

**CITY OF SANTA ANA  
CONTRACTOR AGREEMENT FOR  
ON-CALL ENGINEERING SERVICES WITH  
ARDURRA GROUP, INC.**

THIS AGREEMENT is made and entered into on this 16<sup>th</sup> day of August 2022 by and between Ardurra Group, Inc., (“Contractor”), and the City of Santa Ana, a charter city and municipal corporation organized and existing under the Constitution and laws of the State of California (“City”).

**RECITALS**

- A. The City desires to retain a Contractor having special skill and knowledge in the field of on-call water resources engineering services pursuant to RFP 22-002.
- B. Contractor represents that Contractor is able and willing to provide such services to the City.
- C. On April 21, 2020, City Council approved agreements with Tetra Tech, Inc., Michael Baker International, Inc., Psomas, Stantec Consulting Services, Inc., NV5, Inc., Huitt-Zollars, Inc., Kimley-Horn and Associates, Inc., and TAIT & Associates, Inc. (“2020 Agreements”) to provide on-call engineering services for the Public Works Agency, Water Resources Division.
- D. On March 16, 2021, the City amended the 2020 Agreements to increase the funding amount by \$950,000 for the remainder of the term to allow these services to be utilized for additional civil works projects included in the current and future fiscal years’ Capital Improvement Programs (CIPs). These agreements remain in full force and effect.
- E. The City finds that new agreements under RFP 22-002 are required for additional services for new civil works projects as the funding capacity has been reached under the 2020 Agreements.
- F. In undertaking the performance of this Agreement, Contractor represents that it is knowledgeable in its field and that any services performed by Contractor under this Agreement will be performed in compliance with such standards as may reasonably be expected from a professional consulting firm in the field.

**NOW THEREFORE**, in consideration of the mutual and respective promises, and subject to the terms and conditions hereinafter set forth, the parties agree as follows:

**1. SCOPE OF SERVICES**

Contractor shall perform during the term of this agreement, the services described in the scope of work that was included in RFP No. 22-002 and that is attached as **Exhibit A**, and as further delineated in Contractor’s proposal, which is attached as **Exhibit B** and incorporated in full. The Scope of Work under this Agreement is not intended to cover any civil works projects

assigned to the 2020 Agreements.

## **2. COMPENSATION**

- a. Contractor under this Agreement. Contractor shall be paid only for services performed under the Agreement at the rates and charges identified in **Exhibit C**. Contractor is one of six Contractors selected to provide on-call engineering services. The total aggregate amount, among the six contractors, shall not exceed the shared aggregate amount of \$2,000,000 during the term of this agreement, including any extension periods. All reimbursable expenses must be approved in writing by the City before they are incurred by Contractor. City shall not be responsible for any reimbursable costs incurred by Contractor without the advance written approval of City.
- b. Payment by City shall be made within 45 days (forty-five) days following receipt of proper invoice evidencing work performed, subject to City accounting procedures. City shall not be assessed any late fees for payments rendered after forty-five (45) days. Payment need not be made for work which fails to meet the standards of performance set forth in the Recitals which may reasonably be expected by City.

## **3. TERM**

This Agreement shall commence on the date first written above for a three (3) year term with the option for the City to grant up to two (2) one (1) year renewals, exercisable by a writing by the City Manager and the City Attorney, unless terminated earlier in accordance with Section 16, below.

## **4. PREVAILING WAGES**

Contractor is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. If the services being performed are part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. Contractor shall defend, indemnify and hold the City, its elected officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

## **5. INDEPENDENT CONTRACTOR**

Contractor shall, during the entire term of this Agreement, be construed to be an independent contractor and not an employee of the City. This Agreement is not intended nor shall it be construed to create an employer-employee relationship, a joint venture relationship, or to allow the City to exercise discretion or control over the professional manner in which Contractor performs the services which are the subject matter of this Agreement; however, the services to be provided by Contractor shall be provided in a manner consistent with all applicable standards and

regulations governing such services. Contractor shall pay all salaries and wages, employer's social security taxes, unemployment insurance and similar taxes relating to employees and shall be responsible for all applicable withholding taxes.

## **6. OWNERSHIP OF MATERIALS**

This Agreement creates a non-exclusive and perpetual license for City to copy, use, modify, reuse, or sublicense any and all copyrights, designs, and other intellectual property embodied in plans, specifications, studies, drawings, estimates, and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Contractor under this Agreement ("Documents & Data"). Contractor shall require all subcontractors to agree in writing that City is granted a non-exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement. Contractor represents and warrants that Contractor has the legal right to license any and all Documents & Data. Contractor makes no such representation and warranty in regard to Documents & Data which were provided to Contractor by the City. City shall not be limited in any way in its use of the Documents and Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at City's sole risk.

## **7. INSURANCE**

Coverage shall be at least as broad as:

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$1,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering, Code 1 (any auto), or if Consultant has no owned autos, Code 8 (hired) and 9 (non-owned), with limit no less than **\$1,000,000** per accident for bodily injury and property damage.
3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than **\$1,000,000** per accident for bodily injury or disease.
4. **Professional Liability** (Errors and Omissions) Insurance appropriate to the Consultant's profession, with limit no less than **\$1,000,000** per occurrence or claim.

If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, the Entity requires and shall be entitled to the broader coverage and/or the higher limits maintained by the contractor. Any available

insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Entity.

#### **Other Insurance Provisions**

The insurance policies are to contain, or be endorsed to contain, the following provisions:

##### ***Additional Insured Status***

**The Entity, its officers, officials, employees, and volunteers are to be covered as additional insureds** on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Consultant's insurance (at least as broad as ISO Form CG 20 10 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).

##### ***Primary Coverage***

For any claims related to this contract, the **Consultant's insurance coverage shall be primary** insurance primary coverage at least as broad as ISO CG 20 01 04 13 as respects the Entity, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the Entity, its officers, officials, employees, or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

##### ***Notice of Cancellation***

Each insurance policy required above shall state that **coverage shall not be canceled, except with notice to the Entity.**

##### ***Waiver of Subrogation***

Consultant hereby grants to Entity a waiver of any right to subrogation which any insurer of said Consultant may acquire against the Entity by virtue of the payment of any loss under such insurance. Consultant agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the Entity has received a waiver of subrogation endorsement from the insurer.

##### ***Self-Insured Retentions***

Self-insured retentions must be declared to and approved by the Entity. The Entity may require the Consultant to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Entity.

##### ***Acceptability of Insurers***

Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the Entity.

### ***Claims Made Policies***

If any of the required policies provide coverage on a claims-made basis:

1. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided ***for at least five (5) years after completion of the contract of work.***
3. If coverage is canceled or non-renewed, and not ***replaced with another claims-made policy form with a Retroactive Date*** prior to the contract effective date, the Consultant must purchase “extended reporting” coverage for a minimum of ***five (5) years*** after completion of contract work.

### ***Verification of Coverage***

Consultant shall furnish the Entity with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Entity before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Consultant’s obligation to provide them. The Entity reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

### ***Subcontractors***

Consultant shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Entity is an additional insured on insurance required from subcontractors.

### ***Special Risks or Circumstances***

Entity reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

## **8. INDEMNIFICATION**

Contractor agrees to defend, and shall indemnify and hold harmless the City, its officers, agents, employees, contractors, special counsel, and representatives from liability: (1) for personal injury, damages, just compensation, restitution, judicial or equitable relief arising out of claims for personal injury, including death, and claims for property damage, which may arise from the negligent operations of the Contractor, its subcontractors, agents, employees, or other persons acting on its behalf which relates to the services described in section 1 of this Agreement; and (2) from any claim that personal injury, damages, just compensation, restitution, judicial or equitable relief is due by reason of the terms of or effects arising from this Agreement. This indemnity and hold harmless agreement applies to all claims for damages, just compensation, restitution, judicial or equitable relief suffered, or alleged to have been suffered, by reason of the events referred to in this Section or by reason of the terms of, or effects, arising from this Agreement. The Contractor

further agrees to indemnify, hold harmless, and pay all costs for the defense of the City, including fees and costs for special counsel to be selected by the City, regarding any action by a third party challenging the validity of this Agreement, or asserting that personal injury, damages, just compensation, restitution, judicial or equitable relief due to personal or property rights arises by reason of the terms of, or effects arising from this Agreement. City may make all reasonable decisions with respect to its representation in any legal proceeding. Notwithstanding the foregoing, to the extent Contractor's services are subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Contractor.

## **9. INTELLECTUAL PROPERTY INDEMNIFICATION**

Contractor shall defend and indemnify the City, its officers, agents, representatives, and employees against any and all liability, including costs, for infringement of any United States' letters patent, trademark, or copyright infringement, including costs, contained in the work product or documents provided by Contractor to the City pursuant to this Agreement.

## **10. RECORDS**

Contractor shall keep records and invoices in connection with the work to be performed under this Agreement. Contractor shall maintain complete and accurate records with respect to the costs incurred under this Agreement and any services, expenditures, and disbursements charged to the City for a minimum period of three (3) years, or for any longer period required by law, from the date of final payment to Contractor under this Agreement. All such records and invoices shall be clearly identifiable. Contractor shall allow a representative of the City to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement during regular business hours. Contractor shall allow inspection of all work, data, documents, proceedings, and activities related to this Agreement for a period of three (3) years from the date of final payment to Contractor under this Agreement.

## **11. CONFIDENTIALITY**

If Contractor receives from the City information which due to the nature of such information is reasonably understood to be confidential and/or proprietary, Contractor agrees that it shall not use or disclose such information except in the performance of this Agreement, and further agrees to exercise the same degree of care it uses to protect its own information of like importance, but in no event less than reasonable care. "Confidential Information" shall include all nonpublic information. Confidential information includes not only written information, but also information transferred orally, visually, electronically, or by other means. Confidential information disclosed to either party by any subsidiary and/or agent of the other party is covered by this Agreement. The foregoing obligations of non-use and nondisclosure shall not apply to any information that (a) has been disclosed in publicly available sources; (b) is, through no fault of the Contractor disclosed in a publicly available source; (c) is in rightful possession of the Contractor without an obligation of confidentiality; (d) is required to be disclosed by operation of law; or (e) is independently developed by the Contractor without reference to information disclosed by the City.

## **12. CONFLICT OF INTEREST CLAUSE**

Contractor covenants that it presently has no interests and shall not have interests, direct or indirect, which would conflict in any manner with performance of services specified under this Agreement.

## **13. DISCRIMINATION**

Contractor shall not discriminate because of race, color, creed, religion, sex, marital status, sexual orientation, age, national origin, ancestry, or disability, as defined and prohibited by applicable law, in the recruitment, selection, training, utilization, promotion, termination or other employment related activities. Contractor affirms that it is an equal opportunity employer and shall comply with all applicable federal, state and local laws and regulations.

## **14. EXCLUSIVITY AND AMENDMENT**

This Agreement represents the complete and exclusive statement between the City and Contractor, and supersedes any and all other agreements, oral or written, between the parties. In the event of a conflict between the terms of this Agreement and any attachments hereto, the terms of this Agreement shall prevail. This Agreement may not be modified except by written instrument signed by the City and by an authorized representative of Contractor. The parties agree that any terms or conditions of any purchase order or other instrument that are inconsistent with, or in addition to, the terms and conditions hereof, shall not bind or obligate Contractor or the City. Each party to this Agreement acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which is not embodied herein.

## **15. ASSIGNMENT**

Inasmuch as this Agreement is intended to secure the specialized services of Contractor, Contractor may not assign, transfer, delegate, or subcontract any interest herein without the prior written consent of the City and any such assignment, transfer, delegation or subcontract without the City's prior written consent shall be considered null and void. Nothing in this Agreement shall be construed to limit the City's ability to have any of the services which are the subject to this Agreement performed by City personnel or by other contractors retained by City.

## **16. TERMINATION**

This Agreement may be terminated by the City upon thirty (30) days written notice of termination. In such event, Contractor shall be entitled to receive and the City shall pay Contractor compensation for all services performed by Contractor prior to receipt of such notice of termination, subject to the following conditions:

- a. As a condition of such payment, the Executive Director may require Contractor to deliver to the City all work product(s) completed as of such date, and in such case such work product shall be the property of the City unless prohibited by law, and

Contractor consents to the City's use thereof for such purposes as the City deems appropriate.

- b. Payment need not be made for work which fails to meet the standard of performance specified in the Recitals of this Agreement.

## **17. WAIVER**

No waiver of breach, failure of any condition, or any right or remedy contained in or granted by the provisions of this Agreement shall be effective unless it is in writing and signed by the party waiving the breach, failure, right or remedy. No waiver of any breach, failure or right, or remedy shall be deemed a waiver of any other breach, failure, right or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.

## **18. JURISDICTION - VENUE**

This Agreement has been executed and delivered in the State of California and the validity, interpretation, performance, and enforcement of any of the clauses of this Agreement shall be determined and governed by the laws of the State of California. Both parties further agree that Orange County, California, shall be the venue for any action or proceeding that may be brought or arise out of, in connection with or by reason of this Agreement.

## **19. PROFESSIONAL LICENSES**

Contractor shall, throughout the term of this Agreement, maintain all necessary licenses, permits, approvals, waivers, and exemptions necessary for the provision of the services hereunder and required by the laws and regulations of the United States, the State of California, the City of Santa Ana and all other governmental agencies. Contractor shall notify the City immediately and in writing of its inability to obtain or maintain such permits, licenses, approvals, waivers, and exemptions. Said inability shall be cause for termination of this Agreement.

## **20. NOTICE**

Any notice, tender, demand, delivery, or other communication pursuant to this Agreement shall be in writing and shall be deemed to be properly given if delivered in person or mailed by first class or certified mail, postage prepaid, or sent by fax or other telegraphic communication in the manner provided in this Section, to the following persons:

To City:

Clerk of the City Council  
City of Santa Ana  
20 Civic Center Plaza (M-30)  
P.O. Box 1988  
Santa Ana, CA 92702-1988  
Fax: 714- 647-6956



With courtesy copies to:

Executive Director, Public Works Agency City of Santa Ana 20 Civic Center Plaza (M-21) P.O. Box 1988 Santa Ana, California 92702 Fax: 714- 647-5635	
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To Contractor:

Ardurra Group, Inc.,  
Lisa M. Penna  
Vice President/Regional Director  
3737 Birch Street, Suite 250  
Newport Beach, CA 92660

A party may change its address by giving notice in writing to the other party. Thereafter, any communication shall be addressed and transmitted to the new address. If sent by mail, communication shall be effective or deemed to have been given three (3) days after it has been deposited in the United States mail, duly registered or certified, with postage prepaid, and addressed as set forth above. If sent by fax, communication shall be effective or deemed to have been given twenty-four (24) hours after the time set forth on the transmission report issued by the transmitting facsimile machine, addressed as set forth above. For purposes of calculating these time frames, weekends, federal, state, County or City holidays shall be excluded.

## **21. MISCELLANEOUS PROVISIONS**

- a. Each undersigned represents and warrants that its signature herein below has the power, authority and right to bind their respective parties to each of the terms of this Agreement, and shall indemnify City fully, including reasonable costs and attorney's fees, for any injuries or damages to City in the event that such authority or power is not, in fact, held by the signatory or is withdrawn.
- b. All Exhibits referenced herein and attached hereto shall be incorporated as if fully set forth in the body of this Agreement.

[Signatures on the following page]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written.

**ATTEST:**

**CITY OF SANTA ANA**


\_\_\_\_\_  
Daisy Gomez  
Clerk of the Council


\_\_\_\_\_  
Kristine Ridge  
City Manager

**APPROVED AS TO FORM:**

SONIA R. CARVALHO  
City Attorney

**CONTRACTOR:**

By:   
\_\_\_\_\_  
Jose Montoya  
Assistant City Attorney

  
\_\_\_\_\_  
Name: Lisa M. Penna, P.E.  
Title: Vice President

**RECOMMENDED FOR APPROVAL:**

\_\_\_\_\_  
Nabil Saba, P.E.  
Executive Director  
Public Works Agency

## **EXHIBIT A**

**CITY OF SANTA ANA**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**ON-CALL WATER RESOURCES ENGINEERING SERVICES**  
**RFP NO. 22-002**

**INTRODUCTION/BACKGROUND**

The City of Santa Ana intends (City) to select several qualified firms to provide professional services for a variety of projects and programs on an as-needed or “on-call” basis. Each firm selected will enter into a Professional Services Agreement to provide such services. Throughout the term of the Professional Services Agreement, the City may request task order proposals for individual projects and/or programs as the need for such services arises. The task order proposal fee shall be based on the hourly rates provided by the firm in response to this RFP.

If a task order proposal is selected, a Notice-to-Proceed will be issued based on an agreed-upon specific scope of services and fee for that task order. The firm may utilize in-house staff and/or sub-consultants to complete each task order. **For specialized work for which the prime consultant shall require a sub-consultant, the prime consultant shall serve as an administrative liaison between the City and the sub-consultant, and include these administrative costs in their proposed project management fees.**

**Prime consultant mark-ups for sub-consultant work will not be allowed.**

**SCOPE OF SERVICES**

Provide professional engineering services for planning, design, and construction support for domestic water, recycled water, sanitary sewer, storm sewer, and related facility projects.

In general, each task order shall include, at minimum, the following project management services:

- Project Schedule

Create schedules with the critical milestones for the major tasks involved in a project. Update the schedule monthly, or more often, as required by the City. Schedules shall be submitted in PDF format unless other format is requested by the City.

- Meetings

Attend meetings and/or job walks, as requested by the City. Prepare meeting agendas and meeting minutes.

- Monthly Project Status Report

Prepare Monthly Project Status Reports that show an accurate accountability of work effort rendered and a continuous appraising and monitoring of both work progress and financial conditions on a project.

The fee for project management services, including time and related expenses, shall be included in each task order proposal.

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Firms may propose on any category listed below (1-5). The services to be performed may include, but shall not be limited to, the following:

**1. PLANNING, RESOURCES, AND DESIGN**

Provide water engineering services to conduct water capital improvement projects, which may involve one or multiple disciplines, including planning studies, hydraulic modeling, feasibility studies, design of pipelines, wells, pump stations, pressure regulating stations, reservoirs, water quality and water treatment, waste and recycled water quality and treatment, hydrogeology, engineering support during construction, and encompassing associated services such as Architecture, Structural, Civil, Mechanical, HVAC, Landscape Architecture, Geotechnical, Environmental, Electrical, Instrumentation, and Control.

a. Planning Studies and Feasibility Studies

Provide engineering, financial, and planning services to perform pipeline alignment and facility siting studies, water system planning studies, recycled water system planning and feasibility studies, water demand and supply studies, rate studies, asset management, and other studies that may be required in water system planning. Provide consulting services related to water resources and conservation. Studies may include water supply assessments, water supply verifications, urban water management plans, water use surveys and others studies that may be required for water resources and conservation programs

b. Hydraulic Modeling

Perform Water System Master Planning including Comprehensive Studies, Hydraulic Analysis, Transient Analysis, Fire Flow Analysis, and Flow Optimization.

c. Condition Assessment

Provide comprehensive condition assessment of the City's water system, including seismic, structural, security and vulnerability. Assessment of the structural integrity of the pipe shall include identifying leaks, pipe damage, pipe defect, loss of pipe wall thickness due to corrosion or erosion, etc., along the length of the pipe. Provide reports and memorandums with maps and exhibits as required to detail results of the study including likelihood of failure, risk and consequence of failure. Reports and/or technical memorandums shall also include detailed explanation of data collected and used for the study, any assumptions made as well as recommendations for short-term and long-term risk mitigation strategies.

d. Design Services

Provide consulting services for the design of water facilities, including water wells, pump stations, pressure regulating stations, reservoirs, water quality and treatment, water mains,

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recycled water supply and distribution facilities, associated appurtenances, as well as other related components of the facilities such as buildings, landscape, grading, drainage, etc. for a complete and operative project.

e. Other Related Services

Provide other related services including, but not limited to, the following:

i. Architecture

Provide consulting services for architectural design, architectural renderings, line-of-sight analyses, building sections, code interpretation issues and other architectural related issue.

ii. Structural

Provide consulting services for structural investigations of the City's existing facilities, seismic analysis, miscellaneous structural calculations, and design on the City's existing and proposed systems and structures.

iii. Civil

Provide consulting services for general engineering services as required for the project. Scope of work may include but is not limited to site design, street improvements, grading, drainage, preparation of Water Quality Management, Erosion Control, and Stormwater Pollution Prevention Plans, and related calculations and reports as necessary.

iv. Mechanical, HVAC

Provide consultation, engineering, and design services on modification, upgrade, and replacement of existing mechanical and HVAC systems, including piping, plumbing, support systems, controls, code interpretation, and related calculations as necessary.

v. Landscape Architecture

Provide consulting services for landscape architecture design, including landscape planting plans, renderings and views of proposed landscape plantings, and landscape installation inspection services. Provide consultation for irrigation system design and inspection.

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vi. Geotechnical Engineering Services

Conduct geotechnical investigations, including field explorations and tests, laboratory tests, and seismic investigations, to assess the general conditions of a project site area and prepare geotechnical reports of final design and construction recommendations. Field explorations may require drilling plans and classification of underlying soils and must be done under the supervision of a licensed geotechnical engineer or registered geologist. Investigations may include slope stability analysis of reservoir embankments, foundations, retaining walls, and dams and earthen dam monitoring and inspection to comply with California Department of Water Resources, Division of Safety of Dams (DSOD) and other City requirements. Provide seismic hazard analyses and site-specific seismic criteria, as needed, for project design.

vii. Hydrogeology

Provide consulting services on groundwater issues related to and including rehabilitation of existing potable water production wells, siting and design of new potable water production wells, destruction of inactive wells, evaluation of contamination plumes, and groundwater modeling. Evaluate the hydrogeology of proposed potable water production well sites and investigate proposed wells. Determine design parameters and requirements necessary to drill, operate, and maintain proposed wells; proposed well construction (casing diameter, locations of perforated intervals); and proposed operation of wells. Prepare Drinking Water Source Assessment and Protection (DWSAP) plans for proposed potable water production wells.

Provide inspection, hydrogeologic analysis and recommendations during new potable water production well drilling and existing well destruction activities, including, but not limited to, on site consulting geologists, geological sampling and formation analysis, geophysical logging and interpretation, sieve analyses, final well construction recommendations, and quality assurance and assistance in achieving conformance with the construction specifications and applicable codes and standards.

viii. Environmental Compliance Services

Provide consulting services for the preparation of environmental documents and support studies to comply with California Environmental Quality Act (CEQA), which may include an Initial Study, Negative Declaration, Mitigated Negative Declaration, Addendum, or Environmental Impact Report, or Supplement or Subsequent EIR, National Environmental Policy Act (NEPA) when complying

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with federal grants, permit applications with support studies, aesthetic simulations, and other environmental compliance tasks that may be needed.

ix. Recycled Water Compliance

Provide assistance with compliance requirements for recycled water treatment and distribution system monitoring and reporting.

x. Electrical, Instrumentation & Control Services

Provide consultation, engineering, and design services on modification, upgrade, troubleshooting, restarting, adjusting control settings, and replacement of existing electrical systems, including motor control centers, motor starters, electrical panels, and instrumentation and control systems, including SCADA systems.

xi. Engineering Support During Bidding and Construction

Review and respond to RFI's and review and approve shop drawings submitted by contractor for conformance with the contract documents. Review progress reports and payments as required. Prepare supplementary sketches and details, as required, to resolve field construction problems that may be encountered. Provide project inspection as needed. Provide assistance in ensuring regulatory compliance, as needed. Prepare the "as constructed" corrections to the original drawings and specifications. Attend meetings on behalf of the City and assist in Public Relations, as needed.

xii. Plan Check Services

Provide consulting services for plan checking improvement plans to determine compliance with applicable standards, guidelines, policies, rules, ordinances, and codes.

## **2. CONSTRUCTION MANAGEMENT**

Provide construction management and inspection services during construction. The tasks of construction management and inspection shall include, but not be limited to:

a. Construction Management and Coordination with Contractor

Provide construction management and coordinate as needed for the project. Review and coordinate construction schedule and activities; conduct and attend meetings on behalf of the City. Provide permit compliance documentation, follow up, and support for all permits and clearances required on a project. The construction management team may also be asked to attend meetings and assist in maintaining public relations as needed.



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b. Project Administration

Provide review of, recommend, and prepare change order(s) and/or extra work order(s) as needed on construction project. Coordinate and process RFI's and shop drawings submittals, and ensure construction conformance with the contract documents. Review and adjust progress pay estimates prepared and submitted by the contractor for conformance with the contract documents.

c. Construction Inspection

Provide construction inspection by qualified inspectors and maintain daily inspection reports, construction progress reports, and project logs, etc., of the progress of the construction work. Secure record drawing information from the construction contractor. Provide start-up support for a Project, including final acceptance testing, support, and final completion sign off. Prepare the Final Construction Report.

**3. PIPELINE DESIGN**

Provide consulting services for the design of water mains, transmission mains, siphons and associated appurtenances. Provide preliminary and final design services including the preparation of plans, specifications, and cost estimates. Provide bidding assistance, construction support, and final as-builts as needed for projects.

**4. ELECTRICAL, INSTRUMENTATION & CONTROL SERVICES**

Provide consultation, engineering, and design services on modification, upgrade, troubleshooting, restarting, adjusting control settings, and replacement of existing electrical systems, including motor control centers, motor starters, electrical panels, and instrumentation and control systems, including SCADA systems components, instrumentation, communication system components, security cameras, door/gate access controls, information technology for SCADA system and cybersecurity support for PLC/HMI/OIT software and custom applications for the City Water System.

**5. GEOTECHNICAL ENGINEERING SERVICES**

Conduct geotechnical investigations, including field explorations and tests, laboratory tests, and seismic investigations, to assess the general conditions of a project site area and prepare geotechnical reports of final design and construction recommendations. Field explorations may require drilling plans and classification of underlying soils and must be done under the supervision of a licensed geotechnical engineer or registered geologist. Investigations may include slope stability analysis of reservoir embankments, foundations, retaining walls, and dams and earthen dam monitoring and inspection to comply with California Department of Water Resources, Division of Safety of Dams (DSOD) and other City requirements. Provide seismic hazard analyses and site-specific seismic criteria, as needed, for project design.

**CITY OF SANTA ANA**  
**REQUEST FOR PROPOSALS**  
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**ON-CALL WATER RESOURCES ENGINEERING SERVICES**  
**RFP NO. 22-002**

Proposals shall explicitly state which category listed above (1-5) is being proposing on. If there are any exceptions to the core of requested services above, proposers shall list said exceptions in their proposal (matrix form).

**GENERAL REQUIREMENTS AND PROJECT DELIVERABLES**

The Consultant's services for plans specifications and estimates (PS&E) for engineering projects and special studies/investigations shall be in conformance, if applicable, with the following: Title 24 of the California Code of Regulations (California Building Standards Code), American Water Works Association, California Department of Transportation, Americans with Disabilities Act, City of Santa Ana Municipal Code (SAMC), professional Standards established by the City, and any other federal, state, or local guidelines required in the project.

As part of the PS&E package, the Consultant shall prepare the special provisions pertaining to the items of work included in the plans that are not addressed on the latest editions of the applicable standards.

The Consultant shall have complete responsibility for the accuracy and completeness of all documents and plans prepared. The plans will be reviewed by the City of Santa Ana for conformity with the requirements of the Agreement. Reviews by the City of Santa Ana DO NOT include detailed review or checking of design for the accuracy with which such designs are depicted in the documents and the plans. The documents and plans furnished under the Agreement shall be of a quality acceptable to the City of Santa Ana. The criteria for acceptance shall be a product of neat appearance, well organized, technically and grammatically correct, checked and dated, and having the maker and checker identified.

The Consultant shall have project management control procedures in effect during the entire time work is being performed under the Agreement. This task shall include the following:

- Project Management Plan- the consultant shall provide a detail management plan including information and coordination with other agencies to ensure compliance and completion of the (PS&E) packages. This plan shall include all milestones and task breakdown for each of the tasks and subtasks included therein. The project management shall be submitted to the Project Manager for review and within 15 calendar days of the issued Notice to Proceed
- Deliverables
- Quality Control/Quality Assurance (QA/QC) Plan
- Project Schedule/Invoicing
- Project Correspondence

**CITY OF SANTA ANA**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**ON-CALL WATER RESOURCES ENGINEERING SERVICES**  
**RFP NO. 22-002**

In case of conflict, ambiguities, discrepancies, errors, or omissions, the consultant shall submit the matter to the City for clarification.

**CITY RESPONSIBILITIES**

The City will provide information in its possession relevant to the preparation of the required information in the RFP. The City will provide only the staff assistance and the documentation specifically in referred to herein.

- Furnish scope of work and provide general direction as needed for the assigned project
- All plan check coordination within the City
- Advertise, award, and administer of construction contract
- Electronic files (sample plans & specifications, City of Santa Ana's CADD Standards)
- Electronic files for title sheets and sheet borders
- Facilitate meeting space and coordination and City facilities

**FEE PROPOSAL**

In addition to Section III.B.3 (Submittal Requirements: Fee Proposal) fee schedule shall be structured as follows:

**The fee proposal shall include the firm's standard hourly fee schedule, and/or project fee schedule where applicable and as outlined in this document. A list of all positions and hourly rates required to perform the services described herein.**

**A more detailed scope of work will be provided when/if a Task Order proposal is requested of a consultant. All tasks orders shall include the staff title, hours, hourly rate and totals as related to the project.**

**OTHER TERMS AND CONDITIONS**

1. The project will be implemented in compliance with the City of Santa Ana's policies, as well as Prevailing Wages and State/Federal Requirements.
2. The City regards the inclusion of California based designs, engineering, and construction professionals, facilities, and services as part of the Team to be highly desirable, but not mandatory.

**CITY OF SANTA ANA**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**ON-CALL WATER RESOURCES ENGINEERING SERVICES**  
**RFP NO. 22-002**

3. The City reserves the right to amend this Request for Proposal by addendum prior to the final dates of submission.
4. All reports, proposals, or other data or materials which are submitted shall become the sole property of the City of Santa Ana with the exception of the confidential Financial Capacity information and fee proposals.
5. All products used or developed in the execution of any contract resulting from this request will remain in the public domain at the completion of this project.
6. The City has an affirmative action program. The purpose of the affirmative action program is to encourage certified minority business enterprises and women business enterprises. All submitting firms must have established affirmative action programs approvable by the City. During the RFP stage, all firms will need to complete a “Certification of Non-Discrimination by Contractors” for each firm on their team.

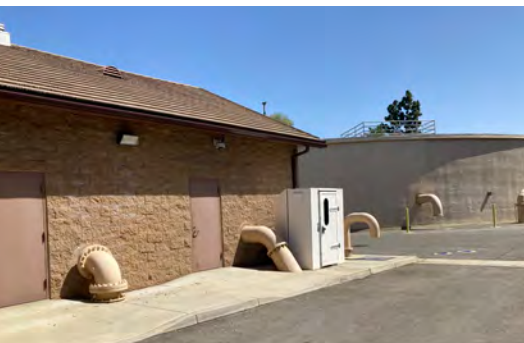
## **EXHIBIT B**



MAY 24, 2022



Proposal to Provide  
**ON-CALL WATER RESOURCES  
ENGINEERING SERVICES**  
RFP: 22-002



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# 1. STATEMENT OF QUALIFICATIONS

## a. COVER LETTER

May 24, 2022

City of Santa Ana-Water Resources Division  
Attn: Water Engineering  
220 S Daisy Ave (M-85)  
Building A, 2nd Floor  
Santa Ana, CA 92703

**SUBJECT: PROPOSAL TO PROVIDE ON-CALL WATER RESOURCES ENGINEERING SERVICES  
SUPPORTING CATEGORIES 1–4 (RFP: 22-002)**

Dear Selection Committee Members,

Ardurra Group, Inc. (Ardurra) appreciates this opportunity to present our qualifications to the City of Santa Ana to provide on-call water resources engineering services in support of the Water Resources Division. We are submitting this proposal for four categories: **1) Planning, Resources, and Design; 2) Construction Management; 3) Pipeline Design; and 4) Electrical, Instrumentation & Control.** We have assembled a team ready to provide the full range of services necessary for the successful delivery of your projects.

Selecting the Ardurra team offers the City the following benefits:

~ **Hands-on, dedicated contract manager supported by a team ready to assist through each phase of your projects.**

We take pride in our ability to embed ourselves as an extension of staff and continuously and professionally keep our client's best interest at the forefront. Our Contract Manager, **Mark Lewis, PE, TE**, is a proven leader with extensive water utility experience, including 13 years as the Director of Public Works/City Engineer at the City of Fountain Valley where he directed the operations, maintenance, and capital improvements of a full-service water system with an annual demand of approximately 10,000 acre feet (AF), over 17,500 connections, two 5-million-gallon (MG) reservoirs, six water production wells, and 1,700-AF demand and service for reclaimed/recycled water. He applies this expertise along with innovative and cost-saving solutions to all of his projects.

~ **The capacity to provide the right staff at the right time.** We have a deep bench of in-house engineers, hydraulic modelers, condition assessment experts, environmental compliance specialists, construction managers, and inspectors. Our team is competent, responsive, and conforms to California Building Standards Code/Title 24, City standards, codes and ordinances, federal grant requirements, Caltrans Local Assistance Procedures Manual (LAPM), Greenbook, APWA standards, AWWA standards and, where appropriate, LEED, DSA, and OSHPD standards.

**Ardurra has authorized Lisa Penna to sign this proposal and bind the firm.**

We look forward to teaming with the City and assisting with delivery of your projects. Please feel free to contact us should you have any questions or require additional information.

Respectfully submitted,

Lisa M. Penna, PE, F.ASCE, QSD  
Vice President, Regional Director  
Cell: 949.922.2800 | Email: lpenna@ardurra.com

Robert Weber, PE  
Southwest Water Practice Director  
Direct: 858.842.6978 | Email: rweber@ardurra.com



## b. CONTRACT AGREEMENT STATEMENT

Ardurra accepts the Consultant Agreement as provided in the City's RFP Appendix, Attachment 2.

## c. FIRM AND TEAM EXPERIENCE

### COMPANY OVERVIEW

Ranked 114 in *Engineering News-Record's* Top 500, Ardurra offers the resources of a large national firm with more than 925 employees in 50 offices across the country. We focus on seven key service areas including: public works/civil planning, design and construction management, water/wastewater planning design and construction management, environmental, land development, emergency management, structural engineering, and survey.

### Financial Capacity

Ardurra is in excellent financial condition. The business has grown substantially since its roots dating back more than 65 years. Incorporated in 1977, Ardurra has increased to more than 925 employees in 50 offices throughout the nation. The company has maintained profitability and built positive net worth on its balance sheet. There is no history of bankruptcy and no planned office closure or impending merger plans. We are in good standing with the State of California and in full compliance with state and federal Equal Employment Opportunity laws and regulations.

### COMPREHENSIVE LOCAL RESOURCE

As neighbors—with our nearby Newport Beach office and many of our team members being residents of surrounding communities—we are deeply invested in the City's success. With more than 100 professionals in Southern California, we have the depth of resources to respond quickly to your needs. Our local staff provides design, construction oversight and inspection, construction management and administration, program management, project management, electrical engineering, mechanical engineering, civil engineering planning, plan review and plan check, code compliance enforcement, environmental compliance, labor compliance, and grant administration. Our in-house capabilities also include as-needed municipal staff extension services, water and wastewater master planning and hydraulic modeling, CEQA/NEPA compliance, regulatory permitting, GIS design and implementation, sewer flow monitoring, and survey.

### CAPABILITIES TO MEET YOUR NEEDS

#### Category 1. Planning, Resources, and Design

As you will see in our organization chart on page 7, we have assembled a comprehensive team to address each scope item, and then some, so we are ready for any planning and feasibility studies, hydraulic modeling, and design work that may arise.



### Planning/Hydraulic Modeling

To assist agencies with moving master planned projects to the next level of detail, Ardurra is often called upon to prepare the preliminary design for a specific facility. We can also prepare water supply assessment for new development. These projects help our clients reach decisions about hydraulic analysis and pump selection, lift station site layouts, and construction phasing. In many instances, the preparation of such a preliminary design is the first step that we perform as part of the overall facility design. Example projects include:

- City of El Monte Sewer Master Plan and GIS Improvements (development of a sewer GIS database and associated sewer atlas maps through record drawing conversion; CCTV inspection of 330,000 LF sewer main; development of hydraulic model using InfoSWMM; asset management plan using CapPlan for InfoSWMM)
- City of Hesperia Water, Wastewater, and Recycled Water Master Plan (preparation of a water, wastewater, and recycled water master plan update that included the development of a water, sewer, and recycled water system hydraulic model through GIS integration, system demand projections to the year 2040, and a capital improvement program)
- City of Oceanside As-Needed Hydraulic Modeling Services [water and sewer hydraulic modeling (InfoWater and InfoSWMM) to perform water and sewer utility impact studies for proposed developments within the city]
- Elsinore Valley Municipal Water District Water and Sewer Utility Impact Study (digitized proposed water and sewer facilities into water and sewer models and performed hydraulic analysis to confirm the recommended sizes for the proposed water lines, water booster station, and sewer lines)

### Lift/Pump Stations

Our lift/pump station experience encompasses the design and condition assessment of pumping systems ranging from 130 gpm to 11,000+ gpm capacities and includes under constant- and variable-speed pumping conditions. Our experience includes

siting studies, conceptual and final design of facilities located in areas constrained by existing improvements, high volume traffic, or environmentally sensitive habitat. We have completed numerous designs requiring the continued operation of existing pumping systems or joint-use facilities during construction with special requirements for temporary pumping and highlining of existing facilities, and commissioning of new facilities. Example projects include:

- Vallecitos Water District Lift Station No. 1 Improvements (2,500 gpm sewer lift station)
- Oceanside Boulevard Lift Station (2,000 gpm sewer lift station)
- Lake Arrowhead Community Services District Pump Station 12 Replacement (2,400 gpm sewer lift station)
- City of Oceanside 511 Pump Station (3,125 gpm potable water pump station)
- Eastern Municipal Water District Murrieta Road Booster Pump Station (10,400 gpm potable water pump station)
- Olivenhain Municipal Water District Village Park Recycled Water Project [1,200 gpm (prefabricated) potable water pump station]



Village Park Recycled Water Project  
Olivenhain Municipal Water District

### Water Storage Tanks

Ardurra has extensive experience on a variety of reservoir and storage facility planning and design projects, including several reservoir rehabilitation projects. Our experience encompasses both small and large



Wulff Tank Replacement Project  
Vallecitos Water District

facilities, from prestressed concrete to steel, ranging from 0.10 MG to 53.0 MG; including the world's largest prestressed concrete reservoir – Vallecitos Water District's 40.0 MG Twin Oaks Reservoir No. 2. Example projects include:

- Vallecitos Water District Wulff Tank Replacement (0.35 MG steel tank)
- California Water Service Company Stations 119 & 120 Tanks (two 0.4 MG concrete tanks)
- City of San Diego Miramar Clearwells (two 29.5 MG partially buried/rectangular/cast-in-place clearwell basins with hopper bottoms)

- City of Mountain View Graham Reservoir (8.0 MG buried, circular, prestressed concrete tank)
- Eastern Municipal Water District Post Road (Ellis) Tank Replacement (3.5 MG welded steel tank)

### Wells

Our well experience includes production and monitoring wells constructed in various aquifer types including alluvium, fractured rock, and others. Some example projects include:

- City of Menlo Park Water Supply Emergency Backup Well Facility at City Corporation Yard (200-hp deep well submersible pump 5,000 gallon hydropneumatic tank)
- Elsinore Valley Municipal Water District Flagler Wells Project (conversion of two agricultural wells to potable service installation of vertical turbine well pumps)
- Elsinore Valley Municipal Water District Palomar Well Project (2,520 LF 16-inch PVC well flushing pipeline, 20-inch 1,000 deep new potable well designed at 1,200 gpm)
- Rancho California Water District Equipping Well 240 & Well 205 Replacement (demolition of existing Well 205; site plan and equipping for new Well 240 1,800 gpm vertical turbine wellhead)

### Water/Wastewater Treatment Plants

Ardurra has worked on several process modifications to both water and wastewater treatment plants of sizes ranging from small, medium, and large throughout California. These improvements have helped our clients mitigate flow violations, comply with regulatory requirements, and upgrade treatment plant processes to optimize plant operations. Example projects include:

- City of San Diego Alvarado Algae Plugging of Ozone Sample Lines Process Assistance (120 MGD plant)
- Fallbrook Public Utility District Santa Margarita Conjunctive Use Project (new 8 MGD RO plant)
- Leucadia Wastewater District Gafner Advanced Water Treatment Plant Rehabilitation (1.0 MGD plant)
- San Jose-Santa Clara Regional Wastewater Facility Emergency Diesel Generator Package 2A (110 MGD plant design-build)
- Lake Arrowhead Community Services District Bernina Water Treatment Plant Modifications (process upgrades, 4 MGD)

### Stormwater Facilities

Ardurra has designed numerous storm drain and stormwater facilities including collection systems, and complex pump stations and rehabilitation projects. Some examples include:

- City of San Diego Mission Hills NE Storm Drain Project (replacement of 9 existing corrugated metal pipe storm drain facilities)
- City of San Diego San Carlos Storm Drain Project (6,500 feet of 18- to 54-inch storm drains to replace deteriorated facilities)
- City of Sunnyvale Storm Pump Station No. 1 (two engine-driven pumps, 21,000 gpm each; one electric pump, 8,000 gpm)

## Environmental Compliance

We are known for providing robust and reader-friendly documents that are practical yet defensible, and are based on current legal precedents that shape CEQA/NEPA implementation. We understand that the lead agency often has more than one option in terms of how to proceed through environmental reviews, and that CEQA/NEPA compliance may require choices based on a balance between schedule urgency, cost, community sentiment, and risk of legal challenge. Our central responsibility is providing our clients with the information needed to consider the pro's, con's and potential outcomes of all options, allowing the client to make the best and most informed choices for project and long-term success. Examples of our environmental services are presented below:

- Vallecitos Water District San Elijo Hills Pump Station – Program EIR Addendum Agency Negotiations (Permit Triggers Avoided)
- City of Encinitas Olivenhain Trunk Sewer Improvements Project – EIR, CEQA Technical Studies and Community Outreach
- City of Menlo Park Emergency Water Supply Program – CEQA Constraints Assessment, Community Outreach, & Water Well Siting Evaluations
- Oceanside Boulevard Lift Station – Alternatives Development, IS/MND, and Community Outreach



San Elijo Hills Pump Station  
Vallecitos Water District

Our clients get successful projects and services, well-managed budgets, and **thoroughly satisfied stakeholders** because we work side-by-side with local and regional agency staff. This close working relationship develops collaboration with community and business stakeholders, and partners effectively with state and federal regulatory agencies. Local agencies like you get our proactive management approach, which carefully monitors program effectiveness and closely tracks work quality and cost. With these abilities and proven processes, our clients get a partner that routinely delivers multiple on-call projects under aggressive schedules and provides careful management, administration, and oversight of project development teams from inception to completion with committed and complete ownership of all aspects.

We deploy time-tested procedures and best management practices for the most vital project elements, such as:

- |                           |   |
|---------------------------|---|
| ▪ Safety                  | ▪ Utility coordination                            |
| ▪ Public outreach         | ▪ Documentation protocol and communication        |
| ▪ Schedule review         | ▪ Quality assurance                               |
| ▪ Measurement and payment | ▪ Labor compliance                                |
| ▪ Change management       | ▪ Project commissioning, acceptance, and closeout |
| ▪ Claims avoidance        |   |
| ▪ Budget and cash flow    |   |

## Category 2. Construction Management & Inspection

Since 2005, numerous municipalities and agencies throughout the region have entrusted Ardurra with their construction management (CM) and inspection needs. With an emphasis on practical, experienced, and cost-effective solutions, Ardurra offers capabilities ranging from local agency public works improvements to major water/wastewater infrastructure, transportation, and vertical building projects, as well as managing multi-project capital improvement programs.

Our team has experience with a wide range of projects, including water and sewer treatment and pumping facilities, storage, pipeline installation/rehabilitation, pavement rehabilitation, sidewalk and ADA pedestrian ramp installation, drainage improvement, and streetscape revitalization involving roadway reconstruction, decorative concrete sidewalks, landscaping, irrigation, traffic signals, street lighting, and water feature construction. In addition to the types of projects mentioned above, we also provide vertical construction management and inspection on projects such as fire stations, police departments, recreation centers, and libraries.

The objective of the CM team is to achieve a quality project on time and within budget while maintaining a safe construction site. Beyond the safe job sites and practices, the second most important aspect of construction support service is documentation. All Ardurra construction personnel are well-versed in CPM scheduling, construction means and methods, web-based documentation, WATCH requirements, and Greenbook General Specifications.

Our inspectors have a keen ability to understand and interpret plans and specifications and are intimately familiar with the Greenbook (Standard Specifications for Public Works Construction), Caltrans Standard Specifications, and OSHA Construction Safety Orders. They consistently follow verbal and written instructions, communicate clearly and concisely, both orally, and in writing. Clients rely on our inspectors for their ability to:

- ✓ Interact professionally with contractors, engineers, property owners, business owners, and the public at large.
- ✓ Coordinate with other City personnel.
- ✓ Promote quality customer service.
- ✓ Respond promptly and courteously to requests.



Not only is Ardurra successful at delivering CM and inspection services, but our CM and inspection professionals are considered leaders in the industry. They are frequently engaged to train public agency staffs and develop or improve standardized public agency department systems, procedures, and processes that incorporate industry best practices across capital project and development permit delivery.

### Project Controls/Document Control

We utilize highly effective administrative and clerical support as well as web-based construction management and document controls tools and procedures developed by construction managers and staff. These tools are scalable and can easily be tailored to fit the City's project delivery approach. Timely and concise communications are essential to the successful completion of any construction project. Protocol will be determined as appropriate for each project and maintained for the project duration. Ardurra equips its CM team with the state-of-the-art in electronic management hardware and software, such that electronic documentation is utilized for as much of the required documentation as possible. The Ardurra CM team is well-versed in serving as the primary project contact, acting as the hub of communication with timely distribution of requisite correspondence and documentation to all respective stakeholders as applicable.

In addition to time-tested and efficient construction administration and project controls procedures, documents, and programs, Ardurra offers the web-based collaboration of Procore. Procore is a widely used cloud-based construction software that maximizes the efficiency of managing construction projects while connecting project participants to critical project documents and real-time project data.

The Ardurra project controls process includes a detailed file indexing system for all project hard files. Ardurra has already developed customized forms, a reports database structure, and work breakdown structure well suited for typical public works projects. We will adapt our system to the specific needs of the project to monitor, track, and control the project. This detailed tracking system will enable us to provide an accurate assessment of the progress to the City with recommendations to maintain or improve adherence to the approved project schedule.

### Category 3. Pipeline Design

Our team's pipeline experience with public agencies extends from alignment planning and hydraulic modeling to condition assessment and rehabilitation of existing pipelines. Trenchless

pipeline design and construction is also one of our specialties.

Our pipeline experience encompasses water and recycled water pipes, gravity sewers and force mains, with sizes up to 96-inch diameter and all pipe types including commonly used welded steel, PVC, and DI, as well as pipe materials selected for special applications such as FRP, and HDPE and fusible PVC for trenchless construction. Our services have spanned hydraulic analyses, alignment studies, preliminary and final design, and construction support. We are experienced at designing and constructing pipelines under emergency conditions, through sensitive habitats and creeks, in highly developed residential areas, across open rural property, and within existing pavement traveled by daily commuters.

