a capacity of 13 cfs delivered at 350 feet of head, by five 200-hp pumps and one stand-by pump. The pump station included a surge control system, pressure reducing features, and instrumentation for integration into full system operations. The 2-mg welded steel reservoir is 32 feet high. Buried to a depth of 15 feet to mitigate adverse environmental effects, the reservoir has both an internal and external corrosion protection system. Completing the project is 9,400 feet of 20-inch, ductile iron transmission pipeline which winds through the mountains to connect to LACWWD No. 37 system facilities.

Ben P. Horn, PE

Principal-in-Charge

Education
BS, Civil Engineering,
California State University,
Fresno, 1969

Registration
Professional Engineer (Civil)
CA, #C23028

Affiliations
American Society of Civil Engineers

American Water Works Association

American Public Works Association

Mr. Horn is experienced in planning, design, and construction administration for water and wastewater treatment, water transmission and distribution systems, collection facilities, and miscellaneous municipal improvements. Ben has served in as principal-in-charge and/or quality advisor, as well as project manager, for a great variety of civil engineering projects in his 40-year career.

Project Experience

Antelope Valley-East Kern Water Agency (AVEK). Project Manager. AVEK distributes California State Project Water to the approximately 2800 square miles of the Antelope Valley. Responsibilities have included preparation of their current Urban Water Management Plan, and planning, design, and construction administration for the Agency's improvements projects, including the Eastside Water Treatment Expansion No. 1. The plant was originally constructed for a nominal capacity of 3 mgd and then expanded to 10 mgd using the same treatment process of flash mixing, flocculation, clarification and filtration. The Quartz Hill Water Treatment Plant's first stage was constructed at 14 mgd. Expansions to 28 mgd, 56 mgd and the improvements to the sludge handling facilities were also completed. Responsibilities included design and construction administration work for the improvements. Other responsibilities included work on the Acton Water Treatment Plant which was constructed with an initial capacity of 4 mgd expandable to 8 mgd. This plant also treats surface water by screening at headworks, flash mixing, flocculation, clarification and media filtration. Other projects included numerous transmission pipelines (diameters ranging from 60-inches to 18-inches), pump stations, reservoirs and purveyor turnout projects. Recent projects include two service turnouts to the Edwards Air Force Base at Main Base and the Phillips Lab Facility. Improvements included about 8 miles of pipeline ranging in diameter from 20-inches to 8-inches, 2 pump stations and chlorination injection equipment. Current work includes design for the WSSP-2 project, which is the Agency's banking facility with 45-mgd pump station and 5.5 miles of 48-inch pipeline.

South-North Intertie Project (SNIP), Antelope Valley-East Kern Water Agency (AVEK). Project Manager. Responsibilities included the planning, design, and construction administration for the Agency's SNIP project. The pump station project, which is currently under construction at the Rosamond Water Treatment Plant site, will include three vertical turbine pumps with 750-hp motors and variable frequency drives capable of delivering 6,500 gpm each and the possibility of expansion to a fourth similar pumping unit.

East Niles Community Services District. Served as District Enginer. District is responsible for providing domestic water and sewer services to approximately 4,000 acres of land. The District has numerous water wells, water treatment plant and miles of water and sewer pipelines. Work has included the design and construction administration of the expansion to the District's 4 mgd water treatment plant expansion. Pressurized dual media filter units and chemical feed system were installed upstream of the existing diatomaceous earth filters. Dual media filters remove suspended solids from raw water while maintaining

Ben P. Horn, PE (page 2)

a controlled rate through the filter media. The assessment district engineering, design and construction administration for Assessment Districts No. 3, 4, 5, 6 and 7, which included water and wastewater improvements, were also completed. Responsibilities for District include plan checking of all improvement plans submitted by developers, the design and construction administration of transmission pipelines, distribution systems, pump stations, steel reservoirs and treatment plant improvements.

Cross Valley Canal Expansion Project, Kern County Water Agency (KCWA). Project Manager. Work included a series of 17 Technical Memoranda evaluating multiple facets of the project design. The technical memos covered topics such as: construction timing constraints, canal hydraulics, evaluation of the existing pump motors, evaluation of electrical service alternatives, expansion alternatives for the existing pump stations, layout of the new pumping plants, physical modeling of the pump stations, determination of canal liner raising requirements, modifications to existing canal siphons, preliminary design of interties to local canal facilities, required modifications to the existing SCADA System, and estimating construction costs. Bid Package 1: Included five 500-cfs pumping plants (700 hp to 800 hp pumps), 17 miles of canal liner raising (keyed concrete curb), multiple siphon removals, paralleling of multiple siphons (11-foot diameter RCP), and multiple turnouts to water banking; and Bid Package 2: Included a 500-cfs pumping plant (200 hp to 600 hp pumps), a 20ft x 60ft reinforced concrete junction box, a gated intertie to the Arvin-Edison Canal, a gated backflow pipeline (96-inch RCP), and a turnout to the Friant-Kern Canal Intertie.

North of the River Municipal Water District (NORMWD) utility tunnel under Meadows Field Runway 30R. Design Engineer. The 24-inch NORMWD water transmission line, and 15-inch North of River Sanitary District (NORSD) sewer collection line that cross the runway path had to be relocated. The districts determined that for ease of future air field and utility maintenance and operations it would be best to relocate the lines to a utility tunnel with room for future additional utility lines rather than sleeve the lines with no provision for future expansion. Mr. Horn prepared the design, specifications, and bid documents for a 870-foot 5-3/4-inch radius corrugated galvanized steel arch on concrete footings with a compacted dirt floor. The utility tunnel was designed to structurally support 747 aircraft landings. Mr. Horn also provided construction management assistance during construction of the utility tunnel.

Kern County Water Agency's Improvement District No. 4 Northwest Feeder Project. Served as project manager and responsibilities included preparation of a design memorandum and design plans and specifications for a proposed 7-mile feeder of 48-inch through 30-inch diameter pipeline and a 70 cfs pump station.

Rosamond Community Services District. Served as District Engineer for the Rosamond Community Services District which is responsible for domestic water and sewer services for the Community of Rosamond. Projects completed include expansion of the District's existing Wastewater Treatment Plant, which consists of a recently completed $2.2 million plant headworks facility which will be part of future expansions to the plant and the design and construction administration of water and sewer pipelines for Assessment Districts No. 1, 2 and 3 which included over $20 million of improvements. Improvements included about 18 miles of sewers with diameters ranging from 42-inch through 8-inch and about 25 miles of water pipelines ranging in diameter from 24-inch through 8-inch.

Quartz Hill Water District. Served as District Engineer. The District is responsible for domestic water service for the Community of Quartz Hill. Responsibilities include plan checking for future developments and the design and construction administration of their water system improvements. Projects completed include the design and construction administration of the Community Facilities District No. 1 water system pipeline, pump station and reservoir with pipelines ranging in diameter from 12-inch to 48-inch, a 6.5 cfs capacity pump station with 100 hp pumping units and a 2 million gallon steel reservoir.

Keith Campbell, PE

Quality Control

Education
BS, Civil Engineering, California State University, 1984

Registration
Professional Engineer (Civil), CA, #C41863

Mr. Campbell ***has directed several billion dollars in planning, design, and construction projects in his 27-year tenure with AECOM***, specializing in management of coordinated project planning, design, and construction management of interdisciplinary teams. Projects under his direction have included water treatment and wastewater treatment facilities, open-channel and pressure pipeline water delivery systems, urban water distribution systems, pump stations, storage reservoirs, dam spillways, and river diversions.

Keith managed AECOM's design consulting and construction management-focused Central California District of ***more than 100 employees for 10 years,*** responsible for execution of hundreds of projects ***exceeding $200 million in construction value annually***.

With nearly three decades of experience leading complex construction projects and programs, ***Keith will see to it that AECOM's ISO 9001 standard of quality is met for Paso Robles' WWTP CM project***.

Project Experience

Nacimiento Dam Spillway Modifications, Lake Nacimiento, CA. Project Manager. Scope of services for this $10 million construction project included plans, specifications, and cost estimate for a gated spillway structure to increase spillway capacity for flood projection. Work included physical hydraulic laboratory modeling, flood routing, gate structure design, spillway chute design and energy dissipation components.

System Conservation Efficiency Program, Imperial, CA. Program Manager. Responsible for development of an implementation plan, design, and construction management for a $300 million program to reduce irrigation water spills within a 480,000 acre agricultural irrigation service area. Improvements to be implemented under the program include SCADA system for monitoring and control of over 10,500 remote sites, data and voice radio communications systems, automated headgates and check structures, spill and delivery monitoring, reservoirs, pump stations, canals, and pipelines. The implementation includes innovative project delivery methods including design-build-maintain, design-bid-build, and engineer-procure-construct involving over 30 separate bid packages, all structured to meet the goal of saving approximately 100,000 acre-feet of water annually as part of one of the largest agriculture-to-urban water transfers in the United States.

Kern Valley State Prison, Kern County, CA. Project Manager. Scope of services included preparation of plans, specifications and cost estimate for rough and finish grading, storm drainage collection and detention system, wastewater treatment plant, water distribution system, sewage collection system, roads and paving, fencing, electrical distribution, standby and emergency generators, telephone and security circuits and lighting for this $250 million new state prison construction project.

Salinas River Diversion Facility, Salinas, CA. Project Manager. Scope of services for this $20 million construction project included plans, specifications, and cost estimate for a gated diversion structure (inflatable bladder-controlled Obermeyer gates), screened intake structure and fish

Keith Campbell, PE (page 2)

ladder, intake pump station, pipeline and filter station for diverting river flows to agricultural irrigation as a means of combating seawater intrusion to the Salinas aquifer.

Monterey-Salinas Transit Operations and Maintenance Center, Fort Ord, CA. Project Manager. Scope of services for this $80 Million construction project included plans, specifications, and cost estimate for a bus maintenance facility including all related site development, buildings, and environmental studies.

Stockton Regional Transit District Operations and Maintenance Center, Stockton, CA. Project Manager. Scope of services for this $80 Million construction project included plans, specifications, and cost estimate for a bus maintenance facility including all related site development, and buildings.

South San Joaquin Irrigation District Main Distribution Canal, Ripon, CA. Project Manager. Scope of services for this $10 million project included plans, specifications, and construction management for 16 miles of main distribution canal improvements including lining, gated turnout structures, side-channel spillway, 800 cfs flip-bucket chute spillway to the Stanislaus River and 13 new gated in-canal drop check structures with flows up to 1,500 cfs and checked drops of up to 20 feet.

Fresno County Highway Projects, Fresno County, CA. Project Manager for design of more than 35 miles of county highway projects including complete storm drainage analysis and design of storm drainage channels, box culvert crossings, bridges, retention basins, energy dissipation structures, and irrigation tailwater return systems. Recent projects include Manning Avenue alignment (13 miles of new highway), Cecil Avenue (5.5 miles of reconstruction), Avenue 24/ Road 22 (7 miles of reconstruction and new alignment), Marks and Buttonwillow Avenues (6 miles of reconstruction), and Friant Road (3 miles).

Rosaida Harris

Construction Administration & Scheduling

Education
BS, Civil Engineering, University of Utah, 1988

Ms. Harris has over 20 years of construction administration experience, specializing in document management including processing of submittals, RFI's, pay estimates, general correspondence, field/testing reports, design clarifications, and change orders. ***She has experience utilizing numerous data management systems including Primavera Contracts Manager***.

Rosaida is experienced with complex capital projects, including serving as ***assistant resident engineer on the Oxnard GREAT program and construction manager for the City of Fillmore's Water Recycling Plant project***. On both projects, she worked alongside Construction Manager Bob Stein and Chief Inspector Douglas Haack, and ***they collectively saw both projects through many successes***.

Project Experience

Oxnard GREAT Project, City of Oxnard, CA. Assistant Resident Engineer for the City of Oxnard's Advanced Water Purification Facility (AWPF). The $54 million Oxnard's Advanced Water Purification Facility is a "state-of-the-art" water treatment facility which receives secondary treated effluent from the city of Oxnard wastewater treatment plant, and treats the water to Title 22 compliant recycled water. The major components of the AWPF are a lift pump station, microfiltration, reverse osmosis filtration, ultraviolet disinfection and a finish water pump station. The project also includes numerous pipeline installations in Perkins Avenue, including two jack-and-bore crossings beneath Ventura County Railway railroad tracks. Responsibilities include resident engineering, construction administration, on-site observations, submittal, RFI, change orders and payment and schedule management.

Water Recycling Facility, City of Fillmore, CA. This Design-Build-Operate (DBO) project included the construction of a new state-of-the-art water recycling plant in the City of Fillmore. Served as construction manager responsible for oversight of design and construction as the City's representative. Includes contract administration, on-site observations, design reviews, submittal reviews and monitoring of permit requirements & Proposition 50 Funding ($3.5M). The project cost was $42 million.

Title 22 Irrigation at Fillmore High School, Middle School, and Two Rivers Park, City of Fillmore, CA. These three projects included the installation of a subsurface Dispersion Irrigation System (SDI) covering approximately 22-acres, in addition to the installation of spray irrigation systems for various sites, street improvements and construction of concrete masonry, building housing control and instrumentation for SDI system. The projects also included the construction of landscaping improvements, with conventional irrigation systems for the areas. The cost was approximately $10 million for all three projects.

Central Avenue Storm Drain Improvements, City of Fillmore, CA. Served as Construction project included construction of a 60" reinforced concrete pipe storm drain, 20" cement mortar-lined and coated welded steel pipe waterline, 12" PVC / ductile iron pipe recycled waterline and appurtenances, connections to existing utilities, removal and abandonment of the existing cast-iron pipe water main and relocation and reconnection of

Rosaida Harris (page 2)

storm drain and water utility services. Cost was $3.7 million.

Effluent Pipeline Project, City of Fillmore, CA. This pipeline project included the installation of approximately 3½ miles of pipeline in the City of Fillmore to convey Title 22 compliant recycled water. The pipeline consisted of ductile iron and PVC pipe materials ranging in size from 6-inches to 18-inches in diameter. The project also included jack-and-bore crossings beneath State Highway 26 and Highway 23, and a Fillmore and Western railroad crossing. Responsibilities included document control, contract administration, on-site observations, submittal of RFI reviews and change order management.

"B" Street Railroad Crossing and Middle School Bike Path, City of Fillmore, CA. This project included construction of roadway, sidewalk, bike path, masonry wall, reinforced concrete pipe storm drain and appurtenances, sanitary sewer replacement, and installation of signing and striping, railroad apparatus, fencing, street light, irrigation facilities and trees.

River Park Grading, City of Fillmore, CA. Project included clearing and grubbing, fill placement, storm drain and appurtenances and the destruction of existing water wells.

Water Treatment Plant Booster Pump Station Improvements, City of Lompoc, CA. Associate Engineer for this $2 Million pump station project, which included the replacement of water distribution pumps located at the water treatment plant. The work included the replacement of four (4) 250hp pumps and construction of a new electrical service building which services electrical to the treatment plant. Responsibilities included contract administration, submittal & RFI reviews and document control.

Kennecott Utah Copper Corporation, Salt Lake City, UT. Served as project manager, successfully managing multiple projects from conception to completion, including cost evaluation, procurement, contractor management, safety plans, and scheduling. Projects included:

- Led installation of two miles of double containment pipe. Production-critical project. Company was losing money while the pipe was out of service. With creative engineering, the project was completed almost 3 months ahead of schedule and under budget. Led replacement of a tankhouse roof and a precious metal plant roof.
- Managed installation of six underwater 60-inch x 60-inch stainless steel gates. Used unconventional construction methods to complete project without stopping production. Safety was a major focus during the project. Project was completed on a fast track and on budget.
- Led installation of five miles of 24-inch HDPE pipe. Managed the project from engineering design through installation.
- Project Engineer, Wetlands Mitigation Site. Directed the design, development, and construction of wetlands mitigation site, including water and division control structures, dikes, ditches, roads, parking lot, retention ponds and piping.

Smelter Furnace Reconstruction. Project Coordinator in charge of supervising multiple activities during furnace shutdown, including welding, brick placement, and electrical and pipe work on a 30-day, 24-hour shutdown schedule.

Utah Department of Transportation. Served as civil engineer. Designed highways, lighting, and system construction plans. Prepared extensive highway conceptual designs.

Environmental Cleanup Projects. Project role was civil / environmental engineer. Created engineering design for several environmental cleanup projects. Inspected project sites. Used AutoCAD and Intergraph to design and develop the sites.

Earth Dam Construction. Served as site inspector / surveyor. Site Inspector for earth dam construction, which required extensive use of field soil testing, nuclear densometer, compaction testing, asphalt testing and concrete testing.

Jason Wyatt
Resident Inspector

Education
Graduate, Apprenticeship Program, Southern California Pipe Trades School, Bakersfield, CA

Certification
Construction Management Certification, California State University, Dominguez Hills, 2013

Mr. Wyatt is a resident inspector with 13 years of experience focused in engineering and construction observation/inspections. He has five years of construction experience as a pipe fitter and has worked on numerous AECOM Bakersfield office projects. His fields of special competence include: construction observation of water supply and distribution systems, sanitary sewer systems, storm drain systems, and street improvements.