Some example pipeline projects include:

- Vallecitos Water District High Point Waterline (condition assessment)
- City of Pomona District 1, 4, & 6 Water Main Replacement (11,127 LF 6-inch, 16-inch, and 18-inch ductile iron)
- City of San Diego Upas Street Pipeline Replacement (14,980 LF 8-inch to 12-inch PVC; 8,160 LF 24-inch CML&C; 1,640 LF 30-inch HDPE HDD)
- Fallbrook Public Utility District Santa Margarita Conjunctive Use Project Pipelines (2 miles 24-inch CML&C)
- City of Carlsbad La Costa Recycled Water Pipeline (5,800 LF 8-inch PVC)
- City of Solana Beach Recycled Water Pipeline Extension – Phase 1 (5,900 LF 4-inch to 6-inch PVC)
- Leucadia Wastewater District Recycled Water Pipeline Repair Project (381 LF HDD 14-inch fusible PVC)
- Vallecitos Water District Discovery Street Sewer Replacement (4,000 LF 12-inch/15-inch gravity sewer)
- Vallecitos Water District Land Outfall Canyon (6,000 LF 24-inch DIP inverted siphon sewer)

Example Inspector Daily Report



La Costa Recycled Water Pipeline  
City of Carlsbad

- City of Encinitas Olivenhain Trunk Sewer Improvements (2,800 LF 15-inch trunk sewer)
- City of Oceanside Buena Vista Force Main Replacement (9,000 LF 24-inch PVC Auger bore & microtunnel)
- City of Oceanside Condition Assessment and Sewer Improvements (17,000 LF 24-inch sewer; 12,000 LF 42-inch force main)

#### Category 4. Electrical, Instrumentation & Control

Our team has experience with design, implementation, and project management of electrical system improvement and SCADA projects for water and wastewater treatment plants. Our expertise includes performing SCADA condition assessments, data analysis, creating HMI and PLC programming standards, and upgrading software and hardware. We have performed significant work helping clients decide how to move forward and then implement new solutions. Ardurra does this by working closely with staff, sometimes as staff augmentation, to learn what their concerns and needs are. Based on our extensive experience we then make recommendations on how to remedy those concerns. Example projects include:

- City of Oceanside Water Department SCADA System Upgrade (overall system redesign, various system and application upgrades, replacement of 3 legacy HMIs and 100 PLCs, installation of 2.4-GHz radio network, installation of over 20 new servers)
- Oklahoma City Water Utilities Trust Witcher Pump Station (replacement of the lagoon pumps, electrical gear, and the installation of new emergency generators along with paralleling switchgear at the main pump station)
- South Holly Water Treatment Plant High Service Pump Station Motor and Switchgear Replacement and Electrical Improvements (replacement of medium voltage motor control centers, transformers, 480V motor control centers, instrumentation and control design)

#### A COMPREHENSIVE TEAM COMMITTED TO YOUR SUCCESS

We understand the key issue for providing effective services is to be highly responsive and have the depth of resources locally available to fulfill your project needs. You will see this deep bench of local resources that we offer on the **organization chart illustrated on the following page.**

Our team is comprised of highly competent and experienced professionals who have numerous years of experience and an excellent history of success delivering water and sewer infrastructure and facilities—from preliminary planning to construction to post-construction and start-up.

Our staff members are well-trained in problem solving. We process all issues with a sense of urgency and present our clients

#### POINT OF CONTACT

**Mark Lewis, PE, TE**  
 Ardurra Project Director,  
 Municipal Services  
 3737 Birch Street, Suite 250  
 Newport Beach, CA 92660  
 Cell: 949.677.0391  
 Email: mlewis@ardurra.com



with suggested alternatives, cost and schedule affects, and recommended solutions that best suit the interests of the project and the City. Ardurra's effective and expeditious communication with all parties has enabled our team to identify conflicts, environmental concerns, construction problems, and coordination issues early, thus minimizing delays and reducing cost.

#### Team Availability

**We are there when you need us!** Ardurra's wide range of in-house capabilities enables us to provide the right staff at the right time.

The Ardurra team is available and ready to start working immediately on any task defined by the City. Our team members have a track record of delivering projects on schedule, and our service is greatly facilitated by the working relationships we have in place with our local specialty subconsultants. If an accelerated project delivery schedule is required, Ardurra has the depth to add more staff to get the work done. Our project managers are adept at allocating the right resources with the best mix of availability and expertise for the task assigned, and they can draw from our deep bench of experienced professionals to serve a large number of concurrent projects as needed.

The table on page 8 shows the estimated percentage of time available for our key personnel.

#### Resumes of Key Personnel

We have provided resumes for our key personnel as well as our subconsultants in Appendix B. We would be happy to provide resumes for our additional staff upon the City's request.

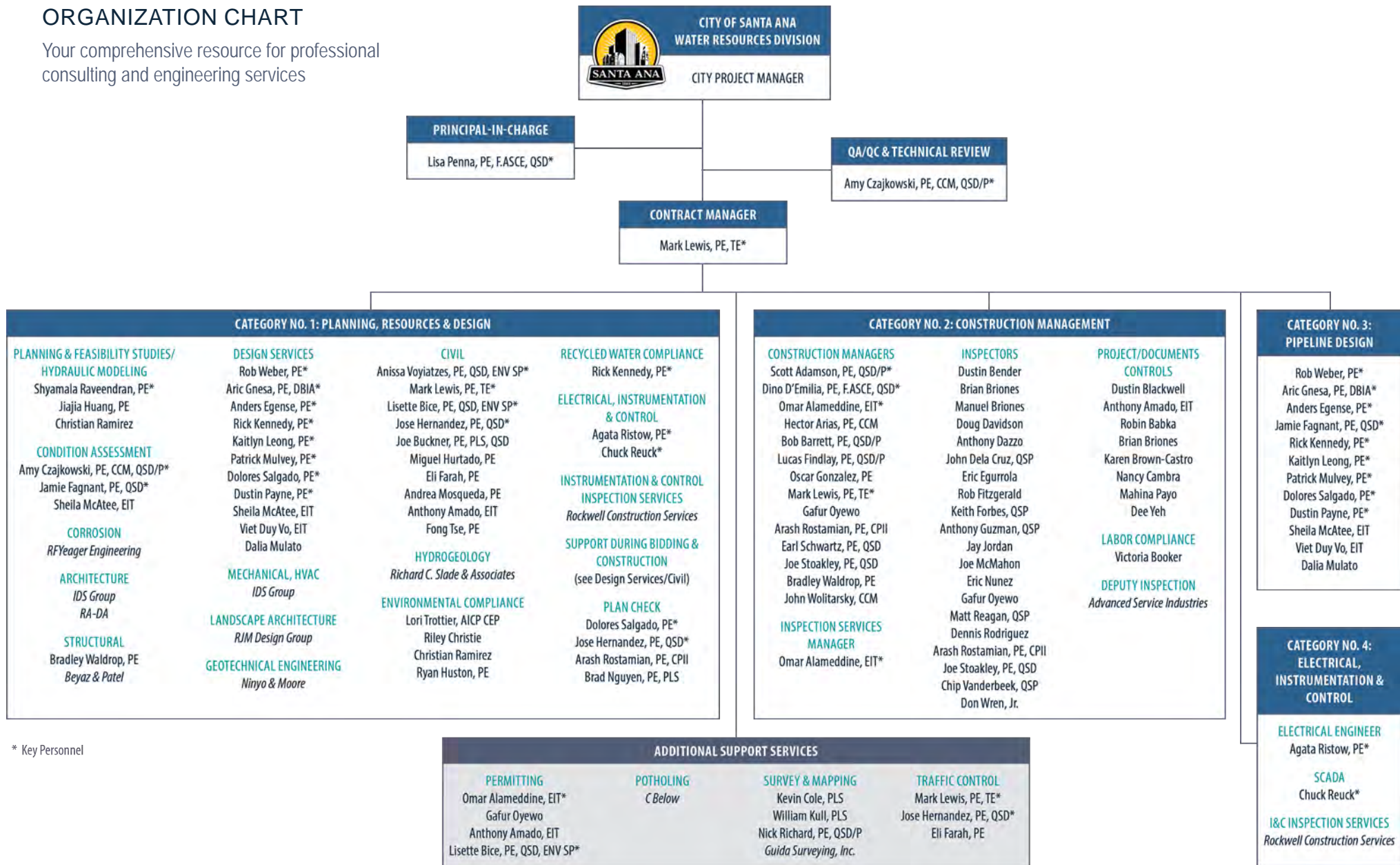
#### Specialty Services

We have augmented our team with specialized subconsultants who are experts in their respective fields. Ardurra has worked extensively with many of these exceptional firms. This long-standing alliance enables a streamlined approach and smooth coordination. Following the organization chart is a brief overview of the qualifications for our subconsultant partners.



## THE ARDURRA TEAM ORGANIZATION CHART

Your comprehensive resource for professional consulting and engineering services



\* Key Personnel

## TEAM AVAILABILITY

NAME/ROLE	% AVAILABLE
Lisa Penna/Principal-in-Charge	20%
Amy Czajkowski/QA/QC, Condition Assessment	25%
Mark Lewis/Contract Manager, Civil, Project Management, Traffic Engineering	50%
Shyamala Raveendran/Studies, Hydraulic Modeling	80%
Jamie Fagnant/Condition Assessment, Pipeline Design	80%
Rob Weber/Design Services, Pipeline Design	50%
Aric Gnesa/Design Services, Pipeline Design	60%
Rick Kennedy/Design, Recycled Water Compliance, Pipeline Design	80%
Kaitlyn Leong/Design Services, Pipeline Design	60%
Patrick Mulvey/Design Services, Pipeline Design	60%
Dolores Salgado/Design Services, Plan Check, Pipeline Design	60%
Anissa Voyiatzes/Civil	40%
Lisette Bice/Civil	80%
Jose Hernandez/Civil, Plan Check, Traffic Control	80%
Agata Ristow/Electrical, Instrumentation & Control	50%
Chuck Reuck/Electrical, Instrumentation & Control, SCADA	50%

*\*Availability was determined at the time of submittal and is subject to change. Availability for construction management and inspection personnel is dependent upon the timing of the project.*

Advanced Service Industries, Inc. | Deputy Inspection

Established in 2004, Advanced Service Industries, Inc. (ASI) specializes in construction inspection, materials and nondestructive testing and QA/QC services throughout California. ASI, a California certified Small Business Enterprise, and its inspectors and technicians carry certifications such as International Code Council; American Welding Society, Certified Welding Inspector; Division of the State Architect; Office of Statewide Health Planning and Development;



National Board of Boiler and Pressure Vessel Inspectors; American Society of Nondestructive Testing; American Concrete Institute; Caltrans; and other California regional jurisdictions.

Beyaz & Patel | Structural

For almost four decades, Beyaz & Patel, Inc., has specialized in the structural design and rehabilitation of facilities and infrastructure for utilities and buildings and has teamed with Ardurra on many past projects. Beyaz & Patel is currently providing **on-call structural assessment services for City-owned potable reservoirs such as Crooke Reservoir and John Garthe Reservoir for the City of Santa Ana**. Recognized as experts in their field, Beyaz & Patel has a reputation for delivering innovative designs that are reliable and cost-effective. In addition, its greatest asset—the firm's employees—adhere to strict quality control procedures, ensuring that work will exceed clients' expectations. Beyaz & Patel offers a wide range of structural services, including structural engineering and design, seismic evaluations, rehabilitation, feasibility analysis, facility condition assessments, value engineering, constructability reviews, and bid and construction support services. Beyaz & Patel is a certified Small Business Enterprise with various California agencies, including the Department of General Services. Additionally, Beyaz & Patel is a public works contractor registered with the California Department of Industrial Relations.

C Below | Potholing

C Below offers professional locating and mapping services throughout Southern California. C Below's highly experienced technicians utilize the most advanced equipment in the industry. They locate horizontal and vertical locations of underground utilities including water, gas power, waste, communications, and cable/TV. Many different methods are used to locate these utilities. These methods include GPR (ground penetrating radar), CCTV, utility locators, electromagnetic locators, and potholing. C Below has been in the utility locating business for 13 years and employs the most experienced technicians in the industry, some with over 10 years of experience. With more than 50 employees and its corporate office located in Chino and two satellite offices located in Eastvale and San Diego, C Below can mobilize quickly throughout central and southern California.

Guida Surveying, Inc. | Survey

Guida Surveying, Inc., is a multidiscipline land surveying firm that has provided surveying services throughout California since 1995. Guida employs over 90 highly skilled surveyors, field crews, and office personnel. By offering a depth of staffing resources, Guida provides flexibility to accommodate working off-hours, variable days, and locations. Guida utilizes a blend of traditional methods with new and innovative technologies for the creation and delivery

of the best and most accurate work products possible to its clients. Guida constantly looks for ways to utilize new equipment and software to efficiently solve complex survey challenges. Guida is a certified Small Business Enterprise (Department of General Services) as well as a certified Woman Owned Business Enterprise (California Public Utilities Commission). Additionally, the firm is registered with the Department of Industrial Relations.

#### [IDS Group | Architecture and Mechanical, HVAC](#)

IDS Group (IDS) is a multidisciplinary engineering and architectural consulting firm with roots spanning over 60 years. IDS's integrated design team provides added value through its specialized divisions, including structural, mechanical, plumbing, and electrical and civil engineering, as well as power and energy and architecture by operating under the same QA/QC principles and seamlessly coordinating the sharing of project data. IDS corporate infrastructure creates optimum utilization of resources for its staff of nearly 80 professionals, maximizing service efficiency. IDS embeds a value-oriented approach applying knowledge of applicable code standards.



#### [Ninyo & Moore | Geotechnical Engineering](#)

Ninyo & Moore Geotechnical and Environmental Sciences Consultants, a California Corporation, was established in 1986 to provide consulting services in geotechnical engineering, construction inspection and testing, engineering geology, hydrogeology, hazardous waste remediation, and environmental assessment. The experience of Ninyo & Moore's geotechnical staff encompasses projects including evaluations for roads, highways, storm drains, pipelines, treatment plants, power plants, bridges, municipal and commercial structures, educational, medical and recreational facilities, tunnels, tanks, reservoirs, dams, waste-to-energy facilities, transmission towers, harbors and off-shore structures, railroads, airports, low- and high-rise structures, landfills, and other public and private works. Ninyo & Moore's environmental staff has diverse experience in environmental assessments, water quality evaluations, environmental audits, regulatory compliance studies, water resources development, soil and groundwater contamination studies, and site remediation. Ninyo & Moore has three fully equipped, certified soils and materials testing laboratory facilities in southern California supervised by registered engineers. Ninyo & Moore's laboratories are certified by the American Association of State Highway and Transportation Officials, the Cement and Concrete Reference Laboratory, Caltrans, DSA, the City of Los Angeles, and many other agencies.



#### [RA-DA | Architecture](#)

RA-DA is a boutique design and architecture firm with the background, organizational and technical skills of a large firm. Based in West Hollywood, RA-DA was founded in 2006 by

RA-DA

Rania Alomar after a decade of working as a design lead for two prestigious architecture firms. Rania envisioned the firm as a nimble and highly creative entity with a focus on client service, and has since built its reputation into one of the strongest burgeoning design forces in the region. RA-DA's internal team of five architects and designers have consistently performed on all jobs and takes a personal interest in the success of each project. RA-DA personnel are each highly skilled in a variety of the current drafting and 3D tools and excel in presentation and design communication abilities, making it easier for clients to clearly understand all aspects of the proposed design at every stage. RA-DA provides full professional architectural design services, including site assessment, interior planning, concept design, programming, schematic design, design development, interior signage/graphic design, bid documents, construction documents, permitting, and construction administration.

#### [RFYeager Engineering | Corrosion](#)

RFYeager Engineering is a DVBE/SBE, SLBE/ELBE, and SCOOP certified corrosion engineering firm providing work primarily in the water and wastewater industries since 2004. RFYeager Engineering has extensive experience in corrosivity assessments, corrosion control/cathodic protection designs, corrosion control/cathodic protection inspections, corrosion assessments, and engineering support services. The firm is highly qualified in areas of corrosion control for water and wastewater systems, pipelines, reservoirs, treatment plants, pump stations, and pressure reducing stations. All work is conducted under qualified and certified personnel with over 60 years of combined experience and service in the corrosion engineering industry. As corrosion engineers, RFYeager Engineering's goal is to ensure the preservation of existing facilities and to maximize the life of new facilities. RFYeager Engineering has the expertise needed to recommend solutions to a variety of corrosion control issues, which ultimately saves clients time and money.



#### [Richard C. Slade & Associates LLC | Hydrogeology](#)

Richard C. Slade & Associates LLC (RCS) is comprised of groundwater geologists focused on the development, protection, and management of groundwater resources throughout California.

Whether it be evaluating the groundwater resource potential of a community or vineyard, siting and designing a new well, rehabilitating an existing well or wellfield, conducting pumping tests and drawdown interference analysis, or assessing water quality or other down-hole problems in your existing wells, RCS is available to help solve your groundwater issues. With a staff of seven full-time professional geologists, RCS is qualified to help you with your groundwater development needs and water well issues.





**RJM Design Group | Landscape Architecture**

Established in 1987, RJM Design Group has evolved into a multidisciplinary landscape architectural, planning, and design firm committed to serving the needs of cities, public agencies, and organizations throughout California. RJM is comprised of talented professionals, including licensed landscape architects, designers, and planners, most of whom are LEED Accredited Professionals. Services include schematic design, design development, sustainable design solutions, cost analysis, photo-realistic 3D renderings, parks and recreation master planning, custom park standards calculations, funding strategies, program inventory and assessment, operations and maintenance analysis, grant application assistance, design guidelines and standards, community consensus workshops, focus groups, stakeholder interviews, user group questionnaires, ESRI online geo-referenced surveys, multi-modal telephone surveys, construction documents, specifications, bidding services, construction observation, record drawings, on-call design development and review, plan check, and drone aviation (topographic analysis, grading quantity calculations, construction verification, construction progress monitoring, and aerial imagery).



1. Planning, Resources, and Design
2. Construction Management
3. Pipeline Design
4. Electrical, Instrumentation & Control

In the team organization chart on page 7, we matched our resources to each element within these four categories. As demonstrated in the next section, we have the experience necessary to respond to the City's needs and efficiently deliver projects in accordance with applicable codes and standards such as Title 24 of the California Code of Regulations (California Building Standards Code), American Water Works Association, California Department of Transportation, Americans with Disabilities Act, and City of Santa Ana Municipal Code. Our team also has the administrative management experience for all funding sources used to support your CIP program.

*Our goal is to be a true partner with the City, and we share your commitment to maintaining effective operation of the water system and sanitary sewer system; eliminating sewer main obstructions; reducing sewer maintenance requirements; preventing sewer spills; ensuring system reliability; and protecting water quality.*

**Rockwell Construction Services | Electrical, Instrumentation & Controls Inspection**

Rockwell Construction Services (RCS) offers electrical project review, inspection, and general construction management assistance specializing in the water/wastewater industry. Jim Hudson, Jim Harris, Bob Bellon, and Mark Birdsall, of RCS, have over 100 years of combined experience in the design, construction, and start-up and testing of electrical and instrumentation systems for water/wastewater facilities. RCS has worked with Ardurra on the construction management and inspection of many water/wastewater projects. RCS has taken an active role in coordinating with the contractor to properly install the required systems while adhering to industry standards and NEC requirements.

**APPROACH TO ON-CALL ENGINEERING DESIGN**

Ardurra has a history of providing services for large on-call contracts to numerous agencies within the region. Because of this experience, our approach to on-call work provides you streamlined delivery, improved communications, and enhanced project outcomes. We adapt this process to meet your needs and your project types. Our proactive management approach

**d. UNDERSTANDING OF NEED**

Based on the RFP and conversations with the City, we understand that the City of Santa Ana is seeking qualified firms to provide professional engineering services for planning, design, and construction support for domestic water, recycled water, sanitary sewer, storm sewer, and related facility projects over an initial three-year term with potential for an additional two-year extension. We understand that funding sources may vary for each project, which range from water and sewer main improvements to well rehabilitation, as listed on the City's 7-Year Capital Improvement Program (partial list shown at right). Our team brings extensive experience in these types of projects as well as for the following service categories listed in RFP Attachment 1 Scope of Work:

FY 22/23 SEWER IMPROVEMENTS	
98. Flower Street Sewer Main Improvements	
99. NE Annex Septic to Sewer Conversion	
100. Rene Drive Sewer Main Upgrade	
101. Wright Street Sewer Main Improvements	
<b>Subtotal FY22/23 SEWER IMPROVEMENTS</b>	
FY 22/23 WATER IMPROVEMENTS	
102. Bristol Street Water Main Improvements Phase 3A - Civic Center to Washington	
103. East & West Reservoirs Chlorine Buildings	
104. Euclid Street Water Main Improvements	
105. Fairview Street Water Main Improvements	
106. Grovemont Street Water Main Improvements	
107. NE Annex Septic to Sewer Improvements	
108. South Main Street Water Main Improvements	
<b>Subtotal FY22/23 WATER IMPROVEMENTS</b>	
FY 22/23 MUNICIPAL FACILITIES	
109. Well No. 32 - Rehabilitation	

Partial list from the City of Santa Ana's 7-Year Capital Improvement Program (FY2022–FY2028)

is outlined below and will be incorporated into your projects to ensure quality control from start to finish.

## A Reliable Process for Timely Project Delivery

We have mapped out what consistently works for our clients, allowing us to better manage our resources to react to your needs. We broke this process into five simple phases:

1. **Task Order Initiation Phase.** In this phase we listen to your needs, write a complete scope, negotiate a fair fee, and agree on a delivery schedule. We have a series of checks and balances built in because we want to start right on every task order.
2. **PA/ED Phase.** This phase delivers environmental approval. This phase interacts with the design phase and keeps your project from being derailed by unforeseen mitigation or regulatory roadblocks.
3. **Final Engineering Phase.** In this phase we work with your team to develop “ready to list” (RTL) packages from conceptual ideas. In this phase, we use the environmental clearance and mitigation documents as guidance for design constraints. This process is collaborative and provides you and stakeholders an opportunity to express your opinion about the technical solutions we propose.
4. **Construction Phase.** This phase is a critical step in interpreting and enforcing the plans, specifications, estimates, environmental mitigation, and contract obligations. With us on your team for this phase, you get a partner in a fast-paced and dynamic environment where we can help provide recommendations and field solutions on the fly.
5. **Closeout Phase.** We find this phase is sometimes the second most important (next to the Task Order Initiation Phase). It is during this phase that you finally realize the benefits of the hard work it took to complete the project. In this phase, we support your team to close out projects, get reimbursed (depending on funding), open projects to the public, and help celebrate your success.

## Task Order Procedure

Ardurra’s keys to success on as-needed contracts include our responsiveness, understanding of the City’s needs, capability and availability of qualified staff, and our historically successful comprehensive project management approach for on-call, multiple-task, multiple-year contracts.

Ardurra will commit sufficient resources to handle varying workloads that may result from multiple task orders progressing simultaneously, but technical strengths and resources are only of value if we manage those resources well. The Ardurra approach to effective project management starts with scope, schedule, and budget development, signed contracts, and kickoff meetings. The project manager then organizes the project management concepts for the duration of each task and the overall contract around a core framework of communication, coordination, thorough documentation, and quality

control for each submittal on each task. This effort does not end until we complete and file the record drawings.

The Ardurra team understands the importance of meeting deadlines in a timely manner. We commit to providing adequate staffing (both as to the number of personnel and their qualifications) for every task. Our approach is flexible and adaptive to each task, and we can also commit to making use of personnel from other offices throughout the company and bringing on additional staff. We can scale up or down as needed with a focus on our unmatched responsiveness.

Through our current on-call contracts, we have developed a proven task order process. It is an organized and streamlined approach for requesting, developing, and completing task order assignments. This process provides the City with teams available for multiple tasks off the on-call contract and a formal approach to respond to each task. Below, we summarize our proposed approach for completing the task orders.

- ~ **Step 1 – Initial Meeting with City Project Manager and Task Managers:** A meeting between the City’s Project Manager and the Ardurra task manager to be assigned to the work will be set up. Ardurra’s manager will discuss the request with the City’s Project Manager and discuss your goals and expectations, key project issues, appropriate personnel from our team to be assigned, services needed, schedule, approximate budget available, and assumptions for completing the work order.
- ~ **Step 2 – Develop Scope of Work and Team:** Ardurra’s task manager will then coordinate with key people from our team to prepare and submit a proposal for completing the work. Each team member will submit his or her scope to the task manager, who will then combine the individual scope into an overall scope and proposal for review by City. This procedure has worked successfully on our current and past on-call contracts.
- ~ **Step 3 – Notice to Proceed:** Once the City reviews, negotiates, and executes the task order, it will provide Ardurra a Notice to Proceed. If applicable, Ardurra will issue a subsequent notice to proceed to our subconsultant(s).
- ~ **Step 4 – Monthly Coordination/Progress Meetings:** We will hold meetings at a frequency to keep City staff apprised of the progress of the work. We will develop and maintain schedules to identify allowable work windows for completing project tasks and to keep the City’s Project Manager aware of the project progress.

## Critical Technical Elements

Our design team’s technical approach involves considering the following critical technical elements, depending on the type of project.

### Pipeline Design Technical Approach

- System and pump hydraulics/surge effects
- Alignment selection and easement acquisition
- Pipeline separation requirements
- Utility crossings, summarized on plan and profile sheets
- Corrosion issues, specialty coatings and materials
- Geotechnical/foundation conditions
- Environmental constraints
- Operation and maintenance issues
- Contracting strategies, scheduling, and budget control
- Traffic control
- Construction impacts (i.e., noise, dust)
- Compliance with regulatory requirements
- Where trenchless pipe construction is utilized, classification by OSHA
- Mining and tunnel unit (>30-inch diameter)
- Preparation of SWPPPs and other compliance requirements for the State's General Construction Permit and County
- For pipes in the public right-of-way, compliance with local agency municipal codes and ordinances regarding utility installations, traffic control, street resurfacing, and potholing activities

Typically, the most challenging aspect of underground pipeline design and construction is definition of existing facilities or utilities, particularly when there is sparse or no information. Our team utilizes a methodical and detailed utility research and plotting procedure that provides for a high level of confidence with respect to the locations of subsurface utilities. Our procedure is generally outlined as follows:

- ✓ Upon authorization by the City, contact USA Dig-Alert to obtain a pre-planning request, which provides a listing of existing utility agencies in the project areas. Establish one point of contact at Ardurra to serve as project utility coordinator and be responsible for tracking and documenting all utility requests and responses.
- ✓ From the USA Dig-Alert pre-planning list, contact all utility agencies in or around the proposed work area to establish contact information and lines of communication.
- ✓ Send to each utility agency a Utility Notice of Planned Improvements to formally request their system maps and record drawings.
- ✓ The project utility coordinator will review information received for responsiveness and completeness, and will follow up with phone calls or in-person visits to agencies as necessary.
- ✓ Plot the utilities, along with proposed horizontal and vertical alignments (depending on submittal milestone). Send to each agency a set of plans for conflict check at each submittal milestone. Incorporate comments as necessary.
- ✓ Once the utility base map is established, perform QA/QC including a field review to determine if all the plotted information is accurate with field conditions.

- ✓ If necessary, perform potholing to obtain actual field data for key utility crossings or parallel utilities of interest.
- ✓ Document and track the process at each step. Agencies are sent plans at each milestone regardless of whether or not there are conflicts, or conflicts have been resolved, due to potential changes in alignment, existing utilities, or agency review personnel.
- ✓ All utility information is plotted in the plan and profile sheets and summarized in a crossing table.

*Our utility research procedure has resulted in an excellent track record of avoiding conflicts during pipeline construction.*

### Sewage Lift Station Technical Approach

- Review of system hydraulics and pump selection
- Lift station control strategies and integration into SCADA system
- Integration into energy management system and time of use pumping
- Electrical/instrumentation requirements
- Power supply and standby power
- Site selection and acquisition
- Seismic/structural issues
- Corrosion issues, specialty coatings and materials
- Odor control
- Operation and maintenance issues
- Contracting strategies, scheduling, and budget control
- Noise, aesthetics, and community concerns
- Safety pre-use analysis
- Emergency storage

### Pump Station Technical Approach

- Review of system hydraulics and pump selection
- Booster station control strategies and integration into SCADA system
- Integration into energy management system and time of use pumping
- Electrical/instrumentation requirements
- Power supply and standby power
- Site selection and acquisition
- Seismic/structural issues
- Corrosion issues, specialty coatings and materials
- Operation and maintenance issues
- Contracting strategies, scheduling, and budget control
- Noise, aesthetics, and community concerns
- Safety pre-use analysis

### Storage Facility Technical Approach

- System hydraulics
- Tank type
- Site configuration
- Geotechnical/foundation conditions
- Earthwork and grading
- Water quality and circulation



- Operational and maintenance requirements
- Safety features for roof access and confined space entry
- Integration into SCADA system
- Stormwater control facilities
- Visual aesthetics
- Traffic and noise impacts during construction

#### Special Considerations for Wastewater Facilities

- Pumping of solids and miscellaneous materials such as rags must be addressed in the lift station planning and mechanical design.
- Configuring facilities to properly handle planned discharges such as wash down, as well as unplanned discharges like overflows, must respect regulatory constraints and may require special features to control flows (e.g., discharge to a sewer).
- Compliance with regulatory requirements, coupled with early coordination with regulators, is paramount to smooth project approval.
- Maintaining facilities in service during construction.

#### Special Considerations for Non-Potable Facilities

- Stored water quality can be more difficult to maintain and therefore requires special attention regarding the tank volume, residence time in the tank and circulation.
- A higher degree of settlement in storage facilities can lead to the need for more frequent and special equipment for clean-out operations.
- Configuring facilities to properly handle planned discharges such as wash down, as well as unplanned discharges like tank overflows, must respect regulatory constraints and may require special features to control flows (e.g., discharge to a sewer).
- Compliance with regulatory requirements, coupled with early coordination with regulators, is paramount to smooth project approval.

### Project Management Approach

We've derived our project management approach from many years of experience and proven success, and it includes very specific strategies: coordination, communication, and documentation.

- ~ **COORDINATION:** All task orders require coordination. This may include coordination with other City departments, local agencies, and stakeholders. The Ardurra team has years of experience with major on-call contracts with Southern California agencies. These on-call contracts require similar coordination efforts in which Ardurra has established and maintained outside-agency contacts, coordinated the designs with their staff, and received the approvals to move the project forward. This knowledge and understanding of working with other agencies provides great benefit to you for each project.
- ~ **COMMUNICATION:** Ardurra has a formal, proactive communication plan to share critical project information as soon as possible and to make sure there are no surprises.

We continuously report progress, identify problems, assign priorities, receive feedback, and document progress. From project start-up through project closeout, we will prioritize our communication to make sure we document and address all required actions timely. We assure you that your team and our team will always know the status of your projects. This level of coordination, coupled with the project progress meetings, helps avoid project issues and delays, and ensures that the project is on schedule and within budget. Ardurra has used this management approach with great success on all types and sizes of projects.

- ~ **DOCUMENTATION:** Proper documentation is critical for all projects. We have a thorough understanding of the document control procedures required for civil engineering and other types of projects for a variety of funding sources. Ardurra's document control management policies comply with the City's requirements. Our typical monthly project progress reports include the status of deliverables, utility and outside-agency efforts, cost and schedule snapshot and analysis, issues discussion, and recommended resolution actions. We will tailor monthly progress reports to the City's needs for each project. In combination, Ardurra's tools and efficiency in coordination, communications, and documentation provide the City with a transparent process for the duration of the contract.

### Quality Assurance and Quality Control

QA/QC is an ongoing task throughout the duration of the project. Ardurra takes seriously the responsibility for the accuracy and completeness of our work products. We base our QA/QC Program upon the belief that nothing is more important than design quality.

Quality control refers to quality-related activities associated with the creation of the project deliverables. Quality control is used to verify that deliverables are of acceptable quality and that they are complete and correct. Ardurra quality control activities include deliverable peer reviews and the plan check process.

Quality control is the check or analysis that determines the acceptability of the project deliverables. Tasks related to quality control will include documented reviews of reports, drawings, specifications and opinions of cost, independent review of calculations, etc. Quality control reviews will occur with each submittal.

The Ardurra quality control program also compares the project deliverables against the original scope of work, project objectives and client expectations, which were developed before the project started. Ardurra quality control is a work product-based approach. We check whether the deliverables satisfy the quality requirements and the scope of work. Depending upon the results, the design team will take suitable corrective action. Quality control begins once the project design begins.

Based on the City's requirements and standards developed during the quality assurance process, the quality control team checks whether the work products (reports, plans, specifications, cost estimates, etc.) meet all those requirements with each submittal.

Our project manager and quality assurance manager will develop and implement a project-specific QA/QC plan. This plan includes project-specific checklists to verify quality throughout the project. The quality control manager for the project ensures that the project manager addresses all checklist items. Besides quality control by the project manager, a quality control committee comprising at least two registered engineers who are not involved in the project, will review the project documents. The review committee will do a technical evaluation of the calculations, plans, cost estimate, and the project specifications. The review committee submits comments to the project manager for review during a subsequent meeting. We will make the results of our in-house QA/QC plan available for review by the City and the entire Ardurra team.

**We have the added benefit of providing constructability review by our construction management group as a standard practice.** Their review comes from the contractor's perspective and synchronizes the construction documents to eliminate potential change orders.

## e. RELEVANT PROJECT EXPERIENCE

### Mountain View St. Condominiums | City of Santa Ana

The project is located in an urbanized area referred to as the Riverview West Neighborhood within the city of Santa Ana. The project involves demolishing two existing single-family residential dwelling units at 301 & 305 North Mountain View Street and the development of eight condominium dwelling units. The project requires a Tentative Tract Map, General Plan Amendment and Zone Change for project implementation and to bring adjacent properties to the north and south between 5th Street and 1st Street into compliance.

Ardurra provided CEQA analysis and documentation for the proposed redevelopment and discretionary components for the project. CEQA compliance will be used for discretionary approval, including tribal consultation support pursuant to AB52 and SB18 to the City for noticing and consultation. Ardurra provided

#### Category

1

#### Client Contact

City of Santa Ana  
Jerry Guevara, Associate Planner  
714.647.5481  
jguevara@santa-ana.org

#### Year Completed

2020

#### Consultant Project Manager

Lori Trottier

technical analyses for trip generation comparison, vehicle miles traveled screening analysis, air quality, greenhouse gas, energy, noise, and historical resources.

Ardurra completed the City of Santa Ana's Environmental Checklist, a site visit, research and technical analysis. Ardurra produced a CEQA Initial Study documenting baseline conditions, changes from project implementation, and potentially significant impacts from construction and permanent increase in density requiring mitigation. Ardurra incorporated staff comments and finalized an IS/MND for the City that provided a clear administrative record for the Planning Division's Notice of Determination and Findings of Fact. Our team also provided a Mitigation Monitoring and Reporting Program (MMRP), Notice of Intent to Adopt a Mitigated Negative Declaration and Notice of Completion.

Ardurra's CEQA IS/MND evaluated impacts from redevelopment of 301 & 305 N Mountain View Street: demolition of 3 structures and paved areas totaling 17,424 square feet; approval of a Tentative Tract Map, General Plan and Zoning Code Amendments, and development of 8 multi-family units and common area recreation and access. The project involved subdivision of land for condominium development and modification of the City of Santa Ana's Codes and Ordinances pertaining to permitted land use, development, and allowed densities of the General Plan, Zoning Code and Municipal Code for 19 parcels on 8.7 acres located within the surrounding residential block.

### Municipal Engineering and Project Management | City of Seal Beach

Ardurra has completed several projects for the City of Seal Beach during the last 5 years. Engineering services have included providing civil engineering, geotechnical, traffic and survey services for various projects within the city. Improvements have included the design of water and sewer main reconstruction, alley paving, the upgrade or addition of ADA ramps, pavement rehabilitation, hydrology and hydraulic calculations and the preparation of a proposed storm drain report.

Ardurra is currently providing the City with constructability review and project management for the City's 6th Street Alley Improvement Project (including waterline and sewer replacement) and Sewer Pump Station #35. Improvements include the design of water and sewer main reconstruction, alley paving, installation of empty fiber optic conduit for future fiber, and ancillary

#### Categories

1, 2, 3

#### Client Contact

City of Seal Beach  
Iris Lee, Deputy Public Works Director/City Engineer  
562.431.2527 ext. 1322  
ilee@sealbeachca.gov

#### Year Completed

Ongoing since 2012

#### Consultant Project Manager

Mark Lewis



improvements followed by concrete paving of the entire width of the alley. The Pump Station #35 project provides for upgraded/new dry well and wet well for the pump station.

For the Ocean Place Development project, Ardurra is providing plan checking and inspection for grading and

construction of the road and utility infrastructure that will support Ocean Place, which is a neighborhood of 30 luxury homes in an environmentally sensitive beach front location. Services are focused on the grading and construction of street improvements, storm drains, domestic water and sanitary sewer lines. Of importance will be ensuring the use of stormwater management best practices and compliance with the terms of a California Coastal Commission development permit since the project is in an environmentally sensitive area. The project will include a 6.5-acre public park to be turned over to the City by the developer. Long known by Seal Beach locals as “the DPW Property,” the land was once the site of a Los Angeles Department of Public Works steam-generating plant, built in 1925. The plant was shut down in 1951 and demolished in 1967.

Plan check services have included review of the hydrology and hydraulic analysis, grading plans, street plans, traffic striping and signing, street lighting, signal plans, storm drain plans, utility plans, landscaping and planting, WQMP, sewer and water plans.

### On-Call Utility Support | City of Huntington Beach

Ardurra was awarded an on-call civil engineering, survey, and consulting services contract with the City of Huntington Beach for the next three years for various public works infrastructure projects, including rehabilitation of roads, alleys, curb, gutter, and sidewalks within the public right-of-way, as well as off-street improvements such as rehabilitation of City parking lots.

Utility support has involved staff augmentation for management support, mentoring, as well as program and project development. Projects include development of a 5-year funding strategy for upgrades to stormwater pump station facilities, as well as preparation of project bid specifications for implementation. Other projects include development of on-call specifications for the City's

#### Category

1

#### Client Contact

City of Huntington Beach  
Sean Crumby, Director of Public Works  
714.536.5431  
sean.crumby@surfcity-hb.org

#### Year Completed

Ongoing since 2021

#### Consultant Project Manager

Mark Lewis

sewer lateral program, a multi-year program to consolidate domestic and irrigation delivery system, and program-level specifications to assist the City with conversion from chlorine gas to onsite chlorine generation for all of the City's water production facilities.

### Anaheim Public Utilities Department As-Needed Engineering | City of Anaheim

Under an as-needed engineering contract, Ardurra is currently working on or recently completed the following projects for the City of Anaheim:

- **Oak Hills Reservoir Recoating and Upgrades Project.** This project involves various improvements at the Oak Hills Reservoir site, including recoating of the reservoir exterior roof and spot repair of coating on the exterior walls; reservoir safety upgrades; repairs to the reservoir vents; modifications to the reservoir overflow to meet DDW requirements; modifications to the reservoir cathodic protection system; replacement of the reservoir level sensor; replacement of existing valving and piping on the inlet and outlet pipelines to improve operation of the reservoir and overall water system; installation of new onsite water and sewer connections; and remediation of ground settlement issues in the northwest corner of the site. The project also includes other tasks at different sites nearby the Oak Hills Reservoir site, such as replacement of the existing electrical cabinet at the Summit Inlet/Outlet Structure; and coating touch-up of the recovery vessel and associated piping and appurtenances at the Lenain Wash Water Recovery Facility.
- **WRDF Present Worth Analysis 2021201-01.** The City tasked Ardurra with the responsibility of reviewing the net present value for three alternative directions moving forward regarding the City of Anaheim Water Recycling Demonstration Facility (WRDF). The three alternatives evaluated include: 1) expanding the facility capacity from 50,000 to 100,000 gpm; 2) shutting down and repurposing the facility; and 3) maintaining the facility as is and proceeding with equipment replacement and maintenance as required for operation. Key project components include evaluating costs in the current climate for capital equipment replacement and additions, maintenance, operations, and labor; determining the fiscal, environmental, political, social, and logistical benefits for each option; and utilizing data from research, analysis, and correspondence with the City to provide a full and accurate picture of the current and possible future status of the City's WRDF.

#### Categories

1, 4

#### Client Contact

City of Anaheim, Public Utilities  
David Watson, Project Manager  
310.864.2157  
dwatson@anaheim.net

#### Year Completed

Ongoing since 2019

#### Consultant Project Managers

Rob Weber, Patrick Mulvey



- **Safety Improvements at 18 Sites.** The project included design services for 18 sites requiring safety upgrades. A PDR was prepared as well as final design services including drawings and specifications. Key components of the project included design of safety handrails, ladder anchor posts, sealed block-self retracting lifeline, fixed ladders, safety guardrails, davit arms, and other safety improvements and retrofits at existing sites.

## Capital Improvement Projects | City of Anaheim

Ardurra provides project management and construction management services to oversee completion of more than \$57 million in capital improvement projects for the City of Anaheim since 2017. Projects and services have included the following:

- **Fire Station No. 5.** Contract administration and CM for \$5.4M design-build construction of a 9,400-SF fire station on one acre that included parking, driveways, sidewalks, walls, fences, landscaping, water, sewer gas, telephone/cable and electrical utilities, transmissions lines and facilities. *Winner of 2018 BEST Award from the APWA Southern California chapter.*
- **Indiana Street Water Main Replacement.** One of the City's first design-build projects. This design-build project consists of the construction of approximately 2,400 LF of 6-inch ductile iron CL 52 zinc-coated water main, and 200 LF of 8-inch ductile iron CL 52 zinc-coated water main. The project also included the replacement of fire hydrants, valves, water services, and appurtenant structures.
- **Imperial Highway and Big Sky Lane Water Main Replacement.** This design-build project consists of the construction of approximately 3,580 LF of 12-inch C909 water main, 1,542 LF of 8-inch C909 water main, and 250 LF of 4-inch C909 water main.
- **Santa Ana St. Railroad Water Main Crossing with Metrolink/SCRRA.** This project consists of boring and jacking trenchless installation method, furnishing, and installing approximately 70 LF of 24-inch steel casing pipe welded joints and 12-inch zinc-coated ductile iron pipe class 56 and by open-cut construction method, furnishing and installing approximately 75 LF of 12-inch zinc-coated ductile iron pipe class 52.
- **Citywide Sanitary Sewer Improvement Program/Projects, Group 6.** Contract administration and CM for \$2M project to build more than 4,200 LF of 24-inch, 18-inch, 15-inch and

### Categories

2

### Client Contact

City of Anaheim  
Jake Hester, Water Engineering  
& Design Manager  
714.765.4421  
jhester@anaheim.net

### Year Completed

Ongoing since 2017

### Consultant Project Managers

Omar Alameddine

- 10-inch VCP sewer mainline. Included 19 manholes, removing the existing mainline and manholes, rebuilding the street and installing new traffic loops, striping and pavement markers.
- **La Palma Water Complex – Reservoir Rehabilitation and Pump Station Replacement.** Provided contract administration for \$9.3M project. Managed demolition of 3-MG reservoir and pump station and rehabilitation of 4-MG reservoir, construction of new pump station, and abandonment of inactive well.
- **Olive Street 16-inch Water Main Replacement and Roadway Restoration Project.** CM for the improvement of water system reliability by replacing old 10- and 6-inch cast iron pipe with new 16-inch ductile iron pipe. The project also included the replacement of fire hydrants, valves, water services, and appurtenant structures.
- **Lincoln Avenue 16-inch Water Main from Beach Boulevard to Dale Avenue.** Contract administration for \$2M project to construct more than 5,300 LF of 16-, 12-, 10-, 8-, 6- and 4-inch ductile iron pipe, 12 fire hydrants, and more than 58,500 SF of asphalt concrete paving.
- **Underground Conversion Plan Projects.** Contract administration and CM management for the following projects as part of the City's Underground Conversion Five-Year Plan and Wildfire Mitigation Plan. The initiative is relocating overhead power and communications systems underground and is intended to improve aesthetics, replace antiquated equipment, and enhance the reliability of the area's electrical system.
- **Rehabilitation of Pressure Regulating Stations (PRS) 30 and 31 and Relocation of PRS-32 and -43 and Construction of New PRS-73.** Contract administration and CM services for completion of various on-call water utilities projects.

## As-Needed Engineering Design Services | Leucadia Wastewater District

As a prime consultant, Ardurra provided as-needed engineering services on a task order delivery basis to the Leucadia Wastewater District starting in 2006. Services have encompassed a wide variety of tasks to support all aspects of the District's capital and operational needs including planning and hydraulic modeling, GIS support services, flow monitoring, engineering design, cost estimating, plan preparation, office engineering during construction, and construction inspection. The following list includes highlights of the several task orders Ardurra completed for the District:

### Categories

1, 2, 3

### Client Contact

Leucadia Wastewater District  
Robin Morishita, Technical  
Services Manager  
760.753.0155 x3007  
rmorishita@lwwd.org

### Year Completed

Ongoing since 2006

### Consultant Project Managers

Rob Weber

- **FY21 Gravity Line Rehabilitation | Currently in Construction | \$343,000.** 6,600 LF CIPPL District-wide, replacement of dead-end clean-outs with new manholes, and miscellaneous point repairs.
- **Leucadia Pump Station | December 2021 | \$3.2M.** Condition assessment and preliminary and final design for a 4.0-MGD wastewater lift station. The Leucadia Pump Station is the District's largest pump station with four 200-hp variable speed driven (VFD) pumps currently in place. This rehabilitation project included the replacement of the four large pumps with three slightly smaller 150-hp pumps and two 25-hp jockey pumps to accommodate the wide range of flows to the pump station. The project will include the reuse of two relatively new 200 hp VFDs for two of the new 150 hp pumps, all new ductile iron piping, valve and appurtenances. The new pumps will be dry pit submersible type. The T-locked wet well will be repaired, and odor control equipment and other minor equipment replaced.
- **Encinitas Estates Pump Station | November 2020 | \$1.8M.** Replacement of an existing pump station that was at the end of its useful life. The new station was designed as a wet well/ valve vault style with dual lead/lag submersible pumps and emergency power supply.
- **FY20 Gravity Line Rehabilitation | July 2020 | \$1.3M.** Replace 12 clean-outs with new manholes, 955 LF of CIPPL, 4 point repairs.
- **FY18 District-Wide Cured-in-Place Pipe Lining | November 2018 | \$700,000.** Over 7,000 LF CIPPL, 16 cured-in-place manhole linings, two epoxy manhole liners, several excavated point repairs.
- **FY17 Gravity Line Rehabilitation | September 2017 | \$938,000.** 2,468 LF CIPPL, 6 cured-in-place manhole liners, 3 epoxy manhole rehabilitations.
- **Lanikai Trunk Sewer Rehabilitation | September 2017 | \$235,000.** Design of a cured-in-place pipe liner through North County Transit District (NCTD) right-of-way for a 21-inch vitrified clay trunk sewer. Cured-in-place pipe lining included analysis and inclusion of Cooper E80 rail loading on the fully structural pipe rehabilitation. Project challenges included detailing a conceptual bypass plan for bypassing the trunk sewer to the other side of the NCTD railway.
- **La Costa Golf Course Gravity Line Improvements | July 2017 | \$18,700.** Feasibility, preliminary design and final design of sewer improvements to mitigate infiltration in an existing gravity sewer. The project ultimately consisted of approximately 100 LF of gravity sewer relocation on private property and abandonment in place of the existing gravity sewer. Project also included coordination with Omni La Costa Spa and Resort and two home owner's associations (HOA). Coordination of landscape plans with HOAs.