Project Experience

City of Tehachapi Wastewater Treatment Plant Improvements. Provided construction observation services for the City during the construction of the treatment process improvements project. Work included the addition of mechanical screening at the headworks, the replacement of the reactor basin aerators with ones with larger capacity, return activated sludge (RAS) and waste activated sludge (WAS) pumping modifications, and the installation of mechanical sludge dewatering. Work included electrical, instrumentation, and SCADA modifications.

East Niles Community Services District, Well 21 Arsenic Treatment Phases 1 and 2 and Booster Pump Station. Provided construction observation services to ENCSD for both phases of the work. The Phase 1 work included installation of adsorptive media arsenic treatment system (three vessels in series) to treat the well water using existing District vessels from a decommissioned water treatment plant, as well as associated piping, automated valving, and appurtenances required to support the treatment system. The Phase 2 work included construction of a 2,250 gpm booster pump station (including a pump building and chemical feed appurtenances), a 428,000 gallon bolted steel tank, and ductile iron and steel piping and appurtenances to tie the treatment system from the Phase 1 Project into the reservoir and booster pump station.

East Niles Community Services District, Kern Citrus Pump Station. Provided construction observation services during the construction of a nominal 5,700 gpm pump station operating at a Total Dynamic Head of approximately 170 feet provided by four identical 100 hp constant speed can-mounted vertical turbine pumping units, including one standby unit. The pump station replaces a 60-year old facility. The pump station is a key facility in the District's infrastructure that distributes flows from the District's groundwater wells to the higher elevation areas of the District. Facilities at the station include an air chamber for surge control, discharge piping and appurtenances, and connection to the Kern Citrus Tank.

East Niles Community Services District, Freeway Tank Pump Station. Provided construction observation services for ENCSD during the construction of a nominal 2,250 gpm booster pump station including three present (1 future) nominal 750 gpm 30 hp constant speed vertical turbine can-mounted pumping units. The work also includes a hydropneumatic tank for pressure regulation, discharge piping and appurtenances, a block building, and a standby generator.

East Niles Community Services District, Morning Drive Phase 1. Provided construction observation services to ENCSD during the construction of

Jason Wyatt (page 2)

approximately 1.5 miles of 20-inch CML&C steel pipeline between the Morning Drive Tank Site and Pump Station and the Freeway Tank Site. Work also included several thousand feet of 14-inch distribution lines (PVC) for a higher pressure zone as well as ARVs, blowoffs, and access road, and appurtenances. This transmission main is a key connection point (planned to be installed since mid-1980's) to move flows from the surface water supply connection point into the lower zones of the District.

East Niles Community Services District, Redbank Road Water Main. Provided construction observation services for ENCSD during the construction of approximately 1 mile of transmission main and associated piping tie-ins to loop service areas. Piping included 8-inch, 12-inch, and 14-inch PVC and ductile iron piping.

East Niles Community Services District, Kern Citrus Tank. Provided construction observation services to ENCSD during the construction of a nominal 800,000 gallon welded steel reservoir at the Kern Citrus site. The tank provides storage for water from multiple wells in the district prior to distribution through the system by way of the Kern Citrus Pump Station.

East Niles Community Services District, Pepper Drive Tank. Provided construction observation services to ENCSD during the construction of a nominal 428,000 gallon bolted steel reservoir at the Pepper Drive site.

North of the River Municipal Water District, Highland Park Water System Improvements Project. Responsibilities included construction observation of approximately 26,000 linear feet of 8-inch potable water distribution lines and related appurtenances. Work also included installation of approximately 700 water services, 80 fire hydrants, and a 12-inch metered turnout with vault.

City of Tehachapi, F Street Waterline Replacement. Provided construction observation services for the City during the construction of approximately 800 feet of 8-inch diameter C900 PVC pipe and fittings, valves, tie-in connections with existing waterlines, and standard water services.

City of Tehachapi, C Street Waterline Replacement. Provided construction observation services for the City during the construction of approximately 1,100 linear feet of 8-inch diameter C900 PVC pipe and fittings, valves, tie-in connections to existing waterlines, and standard water services.

City of Tehachapi, T&T Tanks. Provided construction observation services for the City during the construction of two 90-foot diameter welded steel storage tanks, including footing, piping, and appurtenances.

City of Tehachapi, Tehachapi Boulevard Improvements. Phases II and IV Provided construction observation services for the City during the construction of a street beautification project with improvements that include pedestrian lighting, trees and landscaping, curb and gutter, sidewalk, drive approaches, handicap ramps and curb returns, cross gutters, and decorative crosswalks along the south side of Tehachapi Boulevard from Robinson Street to Hayes Street.

City of Tehachapi on Tracts 6216 and 5812. Responsibilities included construction observation of the installation of potable water distribution facilities, sanitary sewer improvements, storm drain facilities, landscape improvements, and street improvements including sidewalk, curb, and gutter.

City of McFarland on Tracts 6373 and 6572. Responsibilities included construction observation of the installation of potable water distribution facilities, sanitary sewer improvements, storm drain facilities, and street improvements including sidewalk, curb, and gutter.

Arvin Community Services District, Reclaimed Water Disposal Pipeline. Provided construction observation services for Arvin Community Recycling on the Arvin Reclaimed Water Disposal Pipeline. Work included construction observation of a 4-mile long 18-inch gravity flow PVC pipeline including methane gas air vents and other related appurtenances.

City of Arvin, Campus Drive Reconstruction. Provided construction observation services for the City during the reconstruction of approximately one-quarter (1/4) mile of Campus Drive, including AC pavement, concrete work, and striping and signage improvements.

Pipefitter, Pipe trades Union Local 460. All aspects of pipefitting; blueprint reading; welding prep work; light rigging; layout; bolt-up; material handling; heavy usage of both power and hand tools; supervision of apprentice workers; certified forklift operation. Major projects included plant and transmission piping (1-inch to 36-inch carbon and stainless) the Pastoria, Sunset, and La Poloma power plants.

JJ Reichmuth, PE

Construction Inspection Support

Education
BS, Civil Engineering , California Polytechnic State University, San Luis Obispo, CA, 2006

Registration
Professional Engineer (Civil), CA, #C63124

Mr. Reichmuth is an Associate Engineer that specializes in field engineering and construction observation with nearly a decade working in the geotechnical engineering discipline.

Project Experience

Southland WWTF Upgrade - Phase 1, Nipomo Community Services District, Nipomo, CA. Project Engineer. Assisted with the design of 0.9-mgd Wastewater Treatment Facility. Responsibilities included design of the sludge thickening system and drying beds. Provide assistance with engineer's opinion of cost, and plans and specifications for public bid; bid phase services; and office engineering construction phase services.

El Estero Wastewater Treatment Plant Fats, Oils and Grease Receiving Station, City of Santa Barbara, CA. Project Engineer/Construction Observer. Responsible for design, implementation, and construction phase services of a Fats Oil and Grease (FOG) receiving, handling, and injection system at the El Estero Wastewater Treatment Plant (WWTP). Services include plans and technical specifications for the site, piping, pumping, storage vessel, and controls of a pilot FOG receiving and delivery system.

Lift Station # 3 Upgrade, City of Arroyo Grande, CA. Project Engineer. Designed and prepared construction documents for retrofitting an existing dry-pit/wet-pit sewage lift station to a duplex submersible pump sewage lift station. The new lift station contains two submersible solids handling pumps on variable frequency drives, capable of pumping a peak flow of 315-gpm.

Heights Waterline Upgrade, City of Pismo Beach, CA. Project Engineer. Responsible for design main water lines to consolidate pressure zones in the area. Design included the preparation of plans, details, specifications, and opinions of cost for the construction of over 3000-lf of 12-inch PVC and 650-lf of 8-inch PVC distribution main. Project also involved connection to a new booster station, replacing a pressure reducing station, reconnecting laterals, fire hydrants, and new meters.

Golden Hill #1 and Merryhill Tanks, City of El Paso de Robles, CA. Project Engineer. Prepared Civil plans and details, specifications, and estimates for repairs to two (2) welded steel potable water reservoirs. Project involved repairing dollar plate and rafters, installation of reinforced concrete footing, seismic upgrades, reconfiguration of piping, and recoating of interior and exterior surfaces. Plans, detail, specifications, for the structural repair work were prepared by an AECOM Structural Engineer.

2010 Sewer Rehab Project, City of El Paso de Robles, CA. Project Engineer/Construction Observer. Performed observation services for the City at several sewer segments identified to be rehabilitated. Performed field observations on improvements for conformance to the City's specifications. Provided the City with recommendations regarding compliance of completed work with approved City standards. Prepared daily field reports and other documentation.

Sulfur Spring Pipeline Construction Phase Services, City of El Paso de Robles, CA. Project Engineer/Construction Observer. Project to capture

JJ Reichmuth, PE (page 2)

spring water that erupted in the City Hall parking lot as a result of the San Simeon Earthquake. Provide construction management and construction observation for collection system, pipeline, and leach field to transport thermal spring water to the Salinas River.

Observation Services, Nipomo Community Services District, CA. Performed observation services for NCSD. Field checked water system improvements for conformance to the District's specifications and approved development plans. Provided the District with recommendations regarding compliance of completed work with approved development plans and/or District standards. Prepared daily field reports and other documentation.

San Simeon Wellfield Evaluation and Rehabilitation, San Simeon Community Services District, CA. Project Engineer. Provide construction management and construction observation for two new wellhead facilities including pumps, process piping, electrical, and SCADA.

Hollister Avenue Waterline Replacement, City of Pismo Beach, CA. Project Engineer. Responsibilities included the preparation of plans, details, specifications, and opinions of cost for the construction of 350-lf of 8-inch PVC distribution main. Project also involved reconnecting laterals, fire hydrants, and new meters.

Nipomo Waterline Intertie Project, Nipomo Community Services District, CA. Project Engineer. Responsible for coordination and management of subconsultants (HDD, Environmental/Permits, Geotechnical, and property acquisition). Responsibilities also included the preparation of plans, details, specifications, and opinions of cost for construction.

Santa Ynez Elementary School, College School District, City of Santa Ynez, CA. Project Engineer. Monitored and coordinated work in progress for compliance with the project Standards and Specifications for the school additions and renovations. Responsibilities also included preparing the final inspection and laboratory affidavits.

Leeland Terrace Stabilization Project, San Luis Obispo, CA. Field Engineer. Provided observation and special inspection services for underpinning construction of several structures and construction of a tied-back retaining wall with horizontal drainage system. Observation activities included monitoring and documenting work in progress for compliance with project documents, coordinating field changes, and field check of materials and equipment to provide protection for the client against deficiencies and/or defects in work and materials. Responsibilities also included the preparation of final inspection and laboratory reports.

Spanos Staduim Addition, California Polytechnic State University, San Luis Obispo, CA. Construction Observation. Observation activities included monitoring and documenting work in progress for compliance with project documents, coordinating field changes, and field check of materials and equipment to provide protection for the client against deficiencies and/or defects in work and materials. Responsibilities also included the preparation of final inspection and laboratory reports.

Engineering IV Building, California Polytechnic State University, San Luis Obispo, CA. Construction Observation. Observation activities included monitoring and documenting work in progress for compliance with project documents, coordinating field changes, and field check of materials and equipment to provide protection for the client against deficiencies and/or defects in work and materials. Responsibilities also included the preparation of final inspection and laboratory reports.

California Men's Colony Wastwater Collection and Treatment Upgrade, San Luis Obispo, CA. Field Engineer. Reviewed documentation of work in progress for compliance with the project Standards and Specifications. Work also included documenting and reporting all laboratory work performed.

Rabbit Ridge Winery, San Miguel, CA. Construction Observation. Performed observation of grading and utility instillations and performed special inspections for the winery facility that included crush, processing, barrel storage and tasting structures. Observation activities included monitoring and documentation of work in progress for compliance with the contract documents, coordinating inspections, and field check of materials and equipment to provide protection for the client against deficiencies and/or defects in work and materials.

Tyler Hunt, PE

Construction Inspection Support

Education
BS, Agricultural Systems Management, California Polytechnic State University, San Luis Obispo, 1999

Registration
Professional Engineer (Civil), CA, #C74580

Qualified SWPPP Developer, #00822

Affiliations
American Society of Civil Engineers

American Public Works Association - Executive Committee

Mr. Hunt's experience includes project management, site improvements, wastewater treatment, wastewater reclamation, irrigation and water delivery, storm water pollution prevention, low-impact development (LID), water system consolidation, and municipal infrastructure projects. His construction management experience includes public utility coordination, inspection, estimating, and client support.

Project Experience

City of Fresno T-3 Storage Tank and Treatment Facility, Fresno, CA. Project Engineer for design and construction document preparation of a 3 MG prestressed concrete storage tank and water treatment plant. Responsibilities included site grading, access road design, storm water system, raw water conveyance, process piping, and storage tank.

Washington Union High School Water Improvements (Prop 84), Washington Unified School District, Easton, CA. Project Manager for the planning and design of water system improvements to supply a rural school with safe drinking water. The project consists of a new well, upgrading the School's facilities, a pipeline to convey the water to the school, and site improvements to store and distribute the water at the school. Preparing PS&E for the project and providing grant management services.

City Engineer, City of Patterson, CA. City Engineer providing plan review, inspection services, and civil engineering recommendations to Public Works officials and the City Council.

Fairmont School Safe Drinking Water Improvements (Prop 84), Sanger Unified School District, Sanger, CA. Project Manager for the planning and design of water system improvements to supply a rural school with safe drinking water. The project consists of connection to an existing CSD, upgrading the CSD's facilities, a pipeline to convey the water to the school, and site improvements to store and distribute the water at the school. Preparing PS&E for the project and providing grant management services.

Fruitridge Vista Water Company Fruitridge Road Intertie and Booster Station, Sacramento, CA. Project Engineer for design and construction document preparation of intertie and booster station to allow Fruitridge Vista Water Company to purchase water from the City of Sacramento. Responsibilities included site layout and design, grading, landscaping, and agency coordination.

Monterey Bay Bus Operations & Maintenance Center, Monterey-Salinas Transit, Marina, CA. Project Engineer for planning and design of a 25-acre bus operations and maintenance facility. The facility consists of a three story operations building, a 90,000+ square-foot maintenance building, a fuel/brake/tire repair building, and a bus wash building. The site also provides parking for 250+ buses and 400+ automobiles. Prepared PS&E for the facility and provided entitlement services.

San Joaquin Bus Regional Transportation Center, San Joaquin Regional Transportation District (RTD), Stockton, CA. Project Engineer for planning and design of an 18-acre bus operations & maintenance facility. The

Tyler Hunt, PE (page 2)

facility consists of a three story operations building, a 90,000+ square-foot maintenance building, a fuel/brake/tire repair building, and a bus wash building. The site also provides parking for 220+ buses and 360+ automobiles. Prepared PS&E for the facility and adjacent off-site improvements including LID design to comply with local storm water protection requirements.

California Department of Corrections and Rehabilitation, San Luis Obispo, CA. Project Engineer for the design and construction document preparation of a 50-bed mental health treatment facility within the California Men's Colony East facility in San Luis Obispo. Improvements consist of a two-story building and a 1,000-foot extension of the secure perimeter. The site also required additional and replacement parking for 526+ automobiles as well as storm drain improvements. Prepared PS&E for the facility including demolition, grading, paving, and utilities. Construction support is currently being provided.

Santa Nella County Water District Wastewater Treatment Plant, Santa Nella, CA. Assistant Project Engineer for the design and construction documents preparation of a 2.5 MGD wastewater treatment plant. Responsibilities included site grading, access road design, storm water system, and storage pond design.

Todd Beamer Community Park, Fresno, California. Project design and construction document preparation for a City of Fresno community park. Responsibilities included site grading, utility design, and storm water system design.

UC Merced Main Entrance, Merced, California. Project design and construction document preparation for the main entrance to the UC Merced campus. Two design options were carried through the entire design process. Responsibilities included site grading, striping and signage, and storm water system design.

UC Merced Internal Road, Merced, California. Project design and construction document preparation for one of the roads within the UC Merced campus. Responsibilities included site grading, utility design, and storm water system design. Design challenges included laying out and connecting nine separate utilities within the road.

City of Fresno Wastewater Treatment Plant Canal Expansion, Fresno, California. Project design and construction document preparation for City of Fresno WWTP main distribution canal enlargement. Responsibilities included canal hydraulics, control structure enlargement, diversion structure design, and construction staging.

City of Modesto Sylvan Avenue/Litt Road Widening, Modesto, California. Project Engineer for design and construction document preparation of a City of Modesto road widening project. Responsibilities included preliminary geometric design, site grading, and storm water system design.

City of Modesto Virginia Corridor Phase V, Modesto, California. Project Engineer for design and construction document preparation of a City of Modesto "Rails to Trails" community park and pedestrian overcrossing. Responsibil-ities included site grading and storm water system design.

California Department of Corrections and Rehabilitation, Corona, California. Civil Engineer for the design and construction document preparation of a mental health treatment facility within the California Institution for Women at Corona. Responsibilities included site grading, utility design, and storm water system design.

Earth Systems Pacific

JUDD J. KING **Vice President, Senior Engineer**

As a Senior Engineer, Mr. King provides geotechnical and materials engineering services pertaining to roadways, military facilities, public works sites, and residential and commercial developments. Additionally, Mr. King is a Certified Special Inspector for reinforced concrete and soils and provides inspection services during project construction.