## Ontario Ranch, Phase 2 Water Main Improvements | City of Ontario

The City of Ontario is anticipating major development within the 925 pressure zone (PZ), including the New Model Colony (NMC) that began construction in 2021. To meet the immediate water demands of Phase 1 entitlements, the City is moving forward with final design and construction of:

- Approximately 2 miles of 18-inch potable water main in Chino Avenue between Grove Avenue and the Cucamonga Creek channel (1010 PZ), where it will connect to an existing 18-inch potable water main west of the channel crossing
- Approximately 1.5 miles of 42-inch potable water main in Grove Avenue between Eucalyptus Avenue and Chino Avenue (925 PZ), where it will connect to a 24-inch potable water main
- Pressure reducing station at the intersection of Grove Ave/ Chino Ave to break pressure from the 1010 PZ to 925 PZ

Future development within the 925 PZ is expected in the next several years. To meet future water demands of Phase 2 entitlements, the City hired Ardurra to develop a comprehensive technical study to evaluate and select a preferred alignment for approximately 2.6 miles of a future 42-inch water main. The water main will convey water between the 1010 PZ to a future water supply site, which will include a 9-MG reservoir and two wells with total capacity of 2,500 gpm. The future water supply site will be located on Bon View Avenue north of Francis Street. The future 42-inch water main will convey water north to the future reservoir for storage and convey water south to Phase 2 entitled developments.

Phased development poses a challenge when locating the water mains in streets that are programmed to be widened in the future. The City's Water System Design Criteria states, "Potable water lines shall be located on south side or east side of the street and out of the main traveled lanes of the road where possible. Locate 8 feet from the curb face or berm." The project includes analyzing ROW impacts and providing recommendations.

The new water mains and pressure reducing station are a part of the Ontario Ranch – West, Phase 2 planned region backbone infrastructure, where Phase 1 will allow for the development of up to 5,600 gpm maximum day water demand. New water mains are to be installed prior to roadway widening and ROW acquisition. Alternative alignment locations factor in City standards, existing utilities, existing ROW, and future ROW.

### Categories

1, 3

### Client Contact

City of Ontario/Ontario  
Municipal Utilities Company  
Omar Gonzalez, Principal  
Engineer  
909.395.2578  
oegonzalez@ontarioca.gov

### Year Completed

2022

### Consultant Project Managers

Dolores Salgado



## San Antonio Avenue Transmission Water Main | Ontario Municipal Water Company

The Ontario Municipal Water Company owns a 20-MG reservoir (1212-1A) and a 2-MG reservoir (1212-1B), both located at Fern Reservoir Park on 8th Street between Euclid Avenue and San Antonio Avenue in the city of Upland. The reservoirs serve pressure zone (PZ) 1212 via an existing 18-inch-diameter steel pipeline.

The project proposes to construct a new 30-inch-diameter pipeline that connects to the Reservoir 1212-1A outlet and abandon the existing 18-inch-diameter pipeline in place.

The project consists of approximately 2,900 linear feet of new 30-inch cement mortar lined and coated welded steel pipe (CML&C WSP); and abandonment of approximately 3,700 linear feet of existing 18-inch steel pipe.

### Categories

1, 3

### Client Contact

Ontario Municipal Utilities Company  
Cynthia Heredia-Torres,  
Assistant Engineer  
909.395.2647  
ctorres@ontarioca.gov

### Year Completed

2022

### Consultant Project Managers

Dolores Salgado

## On-Call Public Works/Capital Improvement Program | Irvine Ranch Water District

Under an on-call contract, Ardurra provides Irvine Ranch Water District with public works inspection services for new water and sewer main pipeline installations for multiple master-planned communities in the agency's service area.

The team is currently inspecting more than 100 water infrastructure projects, in part for development of Irvine's 1,300-acre Great Park master-planned community. Full-time inspectors monitor construction such as the installation of new water mains up to 36 inches in diameter, water service connections, firefighting facilities, potable and recycled water wells, and street resurfacing. Projects have included:

- **Tustin Legacy Development Domestic Water.** Inspected C900 domestic water main lines and appurtenances. Installation of C900 8-inch fire line and fire hydrants. Inspected 2-inch to 1-inch copper domestic water services, valve boxes, and risers.

### Categories

2

### Client Contact

Irvine Ranch Water District  
Kelly Lew, Principal Engineer,  
Development Inspection Services  
949.453.5586  
Klew@irwd.com

### Year Completed

Ongoing since 2012

### Consultant Project Managers

Omar Alameddine

- **Tustin Legacy Sewer.** Inspected installation of SDR 35 sewer mains ranging from 8-inch to 12-inch, plus 4-inch laterals, clean-outs, sewer manholes and manhole covers.
- **Campus Pavement Rehab (Capital).** Inventory and raise to grade existing IRWD utilities including domestic and recycle water boxes, sewer clean-out boxes, and sewer manholes.
- **Street Improvements (Capital).** Inventory and raise to grade existing IRWD utilities including domestic and recycle water boxes, sewer clean-out boxes, and sewer manholes.
- **Technology Drive/I-5 Freeway Rehab (Capital).** Inspected C900 domestic water main lines and appurtenances. Installation of C900 8-inch fire line, plus fire hydrants. Inspected all 2-inch to 1-inch copper domestic water services, all valve boxes, and risers.
- **Street Rehab and Slurry Seal.** Inventory and raise to grade existing IRWD utilities including domestic and recycle water boxes, sewer clean-out boxes, and sewer manholes.
- **14430 Myford Road (Capital).** Industrial complex raise to grade recycle water valves.
- **Water Infrastructure Construction, Heritage Fields/ Great Park Development and Orchard Hills Development.** Water main construction and installation, domestic water, sewer main construction, and installation.
- **Water Infrastructure Construction, Portola Springs Development.** Domestic water main construction and installation.
- **Water Infrastructure Construction, Stonegate Village (multi-neighborhood residential development).** Domestic water main construction and installation, sewer main construction, and installation.
- **Water Infrastructure Construction, Enclave 3 Development.** Domestic water main construction and installation.



## On-Call Engineering | South Coast Water District

Ardurra has worked on the following projects under its current on-call contract with South Coast Water District:

- **30 Acres Site Water and Sewer Facilities.** South Coast Water District plans to locate three new portable buildings at the site for District's use as temporary office space. The buildings require new water service, new sewer service, and a new gravity sewer main to connect the site laterals to existing sewer facilities approximately 500 LF south of the building site. The project includes a civil site plan, design of new electrical power service, and communications connection to the District's Groundwater Recover Facility with approximately 2,000 LF of new buried fiber optic.

- **LTM Replacement/Repair Options at Calle Vista Torito.** The LTM is approximately 34,000 linear feet (6.5 miles) of pipeline, ranging in size from 24 to 36 inches in diameter, primarily constructed of concrete cylinder pipe (CCP). Due to several recent leaks, the District identified four potential repair, replacement or rehabilitation alternatives.

Categories

1, 3, 4

Client Contact

South Coast Water District  
Taryn Kjolsing, Engineering Manager  
949.342.1154  
tkjolsing@scwd.org

Year Completed

Ongoing since 2021

Consultant Project Managers

Aric Gnesa

The project includes engineering services to evaluate these alternatives with all pertinent factors, develop additional alternatives if feasible, and provide recommendations.

- **Via Sacramento Water Main Improvements.** This project involves the replacement of approximately 560 LF of 8-inch ACP with 8-inch PVC pipe, 10 services, 2 fire hydrants, and 1 valve cluster. The existing pipeline is located in the parkway off of Via Sacramento from Camino Capistrano to Via Espinoza in Dana Point. The project includes design, surveying, potholing, and construction phase services. The project also involves developing PS&E for the proposed pipeline replacement.

## A-2 Lift Station Rehabilitation | Elsinore Valley

### Municipal Water District

Ardurra was chosen by the Elsinore Valley Municipal Water District to provide construction management and inspection services on this lift station rehabilitation project.

The project consisted of the rehabilitation of an existing 3,600-gpm lift station located within the city of Lake Elsinore. Ardurra provided a construction manager and a site inspector. Our construction manager's responsibilities included

general contract administration, submittal review, RFI review and processing, coordination with outside agencies and stakeholders, and change order preparation and processing. Our inspector provided day-to-day site inspection, coordination with the District's operation staff, and coordination of special inspection services.

In addition to the services provided by Ardurra, our scope involved subconsultants for more specialized inspection services, including Rockwell Construction Services for electrical and SCADA services.

Categories

2, 4

Client Contact

Elsinore Valley Municipal Water District  
Jason Dafforn, Director of Engineering/Water Resources  
951.434.4708  
jdafforn@evmwd.net

Year Completed

2019

Consultant Project Managers

Scott Adamson

## Oceanside Staff Augmentation | City of Oceanside

Ardurra was chosen by the City as staff augmentation to provide project management and design services to upgrade the City's SCADA system. Responsible for upgrading software and hardware at four treatment plants and over 70 remote sites. Our team managed over 50 servers during the conversion process, many of which were virtualized. The work involved replacing over 100 PLCs and replacing two legacy iFix SCADA systems and one standalone Intouch SCADA system and integrated them into one SCADA system running Wonderware System Platform.

We designed new network layouts that increased system autonomy and redundancy. We were heavily involved in troubleshooting the new 2.4-GHz radio network connectivity issues. Additionally, we assisted with implementing new WIMs for department wide use. While working at the City, we attended the Water Loss Prevention class and assisted Oceanside staff in data gathering for their annual water loss audit for 2017 and 2018.

Categories

1, 4

Client Contact

City of Oceanside Water Dept.  
Al Ramirez, SCADA Supervisor  
760.801.0068  
ARamirez@oceansideca.org

Year Completed

2019

Consultant Project Managers

Chuck Reuck

## Various Electrical Engineering Projects\*

Ardurra is proud to offer the in-house expertise of a **California-registered electrical engineer**: Agata Ristow. Her experience encompasses design, implementation, and project management of electrical system improvement and SCADA projects for water and wastewater treatment plants across the nation. Agata's resume is attached in Appendix B, but below are a couple highlights of her relevant project experience.

- **South Holly WTP High Service Pump Station Motor and Switchgear Replacement and Electrical Improvements, City of Fort Worth.\*** Provided design for the replacement of medium voltage motor control centers, transformers, 480V motor control centers, instrumentation and control design.
- **Witcher Pump Station, Oklahoma City Water Utilities Trust.\*** Replacement of the lagoon pumps, electrical gear, and the installation of new emergency generators along with paralleling switchgear at the main pump station.

Categories

1, 4

Client Contact

City of Fort Worth Water Dept.  
Chris Harder, Water Director  
817.392.5020  
Christopher.Harder@FortWorthTexas.gov  
(Project: South Holly WTP)

Year Completed

2022

Consultant Project Managers

Agata Ristow\* (personal experience prior to Ardurra)

## f. REFERENCES

Our history of successfully delivering projects efficiently and within budget is the reason clients continually return to Ardurra. We are proud of our track record of providing quality services, to which our references below will attest.

Agency	Contact Name, Phone, Email	Associated Project
City of Anaheim	Jake Hester, Water Engineering and Design Manager 714.765.4421 jhester@anaheim.net	Capital Improvement Projects (ongoing since 2017); As-Needed Engineering (ongoing since 2021)
City of Ontario/Ontario Municipal Utilities Company	Omar Gonzalez, Principal Engineer 909.395.2578 oegonzalez@ontarioca.gov	Ontario Ranch, Phase 2 Water Main Improvements (2022)
City of Huntington Beach	Sean Crumby, Director of Public Works 714.536.5431 sean.crumby@surfcity-hb.org	On-Call Utility Support Services (ongoing since 2021)

## 2. SCOPE OF SERVICES AND SCHEDULE

Ardurra has assembled a comprehensive team to provide professional engineering services for planning, design, and construction support for domestic water, recycled water, sanitary sewer, storm sewer, and related facility projects. We are proposing to support the City in the following categories provided in Attachment 1, Scope of Work of the RFP:

1. Planning, Resources, and Design
2. Construction Management
3. Pipeline Design
4. Electrical, Instrumentation & Control

All work will be performed to industry standards and will reflect the thoroughness, attention to detail and professional knowledge expected in all associated project phases. If a task order proposal is issued, we will prepare a detailed scope of work and project schedule that includes critical milestones for that specific project.

We have established tried and true project management controls over the years. Five key strategies help keep our projects on time and budget:

- ~ **Planning** – Early planning increases the understanding of the project, the quality of the solution, ownership of the tasks among team members, and ultimately the success of the project.
- ~ **Monitoring** – Our project managers use task lists, progress reports, critical path management (CPM) schedules, financial data, and quality control processes to monitor and control projects.
- ~ **Schedule Management** – Our team is fluent in scheduling tools. These tools produce a CPM Gantt chart to identify items that are critical in the production of our work so we

can be proactive. We will update this schedule regularly and review the schedule, task list, progress reports, and plans at project meetings to be sure that we continue to make progress throughout the project life.

- ~ **Financial Management** – Our project team uses financial data in the regular development of invoices and to compare planned project expenditures with our CPM schedule. Upon successful negotiation of a task order, our project manager will develop a projected billings chart “S-curve” to forecast work efforts throughout the assignment. On a monthly basis, we will use this information internally to develop a value analysis. This value analysis helps us understand trends for the project and provides for early identification of potential staffing under- or over-runs. These trends help us stay ahead and provide for better resource management.
- ~ **Quality Management** – A Quality Management Plan will be established at the beginning of each project and implemented throughout the duration of the project. Ardurra takes seriously the responsibility for the accuracy and completeness of our work products.

## 3. FEE PROPOSAL

Hourly rates are enclosed in a separate sealed envelope and separate electronic file, per RFP requirements.

## 4. CERTIFICATIONS

The Non-Collusion Affidavit, Non-Lobbying Certification, and Non-Discrimination Certification forms are attached in Appendix A. We have also provided Non-Discrimination Certification forms for each of our subconsultants.





## APPENDIX A: CERTIFICATIONS

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NON-COLLUSION AFFIDAVIT  
(Title 23 United States Code Section 112 and  
Public Contract Code Section 7106)

To the CITY OF SANTA ANA DEPARTMENT OF PUBLIC WORKS

In accordance with Title 23 United States Code Section 112 and Public Contract Code 7106 the BIDDER declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the BIDDER has not directly or indirectly induced or solicited any other BIDDER to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived or agreed with any BIDDER or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the BIDDER has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the BIDDER or any BIDDER, or to fix any overhead, profit, or cost element of the bid price, or of that of any other BIDDER, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the BIDDER has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Non-collusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Non-collusion Affidavit. BIDDERS are cautioned that making a false certification may subject the certifier to criminal prosecution.

Signed \_\_\_\_\_

*Lisa M. Penna*

State of California

County of Orange

Subscribed and sworn to (or affirmed) before me on this 16<sup>th</sup> day of May, 2022 by Lisa M. Penna, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.



*Shadi Kassem*

Notary Public Signature

Notary Public Seal

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### NON-LOBBYING CERTIFICATION

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence any officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant loan, loan or cooperative agreement, the undersigned shall complete and submit a "Disclosure of Lobbying Activities".

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U. S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such sub recipients shall certify and disclose accordingly.

Firm Ardurra Group, Inc.

Signed and Printed Name:  LISA M. PENNA

Title Vice President, Regional Director

Date May 24, 2022



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### NON-DISCRIMINATION CERTIFICATION

The undersigned consultant or corporate officer, during the performance of this contract, certifies as follows:

1. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Consultant shall, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Consultant shall send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Consultant shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Consultant shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation, to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Consultant's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Consultant shall include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted

by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a sub-consultant or vendor as a result of such direction by the administering agency, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

8. Pursuant to California Labor Code Section 1735, as added by Chapter 643 Stats. 1939, and as amended,

No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicaps, mental condition, marital status, or sex of such persons, except as provided in Section 1420, and any consultant of public works violating this Section is subject to all the penalties imposed for a violation of the Chapter.

Signed:   
LISA M. PENNA

Title: Vice President, Regional Director

Firm: Ardurra Group, Inc.

Date: May 24, 2022

### NON-DISCRIMINATION CERTIFICATION

The undersigned consultant or corporate officer, during the performance of this contract, certifies as follows:

1. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Consultant shall, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Consultant shall send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Consultant shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Consultant shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation, to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Consultant's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Consultant shall include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted

by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a sub-consultant or vendor as a result of such direction by the administering agency, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

8. Pursuant to California Labor Code Section 1735, as added by Chapter 643 Stats. 1939, and as amended,

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Signed:		Marshall Westfall	
		2022.05.13 16:34:44 -07'00'	Marshall Westfall
Title:	<u>President/CEO</u>		
Firm:	<u>Advanced Service Industries, Inc.</u>		
Date:	<u>05/13/2022</u>		

### NON-DISCRIMINATION CERTIFICATION

The undersigned consultant or corporate officer, during the performance of this contract, certifies as follows:

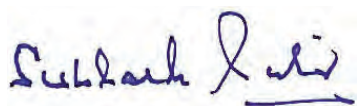
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Signed:	
Title:	President
Firm:	Beyaz & Patel, Inc.
Date:	May 16, 2022

### NON-DISCRIMINATION CERTIFICATION

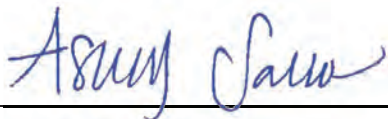
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Signed:   
Vice President of Operations  
Title: \_\_\_\_\_  
Firm: C Below, Inc.  
Date: 05/16/2022

### NON-DISCRIMINATION CERTIFICATION

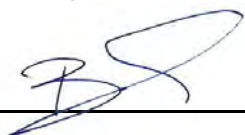
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Signed:  \_\_\_\_\_  
Title: Executive Vice President \_\_\_\_\_  
Firm: Guida Surveying, Inc. \_\_\_\_\_  
Date: 5/13/22 \_\_\_\_\_



### NON-DISCRIMINATION CERTIFICATION


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Signed:  \_\_\_\_\_

Title: Principal

Firm: IDS Group, Inc.

Date: May 19, 2022

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Signed:  \_\_\_\_\_  
Title: Michael Putt  
Firm: Ninyo & Moore  
Date: May 13, 2022

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Signed: Rania Alomar 

Title: Principal

Firm: Rania Alomar Architect, Inc. bda RA-DA

Date: 05/13/2022

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Signed:	 <small>Digitally signed by Richard F. Yeager Jr., PE DN: cn=Richard F. Yeager Jr., PE, o=RF Yeager Engineering Inc., ou, email=RFYeager@RFYeager.com, c=US Date: 2022.05.17 10:35:38 -07'00'</small>
Title:	President
Firm:	RF Yeager Engineering Inc.
Date:	05.17.2022

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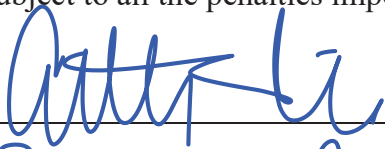
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Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Date: \_\_\_\_\_

  
PRINCIPAL GROUNDWATER GEOLOGIST  
RICHARD C. SLADE & ASSOC LLC  
5/17/2022



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4. The Consultant shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Consultant shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation, to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Consultant's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Consultant shall include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted

by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a sub-consultant or vendor as a result of such direction by the administering agency, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

8. Pursuant to California Labor Code Section 1735, as added by Chapter 643 Stats. 1939, and as amended,

No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicaps, mental condition, marital status, or sex of such persons, except as provided in Section 1420, and any consultant of public works violating this Section is subject to all the penalties imposed for a violation of the Chapter.



Signed: \_\_\_\_\_  
Title: President  
Firm: RJM Design Group, Inc.  
Date: May 19, 2022

### NON-DISCRIMINATION CERTIFICATION


The undersigned consultant or corporate officer, during the performance of this contract, certifies as follows:

1. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Consultant shall, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Consultant shall send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Consultant's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Consultant shall comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The Consultant shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation, to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Consultant's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, the contract may be canceled, terminated, or suspended in whole or in part and the Consultant may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulations, or order of the Secretary of Labor, or as otherwise provided by law.
7. The Consultant shall include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted

by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontract or purchase order as the administering agency may direct as means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Consultant becomes involved in, or is threatened with, litigation with a sub-consultant or vendor as a result of such direction by the administering agency, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

8. Pursuant to California Labor Code Section 1735, as added by Chapter 643 Stats. 1939, and as amended,

No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical handicaps, mental condition, marital status, or sex of such persons, except as provided in Section 1420, and any consultant of public works violating this Section is subject to all the penalties imposed for a violation of the Chapter.

Signed:   
Title: PRESIDENT  
Firm: ROCKWELL CONSTRUCTION SERVICES, LLC  
Date: 5/16/22





## APPENDIX B: RESUMES



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### Education

BS/1986/Civil Engineering, California State University, Long Beach  
Post Graduate Coursework Wastewater Treatment/Water Resources

### Registrations

1998/PE/Civil/CA #59166

### Certifications

Qualified SWPPP Developer (QSD)  
Qualified SWPPP Practitioner (QSP)  
#59166

### Professional Affiliations

American Society of Civil Engineers (ASCE), Fellow  
American Public Works Association (APWA), Member  
American Council of Engineering Companies (ACEC), Orange County President-elect  
Past Educator, Rancho Santiago Community College, Public Works Program, Santa Ana, CA

### Publications

Stormwater Strategy,  
*Civil Engineering*, 2003

### Awards and Recognition

2020/ASCE Outstanding Civil Engineer in the Private Sector – in Recognition of Contributions to Civil Engineering  
2016/APWA BEST Awards Top Leader of the Year in the Private Sector

**Years of Experience:** 39



## Lisa M. Penna, PE, F.ASCE, QSD

### Principal-in-Charge

Lisa M. Penna, PE, F.ASCE, QSD, Vice President, Regional Director at Ardurra, brings broad experience in public works engineering, project and construction management. She has served in key technical and management roles in projects involving flood control, transportation, water, wastewater and environmental. Her experience includes planning, design, inspection, construction, and the development of short- and long-term capital improvement programs.

Lisa has worked with numerous local agencies and water districts throughout Southern California. In addition, her experience includes conceptual planning, environmental studies, preliminary engineering, plans, specifications and estimates, and construction management of roadways, drainage and flood control, wastewater and urban runoff and hydraulic modeling. During her career, Lisa has engaged in the planning, design, and construction of millions of dollars in public works projects.

Through Lisa's experience with local capital projects and project/program management, she is knowledgeable in NEPA and CEQA requirements, federal grant requirements, GreenBook and APWA standards and many public agency policies and procedures. She has actively participated in the Public Works education program at Santiago Canyon College in Orange, CA, where she has taught several courses and contributed to the development of the curriculum. Lisa served as Deputy City Engineer for the City of Seal Beach between 1993 and 1995, Assistant City Engineer for the City of Laguna Beach from 1998 to 2000, as Deputy City Engineer for the City of Dana Point from 2000 to 2002, and as CIP Program Manager for Laguna Beach from 2009 to 2013 helping the City deliver more than \$10 million in capital projects.

### RELEVANT EXPERIENCE

**Fountain Valley 15-Year Sewer CIP Phase 1 Planning, Phase 2 Design, Phase 3 Construction Management, City of Fountain Valley, CA.** Principal-in-Charge/Project Manager responsible for the City's Year Two Sewer Capital Improvement Program planning, design and construction. The Year 2 CIP projects include a total of 19 segments scattered throughout the City's service area. These 19 segments total approximately 5,300 LF of sewer reconstruction or repair and consist of approximately 2,350 LF of new sewers, 1,700 LF of plastic liner, 950 LF of pipe bursting, and 300 LF of spot repairs. The Phase 1 project scope of work analyzed the City's recently completed 15-year CIP to recommend projects to complete in FY 2010/11 (year 2 of the CIP). The Phase 2 project scope of work included providing bidding assistance, engineering construction support, geotechnical investigation, survey and optional services associated with the preparation of traffic control plans and utility potholing.

**Ocean Avenue Alley Waterline and Sewer Replacements Project from Main Street to 1st Street Design Services, City of Seal Beach, CA.** Principal-in-Charge/Project Manager responsible for this \$1.6-million project to prepare full design plans, specifications and cost estimates for alley pavement improvements and associated utilities

**Fountain Valley 15-Year Sewer Master Plan Supplement, City of Fountain Valley, CA.** Principal-in-Charge/Project Manager responsible for this \$3-million project to perform a condition assessment using CCTV inspection, update the City's GIS with current information and prepare recommended CIP improvements.

**On-Call Civil Engineering and Project Management, City of Long Beach, CA.** Principal-in-Charge for this contract for municipal engineering services. Ardurra has provided plans, specifications and cost estimates for more than \$15 million in public works improvements since 2009.

## LISA M. PENNA | ARDURRA | Page 2

**Capital Improvement Program Management, City of Newport Beach, CA.** Project Manager for multiple capital projects and policies, including an ADA transition plan, standards updates, Pacific Coast Highway relinquishment, signal maintenance contract oversight, a street lighting policy review, CIP master scheduling, wastewater master plan review and a plan review of the Civic Center project.

**OC-9 Transmission Pipeline, City of Huntington Beach, CA.** Project Manager for installation of more than 15,000 LF of 32-inch-diameter PVC and ductile iron water transmission pipeline. The project installed a corrosion protection system, a new distribution pipeline and new fire hydrant assemblies. The cost was approximately \$12 million.

**Circle Way Storm Drain and Stair Repair, City of Laguna Beach, CA.** Principal-in-Charge for \$1-million beach access improvements project. Oversaw design and construction process. Project upgraded the 18-inch-diameter reinforced concrete pipe (RCP) storm drain to a 60-inch RCP with an aesthetically treated flap gate at the ocean outlet. In addition, the project made improvements to the hilltop stairs accessing the beach, installed a continuous deflective separation (CDS) urban runoff diversion, moved water lines and sewer pipelines and upgraded landscaping, irrigation and electrical.

**Clean Water Program, City of San Diego, CA.** Construction Manager responsible for all activities associated with change and claims management for the \$10-billion clean water program. The program included the construction of new wastewater and recycled water pipelines, treatment plants, energy facilities, lift stations and tunnels throughout San Diego County. Responsibility also included monthly reporting and quality control.

**Lift Station No. 2 Pump Replacement, South Coast Water District, City of Laguna Beach, CA.** Principal-in-Charge for the design engineering of the District's main sewage lift station. The facility collects wastewater from South Laguna Beach and conveys it to the South Orange County Wastewater Authority Treatment Plant. The project evaluated replacement of two pumps and motor assemblies.

**On-Call Engineering Services, City of Lake Forest, CA.** Principal-in-Charge for this multi-year contract providing staff augmentation services. Responsibilities include municipal engineering, development land use application and permit plan review, public works inspection, capital improvement project design, construction management and inspection, and water quality program management.

**Waterline Replacement Program, City of Bell Gardens and Paramount, CA.** Design engineer responsible for many of the City's water distribution main replacement projects, including design of ductile iron and PVC distribution mains, fire hydrant placement, water services and other appearances.

**Sewer Assessment District No. 195, City of Norco, CA.** Project Manager/Design Engineer responsible for 80 miles of sewer collection pipelines installed to alleviate reliance on underground septic facilities.

**Sewer Collection System, City of Laguna Beach, CA.** Project Manager responsible for the design and construction of over 30,000 LF of new collector sewers to re-route plumbing systems from unmaintainable residential lots.

**Los Robles Area Sewer Reconstruction, City of Laguna Beach, CA.** Project Manager for this sewer rehabilitation project, responsible for design and construction of abandonment of over 7,500 LF of existing sewers in easements along private property and the construction of new sewers in the public right-of-way fronting the properties. The project was extremely challenging in that each individual private residence had to be "re-lateraled" to the new public sewer in the street.

**Belmont Shore Sewage Lift Station, Long Beach Water Department, Belmont Shore, CA.** Project Engineer (Lead Design Engineer and Construction Manager) responsible for this lift station rehabilitation project, which included a new building, a modern telemetry system, three 250-horsepower variable speed powered pumps and the construction of a temporary lift station to provide service while the new lift station was being constructed. This lift station rehabilitation project, located in the heart of the Belmont Shore community, was implemented to facilitate the increased wastewater flows generated by the upstream communities of Naples and South Long Beach.

**Five Grade Separation Engineering Plan Check, Orange County Transportation Authority, Orange County, CA.** Water, sewer, drainage plan checker responsible for risk analysis, plan review, and extensive coordination. Responsible for quality assurance and reviewing other design teams' plans for constructability, bidability, and cost efficiency as well as adherence to local agency requirements. The project design criteria review addressed BNSF, Metrolink, AREMA, three cities, one county, the transportation authority, the flood control district, and several utilities' specifications. Ardurra was responsible for providing constructability reviews for the utilities including sewer, water, bridges and roadway PS&E of five grade separation projects in the BNSF/Metrolink Corridor through Placentia, Fullerton and Anaheim at Orangethorpe, Lakeview, Tustin/Rose, Placentia and Kraemer.

**South Laguna Streetscape and Pedestrian Improvements, City of Laguna Beach, CA.** Project manager responsible for project and construction management of several capital projects including this \$2-million TEA grant funded community improvement project. Responsible for the planning, design, CEQA/ NEPA compliance, grant funding insurance, traffic engineering, R/W engineering, landscape architecture, community liaison and construction management.



### Education

BS/1992/Civil Engineering/Virginia  
Polytechnic Institute and State Univ.

### Registrations

1999/PE/CA # C59082  
20210 CMCI Certified Construction  
Manager (A1762)

### Certifications

California Stormwater Quality  
Association(CASQA) Qualified SWPPP  
Developer (QSD) & Qualified SWPPP  
Practitioner (QSP) Certification  
#24758 (recertification pending)  
Legally Responsible Party (LRP) -  
City of Oceanside

### Software

Primavera P6, Project Management

### Presentations

Instructor CCM Course – Contract  
Administration, CMAA, 2016

### Professional Affiliations

Construction Management  
Association of America  
American Water Works Association  
San Diego County Water Works Group  
American Council of Engineering  
Companies of California  
American Society of Civil Engineers,  
Pipeline and Environmental Group,  
President, 2002-2003

**Years of Experience:** 29



## Amy Czajkowski, PE, CCM, QSD/P

### QA/QC & Technical Review, Condition Assessment

In her 29 years of serving water districts, municipalities, and purveyors, Amy Czajkowski, PE, CCM, QSD/P, has gained recognition for system planning, design engineering, and construction management of public water and wastewater infrastructure projects. She is recognized for her project management, thorough design review and plan checking, and ability to work with a variety of contractors and permit applicants. An additional specialty of hers is stormwater management, which includes design services, assisting with permitting compliance, and performing inspection for effectiveness of BMP systems during construction. She has conducted master plans for water and sewer services, assessed impact fees, and developed capital improvement programs to ensure adequate service. She has managed onsite capital improvement projects and served as extension of staff acting on behalf of the client.

Amy's engineering design experience includes pump and lift stations, conveyance systems, reservoir storage, and treatment facilities. Her onsite construction experience, combined with her extensive research of material and equipment performance allows her to avoid constructability problems and reduce costs. In addition to being a Certified Construction Manager, Amy is both a certified QSD and QSP giving her the experience and flexibility to make changes in the field and ensure the project-specific or overall plans, such as SUSUMPs, HMPs, etc., are effectively implemented. Regardless of the size or complexity of the project, she focuses on complete and accurate engineering, as well as understanding her clients' needs.

### RELEVANT EXPERIENCE

**Near-Term Water Supply and CIP, Elsinore Valley Municipal Water District, Lake Elsinore, CA.** Program Manager for more than 40 CIP construction management and design projects ranging in construction value from \$300,000 to \$10 million. The CIP execution rate was over 90% and all projects were completed on time and with an overall 2% change order rate. Responsibilities included project budgeting; preparation of requests for proposals; preparation of reports for internal District committees, and the District council; oral presentations at committee, commission, and Council meetings; and management of emergency situations.

**Flagler Wells Pipeline Conversion, Elsinore Valley Municipal Water District, Lake Elsinore, CA.** Rehabilitation of 2 groundwater wells (combined yield 1,200 gpm), construction of new pump station, 20-inch steel pipeline, and connection into a 42-inch CMLC.

**Engineering Services for the Program/Project Management of Capital Improvement Plan, Long Beach Water Department (LBWD), Long Beach, CA.** Program Manager responsible for delivering engineering services for the program and project management of the CIP for LBWD. LBWD is undertaking an aggressive CIP program that ranges from new well water supply projects to sewer pipeline and lateral replacements. LBWD anticipates a CIP budget for Fiscal Year 2022 of \$40 million. This is a large influx of projects over a short period of time. Ardurra will execute the individual CIP projects and assist in the overall CIP Program goals.

**CIP Management (Construction Management and Design), City of Oceanside, CA.** CIP Manager responsible for the preparation of 15+ in-house designs, RFP preparation, managing consultant contracts, preparation of Staff Reports and other Council documents, and other functions to complete projects lists on the FY 15/16 CIP.

**AMY CZAJKOWSKI | ARDURRA | Page 2**

**On-Call Project Management Support Services, Coachella Valley Water District, CA.** Program Manager responsible for providing program management support for the District that involved leading projects, managing, and prioritizing projects within the CIP program in order to improve the District's execution rate for the fiscal year. Responsible for ensuring that all grant compliance and monitoring functions are completed for the District from the following programs: Clean Water State Revolving Fund (CWSRF), Drinking Water State Revolving Fund (DWSRF), California Green Project Reserve funded projects, Bureau of Reclamation projects, and the Department of Water Resources. Additionally, ensured that all quarterly and grant reporting requirements are submitted on time and with exceptional detail and information.

**Stormwater Management, Various Projects, San Diego County, CA.** Project Manager during the planning, design, and construction implementation phases of various projects throughout San Diego County. Managed all aspects of stormwater design services and compliance with stormwater related permits and programs, and provides consulting to municipalities on compliance issues related to stormwater permits and water quality issues. The following is a brief list of her stormwater management experience:

- Legally Responsible Party (LRP) for the City of Oceanside Water Utilities Department
- Design manager for the 511 Pump Station Design-Build including stormwater management design to ensure flows did not enter the San Luis Rey River
- City of San Diego Miramar Clearwell Drainage and Stormwater Management – Assisted in the completion of the SUSUMP and design of the HMP facilities
- City of Oceanside – Analysis of RWQCB Order No. R9-2013-0001 and the cost and compliance effort. In addition, an analysis of groundwater discharges and fire flow discharges as co-permittee were analyzed.
- Analysis of overall monitoring plan equipment needed to monitor construction for all City CIP projects including pipelines, grading, groundwater wells, and other miscellaneous municipal projects

**Downtown Water and Sewer Pipelines Replacement, City of Oceanside, CA.** Replacement of 12,000 linear feet of 8-inch water pipeline and 9,000 linear feet of 8-inch sewer pipelines.

**Margaret H Chandler Water Reclamation Plant Third Party Construction Management and Inspection Services, San Bernardino Municipal Water Department.** Principal/Resident Engineer support for this multi-project contract to support the Digester Gas Beneficial Use Program.

**Mesa Garrison Emergency Sewer Repair Design-Build, City of Oceanside, CA.** Construction Manager/Project Manager for the emergency repair of the collapsed 24-inch gravity sewer, which carries 15% of the City's raw sewage. Developed an emergency method to stop the spill, stabilize the sewer, and subsequently repair this critical piece of infrastructure. Project involved the reconstruction and/or replacement of 2,000 LF of sewer. Total project value: \$2.5M

**As-Needed Engineering and Emergency Response Services, Vallecitos Water District, CA.** Provided project engineering and management.

**Regional Water Reclamation Facility Expansion and Upgrade Project, Elsinore Valley Municipal Water District, CA.** Provided construction management, inspection, labor compliance, and survey services.

**AMI Phase II and Phase III Labor Compliance, Elsinore Valley Municipal Water District, CA.** Successful SRF labor compliance audits completed.





### Education

BS/1986/Civil Engineering/California State University, Long Beach

### Registrations

1992/PE/Civil/CA # C49335

1992/TE/Traffic/CA # TR1637

2001/PE/Traffic Operations Engineer/CA # 661

### Professional Affiliations

American Society of Civil Engineers

American Public Works Association

Institute of Transportation Engineers

American Water Works Association

City Engineers Association of Orange County

League of California Cities Public Works Officers Institute

### Honors and Awards

2019 APWA Southern California Top Leader Public Sector

**Years of Experience:** 37



## Mark Lewis, PE, TE

### Contract Manager, Civil, Construction Manager, Traffic Control

Mark Lewis, PE, TE, is a proven leader with 37 years of engineering experience. Mark's ambitious career with the City of Fountain Valley spanned 34 years commencing as a college intern and advancing to the position as director of Public Works/City Engineer for 13 years. Mark has extensive familiarity, knowledge and progressive management expertise in strategic planning, operational efficiency, financial planning, and human resources management. He applies an innovative approach in these key areas in addition to communication, funding procurement, asset management, capital improvement program development and implementation, project management and intergovernmental relations to deliver cost-saving solutions to all his projects. Mark secured more than \$60 million of local, federal, and state grants to fund a capital program that resulted in the City being known for its high quality streets, world-class sports park and recreational center. Also, the City provides a fiscally sustainable utility enterprise to provide high quality and reliable water, sewer, and drainage infrastructure.

Mark's additional and notable accomplishments include chairing the Orange County Transportation Authority (OCTA) Technical Advisory Committee (TAC) and Technical Steering Committee (TSC) on four separate occasions. He participated in drafting language for OCTA Measure M2 and met with government and business leaders throughout its development and ultimate passage. Mark has also been the chair of the Laguna Beach Water Commission, president of the Orange County City Engineers Association and president of Orange County Traffic Engineering Council. Mark is a leading mind in regional arenas of transportation, water works and civil services throughout Orange County.

### RELEVANT EXPERIENCE

**Director of Public Works/City Engineer, City of Fountain Valley, CA.\*** As Public Works Director/City Engineer, responsible for overseeing the daily operation of 76 full-time employees, multiple contract maintenance service agreements, an annual \$7-million general operating budget, an \$11-million water utility operating budget, and a capital improvement budget that ranged from \$10- to \$20-million annually. The City is a full-service city with a population over 55,000. There are 220 full-time employees, up to nearly 100 part-time employees, and an annual \$44-million General Fund operating budget. The City delivers high quality, fiscally responsible public services that feature strong public safety, well-maintained public infrastructure, progressive business development to preserve and enhance City revenues, diverse community programs, and a high quality of life in the city's neighborhoods. Key accomplishments included:

- Directed the operations, maintenance, and capital improvements of a full-service water system with an annual demand of approximately 10,000 AF, over 17,500 connections, two 5-MG reservoirs, six water production wells, one MWD import connection, and approximately 1,700 AF demand and service for reclaimed/recycled water via Green Acres Production (GAP) Reclaimed Water.
- Capital Improvement Project (CIP) experience included Project Director on construction of new booster stations for both reservoirs. One project included rehab of interior of raised steel tank. The other project included the seismic evaluation of a half-buried concrete tank in a residential neighborhood park. This included numerous neighborhood meetings ultimately leading to constructing a new basketball court within the adjacent park, upgrading ADA access throughout the park, and construction of a new ADA accessible playground structure. The booster station building was architecturally designed to match the neighborhood's aesthetics.
- Project Manager/Director for construction and equipping of a new water well within a new residential neighborhood park. This included securing floodplain certification to allow for drilling and equipping

**MARK LEWIS | ARDURRA | Page 2**

within a flood zone. The well building was designed by the housing tract architect to ensure compatibility with new tract homes. The environmental clearance was also included in the EIR for the housing tract. Mark oversaw three separate contracts for drilling, equipping, and a half-mile distribution pipeline.

- Directed the conversion of all metered connections to AMI. Under Mark's leadership, Fountain Valley was the first agency within this area to convert all metered connections to AMI in a single project. Since then, many agencies have converted to similar technology and have used this model as their guiding principle for their conversion projects.
- Developed a fully rate-funded CIP for sanitary sewer system pipeline replacement, repair, and lining projects. This included equipping staff with CCTV and other equipment to enable in-house completion of minor works that were both economical and time efficient.
- Directed the design and rehabilitation/upgrade of the City's two stormwater pump stations that were on the brink of failure due to funding challenges to complete the two projects.
- Established adequate but conservative sewer and water rates to deliver high quality, cost-effective utility services.
- Implemented a full cost recovery to the General Fund for Water Enterprise facilities leading to General Fund revenues by more than \$1.7 million annually.

**Utilities Management Support, City of Huntington Beach, CA.** Project Manager responsible for providing organizational analysis and recommendations, assisted with development of the CIP and coordinated with supervisors and superintendents relative to operational and capital issues.

**City Engineering Support, City of Laguna Hills, CA.** Project Manager responsible for providing assistance with development and permit review, capital project management, staff augmentation, policies, and procedures updates, staffing services for City Traffic Commission, and other general city engineering support services.

**Project Management/Constructability Review, City of Seal Beach, CA.** Project Manager responsible for providing constructability review and project management for a water and sewer line replacement project, as well as an upgrade to a sewer lift station.

**Traffic Engineering Support, City of Lake Forest, CA.** Project Manager providing additional municipal engineering assistance with traffic operations, traffic engineering and transportation management for capital improvement projects. Responsibilities included developing traffic engineering policies, traffic commission agenda reports, reviewing development projects as they relate to traffic impacts, school traffic programs, daily traffic engineering questions/concerns.

**Randall Avenue Street Improvements, City of Rialto, CA.**

Program/Project Manager leading the design team in a three phased/ three contract approach by: 1) evaluating Randall Avenue street improvements for traffic, ADA, and construction quality concerns by developing a strategic plan report; 2) directing the design effort to prepare plans for improvement, and coordinating with the City (including the City Manager, City Attorney, Mayor Pro Tem, and the City's ADA consultant; and 3) preparation of plans to widen the remaining section of roadway over a flood control channel to improve traffic flow and ADA access while eliminating a roadway hazard.

**Plan Check/Review (including Traffic Control) and Development Coordination Services, City of Brea, CA.** Project Manager responsible for providing plan check services (including traffic control) for the review of engineering plans and reports and development planning documents for developer-funded projects including, but not limited to, EIR drainage and water quality studies and write-ups, grading, tentative maps, storm drains, site development plans, streets, hydrology and hydraulic analyses, utilities, and WQMP Reports. Projects to date include plan check review for Raising Canes Restaurant, Brea Plaza Mixed Use, Randolph Avenue, Brea Mall Extension, and Pacific Highland. Ardurra is also providing ongoing review and approval of traffic control plans for private utility construction and currently averaging six reviews per month. Responsibilities include reviewing stage construction and worksite traffic control plans providing support to the Traffic Division.

**Protected/Permissive Left Turn (PPLT) Conversion, City of Fountain Valley, CA.\*** Implemented an aggressive capital program to convert many fully protected traffic signals to PPLT. A key element of this implementation was the removal and reconstruction of the finger medians in left-turn pockets to reduce the width to 2 feet and in some cases 1 foot. This provided positive offset for left turning vehicles to view oncoming traffic. This sight distance improvement was a key to the success of these installations and was praised by many leaders and expert witnesses in the traffic engineering arena.

**Recreation Center and Sports Park Master Plan Expansion, City of Fountain Valley, CA.\*** Managed construction for this \$20-million Recreation Center and Sports Park Master Plan Expansion, the largest capital project in the City's history. Improvements included six multi-league softball fields, a youth field, 555 parking spaces, 2 miles of roads and 78 acres of computer-controlled sports field lighting. Other new facilities include a 60,000-SF gathering space with an outdoor stage and more than 3 miles of granite trails and sidewalks. Other upgrades included recycled water irrigation, picnic areas, playgrounds, two new concession buildings, and a new maintenance facility.

*\* Work performed prior to joining Ardurra*



### Education

MS/2003/Civil Engineering – Water Resources/San Jose State University  
BS/1998/Environmental Engineering/ Michigan Technological University

### Registrations

2008/PE/Civil/CA #72074

### Certifications

AWWA Utility Risk and Resilience Certification Program

### Professional Affiliations

American Water Works Association – Water Resources Sustainability-Division Committee (2013 – present), and Innovations Committee  
WaterReuse Association

### Presentations

“Data Governance & Quality Management: a Hydraulic Modeler’s Perspective” AWWA (Utility Mgmt Conference), Nashville, TN, March 2019

“Fast & Furious Hydraulic Modeling with SCADA” ACE Workshop & Presentation, Chicago, IL, June 2016

“It’s Not Just Pressure, It’s a Vital Sign” AWWA (Water Infrastructure Conference) Poster, Bethesda, MD, October 2015

“Engineers Without Borders Honduras Site Investigation Trip” ASCE Chapter, San Jose, CA, March 2009

**Years of Experience:** 20



## Shyamala Raveendran, PE

### Planning & Feasibility Studies/Hydraulic Modeling

Shyamala Raveendran, PE, has 20 years of experience with hydraulic modeling, water and wastewater master planning related projects in roles as technical reviewer, senior engineer, or project manager.

### RELEVANT EXPERIENCE

**Water Master Plan, Phelan Piñon Hills Community Service District, CA.** Project Manager and Technical Reviewer responsible for delivery of the District’s Water Distribution Master Plan to help the City develop its capital improvement budget. Tasks included data collection, data analysis, update of water distribution system design criteria, update and calibration of water hydraulic model with the most recent operational control information, demand information, and field tests, evaluation of the system under Average Day Demand (ADD), Maximum Day Demand (MDD), Peak Hour Demand (PHD), and MDD plus Fire Flow (FF) conditions, identification of system deficiencies based on model results, and recommendation of Capital Improvement Projects. An additional task included a study to help the District identify operational solutions to optimize the use of Reservoir 6A.

**Water System Operations Analysis & Master Plan, City of Vernon, CA.** Project Manager and Technical Reviewer responsible for delivery of the City’s Water Master Plan to help the City with aspects of demand management goals, hydraulic model update, asset management goals, developing scenarios to help optimize current operational methods, and helping the City develop its near- and long- term capital improvement budget. Coordinated remotely with four subconsultants ranging from rate fee experts, hydrogeologists, and water industry specialists to help the City navigate project challenges amidst COVID-19 restrictions in order to help the City meet its capital improvement planning goals.

**Recycled Water Storage & Conveyance System Evaluation, San Elijo Joint Powers Authority, CA.** Senior Engineer in charge of building and calibrating the District’s recycled water transmission system, which includes a reclamation facility, three pumping stations, and three main storage facilities. Used the updated hydraulic model to evaluate feasibility of converting a potable tank to recycled water storage to meet current and future needs of SEJPA’s northern distribution system for service to its retail agency customers, evaluated whether an existing tank would need to increase wall height, determine and rank storage and operational benefits of two main tanks to the SEJPA recycled water system.

**2020 Water Master Plan & Water Capacity Fee Study, San Dieguito Water District, CA.** Managed a team of consultants to complete the following tasks for the District’s Master Plan update: hydraulic model update and validation, demand forecasting, asset valuation and condition assessment, water capacity fee study, fire hazard analysis, and capital improvement project development and prioritization. Coordinated all meetings, technical memoranda reviews, and maintained communications with the District and subconsultants in order to maintain scope, schedule, and budget expectations of the project.

**Urban Water Management Plan, Phelan Piñon Hills Community Service District, CA.** Project Manager and Technical Reviewer responsible for delivery of the District’s 2020 UWMP to meet state regulatory requirements. Significant updates to the 2015 plan were made including an update to the existing water shortage contingency plan.