HIGHLIGHTS OF RESPONSIBILITIES

- Prepares soils engineering reports which provide design criteria for grading, foundations slabs-on-grade, retaining walls, and pavement.
- Performs liquefaction, slope stability, bearing capacity, and settlement analyses.
- Manages materials testing and inspection personnel on large scale infrastructure projects.
- Performs soil profile logging, drilling, and sampling for geotechnical engineering investigations.
- Provides engineering support for field technicians and inspectors.
- Manages drilling equipment and personnel
- Performs materials testing and special inspection of concrete construction, driven pile and caisson foundation installation inspection, soil nail and tieback anchors.

REGISTRATIONS AND CERTIFICATIONS

Registered Professional Engineer (Geotechnical), State of California, No. 2903

Registered Professional Engineer (Civil), State of California, No. 68257

ICC Certified Special Inspector: Reinforced Concrete (No. 5264179-49)

ICC Certified Special Inspector: Soils (No. 5264179-EC)

ACI Concrete Field Testing Technician

Licensed Nuclear Gauge Operator

Hazardous Waste Operations and Emergency Response, 40-hour and 8-hour refresher courses (OSHA 29 CFR 1910.120 and Title 8, CCR 5192)

PROFESSIONAL BACKGROUND

2011 to present	Vice President, Senior Engineer	Earth Systems Pacific San Luis Obispo, CA
2006 to 2011	Project Engineer	Earth Systems Pacific San Luis Obispo, CA
2004 to 2006	Staff Engineer	Earth Systems Pacific Lompoc, CA
2002 to 2004	Staff Engineer	Youngdahl Consulting Group El Dorado Hills, CA

EDUCATION

B.S., Civil Engineering, California Polytechnic State University, San Luis Obispo

PROFESSIONAL AFFILIATIONS

Member – American Society of Civil Engineers

Member – Geo-Engineering Extreme Events Reconnaissance

CalGeo – Attendance at Loss Prevention Seminars (2002, 2003)

ASFE – Fundamentals of Professional Practice (2006)

Golden State Labor Compliance

VictorConklin

VicePresident

GoldenStateLaborCompliance

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Website: www.goldenstatelc.com

VicePresident(Feb.2003–Current)
GoldenStateLaborCompliance,LLC(387339 thStreetEast,SteW,Palmdale,CA93550)

- Program Manager & Chief of Investigations
- Responsible for handling client relationship and directing our people in the performance of serving the best interest of the client.

VicePresident(Feb.2003–Current)
AssociationofLaborComplianceProfessionals(387339 thStreetEast,SteW,Palmdale,CA93550)

- Foundingmemberofassociationtopromoteprofessionalismamongst LaborComplianceproviders.

Owner(1999–2003)
VicConklinConsulting(11551LonesomeValleyRoad,LeonaValley,CA93551-7618)

- ConductedElectricalconstructabilityreviews.SitereviewsforElectricalEngineerstoverifyexisting conditionsforupgradestolowvoltageinfrastructure,switchgearandformodernizations.

VicePresident(1996–2099)
CascadeElectric(Palmdale,CA)

DesignBuildElectricalContractor.Ihandledalldesignofelectricalsystemsandmanagedtheprojects Idesignedfromconceptiontocompletion.Iwasalsoresponsibleforallprevailingwageprojects (PublicWorks)fromthebidprocessthroughcompletion.

Brandon Stipe, PE

Process

Education
BS, Civil, Geotechnical and Water, Resources Engineering, California State University,Fresno, 2007

Registration
Professional Engineer (Civil), CA, #75956

Affiliations
American Water Works Association

American Society of Civil Engineers

Environmental and Water Resources Institute

Mr. Stipe has worked for approximately six years in a variety of civil engineering projects including analysis, design, and construction phase services primarily for public works projects. His project experience includes water quality and treatment, and water and wastewater distribution and collection facilities.

Project Experience

Kern Valley State Prison Arsenic Water Treatment Plant, Delano, CA. Project manager for the construction phase of an arsenic removal plant. The plant was designed to remove arsenic from 2 onsite groundwater wells with a total capacity of approximately 1.8 mgd through a coagulation and filtration process. The project also includes construction of a 54,000 gallon backwash tank, 2 pump stations, and chemical storage and feed systems.

T-3 Water Storage and Treatment Facility, Fresno, CA. Design engineer and deputy project manager for the design of an 8 mgd surface water treatment facility. The project includes a raw water screening facility, 5 pump stations, clarification and filtration, GAC adsorption, 10 chemical feed systems, and a 3 MG prestressed concrete water storage tank. This project required special provisions to allow the plant to operate unmanned and to shut down for six months a year.

Pump Station 349, Fresno, CA. Design engineer for a booster pumping station providing an intertie between the City of Fresno and City of Clovis water systems. The design capacity is 2000 gpm with a buildout capacity of 3000 gpm. The station is capable of pumping water to either system or bypassing the pump and to allow water to flow to either system remotely.

Well 3 GAC Wellhead Treatment, Modesto, CA. Design engineer for a wellhead treatment facility to facilitate the removal of PCE capable of 700 gpm. The project includes the design of a GAC adsorption system, including a chlorination system and significant electrical modification.

Fruiridge Vista Water Company Pipeline Improvements, Sacramento, CA. Project engineer for the planning, investigation, and design of approximately 5 miles of water distribution main improvements for the Fruitridge Vista service area in south Sacramento. This project presented significant design challenges due to the age and congestion of the area. Considerable time was spent in coordination to provide the required capacity while minimizing impact and cost.

Fruiridge Vista Water Company Florin Road Infrastructure Project, Sacramento, CA. Project engineer for an infrastructure study to determine the water and fireflow capabilities of a remote portion of the water system slated for future development. The project required several fire flow modeling runs under different simulated conditions to produce a list of improvements required to allow the system to provide adequate water and fire protection to the area.

City of Fresno 60-inch Raw Water Pipeline, Fresno CA. Design engineer for the City of Fresno 60-inch Raw Water Pipeline. The pipeline has an initial capacity of 30 mgd with a buildout capacity of 60 mgd. A steady state

Brandon Stipe, PE (page 2)

model was prepared comparing 3 popular headloss formulas to determine the potential for a power generation facility onsite. A transient analysis was conducted to determine control parameters for the surface water treatment plant.

Jeddah Stormwater Drainage Program, Jeddah, Saudi Arabia. Project management information system (PMIS) manager for a major stormwater design project in Saudi Arabia. The PMIS manager was the central point of contact between our international design team and our in country staff. This project required that the fast track design of 13 critical areas in the city be completed in 2 months and construction completed within 6 months. Construction cost for the critical areas was approximately $180M.

Crescenta Valley Water District Well 5 MTBE Treatment La Crescenta, CA. Project manager for the design of a full-scale pilot GAC wellhead treatment plant capable of producing 500 gpm. Is intended to not only remove MTBE from the existing well but to provide a relationship between bench and full scale testing to estimate carbon usage rates and lifecycle costs for other impacted District wells.

City of Avenal Chloramination Facililities Design, Avenal, CA. Project manager for the design of chloramination facilities at 2 sites including buildings to house storage and feed systems for sodium hypochlorite and ammonium hydroxide, improvements to storage tank piping to prevent nitrification, and modernization of the gas chlorination units at the treatment plant.

Howard Elementary Wellhead Treatment Facility, Madera, CA. Project manager in charge of assisting with the design and permitting of a wellhead treatment plant for the removal of DBCP. This project required an evaluation of an existing, school water system to determine the treatment method and presented some interesting design challenges due to small flow rates and significant down time.

Hollister Wastewater Treatment Facility Expansion, Hollister, CA. Project engineer responsible for working with the design team to provide Construction Phase services for the Expansion of the Hollister Wastewater Treatment Facility Seasonal Storage Ponds. The City of Hollister had to expand their treatment and percolation abilities to lift an imposed building moratorium. This project required coordination of the multi-disciplinary design team with the construction management firm and contractor to ensure that Submittals and RFI's were quickly responded to by the correct personnel.

City of Coalinga Wastewater Treatment Facility Interceptor Sewer Line, Coalinga, CA. Design engineer for the City of Coalinga Wastewater Treatment Facility Interceptor Sewer Line. The project required the transmission of the entire volume of the City's wastewater to the location of the new WWTF. The project included the research and design of four alternative alignments along with preliminary hydraulics and sizing for each. These alternatives were presented to the City Council along with the results of the economic and non-economic analysis for alignment.

Gunner Ranch West Wastewater Treatment Facility, Madera, CA. Project engineer responsible for preparing a review of a submittal for the Gunner Ranch West Wastewater Treatment Facility. The project required the review of construction documents for the site civil engineering and Title 22 considerations. A technical memorandum was prepared outlining questions or concerns for the client.

Pars Topjian, PE

Electrical

Education
BS, Electrical Engineering, American University of Beirut, Lebanon, 1972

Registration
Professional Engineer (Electrical), CA, #12845

Affiliations
Institute of Electrical and Electronic Engineers

Mr. Topjian specializes in electrical design, power distribution, lighting, and control for industrial facilities; water and wastewater treatment plants; water, storm water, and wastewater pumping stations; standby generation plants; water well pumping stations; highway interchanges; and commercial and institutional projects.

Project Experience

Metropolitan Water District of Southern CA, Weymouth Water Treatment Plant, LaVerne, CA. Project included feasibility evaluation of various alternatives of plant power system upgrade.

City of Coalinga, Water Treatment Plant Improvements, Coalinga, CA. Project included plant expansion and upgrading of the electrical and control system.

California Department of Corrections, California Correctional Institution at Tehachapi, Wastewater Treatment Plant Upgrade, CA. Participated in the project for upgrades tomotor control centers, power distribution, lighting, controls, special systems, and a standby emergency generator.

California Department of Corrections, California State Prison-Kern County at Delano II, Wastewater Treatment Plant Upgrade, CA. Participated in the project for upgrades tomotor control centers, power distribution, lighting, controls, and special systems.

City of Visalia, Water Conservation Plant 2001 Expansion, Visalia, CA. Participated in the project forelectrical upgrades and expansion of the water treatment plant.

Metropolitan Water District of Southern California, Weymouth Water Treatment Plant, La Verne, CA. Participated in the project for afeasibility evaluation of various alternatives of plant power system upgrade.

North Dakota State Water Commission, Southwest Pipeline Project - OMND Water Treatment Plant, North Dakota. Provided electrical engineering for motor control centers, power distribution, standby generator, lighting, controls, and special systems for a 1,000-kva demand load.

Ventura Regional Sanitation District, Toland Landfill Biosolids and Microturbine Site Improvements, CA. Project included expanding existing biosolids treatment and associated electrical system and adding approximately 2,000 kW of microturbines to generate electricity from landfill gas.

Lennar Fresno, Inc, T-3 Water Storage and Treatment Facility, CA. Project included motor control centers, power distribution, standby generator, lighting, controls, and special systems for a 1,500-kva demand load.

Las Virgenes Municipal Water District, Tapia Biological Nutrient Reduction Project, Phase 1, CA. Project included upgrading mixers, aerators, and associated electrical distribution and control systems.

ARAMCO Tertiary Treatment Plant, Dhahran South, Saudi Arabia. Project included motor control centers, power distribution, telephone and paging

systems, fire alarm system, lighting system, and control systems in the 9-mgd plant.

Metropolitan Water District of Southern California, Robert Skinner Filtration Plant, Standby Power Generation System, Riverside, CA. Project included study of nine different alternatives, evaluations, and recommendations for a 2,000-kw centralized standby emergency power system and final design of the plant including two 1,000-kw diesel engine-generators, selective catalytic reduction systems for exhaust emission controls, synchronizing switchgear, and load shedding schemes.

East Niles Community Services District, Well 21 Arsenic Treatment and Pump Station, CA. Project included a new booster pump station including three 50-hp pumps, along with associated motors, motor control center, service switchboard, and cables.

City of Lompoc, Pumping Station Upgrade, CA. Project included designing a new pumping station that includes four 250-hp pump motors and associated low-voltage variable frequency drives, and replacing treatment plant electrical service and distribution equipment.

Edwards Air Force Base Wastewater Treatment Plant, CA. Project included a new 2.5-mgd tertiary and advanced wastewater treatment facility. Processes involved bar screens and screenings washing and compaction, raw sewage pumps and variable frequency drives, seepage receiving facilities, grit removal, metering, secondary treatment reactors for biological nitrification/denitrification, circular clarifiers with return activated sludge and waste activated sludge pumping station, filter belt press and tertiary treatment flocculation, filtration, and disinfection. Project included a 600-kw diesel standby engine generator. An existing 34.5-kV substation was expanded to serve a new 2,500-kva substation for the treatment plant. Monitoring and control functions of the substations were interfaced to the existing SCADA system.

City of Bakersfield, Wastewater Treatment Plant #2 Expansion, Bakersfield, CA. The plant expansion from 19 mgd to 28.5 mgd involved headworks modifications including mechanical screens, primary clarifiers, trickling filters, secondary clarifiers, anaerobic digesters, sour gas cleaning, digester gas handling facilities, and a cogeneration and heat recovery system. Two 400-kw generators with synchronizing switchgear were designed for the cogeneration system.

North of the River Sanitation District #1, Wastewater Treatment Plant, CA. Project included motor control centers, power distribution, lighting, controls, and other special systems for the plant. A 300-kw and 800-kw standby emergency generators were included.

Wastewater Treatment Plant, Santa Nella, CA. Project included motor control centers, power distribution, lighting, controls, and special systems. US Navy, Upgrade Wastewater Treatment Plants, Camp Pendleton Marine Corps Base, California. Project included changing electrical system and all associated equipment from 240 volts to 480 volts in six wastewater treatment plants; also included interfacing the control system with computerized facility management system.

City of Ventura Wastewater Reclamation Facility, Central Standby Power Generation System, Ventura, CA. Project included 2,200-kw medium-voltage diesel-engine generator, associated synchronizing switchgear, and controls.

City of Leesburg, Turnpike Wastewater Reclamation Facility Improvement, Leesburg, FL. Project included upgrading headworks, reclaimed water filter station, backwash pump station, effluent pump station, chemical feed station, and associated electrical distribution and control systems.

California State Prison-Kern County at Delano II, Wastewater Treatment Plant Upgrade, CA. Project included motor control centers, power distribution, lighting, controls, and special systems.

California Correctional Institution at Tehachapi, Wastewater Treatment Plant Upgrade, CA. Project included motor control centers, power distribution, lighting, controls, special systems, and a standby emergency generator.

Las Virgenes Municipal Water District, Tapia Centrate Treatment Project, CA. Project included upgrading of blowers and mixing pumps and associated electrical distribution and control systems.

David Scherschel, PE, SE

Structural

Education

BS, Civil and Structural Engineering, Purdue University, 1959

Registration

Professional Engineer (Civil), CA, #C16091 (also: CO, FL, MD, NE, NV, ND, OR, SD, UT, WY)

Registered Structural Engineer, CA, #1572

Affiliations

American Society of Civil Engineers

Structural Engineers Association of California

American Public Works Association

American Concrete Institute

American Institute of Steel Construction

Mr. Scherschel has more than 40 years of structural engineering experience. Experience ranges from conceptual design, feasibility studies, value engineering, cost estimating, design, and detailed specification writing to field construction resident engineering. Structural projects include numerous above- and below-grade water storage facilities consisting of steel, cast-in-place, and prestressed concrete ranging in size from 0.5 to 70 million gallons. Water and wastewater design projects include pressure-reducing stations and thrust blocks, pumping stations, and support piers and hangers for pipe crossings of channels, rivers, and waterways located in California, Arizona, Nevada, and Florida and pumping facilities for 600 miles of water transmission pipelines through North and South Dakota. He has been responsible for static and seismic evaluation, analysis, and design of bridges, reservoirs, water treatment plants, and hydroelectric facilities; analysis of structures; transmission pipeline supports; and commercial and military facilities.

Project Experience

Antelope Valley-East Kern Water Agency (AVEK) 65-mgd Quartz Hill Water Treatment Plant Expansion #3. This project included addition of seven new sludge drying beds with a total drying area of approximately 6 acres. The additional solids handling capacity was needed to deal with the large quantity of alum sludge that is generated to provide enhanced coagulation. The project also included upgrade to the filter wash-water recovery system to handle higher solids loading resulting from enhanced coagulation.

Goleta Water District 32-mgd Renovation and Expansion for the Corona Del Mar Water Treatment Plant. The project includes upgrade and expansion of the existing water treatment plant to comply with Interim Enhanced Surface Water Treatment Rule (IESWTR), Stage I Disinfectants/Disinfection Byproduct D/DBP Rule, and Department of Health Services Cryptosporidium Action (CAP) Plan. The project also includes renovation of the existing plant to provide continued reliable service and increase plant capacity to 32 mgd. Prior to the design phase of services for upgrading Goleta Water District's 24-mgd Corona Del Mar Water Treatment Plant, AECOM conducted a report of investigation and recommendations (audit) to identify deficiencies and recommended improvements. Constructed facilities include replacement of the existing filter underdrains, replacement of the filter media with deep bed granular activated carbon (GAC), replacement of all existing chemical feed and storage facilities, replacement of all chemical feed lines with secondary containment, and replacement of the rapid mixer.