**Water Distribution Model Update and Calibration, Fallbrook Public Utility District, CA.** Project Manager and Technical Reviewer responsible for model update and calibration activities for the District’s water distribution system model consisting of 9,215 services, 9 pressure zones, 8 storage tanks, about 30 pressure reducing valves, and several booster stations. Two separate models were merged in InfoWater to produce one model of the system. The merged model was calibrated in steady-state with latest



**SHYAMALA RAVEENDRAN | ARDURRA | Page 2**

boundary conditions, demand, and control logic within client schedule requirements.

**Raw Water System Master Plan Phase I, Valley Water, CA.**

Project Manager for hydraulic modeling of raw water transmission and two treated water distribution systems using InfoWater. Valley Water provides water to Santa Clara County residents and business via a complex network of distribution facilities, including three pumping plants, 94 miles of raw water pipelines (including tunnels), the San Felipe portion of the Central Valley Project imported water pipeline, creeks, diversion dams, ditches, and canals. The raw water system conveys about 35 billion gallons of water annually. The District's treated water is delivered to water retailers through a complex transmission and delivery system consisting of 11 treated water pipelines and 27 customer turnouts. Technical Lead and review of various aspects of the project including, development of operational parameters, performing a demand analysis for raw and treated water hydraulic model development, build and calibration of raw water and West treated water systems, developing, and analyzing multiple scenarios for the raw water system to facilitate future phases of the District's Master Plan.

**Bluebird Booster Station (Vern Gillett) Upgrade, City of**

**Glendora, CA.** Senior Engineer responsible for design support of Vern Gillett pump station upgrade to accommodate fire flows in Zone 28. Several pump sizes were modeled with various operational and demand scenarios while meeting several design criteria for parameters like flows, suction pressures, and pipeline velocity to provide the City with an optimum pump design.

**Water Source Capacity Feasibility Study, Sheep Creek Water**

**Company, CA.** Senior Project Engineer responsible for review of water consumption and production data and relevant documents to perform water supply and demand analysis in compliance with the State Water Board's Compliance Order and develop alternatives to increase water supply reliability and reduce water demand.

**Water Distribution System Hydraulic Analysis Update, City of**

**Vernon, CA.** Took over role of Project Manager and Senior Engineer to complete model update. Work involved various systems operations analysis to convert a system operated via elevated tank to a closed system (without tank) using InfoWater. Preliminary control settings for wells and boosters to operate as closed-system for City to troubleshoot in field was established using the updated model. Conducted an 8-hour orientation training on InfoWater for City Staff on updated model.

**North River Farms Water Supply Assessment Study, City of**

**Oceanside, CA.** Project Manager as well as Co-Author of the Water Supply Assessment Study & Verification of Supply on behalf of the City of Oceanside for a 689-unit planned development called North

River Farms to be compliant with SB610/221 requirements. Work also involved verifying fire flow requirements for the project site using the City's hydraulic model.

**Ocean Kemp Water Supply Assessment Study, City of**

**Oceanside, CA.** Project Manager of the Water Supply Assessment Study & Verification of Supply on behalf of the City of Oceanside for a Commercial called Ocean Kemp to be compliant with SB610/221 requirements.

**As-Needed Water & Sewer Hydraulic Modeling Services, City of**

**Oceanside, CA.** Project Manager and Technical Reviewer for various sewer and water impact studies.

**As-Needed Water Distribution Modeling Services, City of**

**Oceanside, CA.** Project Manager, Technical Reviewer and Senior Project Engineer for various tasks related to system operations changes, design support, and new development related impact studies.

**As-Needed Hydraulic Modeling and Analysis Services,**

**Olivenhain Municipal Water District, CA.** Project Manager, Technical Reviewer and Senior Project Engineer for various tasks related to system operations changes, design support, and new development related impact studies. Recent work involved fire flow simulation studies, analyzing aspects of the District's recycled water system, developing a water sample map in GIS.

**Sewer Model Update, City of Belmont, CA.** Project Manager and Technical Reviewer for collection system model update using InfoSWMM by Innovyze. The model was updated with new sewer development loads and infrastructure. Peaking factors were derived and updated from Ardurra's flow monitoring data from an I/I study in order to refine model calibration. The updated model was used to recommend projects in the City's capital improvement program to mitigate capacity deficiencies.

**Sewer System Master Plan & Asset Management, City of El**

**Monte, CA.** Technical Reviewer for Sewer System Master Plan and Asset Management Plan utilizing InfoSWMM and InfoMaster to determine capital infrastructure projects using a risk-based approach.

**MARB & Non-Cantonment Collection System Rehabilitation**

**Plan, Western Municipal Water District, CA.** Senior Project Engineer involved in investigating the quality and quantity of groundwater infiltration entering the District's sewer system. Ardurra provided recommendations on improvements to the collection system to reduce groundwater infiltration by employing various data analysis tools within GIS and InfoMaster. Current work involves providing recommendations to mitigate PFAs contamination.



### Education

BS/2006/Civil Engineering/San Diego State University

### Registrations

2011/PE/Civil/CA #C78967

### Certifications

California Board of Professional Engineers, Land Surveyors and Geologists (CBPELSG)

Qualified SWPPP Developer (QSD Certification #C78967

### Professional Affiliations

American Society of Civil Engineers  
Chi Epsilon, Civil Engineering Honor Society

WaterReuse Association, San Diego Chapter, Director of Public Outreach

**Years of Experience:** 17



## Jamie Fagnant, PE, QSD

### Condition Assessment, Pipeline Design

Jamie Fagnant, PE, QSD, has been working in the water and wastewater field for 17 years and has extensive experience and a specific expertise in sewer design and rehabilitation. Jamie has experience working with cities, water and sewer districts in Southern California and has a thorough understanding of industry standard design guidelines for the design and rehabilitation of sewers as well as a working knowledge of standard specifications and drawings for various agencies throughout San Diego County. She is very active in the engineering community and served on the board of the San Diego Chapter WaterReuse Association for seven years in various positions.

### RELEVANT EXPERIENCE

**Condition Assessment of the Land Outfall, Gravity Main and Force Main, City of Oceanside, CA.** Condition Assessment Project Manager. Working closely with Arcadis, the project included condition assessment and related capital improvement projects for the City's 24" land outfall, 24" gravity line and 42" force main. Selected condition assessment technologies include a variety of external and internal thickness testing tools.

**Pump Stations Condition Assessments, Leucadia Wastewater District, CA.** Project Engineer for the assessment of Leucadia Wastewater District's nine pump stations. Project included site visits, compilation of operation and maintenance staff input, prioritization of repairs and development of a 5-year capital improvement program to implement the recommended repairs.

**Sewer Rehabilitation and Upsizing, City of Lemon Grove, CA.** Project Engineer for the design of 3,480 LF of 8-inch cured-in-place pipe liner and upsizing of 4,942 LF of 6" and 8" sewer to 8" and 10", respectively.

**South Oceanside Waterline Replacement & Sewer Upsizing, City of Oceanside, CA.** Project Engineer for the design of 7,400 LF of replacement water distribution main and 2,771 LF of sewer upsizing to 8-inch, with four manhole rehabilitations and eight manhole replacements, within residential areas of south Oceanside. The project encompassed evaluation of replace in place versus parallel alignments as well as rerouting of several existing water services to eliminate a problematic alley main. Final contract documents have been submitted.

**Water and Sewer Capital Improvement Project, City of Del Mar, CA.** Project Engineer reviewed CCTV, performed site visits, and provided recommendations for repair of various defects in the water and sewer systems for the City of Del Mar. Prepared contract documents for this citywide repair project.

**B1/B2 Sewer Force Main Replacement, Leucadia Wastewater District, CA.** Project Engineer for the design of 8,527 linear feet of 24" sewer force main and 14" secondary effluent force main. Also supported Ardurra's environmental department to prepare a Mitigated Negative Declaration for the project. Mitigation measures from the MND were incorporated into the contract documents.

**FY15 Gravity Sewer Main Repairs, Leucadia Wastewater District, CA.** Project Engineer for the design of 2,272 linear feet of cured-in-place pipe lining, two cured-in-place manhole liners, two sag repairs, and two cured-in-place pipe patch rehabilitations.

**Asset Management Master Plan Implementation, Leucadia Wastewater District, CA.** Project Engineer for the design phase of this project provided review of sewer CCTV, provided recommendations for sewer repair or rehabilitation and prepared bid specifications for rehabilitation of existing gravity sewer mains.



**JAMIE FAGNANT | ARDURRA | Page 2**

**Recycled Water Line Creek Crossing, Leucadia Wastewater District, CA.** Project Engineer for the design of a 330-LF crossing of San Marcos Creek via horizontal directional drilling for a replacement 12" recycled waterline with fusible PVC. Project also included installation of an isolation valve via the use of a linestop and replacement of an isolation valve and installation of a blow-off on the District's Gafner Water Reclamation Facility site. Project challenges included timing construction to coincide with the closure of the Omni La Costa Golf Course and specific contract requirements to limit damage to the fairway and install replacement turf.

**Batiquitos Pump Station Rehabilitation, Leucadia Wastewater District, CA.** Project Engineer for the preliminary and final design of the rehabilitation of a 1,000-hp sewer lift station. Project included pump and valve replacement, wet well lining, station bypassing, site piping, installation of emergency bypass vaults, modifications to the existing valve vault, re-roofing, modification of the HVAC system and other miscellaneous repairs.

**Batiquitos Force Main Repairs, Leucadia Wastewater District, CA.** Design Engineer for the replacement in place of approximately 1,500 linear feet of dual 24" force main and 1,500 linear feet of 14" secondary treated wastewater transmission main. Ardurra prepared a comprehensive force main evaluation report summarizing all past studies as well as current investigations of the force mains to determine the remaining useful service life of the force mains.

**Paseo Vivora Pipeline Replacement, Eastern Municipal Water District, CA.** Project Engineer for the design of 2,180 linear feet of 12" fusible PVC water main. Project design included multiple connections to existing facilities and associated valve packages, installation of new water services and appurtenances, and abandonment by removal of approximately 1,600 linear feet of existing overland steel pipe. Ardurra assisted the District in preliminary design to determine the most effective pipeline alignment taking into consideration easement acquisition, ease of access, and current location of EMWD facilities.

**Groundwater Pilot Production Wells, City of San Diego, CA.** Design Engineer for as-needed services to design pumping and conveyance systems for groundwater production wells throughout San Diego County. The City has an aggressive program to enhance its water supply system by adding approximately 10,000 acre-feet/year of locally produced groundwater to supplement the City's water supply system. To date, the contract has included the following task orders: 1) Pilot Production Wells Investigation Workshop to identify candidate projects and develop the initial scope for future investigation and design efforts; 2) Pilot Production Well No. 1 Improvements to design upgrades to the City's San Vicente Production Well No. 1 including new flow meter, pump to

waste piping, and SCADA and remote communications equipment; 3) Overall Program Management - LISA (Local Investigations and Studies Assistance) Program and miscellaneous technical assistance; and 4) Design of Production Wellhead and Conveyance Facilities for Diamond Business Improvement District (DBID) including a new 500-gpm production wellhead facilities, controls, and pipelines to enable the City to utilize groundwater for irrigation purposes.

**Saxony Pump Station Rehabilitation, Leucadia Wastewater District, CA.** Project Engineer for the design of a pump station rehabilitation for a 40-hp, 870-gpm sewer lift station. Project included replacement of existing submersible pumps and motors with new submersible chopper pumps, replacement of valve vault valves and piping, replacement of PVC wet well lining, sewer bypassing, manhole lining, installation of new LED site lighting, power monitors, automatic transfer switch, uninterrupted power supply, emergency generator connection and miscellaneous pump station site repairs.

**Village Park No. 5 Pump Station Replacement, Leucadia Wastewater District, CA.** Project Engineer for pump station rehabilitation project consisting of a new submersible duplex station, valve vault, bypass connection, electrical upgrades, bypass pumping and sequence of construction specifications.

**Station 119/120 Concrete Reservoirs, Anderson Pacific/California Water Service Company, CA.** Project Engineer for the design of two 0.4-MG conventionally reinforced concrete water reservoirs, associated site piping and grading. Project included obtaining a building and public works permit from the City of San Carlos.

**L1 West Side Sewer Force Main Replacement, Leucadia Wastewater District, CA.** Project Engineer for the design of 2,594 linear feet of 24" sewer force main replacement and associated appurtenances. Project included obtaining permits from multiple agencies including Caltrans, North County Transit District and the City of Encinitas. Project included installation of flexible expansion joints on the existing ductile iron bridge crossing.

**FY16 Gravity Sewer Main Repairs, Leucadia Wastewater District, CA.** Project Engineer for the design of 3,131 linear feet of cured-in-place pipe lining, installation of a cured-in-place manhole liner and three sag repairs. Project also included the emergency installation of a 355 linear foot cured-in-place pipe liner for a badly corroded 10" cast iron gravity sewer on an expedited design basis.

**Leucadia Scenic Cured-in-Place Pipe Lining, Leucadia Wastewater District, CA.** Project Engineer for the design of 2,018 linear feet of cured-in-place pipe lining in existing 12" gravity sewer. Project included obtaining Caltrans encroachment permit.



### Education

BS/1990/Civil Engineering/State  
University of New York at Buffalo

### Registrations

1999/PE/Civil/CA #C59312

### Professional Affiliations

American Society of Civil Engineers  
American Water Works Association  
American Consulting Engineers  
Council – California (Water  
Resources Committee)

### Awards and Recognition

San Elijo Hills Pump Station – ACEC  
CA Engineering Excellence Merit  
Award, 2015  
Pala Mesa Tank – ASCE San Diego  
Section: Award of Merit, 2012  
ASCE – Region 9: Outstanding Water  
Project Award, 2013  
Carmel Valley Recycled Water Pipeline  
– APWA San Diego-Imperial Counties  
Chapter: Project of the Year, 2013  
Gano Reservoir and Unit X Pipelines –  
ASCE San Diego Section: Award of  
Merit, 2004 CELSOC (now ACEC CA)  
Engineering Excellence Merit Award,  
2006  
4S Ranch Water Reclamation Facility,  
Plant 'A' and 'B' Modifications –  
APWA San Diego-Imperial Counties  
Chapter: Project of the Year, 2007

**Years of Experience: 32**



## Rob Weber, PE

### Design Services, Pipeline Design

Rob Weber, PE, has 32 years of civil engineering and project management experience on a variety of municipal and public works water, wastewater, and recycled water projects. Specific project experience includes conveyance pipelines, reservoirs and tanks, water pump stations, and sewer lift stations. He has also successfully managed several as-needed services contracts for municipalities and water/wastewater utilities. Rob is thoroughly familiar with design standards, techniques, and analytical methods, bid specifications, and cost estimating. His experience extends beyond civil engineering to include securing required project permits, fostering cooperative inter-agency approvals, and gaining community project acceptance.

Rob's project success is based on his ability to understand the client's needs and objectives and translate them into actions during execution of the project. He prides himself in involving the client in the project and ensuring that technical staff understands the critical issues of the project. His engineering decisions and designs are based on careful considerations of project needs and specific site characteristics. His dedication to quality effectively manages project risks and controls construction and operational costs. Designing and sizing pipelines is a relatively simple task for an experienced professional engineer. Constructing the pipeline under emergency conditions, through sensitive coastal beaches and creeks, in highly developed residential areas, across open rural property, within existing pavement traveled by daily commuters, and requiring multiple agency approvals can be extremely difficult. Rob has applied his engineering and project management talents in all of these settings to construct water transmission and distribution lines, force mains, and gravity sewers. He has an ability to anticipate problems, is poised with solutions, and understands that responsiveness is critical to every construction project. He has developed plans to provide continuous uninterrupted service and peak hour uncongested traffic flow during construction.

### RELEVANT EXPERIENCE

**As Needed Engineering Services, Leucadia Wastewater District, CA.** Project Manager providing as-needed engineering services on a task order delivery basis to the Leucadia Wastewater District since 2006. Services have encompassed a wide variety of tasks to support all aspects of the District's capital and operational needs including planning and hydraulic modeling, GIS support services, flow monitoring, engineering design, cost estimating, plan preparation, office engineering during construction, and construction inspection.

**South Oceanside Water & Sewer Main Replacement, City of Oceanside, CA.** Project Manager for the design of 7,400 LF of replacement 8-inch PVC water distribution mains and 6,345 LF of sewer upsizing to 8-inch PVC, with 4 manhole rehabilitations and 8 manhole replacements, within residential areas of south Oceanside. The project encompassed evaluation of replace-in-place versus parallel alignments as well as rerouting of several existing water services in order to eliminate a problematic alley main.

**Myers Street Sewer Replacement, City of Oceanside, CA.** Project Manager for the replacement and upsizing of existing gravity trunk sewers in the La Salina Service Area of the city of Oceanside. The existing sewers are currently over capacity; consequently, the replacement sewer lines must accommodate the existing flows as well as the future flows generated by new development in downtown Oceanside. New 27- and 30-inch gravity sewers were constructed in narrow residential streets. Significant community impacts and congested utility corridors added to the complexity of the project.

**ROB WEBER | ARDURRA | Page 2**

**Trunk Sewer Main Replacement, City of Escondido, CA.** Principal-in-Charge. The City of Escondido's Trunk Sewer Main is a key piece of the City's sewer infrastructure system. The trunk sewer collects sewage from approximately 30% of the City and conveys it to the Hale Avenue Resource Recovery Facility (HARRF). The trunk sewer was constructed in 1959 and originally served as the outfall from the City's treatment facility to a lift station. However, when the HARRF was constructed, the pipeline was repurposed to serve as a trunk sewer in the City's collection system. In recent years, sections of the pipeline have been failing, requiring emergency repairs to keep this key piece of infrastructure in service. The original pipeline was constructed of 24- and 27-inch-diameter RCP; however, as emergency repairs were made, 30- and 36-inch-diameter PVC were installed. This project replaces 5 segments of trunk sewer remaining from the original construction, which totals 6,900 linear feet of trunk sewer.

**Ontario Ranch Phase 2 Water Main Improvements, Ontario Municipal Utilities Company/City of Ontario, CA.** Principal-in-Charge for approximately 1.5 miles of 30" diameter CML&C WSP, PZ 925, along Grove Avenue between Eucalyptus Avenue and Chino Avenue, design of an interim pressure reducing valve (PRV) station at the intersection of Grove Avenue and Chino Avenue to break pressure from the PZ 1010 to PZ 925, situated on the north side of Chino Avenue approximately 500 feet east of Grove Avenue, 1.6 miles of 18" diameter CML&C WSP, PZ 1010, along Chino Avenue between Grove Avenue and the Chino Avenue Bridge (Cucamonga Creek).

**San Antonio Ave 30-inch Diameter Transmission Water Main, Ontario Municipal Utilities Company/City of Ontario, CA.** Principal-in-Charge for design for 2,900 linear feet of new 30-inch CML&C WSP; abandonment of approximately 3,700 linear feet of existing 18-inch steel pipe.

**Upas Street Pipeline Replacement, City of San Diego, CA.** Principal-in-Charge. Upas Street project extends from Lindbergh Field east along Upas Street, crossing I-5 and State Route 163, and bordering Balboa Park and Morley Field through sensitive habitat, residential neighborhoods and utility-congested streets east to 30th Street, including heavy traffic areas of Park Blvd. and 5th Avenue between Upas Street and Robinson Avenue. Design details include 14,980 LF of 8-inch through 12-inch PVC distribution main, 8,160 LF of 24-inch cement mortar lined and tape coated steel pipe with impressed current cathodic protection, 1,640 LF of 30-inch HDPE transmission main to be installed via horizontal directional drilling, 210 LF of 18-inch HDPE transmission main to be installed via slip-lining, 4 pressure reducing stations (3 replacement and 1 new) with flow metering and SCADA telemetry, and 4.9 miles of trench paving and street resurfacing.

**La Costa Pump Station, Leucadia Wastewater District, CA.** Principal-in-Charge for the rehabilitation of an existing 2,400-gpm packaged sewer lift station including new pumps, repairs to steel structure, new electrical gear and controls, and new force main bypass connections.

**Neighborhood 1 Pump Station Rehabilitation, Olivenhain Municipal Water District, CA.** Project Manager for the preliminary and final design for replacement of 550-gpm custom-designed wet pit/dry pit sewer lift station with duplex pumps in series. Project re-sealed the existing wet well and constructed a new dry well with above-grade electrical building for new MCCs and controls.

**Batiquitos Pump Station, Leucadia Wastewater District, CA.** Project Manager for the preliminary and final design of the rehabilitation of a 1,000-hp sewer lift station. Project included pump and valve replacement, wet well lining, station bypassing, site piping, installation of emergency bypass vaults, modifications to the existing valve vault, re-roofing, modification of the HVAC system and other miscellaneous repairs.

**La Jolla View Reservoir and Pipeline Replacement, City of San Diego, CA.** Principal-in-Charge. PDR and PS&E for 3.1-MG reservoir, 3,000 feet of 30-inch welded steel pipe, and demolition of two outdated reservoirs. Reservoir is comprised of prestressed concrete tank that is fully buried with limited surface features. Project includes extensive habitat restoration and public outreach support due to the tank location in a scenic, hilltop park in the coastal La Jolla area.

**Calavo Pump Station Replacement and El Cajon Tank Modifications, Helix Water District, CA.** Principal-in-Charge for the replacement of an existing pump station and replacement of an existing steel tank roof with an aluminum geodesic dome roof. Project included a new pump station building with new pumps, motors, control valves, and mechanical piping, 16-inch waterline replacement, new dome roof for the adjacent reservoir, extensive coordination and phasing to maintain service to the existing pump station and miscellaneous site improvements consisting of grading and drainage improvements. The new pump station was successfully put into service along with the retrofitted tank.

**Twin Oaks Reservoir No. 2, Vallecitos Water District, CA.** Deputy Project Manager for construction of a buried 40-MG prestressed concrete reservoir, including mass grading operations, connections to existing facilities and miscellaneous site improvements. This complex project involved coordination with the existing facilities, originally planned for a smaller tank, and development of the new reservoir and piping layouts to fit within the existing constraints. Project construction documents were developed in three phases: Phase I Mass Grading, Phase II Reservoir Improvements, and Phase III Site Improvements.





### Education

MS/2003/Civil and Environmental Engineering/California Polytechnic State University, San Luis Obispo  
BS/2001/Civil Engineering/California Polytechnic State University, San Luis Obispo

### Registrations

2005/PE/Civil/CA #C68339

### Certifications

Designated Design-Build Professional™ from the Design-Build Institute of America (DBIA)

### Professional Affiliations

American Society of Civil Engineers  
American Water Works Association

### Publications

Author and Presenter:

*Design Methods for Steel Liners to Prevent Collapse by External Pressure During Relining of Prestressed Concrete Cylinder Pipe*

American Society of Civil Engineers, Pipeline Division International Conference: "Pipelines 2004," San Diego

**Years of Experience:** 23



## Aric Gnesa, PE, DBIA

### Design Services, Pipeline Design

Aric Gnesa, PE, DBIA, has 23 years of professional experience in a wide range of engineering tasks and disciplines including planning, design, and construction management of large and small diameter (treated, raw water, and sewage) pipelines, pump stations, flow control facilities, and reservoirs. Temporary positions (3-12 months each) include internships in geotechnical, land surveying, and land development, and contract consultant (design engineer and construction management) at the San Diego County Water Authority for 18 months. Prior to completing his formal education, Aric worked in the construction industry for 8 years as a craftsman, foreman, and project manager. This combination of practical experience and highly technical education make Aric well suited for a variety of projects and duties pertaining to civil engineering.

### RELEVANT EXPERIENCE

**Cole Grade Road Pipeline Replacement, Valley Center Municipal Water District, CA.** Project Manager for the design of approximately 6,930 linear feet of 14-inch-diameter PVC water pipe, connection details, branch line connections, and relocation of existing appurtenances within the limits of the County of San Diego project. The project will be bid as a component of the County's Cole Grade Road Improvement Project with all design, construction, and construction phasing coordinated with County staff.

**Design-Build of Water Production Wells for Emergency Water Supply at Eleanor Pardee Park and Library/Community Gardens, City of Palo Alto, CA.** Project Engineer for the design of two fully operational emergency supply water wells connected to the City of Palo Alto's water distribution system. The well sites are highly visible to the public—one is at the City's Main Library, adjacent to an important community garden facility, and the other is at Eleanor Pardee Park, a neighborhood park that provides children's playgrounds, picnic areas, and an additional community garden. At both sites, design challenges included the need to develop wellhead facilities that would blend into their surroundings and avoid introducing inappropriate "industrial" aesthetics into recreational greenspace. In addition, because of City regulations prohibiting loss of recreational lands, it was essential to minimize the above-ground footprint of the finished facilities. Effective public outreach and construction noticing were identified as particularly important for the success of this project, which kicked off immediately following the controversial removal of several mature trees on California Avenue in the City's central business district.

**Emergency Diesel Generator Package 2A Project, City of San Jose, CA.** Project Manager for the addition of an emergency power facility for the San Jose/Santa Clara Regional Wastewater Facility, including installation of four EPA Tier 4i, 3-megawatt, 4.16 kV diesel generators with supporting fuel storage and delivery systems and emission equipment, and appurtenances. This emergency power facility is sized to provide backup power for the Regional Wastewater Facility's critical and secondary plant loads for up to 48 hours without refueling, and will readily accommodate future expansion.

**Concrete Water Reservoir Study, City of Menlo Park, CA.** Project Manager for siting study for new concrete potable water storage reservoir to provide emergency and operational storage for the City's water system. The project entailed thorough analysis of siting constraints including geologic and hydrogeologic conditions such as soil type and depth to groundwater. Geometric configurations of the proposed water reservoir were developed and evaluated and included buried and partially buried options for circular prestressed and rectangular conventionally reinforced options. The potential for joint use of the water reservoir site was also evaluated as well as regulatory constraints posed by the shallow depth to groundwater.

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**Gano Reservoir and Unit X Pipelines, Olivenhain Municipal Water District, CA.** Reservoir and site design development using AutoCAD, prepare SWPPP for 6.5-MG AWWA D-110 Type I prestressed concrete reservoir and 10,000 LF of steel transmission pipelines.

**Water Supply Backup Well Facility at City Corporation Yard, City of Menlo Park, CA.** Project Manager for 200-hp deep well submersible pump and piping connections, a 5,000-gallon hydropneumatic tank, onsite disinfection facilities, 350kW Emergency Generator, connection to City's potable water distribution system, connection to storm drain, landscaping improvements, and associated electrical and controls for the wellhead pump station and integration to the Corporation Yard's electrical power system.

**Reservoir Structural Analysis, City of Oceanside, CA.** Project Engineer for the structural analysis of 12 reservoirs, 11 of which were circular concrete. To meet the City's goal of maintaining the water storage capacity at its maximum, and maintaining the structural integrity of the reservoirs, a condition assessment and structural analysis of all reservoirs was performed by Ardurra.

**Storm Pump Station No. 1, City of Sunnyvale, CA.** The facility consists of an approximately 25'x25' concrete masonry unit structure with a trash screen, two large natural gas powered duty pumps, one small electric pump, SCADA components, and three discharge pipes. The preliminary design report included conducting a complete investigation and analysis of the existing pump station to establish a basis of design for a comprehensive rehabilitation and update of the pump station. This included generating a complete list of deficiencies, and determining feasible options for rehabilitation and updating. The report presents alternatives and includes preliminary construction schedules and cost estimates. The report was used to determine the scope of work to be used as a basis of design for construction documents.

**Lotus Street Sewer Replacement, City of Oceanside, CA.** Project Manager. The project proposes various improvements to the existing Lotus Street sewer system including removal of approximately 250 linear feet of 6-inch cast iron sewer line and replacement with 8-inch PVC sewer line; construction of approximately 340 linear feet of new 8-inch PVC sewer line east; manhole rehabilitation/replacement in conjunction with the proposed new and replacement pipelines; abandonment of approximately 600 linear feet of existing sewer line and associated manholes, and construction of an approximately 50-linear-foot extension of new 8-inch PVC sewer lateral line.

**Oceanside Boulevard Sewer Lift Station Relocation, City of Oceanside, CA.** Project Manager for a 2,000-gpm replacement sewer lift station to pump from the tributary area surrounding Oceanside Boulevard to the La Salina Wastewater Treatment Plant. The existing

lift station is more than 60 years old and is in poor condition; due to the critical nature of this pumping facility, this project is a significant milestone in the ongoing rehabilitation and maintenance of the City's sewer infrastructure. The new lift station will consist of a custom design wet pit/dry pit station that has four dry-pit submersible pumps, control valves, flow meter, odor control system, biocide injection system, surge control system, standby power system, emergency storage, and site piping to connect to the existing sewer force main. The project also includes approximately 650 linear feet of gravity sewer main to convey flow from the existing lift station to the new lift station.

#### **Groundwater Pilot Production Wells, City of San Diego, CA.**

Project Engineer for as-needed services to design pumping and conveyance systems for groundwater production wells throughout San Diego County. The City has an aggressive program to enhance its water supply system by adding approximately 10,000 acre-feet/year of locally produced groundwater to supplement the City's water supply system. To date, the contract has included the following task orders: 1) Pilot Production Wells Investigation Workshop to identify candidate projects and develop the initial scope for future investigation and design efforts; 2) Pilot Production Well No. 1 Improvements to design upgrades to the City's San Vicente Production Well No. 1 including new flow meter, pump to waste piping, and SCADA and remote communications equipment; 3) Overall Program Management - LISA (Local Investigations and Studies Assistance) Program and miscellaneous technical assistance; and 4) Design of Production Wellhead and Conveyance Facilities for Diamond Business Improvement District (DBID) including a new 500-gpm production wellhead facilities, controls, and pipelines to enable the City to utilize groundwater for irrigation purposes.

**Well No. 10 and No. 11 Raw Water Collection Pipeline, City of Oceanside, CA.** Project Engineer for the design of 5,000 LF of 20-inch PVC transmission pipeline, consisting of 2 jack-and-bore crossings, pipeline to be constructed in city streets, under Highway 76, within an engineered fill, in undeveloped areas adjacent to existing Army Corps of Engineers flood control levee, and finally connecting to the City's existing Mission Basin Desalting Facility. Project included coordinating with and obtaining permits from several agencies including Caltrans, SDG&E, FAA, and OSHA Mining and Tunneling Unit. An alignment study that examined several possible alternatives was performed as part of this project.

**Well No. 9 Wellhead Facilities, City of Oceanside, CA.** Project Engineer for the design of wellhead facilities, consisting of a 200-hp (2,000 gpm, VFD) submersible well pump, layout of concrete pad with surge tank, piping, electrical equipment, connection to the City's existing Mission Basin Desalting Facility (400 LF of 16-inch PVC pipeline), and 700 LF of 18" RCP drain pipe. Project also included preparation of a DHS Drinking Water Source Assessment.





### Education

M.Eng./1983/Civil Engineering/  
University of California, Berkeley  
BS/1981/Civil Engineering/University  
of California, Irvine

### Registrations

1986/PE/Civil/CA #C40654

### Professional Affiliations

American Society of Civil Engineers  
American Public Works Association  
WaterReuse Association

### Awards

Mountain Top Reservoir Retrofit  
Padre Dam Municipal Water  
2010 APWA Project of the Year 2010  
ASCE Award of Merit

Infrastructure Project  
Palomar College

2000 ASCE Honor Award

**Years of Experience:** 39



## Anders Egense, PE

### Design Services, Pipeline Design

Anders Egense, PE, is experienced in water resources planning and engineering. Specialized experience includes the planning and design of potable water and recycled water supply and distribution systems.

### RELEVANT EXPERIENCE

**Orange Tank Siting Study, Eastern Municipal Water District, CA.** Project Manager for siting study for a 1 MG steel reservoir and 1,800 feet of 12" PVC pipeline to connect the new tank to the distribution system.

**Water Master Plan, Olivenhain Municipal Water District, CA.** Project Manager for comprehensive master plan encompassing District's 50-square-mile service area. Study involved the development of a new GIS-based hydraulic model (using H2ONET®), planning of future potable water and recycled water capital facilities, and the development of operational guidelines for District's potable water storage in concert with the new treatment plant and water storage project.

**Harris Reservoir and Pump Station Replacement, Cal Water Service Company, CA.** Developed alternatives and performed hydraulic analyses to evaluate replacement of a buried 4-MG concrete tank that had experienced severe structural distress due to landslide-induced settlement, along with the reconstruction of an onsite pump station and major upgrades to two other pump stations.

**Engineering Consulting Services, Olivenhain Municipal Water District, CA.** Principal-in-Charge providing oversight and quality control for ongoing support services tasks. Tasks include hydraulic analyses and plan checking of potable water and recycled water facilities for land development projects, maintaining and updating water system network models, and engineering support for operations department, right-of-way engineering, and engineering support during construction projects.

**Engineering Consulting Services, City of Escondido, CA.** Project Manager responsible for ongoing tasks including maintaining and updating water system network models, assisting the City with implementation of its capital water projects, and development and evaluation of planning criteria for future water system improvements.

**Eastlake Greens and Rancho Del Rey Groundwater Well Feasibility Study, Otay Water District, CA.** Project Manager for study of wellhead treatment alternatives and discharge options for two small groundwater wells.

**Lester J. Berglund Water Treatment Plant Clearwell Upgrades, City of Poway, CA.** Project Manager for multifaceted project involving existing 10 MG Clearwell:

- *Condition Assessment of Clearwell* – Material testing of Hypalon floating cover and liner, evaluation of replacement installation options, coordination with CA Department of Drinking Water, and preliminary design for replacement cover and liner.
- *Evaluation of Clearwell Replacement Alternatives* – Reviewed future water system demands, clearwell volume requirements, and compared rehabilitating the existing clearwell floating cover with alternative structures: circular steel and circular prestressed concrete tanks.
- *Preliminary Design for Clearwell Bypass Pipeline* – Hydraulic analysis of system operations to determine minimum storage requirements for bypass system (2.0 MG); evaluation of options for configuring and locating bypass storage; and preliminary alignment analysis for bypass pipeline.
- *Bypass Tank Configuration Evaluation* – Concept-level evaluation of three concrete tank shapes: circular and two rectangular footprints with comparison of general life cycle costs and advantages/disadvantages.

## ANDERS EGENSE | ARDURRA | Page 2

- *Preliminary Design for Bypass Tank* – Preliminary design for 2.5 MG prestressed concrete tank and 1,000 feet of 36" bypass line with valve vaults, site improvements, drainage facilities.
- *Final Design for Temporary Bypass System* – Technical memorandum to develop temporary bypass system comprised of permanent bypass pipeline (1,140 feet of 36"), temporary bypass pump station (3,900 gpm) and temporary storage tanks (2.2 MG in twin bolted steel tanks with 1,100 feet of 24" HDPE pipe). Prepared PS&E for system and assisted with support services during bidding and construction phases.
- *Design for Clearwell Replacement* – Provided technical support for design of twin 4-MG prestressed concrete tanks to replace existing floating cover Clearwell.

**As-Needed Civil Engineering Services, City of San Diego, CA.** Program Manager for 5-year, \$5M as-needed contract. Work tasks have encompassed:

- *Group Job 1020 Pressure Reducing Station* – PS&E for buried PRS and radio link SCADA.
- *Nimitz Bridge Pedestrian Improvements* – ADA ramps, lighting, structural modifications on existing concrete bridge.
- *Golf Course Dr. Bike Lane* – Feasibility study of addition of bike and pedestrian lanes along constrained roadway through golf course and sensitive habitat area.
- *Group Job 835 Sewer Manhole Design* – Structural design for 25 feet deep manhole.
- *San Carlos Storm Drain Project* – 6,500 feet of 18" - 54" storm drains to replace deteriorated facilities. Includes hydrology and hydraulic analysis, design of 30 feet deep manhole, and extensive private property owner coordination for restoration of landscape/hardscape along easements.
- *Rolling Hills Park Improvements* – Site grading and drainage improvements; hardscaping for new playground facilities with close community interaction.

**Village Park Recycled Water Facilities, Olivenhain Municipal Water District, CA.** Project Manager for alternatives evaluation, PDR, and PS&E for design of 35,500 feet of 4" - 12" PVC and fusible PVC pipe, an 1,200-gpm pump station (using prefabricated station), flow metering facilities, and modifications for conversion of existing 1.0-MG water tank to recycled water operation including addition of potable makeup water system with flow control and air-gap. The pipelines are located in busy thoroughfares, residential streets, and fronting schools and businesses. Services included extensive utility agency and City of Encinitas coordination and hydraulic analysis of operational interface between Olivenhain Municipal Water District and San Elijo Joint Powers Authority recycled water systems, support for Coastal Development Permit from City of Encinitas, and bid and construction phase support.

**Miramar Water Treatment Plant 58 MG Clearwell, City of San Diego, CA.** Task Manager for civil design of water storage facility comprised of two 29-MG partially buried basins to replace existing outdated structures. The project includes 2,200 feet of 54" - 84" welded steel inlet and outlet pipes, inlet and outlet structures, flow meters in buried vaults, 200 feet of 42" RCP overflow piping, basin drain system with 16" piping, underdrain piping, and a barrier drain system to address local groundwater. Also providing bid and construction phase support services.

**La Jolla View Reservoir and Pipeline, City of San Diego, CA.** Project Manager responsible for PDR and PS&E for 3.1-MG reservoir, 3,000 feet of 30" welded steel pipe, and demolition of two outdated reservoirs. Reservoir is comprised of prestressed concrete tank that is fully buried with limited surface features. Project includes extensive habitat restoration and public outreach support due to the tank location in a scenic, hilltop park in the coastal La Jolla area.

**Rock Springs Sewer, Vallecitos Water District, CA.** Project Manager for the design of 2,700 feet of 12" - 15" gravity sewer (with trenchless construction section) through environmentally sensitive corridor. Project included slip-lining to rehabilitate one segment of 8" pipe, environmental compliance (IS/MND preparation), and coordination with homeowners to select alignment that minimized impacts to HOA park.

**Flagler Wells, Elsinore Valley Municipal Water District, CA.** Project Manager for design of pumps and associated appurtenances to equip two groundwater wells for delivery of raw water to Ag Line system. Project includes 800-gpm vertical turbine pumps, motor control centers, discharge pipelines to connect wells to distribution system, and pump-to-waste pipelines that outlet to the adjacent Temescal Canyon Wash. Services include engineering support during construction.

**Miramar Pump Station Rehabilitation/Replacement Study, San Diego County Water Authority, CA.** Project Manager for an evaluation of various alternatives to either rehabilitate, upgrade, or replace the aging 100-cfs pump station that delivers treated water from the City of San Diego Miramar WTP into the SDCWA Aqueduct system. Project includes hydraulic analyses, selection of new pumps, and detailed project description of the preferred project alternative.

**I & I Mitigation Project – Value Engineering, City of La Mesa, CA.** Project Manager for the performance of a VE study of the construction documents for 14.8 miles of 6- and 8-inch concrete lined sewer mains and manholes that needed to be replaced. The pipelines are being replaced using both conventional in-place trench replacement and alternative methods such as microtunneling, directional drilling or pipe bursting. The final report made several recommendations on options for reducing costs and minimizing impacts to residents and private property.



### Education

California Polytechnic State University,  
San Luis Obispo, B.S. Mechanical  
Engineering, 1975

### Registrations

1978/PE/Mechanical/CA #M18710

### Professional Affiliations

American Water Works Association

California Water Pollution Control  
Association

Water Environment Federation

**Years of Experience:** 46



## Rick Kennedy, PE

### Design Services, Recycled Water Compliance, Pipeline Design

In his 46 years of experience, Rick Kennedy, PE, has managed the design of more than 15 new and retrofit pump station projects ranging in size from 400-gpm to over 400-mgd, with a variety of types of pumps and drive configurations. He has managed the design of new and retrofit water treatment plant projects. He is a specialist in mechanical process equipment of all types, piping, and valves. He prides himself in working closely with his clients, and ensuring the design team understands the critical issues of the project. He is dedicated to delivering detailed and quality bid packages. He effectively manages project budgets, schedules, and risks and continually finds ways to minimizing construction and operational costs.

### RELEVANT EXPERIENCE

**Santa Margarita Conjunctive Use Project Facilities, Fallbrook Public Utilities District (FPUD), CA.** Project Manager for the design of treatment facilities associated with an agreement between FPUD and the federal government that settled a century long dispute over water rights of the Santa Margarita River. The agreement included Camp Pendleton providing approximately 8-mgd of groundwater to FPUD, actual flow rates being dependent on the month of the year and rainfall of the previous year, that was high in iron, manganese, and TDS. The treatment train included 8-mgd of iron and manganese utilizing greensand media within six 12-inch-diameter and 30-foot-long pressure vessels. A side stream treated with RO membranes was remixed to create a product water to match the water quality of FPUD's imported water. The product water was pumped directly in the distribution systems. Distribution system improvements included two miles of 24-inch CML&C steel pipe, a remote 8-mgd pump station and 6-MGD steel water storage tank. Project services included distribution system modeling; establishment of water quality goals; evaluation of potential process treatment trains and configurations; preliminary design; final design; design service during construction phases; public outreach; and permitting assistance.

**University Heights Water Tower Seismic Retrofit, City of San Diego, CA.** Project Manager for structural retrofit of the existing water tower structure to improve seismic stability. The project included replacement of exterior structural elements including all new tie rods, turn-buckles gusset plate reinforcement, anchor plates and nuts. Specialized lead paint abatement and removal was limited to areas of immediate repairs of the existing structural elements. Coating of new bare steel members as well as recoating of repaired areas was performed to preserve the existing patina of the aged tank matching the weathered appearance and color of the existing tower coating.

**City of San Diego Reservoir Condition Assessments, Simon Wong Structural Engineering, San Diego, CA.** Mechanical Quality Control review of 12 major City water reservoir condition assessment reports. Verified mechanical condition information, improvement and maintenance recommendation, and life cycle analysis, and estimated years of remaining life. Provided overall review of all elements or the reports in including clarity of presentation and cost estimating.

**Leucadia Pump Station, Leucadia Wastewater District, CA.** Project Manager for the condition assessment, preliminary and final design for a 4.0-mgd wastewater lift station for the Leucadia Wastewater District. The Leucadia Pump Station is the District's largest pump station with four 200-hp variable speed driven (VFD) pumps currently in place. This rehabilitation project will include the replacement of the four large pumps with three slightly smaller 150-hp pumps and two 25-hp jockey pumps to accommodate the wide range of flows to the pump station. The project will include the reuse of two relatively new 200-hp VFDs for two of the new 150-hp pumps, all new ductile iron piping, valve, and appurtenances. The new pumps will be dry pit submersible type. The T-locked wet well will be repaired, and odor control equipment and other minor equipment replaced.

**RICK KENNEDY | ARDURRA | Page 2**

**Overland Trail Lift Station Rehabilitation, Fallbrook Public Utilities District, CA.** Project Manager for the rehabilitation of a high head (two pumps-in-series) wastewater lift station. The project includes a permanent diversion of the District's Anthony Corner's Lift Station flow to the Overland Trail Lift Station with a subsequent increase in pump capacity and overall footprint of the station. The electrical service will be increased due to larger pumps and the existing control building reconfigured for larger electrical gear. Other improvements include an increase in the size of the dry pit and a new cast-in-place top of the wet well. The flow from Anthony's Corner Lift Station will flow to an existing diversion box on Mission Road in Fallbrook. One 8-inch sewer, the Mission Oaks sewer, will be relocated to connect with Mission Road trunk sewer and the lift station demolished.

**Rainbow Heights Pump Station, Rainbow Municipal Water District, CA.** Project Manager to either renovate or replace the existing pump station. The existing pump station included two natural gas engines driven and two electric driving vertical turbine pumps. Increasing maintenance costs, related Air Pollution Control Board permitting equipment compliance costs, the 40+ years age of the gas-driven pumps, and structural integrity issues with the building prompted the decision to replace the pump station. Effort included easement evaluation, preliminary design, and final design. The preliminary design evaluated the potential use of other sites, site layouts, hydraulics, pre-engineered pump station cost versus convention pump station building cost, type check valves and isolation valves to be utilized to accommodate 400-psi pressure, electrical design. Final design included a unique pre-engineered pump station building with three vertical turbine pumps, buried pump cans and suction header, meter on the suction side of the pumps station due to high discharge pressures, emergency generator, electrical coordination with SDG&E, new PLC and control descriptions and design modifications to the District's SCADA and telemetry system. Temporary pumping and associated electrical requirements to facilitate operations during construction were detailed within the contract documents.

**Alvarado Water Filtration Plant, City of San Diego, CA.** Project Manager for four phases of design and design services during construction. Phase I provided the plant to be expanded by 30-mgd to a rated capacity of 150-mgd. The other 3 phases were performed to expand the plant to 200-mgd.

**Lake Calavera Dam Outlet Improvements, Carlsbad Municipal Water District, CA.** Project Manager for evaluation and design of upgrades to outlet works on a 540-acre-foot dam that is under the jurisdiction of the California Division of Safety of Dams (DSOD). The existing outlet valves and control systems need to be upgraded to

provide positive upstream control and satisfy DSOD requirements. Upgrades to the dual valve control system are expected to include modified pneumatic controls and new hydraulic actuator tubing. Deliverables will include alternative systems evaluation and recommendations, and final design PS&E for the preferred option.

**MBC Cooling Water System Chiller Upgrade, City of San Diego, CA.** Project Manager for replacing and optimizing the existing Chilled Water System (CW System) at the City of San Diego's MBC facility. The project replaces two 370-ton chillers, that provide ambient environment cooling for multiple onsite buildings, with three 250-ton chillers and upgrades the CW System necessary due to operational and reliability issues, outmoded controls, and overall age of the equipment. Three primary pumps were replaced with new and the addition of a fourth. Two secondary pumps were replaced with the same capacity and with VFDs to control flow to the air handling units based on cooling demand. Ancillary equipment including air separator, expansion tank, chemical injection pot, and makeup water feed system were also replaced.

**Post Road Hydropneumatic Booster Pump Station, Eastern Municipal Water District, CA.** Project Manager for the pre-design and final design of a temporary booster pump station, hydropneumatic tank, and associated suction and distribution pipeline to alleviate low pressure conditions in the westerly higher elevation areas of the Eastern Municipal Water District's Good Hope II (1832) Pressure Zone. Gathered information on the District's existing water facilities in the local pressure zone (1832) and surrounding area with new survey to: 1) provide hydraulic distribution system modeling to define three alternative proposed 1910 pressure zones and pumping criteria (selecting one); 2) evaluate two alignment alternatives (selecting one) based on advantages and disadvantages considering existing in-place utilities, public right-of-way, planned utilities, crossings; traffic; permits; cost; access, and community and environmental impacts; 3) prepare a preliminary design report using existing aerial mapping information County, USGS, to develop the booster pumping station site to be located along an existing 40-foot-wide District easement west of Post Road, and evaluate two pre-engineered 300-gpm pump and hydropneumatic tank layouts; and 4) provide final design documents.

**Trask Reservoir Site Water Improvement Project, City of Garden Grove, CA.** Project Manager for construction of a new 9,000-gpm pumping station, utilizing two natural-gas-powered engine-driven 2,250-gpm three stage vertical turbine pumps (150-hp each), and a 600-gpm motor-driven four-stage vertical turbine pump (50-hp).