City of Redding, Buckeye Water Treatment Plant (Initial Design and 2007 Expansion), Redding, CA. The Buckeye facility is a conventional filtration plant which has an ultimate capacity of 56 mgd for treatment of surface water from Whiskey Town Reservoir. Responsibilities included design of facility process components including coagulation, sedimentation and filtration processes, chlorine disinfection, chlorine emergency scrubbing facilities, chemical feed systems, plant and domestic water pumping facilities, air/water backwash and wash-water recovery facilities,

David Scherschel, PE, SE (page 2)

interdisciplinary design coordination, and preparation of contract provisions and specifications.

Olivenhain Municipal Water District, Olivenhain Water Treatment Plant and Architectural Entry Wall, San Diego, CA. One of the country's largest membrane treatment, ultra-filtration plants for water treatment. The facility was designed to house an ultimate capacity of 60-mgd water treatment. The 28,000-square-foot extensively customized metal framed, masonry walled treatment structure houses two stories of treatment and administrative facilities, 13 individual 40,000-gallon membrane basins, a 98-foot overhead bridge crane for maintenance and filter change-out, a 40,000-cubic-foot acoustically treated blower room, chemical tank foundations, pump and motor supports.

Foothill Surface Water Treatment Plant 25-mgd Upgrade and Expansion, Placer County Water Agency, CA. Processes include raw screening, rapid mixing, coagulation, sedimentation, filtration, and treated water storage. Chemical feed systems include PAC, coagulation (alum), lime, polymers (cationic coagulant aid), and pre and post chlorination.

City of Cambria Sea Water Desalting Water Treatment Plant. The Cambria facility was designed to include chemical feed systems with on site hypochlorite generation for disinfection, scale inhibitor, and sodium hydroxide (caustic soda) for pH control. All the chemical storage facilities and chemical feed lines are provided with secondary containment.

Sweetwater Authority Membrane Water Treatment Plant, Sweetwater Authority, Chula Vista, CA. The 13,000-square-foot high bay, masonry walled, architecturally enhanced building encloses a 4- to 6-mgd reverse osmosis water treatment and storage facility with administration, electrical and mechanical spaces. The treatment bays house horizontal water treatment racks with all piping supported from the roof for access and future expansion. Chemical storage spaces are either enclosed or walled for chemical spill containment.

Domestic Agricultural Water Network (DAWN) Project, Antelope Valley-East Kern Water Agency, Kern County, CA. The design of more than 100 miles of pipeline support and junction facilities; four water treatment plants; three pumping stations; four 215-foot-diameter, 32-foot-high steel storage reservoirs; pressure-reducing stations; metering turnouts; and surge tanks. The majority of the facilities were located within 5 miles of the San Andreas Fault line and California Aqueduct.

Madera Wastewater Treatment Plant, Madera, CA. Scope of services included design of a 3-mgd expansion to the Madera Wastewater Treatment Plant that had a capacity of 7 mgd. New plant components included headworks, grit chambers, primary clarifier, biological nutrient removal (BNR), two secondary clarifiers, an anaerobic digester gas, construction services, and overall project management.

Edwards Air Force Base 2.5-mgd Tertiary Wastewater Treatment Plant. This facility includes raw wastewater screening, pumping, grit removal, septage receiving and pumping, metering, and "Carrousel" biological nitrification/denitrification extended aeration, activated sludge, secondary clarification, flocculation, filtration, disinfection, RAS/WAS sludge pumping, mechanical sludge dewatering utilizing belt filter presses, and aerated static pile composting the dewatered sludge utilizing shredded paper as the carbon source and amendment. Chemical feed systems included sodium hypochlorite (disinfection), alum (coagulation), polymers (coagulation and sludge dewatering), ferric chloride (odor control), and caustic soda (pH control). All the chemical storage facilities and chemical feed lines are provided with secondary containment piping and leak detection monitoring. The treated effluent will be used for landscape irrigation and groundwater recharge. Other responsibilities included value engineering study with the Army Corps of Engineers.

Galt Wastewater Treatment Plant Auxiliary Basin, Galt, CA. Structural engineer responsible for structural design works. Scope of services included removal of the accumulated sludge in the basin at the Galt WWTP. Team prepared construction drawings and specifications for the work as well as for the installation of an impermeable, UV-resistant polypropylene liner in the basin and two motorized sluice gates in the headworks to allow for bypassing of contaminated influent into the basin.

A 30-mgd Expansion of the Washington Suburban Sanitary District Sewage Treatment Plant, MD. Analysis, design, and evaluation of both new and existing buried and partially buried process structures including clarifiers, filters, sedimentation tanks, and chlorine contact chambers. A complete interdiscipline value engineering study was performed on this project.

Gerardo Yñiguez, PE

Instrumentation

Education

MS, Electrical Engineering, California State University, Northridge, 2010

BS, Electronics and Computer Engineering, California State Polytechnic University, Pomona, 1999

Registration

Professional Engineer (Electrical), CA, #E17017

Affiliations

Instrument Society of America

Mr. Yñiguez specializes in design and implementation of analog, computer control, and telemetry systems for water and wastewater treatment plants and water distribution systems. His experience includes installation, testing, and troubleshooting of control and telemetry systems for treatment processes and pumping stations.

Project Experience

Quartz Hill Water Treatment Plant SCADA Upgrade, Antelope Valley – East Kern Water Agency, CA. Responsible for control system design including field instruments, new fiber-optic control network, and replacing existing discontinued plant programmable controllers and SCADA system. Work included construction planning for maintaining treatment plant on-line during construction phase.

SCADA System Upgrade, Elsinore Valley Municipal Water District, Lake Elsinore, CA. Responsible for upgrading 70 sites (tanks, wells, and pumping stations) with field instruments, programmable controllers, radio communication system, and updating standards for water district's future projects.

Water Treatment Plant Expansion, Rosamond Community Services District, CA. Assisted in control system design including field instruments, programmable controllers, SCADA system, and fiber-optic control network.

Water Treatment Plant, City of La Junta, CO. Assisted in control system design including field instruments, programmable controllers, fiber-optic control network, and SCADA system.

Martin Hill Booster Pump Station and Reservoir, City of Porterville, CA. Responsible for control system design including field instruments, programmable controller, and interfacing with existing SCADA system. Task included construction support.

Water and Wastewater Facilities SCADA Upgrade Master Plan, County of San Diego, CA. Responsible for evaluating the existing SCADA control system, conducting a needs assessment with the County staff, and establishing a SCADA system upgrade design criteria plan. Tasks included developing technical memorandums for the various SCADA components, proposed system configuration including hardware and software recommendations, and probable system cost estimate.

Grizzly Mountain Booster Station, South Tahoe Public Utility District, California. Responsible for control system design including field instruments and programmable controller. Task included construction support.

21st Street Sewer Pump Station, City of Del Mar, CA. Responsible for the control system design of a sewer pump station with three variable speed pumps and interfacing with an existing SCADA system. Task included construction support.

Municipal Well 19 and Offsite Utilities Improvements, City of Merced, CAa. Responsible for the well monitoring and control system design as well as

Gerardo Yñiguez, PE (page 2)

interfacing the system with an existing SCADA telemetry system.

Water Recycling Facility, City of Fillmore, CA. Responsible for overseeing implementation and installation of SCADA system, control panels, and field instrumentation. Facility included custom control panels as well as packaged control panels by the membrane bioreactor (MBR) and ultraviolet (UV) treatment processes. Field control panels interfaced with SCADA system via fiber optic network. Verified design and installation of control system was in strict compliance with contract documents.

Effluent Reuse Disposal Facilities, City of Fillmore, CA. Responsible for the control system design of three disposal facilities. Facilities used water supplied by water recycling facility for subsurface drip irrigation and effluent disposal systems. Control panels were provided at each facility and interfaced with the water recycling facility SCADA system via fiber optic network. Tasks involved construction support and coordination between various contractors via separate contracts. Construction support also included inspection of the electrical system.

General Electric Flatiron Facility and Injection Well Site, City of Ontario, CA. Responsible for the control and instrumentation system design of the Flatiron treatment facility upgrades and injection well field. Project consisted of three different contracts: Flatiron facility, injection well field, and SCADA. New control panels at Flatiron facility and injection

Storage Ponds, City of Hollister, CA. Responsible for the control system design of return pump station with three variable speed pumps and interfacing with a wastewater treatment plant SCADA system provided by a separate contract. Task included construction support, start-up, and debugging.

47th Avenue Intertie & Boosting Station, Fruitridge Vista Water Company, California. Responsible for the control system design of booster pump station with three constant speed pumps. Task included construction support, start-up, and debugging.

Devils Lake Emergency Outlet, North Dakota State Water Commission. Responsible for SCADA design including instrumentation with remote terminal units, radio communications, and supervisory computer system.

SCADA Upgrade, City of Tehachapi, CA. Responsible for the design of field instruments and programmable logic controllers for new well sites to interface with an existing SCADA radio network.

Owens Lake Shallow Flood Irrigation Project, Owens Lake, CA. Assisted in control system design including field instruments, programmable controllers, SCADA system, and over 10 miles of fiber-optic cables.

Denver Water Reuse Project, Denver, CO. Assisted in control system design including field instruments, programmable controllers, SCADA system, and fiber-optic control network.

On-Site Wastewater Treatment Plant, California Department of Corrections Kern County at Delano II, CA. Assisted in electrical and instrumentation design including field instruments, programmable logic controllers, panelboard sizing, and equipment layout.

Olivenhain MWD Ultra Filtration Plant, San Diego County, CA. Assisted in control system design including field instruments, programmable controllers, and SCADA system.

Wastewater Treatment Plant Expansion, City of Visalia, CA. Assisted in expanding control system design including field instruments, programmable controllers, and communications with existing control system.

City of Paramount Well 13 Wellhead Treatment Plant Design, Paramount, CA. Scope of services included design of a new wellhead treatment plant for the removal of manganese, hydrogen sulfide, and arsenic from an existing well source. Responsible for control system design.

Santa Nella Wastewater Treatment Plant, Santa Nella Water District, CA. Scope of services included engineering design of lift station and headworks, oxidation ditches, clarifiers, RAS/WAS pumping station, cannibal bioreactors, blower building, sludge dewatering, effluent overflow box, hydropneumatic tank, effluent pumping station, electrical building, and emergency generator. Responsible for control system design.

Wastewater Treatment Plant Upgrade, City of Madera, CA. Responsible for control system design including field instruments, programmable controllers, and interfacing with existing SCADA system.

Dan Schottlander, CCE, CPE LEED AP

Estimating

Education

MS, Engineering, University of Washington, Seattle, WA, 1978.

BA, Architecture, University of Washington, Seattle, WA, 1972

Registration

Certified Professional Estimator #1.4-000519-0707

Certified Cost Engineer, #2100

Class A General Engineering Contractor, CA #567182

Class B General Building Contractor, CA #567182

Class C Specialty Contractor - C021 Building Moving and Demolition, CA #567182

Chartered Surveyor, United Kingdom #1236735

LEED Accredited Professional

Affiliations

Association for the Advancement of Cost Engineering (AACE), Past President Southern California Section

AACE National Education Board Member, 2007–2010

American Society of Professional Estimators (ASPE)

President, Orange County Chapter, 2007–2009

Board of Directors, 2009–2010

Royal Institute of Chartered Surveyors (MRICS)- Certified Member

Mr. Schottlander has 25 years of experience working as an estimator and construction project manager. Construction management projects have included civil, water, wastewater, energy, environmental, aviation, transportation, municipal, government, hospitality, commercial, health care, education, and industrial. He also performs constructability reviews, value engineering, quality control reviews, risk assessment, schedules, change order management, claims, and life cycle costing.

Mr. Schottlander has performed Level I through Level V estimates ranging in magnitude from $100,000 to over $2 billion. Currently, for FY2010, the total cumulative value of estimates that he has prepared is $6.5 billion. For 2010, he prepared approximately 47 estimates with an average value of $138 million. For FY2009, the total value of estimates was $2.4 billion. He provided approximately 69 estimates with an average value of $34.6 million. Mr. Schottlander prepared five hard bid estimates for a cumulative value of $88 million, winning $24.5 million for an average winning rate of 20 percent.

As an estimator, Mr. Schottlander is also involved with hard bid projects, engineer estimates, design-build, conceptual estimates, value engineering, constructability reviews, cost reporting and analysis, change orders, claims, and construction scheduling. He also performs risk assessment, change order management, cost reporting and analysis, cost studies, and escalation analysis.

Project Experience

Water Treatment Plant and Wastewater Treatment Plant Expansion, Phase 1, Town of Davie, FL. 10% VE Design estimate 6 mgd WTP and 3.5 mgd WWTP design–build project [$107,807,800]

Water Treatment Plant and Wastewater Treatment Plant Expansion, Phase 1, Town of Davie, FL. QC review of Engineer's Estimate, QC Estimate Review

Water Treatment Plant and Wastewater Treatment Plant Expansion, Phase 1, Town of Davie, FL. Preliminary SF pricing - "Warehouse" Tilt up construction [$3,542,539]

Water Treatment Plant and Wastewater Treatment Plant Expansion, Phase 1, Town of Davie, FL. Preliminary SF pricing - "Castle" Tilt up construction [$4,141,394]

Water Treatment Plant and Wastewater Treatment Plant Expansion, Phase 1, Town of Davie, FL. Preliminary SF pricing - "Arched Roof" C.I.P./ Masonry construction [$3,334,884]

Water Treatment Plant Design Build Operate, City of Hialeah, FL. 100% design estimate 10 mgd RO Plant expandable to 30 mgd [$48,966,000]

Water Treatment Plant Design Build Operate, City of Hialeah, FL. 60% design estimate 10 mgd RO Plant expandable to 30 mgd [$41,866,950]

Water Treatment Plant Design Build Operate, City of Hialeah, FL. 10% design ROM estimate 10 mgd RO Plant expandable to 30 mgd [$38,295,500]

Dan Schottlander, CCE, CPE, LEED AP (page 2)

Advanced Water Purification Facility, City of Oxnard, CA. Cost Controls and scheduling reviews during construction [$52,000,000]

Advanced Water Purification Facility, City of Oxnard, CA. Quality Control and Value Engineering 100% design estimate [$62,000,000]

Tippecanoe Wastewater Treatment Plant Expansion, Lockheed Martin Corporation, Riverside, CA. Prepared hard bid estimate for 100% design to construct a 8400-gpm treatment plant expansion. [$3,448,900]

Tippecanoe Wastewater Treatment Plant Expansion, Lockheed Martin Corporation, Riverside, CA. Prepared engineer's estimate for 60% design to 8400-gpm treatment plant expansion. [$1,632,000]

Raub 5 Treatment Plant Expansion, Lockheed Martin Corporation, Riverside, CA. Prepared engineer's estimate for 60% design to expand groundwater treatment plant, add pads, GAC tanks, piping, associated equipment. [$960,725]

91st Avenue Wastewater Treatment Plant, City of Phoenix, AZ. Provided estimating support services for change orders on a 104-mgd WWTP expansion. [$105 million]

Sludge Digester Rehabilitation, Orange County Sanitation District, Orange County, CA. Prepared estimate for design engineering services. [$3,238,000]

Digester 90% Design Construction Estimate, Orange County Sanitation District, Orange County, CA. Provided QC review. [$54,000,000]

Apra Harbor Wastewater Treatment Plant Rehabilitation, NAVFAC Hawaii, Guam. Prepared design-build estimate of an updated WWTP. [$40,344,000]

Plant 5 Water Reclamation, Los Angeles County Sanitation District, Lancaster, CA. Prepared a professional services estimate for Plant 5 expansion, assessment of water modeling conditions, seismic/liquefaction potential, and analysis of cost-benefit of selected measures. [$975,000]

60" Brick Sanitary Sewer Alternatives, City of San Jose, CA. 11 options from $18M - $33M each 66" thru 84" pipelines open trench & tunneling options [$328,877,475]

CCRL Refinery Wastewater Treatment Plant, City of Regina, Saskatchewan Canada. DB 30% design WWTP expansion [$58,844,012]

Design-Build Waste to Energy Project, City of Toronto, Canada. Estimate QC Review [$74,961,676]

Noman Cole Pollution Control Plant, Fairfax County VA. Wastewater Treatment Plant Upgrades. Final (100%) design - Package 1 (MBBR, Screens, Methanol, Blower) - Final [$42,885,879]

Noman Cole Pollution Control Plant, Fairfax County VA Wastewater Treatment Plant Upgrades. - Final (100%) design - Package 2 (AST Improvements) [$4,878,780]

Noman Cole Pollution Control Plant, Fairfax County VA Wastewater Treatment Plant Upgrades - 75% design - Package 2 (AST Improvements) [$4,311,606]

Metropolitan Bio-solids Center Silos 9 & 10, City of San Diego, CA., 30% and 50% Designs expansions and upgrades to silos [$4,015,849]

MMSD Biosolids Vitrification (Minergy), Milwaukee, WI. Waste to Energy project [$41,245,306]

Selected Publications & Conference Presentations

"A Study of Design Build Estimates at the 10% Completion Level" AACE National Conference, Nashville, Tennessee, July 2007

"How to Estimate the Cost of a Pump Station," ASPE, May 2007

"How accurate are Your Estimates?" AACE National Conference, Las Vegas, Nevada, June 2006.