### Education

BS/2013/Civil Engineering/University of the Pacific

### Registrations

2018/PE/Civil/CA #89478

### Software

AutoCAD  
GIS  
HEC-RAS  
InfoWater

**Years of Experience:** 9



## Kaitlyn Leong, PE

### Design Services, Pipeline Design

Kaitlyn is a project engineer that brings strong design experience in water and wastewater projects. Her attention to detail and work on a breadth of projects makes her an effective key project member. Kaitlyn is skilled in several modeling and design programs including AutoCAD, HEC-RAS, InfoWater, and GIS.

### RELEVANT EXPERIENCE

**Pershing Avenue Sewer Trunk Line Rehabilitation Project, City of Stockton, CA.** Staff engineer providing the City of Stockton with assistance in the implementation (final design) of the rehabilitation of approximately 2,300 LF of gravity sewer trunk lines with pipe diameters of 18-inch to 30-inch along Pershing Avenue from Venetian Drive to West Swain Avenue. Our tasks included CCTV review, condition assessment, alternative evaluation, preliminary design, and final design. The project will include pipe bursting an existing 30-inch segment to 33-inch and lining the remaining segments with cured-in place concrete rehabilitation methods.

**2014-2016 Miscellaneous Water and Sewer Main Replacement Project, City of Mountain View, CA.** Staff Engineer for the design services for the City's sewer and water main replacements project. Design included replacement of 5,280 LF of 4-inch and 6-inch cast iron water mains with PVC pipe material with conventional open trench method. Design also included replacement of 4,840 LF of 6-inch and 8-inch sewer mains with pipe bursting method. Reviewed CCTV records and videos of existing sewer condition and provided recommendations of best replacement method based on existing sewer condition. Pipe burst methods were employed where feasible based on review of sewer conditions from CCTV investigation. The project included evaluation of sewer repair methods for a sewer main near a Caltrain crossing.

**Fairfield Sanitary Sewer Rehabilitation Project, City of Fairfield, CA.** Staff Engineer providing the City of Fairfield a comprehensive sewer replacement plan for the Midtown area that includes approximately 90,000 LF of gravity mains ranging from 4-inch to 10-inch in diameter. Reviewed CCTV and performed a condition assessment of the existing pipeline. Identified critical defects using National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program methods.

**Semitropic School Water Supply Project, Wasco, CA.** Staff Engineer for the design of an approximate 5,000-foot water supply pipeline connecting the school to an existing 12-inch waterline. The Semitropic School has a problem with water quality and reliability. The water supply has arsenic levels not in compliance with the new drinking water standards and also exceeds the MCL for iron and antimony. The school's well is also vulnerable to chemicals and byproducts from the surrounding agricultural activities. Prepared a preliminary engineering report to support a water supply funding application. The school is located within one mile of the wells and treatment plant for Lost Hills Utility District (LHUD). It was determined that consolidation with the LHUD would be the best alternative to provide reliable water service that meets the drinking water standards and the present and future needs of the school.

**North Kaweah Mutual Company Water Supply and Consolidation Project, Three Rivers, CA.** Staff Engineer for planning, design, and construction management in a mountainous area to consolidate two water systems, install approximately 10,600 feet of 6- and 8-inch waterlines, fire hydrants, new 120,000-gallon storage tank, pressure reducing station, two new shallow wells, a 25-gpm water treatment plant, and new electrical services.

**Hardwick Water Company Water Supply Project, Hanford, CA.** Staff Engineer for the design of a new well and an approximate 1,300-foot distribution system connecting it to the existing waterline. The community of Hardwick has a problem with water quality and the Hardwick Water Company was issued a



**KAITLYN LEONG | ARDURRA | Page 2**

Notice of Violation for exceeding the uranium MCL. It was determined that a new well would be the best alternative to provide water that meets the drinking water standards.

**Bakersfield Pilot Flying J Wastewater Treatment Facility Improvements, Bakersfield, CA.** Staff Engineer for the wastewater treatment facility improvements at the Pilot Flying J Travel Plaza in Bakersfield. The wastewater treatment facility had problems with rag material and equipping plugging. Existing facilities include a wastewater lift station, a package plant, and evaporation/percolation pond for disposal of treated effluent. Improvements included replacement of the existing submersible water pumps in the lift station, addition of a headworks screening facility, and associated electrical and piping work.

**1810 Zone System Improvements, City of Glendale, CA.** Performed hydraulic analysis for the City of Glendale Water & Power Department and provided guidance related to the potable water system needs and improvements for Zone 1810. Work performed includes applying various demand scenarios, such as average day demand, maximum day demand, and peak hour demand, applying fire flow scenarios to simulate an instance of a potential fire, analyze and identify potential deficiencies in the water system, and identify potential required upgrades to the water system.

**Benecia Master Plan Update and Major Facilities Condition Assessment, City of Benecia, CA.** Staff Engineer for the City's Water System Master Plan update. Services include comprehensive condition assessments of the City's existing major water facilities. The result of the master plan update and condition assessment will be a list of proposed water new or rehabilitation and/or replacement projects, with cost estimates, to be included in a Capital Improvement Program.

**Santa Nella County Water District Water Supply, Santa Nella, CA.** Staff Engineer for water system improvements. Services involve assistance for planning water system improvements including feasibility study/design to increase water supply reliability, achieve compliance with the California drinking water standards, correct system deficiencies, replace/upgrade equipment, and serve anticipated developments.

**Akin Water Supply Project, Porterville, CA.** Staff Engineer for a preliminary engineering report to address the problem of water quality and reliable water supply of two wells that had nitrate levels exceeding drinking water standards. The water company serves 26 residential units in an area within the city of Porterville sphere of influence, and it was determined that the best alternative for this small residential neighborhood is to be served by the City of Porterville. The City is planning to construct a water main approximately 400 feet north of the Akin service area, and this project will entail abandonment of the existing wells and design of the pipeline connecting residents to the City water main.

**Lanare Water Supply Project, Lanare, CA.** Staff Engineer for water meter installation project, residential water audits, and Prop 84-funded water supply improvement project for a disadvantaged rural community in Fresno County. Services included water supply reliability, achieve compliance with California drinking water standards, correct system deficiencies, and replace/upgrade equipment.

**Tejon Mountain Village Water Supply Facility Plan, Tejon Ranch Company, Kern County, CA.** Staff Engineer for this 7,800-acre development encompassing approximately 3,450 single-family units as well as recreational, commercial, and hotel facilities and agricultural areas. Engineering assistance on the project will involve multiple phases of design with the initial phase including research; outreach to local and state agencies; development of demand factors and water budgets/supply options; and proposed major backbone infrastructure facilities siting and pipeline routing including water conveyance, storage, and treatment. Infrastructure requirements were divided into those necessary for the first tentative tract map development area (approximately 750 residential units, a hotel, 70,000 square feet of commercial facilities, and various open space/agricultural areas) and final buildout. The overall project is divided into six tentative tract maps and 18 phases. Future phases of work include facilitating acquisition of multiple permits with state and local agencies and preliminary and final designs of facilities required for the various phases of the development.

**Drainage Study, Stanford University, CA.** Performed hydrology and hydraulic analysis for Stanford University. Analyzed overland release conditions for the east side of the campus. Identified drainage areas and performed drainage calculations using HEC-RAS. Performed field investigation of the site.

**Kirkwood Meadows Public Utility District, Alpine County, CA.** Ongoing activities included the permitting, oversight, and monitoring reporting services for the wastewater treatment plant, disposal area facilities and four groundwater production wells for drinking water. These facilities serve the community of Kirkwood and the Kirkwood Ski Resort. Forty monitoring locations are used to assess wastewater treatment and groundwater quality from samples collected on monthly and quarterly basis.

**City of Galt WWTP, Galt, CA.** Activities included groundwater monitoring and reporting in support of the WWTP NPDES permit. A statistical evaluation of groundwater monitoring results is used to determine impacts to groundwater and examine trends in groundwater quality.



### Education

BS/2002/Civil Engineering/San Diego State University  
AS/2012/Landscape Architecture Technician/Mesa College

### Registrations

2006/PE/Civil/CA #C69189

### Professional Affiliations

American Society of Civil Engineers  
Chi Epsilon, Civil Engineering Honor Society

**Years of Experience:** 17



## Patrick Mulvey, PE

### Design Services, Pipeline Design

Patrick Mulvey, PE, has 17 years of civil engineering design experience with a range of projects including, but not limited to, pump stations, pipelines, and reservoirs. Project challenges have included pumping station replacements and upgrades, complicated horizontal and vertical pipeline alignment design, through congested utility corridors, site planning for replacement facilities, development of plans, specifications, and cost estimates, and various engineering calculations.

### RELEVANT EXPERIENCE

**Bluebird Booster Station (Vern Gillett) Upgrade & Bluebird Road Water Improvements, City of Glendora, CA.** Project Engineer for the design of a new pump station to supply Zone 28, a new pipeline, and modifications to the existing Zone 28 tanks. Project challenges include a narrow site that is constrained by trees and a large storm drain channel and the pipeline alignment is on a narrow private road with various undocumented utilities that need to be design around.

**Sewer Replacement Nevada Avenue and Bodger Street Area (CIP No. 005), City of El Monte, CA.** Project Engineer. The City's existing sewer mains and manholes within the area of Nevada Avenue and Bodger Street were constructed in 1938 and are approaching the end of their useful life. In addition, many of the mains and manholes are in easements located in the backyards of private residential properties, making it difficult for the City to access and conduct maintenance. As a result, approximately 4,500 linear feet of existing small diameter (8- and 12-inch) sewer is being replaced and relocated into the public ROW. The project also includes construction of new sewer laterals for each of the affected properties, approximately 140 in total. This was particularly challenging because the existing sewer connections are in the backyard, requiring realignment of laterals from the rear of properties to the street.

**Water Supply Backup Well Facility at City Corporation Yard, City of Menlo Park, CA.** Senior Designer for 200-hp deep well submersible pump and piping connections, a 5,000-gallon hydropneumatic tank, onsite disinfection facilities, 350kW emergency generator, connection to City's potable water distribution system, connection to storm drain, landscaping improvements, and associated electrical and controls for the wellhead pump station and integration to the Corporation Yard's electrical power system.

**Lotus Street Sewer Replacement, City of Oceanside, CA.** Project Engineer. The project proposes various improvements to the existing Lotus Street sewer system, including removal of approximately 250 linear feet of 6-inch cast iron sewer line and replacement with 8-inch PVC sewer line; construction of approximately 340 linear feet of new 8-inch PVC sewer line east; manhole rehabilitation/replacement in conjunction with the proposed new and replacement pipelines; abandonment of approximately 600 linear feet of existing sewer line and associated manholes; and construction of an approximately 50-linear foot extension of new 8-inch PVC sewer lateral line.

**Oceanside Boulevard Sewer Lift Station Relocation, City of Oceanside, CA.** 2,000-gpm replacement sewer lift station to pump from the tributary area surrounding Oceanside Boulevard to the La Salina Wastewater Treatment Plant. The existing lift station is more than 60 years old and is in poor condition. Due to the critical nature of this pumping facility, this project is a significant milestone in the ongoing rehabilitation and maintenance of the City's sewer infrastructure. The new lift station will consist of a custom design wet pit/dry pit station that has 4 dry-pit submersible pumps, control valves, flow meter, odor control system, biocide injection system, surge control system, standby power system, emergency storage, and site piping to connect to the existing sewer force main. The project also includes approximately 650 linear feet of gravity sewer main to convey flow from the existing lift station to the new lift station.

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**La Jolla View Reservoir and Pipeline Replacement Project, City of San Diego, CA.** Project Engineer for PDR and PS&E for 3.1 MG reservoir, 3,000 feet of 30" welded steel pipe, and demolition of two outdated reservoirs. Reservoir is comprised of prestressed concrete tank that is fully buried with limited surface features. Project includes extensive habitat restoration and public outreach support due to the tank location in a scenic, hilltop park in the coastal La Jolla area.

**Graham Reservoir and Athletic Field Project, City of Mountain View, CA.** Design Engineer for an 8-MG buried concrete reservoir, pump station and athletic fields on the site of Graham Middle School. Other project elements include over 2,600 LF of new water pipeline along City and Caltrans streets, civil site improvements, utility relocations, and permitting requirements from the Division of State Architect (DSA), Fire Department, and Caltrans District 4. Major project issues include community involvement, traffic issues, conflicts with existing utilities, and coordination between the City, Mountain View Whisman School District, DSA, and the Middle School.

**Reservoir Rehabilitation, Vallecitos Water District, CA.** Design Engineer for rehabilitation of 3 existing steel reservoirs, including recoating, valve vault reconfigurations, and miscellaneous improvements. Prepared PS&E for various projects.

**Gano Reservoir Alternatives Analysis, Olivenhain Municipal Water District, CA.** Design Engineer for an alternatives analysis to examine options for 6.5 MG of new potable water storage adjacent to the future Black Mountain Ranch community in San Diego. Developed and compared alternatives for twin steel and concrete tanks and partially buried single concrete tank.

**Calavo Pump Station Replacement and El Cajon Tank Modifications, Helix Water District, CA.** Design Engineer for the replacement of an existing pump station and the replacement of an existing steel tank roof with an aluminum geodesic dome roof. The project included a new pump station building with new pumps, motors, control valves, and mechanical piping, 16-inch waterline replacement, new dome roof for the adjacent reservoir, extensive coordination and phasing to maintain service to the existing pump station and miscellaneous site improvements consisting of grading and drainage improvements. The new pump station was successfully put into service along with the retrofitted tank.

**Buena Vista Force Main Replacement, City of Oceanside, CA.** Design Engineer for construction of approximately 9,100 LF of 24-inch sewer force main. The project included design of two tunnels; a 1,200-LF microtunnel and a 300-LF bore and jack, an alignment through residential areas, high-volume traffic areas and streets densely occupied

with utilities and extensive coordination between multiple agencies and property owners.

**Myers-Tait Street Sewer Replacement Project, City of Oceanside, CA.** Design Engineer for the replacement and upsizing of existing gravity trunk sewers in the La Salina Service Area of Oceanside. The existing sewers are currently over capacity; consequently, the replacement sewer lines must accommodate the existing flows as well as the future flows generated by new development in downtown Oceanside. Narrow residential streets, significant community impacts, and congested utility corridors added to the complexity of the project.

**511 Pump Station, City of Oceanside, CA.** Design Engineer for preliminary design of a 4.5-mgd pump station and discharge pipeline to pump from the Mission Basin Groundwater Purification Facility (RO Plant) directly to the 511 pressure zone. The preliminary design included development of the design-build contract documents, including technical specifications and 30% drawings. The pump station includes 3 vertical turbine pumps installed in an existing clearwell, control valves, flow meter, surge protection system, expansion of the existing site power capacity and a standby power system. The discharge pipeline is approximately 2,500 linear feet, to be constructed within existing City easements. The new pump station will allow the City to fully utilize the capacity of the RO Plant, increasing the volume of locally produced water, and further ensuring a safe and reliable source of water for the area.

**Jamacha Road 36-inch Potable Water Pipeline and 12-inch Potable Water Pipeline Replacement, Otay Water District, CA.** Design Engineer for final design of approximately 5 miles of 36-inch cement mortar lined and coated (CML&C) steel potable water pipeline along Jamacha Road/SR-54 within the city of El Cajon and County of San Diego; and replacing approximately 3,500 LF of a 12-inch steel pipeline that is severely corroded. Project challenges include pipeline installation in heavily traveled roadways, including Caltrans SR-54; traversing environmentally sensitive habitats, including jurisdictional wetlands, Least Bell's Vireo and Southern Willow Flycatchers, California Gnatcatcher, and rare plant species; maintaining services to customers along portions of the 12-inch pipeline replacement; major RCB culvert crossings; 15-foot deep microtunnel under a creek; and congested utility corridors. Multi-agency coordination included Caltrans District 11, City of El Cajon, and County of San Diego. Private entity coordination includes Grossmont-Cuyamaca Community College District, Cuyamaca Water Conservation Garden, and various elementary school districts.



### Education

BS/1999/Civil Engineering/San Diego State University

### Registrations

2005/PE/Civil/CA #C67536

### Professional Affiliations

Board of Governance, Self-Help Enterprises Since 2018

Industry Advisory Board Member, Bakersfield College MESA Program 2016-current

ACEC, Water Resources Committee

ACEC, Kern County Chapter, Secretary

ACEC, Kern County Chapter

ASCE, Los Angeles Section, Water Policy Committee, Chair

Bakersfield College MESA Program, Board Chair

Self-Help Enterprises, Board Member

Water Association of Kern County, Board Member

Water Association of Kern County, Water Summit Committee

### Awards

Graham Reservoir and Athletic Fields Project— ACEC/APWA/ASCE/CELSOC

640 Reservoirs— ASCE

**Years of Experience:** 23



## Dolores Salgado, PE

### Design Services, Plan Check, Pipeline Design

Dolores Salgado, PE, has more than 20 years of experience in the planning and design of civil transportation and water and sewer projects. Her civil transportation experience includes extensive light rail transit and bus rapid transit. Water and sewer experience includes water distribution and sewer collection facilities. Dolores is bilingual in English and Spanish and provides technical translation services to support public outreach services.

### RELEVANT EXPERIENCE

**Rock Springs Sewer Project, Vallecitos Water District, CA.** Project Engineer to prepare a planning and alignment alternatives study, followed by the design PS&E and preparation of environmental documents for CEQA compliance. The final project is comprised of 2,700 feet of 12- to 15-inch gravity sewer alignment to replace an existing 8-inch sewer, cured-in-place pipe lining of 300 feet of 8-inch gravity sewer, new and rehabilitated manholes, improved access paths for sewer system operators, and improvements to the HOA greenbelt hardscape and landscaping.

**640 Reservoirs, Otay Water District, CA.** Project Engineer for the final design of twin 10-MG partially buried, prestressed concrete reservoirs, associated valve vaults, two pressure reducing stations, civil site improvements, over 14,000 LF of new pipelines, and demolition of an existing conventionally reinforced concrete tank (1.6 MG) and abandonment of associated piping.

**Stage Ranch Road Pipeline, Elsinore Valley Municipal Water District, CA.** Project Manager for design of approximately 2,400 LF of 8-inch-diameter potable water pipeline. The project required approximately 300 LF of special material (CML&C welded steel pipe) due to the Elsinore Fault Zone, which has a high probability of fault rupture. A hydraulic analysis was performed to determine if the new 8-inch-diameter pipeline can supply fire flows of 1,500 gpm at 20 pounds per square inch residual pressure without exceeding the maximum flow velocities of 10 feet per second to minimize potential for system hydraulic surge and to limit pressure drops during fires.

**On-Call Development Reviews and Plan Checking Services, City of Shafter, CA.** Project Manager for an as-needed contract since 2019. Provides the City with review comments and recommendations to provide quality control and ensure projects comply with the City Standards, City Municipal Code and Ordinances, California Subdivision Map Act, Project Conditions of Approval, Tentative Subdivision Maps, Tentative Parcel Maps, City Master Plans, stormwater regulations, constructability, completeness, and sustainability for the benefit of future occupants. Reviews were conducted for parcel maps, final maps, grading plans, street improvement plans, sewer plans, drainage plans and studies and reports.

**On-Call Development Reviews, Plan Checking, and Field Inspection Services, City of Vista, CA.** Project Manager for an on-call contract providing professional engineering services to the City's Community Development Department related to plan checks review of water services, both domestic and fire water, to ensure compliance with the City of Vista's Conditions of Approval, American Water Works, California Water Work Standards, Department of Health Services, County Fire Marshal and constructability. Following project approval, construction management and inspections services includes the following services and recording pertinent information in the daily reports:

- Review that potholing of existing utilities has been completed and that conflicts have been checked prior to the start of trenching operations.
- Check that the materials and equipment match the approved submittals.
- Document that materials arrive at the site undamaged and are properly stored.



## DOLORES SALGADO | ARDURRA | Page 2

- Review jobsite conditions and activities and evaluate these for conformance with encroachment permit requirements.
- Observe construction activities to evaluate whether the work is performed in accordance with the applicable City of Vista or Vista Irrigation District standards.
- Spot-check the staking and elevations of installed improvements for conformity with the approved plans. Document that construction activities are not violating environmental or discharge requirements.
- Maintain a separate red-line set of drawings with notations for the actual construction of the alignment for review with the contractor's own red-lines.

**Land Development Review and Plan Checking Services, On-Call Civil Engineering, City of Bakersfield, CA.** Project Manager for the as-needed contract with the City of Bakersfield to support City staff with development reviews. Services include providing the City with design review comments and recommendations to provide quality control and ensure projects comply with the City Standards, City Municipal Code and Ordinances, Project Conditions of Approval, Tentative Subdivision Maps (TSM), Tentative Parcel Maps (TPM), City Master Plans, constructability, completeness, and sustainability for the benefit of future occupants. Reviews were conducted for parcel maps, final maps, grading plans, street improvement plans, sewer, and storm drain improvement plans, retaining and/or screen wall improvement plans, engineer's construction cost estimates, supporting calculations, and reports.

**As-Needed Plan Checking and Engineering Services, City of El Cajon, CA.** Onsite Project Engineer for an as-needed contract with the City of El Cajon. Services include reviewing grading and drainage plans and improvement plans for subdivisions, condo conversions, and street improvements by private developers. Responsibilities include coordination with the stormwater manager, City traffic engineer, construction inspector, capital improvements manager, and the planning department to ensure completeness and consistency in plan checks. Specific items reviewed include drainage plans, street improvements plans, sewer improvements, engineer's cost estimate, drainage studies, water and sewer studies, preliminary title reports, geotechnical reports, and environmental documents. Services also include coordinating with the engineer of work (EOW) to ensure the project complies with the City of El Cajon Design Standards, City Municipal Code and Ordinances, Project Conditions, TSM, TPM, and City Master Plans. Additional responsibilities include preparing recommendations for Conditional Use Permits, Site Development Plans, TSM and TPMs. Other responsibilities included assisting the City with a \$50-million new Public Safety Center project. Responsibilities included coordinating with the City Manager's Office, key project stakeholders, EOW, and City Public Works Managers, to collectively address project issues and organize comments. Other

engineering services include determining plan check fees, updating master checklists, recommending updates for City's Master Unit Prices, and training new City staff.

**As-Needed Plan Checking and Engineering Services, City of Brawley, CA.** Project Engineer for an as-needed contract with the City of Brawley. Services included reviewing grading and drainage plans and improvement plans for subdivisions by private developers. Plan submittals include cost estimates, drainage studies, water and sewer studies, geotechnical reports, tentative maps, and City Planning Department conditions. Services also include coordinating with the engineer of work to ensure the project complies with the City of Brawley Design Standards, Project Conditions, City Master Plans, and City's Municipal Code and Ordinances.

**Trunk Sewer Main Replacement, City of Escondido, CA.** Project Manager for the City of Escondido's Trunk Sewer Main, which is a key piece of the city's sewer infrastructure system. The trunk sewer collects sewage from approximately 30% of the city and conveys it to the Hale Avenue Resource Recovery Facility (HARRF). The trunk sewer was constructed in 1959 and originally served as the outfall from the City's treatment facility to a lift station. However, when the HARRF was constructed, the pipeline was repurposed to serve as a trunk sewer in the City's collection system. In recent years, sections of the pipeline have been failing, requiring emergency repairs to keep this key piece of infrastructure in-service. The original pipeline was constructed of 24- and 27-inch-diameter reinforced concrete pipe (RCP), however as emergency repairs were made, 30- and 36-inch-diameter PVC were installed. This project replaces 5 segments of trunk sewer remaining from the original construction, which totals 6,900 LF of new trunk sewer. Approximately 200 LF will be installed utilizing bore and jack underneath a highly congested traffic area near multiple dealerships. Caltrans encroachment permit was obtained for traffic control measures at I-15.

**Stage Ranch Road, Elsinore Valley Municipal Water District, CA.** Project Manager for design of approximately 2,400 linear feet of 8-inch-diameter potable water pipeline. The project required approximately 300 linear feet of special material (ductile iron pipe) due to the Elsinore Fault Zone, which has a high probability of fault rupture. A hydraulic analysis was performed to determine if the new 8-inch-diameter pipeline can supply fire flows of 1,500 gallons per minute at 20 pounds per square inch residual pressure without exceeding the maximum flow velocities of 10 feet per second to minimize potential for system hydraulic surge and to limit pressure drops during fires. Project challenges included mountainous terrain, traversing a narrow existing District easement, slopes in excess of 40% grades and trenching in weathered granitic rock materials.





### Education

MS/2011/Civil Engineering/University of Nevada, Las Vegas, NV  
BS/2008/Civil Engineering/University of Nevada, Las Vegas, NV

### Registrations

Registered Professional Engineer  
Nevada\* No. 22914

**Years of Experience:** 13



## Dustin Payne, PE\*

### Design Services, Pipeline Design

Dustin Payne has 13 years of design experience on several water and wastewater projects including pipelines and pump stations. Dustin is highly versed in the preparation and oversight of bid-ready construction documents in AutoCAD and Civil3D and has prepared plans, specifications, and cost estimates for various public works projects.

### RELEVANT EXPERIENCE

**Ontario Ranch Phase 2 Water Main Improvements, Ontario Municipal Utilities Company/City of Ontario, CA.** Senior Designer for approximately 1.5 miles of 30-inch-diameter cement mortar lined and coated, welded steel pipe (CML&C WSP), PZ 925, along Grove Avenue between Eucalyptus Avenue and Chino Avenue; design of an interim pressure reducing valve (PRV) station at the intersection of Grove Avenue and Chino Avenue to break pressure from the PZ 1010 to PZ 925, situated on the north side of Chino Avenue approximately 500 feet east of Grove Avenue, 1.6 miles of 18-inch-diameter CML&C WSP, PZ 1010, along Chino Avenue between Grove Avenue and the Chino Avenue Bridge (Cucamonga Creek).

**Cole Grade Road Pipeline Replacement, Valley Center Municipal Water District, CA.** Project Engineer for the design of approximately 6,930 linear feet of 14-inch-diameter PVC water pipe, connection details, branch line connections, and relocation of existing appurtenances within the limits of the County of San Diego project. The project will be bid as a component of the County's Cole Grade Road Improvement Project with all design, construction, and construction phasing coordinated with County staff.

**Bowron Road Sewer Upsize, City of Poway, CA.** Senior Designer for the replacement of surcharging pipes along Bowron Road, south of Poway Road. Approximately 1,450 feet of 18-inch-diameter pipe will be replaced with 21-inch-diameter pipe to alleviate the surcharging. An additional 480 feet of surcharging 8-inch pipe was analyzed and included in the final design of the project. Existing manholes were eliminated to reduce cost where they were no longer necessary. Dewatering was a known issue prior to construction; and a method of treatment and conveyance was determined for the project.

**Lester J. Berglund Water Treatment Plant Clearwell Bypass Pipeline, City of Poway, CA.** Senior Designer for preliminary and final design of 820 feet of 30"-36" welded steel pipeline located in and around complex piping at water treatment plant. Project includes hydraulic system analyses and engineering services during construction.

**Olivenhain Trunk Sewer Improvements Project, City of Encinitas, CA.** Senior Designer for this project that addressed existing maintenance issues, improved system reliability, and provided better protection for water quality and habitat values in Escondido Creek and San Elijo Lagoon. Specific objectives included rehabilitating 54 existing sewer manholes to reduce I & I, relocating 2,800 LF of the upper OTS out of the Escondido Creek floodplain and increasing its capacity to meet currently projected system needs, and providing environmentally appropriate access for maintenance vehicles along the remainder of the OTS.

**Las Vegas Valley Manhole and Pipe Rehab No. 709, Clark County Water Reclamation District, NV.** Project Designer to prepare a planning and alignment alternatives study. The final project is comprised of 8"-15" gravity sewer alignments, and recommendations were made to either trench out and replace or utilize cured-in-place pipe lining where appropriate. Manholes were evaluated and epoxy/liner was recommended where needed.

**DUSTIN PAYNE | ARDURRA | Page 2**

**Project Manager, MSE.** Designed and provided civil engineering services and construction support for a large commercial complex and a residential subdivision within tribal lands. Designed an airport hangar and taxiway to hangar for a Department of Defense contract.

**Staff Engineer, Eastern Sierra Engineering.** Designed storm drain system for a Truckee, California beautification and rehabilitation project, design grading, and landscaping plans for multiple single-family homes and businesses. Designed grading, plan and profile, traffic, and utility plans for Truckee expansion project, which involved coordination with UPRR for track relocation and relocation of operations building. The project was a multi-phase project, which encompassed commercial and residential buildings into a single area. Also designed grading plans for 1.5-mile road rehabilitation and lane expansion with Douglas County, Nevada, utilizing AutoCAD corridors. Assisted with design grading and utility plans for multiple mining projects.

**Professional Engineer I.** Designed grading, plan and profile, traffic, and utility plans for multiple residential projects, which included grading, utility, and traffic design. Conducted and submitted hydraulic network analysis, prepared plans, and made recommendations for existing sewer facilities to be rehabilitated for a public work project. Also prepared plans for a water pump station and a sewage lift facility.

**Engineer Intern I.** Prepared plans and made recommendation for existing sewer facilities to be rehabilitated for two public works projects.

**Designer I.** Designed and revised grading, plan and profile, traffic, and utility plans for commercial and residential projects. Conducted and submitted hydraulic network analyses. Created exhibits depicting runoff depth, scour, cross section, velocity and other pertinent information for wind and solar projects utilizing Flo-2d and available geographic data. Produced technical drainage studies.



### Education

BS/1993/Civil Engineering/California State University, Chico

### Registrations

1997/PE/Civil/CA #57710

### Certifications

Envision Sustainability Professional/  
Institute for Sustainable Infrastructure

Qualified SWPPP Developer/California  
Stormwater Quality Association

### Professional Affiliations

American Society of Civil Engineers

American Public Works Association

American Council of Engineering  
Companies

California City and County Engineers  
Association

**Years of Experience:** 28



## Anissa Voyiatzes, PE, QSD, ENV SP

### Civil

Anissa Voyiatzes, PE, QSD, ENV SP, has 28 years of experience in civil engineering planning, design, and program and project management for transportation and public works facilities. These projects have included bikeway, roadway widening, rehabilitation, ADA compliance evaluation and improvements, complete streets and streetscape projects, utility engineering, site grading, traffic engineering, flood control facilities, drainage systems, sewer and water systems, parking lots and retaining walls. Anissa specializes in public works engineering projects that incorporate sustainable design practices.

Having spent many years leading multidiscipline design teams delivering public works projects from on-call contracts throughout Southern California, Anissa is intimately familiar with challenges that cities face. Anissa's project management approach, which has been key to her success, involves focusing on the needs of her clients while staying flexible and adaptable through the life of the project.

### RELEVANT EXPERIENCE

**Market Street Pedestrian and Streetscape Enhancements Project, (LA River to Cherry Avenue), City of Long Beach, CA.** Quality Control Manager and Group Leader for the design of the roadway and for a pedestrian and streetscape enhancement project on Market Street between the LA River and Cherry Avenue, an approximate 1.9-mile stretch of the corridor. The project consists of complete street improvements including Class II/IV bike lanes and other new bike/pedestrian facilities, bulb-outs, wayfinding signage, sidewalk widening, crosswalk and transit stop enhancements, construction/reconstruction of curb ramps for ADA compliance, repairing sidewalks, curbs, and gutters, reconstructing/resurfacing roadway pavement, pedestrian lighting, traffic signal installation/upgrades, flashing beacons, landscaping and street trees, removing/relocating obstructions and utilities, and miscellaneous sustainable design features for improved mobility and safety.

**Long Beach Pedestrian Accessibility Improvements Design, Long Beach, CA.** Senior Project Manager responsible for evaluation and design of curb ramps to support the Citywide Curb Ramp program. Anissa previously managed the development of the City's Self Evaluation/Transition plans and is continuing that work with the citywide implementation for the placement and upgrade of all curb ramps at approximately 22,000 locations. The project includes ramp evaluation for ADA compliance, schematic and final design, and cost estimating.

**2019 Cycle 1 Residential Street Improvements City of Manhattan Beach, CA.** Senior Project Manager responsible overseeing the design and management for 5 miles of street improvements at various locations around the city. Design work included pavement rehabilitation, curb and gutter construction, sidewalk construction, and driveway construction. The project also included reconstruction of 61 curb ramps.

**Plaza del Amo at Western Mobility Enhancement, T-177, City of Torrance, CA.** Senior Project Manager for the preparation of construction documents for the roadway widening of Plaza del Amo from 223rd Street to Western Avenue to improve circulation and safety. Improvements include widening of the roadway on the north side, addressing roadway and stormwater deficiencies, restriping, curb and sidewalk and ADA compliant ramp upgrades. Processed Caltrans Encroachment Permit for modifications and improvements at Western.

**Bending the River into the City, Metabolic Studio, Los Angeles, CA.** Client Liaison for a completely unique use of civil engineering to develop a new relationship with the river, not as a polluted flood control device, but as the original source of water for region. This infrastructural artwork project would involve

**ANISSA VOYIATZES | ARDURRA | Page 2**

constructing and operating a 48-foot-diameter water wheel, modeled after the historic wheel that existed near the site. The purpose of the project is to divert water from the LA River and create an aesthetic/educational statement, showing that the LA River can be used as a source of water, enhancing the connections with the community, and provide a viable long-term water source for neighboring parks.

**I-210 Soundwalls, Supplemental Environmental Report (NBSSR) and Plans, Specifications and Estimates Phase III, City of La Cañada Flintridge, CA.** Engineering Services Group Leader for the design of three separate soundwalls along the I-210 freeway. The project has included soundwall design along a hillside slope, several edge of travel ways, and over bridges. As part of this design, the project has involved significant coordination with the City of La Cañada Flintridge, Caltrans, and the design team.

**ADA Ramp Program, City of Long Beach, CA.** Senior Program Manager for the overall management and design of the curb ramps for the City's ramp program. To date, her team has designed approximately 185 ramps throughout the city of Long Beach.

**Pacific Coast Highway Traffic Congestion Relief Project, Dana Point, CA.\*** Senior Project Manager for the pedestrian bridge and widening of Pacific Coast Highway from the San Juan Creek Bridge to Crystal Lantern. This multi-award-winning project for the widening that turned a 4-lane facility into a 6-lane facility. The project consists of preparing environmental documentation; widening the roadway to six lanes; coordinating with Caltrans and obtaining an encroachment permit; designing offsite improvements, including a pedestrian bridge over PCH, bus stop relocations, and new bus stop turnouts, and improvements to the maintenance yard for Doheny Park State Beach; designing drainage structures; and preparing a Storm Water Management Plan.

**Staff Augmentation, City of Long Beach, CA.** Provided plan check services as needed for a variety of projects ranging from roadway rehabilitation, parking lot replacement, site demolition, alley improvements, and beach stairway replacement projects.

**Staff Augmentation for Design Support and Construction Engineering Services (TOS No 111), City of Los Angeles, CA.\*** Senior Project Manager and Program Manager for the overall management of the TOS 111 Staff Augmentation Program. Anissa provided design support in the form of both onsite and offsite design staff for approximately 10 ATP grant-funded projects.

**Rosecrans Avenue Arterial Improvement Project, City of Gardena, CA.\*** Project Manager for this \$4-million, Measure R funded project. The project consisted of work across the entire width of the right-of-way along the 2-mile length of this major arterial crossing the city of Gardena. Project work included removal of the center turn lane

pavement, installation of raised medians, stamped colored concrete, landscaping, irrigation, driveways, sidewalks, curb ramps, traffic signal improvements, mill and overlay asphalt concrete pavement, and signage and striping. The work required close coordination with the owners of multiple fuel pipelines and other underground facilities within the project boundaries and with adjacent business and residential property owners and tenants.

**North Gaffey Beautification Project, Phase II, The Port of Los Angeles, CA.\*** Senior Project Manager for the multidiscipline team for planning, outreach, and PS&E services for the multi-modal pathway linking North Gaffey Street to the Port of Los Angeles Waterfront path. The project included the design of a 1,500-LF pathway along the existing railway corridor and under the I-110 overpass and included landscaping, lighting, security cameras, and water quality improvements.

**Complete Streets Program, (TOS 38), City of Los Angeles, CA.\*** Senior Project Manager in support for PS&E of the City's Complete Street Program that intended to implement Vision Zero, green infrastructure elements, and the rehabilitation of 22 miles of roadway. This is the first phase of a multi-phase program to be designed and constructed within the next two years. Meticulous planning and coordination were needed to manage the multiple design teams, disciplines, and City departments to achieve the City's goals, objectives and aggressive schedule.

**Glendale-Hyperion Complex of Bridges Improvement Project, City of Los Angeles, CA.\*** Program and Senior Project Manager for the PR and PS&E of this challenging multi-million dollar project for the rehabilitation and widening of the complex of seven bridges by improving the existing local roadways and freeway ramp alignment, increasing the seismic strength, addressing water quality and incorporating elements for all modes of travel including a new pedestrian bridge crossing the Los Angeles River. Improvements include widening the Glendale Boulevard bridges, realigning the I-5 northbound off- and on-ramp, adding a pedestrian bridge over the Los Angeles River, retaining walls, traffic signals, drainage system improvements, infiltration basins and improving pedestrian facilities. Design: \$4.1 million

*\* Work performed prior to joining Ardurra*





### Education

BS/2004/Civil Engineering/California State University, Long Beach

### Registrations

2014/PE/Civil/CA #83157

### Certifications

Qualified SWPPP Developer (QSD);  
Qualified SWPPP Practitioner (QSP)  
#83157

### Professional Affiliations

Current Vice President of Technical Groups for the Los Angeles Section of American Society of Civil Engineers (ASCE)

Former Chair, Vice Chair, Treasurer, Secretary, Coasts, Oceans, Ports and Rivers Institute

American Public Works Association (APWA)

**Years of Experience:** 18



## Lisette Bice, PE, QSD, ENV SP

### Civil, Permitting

Lisette Bice, PE, QSD, ENV SP, is a dedicated civil engineer highly skilled in all phases of public works engineering projects. Lisette's expertise includes planning and design of streets, right-of-way engineering, pedestrian paths (trails) and cyclist safety improvements, grading, sewer, water, and storm drains, identifying seismic and geometric deficiencies, preparing erosion control plans, SWPPP and permitting. As project manager, Lisette has been responsible for the preparation of PS&E for a wide range of projects including street rehabilitation plans and drainage improvements. She successfully completes projects within budget and on schedule. Lisette is a forward-thinking professional engineer and extremely capable of identifying public works infrastructure design issues and resourcefully providing environmentally conscious and cost-effective solutions. Lisette is committed to building and maintaining strong client and stakeholder relationships through effective communication skills.

### RELEVANT EXPERIENCE

**Ball Road and Anaheim Boulevard Widening, City of Anaheim, CA.\*** Project Engineer for the widening of the Anaheim Boulevard and Ball Road intersection, which is designated as a primary arterial on Orange County's Master Plan of Arterial Highways and the City's Circulation Element. The project scope included widening the north, south and east legs of the intersection, as well as adding storm drain improvements, bicycle lanes, landscaped medians, infiltration basins to address water quality and utility relocation coordination. In addition, offsite improvements had to be coordinated with each business owner and included the design of ADA compliant ramps, ADA compliant access to facilities, landscaping, retaining walls and signage.

**Pedestrian Accessibility Improvements Design, City of Long Beach, CA.** Project Manager for providing an evaluation and design of curb ramps to support the Citywide Curb Ramp program. Ardurra staff managed the development of the City's Self Evaluation/Transition plans and is continuing that work with the citywide implementation for the placement and upgrade of all curb ramps at approximate 22,000 locations. The project includes ramp evaluation for ADA compliance, schematic and final design, and cost estimating. To date we have designed 185 ramps.

**I-210 Soundwalls, Supplemental Environmental Report (NBSSR) and Plans, Specifications and Estimates Phase III, City of La Cañada Flintridge, CA.** Project Engineer for the design of three separate soundwalls along the I-210 freeway. The project has included soundwall design along a hillside slope, several edge of travel ways, and over bridges. As part of this design, the project has involved significant coordination with the City of La Canada Flintridge, Caltrans, and the design team.

**Market Street Complete Streets, (LA River to Cherry Avenue) FTIP #LAF7615, City of Long Beach, CA.** Project Manager providing engineering and design services for a Complete Street Project on Market Street between the LA River and the eastern city limit just east of Cherry Avenue, an approximate 1.9-mile stretch of the corridor. The project consists of complete street improvements including the removal of a drive lane to accommodate Class II bike lanes, intersection bulb-outs, wayfinding signage, sidewalk widening, crosswalk and transit stop enhancements, construction/reconstruction of curb ramps for ADA compliance, sidewalk and driveway repair, reconstructing/ resurfacing roadway pavement, pedestrian lighting, signal modifications, landscaping and street trees, and storm drain improvements.

### Staff Augmentation - Project Management and Plan Check Services, City of Long Beach, CA.

- **Delta Bike Boulevard Project.** The \$3M project includes Class II and Class III bike lanes and shared lane markings, traffic circles, a roundabout, pavement repairs, a new traffic signal and wayfinding signage from Harbor Avenue from 10th Street to 20th Street, and Delta Avenue from 20th Street to Wardlow



## LISETTE BICE | ARDURRA | Page 2

Road (approximately 3-mile corridor). The project is funded through ATP grant and local match. Lisette managed the project and grant funding in collaboration with City staff and design consultant.

- **“8 to 80” Project.** The City received ATP funding in excess of \$6 million in order to create facilities aimed at improving safety and removing mental barriers to walking/cycling for residents, workers, students, schoolchildren and visitors to the City of Long Beach. The 8-80 project will provide bike boulevards along two corridors located within the city (4 miles), as well as a road diet (1 mile) with buffered biked lanes. Treatments include traffic circles, roundabouts, new traffic signals, bulb-outs, bridge ADA upgrade, signing, striping, pavement repairs and wayfinding signage. The project is currently in concept phase. Lisette is responsible for managing the project and grant funding in collaboration with City staff and design consultant.
- **Studebaker Road/SR-22 Westbound On/Off Ramp Project.** Program Manager for the realignment of the SR-22 westbound on/off ramps at the intersection of Studebaker Road that will provide an additional residential road to access adjacent neighborhood. The \$6 million project includes new roadway alignments, landscaping, LID's, right-of-way acquisition and stakeholder coordination. The project is being administered by the City of Long Beach with Caltrans oversight and is currently in Project Approval/Environmental Document (PAED) phase. Responsible for managing the project in collaboration with City staff and design consultant.
- **Plan Check Services for Wireless Telecommunication Facilities and Fiber Optic.** Provides ongoing plan check services for the City's newly adopted municipal code for small cell wireless facilities. Lisette works with vendors to interpret the municipal code, prepare plans in accordance with the code, and acts as a liaison to City staff. In addition, Lisette performs plan check for fiber optic applications under the current excavation permit.
- **Shoreline Way Plan Check.** Provides plan check review for multiple fitness improvements. The work included review of the grading plans, water quality plans, structural plans, pavement markings and exercise and fitness equipment. In addition, the specifications were reviewed for completeness and constructability.

**Plaza del Amo at Western Mobility Enhancement, T-177, City of Torrance, CA.** Project Engineer for the preparation of construction documents for the roadway widening of Plaza del Amo from 223rd Street to Western Avenue to improve circulation and safety. Improvements include widening of the roadway on the north side, addressing roadway and stormwater deficiencies, restriping, curb and sidewalk and ADA-compliant ramp upgrades. Processed Caltrans Encroachment Permit for modifications and improvements at Western.

### **Storm Drain and Street Design Services, City of Santa Monica, CA.\***

Project Manager for street and storm drain improvements at three different intersections. Tasks included preparing agendas and summaries for project meetings, conducting right-of-way research, topographical surveying, conducting hydrology studies, providing design services necessary to complete construction drawings, performing a hydraulic analysis, preparing an engineer's estimate, preparing contract specifications and processing necessary permits.

**Garvey Avenue Grade Separation Drainage Improvement, City of El Monte, CA.** Design Lead for improving drainage infrastructure to the Garvey Avenue underpass to alleviate massive flooding during rain events. The project involved upgrades to the existing drainage system, including installation of new catch basins, inlets, and storm drain pipes; improvements to the existing pump station diverting the stormwater to the storm drain system; and implementation of green infrastructure initiatives to retain, reuse, or infiltrate the collected stormwater runoff. Tasks included project management, stakeholder outreach, technical evaluations, right-of-way acquisition, preparing PS&E and aiding with funding opportunities.

**Berth 200 Rail Yard, POLA, Los Angeles, CA.** Project Engineer/Project Manager for developing PS&E with a focus on site utilities design, including disposition and composite plans showing locations/relocation/protection of more than 154 existing utilities and substructures. Maintained a permit matrix and provided overall coordination for various permitting agency involvements including: City of Los Angeles, County of Los Angeles, California Coastal Commission, California Public Utilities Commission, Division of Oil and Gas and California Regional Water Quality Control Board. Responsible for the design of a re-water system, domestic water system, gas line to the fueling facility, sewer line to both buildings and a sewer pump station. Also took an active role in the construction of the project as the prime role for design services during construction. This included responding to submittals, RFIs, compiling addendum drawings and coordination with subconsultants.

**Glendale-Hyperion Viaduct Complex Improvements, City of Los Angeles, CA.\*** Technical Manager providing bridge widening, seismic retrofit, signing and striping, storm drain improvements, water quality improvements, lighting, traffic control, paving and grading design elements. The goal of the project was to seismically retrofit and rehabilitate an existing viaduct complex along the historic corridor of Hyperion Avenue and Glendale Boulevard. The project scope included a seismic retrofit, widening of the existing bridge, inclusion of bike lanes, I-5 off ramp realignment, infiltration basin and bioswale, concept plan development, PS&E preparation, stakeholder coordination including Caltrans, LADOT, LADPW, LACFCD and permitting. Design: \$4.1 million

\* Work performed prior to joining Ardurra



### Education

MBA/2005/California State University of Long Beach  
BS/1998/Civil Engineering/California State University of Pomona

### Registrations

2005/PE/Civil/CA #68384

### Certifications

California Certified QSD/QSP  
No. 024024

### Professional Affiliations

Previous Vice President of Technical Groups, Los Angeles Section of ASCE  
Chair, ASCE LA Section - Coasts, Oceans, Ports, Rivers, Institute – 2015-17; Vice-Chair – 2014-15; Treasurer – 2013-14; Secretary, 2012-13

### Honors and Awards

ASCE Project of the Year 2016 (Airports and Ports), *Port of Long Beach: West Basin Approach Borrow Site Project*, Project Manager/Project Engineer  
ASCE Project of the Year 2015 (Urban and Land Development), *Century Villages at Cabrillo: Gateway Project*, Long Beach, Project Manager

**Years of Experience:** 24



## Jose Hernandez, PE, QSD

### Civil, Plan Check, Traffic Control

Jose Hernandez, PE, QSD, began his successful career as an intern for Caltrans District 12 while completing his undergraduate degree at California State University of Pomona. He most recently served as senior project manager for a private consulting firm responsible for overseeing projects of varying size and complexity through design, permitting and construction. He is well-versed with design standards, techniques and analytical methods, bid specifications, and cost estimating. Jose's accomplished projects have won ASCE Project of the Year for Airports and Ports and for Urban and Land Development.

### RELEVANT EXPERIENCE

**On-Call Engineering and Design Services for Public Works Projects, City of Anaheim, CA.** Ardurra has provided engineering design services for various street design projects, including the following:

- *Lincoln Avenue Improvements.* Project Manager for design services for this widening project, which will widen 3,000 feet of Lincoln Avenue from East Street to Evergreen Street. The project widens Lincoln Avenue from a 4- to 6-lane divided street within the project limits. The scope included removal of existing improvements, clearing and grubbing, excavation, placement of new AC pavement, construction of concrete curb and gutter, driveways, access ramps, sidewalks, bus pads, drainage system improvements, relocation of existing facilities, installation of a traffic signal at the intersection of Lincoln Avenue and La Plaza, traffic signal modifications, signing, striping, landscaping, and a WQMP. Landscaped medians along Lincoln Avenue and along the project roadways include drought-tolerant and low-maintenance plantings and trees. Project successes included streamlining traffic flow, increased drainage capacity, and an overall enhanced street appearance.
- *Katella Avenue Widening.* Project Manager for preparing PS&E for design services to widen the south side of Katella Avenue adjacent to the Anaheim Convention Center. This project included widening Katella; reconstructing a bus turnout; adding water quality structures; reconstructing offsite landscaping, irrigation, fixed bollards, retractable bollards, vehicular maintenance pathway, and decorative hardscape; and installation of two new electronic changeable message sign systems located in the median island. Significant coordination is involved with the various Anaheim departments, as well as with various utility companies and Anaheim Convention Center staff. Also provided construction support throughout the construction duration of the project.

**As-Needed Engineering Design Services for Various CIP Projects, City of Brea, CA.** Project Manager responsible for providing as-needed design and civil engineering services for the City's capital improvement projects that include street improvements, traffic safety enhancements, water improvements, storm drain improvements, sewer improvements, facility improvements, and community facility district improvements. Projects to date include design services for the Country Lane Street Rehabilitation CIP 7323 project and a Feasibility Study for the Berry Street Sidewalks CIP 7324 project.

**On-Call Civil Engineering – Street Design/Rehabilitation Projects/City of Long Beach, CA.** Ardurra staff has prepared PS&E for more than \$16 million in improvements since 2009 and continues to work with the City. The projects encompass roadway, storm drain, parking lot improvements, traffic, lighting, and landscape improvements, design of more than 250 ADA-compliant curbs and ramps, and focused on many of the major roadways within the city. Consistently providing well-designed projects to the City and facilitating smooth construction, some of the projects have included Market Street Pedestrian Improvements, (LA River to Cherry Avenue); Atlantic Avenue Pedestrian Enhancements; Atlantic Avenue/Claiborne Drive Bulb-out; Atherton Street and Magnolia Avenue Street Rehabilitation; and Alamitos Avenue Rehabilitation Improvements.

**JOSE HERNANDEZ | ARDURRA | Page 2**

**On-Call Civil Engineering Services for Various Public Works Projects, City of La Habra, CA.** Project Manager and QA/QC Manager for providing professional engineering services on an as-needed basis in support of the La Habra Engineering Division. Projects have included residential street rehabilitation; intersection widening; curb, gutter, and sidewalk replacement; storm drain improvement; and waterline upgrades. Prepared construction documents for 3 miles of arterial street rehabilitations including all PS&E for bidding and construction of the proposed improvements. The intent of this project is to renovate roadway pavement and reconstruct deteriorated concrete improvements.

**Jasmine Storm Drain Low-Flow Diversion Design, Capital Program Management, City of Laguna Beach, CA.** Project Manager overseeing the design of a low-flow system design for the Jasmine Street Storm Drain project. The project design includes diverting urban flows toward a trash collection system and a sewer diversion device.

**Century Villages at Cabrillo – The Cove, Phase VI Development, Century Affordable Development, Inc., Long Beach, CA.** Project Manager providing civil engineering design services to accommodate the Century Villages at Cabrillo – Phase VI Development. The project included redevelopment of the northeastern area of the CVC campus, just south of Casa De Cabrillo, to make room for additional residential units. The project boundary consists of just over one acre located northwest of the intersection of Williams Street and Willard Street. The project site was populated with existing structures that were removed. The overall project involved demolition of the existing structures, realignment of the existing street (Williams Street), realignment of the existing utilities within the street that will conflict with the proposed building footprint, and the construction of a 4-story residential building consisting of primarily studio units. Existing structures required hazardous material abatement that was performed by others. Tasks include developing SWPPP reports in accordance with the general permit uploading them to the State SMARTS website, coordinating with project owners (and LRPs), and performing project inspections.

**Community Development Review of the Indio Supportive Housing Project, Century Affordable Development, Inc., Indio, CA.** Project Manager for providing preliminary civil engineering services associated with the delivery of the Indio Supportive Housing Project. The project consists of a development with approximately 200 to 230 dwelling units (DU) on approximately 9.2 acres. CADI proposed to develop the parcels 1, 2, 3, and 4 located southwest of the intersection of Spruce Street and Fir Street in the City of Indio. The project site is bounded by an existing RV and boat storage facility to the west, a

towing and automotive repair facility to the north, some commercial buildings to the east, and a multi-family apartment complex to the south, across Dr. Carreon Blvd. The existing site has multiple easements that need to be incorporated into the project design, modified to accommodate the new development, or vacated. The easements are for ingress/egress and utilities. The proposed development consists of multi-family DUs ranging from 200 to 230s with parking, landscaped areas, and trash enclosures. The proposed development will require utility services for sewer, water, electricity, gas, communication, and data. The project will also require stormwater management facilities to ensure the proposed development is protected from future runoff. The scope of work for the preliminary design consists of developing preliminary civil engineering exhibits to support the proposed site plan for the proposed development. The purpose of these exhibits is to support the development review committee approval process.

**Pedestrian Accessibility Improvements Design (ADA Ramp Program), City of Long Beach, CA.** Project Manager/Quality Control for the design of the curb ramps for the City's ramp program. To date, contributed to the design of approximately 130 ramps throughout the city.

**Randall Avenue Roadway Improvements, City of Rialto, CA.** Design Manager for this project that involved developing ADA improvements along a stretch of roadway almost a mile long. The project included sidewalk improvements (including ADA ramps), striping improvements, and traffic signal improvements. The project involved coordination with residents and City staff.

**Gateway, Century Affordable Development, Inc., CA\*** Prior to joining Ardurra, Jose served as Project Manager for this development project that was built within a 1.4-acre portion of the Century Villages at Cabrillo Campus. One of the major components for this project included supporting the design of a large landscape area on the campus called the Grand Lawn. The Lawn serves as a focal point for the campus for use in special events and most importantly as a recreational area for children within the campus. In addition to being an active space, the Grand Lawn serves as a stormwater detention basin for the campus since the storm drain system downstream of the campus is inadequate. A pump station was designed to help mitigate stormwater flows within the basin and pump the water out of the basin when it reached high water levels. The project was the **2015 ASCE Development Project of the Year.**

*\* Work performed prior to joining Ardurra*





### Education

Master of Engineering/2006/Electrical Engineering/INSA Lyon Engineering University, Lyon, France  
Erasmus Study Abroad Program/ 2004-2005/Sheffield University, Sheffield, United Kingdom

### Registrations

2021/PE/Electrical/CA #23478

### Professional Affiliations

INSA  
WEAT

### Training/Seminars

Electrical Substation Design Fundamentals, 2016  
Overhead Distribution Systems, 2015  
SKM Power Tools, Protection and Coordination training, 2012  
SKM Power Tools, Arc Flash Evaluation training, 2011  
SKM Power Tools, Electrical Grounding and Applications 2017

**Years of Experience:** 16



## Agata Ristow, PE

### Electrical, Instrumentation & Control

Agata Ristow, PE, has 16 years of electrical engineering experience for the water, wastewater and solid waste, food and beverage, pharmaceuticals and oil and gas markets. Her expertise encompasses the design, implementation, and project management of electrical system improvement and SCADA projects for water and wastewater treatment plants across the United States. Additionally, she has experience in electrical engineering for transportation applications including project management, light rail, catenary, and signaling.

### RELEVANT EXPERIENCE

**South Holly WTP High Service Pump Station Motor and Switchgear Replacement and Electrical Improvements, City of Fort Worth, TX.\*** Electrical/Instrumentation Design Engineer and Deputy Project Manager. Provided design for the replacement of medium voltage motor control centers, transformers, 480V motor control centers, instrumentation and control design at the High Service Pump Station. Coordinated with the subconsultants in order to assemble project deliverables. Responsible for utility coordination and put together preliminary power system studies including short circuit and motor starting studies. Led design and construction meetings, handled the construction documentation and compiled all the meeting minutes related to the project. Reviewed the electrical submittals and answered contractor's RFIs.

**Witcher Pump Station, Oklahoma City Water Utilities Trust, Oklahoma City, OK.\*** Electrical/Instrumentation Design Engineer. The improvements included replacement of the lagoon pumps, electrical gear, and the installation of new emergency generators along with paralleling switchgear at the main pump station. The new generators are included to comply with current ODEQ regulations related to backup power systems. This project also includes piping, valves, power, SCADA, structural and other miscellaneous improvements or upgrades necessary for this project. Responsible for review of contractor submittals and RFIs during the construction phase.

**Airport to Wasson SCADA Improvements, Centurion Pipeline, TX.\*** Electrical and Instrumentation Design Engineer for the preliminary design phase of the project. The project included two collection sites, nine third-party LACT units, and several pipeline segments. Centurion Pipeline wanted to perform leak detection and ensure any pumps pushing crude oil into their pipelines would be inhibited in case of a leak detected alongside the associated pipeline. Each facility included a new electrical rack with PLC, 120/240V distribution equipment, instrumentation and radio communication equipment. The Airport Junction station included a new electrical building with new PLC panel and several upgrades to the existing facilities to conform to Centurion Pipeline current design standards. Preliminary design deliverables included site plans, one-line diagrams, network architectures, conduit and cable schedules, radiopath studies and opinion of probable construction cost. Responsible for coordination with the FAA for development of the aeronautical study for the Airport Junction site. Also responsible for utility coordination via the Centurion Pipeline Power Group.

**Vista Ridge Water Supply Project, Garney Construction, TX.\*** Lead Electrical Engineer/ Electrical QA/QC. This design-build project consisted of a well field, several miles of well collection line, over 100 miles of large-diameter treated transmission main, multiple pump stations, water treatment facilities, and a metering station/customer delivery point through primarily rural areas. Work included development of program design standards, specifications and details, route study, preparation of easement documents, pipeline design, coordination and incorporation of hydraulic and surge protection recommendations, constructability review, permitting and construction phase services. Responsibilities included conceptual design, equipment selection, technical specification writing, assisting junior staff with development

**AGATA RISTOW | ARDURRA | Page 2**

of one-lines, interconnection diagrams and plan documents, quality control of final deliverables and electrical calculations.

**On-Call Wastewater Services at 69th Street WWTP, City of Houston, TX.\*** Electrical Engineer. CP&Y provided electrical engineering design services for the 69th Street Wastewater Treatment Plant. The first project was an emergency work order to replace most of the plant's medium voltage distribution infrastructure. The second project was for the replacement of existing Eddy Current clutches with Variable Frequency Drives (VFDs) for the digested sludge pumps at the thickener facility. The third work order was the replacement of 40 low-voltage motor control centers at the lift stations within the reactor complex and at the sludge pump station. The work order also included replacement of the VFDs associated with the return activated sludge pumps at each one of the associated pump stations.

**Walnut Creek WWTP Water Reuse Initiative Tank Assessment & Repairs, City of Austin, TX.\*** Electrical/Instrumentation QA/QC. Project included tank inlet mixing improvements, addition of a high service pump, and evaluation and recommendation of a new flow meter. A bulk water filling station was also included in the project.

**Addition of a UV Disinfection System at Village Creek WWTP, City of Fort Worth, TX.\*** Electrical/Instrumentation Design Engineer. The project for the UV disinfection system associated with the new Reuse Pump Station included new variable frequency drives, 480V distribution panelboards, modifications to existing MCC, lighting, instrumentation and control design to connect the new UV system into the existing DCS. Responsible for reviewing the project submittals and answering contractors RFIs during the construction phase.

**2016 Water Reclamation Facility Rehabilitation, City of Cedar Park, TX.\*** Electrical Design Engineer. The project included design services for rehabilitating the aeration system and providing miscellaneous facility repairs and safety improvement items throughout the plant. Aeration system options were developed for increased oxygen transfer as well as an evaluation of energy consumption and power requirements for the proposed alternatives. Evaluation criteria included air requirements, treatment efficiency, reliability, operational complexity, maintenance requirements, constructability/ease of access and 20-year life cycle cost. It was recommended that a diffused aeration system be installed in the existing aeration basin. Project challenges included installation of the diffuser grids without taking the basin out of service and a fast-tracked schedule for both design and construction activities.

**Basin Pump Station Improvements, San Antonio Water System, TX.\*** Electrical QA/QC. The project consisted of a pump station and miscellaneous chemical system upgrades associated with an 80-MGD high service pump station facility. The improvements included the

replacement of all major electrical equipment, pump improvements, planning upgrades for the chlorine and fluoride facilities, and adding an emergency dry scrubber system. Other project improvements included structural and architectural improvements, wells design for TCEQ compliance, high service pump motor actuated valve replacement, switchgear replacements, and yard piping replacement.

**Central WWTP HVAC System Upgrades, Trinity River Authority, Dallas, TX.\*** Electrical/Instrumentation Design Engineer. The project consisted of the addition of a new chiller plant building and modification of the HVAC system at five of the existing buildings at TRA Central WWTP. Project included 15 kV pad mounted switchgear, pad mounted transformers, generator termination cabinets, low voltage motor control centers, panelboards, transformers and instrumentation and control design for the new chiller plant and the new outdoor air handling unit building. Responsible for review of contractor's submittals and RFIs.

**Mountain Creek WWTP Plant and Collection System Improvements, Trinity River Authority, Midlothian, TX.\*** Electrical Design Engineer. Responsible designer for the addition of filter cells, clarifiers, sodium hypochlorite system and modification of the HVAC system at TRA Mountain Creek WWTP. Oversaw the design of modification to the electrical system for the addition of generators at the influent lift stations. Project included modifications to existing MCCs, addition of 480V distribution panelboards and transformers, site lighting and generators. Responsible for utility coordination and preliminary power system studies. Responsible for reviewing the project submittals and answering contractors RFIs during the construction phase.

**East Side WTP Improvements to the Transfer Pump Stations No. 1 and 2, Dallas Water Utilities, Sunnyvale, TX.\*** Lead Electrical Design Engineer. Designed the new electrical system that included 5 kV metal clad switchgear, 5 kV motor control centers, variable frequency drives, pad mounted transformers, low voltage motor control centers, panel boards and transformers. Developed the one-line diagrams, electrical site plans, power and control plans, lighting and receptacle plans, interconnection diagrams and duct bank schedules for transfer pump stations No. 1 and 2. Coordinated with instrumentation designers to capture their requirements as part of the electrical design. Delegated tasks to designers and drafters. Coordinated with subconsultants to ensure all of the disciplines designs were concurrent with the electrical design. In charge of project schedules for the electrical portion of the project and ensuring project deliverables were dispatched on time. Responsible for reviewing the electrical submittals and answered contractor's RFIs during construction.

*\* Work performed prior to joining Ardurra*





### Education

SAN Institute Industrial Control  
System Cyber Security Course/2017  
MBA/2005/California State University,  
San Marcos  
Certificate in Concurrent Design and  
Engineering Manufacturing 1996/  
San Diego State University  
BS/1987/Mathematics/University of  
Washington

### Certifications

Microsoft Certified Systems  
Administrator (MCSA)  
Certified Wonderware Developer  
Certified Maximo Administrator  
Certified Master Water Distribution  
System and Sanitary Sewer System  
Modeler, Bentley Systems, Inc.  
Certified Nessus Auditor

**Years of Experience:** 25



## Chuck Reuck

### Electrical, Instrumentation & Control, SCADA

Chuck Reuck has more than 20 years of professional experience in the planning, design, construction, and implementation of instrumentation, and control systems, particularly in the water and wastewater industry.

### RELEVANT EXPERIENCE

#### **1724 – Electrical Infrastructure Improvements (EII) & Digester Gas Beneficial Use Program SCADA Integration and Coordination, San Bernardino Municipal Water Department, CA.**

Construction Manager for the EII project that involved installing over 4,000 LF of mega duct bank in order to energize the new equipment constructed as a part of SBMWD's Digester Gas Beneficial Use Program. This project also included the addition of BLM switchgear and a new transformer to switch the power from SCE to plant power. Chuck assisted the SBMWD in completing this project, coordinating with SCE and ultimately transferring the electrical power to SBMWD's onsite fuel cell, which takes digester gas and converts this to electricity to be used onsite for the WRF. Chuck performed all of the SCADA Integration work to make all of the projects operational. (Construction Value: \$5M)

**DCS System Upgrade Project, Elsinore Valley Municipal Water District, CA.** Acted as Owner's Representative during DCS upgrades of District's largest wastewater treatment plant, ensuring vendor performed upgrades with minimal impacts to operations. Oversaw all upgrades and coordinated all commissioning efforts with staff. This included replacing legacy Modicon PLCs with remote I/O.

**SCADA Extension of Staff, City of Oceanside, CA.** SCADA Consultant providing project management and design services for the upgrade of the City's SCADA system. Responsible for upgrades to software and hardware for 4 treatment plants and over 70 remote sites. The work involved replacing two legacy iFix systems and one standalone Intouch system with Wonderware System Platform as well replacing over 100 PLCs. Designed new network layouts that increase system autonomy and redundancy. Was heavily involved in troubleshooting new 2.4 GHz radio network connectivity issues. Additionally, assisted with implementation of new WIMs for department wide use. While working at the City, he attended the Water Loss Prevention class and assisted Oceanside staff in data gathering for their annual water loss audit for 2017 and 2018.

**SCADA System Upgrade Project, City of Ottawa.** Assistant Project Engineer responsible for the implementation of SCADA servers, including SQL server failover clusters, active directory and group policy design, and Network Access Protection (NAP) using 802.1x security.

**Northwest Recycled Water SCADA Top-End Design and Implementation, Inland Empire Utilities Agency, CA.** Assistant Project Engineer responsible for the design and implementation of SCADA servers, software, networking, and Microsoft operating systems. Other responsibilities included the development of the Operational Database Management System (ODMS) based on Rockwell Software's OSI-PI database, testing and commissioning procedures, O&M manuals, reporting, and fully commissioning a pilot SCADA system. Inland Empire Utilities Agency has put very high importance on this project due to it being the basis for the new SCADA system that will control IEUA's entire system.

**Twin Oaks Valley Water Treatment Plant, CH2MHill, CA.** Assistant Project Engineer responsible for the PLC programming of the chemical control processes for the world's largest submerged membrane water filtration plant. The PLC platform was Allen Bradley ControlLogix. Created over 20 custom reports for compliance and monitoring purposes using Microsoft Excel and T-SQL. Configured several Thin clients and terminal servers utilizing ACP ThinManager software.

**CHUCK REUCK | ARDURRA | Page 2**

**Integration Manager.\*** Responsible for managing 10 system integrators responsible for SCADA design and implementations for water and wastewater agencies. Other responsibilities were to manage multiple projects to ensure they met schedule, scope, and budgets using earned value techniques. He also assisted in proposal development, company corporate strategies, and company business development.

**Senior Software Engineer.\*** Responsible for planning, designing, and configuring SCADA system servers and associated network hardware for water and wastewater agencies. Other responsibilities included drafting project proposals and developing master plans and preliminary design reports. Chuck was also heavily involved with configuring SCADA servers, software, operating systems, and network switches.

**Capital Facilities Coordinator, Vallecitos Water District, CA.\*** Responsible for all aspects of contract management including, but not limited to, developing SCADA system upgrade specifications and monitoring contractor progress during the implementation phase. Served as SCADA and IT representative on the District's vulnerability

assessment team. Also served as Project Manager for various capital facilities projects including tank recoating, pump station replacement, outfall slip lining, new construction, and rehab work. Also responsible for managing the District's Maximo CMMS implementation. He designed and oversaw the installation of 13 sewer manhole monitoring RTUs. His routine duties involved performing hydraulic water modeling of proposed developments and new facilities.

**Applications Specialist.\*** Responsible for creating HMI databases and displays, and configuring alarm notification software. Configured all desktop computers and printers, as well as assisted in system start-up of two water agency SCADA systems with a total of 100 plus remote facilities. Also responsible for programming multiple HMI applications including Wonderware and FactoryLink for water agencies, configured a 35-node radio network utilizing spread spectrum radios, developed O&M manuals for water agencies, and conducted operator training for agency staff.

*\* Work performed prior to joining Ardurra*



### Education

BS/1997/Civil Engineering/San Diego State University

### Registrations

2003/PE/Civil/CA #C65467

### Certifications

California Stormwater Quality Association (CASQA) Qualified SWPPP Developer (QSD) & Qualified SWPPP Practitioner (QSP) Certification #23001

NASSCO ITCP for CIPP (CIPP-110-0321) Confined Space

### Professional Affiliations

American Public Works Association (APWA)

Construction Management Association of America (CMAA)

**Years of Experience:** 25



## Scott Adamson, PE, QSD/P

### Construction Manager

Scott Adamson, PE, QSD/P, has 25 years of construction management, resident engineering, inspection, and design of small and large civil engineering public works projects. He began his career in the geotechnical field as a soils technician and progressed steadily through the ranks of inspection and construction quality control to the position of Senior Construction Manager. During his career he has worked as an extension of staff for such agencies as the City of Del Mar, City of La Mesa, and City of San Diego as well as water districts such as Oceanside Water Utilities, Elsinore Valley Water District, and Vista Irrigation District. As a lead construction manager, he is responsible for the day-to-day management of the department as well as actively managing his own projects. He is in the field on a daily basis providing guidance to our staff of construction professionals.

### RELEVANT EXPERIENCE

**Lower 1 Recycled Water Conveyance System, City of Oceanside, CA.** Senior Construction Manager for the installation of 7+ miles of 8- to 16-inch PVC recycled water main, as a part of the City's ongoing pure water program. The project also includes two jack & bore installations beneath the NCTD right-of-way, a horizontal directional drill component below the San Luis Rey River, and installation along the City's major arterial roadway, El Camino Real. As senior advisor to Ardurra's onsite field staff, he coordinated subcontracts with specialty consultants and oversaw contract funding compliance issues such as environmental reporting, American Iron and Steel documentation, and labor compliance monitoring.

**Graeber Street Watermain Replacement, Western Municipal Water District, CA.** Senior Construction Manager for the installation of the 7,000 LF water main replacement project located on March Air Reserve Base in Riverside County. The project consisted primarily of installing new 12-inch water main along the main arterial through the base. Challenges encountered as part of this project included limited personnel access due to security, an unusually high number of unknown live and abandoned conflicting utilities, and unforeseen base activities which impacted construction.

**Camino Del Sur Recycled Water Conversion Project, City of San Diego, CA.** Working as extension of staff for the City of San Diego, provided Resident Engineering services for this approximately \$1.1 million water main installation. This water main included approximately 1,400 LF of 16-inch PVC water main installed along the major arterial of Camino Del Sur off of Hwy 56 in San Diego. As part of this installation it was necessary to install approximately 1,100 LF of 26-inch welded joint HDPE pipe as an encasement through the Caltrans ROW extending under Hwy 56. This project also included the restoration of environmentally sensitive habitat within the limits of McGonigle Canyon associated with a storm drain repair. This restoration included restoration of the original slope face, planting of native species shrubs and grasses, and installation and upkeep of a temporary irrigation system.

**East Point Loma Trunk Sewer Rehab K115043, City of San Diego, CA.** Resident Engineer for this project, which included the installation of approximately 8,700 LF of 30" vitrified clay trunk sewer pipeline rehabilitation, using state-of-the-art trenchless rehabilitation technologies. Successfully developed and coordinated solution strategies for this complex project, provided engineering recommendations, and maintained excellent written and verbal correspondence with City of San Diego project management, City staff, contractors, private property owners, and the Naval Facilities Engineering Command throughout the project. Responsibilities included preconstruction services, construction management services, inspection services, controls and schedule assistance, estimating, change order and claims management, safety and security monitoring, SWPPP inspection, CCTV review and evaluation, and construction contract closeout, and warranty coordination.

**SCOTT ADAMSON | ARDURRA | Page 2****P-1 Sewer Rehabilitation Project, City of San Diego, CA.**

Resident Engineer for this sewer rehabilitation project, which involved the lining of approximately 35,000 linear feet of 8-inch sewer main through trenchless construction techniques. The primary method of lining was expandable pipe or "Expanda," with CIPP lining also utilized for a approximately 10% of the total footage lined. Additional construction items included rehabilitation of all laterals in the public right-of-way by CIPP lining, installation of new lateral cleanouts, and the replacement and rehabilitation of badly deteriorated manholes. Manhole rehabilitation was achieved through the installation of a spray on "Zebron" epoxy lining system. Acted as extension of staff to the City of San Diego Field Engineering Division and was responsible for overseeing all aspects of the project, including contract administration, document and submittal control, running progress meetings, and daily field inspection duties.

**Q-1 Pipeline Rehabilitation Project, City of San Diego, CA.**

Resident Engineer and Inspection services on this sewer rehabilitation project for the City of San Diego. This project involved the lining of approximately 48,000 linear feet of 8-inch sewer main through trenchless construction techniques. Rehab methods included both CIPP lining as well as "Expanda" or "Rib-Lock" lining. Additional construction items included rehabilitation of all laterals in the public right-of-way by CIPP lining, installation of new lateral cleanouts, and the replacement and rehabilitation of badly deteriorated manholes. Manhole rehabilitation was achieved through the installation of a spray on "Zebron" epoxy lining system.

**Clay Canyon and City Reservoir Steel Tank Rehabilitation Projects, Elsinore Valley Municipal Water District, CA.** Provided construction management and inspection on these two steel tank rehabilitation projects for EVMWD. Though the projects were bid separately, they are being completed simultaneously. Ardurra is providing construction management and site inspection on both. The projects included the cleaning and recoating of the interior and exterior of both tanks, repairs to badly corroded roof rafters, upgrades to the entrance hatches, upgrades to yard piping and valving, and upgrades to the foundations. Ardurra has also teamed with Coating Specialists and Inspection Services, Inc. to provide NACE Level 3 coating inspection during sandblasting and recoating processes.

**Sewer Improvements Inflow/Infiltration, City of La Mesa, CA.**

Construction Manager/Inspector for this \$4.6-million sewer main replacement and rehabilitation program, which took place at various locations throughout the city. This was a four-phase project, replacing or rehabilitating approximately 43,000 LF of concrete sewer main. Replacement operations included traditional cut and cover, CIPP lining, pipebursting, and jack & bore. These locations included sewer mains

located in the street as well as challenging easements along canyons and on hillsides. Provided construction management services as well as inspection during all four phases. In addition to typical construction management services, he was also called on to provide creative solutions, based on field experience, for difficult replacements below structures and in limited access locations.

**Foxes Landing Lift Station Upgrades, City of Carlsbad, CA.**

After 29 years in service, the City of Carlsbad decided to undertake the reconstruction of this critical lift station in order to accommodate increase in daily peak flows as well as provide additional protection against possible discharges into the adjacent, environmentally sensitive Agua Hedionda Lagoon. Principal-in-Charge on this project responsible for providing input on large complex change orders, providing quality control reviews, and stepping in to manage the project during vacations and sick days.

**Poinsettia Standby Lift Station, City of Carlsbad, CA.** Principal-in-Charge on this \$700,000 lift station upgrade project. With the existing Poinsettia Lift Station already operating at near capacity, the City installed a 15,000-gallon prefabricated overflow tank and trailerable pump system in order to provide additional capacity in peak flow events. His primary duties on this project were comprised of providing quality control reviews of Ardurra's staff and procedures, and consulting with the City and staff regarding change order negotiations.

**A-2 Lift Station Rehabilitation, Elsinore Valley Municipal Water District, CA.** Principal-in-Charge for the rehabilitation of an existing 3,600-gpm lift station located within the city of Lake Elsinore. Primary duties on this project were comprised of providing quality control reviews of Ardurra's staff and procedures, and consulting with the District and staff regarding change order negotiations.

**Johnson Drive Storm Drain Replacement, City of La Mesa, CA.**

Construction Manager for this \$.75-million CMP replacement project. This project included the replacement of approximately 1,000 LF of double barrel 24-inch CMP storm drain with a concrete box culvert. The project also included the replacement of approximately 1,000 LF of 8- and 12-inch-diameter sewer main and CIPP lining of approximately 500 LF of 12-inch sewer main. This was an extremely challenging project as it involved many utility relocations and unforeseen conflicts. Project management included extensive coordination with the conflicting utilities' project managers and construction staff. Provided construction management services as well as overseeing and acting as lead for the project field inspectors.





### Education

BS/2009/Civil Engineering/California  
State Polytechnic University, Pomona

### Registrations

EIT/CA #151070

Years of Experience: 16



## Omar Alameddine, EIT

### Construction Manager, Inspection Services Manager, Permitting

Omar Alameddine, EIT, brings an extensive background in construction management and inspection on public works and Caltrans projects. Clients appreciate Omar's penchant for precision and thorough documentation. He has 16 years of experience in Southern California. He has managed inspection teams working on city water projects and has delivered projects to renew city streets and freeways, applying his firm grasp of Caltrans and Greenbook standards. He has also managed and inspected construction of recreational facilities such as soccer fields, public parks and a dog park, public facilities, sewer, and drainage improvements. Omar has managed numerous on-call inspection contracts such as for the Cities of Anaheim, Duarte, Burbank, and Lake Forest and Counties of Los Angeles and San Diego, to name a few.

### RELEVANT EXPERIENCE

**Capital Improvement Projects, City of Anaheim, CA.** Contract administrator/construction manager augmenting the City's Public Works staff to expedite the completion of more than \$57 million in projects, such as the following:

- ~ **Indiana Street Water Main Replacement.** Contract administrator/construction manager for one of the City's first design-build projects. This design-build project consists of the construction of approximately 2,400 LF of 6-inch ductile iron CL 52 zinc-coated water main, and 200 LF of 8-inch ductile iron CL 52 zinc-coated water main located along Indiana Street between Broadway and South Street. The project also included the replacement of fire hydrants, valves, water services, and appurtenant structures.
- ~ **Imperial Highway and Big Sky Lane Water Main Replacement.** Contract administrator/construction manager for one of the City's first design-build projects. This design-build project consists of the construction of approximately 3,580 LF of 12-inch C909 water main, 1,542 LF of 8-inch C909 water main, and 250 LF of 4-inch C909 water main located along the intersection of Imperial Highway and Big Sky Lane.
- ~ **Santa Ana Street Railroad Water Main Crossing with Metrolink/SCRRA.** Contract administrator/construction manager for the City's water main crossing the Metrolink/SCRRA on Santa Ana Street. This project consists of boring and jacking trenchless installation method, furnishing, and installing approximately 70 LF of 24-inch steel casing pipe (1/2-inch thickness) welded joints and 12-inch zinc-coated ductile iron pipe class 56 and by open-cut construction method, furnishing and installing approximately 75 LF of 12-inch zinc-coated ductile iron pipe class 52. Work also consisted of installing fittings, appurtenances, all valves, and thrust blocks, abandon in place existing water main and water services including interfering portions removal and disposal, pressure test and disinfect the water pipeline, and restoring the site to the original conditions including paving and striping restoration and disposal off site.
- ~ **Underground Conversion Plan Projects.** Contract administrator/construction manager for contract administration and construction management for the following projects as part of the City's Underground Conversion Five-Year Plan and Wildfire Mitigation Plan. The initiative is relocating overhead power and communications systems underground. The work is intended to improve aesthetics, replace antiquated equipment, and enhance the reliability of the area's electrical system. Typical work includes undergrounding 69kV transmission and 12kV distribution systems, installing streetlights and service connections and demolishing overhead power, telephone, and cable television lines. Projects include:



## OMAR ALAMEDDINE | ARDURRA | Page 2

- **Underground District No. 65 Reliability Improvement, Phase 1 – Royal Oak; Crescent and Cerro Vista Reliability Improvement; and Direct Buried Cable Replacement.** Over approximately 11 months, project activities included undergrounding 12kV distribution systems, streetlight installation, service conversions, and removal of overhead facilities.
  - **Underground District No. 65 Reliability Improvement, Phase 2 – Santa Ana Canyon Road – Lakeview to Imperial.** Over approximately 11 months, project activities included undergrounding 12kV distribution systems, streetlight installation, service conversions, and removal of overhead facilities.
  - **Underground District No. 68 Reliability Improvement – Eucalyptus Drive from Santa Ana Canyon Road to 2,000' South Project.** Over approximately eight months, project activities included undergrounding of 12kV and 6.9kV distribution systems, direct buried cable replacement, streetlight installation, service conversions, and removal of overhead facilities.
- ~ **Olive Street 16-inch Water Main Replacement and Roadway Restoration Project.** Contract administrator/construction manager for the improvement of water system reliability by replacing old 10- and 6-inch cast iron pipe with new 16-inch ductile iron pipe. The project also included the replacement of fire hydrants, valves, water services, and appurtenant structures.
- ~ **Rehabilitation of Pressure Regulating Stations (PRS) 30 and 31 and Relocation of PRS-32 and -43 and Construction of New PRS-73.** Contract administrator/construction manager for contract administration and construction management services for completion of various on-call water utilities projects for the Water Utilities Engineering group. The work consists of contract administration and construction management services for the Pressure Regulating Stations 30, 31, 32, 43, and 73 project, and construction management services overseeing the closeout of the PR-58, M-2 and M-8 projects.
- Atlantic Avenue Water Main Replacement Project (Liberty Court Phase 2), Long Beach Water, Long Beach, CA.** Assistant construction manager and documents control specialist for a \$1-million project to install a 1,200-foot long water main under a busy arterial, Atlantic Avenue, and connect it to private service lines and other water mains. Duties included monitoring work progress, updating the schedule, filing daily reports and ensuring compliance with plans and specifications. The project was in the Liberty Court area of Long Beach.
- 13th Street Sewer Rehabilitation, City of Manhattan Beach, CA.** Inspector for a \$250,000 project initiated as a follow-up to a major sewer rehabilitation. Inspections addressed installation of a sewer main, house laterals and manholes. Inspected concrete work, including construction of two ADA-compliant ramps.
- Rainbow Harbor Commercial Sewage EVAC System Replacement, City of Long Beach, CA.** Construction manager for this \$700,000 project to replace a 20-year-old sewage EVAC pump-out used by Rainbow Harbor boat operators. Oversaw work to abandon the old pumping system, valve installation and hose replacement.
- Beach Maintenance Clarifier Project, City of Long Beach, CA.** Project manager/construction manager for the installation of a \$250,000 clarifier system in the City's beach maintenance yard. The system will treat wastewater for reuse in cleaning beach maintenance equipment. Responsibilities included assisting with design coordination, Coastal Development Permit processing, bidding, public relations, inter-departmental coordination, and onsite fast track design.
- APWA Awarding Winning - Firestone Boulevard Regional Corridor Capacity Enhancements, Project No. 476-TRF, City of South Gate, CA.** Assistant construction manager/lead inspector for a \$20-million project to improve three segments of Firestone Boulevard. The improvements will both increase traffic capacity and improve the road's appearance. Construction also included the installation of an 8-inch DIP, Class 52 water main along with hot taps for service laterals, including but not limited to excavation, fittings, restraints, backfill, compaction testing, pipe identification, caps, and other appurtenances to complete works. Ensures project compliance with plans and specs. Provides fast track design efforts for newly proposed bus pullouts, median construction, and drainage facilities. Observes utility potholing, traffic control and stormwater practices. Maintains personnel and equipment logs. Negotiated and reviewed potential change orders, orchestrated utility coordination and collaborated with City staff. Provided public relations and progress reports. Participated and led progress meetings. Preconstruction duties included documenting existing conditions, such as tree wells to be removed.
- Termino Avenue Drain Project, LACDPW, Long Beach, CA.\*** Inspector for the federally funded \$22-million construction of storm drain system and water main to improve drainage in several Long Beach neighborhoods. Inspected excavation, shoring and trenching, installation of reinforced-concrete drainage pipes and boxes, utility relocations, backfilling, compacting and asphalt-concrete paving.

*\*Work performed prior to joining Ardurra*



### Education

BS/1991/Civil Engineering,  
Northeastern University, Boston

### Registrations

1996/PE/CA #C55453

### Certifications

Fellow, American Society of Civil  
Engineers (F.ASCE)  
Qualified SWPPP Developer (QSD)  
OSHA 10-Hour Certification

### Professional Affiliations

Guest Lecturer in Construction  
Management, CSU Long Beach,  
College of Engineering, 2016  
American Public Works Association  
(APWA), Southern California  
Chapter 2011 President and 2012  
Congress Finance Chair  
City Engineers Association  
County Engineers Association  
Construction Management  
Association of America  
American Society of Civil Engineers  
Chi Epsilon, 1990-present

### Honors and Awards

Top Leader, Private Sector, APWA  
Southern California Chapter, 2004  
President's Chapter Service Award,  
APWA Southern California Chapter,  
2004

**Years of Experience:** 31



## Dino D'Emilia, PE, F.ASCE, QSD

### Construction Manager

Ardurra's project and construction management group leader, Dino D'Emilia, PE, F.ASCE, QSD, has delivered public works infrastructure projects valued at more than \$1 billion for public agency clients. His abilities as a project and construction manager are highlighted with the City of Long Beach's \$103.1M Belmont Pool Rebuild and Revitalization, and the City of Torrance's \$21M Transit Center Project and \$15M Del Amo Boulevard Extension. He has played critical roles on infrastructure projects to build, renew and upgrade freeways, city streets, transit centers, pedestrian paths, light rail, water mains, sewers, storm drains, greenbelts, soccer fields, and recreation centers.

### RELEVANT EXPERIENCE

**On-Call Construction Management Services, City of Anaheim, CA.** Principal-in-Charge for CM services for \$8 million in capital improvement projects that have included Fire Station No. 5 (**Winner of 2018 BEST Award from the Southern California chapter of the APWA**), Indiana Street Water Main Replacement, Imperial Highway and Big Sky Lane Water Main Replacement, Santa Ana Street Railroad Water Main Crossing with Metrolink/SCRRA, Citywide Sanitary Sewer Improvement Program/Projects - Group 6.

**On-Call Public Works Inspection, Irvine Ranch Water District (IRWD), Irvine, CA.** Principal-in-Charge for multi-year contract to provide full-time public works inspectors for capital improvement projects and developer improvements in the agency's service area. Representative projects include installing water mains up to 12 inches in diameter, lowering water mains, house line connections, fire services, water quality testing, street resurfacing, potable water wells and recycled water wells for new communities, such as Orchard Hills and Laguna Alta.

**On-Call Project Management/Construction Management/Inspection, Various Projects, City of Irvine, CA.** Principal-in-Charge for on-call contract. Since 2010, Ardurra has been providing the City with capital improvement-related construction inspection services, including assessment district and developer-related support. Selected projects include Marshburn Channel storm drain connections, the Agua Chion Phase 1 mitigation, the Ridge Valley 30-inch Reinforced Concrete Pipe Low Flow Line and new-home neighborhoods being developed by FivePoint Communities.

**On-Call Citywide Public Works Inspection, City of Irvine, CA.** Principal-in-Charge for this multi-year on-call inspection services contract from 2019 to the present. Ardurra has provided inspection services for the successful completion of developer and City-initiated improvements.

**Sewer Main Rehabilitation Project, Phase 2, City of Manhattan Beach, CA.** Principal-in-Charge for delivery of construction management and inspection services. This \$1.7-million project installed sewer mainline replacements at four street locations in the south Sand section of the city.

**Eshelman Avenue Water Main Replacement and Pavement Rehabilitation, City of Lomita, CA.** Construction Manager for this \$1.6-million project. The project constructed an 8-inch polyvinyl chloride (PVC) water main on Eshelman between PCH and Lomita Boulevard to replace an undersized 6-inch ductile iron water main. The project installed new fire hydrants, service laterals, valves, blow-offs and air release valves. The project included pavement rehabilitation and striping of Eshelman within the project area. Paving operations included cold milling of the entire roadway on Eshelman Avenue from Lomita Boulevard to PCH. Inspection of ground surface resulted in elimination of all proposed crack sealing. The paving section consisted of a 3/8-inch leveling course, 3/8-inch chip seal and 2-1/2-inch ARHM overlay. Appurtenant work involved manhole and valve adjustments, thermoplastic striping, traffic loop

**DINO P. D'EMILIA | ARDURRA | Page 2**

replacement. The project required a Caltrans encroachment permit for traffic control and paving within the state right-of-way at PCH.

**Commercial Sewage System Replacement, Rainbow Harbor, City of Long Beach, CA.** Project Manager developing an engineer's opinion of probable construction time (critical path method schedule) to be listed in bid documents. The \$690,000 project is replacing a 20-year-old sewage pump-out system serving vessel operators at Rainbow Harbor in downtown Long Beach. Plans call for replacing a centralized underground twin-tank sewage pump-out system with seven smaller dockside peristaltic pumps. These improvements would convert the system to a pressurized sewage disposal system. The project will also replace the hoses under gangways, install new stainless-steel valves and repair compromised PVC piping.

**Los Amigos Park Storm Water Harvesting and Direct Use Demonstration Project, City of Santa Monica, CA.** Principal-in-Charge for Ardurra's construction management services for this \$2-million project that could serve as model for municipal water conservation programs throughout the region. The system intercepts an existing Los Angeles County storm drain line and diverts the flow of urban runoff to a treatment unit and storage tank for use in park irrigation and restroom sanitation, conserving potable water. Los Amigos was named 2017 Outstanding Small Project of the Year by the Metropolitan Los Angeles Branch of the American Society of Civil Engineers.

**Greenbelt Low-Flow Infiltration Project, City of Manhattan Beach, CA.** Construction Manager for this \$550,000 project to install a low-flow infiltration system in a municipal greenbelt to comply with increasingly stringent state water quality standards. The project accomplished this goal by intercepting the City's existing stormwater system at a nearby catch basin and diverting the flow into the new infiltration system. Current surface drainage now infiltrates into the system instead of carrying pollutants to downstream storm drains.

**Roundhouse Marine Studies Lab and Aquarium, City of Manhattan Beach, CA.** Principal-in-Charge and Project Manager for the \$4.1M expansion and renewal of the City's registered historic landmark, the Roundhouse Aquarium on the Manhattan Beach Pier. Directed all aspects of the work, including relocating the aquarium's ocean creatures to temporary shelter during construction, then back to the completed facility. Guided a PM team made up of a marine biologist, an environmental services specialist, an architectural historian and support staff. Served as a liaison to the project's primary stakeholders. Managed the project throughout bidding and award, construction and commissioning phases. Procured the design, environmental, CM and QA consulting team. Facilitated a

consensus-driven design process. Administered professional services agreements. Coordinated and expedited the process of obtaining entitlements and permits. Assisted the City in coordinating the concurrent \$3M replacement of all major utilities along both sides of the pier as well as under the structure. The project also renovated the Roundhouse building's exterior shell. The project received a 2019 Merit Award from the California Chapter of the ACEC.

**Underground Utility Assessment District 09-1 (Coast Royal), City of Laguna Beach, CA.** Principal-in-Charge overseeing construction management and inspection services for this \$240,000 project to move overhead utilities underground in several upscale residential locations.

**Belmont Plaza Pool Rebuild/Revitalization Project, City of Long Beach, CA.** Project Manager for the \$103.1M aquatics center replacing the now-demolished Belmont Olympic Pool. The new facility will host swimming, water polo, and platform diving events at the local, regional, and national levels. Represents the City and its interests in all negotiations, meetings, community outreach, entitlements, permitting, design management, and related activities. The project required extensive public outreach and implementation of a stakeholder advisory committee during the programmatic and conceptual design phases. Conducted bidability and constructability reviews assessing temporary facilities, demolition and the new facilities' project documents. Implemented the demolition of the prior, condemned facility and construction of necessary temporary facilities to continue operation of the aquatics department and required restroom and shower facilities while the permanent facility was planned, designed, and entitled.

**Equipping of Well 12 in Mile Square Park, City of Fountain Valley, CA.\*** Project controls manager implementing contract administration system, construction management procedures manual and documents control system. The project involved a new pump station building and supporting pump and control systems equipment. Consulted on change order negotiations, claims avoidance and resolution.

**Hollywood Reservoir Complex, Water Quality Improvements, Los Angeles Department of Water and Power (LADWP), Los Angeles, CA.\*** Assistant Project Manager for improvements involving preliminary engineering and alternative studies for a potable water filtration plant and 60-MGD covered finished water storage. Services included facility and site selection, facility and site layout, hydraulic studies, analysis of system improvements, cost estimates and coordinating presentations for community meetings. Served on total quality management committee to improve the project scoping process for the division.

*\*Work performed prior to joining Ardurra.*

# BEYAZ & PATEL

Celebrating 40 Years of Structural Engineering Excellence



## Subhash Patel, PE, SE

### Principal Structural Engineer

#### Staff Title

President

#### Years with Firm

22

#### Registrations

- Structural Engineer, CA #S4233, Exp. 6/30/2023
- Civil Engineer, CA #C53540, Exp. 6/30/2023

#### Education

- MS, Structural Engineering, University of California, Berkeley
- BE, Civil Engineering, University of Baroda, India

#### Affiliations

- Structural Engineers Association
- American Society of Civil Engineers

#### Introduction

Beyaz & Patel's principal engineer, Subhash Patel, PE, SE, brings subject matter expertise in structural engineering, coupled by 38 years of water facility and building experience. Subhash works seamlessly with clients, subconsultants, and stakeholders while managing small and large water supply projects for stormwater, groundwater, and recycled, and advanced water systems. He is counted on by engineering firms to lead structural services for complex contracts with the San Francisco Public Utility Commission, Metropolitan Water District of Southern California, County of Los Angeles, and City of Los Angeles, because of his excellent structural engineering capabilities. Subhash is lauded for his ability to evaluate discreet alternatives, innovative design recommendations, and knowledge of local, state, and federal code requirements and regulations.

#### Experience

##### **Groundwater Replenishment System (GWRS), Orange County Sanitation and Water Districts, Fountain Valley, CA.**

Principal structural engineer for design and construction of the microfiltration process facility and control room, microfiltration break tank/reverse osmosis transfer pump station, microfiltration backwash waste equalization tank, and generator building. GWRS provides purified recycled water for aquifer recharge to replenish supplies and to prevent seawater intrusion.

**Anaheim Lake Valve Vault, Orange County Water District, Anaheim, CA.** Principal structural engineer providing design services for a valve vault that will enable District staff to gain access to several pipeline connections should emergency repairs be necessary. The project replaced two valves and included the construction of a vault that will house a total of five valves. The five valves include two 48-inch butterfly valves requiring replacement from the Warner Pipeline to the Anaheim Pipeline, two additional existing 48-inch valves that connect Warner Pipeline to the Atwood Channel, and one 72-inch valve that allows the District to distribute water received from Metropolitan Water District deliveries via OC-28 to the Anaheim Pipeline.

**East Portal Force Main Isolation Structure, City of San Diego, CA.** Principal structural engineer for modifying two corroded below-grade sewer force main structures. The project involved the construction of a new 46-foot-long by 24-foot-wide by 45-foot-deep below-grade concrete structure adjacent to the existing east portal structure to isolate the two existing force mains. The new structure included two slide gates, an intermediate floor level, and a roof slab cover. The roof slabs are precast concrete planks, giving access to the structure's interior.



**On-Call Structural Assessment Services for City Owned Potable Reservoirs, City of Santa Ana, CA. Crooke Reservoir.** Principal structural engineer for a condition assessment the reservoir. Subhash summarized the findings and his recommendations in a report. The next step was the retrofit scheme, including calculations, drawings, and specifications. For the Crooke reservoir. Special attention was paid to the reservoir circulation (inlet piping) to eliminate dead spots. **John Garthe Reservoir(s).** Structural engineer for security assessments for the reservoirs and grounds. Subhash created plans to mount the intrusion alarms on the roof of the reservoirs.

**Owner's Agent for San Fernando Valley Groundwater Remediation, City of Los Angeles Department of Water and Power, Various, CA.** Principal structural engineer providing technical structural expertise for for two water treatment plants to restore groundwater pumping of drinking water from scores of San Fernando wells that were closed in the 1980's.

**Environmental Learning Center, City of Los Angeles, CA.** Principal structural engineer for the seismic evaluation and detailed design of the three-story concrete building with precast panels and connections for the building facade. Performed detailed seismic analyses, identified deficiencies and developed design details for retrofits. This is a LEED certified building.

**Yorba Linda Hydroelectric Power Plant Turbine Facility, Metropolitan Water District of Southern CA, Yorba Linda, CA.** Managing engineer for a structural plan check and peer review of contract documents and structural calculations prepared by MWD. Subhash provided a detailed review of plans to replace the existing turbine facility at Yorba Linda Hydroelectric Power Plant.

**Vista/Carlsbad Interceptor Sewer and South Carlsbad Village Storm Drain, City of Carlsbad, CA.** Principal structural engineer for review of contractor submittals and requests for information for the project.

**Seven Wells Project, Goleta Water District, Goleta, CA.** Principal structural engineer providing engineering and design services for five of the seven wells in Goleta, including the Airport Well, El Camino, San Antonio, San Marcos, and University well sites. Services included reviewing existing drawings and documents, editing the structural specifications, and the final design, including a ring foundation and anchorage details and foundation for a four-foot diameter chemical storage tank at all five sites. For the El Camino Well Site, he provided a replacement of the electrical and chemical room wall common to the building and reservoir. At the San Marcos Well Site, he determined that all wood roof members of the existing building would require replacement due to termite infestation. For the University Well Site, Subhash provided a foundation design for a new 12-foot diameter filter tank supported on four legs.

**Silver Lake Reservoir Complex Master Plan, City of Los Angeles, Los Angeles, CA.** Principal structural engineer providing a review

of the geotechnical report for the master plan of two-reservoirs and their recreation potential.

**Potrero Canyon Park Project Design Services, Los Angeles Department of Public Works, Los Angeles, CA.** Principal structural engineer for a stormwater capture project that involved stabilizing canyon walls to support the properties at the top of the canyon, plus the creation of a natural park, including a riparian habitat with an intermittent water way fed by the urban and stormwater runoff. Subhash provided the structural design services for a stormwater lift station to supply the 7.8-acre riparian habitat.

**Grit Dewatering/Odor Control Facility, Sanitation Districts of Los Angeles County, CA.** Principal structural engineer for modification of the existing grit chambers and new grit dewatering/odor control facility. Also designed new screening facilities, new tunnels and shops as part of wastewater treatment plant expansion.

**Alta Seawater Project, Port of Los Angeles, San Pedro, CA.** Principal Structural Engineer providing structural engineering services for a 35-acre urban ocean-based research facility, located at City Dock #1 at the Port of Los Angeles. Mr. Patel is working on the structural design of various facilities, including laboratories, auditoriums, classrooms, and free open public spaces.

**System Wide Collection System Pumping Plants Rehabilitation, City of Los Angeles, Department of Public Works, Los Angeles, CA.** Principal structural engineer for four pumping plants, Fries, Wilmington, Hawaiian and San Pedro. Work included modification to wet well slide grating frame, replacing the emergency generator and electrical equipment, replacing pumps, adding new aluminum doors to wet well, and adding new stair monorail and guardrail.

**Westchester Stormwater Best Management Practices (BMP) Project, City of Los Angeles, Los Angeles, CA.** Principal structural engineer for preliminary and final design. The project involved the design of a diversion channel, diversion structure, 5.0 MG underground detention basin including screening and pumping facilities, and an underground infiltration basin. Subhash coordinated with screening suppliers and incorporated their requirements in the design. He prepared cost estimates for the structural portion of the work.

**Santa Margarita River Conjunctive Re-Use Project, Fallbrook Public Utility District, Fallbrook, CA.** Principal structural engineer providing structural engineering services for the advanced water treatment plant that will allow Camp Pendleton and City of Fallbrook to utilize well water from the Santa Margarita River basins. The project included a return flow control facility, equalization steel tank, iron and manganese filtration, reverse osmosis building, reverse osmosis feed tank and booster pump station, Clearwell tank and pump station, chemical facilities, waste wash-water storage tank, drying bed modifications and Gheen Facility pump station and reservoir.

## BEYAZ&amp;PATEL

Celebrating 40 Years of Engineering Excellence



## Dr. Hui Wu (Harry), PE, PhD

### Structural Engineer

#### Staff Title

Structural Engineer

#### Years with Firm

5

#### Registrations

- Civil Engineer, , CA #C68210, Exp.9/30/2023

#### Education

- PhD, Structural Engineering, University of Southern California, Los Angeles, California
- MS, Structural Engineering, Tsinghua University, China
- BS, Structural Engineering, Beijing Institute of Civil Engineering and Architecture, Beijing, China

#### Affiliations

- Concrete Reinforcing Steel Institute

#### Introduction

Dr. Wu has 22 year's experience as a structural engineer, with six years focused on the public works projects. He works on the design and rehabilitation of utility infrastructure, including seismic evaluation, analysis, and retrofit design of buildings and facilities. Harry also provides structural inspection, bid, and construction support. He works on projects throughout the state and applied his expertise in earthquake resistant design of structure systems (reinforced concrete, masonry, fiberglass, steel, and wood), tilt-up structural design, seismic retrofit design of structures, structural analysis, and finite element analysis.

Dr. Wu is well versed in all of the latest software and programs used in structural engineering and familiar with building code requirements for Steel AISC 360-16, ASD, LRFD Manual; reinforced concrete: ACI 318-14,, and IBC-2015, CBC-2016, ASCE 7-16. He has also performed large scale seismic testing of structural components and assemblies in fiberglass, steel, reinforced concrete. Harry's work has been published in numerous journals on topics including, seismic retrofit, FRP composites, and earthquake structural engineering.

#### Experience

**On-Call Structural Assessment Services for City Owned Potable Reservoirs, City of Santa Ana, CA. Crooke Reservoir.** Structural engineer for a condition assessment the reservoir. Harry contributed his findings and recommendations in the assessment report. The next step was the retrofit scheme, including calculations, drawings, and specifications. For the Crooke reservoir. Special attention was paid to the reservoir circulation (inlet piping) to eliminate dead spots. **John Garthe Reservoir(s).** Structural engineer for security assessments for the reservoirs and grounds. Harry assisted with plans to mount the intrusion alarms on the roof of the reservoirs.

**Greg Avenue Pump Station Control Building, Metropolitan Water District of Southern California, Los Angeles, CA.** Structural engineer providing services for a new pump station control building including disabled access ramp, handrails and guardrails.

**Anaheim Lake Valve Vault, Orange County Water District, Anaheim, CA.** Structural engineer providing design services for a valve vault that will enable District staff to gain access to several pipeline connections should emergency repairs be necessary. The project replaced two valves and included the construction of a vault that will house a total of five valves. The five valves include two 48-inch butterfly valves requiring replacement from the Warner Pipeline to the Anaheim Pipeline, two ad-

ditional existing 48-inch valves that connect Warner Pipeline to the Atwood Channel, and one 72-inch valve that allows the District to distribute water received from Metropolitan Water District deliveries via OC-28 to the Anaheim Pipeline.

**Owner's Agent for San Fernando Valley Groundwater Remediation, City of Los Angeles Department of Water and Power, Various, CA.** Structural engineer providing technical structural expertise for the initiation, planning, design, permitting, procurement planning, alternate delivery, construction, commissioning, close out, and operations of the Groundwater Remediation Facilities in the San Fernando Basin (SFB).

**Seven Wells Project, Goleta Water District, Goleta, CA.** Structural engineer providing engineering and design services for five of the seven wells in Goleta, including the Airport Well, El Camino, San Antonio, San Marcos, and University well sites. Services included reviewing existing drawings and documents, editing the structural specifications, and the final design.

**Silver Lake Reservoir Complex Master Plan, City of Los Angeles, Los Angeles, CA.** Structural engineer assisting with a review of the geotechnical report for the master plan of two-reservoirs and their recreation potential

**San Luis Rey Upper and Lower Water Reclamation Facility Recycled Water Conveyance Systems, City of Oceanside, California.** Structural engineer providing engineering and design services as a subconsultant for planning and preliminary design of the Upper Water Reclamation Facility and final design of the Lower Reclamation Facilities Recycled Water Conveyance Systems. The project is part of a plan to continue to develop recycled water use. Oceanside decided to implement a recycled water conveyance using two distribution systems. The Lower SLRWRF will use an estimated 2,102 acre-feet per year (AFY). The second system, the Upper SLRWRF will use an estimated 1,110 AFY. Our work focuses on the nine (9) pump stations along the conveyance.

**750 MGD Joseph Jensen Water Treatment Plant Inlet Water Quality Enclosure, Metropolitan Water District of Southern California, Grenada Hills, CA.** Structural engineer providing engineering and architectural design services for Jensen Inlet instrumentation upgrade. The scope included the design of the inlet instrumentation building.

**Los Angeles/Kern County Recycled Water Project Pump Station Building Seismic Analysis, Kern County, CA.** Structural engineer for design of reinforced masonry pump station building. Produced the calculation spreadsheets for the detail analysis and design of the pump station. Performed seismic and wind analysis.

**Owner's Agent for the East County Advanced Water Purification Program (ECAWPP) Joint Powers Association, Various, CA.** Structural engineer providing engineering support as a member of the Owner's Agent team for the design, construction, and

closeout of a new advanced water purification program. The program is a multi-jurisdictional effort shared by the Padre Dam Municipal Water District, the City of El Cajon, the County of San Diego and Helix Water District to create a new, local, sustainable and drought-proof drinking water supply.

**Los Angeles Reservoir Flow Control Station, City of Los Angeles Department of Water and Power, Los Angeles, CA.** Structural engineer providing construction support for the flow control station adjacent to the UV building's 144" pipe outlet. Harry worked on the plans and specifications for a metal flow control station, including 96", 60" diameter butterfly valves and 48" cone valves.

**Pure Water San Diego Microfiltration/Reverse Osmosis (MF/RO) Building, Biologically Active Carbon (BAC) Filtration Building, and Ozone Building, City of San Diego, CA.** Structural engineer providing construction support for the new design of a MF/RO, BAC, and Ozone building for Pure Water San Diego at the North City facility, situated closely to the North City Water Reclamation Plant (NCWRP). Pure Water utilizes advanced purification technology to treat recycled water produced at the NCWRP. Harry provided structural plans drawings, and specifications for the three of the buildings and their related structures. He also provided support during bidding and construction.

**Sand Hill Reservoir No. 2 Wood Roof Replacement, City of Menlo Park, Menlo Park, CA.** Structural engineer providing seismic evaluation, analysis, and retrofit design for a reservoir roof that was at the end of its useful life. The roof was sagging and had water ponding on the surface. Furthermore, structural connections and joist were coming loose allowing water to penetrate the structure, which caused the wood to rot. Dr. Wu provided a seismic evaluation and analysis and identified design alternatives. He assisted in the preparation of the final design for the new roof construction, including installation of new mixers.

**Reservoir Repairs Phase 3 Seismic Evaluation and Retrofit, City of Oceanside, CA.** Structural engineer for site investigation, condition assessment, seismic evaluation and rehabilitation of nine prestressed concrete reservoirs and one steel reservoir ranging in size from 1.5 mg to 5.0 mg. The above-ground and partially-buried reservoirs showed evidence of coating deterioration, shotcrete cover spalling, prestressed wire corrosion, and surface cracks.

**On-Call Professional Engineering Services for Dams and Reservoirs, San Francisco Public Utility District (SFPUC).** Structural engineer on the GEI Consultants team for this \$11 million dollar and 11-year contract with the SFPUC. The team was selected for the Upcountry Region which includes four dams: Cherry Valley, Early Intake, Lake Eleanor, and Priest Dams. All of the dams fall under Division of Safety and Dams jurisdiction. Future projects will include dam, spillway, outlet retrofits, and infrastructure rehabilitation. Planning projects include studies, such as seismic stability evaluations, inundation map updates, and emergency planning.

Dr. Hui Harry Wu, PE, PhD | Page 2



**HECTOR VARGAS**  
SR. PROJECT MANAGER



**YEARS OF EXPERIENCE**  
15

#### REGISTRATIONS/ CERTIFICATIONS

Ground Penetrating Radar Technician  
Level III  
Utility Locator Technician Level III

#### PROFESSIONAL PROFILE

##### C BELOW, INC.

##### PROJECT MANAGER

Mr. Vargas has over 15 years of experience in the construction industry 13 of which he has dedicated to the utility locating industry. He has worked as a sales representative, a project manager, and a lead supervisor. These different roles have given him a well-rounded knowledge of the industry from project inception to project completion. He can step in and help our Lead Surveyor and Field Manager with daily requests and large project needs. He oversees the coordination of all office and field efforts within the project limits to ensure the highest standards for utility location accuracy.

#### RELEVANT EXPERIENCE

##### SR-55 WIDENING PROJECT

##### ROLE: PROJECT MANAGER

Oversaw all field efforts when performing the 155 potholes. Responsible for coordinating with the client and the technicians. Managing the project budget, pulling permits, traffic control and reviewing technician findings.

##### PLACENTIA SEWER RELOCATION POTHOLING

##### ROLE: PROJECT MANAGER

Oversaw all field efforts, responsible for coordinating with the client and the technicians. Managing the project budget, pulling necessary permits, and reviewing the findings prior to sending out the final report to the client.

##### 489 E. ST LATERAL LOCATE AND MANHOLE DIPS

##### ROLE: PROJECT MANAGER

Oversaw all field operations, including coordinating with the client and the technicians, managing the project budget, and reviewing the technicians daily report.

##### CHINA LAKE UTILITY INVESTIGATION

##### ROLE: PROJECT MANAGER

Oversaw all field and office operations of over 10 projects within the China Lake Naval Base. His responsibilities included coordinating with the client and technicians, maintaining constant communication regarding schedule, progress, and project budget. Mr. Vargas oversaw all badging and screening requirements and maintained strong communication with the Dispatcher to ensure the projects were scheduled per the clients requested timeline and the technicians remained available throughout the duration of the projects.



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## RESUME


**TIM FETTIG, PLS**  
**SURVEY PROJECT MANAGER**
**YEARS OF EXPERIENCE:** 34\***YEARS WITH GUIDA:** 26\*
**EDUCATION:** Santa Ana College and Santiago Canyon College, Surveying/Mapping; Operating Engineers Surveying Apprentice Program, 1988 – 1993

**PROFESSIONAL REGISTRATION/CERTIFICATIONS:** Professional Land Surveyor #7542/CA/1999; IOUE Local 12, Certified Party Chief

**PROFESSIONAL ORGANIZATIONS:** California Land Surveyors Association (CLSA), Orange County Chapter
**UNIQUE QUALIFICATIONS**

- ✓ Managed Guida's Longest-Running On-Call Contract
- ✓ With Guida Since Firm's Inception
- ✓ 34 years of experience working in Orange County, CA
- ✓ Strong Resume with Utility Projects
- ✓ Excellent Understanding of Staff's Expertise and Skills
- ✓ Well-Rounded Design/Construction Surveyor
- ✓ Numerous Client Accolades for Responsiveness

**SUMMARY**

Tim brings over 34 years of surveying expertise as a project manager and as a licensed party chief. He has managed a multitude of projects throughout Southern California, overseeing staff members, workload, and scheduling. He engages in both field and office support, when required, and is knowledgeable about the latest equipment, technology, and product development.

Highly skilled in all aspects of both design and construction surveying, Tim is a well-rounded professional. He has overseen control survey networks aerial photogrammetry, and topographic design surveys; right of way and boundary surveys and mapping, ALTA surveys, preliminary title reports, title research, plotting existing encumbrances, records of research, dedications and vacations, preparation of legal descriptions and plats, Record of Surveys, parcel maps, tract maps, lot-line adjustments, other land surveyor seal/stamp documents and map checking QA/QC. He has also provided construction survey support and construction staking, including perpetuation, pre- and post-construction corner records/records of survey, constructability review, construction staking, as-built surveys, and earthwork calculations.

**PROJECT EXPERIENCE**

**ANAHEIM PUBLIC UTILITIES DEPARTMENT, DIRECT BURIED CABLE REMOVE AND REPLACEMENT PROJECT, SURVEYING SERVICES | ANAHEIM, CA:** Guida is currently providing land surveying services to the design team to support the Anaheim Public Utilities Department remove and replacement projects throughout the city. Anaheim is replacing direct buried cable that is no longer supporting the needs of the residential and commercial communities within the city limits. The project is to identify, relocate and install new cable to improve electrical service to Anaheim's customers. Services included verifying and establishing horizontal and vertical controls, base mapping, topographic surveys, boundary surveys, utility research, surveys and mapping, construction staking for new cable locations, switches and junction boxes, and legal descriptions and plats to support easement acquisitions. Tim is serving as project manager.

**COSTA MESA SANITARY DISTRICT, ON-CALL SURVEYING AND MAPPING SERVICES, SURVEYING SERVICES | ORANGE COUNTY, CA:** For more than 17 years, as a subconsultant to the prime, Guida has provided detailed topographic surveys for the design of new or replacement wastewater treatment systems. This level of detail is important due to all the existing utilities in the City of Costa Mesa and the need for undisrupted service. Research was very important and required skilled personnel to look for potential problems in the field, so that the engineer could design the new facility without conflicts and delays. Guida takes pride in providing high-quality survey data that works with complex developments and project constraints. Tim serves as survey manager on this contract.



**SOUTH COAST WATER DISTRICT (SCWD), ON-CALL LAND SURVEYING SERVICES | LAGUNA BEACH, CA:** Guida has been a trusted teaming partner to the South Coast Water District providing land surveying, mapping, and right of way engineering on numerous improvement projects. Services have included design and construction survey support for infrastructure sewer and water pipelines, pump stations, reservoirs, and other facility improvements. Design services include GNSS and other control surveys, topographic surveys and mapping, boundary surveys, cadastral and title research for right of way engineering support, preparation of legal descriptions and plats, and monumentation preservation. Construction services include constructability reviews, construction computations, construction staking for pipelines, appurtenances and new improvements, as-built surveys, earthwork quantities, monumentation, and the preparation. Tim serves as project manager.

**IRVINE RANCH WATER DISTRICT (IRWD), ON-CALL LAND SURVEYING SERVICES | IRVINE, CA:** Tim currently serves as project manager for this on-call contract. For more than 20 years, Guida has provided right of way engineering, land surveying and mapping services to IRWD on various improvement projects. Services have included both design and construction survey support for infrastructure pipelines, sewer and water pipelines, reservoirs, and other facility improvements. Design services include GPS and other control surveys, topographic surveys and mapping, boundary surveys, cadastral and title research for right of way engineering support, preparation of legal descriptions and plats, and monumentation preservation. Construction services include constructability reviews, construction computations, construction staking for pipelines, appurtenances and new improvements, as-built surveys, earthwork quantities, monumentation, and the preparation of corner records.

**CITY OF OCEANSIDE, WATER UTILITIES DEPARTMENT, ON-CALL LAND SURVEYING SERVICES | OCEANSIDE, CA:** Tim serves as project principal for this contract to provide surveying and staking services on an on-call basis. Guida's scope of work under this contract includes preliminary surveys, topographic surveys, aerial photogrammetric mapping, right of way surveys, utility surveys and potholing, construction staking and monument preservation and perpetuation. Guida has performed work on five task orders to date. Four of the task orders included detailed design surveys for the Roja Street Lift Station, North Valley Lift Station, Mission Avenue Syphon, and a sewer replacement project along El Camino Real. For the fifth task order, Guida is providing construction surveying services for the City's Lower 1 RW Pipeline project. All deliverables have been provided to the City on time and on budget.

**CITY OF IRVINE, ON-CALL PROFESSIONAL LAND SURVEYING SERVICES | IRVINE, CA:** Tim serves as project manager on this on-call contract. Guida's scope of services includes field and office surveying services for the construction of municipal improvements, such as facilities, streets, traffic signals, walls, bridges, bike trails, storm drains and channels, and utilities. Related services include, but are not limited to, perpetuation of controlling monumentation in compliance with the Professional Land Surveyors Act Section 8771, GPS and other control surveys, topographic and preliminary design surveys, construction survey stakeout—including limits of removal, new improvements and grade certifications—as-built surveys of constructed improvements, earthwork quantity calculations, boundary surveys, title and records research for right-of-way engineering, legal descriptions, and other professional land surveying documents.

**DEPARTMENT OF WATER RESOURCES (DWR), ON-CALL LAND SURVEYING SERVICES | STATEWIDE, CALIFORNIA:** Tim serves as quality control manager for Design Surveys for Guida's 5-year on-call Land Surveying services contract with DWR. He is responsible for overseeing design services and provides quality control plans and oversight for both field and office design surveys. Guida and our subconsultants are providing control, topographic, boundary, right of way, construction, and specialty mapping services on water projects statewide. A recent task order includes a topographic survey along an access road in Butte County requiring control surveys and detailed topographic surveys, mapping and digital terrain modeling all delivered in MicroStation and InRoads platforms.

## Said Hilmy, PhD, SE, LEED AP, Principal, Senior Structural Engineer

With over 30 years of experience, Dr. Hilmy has managed and performed design, assessment, peer review and evaluation services for roofing projects, buildings and structures.

Dr. Hilmy experience includes engineering design experience for the Sanitation District of Orange County, the Orange County Water District (including analysis and upgrade of the district headquarters building), Miscellaneous work at Metropolitan Water District, County of Los Angeles, Inland Empire Utility Agency, Robert A. Weese Water Filtration Plant, and the San Luis Rey Wastewater Treatment Plant, among others. Dr. Hilmy was also the project manager responsible for the structural design of repairs of the Sand Canyon Dam Spillway and the Shady Canyon Sewer, in the City of Irvine.



In Addition to Water and Sewer structures, Dr. Hilmy designed numerous industrial and facility buildings. He is the project manager and Engineer of Record of the 5 stations for the Automated People Mover project at Los Angeles Airport, which is a \$6 Billion-P3 project, and the \$2 Billion-P3 Consolidated Rental Car (ConRAC) facility which are considered among the largest in US.

### Years with IDS Group, Inc.

- 23

### Education

- Doctorate, Structural Engineering, Cornell University
- Master of Science, Structural Engineering, Cornell University
- Bachelor of Science, Civil Engineering, Cairo University

### Professional Credentials

- Professional Structural Engineer: California (#S-3680)
- Professional Civil Engineer: California (#C-43988)
- LEED Accredited Professional

### Project Experience with the City of Anaheim:

- |   |   |
|---|---|
| ▪ West Tower HVAC Rehabilitation and Replacement                            | ▪ ARTIC Commuter Rail Station ADA Compliance              |
| ▪ City Hall Seismic Evaluation  | ▪ City Hall West Fire Alarm System Upgrades               |
| ▪ City Hall West Electrical Engineering                                     | ▪ Anaheim Public Utility Safety Improvements for 18 Sites |
| ▪ Anaheim Police Department Helicopter Support Facility Tenant Improvements | ▪ Police Department Storage Evaluation                    |



**Relevant Project Experience:**

- **Sewer Pipe Protection: Mission Blvd/ SR-71 Interchange- City of Pomona, CA:** IDS was retained by CH2MHILL (the Prime consultant on the project) to provide structural engineering services to protect the sewer utilities at the site. The existing sewers, due to planned embankments and walls, are to be loaded such that predicted settlement of the sewers may create damage to the existing pipes. The sewers are owned by the County of Los Angeles Sanitation District. As Project Principal, Said oversaw IDS' team for the Plans, Specifications, and Estimate (PS&E) for agency plan check and approval.
- **Sewer Line Review, Laguna Royale Condominiums - Laguna Beach, CA:** At the base of the Laguna Royale Condominium property, in the soil below Level A, the 78 condominium units are served by a single 8-inch diameter sewer pipe that drops vertically down into the South Coast Water District's (SCWD) sewer tunnel that runs along the coast below this portion of the property. IDS was retained to perform an investigation of the condition and configuration of the sewer lines at Level A, conduct a review of sewer main repairs and prepare preliminary recommendations for sewer main modifications. Scope of work consist of schematic plans showing the proposed modifications to the sewer lines and an opinion of probable cost. Mr. Hilmy was the Project Principal, working the City of Laguna Beach and South Coast Water District to ensure the proposed plans and system modifications adhered to the desired requirements.
- **Evaluation of Sanitary Sewer System, Arrowhead Springs 1,916-acre Resort, San Bernardino, CA:** IDS was retained by Campus Crusade for Christ International to perform asset assessment study for selected facilities of the Arrowhead Springs Resort in San Bernardino, California. The Sanitary Sewer system consists of gravity collection system for the majority of the site. A duplex wet-well pump system services the lower Village area. The Effluent is directed to a treatment plant consisting of an Imhoff Tank, dosing chamber, trickling filter, clarifier and filter, and absorption beds. Scope of work included an assessment to determine the improvements required to allow the resort to operate as a full-service hotel with an operational village facility. As Project Principal, Said directed our team in the development of a plan to repair / replace the watertight conveyance system.
- **City of Huntington Beach Ranger Sewer Lift Station No. 16, Huntington Beach, CA:** As part of overall capital improvement plan, the City of Huntington Department of Public Works Beach has designed and installed several new sewer lift stations to improve service to several of its communities. The existing facility included the construction of a two-compartment concrete enclosure housing subterranean dry pump room and wet well areas. IDS provided comprehensive project management services including daily on-site inspection services. The experience and expertise of the IDS inspector was a key factor in the resolution of many project issues in the area of design, construction means and methods and contract administration.
- **1630 W. Recycled Water Pipeline Segment C-Pipe Supports at Flood Control Channel Crossing at Baseline Road and Alta Cuesta Drive, Inland Empire Utility Agency, Chino, CA:** IDS provided construction drawings for the 30" recycled pipe crossing for the 1630 West Recycled Water Project Segment C in the City of Rancho Cucamonga. This project was partially funded by a grant from US Bureau of Reclamation with very tight delivery schedule. IDS evaluated the crossing, developed drawings and prepared the necessary calculations for the pipeline crossing at the San Bernardino Flood Control Channel in the City of Rancho Cucamonga. As Project Principal, Said worked with the governing Agency to ensure quality and completion within the required timeframe.

## Shelley Sivak, RA, LEED AP, Lead Architect

Shelley Sivak is a forward-thinking architect who brings form to buildings and interior spaces and new life to both urban and suburban settings, to create a strong sense of place. She takes a holistic approach and considers key capacity to recognize the specific demands of a particular location and tailors the design process to be efficient and productive.



### Years with IDS Group, Inc.

- 3

### Education

- Master of Architecture, California Polytechnic University, Pomona
- Bachelor of Science, Design, Arizona State University

### Professional Credential

- Professional Architect: CA (#C-33767)
- LEED Accredited Professional

### Project Experience with the City of Anaheim:

- Melrose Space Planning

### Relevant Project Experience:

- **City of Anaheim Melrose Space Planning:** Project Architect providing office space planning and architectural services to the city's Facilities Services Division. Scope of work includes documenting field condition, preparing two (2) space planning options, client meetings to discuss preferred design option, and providing a final space plan.
- **Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles, CA:** Metro requires a Tier 1, Tier 2 and Conditions Assessment at nine (9) Metro parking garages to be completed within a 10-week time frame. As Project Manager, Shelly worked with the Agency and in-house IDS team to ensure project objectives and goals were met. Scope included site visits, pre-assessment, data collection, review of as-builts, identification of short- and long-term needs, cost analysis, and facility evaluation reports.
- **Los Angeles World Airports (LAWA), Recycling-Repair Yard Relocation, Los Angeles, CA:** To make way for the Taxiway D Extension project at LAX, an existing Airport Maintenance Yard required relocation from the north side of World Way West to the south side. This yard included an existing but un-permitted steel roof canopy structure to be relocated. IDS developed a material testing program (based on ASCE 41 procedures) necessary to obtain a building permit for the relocated canopy structure for the recycling sorting area. Expedited project design and construction was required. Shelley worked with the in-house structural, electrical, and civil engineering teams to redesign the masonry wall/bunkers for storage of sand and gravel, canopy, storage racks and container.
- **Municipal Water District of Orange County Facility Upgrade, Fountain Valley, CA:** Shelley was the Project Manager and Interior Designer. Project scope-of-work included space planning, structural upgrades, interior fixtures, and finishes. She was responsible for coordinating with stakeholders to ensure the goals and objectives of the project were achieved.

- **County of Orange, Human Resources Consolidation, Orange, CA:** As Project Manager, Shelley worked with the Agency to consolidate various divisions from separate buildings onto two floors of a single building. Scope of work consists of space planning, interior design, FF&E with cost estimates, design of custom built-in work areas, and construction administration.
- **County of Orange, New Healthcare Agency Facility, 17<sup>th</sup> Street, Santa Ana, CA:** Project Architect. IDS Group developed an overall master plan, which included the new Clinic building, the existing Bio Safety, Lab, the Peripheral buildings, and surface parking areas. IDS developed block diagrams of the new buildings to reflect the programming needs and efficient site utilization, and construction requirements. One of the most critical requirements for this project was to maintain operation of both the Clinic building and the Bio Lab during new construction.
- **County of Orange Yale Navigation Center, Santa Ana, CA:** As Project Architect, Shelley is leading IDS' team providing architectural and interior design and coordination with furniture vendors for the Furniture, Fixtures and Equipment package. Part of the deliverables for this job includes the writing of a Basis of Design document for FF&E as well as a cost estimate.
- **County of Orange Capital Improvement Division, El Toro Library Modernization, El Toro, CA:** As Project Manager/Architect, Shelley directed the IDS team through the architectural and planning and interiors of the renovations and upgrades for the project. The scope-of-work included addressing age related building and site repair and aesthetic issues, interior design, and coordination with team of designers and engineers to create a full set of comprehensive construction documents.

## Darren Smith, PE, BEAP, Lead Mechanical Engineer

Darren Smith is a registered mechanical engineer with more than 23 years of experience in both design bid build and design build projects. Darren is a very experienced design engineer and project manager with extensive experience in designing and managing numerous construction projects requiring strong cross communication at various levels of project ownership.



### Years with IDS Group, Inc.

- 3

### Education

Bachelor of Science, Mechanical Engineering, California Polytechnic University, Pomona

### Professional Credentials

- Professional Mechanical Engineer: California (#M-30841)

### Project Experience with the City of Anaheim:

- City of Anaheim West Tower HVAC Renovation

### Relevant Project Experience:

- **City of Anaheim West Tower, HVAC Rehabilitation and Replacement, Anaheim, CA:** Darren is the Mechanical Project Manager overseeing the project team for the assessment of existing conditions and reference documents for sustainable and cost-effective concepts. The city retained the IDS team to rehabilitate and replace the HVAC systems for the eleven-story, 221,963 sf office building.
- **Inland Empire Utility Agency (IEUA) RP-1 Primary Clarifier, Inland Empire, CA:** Lead Mechanical Engineer. The Inland Empire Utility Agency decided to install a new scum pipe system in the Primary Clarifier at RP-1. Darren prepared mechanical and plumbing construction drawings as part of the effort for the power connection for ten new actuators, single line diagram, panel schedules and load calculations.
- **Orange County Sanitation District (OC SAN) Motor Cooling Improvements at Plant No. 2, Fountain Valley, CA:** Mechanical Project Manager reduce the overheating experienced on the three main sewage pumps at the Effluent Pump Station Annex (EPSA) facility at Plant No. 2 when operated at lower than design speeds. The concept is to install fans to the motor exciters and to the existing motor radiator systems. Physical work includes installation of the fans, addition of thermal sensors, ducting, conduit, wiring, fan supports, appurtenances, and modifications to SCADA for a complete system.
- **Orange County Sanitation District (OC SAN) Elevator Evaluation and Recommendations at WSSPS & ESSPS Facilities, Plant No. 2, Fountain Valley, CA:** Lead Mechanical Engineer who oversaw the team to review, evaluate and provide recommendations, repairs/replacements for two existing freight elevators at WSSPS and ESSPS facilities at Plant No. 2. Project scope involved field survey, as-built drawing review, and building code compliance. A field report was prepared by the IDS team identifying required repairs to the two elevators, mechanical equipment, electrical equipment, elevator controls, and any ancillary equipment.

- **Los Angeles World Airports (LAWA) Roadways, Utilities, and Enabling (RUE) Projects, Design-Build Program – Recycled Water Extension Project, Los Angeles, CA:** Lead Mechanical Engineer for a recycled water extension project. Scope of work includes furnishing, installing, testing and joint commissioning of Recycled Water Piping for a complete and operable system which is fully integrated with the future Hyperion Plan Recycled Water Supply.
  - **City of Long Beach Gas & Oil Department Maintenance and Operations Building Renovations, Long Beach, CA:** Lead Mechanical Engineer working with the in-house architectural and engineering team to renovate the city's gas meter testing facility built in the 1970s. The mechanical scope included demolition of the antiquated hydronic heating/cooling system and related ventilation equipment. The HVAC design provides 13 new rooftop packaged gas/electric AC units with gas heating for a total capacity of 45 tons. The system includes roof exhaust fans interlocked with 100% OSA packaged makeup units, gas heating, and electric cooling; Design ventilation system for the meter shop area includes exhaust fans interlocked with the supply make-up air fan. A new title compliant HVAC control system was installed. Continual internal coordination with the IDS structural group ensured that roof-top units (RTU) were properly placed. Plumbing scope included new hot water heater, domestic water and sewer for remodeled restrooms and showers.
  - **Metropolitan Water District of Southern California, La Verne Water Quality Lab and Field Engineering Building Improvements, La Verne, CA:** Lead Mechanical Engineer working with the in-house architectural and engineering team for the seismic upgrade of three buildings (Bldg. 30, Bldg. 40 and the Water Quality Laboratory). These buildings include the Water Quality Laboratory Building, the Central Stores Warehouse, and the Engineering Building. In preparation for administering each building's assessment and implementation of repairs, a preliminary phasing plan was presented to minimize operational disruption during the construction work. Existing building analysis, phasing plan, and improvement cost evaluation was provided to assist in future tenant management efforts during construction.
- Orange Education Center Site Remediation MEP Peer Review, Rancho Santiago Community College District, Orange, CA:** Lead Mechanical Engineer for the peer review of the 50% CD and 100% CD MEP scope of the treatment plant. The MEP team reviewed pipe sizing, pipe material selections, equipment selections, connections, fitting, couplers, electrical details, seismic details, pipe runs and lengths, trenching, and backfill details.





# Kurt S. Yoshii, PE, GE, ENV SP

## Principal-in-Charge



### EDUCATION

B.S., Civil Engineering, 1990, University of California, Berkeley

### REGISTRATIONS/ CERTIFICATIONS

PE 54759 (California)

GE 2508 (California)

PE 14274 (Nevada)

PE 3791862202 (Utah)

PE 48007 (Colorado)

### PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

American Society for Testing and Materials

American Concrete Institute

American Council of Engineering Companies

American Public Works Association

Asian American Architects / Engineers Association

As a Principal Engineer for Ninyo & Moore, Mr. Yoshii provides principal oversight on geotechnical evaluations and materials testing and inspection for residential, commercial, and public facilities, including correctional facilities, schools, hospitals, highways, railroads, pipelines, and bridges; oversees geotechnical analyses including slope stability analyses, flexible and rigid pavement design, and underground pipeline design; reviews geotechnical reports, and provides geotechnical design parameters and recommendations for grading and earthwork, shallow and deep foundations, retaining structures, and in-situ ground remediation; oversees the soils and materials laboratory operations and provides supervision and technical support to project-level engineers and geologists; as well as provides expert witness services on litigation projects.

### EXPERIENCE

**City of Anaheim/On-Call Consulting Support for Public Works Development Services:** Served as Project Manager providing geotechnical engineering design, environmental consulting, and materials testing and inspection services during construction of various capital improvement projects. Services included soil engineering, testing and inspection – soil engineering includes preliminary site investigations for roadway and buildings, including foundation design, excavation and backfill, water mains, pavement design, and other geotechnical recommendations for the design or construction of City facilities.

**City of Anaheim, On-Call Consulting Support for Public Works Development Services:** Principal Engineer for the as-needed plan check services of various Anaheim projects. This contract included geotechnical consulting services for the review of plans, studies and reports. Our services included third-party reviews of geotechnical reports and plans to evaluate if the plans were in conformance with the recommendations of the geotechnical reports, and that the geotechnical reports appropriately addressed the geotechnical site conditions. One task order involved geotechnical consulting services for the peer review of the liquefaction potential analysis of an approximately one-acre vacant site being evaluated for residential development.

**City of Rancho Santa Margarita, On-Call Geotechnical and Materials Testing Services:** Served as Principal-in-Charge for the on-call geotechnical engineering consulting and material testing services of various City projects. Services included geotechnical observation and materials testing services for various construction projects including numerous pavement rehabilitation projects, pavement slurry seal, and drainage improvements and third-party review of geotechnical reports, emergency observation of slope failures resulting from heavy rain events.

**City of Newport Beach On-Call Geotechnical Engineering Services:** Principal in Charge for providing on-call geotechnical and materials testing for various capital improvement projects to support the City of Newport Beach work staff. Services include conducting geotechnical observation and field testing during various types of projects, observation and testing of street subgrade, aggregate base, asphaltic concrete (AC), Portland Cement Concrete (PCC) materials; perform compaction testing of various materials; preparing geotechnical engineering reports such as

# Kurt S. Yoshii, PE, GE, ENV SP

## Principal Engineer

pavement design and final compaction reports, preparation of various geotechnical engineering studies such as slope stability analysis; and provide other geotechnical services.

**Orange County Public Works, Third-Party and Plan Review Services:** Served as Principal-in-Charge for the third-party geotechnical report and plan review services for reports and construction plans submitted to the County of Orange for new development projects within the Rancho Mission Viejo Area of Orange County. The projects included infrastructure improvements and new residential developments. Geologic hazards present in the Rancho Mission Viejo vicinity include landsliding, global and surficial slope stability, liquefaction and related hazards, and settlement.

**City of Yorba Linda, As-Needed Geotechnical Engineering, Materials Testing/Inspection Services:** Principal-in-Charge providing oversight for as-needed geotechnical engineering and construction observation, materials testing and inspection services in support of various City capital improvement projects.

**John Wayne Airport, On-Call Geotechnical/Materials Testing and Construction Inspection Services, Orange County, California:** Principal-in-Charge retained to provide principal oversight for the on-call geotechnical, materials testing and inspection services for various airport projects located at the John Wayne Airport in Orange County, California. Responsibilities included oversight, review and ensuring Ninyo & Moore's services were being performed in accordance with the contract documents and to the complete satisfaction of the client.

**As-Needed Geotechnical Plan Review Services, Diamond Bar, California:** Served as Principal-in-Charge providing third-party geotechnical consulting and plan review services associated with the proposed construction of residential and school projects located in the City of Diamond Bar. Services included project coordination with the City of Diamond Bar Public Works Department as well as the geotechnical engineer of record for each project, a review of several geotechnical design reports, periodic site visits during construction, review of as-built geotechnical reports for the projects, and client consultations.

**City of Santa Monica On-Call Geotechnical Consulting:** Currently serving as Principal-in-Charge for the City of Santa Monica's on-call geotechnical consulting contract for an initial term of three years, with two options for renewal of one year each to be exercised at the City's sole discretion. Services include plan check services for geotechnical related submittals, including review of geotechnical engineering reports, and the geotechnical engineering related items associated with plan submittals.

**City of Fontana, On-Call Testing and Inspection Services; Fontana, California:** Project Manager retained to provide construction and inspection services for various projects for the City of Fontana including sewer construction, channel improvements, roadway rehabilitation and construction, new building construction, surface drainage evaluations, and third party geotechnical reviews.

**City of Los Angeles, On-Call Geotechnical and Environmental Consulting Services:** Principal Engineer for the on-call geotechnical and environmental services contract with the City of Los Angeles Bureau of Engineering, Geotechnical Division. Our services include geotechnical design, environmental hazardous materials evaluation, and geotechnical construction support services.

**Port of Long Beach, On-Call Geotechnical Professional Services, Long Beach, California:** Principal-in-Charge retained to provide Geotechnical Engineering Professional Services for development, expansion and/or improvements of general marine terminal, infrastructure, and other Port-related facilities on an on-call basis. Services will include geotechnical investigations, collection and analysis of soil samples, collection and review of geological and geotechnical data from previous investigations, seismic hazard reviews, engineering analysis and design, permitting support and construction support services, subsurface utility investigations, Ground Penetrating Radar (GPR) pavement investigations and design, and laboratory testing services. Projects include 3rd party geotechnical review services for the Tesoro Facility Soil Improvement Project at Berths B84-B85, Pier J Berths 245-247 Crane Rail Upgrade project, and the Fireboat Station 20 Facility project at Pier D, Berth 50 in Long Beach, California. Our services have also included attending meetings at the Port of Long Beach to present review comments in a meeting format to POLB personnel.

# Matthew D. Jacobs, ACI, ICC

## Senior Field Technician



### CERTIFICATIONS

ACI Concrete Field Testing Technician  
Grade I, No. 01169010

ICC Reinforced Concrete Codes,  
No. 8033855

ICC Reinforced Concrete Plans,  
No. 8033855

ICC Reinforced Concrete Special  
Inspector, No. 8033855

ICC Reinforced Soils Special Inspector,  
No. 8033855

City of Los Angeles Deputy Building  
Inspector, No. P030742

Radiation (Nuclear Gauge) User Safety

As a Senior Field Technician for Ninyo & Moore, Mr. Jacobs provides testing and inspection services for structural concrete and masonry, provides roadway inspection services on highway and street improvement projects and related documentation, provides construction management services on public works projects and related documentation, provides geotechnical observation and testing services for large earthwork projects and related documentation, performs construction observation of slope stability fills and landslide buttresses and provides related documentation, performs quality control for underground utility and foundation construction and provides related documentation, performs field testing of concrete and asphaltic concrete and provides related documentation, provides inspection of asphalt and concrete batch plants and related documentation, performs geotechnical laboratory testing and provides related documentation.

### EXPERIENCE

**Fire Station No. 1, Costa Mesa, California:** Served as Senior Field Technician providing geotechnical observation, materials testing and inspection services during the construction of the Costa Mesa Fire Station No. 1 project. The project included new construction consisting of a new, single-story firehouse and apparatus bay, storage building, trash enclosure, masonry site wall, concrete and asphalt concrete pavement, fuel tank, emergency generator, storm drain, sewer, water, dry utilities, sidewalks and driveways.

**Laguna Beach Village Entrance Improvements, Laguna Beach, California:** Senior Field Technician retained for materials testing and deputy inspection services during construction of the Laguna Beach Village Entrance Improvement Project. The project included two new bridges, partial reconstruction of one bridge, widening of one bridge, a prefabricated building and new retaining walls. The construction included installation of 12 cast-in-drilled-hole (CIDH) concrete piles, concrete footings and abutments, precast concrete deck and girders, steel girders, concrete over metal decking, wing walls, tubular railing, cable railing, concrete barriers and masonry walls. The project also included a soldier pile debris wall with steel "H" piles and wood lagging. Our scope of services included mix design review, deputy inspection, concrete sampling, and laboratory testing. The deputy inspection services included concrete, welding and masonry inspection. Our laboratory services included masonry components and concrete compressive strength testing. Testing was performed in accordance with ASTM test methods.

**Huntington Beach Union High School District, Westminster High School Pool Replacement, Westminster, California:** Senior Field Technician retained to provide materials testing and special inspection services during construction of the Westminster High School Pool Replacement project in Westminster, California. The project consisted of alterations to the existing pool equipment building, and construction of a new 40-meter pool and three shade structures. Services included sampling and testing of structural concrete, including checking slump, temperature and casting a set of concrete cylinders. Special inspection services were provided for shotcrete and welding. Our laboratory testing included rebar bend and tensile and concrete compressive strength testing. Testing was performed in accordance with ASTM Test Methods.

# Matthew D. Jacobs

## Senior Field Technician

**John Wayne Airport Terminal Improvements, Santa Ana, California:** Served as Inspector/Technician retained to provide materials testing and specialty inspections services during construction of the John Wayne Airport Terminal Complex Improvements project in Orange County, California. Services included special inspection and materials testing associated with welding, reinforced concrete, fireproofing, pull and torque-testing, epoxy anchors installation, and ground penetrating radar (GPR) testing, along with laboratory testing for concrete compressive strength, non-shrink grout compressive strength, reinforcing steel bend and tensile strength, and fireproofing density. The work conformed with the California Building Code, Title 24, for essential facilities and welding is performed in accordance with American Welding Society (AWS) D1.8 seismic provisions. Our field special inspection services included continuous inspection during field and shop structural steel welding and non-destructive testing (NDT).

**Big Canyon Reservoir Flow Meter Vault, Newport Beach, California:** Senior Field Technician retained during construction of the Big Canyon Reservoir Flow Metering Vault and Treatment Improvements project. The project included construction of a new reinforced concrete flow metering vault that is embedded approximately 27 feet deep below the existing surface. The site improvements included new utility pipelines, hardscape, and asphalt concrete pavement. Structurally, the new vault included cast-in-place reinforced concrete foundation, walls, intermediate floor and roof. Services included observation and testing during compacted fill, trench backfill and subgrade preparation. Field density testing was performed during fill placement to evaluate the contractor's compaction efforts. Special inspection services included deputy inspection for concrete.

**City of Yorba Linda Library and Arts Center, Yorba Linda, California:** Inspector/Technician provided geotechnical and materials testing and deputy inspection services during construction of the Yorba Linda Public Library & Arts Center project located in Yorba Linda, California. The project consisted of construction of a new 2-story, 45,000 square feet (SF) public library building and a new single-story 14,000 SF community arts center building, as well as a new parking lot and various site improvements. The new buildings structurally consist concrete spread footings, grade beams and slab on grade, structural steel framing including moment frames, metal stud walls, masonry walls, concrete over metal deck, and steel stairs. Other structural improvements included a masonry trash enclosure, reinforced masonry and concrete retaining walls, and steel framed trellis. Other site improvements include a parking lot, new utilities, a bio-detention system, light poles and concrete pavement.

**Lake Forest U-Haul Storage, Lake Forest, California:** Inspector/Technician retained for geotechnical, materials testing and deputy inspection services during construction of the Lake Forest U-Haul Storage facility located in Lake Forest, California. The project consisted of a new 3-story Building A, a single story Building B, and a new parking lot. Geotechnical observation and testing were performed during rough grading, trench backfill and subgrade preparation. Field density testing was performed during fill placement to evaluate the contractor's compaction efforts. Services included sampling and testing of structural concrete, including checking slump, temperature and casting a set of concrete cylinders. Special inspection services were provided for concrete and welding. Non-destructive examination was performed on the welds. Laboratory testing included sieve analysis, sand equivalent, Proctor density and compressive strength testing on concrete. Testing was performed in accordance with ASTM Test Methods.

**(UCI) Anteater Learning Pavilion, Irvine, California:** Senior Inspector/Field Technician retained to provide geotechnical, materials testing, and deputy inspection services for the construction of the University of California Irvine (UCI) Anteater Learning Pavilion project in Irvine, California. The project included construction of a classroom, lecture hall, and office building of approximately 79,000 square feet. The building consists of three floors, including a service level, with a connected two-level auditorium structure. Structurally, the new building is 3 levels of cast-in-place concrete with post-tensioned beams and slabs. Additional structural elements include reinforced concrete foundation, masonry walls, structural steel, cast-in-place concrete columns, and retaining walls. Additional site improvements include new underground utilities, new exterior concrete hardscapes, landscaping, and a new accessible ramp and stairs serving the Humanities building. Earthwork for the project included overexcavation and recompaction to remove the existing undocumented fill soils present below the new building area, as well as overexcavation and recompaction below the new exterior hardscapes. Services included sampling and laboratory testing of onsite materials, observation and density testing during the site grading, foundation observations, as well as various trench and structural backfill operations, reinforced concrete and masonry inspection services, as well as load and torque testing of post-installed anchors.



## Rania Alomar, Principal, AIA

### Education

B.A. Hons in Architecture/1993/Architecture  
Manchester University, Manchester, England

Masters in Architecture/1997/Architecture/SCI-Arc  
Los Angeles, California

### Registrations

Registered Architect / C-29809

With a strong and extensive background in public architecture, Rania Alomar has developed acumen and love for civic places. Her first project after graduate school was the Staples Center, a ground-breaking and world-renowned arena. She quickly emerged as one of the lead designers recognized for her exceptional ability to work with demanding clients, to tackle difficult construction techniques and resolve challenging design issues. This experience led to a series of prestigious projects where Rania led the design team to innovative and successful solutions.

She has worked with a broad base of client types: ranging from private developers and owners to community colleges to cities. In close collaboration with these clients, she has pioneered new prototypes, implemented innovative sustainable design techniques, and worked with tiny budgets and stringent deadlines and still achieved aesthetically, functionally and economically successful buildings.

Known for her creativity and vision, Rania's open-minded approach has led to a widely varied design portfolio, and architectural solutions that have garnered some of the most prestigious awards in her field. Her work has been published in numerous papers and magazines including the Los Angeles Times, the New York Times, Interior Design Magazine, LA Architect and more.

Ms. Alomar will lead our team in the design of all aspects of this project. She will work with you through each phase of the design and will be available during construction for site visits, working with our internal team to find solutions to design issues as they arise. Her primary focus on projects is maintaining design excellence and client satisfaction.

### EXPERIENCE

**The Beach Front at Long Beach, The City of Long Beach, Long Beach, CA.** Role - Lead Architect. Designated as the Overall Project Executive for this Project. She holds ultimate responsibility on all aspects of the project design and is dedicated to this project from early phases all the way through to construction. She will oversee the progress, performance and schedule this project.



**USC John McKay Center, University of Southern California, Los Angeles, CA.** Role - Lead Architect. Teamed with mega-firm HNTB, RA-DA was the interior design firm for the new USC building: a 100,000sf facility on campus to house a complete athletics program including administrative office, training, lockers for the football team and general classrooms for the students.

**Youth and Community Center, City of Oxnard, CA.** Role - Lead Architect. A 30,000 sf renovation of an existing concrete bunker into a modern community building, housing a variety of activities from video and sound production studios to dance studio and strength and cardio training facility.

**Redondo Beach North Branch Library, City of Redondo Beach, CA.** Role – Lead Architect. A 13,000 SF library and community center. This LEED Gold level building is playful and impactful, delivering a surprising presence for such a modest budget.

**Houghton Park Community Center, City of Long Beach, CA.** Role – Lead Architect. Renovation of the existing community center and the design of a new addition that would be the first of 3 new wings forecasted for the future expansion of the center. Our scope on this project included a new parking lot, a new 6500 sf LEED Silver certified building and the renovation of their existing building that was built in stages in the 1930s, 50s, and 80s.

**South Los Angeles Animal Services Center 2, City of Los Angeles, CA.** Role – Lead Architect. An award-winning design for a very unique facility for the City of Los Angeles. At one and a half acres and 260 kennels, this is one of the largest facilities in the country and also a sustainable LEED Silver rated design. RA-DA also developed the signage and branding for this project.

**South Los Angeles Animal Services Center 1, City of Los Angeles, CA.** Role – Lead Architect. Unbuilt. An award-winning design at a different site than the second facility listed above. The project underwent full design from Schematic Design through Construction Documents and even went through the Permitting process and was approved by the Los Angeles Building & Safety Department.

**Philadelphia Eagles Stadium, City of Philadelphia, CA.** Role – Lead Architect. A new 65,000 seat NFL stadium with a variety of high-end clubs and restaurants, a number of suites, and full stadium amenities.

**Staples Center, City of Los Angeles, CA.** Role – Lead Architect. A 20,000-seat NBA and NHL state-of-the-art arena with suites, restaurants, clubs, retail and office spaces.

## Richard F. Yeager Jr., PE

Richard F. (Rick) Yeager Jr. is a California Registered Civil Engineer and a NACE Int'l Certified Cathodic Protection Specialist with a broad background in corrosion engineering, inspections, and construction support services. Mr. Yeager has extensive experience in water and wastewater corrosion control and cathodic protection system designs, corrosivity assessments, pipe and coating materials of construction, and inspection and monitoring of installed piping systems. Additionally, Mr. Yeager has provided construction inspection services for projects that have included pipelines, water reservoirs, treatment plants, and roadways.

### Project Experience:

#### As-Needed Corrosion Engineering Services & Annual Assessment

Provide Cathodic Protection Data Collection/Analysis and Performance testing of installed pipelines and reservoirs. To include monitoring, testing and troubleshooting all existing corrosion control facilities for corrosion. Performing coating assessments on process facilities, water treatment plants, and buried piping systems. Then assessing system damage and evaluating cathodic protection system performance and identifying repair or refurbishment requirements. A summary report listing all observations, conclusions, and recommendations is submitted at the completion of each annual assessment.

- Ramona Municipal Water District
- Olivenhain Municipal Water District
- Santa Fe Irrigation District
- Leucadia Wastewater District
- Otay Water District
- San Dieguito Water District
- City of San Diego
- Padre Dam Municipal Water District
- Vallecitos Water District

#### Corrosion Control Evaluation and CP Design

Responsible for designing new and retrofit cathodic protection systems for buried metallic pipelines and aboveground water storage tanks. Designs, galvanic anode and impressed current, take into account soil conditions, coating options, power availability and other parameters in order to achieve the most cost effective means of long term corrosion protection in accordance with nationally accepted standards.

- City of San Diego- Morena Pump Station & Conveyance System
- City of San Diego- Tierra Santa Pump Station & pipeline
- City of San Diego- 69<sup>th</sup> & Mohawk Pump Station
- City of San Diego- 30<sup>th</sup> St Pipeline Replacement
- City of San Diego- Pacific Beach Pipeline
- City of San Diego- North City Water Reclamation Facility
- City of San Diego- North City Pure Water Facility Expansion

Richard F. Yeager Jr., PE



Principal Corrosion Engineer

### YEARS OF EXPERIENCE

25

### YEARS WITH FIRM

18

### EDUCATION

B.S., Civil Engineering, California Polytechnic State University, 1997

National Association of Corrosion Engineers (NACE Int'l)

- Basic Corrosion Course, 1997
- CP Design I, 1999
- Cathodic Protection Certification Training, 2001

### CERTIFICATIONS

California Professional Civil Engineer  
No. C70686

NACE Int'l:

- Cathodic Protection Specialist  
No. 6321

Confined Space Entrant/Attendee

Certified DVBE/SBE Firm  
(CA Dept. of General Services)

Certified SLBE Firm  
(City of San Diego)

SCOOP Certified Firm (SDCWA)

1016 Broadway, Ste. A, El Cajon, CA 92021  
Phone: 619.312.0195

- City of San Diego- Sloane PRS CP Design
- City of San Diego- Cielo & Woodman PS CP
- City of San Diego- Otay 2<sup>nd</sup> PL Phase I
- City of San Diego- Del Mar Heights PL ICCP Design
- City of San Diego- Sewer PS 79 CP Design and CSS
- City of San Diego- I-15 DAR/City 66: PL CP Design
- City of San Diego- Cal Trans I-905 Crossing CP Design
- City of San Diego- Upas Street Pipeline CP Design
- City of San Diego- Otay Mesa Trunk Sewer Casing CP Design
- City of San Diego- Torrey Santa Fe Road Pipeline
- City of San Diego- Design of Alvarado 2<sup>nd</sup> Pipeline Extension
- Padre Dam Municipal Water District- ESA Secondary Connection
- Eastern Municipal Water District- Cactus II Feeder TM CP Design
- Eastern Municipal Water District- Menifee Valley Reservoir
- City of Inglewood- Inglewood Pipeline Assessment
- City of Inglewood- Sanford TP Corrosion Assessment
- City of Orlando, FL- Orlando Reuse Pipeline
- City of Ontario- San Antonio Transmission Water Main project
- Orange County Water District- GWR Pipeline
- Eastern Municipal Water District- Design of the Murrieta Road Transmission Pipeline Improvements
- Eastern Municipal Water District- Desalter pipelines Phase II
- Eastern Municipal Water District- Reach 16-2 RW Pipeline
- Eastern Municipal Water District- Nuevo Road I-215 Pipeline
- Eastern Municipal Water District- Well 57 Pump Coating Inspection & CP Design
- Padre Dam Municipal Water District- Sky Ranch Pipeline, PS and Reservoir CP Design
- Las Vegas, NV- Nellis Air Force Base Visiting Quarters, Maintenance building, and Headquarters Building
- Irvine Ranch Water District- Zone 3 Reservoir CP
- Otay Water District- 680/944 Pipeline
- City of Del Mar- 21<sup>st</sup> St & 7<sup>th</sup> St Pump Station Cathodic Protection
- Leucadia Wastewater District- B2, B3, L1, L2 FM CP Repairs
- County of San Diego- Harbison Canyon SLS Corrosion Assessment
- Eastern Municipal Water District- Bridge RW Pipeline CP Design
- Vista Irrigation District- HP Tank CP Design
- Lake Havasu City- BS 1C CP Design
- Otay Water District- Heritage Rd PRS CP
- Las Vegas Valley Water District- Reservoir 3665 CP Design
- Las Vegas Valley Water District- Design for Summerlin 3895 Pipeline
- Helix Water District- 36-inch CML&C Pipeline CP
- MNWD- Regional LS FM Replacement CP
- SMWD- Reservoir CP System and Anode Well Survey
- Coachella Valley Water District- Salton Sea SCH PS and PL CP

## PROFESSIONAL AFFILIATIONS

National Association of Corrosion Engineers  
(NACE Int'l)

- San Diego Section Chairman,  
2002-2003
- San Diego Section Trustee,  
2003-2006
- NACE Int'l Policy Committee  
2006-2018
- NACE Int'l Policy Chair  
2012-2015
- NACE Int'l Policy Past Chair  
2015-2018

American Society of Civil Engineers (ASCE)

More Experience Available Upon  
Request

Richard F. Yeager Jr., PE

1016 Broadway, Ste. A, El Cajon, CA 92021  
Phone: 619.312.0195



## RICHARD C. SLADE, PRESIDENT & PRINCIPAL GROUNDWATER CONSULTANT

Richard C. Slade & Associates LLC Consulting Groundwater Geologists

### HIGHLIGHTS

#### Education

University of California, Los Angeles, B.A., Geology, January 1966

University of Southern California, M.S., Engineering Geology, 1974

#### Registrations/Certifications

Professional Geologist, State of California, License #2998  
Certified Engineering Geologist, State of California, License #929

### Professional Experience

Major fields of hydrogeologic emphasis for Mr. Slade include groundwater resource development (basin-wide studies, and water well design and construction), and aquifer analysis. Principal projects have involved, evaluations of entire groundwater basins, aquifer test analyses, assessment of water quality problems and groundwater degradation, design of water wells for municipal supply, well rehabilitation assessments, monitoring of all phases of water well construction, locating and designing groundwater monitoring networks, and providing expert witness testimony for groundwater litigation. Considerable work has also been performed for numerous vineyards and wineries in both the Central Coast and Northern California regions; types of work have included feasibility studies for determining final locations for new wells, designing new wells, monitoring of the construction

of new wells, working with drilling contractors, evaluating down-hole problems (such as sanding) in existing wells, and developing protocol for water well rehabilitation.

Hydrogeologic studies have also involved evaluation of hazardous wastes such as acid mine drainage, leachate from sanitary landfills, and groundwater degradation resulting from leaking underground storage tanks containing various chemicals and organic compounds. Numerous groundwater studies and monitoring projects have involved volatile organics (TCE, PCE, etc.) and subsurface gasoline spills. Hydrogeologic assessments and definition of appropriate mitigation measures for environmental impact analyses have been provided also. Important to Mr. Slade's broad background is the experience gained while being a participant with other geologists on international geologic study tours to Europe, Iceland and Scandinavia, the former Soviet Union, South America, the People's Republic of China, Africa, New Zealand and Australia. Local groundwater and surface water features, large faults and landslides, mines, and oilfields were visited in these countries.

In December 2008, based on the recommendation of the Administrative Committee (the water managers for the cities of Burbank, Glendale, Los Angeles and San Fernando, and the Crescenta Valley Water District), the Superior Court of Los Angeles County selected Mr. Slade as the new Watermaster for the entire Upper Los Angeles River Area (ULARA). Mr. Slade represents only the third Watermaster of ULARA since the date of the original adjudication of the region in January 1979.

### Experience History

**RICHARD C. SLADE & ASSOCIATES LLC, CONSULTING GROUNDWATER GEOLOGISTS.** Independent consulting practice established in 1983 to provide technical, professional, and direct personal services to the groundwater industry. Hydrogeologic projects have included groundwater resource development; locating and designing water wells; assessing potential degradation resulting from hazardous waste sites and sanitary landfills; conducting water level and water quality monitoring from monitoring networks; defining aquifer characteristics from long-term aquifer tests in active wells; observation and monitoring of water well construction; providing expert witness testimony for a variety of groundwater cases; and providing hydrogeologic elements and mitigation measures for environmental assessments.

**GEOTECHNICAL CONSULTANTS, INC., 1970-1983.** Joined the firm in 1970 as an engineering geologist and hydrogeologist. Advanced to Associate in 1975. Participated in and supervised geotechnical and hydrogeologic projects of various complexities, from the feasibility level through final design. His investigation and reports have analyzed faults and seismicity, earth materials, and groundwater problems for such facilities as dams, reservoirs, treatment plants, tunnels, industrial and residential buildings, sanitary landfills and groundwater basins. Major experience has involved field mapping, logging of bore holes, monitoring of groundwater observation holes, data analyses, and report writing.



Since 1972, Mr. Slade was the responsible hydrogeologist for several major groundwater basin projects including locating and designing of new wells and well redevelopments, calculations of groundwater in storage, determination of aquifer parameters, and evaluation of dewatering criteria. Several studies utilized emplacement of deep exploratory drill holes, analyses of geologic and geophysical data, and monitoring and analyses of groundwater levels, quality and pollution, and assessment of leachate and gases at existing landfills.

In addition, Mr. Slade has conducted and supervised groundwater pollution studies and evaluation of several active and proposed sanitary landfill sites; supervised geologic and hydrogeologic studies for the evaluation and abatement of acid mine drainage from a large, inactive sulfur mine; and participated in assessing groundwater, geologic, and geotechnical parameters which affect sewer infiltration and inflow.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, Los Angeles, 1967-1970. Performed hydrologic and hydrogeologic studies along pipeline and tunnel routes for State Water Project, conducted field mapping and exploration along tunnel routes, conducted and supervised aquifer tests for calculations of dewatering parameters for tunnel routes and dam sites. Served as Resident Geologist in charge of tunnel mapping and tunnel conditions for the Newhall and Castaic tunnels, excavated by tunnel boring machines.





## JOE AMAR, PROJECT GROUNDWATER GEOLOGIST

Richard C. Slade & Associates, LLC Consulting Groundwater Geologists

### HIGHLIGHTS

#### Education

- University of Arizona, Tucson.  
B.S., Geosciences, 2006

#### Registrations/Certifications

- Professional Geologist, State  
of California (2015)  
License #9298

### Professional Experience

Mr. Amar has been a Groundwater Geologist with the firm since 2013. Major areas of groundwater work have encompassed project management and field services during the drilling and field monitoring of construction of municipal- and irrigation-supply water wells and rehabilitation and redevelopment of existing water-supply water wells. These efforts have included: geologic logging of pilot boreholes by direct air, direct mud, and reverse circulation drilling methods; field monitoring and office services during the construction, destruction, and/or rehabilitation of numerous deep water-supply and monitoring wells in Los Angeles, Orange, San Bernardino, Riverside, San Diego, Kern, Inyo, Sonoma and Napa counties and Viti Levu, Fiji; graphically interpreting data in a variety of hydrogeologic settings; and using Geographic Information Systems (GIS) to evaluate hydrogeologic conditions.

Prior work has included assisting in the development water-resource projects at several properties in California including sites in Ventura, Los Angeles and Riverside counties. Other work included site assessments, soil and groundwater environmental contamination investigations and mitigation for major retail petroleum companies throughout Northern and Southern California.

### Experience History

#### **RICHARD C. SLADE & ASSOCIATES, LLC CONSULTING GROUNDWATER GEOLOGISTS**

February 2013 to present. Employment position as a Senior Groundwater Geologist with major responsibilities as a project manager directed towards groundwater evaluation, exploration, development and rehabilitation projects. Responsibilities include: preparation of proposals and cost estimates for various types of hydrogeologic projects; preparation of preliminary design and feasibility studies and technical specifications for new well projects; and also for well rehabilitation projects of existing water-supply wells, which include the design and implementation of casing liners, swage patches and/or intensive chemical and mechanical redevelopment. Providing technical and administrative oversight of well drilling, construction, development, and testing activities on new well projects, and the planning, coordination and execution during rehabilitation activities of existing water-supply well projects; and the preparation and completion of final project reports.

Other duties include: writing technical reports; electronic data management and analysis; and field work relating to the siting, design, construction and testing of new water-supply wells in sedimentary deposits of various geologic ages, as well as in numerous types of volcanic rocks and in intrusive igneous rocks. Other responsibilities include: installing transducers and conducting pumping tests of new/existing wells; prepare technical guidelines and summary reports for aquifer (pumping) tests of water-supply wells; detailed geologic logging of numerous pilot boreholes throughout California; monitoring of groundwater inflow rates and field water quality parameters for boreholes drilled into volcanic rocks in Napa and Sonoma counties by direct air method; field water quality and water level data during isolated aquifer zone testing in open boreholes; field monitoring of the installation of casing, gravel packs and cement seals; field monitoring of all elements of chemical/mechanical/pumping development of water-supply and irrigation-supply water wells within Los Angeles Basin, Orange County, San Diego County, Inyo County, Napa Valley, and Central Valley areas of California and also Viti Levu, Fiji; providing technical and administrative oversight of well drilling, construction, development, and testing activities on deep, multi-nested monitoring well projects; hydrogeologic interpretation of data via computational or mathematical means under various aquifer settings; producing spatial analyses, raster maps, and presentations of datasets using Geographic Information System (GIS) software to create various maps and graphics; database management of well information; forming informational networks with clients to provide them with clear understanding of hydrogeology with respect to their projects; and State DWR CASGEM monitoring plan writing and implementation for various adjudicated water basin districts throughout Southern California.



**EnviroSolve, Inc.** March 2012 to February 2013. Employment position was as a Senior Staff Hydrogeologist with responsibilities that included the identification of groundwater basins, worked with developers, municipalities, water districts, and private individuals to acquire and develop the water resources for use and/or for sale; scheduled and implemented fieldwork for HydroSolve's water resource department.

**ETIC Engineering, Inc.** June 2008 to March 2012. Employment position was as a Project Geologist. Duties included technical report writing, electronic data management and analysis, and field work relating to the site assessment, investigation (soil and groundwater) and remediation of contaminated sites in Southern and Northern California. Responsibilities included a variety of subsurface soil and groundwater investigations that include the logging of exploratory borings in accordance with the Unified Soil Classification System; soil, groundwater, and soil gas sample collection; groundwater monitoring and remediation; well installation (confined and unconfined aquifers); familiarity with a variety of drilling techniques, including CPT, hollow-stem auger, sonic, air rotary, and direct-push technologies; prepared a variety of technical reports, geologic cross-sections, groundwater gradient maps, isoconcentration maps, and hydrographs; worked closely with clients and vendors on many large projects.

### **Publications**

Amar, J.R., and Brenneman, E.V., 2005, *U-Pb Ages of Detrital Zircons from Quartzose Eolianite in the Jurassic Mount Wrightson Formation, Santa Rita Mountains, Arizona*: Geological Society of America Abstracts with Programs, v. 37, no. 4, p. 45–46.

Amar, J.R., Brenneman, E.V., Dickinson, W.R., and Anderson, C., 2006, *U-Pb Ages of Detrital Zircons in Middle to Upper Jurassic Eolianites of the Colorado Plateau*: Geological Society of America Abstracts with Programs, v. 38, no. 5, p. 10.

Dickinson, W.R., Stair, K.N., Gehrels, G.E., Peters, L., Kowallis, B.J., Blakey, R.C., Amar, J.R., and Greenhalgh, B.W., 2010, *U-Pb and  $^{40}\text{Ar}/^{39}\text{Ar}$  Ages for a Tephra Lens in the Middle Jurassic Page Sandstone: First Direct Isotopic Dating of a Mesozoic Eolianite on the Colorado Plateau*, *Journal of Geology*, v. 118, p. 215–221.



## Larry P. Ryan PLA, ASLA

Principal-in-Charge

RJM Design Group, Inc.

Larry Ryan's passion for creating meaningful public spaces for people to enjoy led him to co-found RJM Design Group over 34 years ago. The long-term relationships that he develops and maintains with clients, spans decades. He has worked with numerous communities throughout California and Nevada, where his project involvement encompasses all phases of development for our municipal clients.



### Licenses

- Landscape Architect / CA 2502 / AZ 25241 / NV 366 / OR 1072 / ID 16919

### Education

- Bachelor of Science, Landscape Architecture, California Polytechnic State University, Pomona

### Parks

- Alicia Park, Mission Viejo, CA
- Aurora Park, Mission Viejo, CA
- Bonita Creek Park Renovation, Newport Beach, CA
- Cedar Grove Park, Tustin, CA
- Cesar E. Chavez Park, Long Beach, CA
- Citrus Ranch Park, Tustin, CA
- College Park, Oxnard, CA
- Florence Joyner Olympiad Park, Mission Viejo, CA
- Grant Howald Park, Newport Beach, CA
- Heritage Park, Tustin, CA
- Long Beach Integration Plan, Long Beach, CA
- Mariners Park Renovation, Newport Beach, CA
- Ontario Town Square, Ontario, CA
- Portola Park, Lake Forest, CA
- Veterans Memorial Park, Carlsbad, CA
- Encinitas Community Park, Encinitas, CA
- Indian Wells Tennis Garden, Indian Wells, CA
- LA Chargers Practice Facility, Costa Mesa, CA
- Lake Forest Sports Park, Lake Forest, CA
- Long Beach Sports Park, Long Beach, CA
- Orange Coast College Baseball Field Renovation, Costa Mesa, CA
- Orange County Grek Park, Sports Fields, Irvine, CA
- Patricia H. Birdsall Sports Park, Temecula, CA
- Quakes Stadium, Rancho Cucamonga, CA
- Ruben E. Ayala Park, Chino, CA
- Santa Clarita Skate Park, Santa Clarita, CA
- Santa Clarita Sports Complex, Santa Clarita, CA
- Whispering Lakes/Ontario Sports Park, Ontario, CA
- Youth Athletic Park, Mission Viejo, CA

### Sports Facilities

- Anteater Recreation Center Playing Fields, University of California, Irvine
- Chino Hills Community Park, Chino Hills, CA
- Chiquita Ridge Sports Park Feasibility Studies, Rancho Santa Margarita, CA
- Col. Bill Barber Marine Corps Memorial Park, Irvine, CA
- College Park, Oxnard, CA
- College Park Community Park & Big League Dream Softball Complex, Oxnard, CA

### On-Call Design Services

- On-Call Design Services, City, County, & Port of San Diego, CA
- On-Call Design Services, City of Aliso Viejo, CA
- On-Call Design Services, City of Chino Hills, CA
- On-Call Design Services, City of Fresno, CA
- On-Call Design Services, City of Huntington Beach, CA
- On-Call Design Services, City of Laguna Niguel, CA
- On-Call Design Services, City of Lake Elsinore, CA
- On-Call Design Services, City of Lake Forest, CA
- On-Call Design Services, City of Long Beach, CA

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## Craig Sensenbach PLA, LEED AP (BD+C), ISA

Principal Project Manager

RJM Design Group, Inc.

Craig Sensenbach joined RJM Design Group, Inc. as a Project Manager in the Fall of 1993. As Project Landscape Architect, his responsibilities include both planning and landscape architecture ranging from conceptual planning studies through schematic design, preliminary graphics, design development, production scheduling, preparation of construction documents, client/consultant coordination and on-site observation.



### Licenses

- Landscape Architect / CA 2547
- LEED Accredited Professional
- International Society of Arboriculture (ISA) Certified Arborist / WE-11716A

### Education

- Bachelor of Science, Landscape Architecture, California Polytechnic State University, San Luis Obispo, CA
- Graphic Design, Laguna College of Art & Design, Laguna Beach, CA
- Light Construction & Development Management, University of California, Irvine Extension Program, Irvine, CA

### Professional Affiliations

- California Parks and Recreation Society

### Parks

- Bonita Creek Park Renovation, Newport Beach, CA
- Chino Hills Community Park, Chino Hills, CA
- College Park, Oxnard, CA
- Colonel Bill Barber Marine Corps Memorial Park, Irvine, CA
- Grant Howald Park, Newport Beach, CA
- Mariners Park Renovation, Newport Beach, CA
- Orange Coast College Baseball Field Renovation, Costa Mesa, CA

### Sports Facilities

- Santa Monica Civic Multi-Purpose Sports Field, Santa Monica, CA
- Chino Hills Community Park, Chino Hills, CA
- Col. Bill Barber Marine Corps Memorial Park, Irvine, CA
- College Park, Oxnard, CA
- Esencia Sports Park, Rancho Mission Viejo, CA
- LA Chargers Practice Facility, Costa Mesa, CA
- Lake Forest Sports Park, Lake Forest, CA
- Ontario Soccer complex, Ontario, CA
- Orange Coast College Baseball Field Renovation, Costa Mesa, CA

- Pamplico Park, Santa Clarita, CA
- Patricia H. Birdsall Sports Park, Temecula, CA
- Santa Clarita Sports Park, Santa Clarita, CA
- Santa Clarita Sports Park, Santa Clarita, CA

### Trails

- Crystal Cove State Beach Trail, Newport Beach, CA
- One Arroyo Trails Demonstration Project, Pasadena, CA
- West Coyote Hills Trail, Fullerton, CA

### Streetscapes

- Anaheim Resort Area, Anaheim, CA
- Brookhurst Street Improvements, Anaheim, CA
- Chapman Avenue, Stanton, CA
- Cloverfield Blvd., Santa Monica, CA
- Community Identity Plan, Chino Hills, CA
- Lemon Street Landscape Enhancement, Fullerton, CA
- Lincoln Avenue Beautification, Anaheim, CA
- Orangethorpe Avenue Landscape Renovation, Fullerton, CA
- Santa Ana Canyon Road, Anaheim, CA
- State College Blvd. Master Plan, Anaheim, CA



### Institutional Facilities

- Baseball Field Renovation at Irvine Valley College, South Orange County Community College District, Irvine, CA
- College Park, Oxnard, CA
- Colonel Bill Barbor Marine Corp Memorial Park Amphitheater, Irvine, CA
- Drop-off/Entry Area Design, Santa Ana College, Santa Ana, CA
- Drop-off/Entry Plaza, Santiago Canyon College, Orange, CA
- Irvine Valley College Amphitheater, Irvine, CA
- Irvine Valley College Great Lawn, Irvine, CA
- Lake Forest Community Center Plaza, Lake Forest, CA
- Orange Coast College Baseball Field Renovation, Costa Mesa, CA
- Park Newport Administration Building Plaza, Newport Beach, CA
- Performing Arts Center at Irvine Valley College, South Orange County Community College District, Irvine, CA
- Santa Ana College, Orange, CA
- Santa Clarita Sports Park Amphitheater, Santa Clarita, CA
- Santiago Canyon College - Entrance Improvements, Orange, CA
- El Toro Memorial Park in Lake Forest, Orange County Cemetery District
- Gypsum Canyon County Cemetery, Orange County Cemetery District
- Holy Sepulcher Lawn Crypt Expansion, Roman Catholic Diocese of Orange County, CA
- Holy Sepulcher Maintenance Facility Expansion, Roman Catholic Diocese of Orange County, CA
- Oak Park Cemetery Master Plan, Claremont, CA
- Palm Springs Cemetery, Palm Springs Cemetery District

### Aquatics

- Bishop Alemany High School Aquatics, Mission Hills, CA
- Joe Wilson Community Pool, Tracy, CA
- Menifee Aquatics Complex, Menifee, CA
- Santa Clarita Aquatic Center, Santa Clarita, CA
- The Cove Waterpark-Jurupa Aquatic Center, Riverside, CA
- Tracy Aquatics Center, Tracy, CA

### Community Centers

- Canyon Country Community Center, Santa Clarita, CA
- Chino Hills Community Center Chino Hills, CA
- Fullerton Community Center, Fullerton, CA
- Lake Forest Community Center & Sports Park, Lake Forest, CA
- Montclair Community Center, Montclair, CA
- Temecula Community Recreation Center, Temecula, CA

### Cemeteries

- Ascension Cemetery, Lake Forest, CA
- Anaheim Cemetery, Orange County Cemetery District
- Cemetery Feasibility Study, Orange County Cemetery District



## ROCKWELL CONSTRUCTION SERVICES

### ELECTRICAL AND INSTRUMENTATION & CONTROLS INSPECTION

#### JIM HUDSON – PRESIDENT EXPERIENCE

Over 40 years of experience regarding projects primarily focused on water/wastewater industry. From 1975 to 1978, Mr. Hudson served as an electrical apprentice working predominately in the greenhouse industry with focus on automation and control. In 1978, he became the first employee of Rockwell Electric, Inc. of Escondido, CA and became the Vice President and Field Operations Manager a short time later. Jim was instrumental in building Rockwell Electric, Inc. into a \$15 million/year organization servicing the water/wastewater industry. The company provided both electrical contracting capability as well as process control and system integration services for the water/wastewater construction and service industry.



Mr. Hudson left Rockwell Electric, Inc. in 1983 and was employed by Alyeska Pipeline Service Company as an Electrical Inspector on the Alaska Pipeline. He returned to San Diego in 1984 and founded North Coast Electric. North Coast Electric also concentrated solely in the water/wastewater industry.

Jim returned to Rockwell Electric, Inc. in 1991 and returned to his position as Vice President/Field Operations Manager. He left in 2001 and became employed by Rock Electric, Inc. as the Vice President. Rock Electric also became involved with water/wastewater projects at this time and executed many successful projects.

#### RELATED PROJECTS

##### **Wastewater Treatment Plant Upgrade, Goleta Sanitary District (Goleta, CA)**

RCS provided Construction Management and inspection services on what is one of the most challenging electrical and instrumentation & control projects we have encountered. The Goleta sewage treatment facility is an existing plant. This project includes not only major new construction of expanded process capabilities, but also a complete change-out of all the plant Electrical Switchgear and Motor Control Centers (MCCs). Detailed planning and coordination are of the utmost importance during phased cutover of process areas while maintaining a fully operational plant.

##### **David C. McCollom Water Treatment Plant LT2 Upgrades, Olivenhain Municipal Water District (Olivenhain, CA)**

Performed construction management and engineering assistance on this major upgrade project. The \$16 million project upgrades the facility to comply with the EPA's Long Term 2 (LT2) Enhanced Surface Water Treatment Rule. The project includes a new energy recovery facility including two new energy recovery turbines, new raw water eq. tanks, modifications to 13 membranes, new raw water eq. tanks, new backwash eq. basin and pump station, new strainers. Involvement with the instrumentation and controls design and participation in the startup and commissioning, as-built reviews, and punch-list development/resolution.

##### **Escondido-Vista Water Treatment Plant Disinfection and Electrical System Upgrades, City of Escondido**

The project included installation of a new on-site sodium hypochlorite generation (OSG) system to replace the existing gaseous chlorine system for disinfection, installation of a new chlorine dioxide generation system to replace the existing system, and upgrades to the plant electrical systems including main switchgear, standby engine generators, and MCC's for new equipment. Involvement includes startup planning and schedule coordination, controls clarifications, SCADA coordination, and startup & commissioning services.

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## **EXHIBIT C**





May 24, 2022

City of Santa Ana-Water Resources Division  
Attn: Water Engineering  
220 S Daisy Ave (M-85)  
Building A, 2nd Floor  
Santa Ana, CA 92703

**SUBJECT: FEE PROPOSAL TO PROVIDE ON-CALL WATER RESOURCES ENGINEERING SERVICES  
SUPPORTING CATEGORIES 1–4 (RFP: 22-002)**

Dear Selection Committee Members,

Enclosed is Ardurra Group, Inc.'s fee proposal for on-call water resources engineering services in support of the Water Resources Division. We have attached hourly rate schedules for Ardurra as well as our subconsultants.

Please feel free to contact our Contract Manager Mark Lewis at [mlewis@ardurra.com](mailto:mlewis@ardurra.com) or 949.677.0391, should you have any questions or require additional information. We look forward to being invited to further discuss our team's qualifications and to work with the City on the successful delivery of your on-call projects.

Respectfully submitted,

Lisa M. Penna, PE, F.ASCE, QSD  
Vice President, Regional Director  
Cell: 949.922.2800 | Email: [lpenna@ardurra.com](mailto:lpenna@ardurra.com)

Robert Weber, PE  
Southwest Water Practice Director  
Direct: 858.842.6978 | Email: [rweber@ardurra.com](mailto:rweber@ardurra.com)



ARDURRA

## 2022 HOURLY CHARGE RATE & EXPENSE REIMBURSEMENT SCHEDULE

### **ENGINEERING**

Engineering Intern/Technician.....	\$ 100
Engineering Coordinator.....	\$ 115
CADD Designer I/Engineer I.....	\$ 150
CADD Designer II/Engineer II.....	\$ 160
CADD Designer III/Engineer III.....	\$ 175
Project Designer.....	\$ 175
Senior Designer/Project Engineer.....	\$ 185
SCADA Specialist.....	\$ 190
Senior Project Engineer.....	\$ 200
Project Manager.....	\$ 240
Senior Project Manager.....	\$ 250
Principal.....	\$ 290

### **SURVEYING**

Survey Assistant I.....	\$ 140
Project Surveyor.....	\$ 160
Principal Surveyor.....	\$ 185
Field – 1 Person*.....	\$ 190
Field – 2 Person Crew*.....	\$ 280

### **\*CONSTRUCTION**

Assistant Labor Compliance Coordinator.....	\$ 120
Senior Labor Compliance Coordinator.....	\$ 145
Assistant CM Coordinator.....	\$ 120
CM Coordinator.....	\$ 130
Senior Construction Inspector.....	\$ 160
Resident Engineer.....	\$ 170
Construction Manager.....	\$ 205
Senior Construction Manager.....	\$ 215

### **ENVIRONMENTAL**

Intern/Technician.....	\$ 85
Technical Editor.....	\$ 115
Env Specialist I/Project Coordinator I.....	\$ 130
Graphic Artist.....	\$ 125
Lead Technical Editor.....	\$ 135
Env Specialist II/Project Coordinator II.....	\$ 150
Env Specialist III/Project Coordinator III.....	\$ 160
Project Manager.....	\$ 220
Senior Project Manager.....	\$ 240
Principal.....	\$ 255

### **PROGRAM MANAGEMENT**

Assistant Program Manager.....	\$ 160
Program Manager.....	\$ 175
Senior Program Engineer.....	\$ 185
Senior Program Manager.....	\$ 195
Principal.....	\$ 270

### **FLOW MONITORING**

Field Technician I.....	\$ 85
Field Technician II.....	\$ 105
Field Technician III.....	\$ 115
Field Supervisor.....	\$ 135
Field Operations Manager.....	\$ 165
Project/Data Manager.....	\$ 185

### **ADMINISTRATIVE**

Word Processor/Administrative Support.....	\$ 105
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Subconsultants will be billed at cost plus 10% unless specified otherwise in the agreement.

All base rates will escalate by 3% per annum.

\* Field personnel rates are inclusive of vehicle, mileage, phone, computer, survey equipment, etc. Inspection rates shown are for prevailing wage projects. Inspection rates for overtime are \$30 dollars an hour more than the listed rate.

### **Reimbursable Costs**

Reproduction, special photography, postage, delivery services, express mail, printing, travel, parking, and any other specialty services performed by subcontractor will be billed at cost plus 15%.

Mileage will be billed at the current IRS allowed rate.





**CONFIDENTIAL SCHEDULE OF FEES, SOUTHERN CALIFORNIA & SAN DIEGO REGION (DIR)**  
Prevailing Wage (effective through 06/30/2022)

Advanced Service Industries, Inc. (ASI) agrees to provide professional services on a time and materials basis. The fees for these services are invoiced at the following unit rates and per the terms and conditions below. The following rates are for publicly funded projects that are subject to CA Prevailing Wage law. Escalation notice: rates will increase \$2.50/yr. on July 1<sup>st</sup>, in response to mandatory Prevailing Wages increases. Rates are subject to change for special circumstances, as agreed between both parties.

PROFESSIONAL SERVICES	UNIT RATE
Structural Masonry Inspection	\$100.00/hr
Reinforced Concrete Inspection	\$100.00/hr
Structural Steel Welding Inspection	\$100.00/hr
High-strength Bolting Inspection	\$100.00/hr
Fireproofing Inspection	\$100.00/hr
Drilled-in-anchors Inspection	\$100.00/hr
Pre-stressed, Post-tension Concrete Inspection	\$100.00/hr
Wood/Seismic Framing Inspection	\$100.00/hr
Commercial/Residential Building Inspection	\$100.00/hr
Mechanical, Electrical, Plumbing Inspection	\$100.00/hr
Shotcrete/Gunite Inspection	\$100.00/hr
Certified Materials Technician	\$100.00/hr
AWS Certified Welding Inspection	\$100.00/hr

**TERMS AND CONDITIONS**

- **REGULAR RATES:** First 8 hours, Monday through Friday, except holidays, will be billed at regular rates. **PREMIUM RATES:** After 8 hours and up to 12 hours, Monday through Friday and first 12 hours of Saturday (except holidays) will be billed at PREMIUM RATES, which are one and a half (1.5) times the REGULAR RATE. **PLATINUM RATES:** After 12 hours, Monday through Friday; After 12 hours on Saturday; and All-day Sunday will be billed at PLATINUM RATES, which are two times (2) the REGULAR RATE. The following holidays will be billed at PLATINUM RATES: New Years, Memorial Day, Independence Day, Veterans Day, Thanksgiving Day and the day after, Christmas Day, and Labor Day. **SPECIAL HOURS:** Services performed by field or laboratory providers outside of normal business hours (6:30 AM – 5:00 PM) will be charged a to-be-determined premium on a case-by-case basis.
- **MINIMUM HOURLY CHARGES:** Services are billed at four-hour minimums; any work exceeding four hours is billed at eight hours. A two-hour fee will be charged for cancellations less than 24 hours prior to scheduled service(s).
- **MILEAGE CHARGES:** In most circumstances, mileage is not charged. Special circumstances where mileage is incurred may result in \$0.60 per mile fee, plus travel time (with prior client approval). These charges may also apply to sample pick-up and drop-off depending on project location.
- **CLERICAL & ADMINISTRATIVE CHARGES:** All general clerical and administrative work, such as collection and distribution of existing inspection reports and test results is done at no extra charge. Note: Additional recipients and/or copies will be billed at \$60 per hour (1 hour minimum). "Special report" generation and re-issue of existing reports/results will be billed at \$60 per hour (1 hour minimum). This includes composition, printing, and distribution of reports (up to 5 copies).
- **OUTSIDE SERVICES:** Additional services, rendered in addition to ASI's proposal (not foreseen and perhaps by outside services) will be charged to the client at cost plus 20%. No Additional services will be performed without prior written consent from the client.
- **PER DIEM:** In most circumstances per diem is not charged. Special circumstances where per diem is necessary will result in a negotiated per-day fee, including weekends (with prior client approval).

Invoices for all services completed or in-progress will be submitted weekly. These invoices are due in full upon presentation to the client. Invoices outstanding past 30 days will be considered past-due. Client acknowledges that any default in payment hereunder will result in losses and additional expenses to ASI in handling delinquent payments, and in loss of the use of funds not timely received. A finance charge will be computed at a rate of 1.5% per month, which is an annual rate of 18%, and charged on all past due accounts. If legal action is brought on delinquent accounts, the prevailing party shall be entitled to recover its reasonable attorney's fees and other costs of collection.

**BEYAZ & PATEL**

Over 40 Years of Structural Engineering Excellence

10920 Via Frontera  
Suite 210  
San Diego, CA 92127

858.451.0374 phone  
spatel@beyazpatel.com  
www.beyazpatel.com

**BEYAZ & PATEL**  
Hourly Billing Rate Schedule  
Fiscal Year 2022

Professional Classification	Hourly Billing Rates
Principal Engineer	\$251.00
Senior Structural Engineer	\$217.00
Senior Engineer	\$170.00
Engineer	\$147.00
Technical Classification	
CAD Designer	\$136.00
Administrative Classification	
Clerical/Word Processing	\$79.00

**Notes:**

1. Hourly billing rates are adjusted annually at the beginning of the fiscal year.
2. Other Direct Costs will be billed at cost.
3. Mileage will be billed at Federal standard mileage rate.



**Estimate**  
**Job** 22-5340  
**Quote No.** Q-13919  
**Date:** 05-16-2022  
**Expires on:** 06-15-2022  
**Payment** Prevailing Wage | Net 30

### Product Line Items

Product	Quantity	Sales Price	Total Price
Admin	2	\$95.00	\$190.00
Mobilization   Potholing Crew	1	\$285.00	\$285.00
Permitting   No Fee	1	\$0.00	\$0.00
Pothole Report	1	\$250.00	\$250.00
Pothole   5'-10' Deep	5	\$675.00	\$3,375.00
Project Coordinator	4	\$95.00	\$380.00
Traffic Control Plans   Stamped	1	\$550.00	\$550.00
Traffic Control   25-55 MPH	1	\$1,250.00	\$1,250.00
<b>Total USD</b>			<b>\$6,280.00</b>

### Product Descriptions

Product Item	Description
Admin	Project Administration.
Mobilization   Potholing Crew	Mobilization   Potholing Crew
Permitting   No Fee	Permitting Fee. Subject to Change based on actual agency prices.
Pothole Report	Pothole Report   Distinctive documented characteristics of utility.
Pothole   5'-10' Deep	Pothole   5'-10' Deep   Includes surface demo, backfill and standard cold patch.
Project Coordinator	Project Coordinator
Traffic Control Plans   Stamped	Traffic Control Plans required for City Permit Approval. Stamped by an Engineer.
Traffic Control   25-55 MPH	Traffic Control 25-55 MPH



## Service Exceptions and Limitation

### Locating Exceptions

Our services do not include the location of irrigation lines and associated control valves. We are able to locate sewer and storm drain lines if access is made available. We do not locate abandoned/extra conduits containing no interior cable and we do not locate fiber optic lines or lines without a metallic shield or lacking a tracer wire. C Below has the ability to locate nonmetallic lines but it is outside our normal scope of services. Should the need arise to locate these types of lines, please contact us for an additional quote.

### GPR Exceptions

There needs to be at least 8 inches clearance around the perimeter of the scanning area to accommodate the GPR antenna; especially at structure intersections. Scanning surfaces need to be relatively flat with no water present. GPR can penetrate 12 inches of concrete or masonry, but accuracy decreases with increased steel congestion. Indications show up on the radar screen as hyperbolas. The center of the hyperbola is the center of the indication. GPR data, under most circumstances, does not allow for the interpretation of an indications size, only the center location of the indication and embedment depth. Indications such as reinforcing steel or conduit spaced closer than 2 inches on center may show up as one indication.

### Mapping Exceptions

Please be sure to provide any project documents prior to dispatch. A workable CAD file is required if mapping is to be performed. JPG, TIFF, PDF files are not preferred and may affect the quality of the final product. If no CAD file can be provided, additional costs may apply. A complete and editable background must be provided by the client to ensure the quality of the final product.

### Potholing Exceptions

For billing purposes, C Below defines a standard pothole with the dimensions of 1' X 1' X 5' deep. Deviations from this standard definition require rate increases for additional time and materials to facilitate the client requests. Because potholing rates and other associated costs are based on the assumption of 8 hour work days, additional fees may apply if work is limited to less than 8 hours per day. These fees may include, but are not limited to: additional traffic control, travel time, and disposal fees. Standard pothole pricing includes holes at locations with a soil surface or an asphalt surface up to 6-inches thick. Additional fees will apply if the asphalt surface is over 6" thick or the proposed hole location has a concrete surface. If during the potholing operation the soil is found to have large aggregate or other debris over 3-inches in diameter, ground water, roots or hazardous materials, additional fees will apply. For further clarification please speak to your C Below representative. Optional Services include: hot patching per City requirements, slurry backfill, standard or engineered traffic control plans, trenching or excavation beyond standard pothole dimensions.

### CCTV Exceptions

All lines designated by the client for need of inspection must have clear unobstructed access points. Information gathered during the inspection must be agreed upon prior to dispatch. For added scope of water jetting additional fees apply.

### Traffic Control

Standard Traffic Control includes one lane closure with minimal signage not spanning an intersection. Extensive Traffic Control includes multiple lane closures, arrow boards, multiple signage requirements, spanning of intersections, flaggers, and other non-standard setups.

**CONTRACTUAL ADDITIONS**

C Below will undertake professional responsibility for only the services provided pursuant to this Agreement, and only pursuant to the terms and conditions of this Agreement. In particular, and without limitation, C Below will not be responsible for delays or other matters beyond its reasonable control; for inaccurate or incomplete information provided to it by Client, co-consultants or other reasonably reliable sources; for site conditions of which it was not actually informed; for unauthorized modifications to or deviations from C Below's instruments of service or the use of unfinalized instruments of service for any purposes including bidding or cost estimating; for hazardous materials or toxic substances at the Project site; for the speciation of products or equipment for purposes consistent with the manufacturer's published literature; for materials and equipment decisions made by others; for the services and instruments of service provided by others even if incorporated into C Below's instruments of service for ease of reference or otherwise; for the performance of the Project's contractors and materials suppliers; for construction means, methods, techniques, sequences or procedures, including without limitation investigation or demolition procedures and safety precautions and programs; and for the actions or inactions of others including utility companies, other consultants and governmental or quasigovernmental agencies.

The services being provided for by C Below do not relieve the Client of the responsibility of having to comply with California Government Code §§4216 - 4216.9. It is expressly understood by the Client that C Below's services are not a substitute for compliance with California government Code §§4216 - 4216.9.

In recognition of the relative risks, rewards and benefits of the project to both the Client and C Below, the risks have been allocated such that the Client agrees that, to the fullest extent permitted by law, C Below's total liability to the Client and to any other third party for any and all injuries, claims, losses, expenses, damages or claims expenses arising out of this agreement from any cause or causes, shall not exceed C Below's fee or \$5,000.00, whichever is less. Such causes include, but are not limited to, C Below's negligence, strict liability, breach of contract or breach of warranty.

The Client waives all rights against C Below for damages caused by fire, water, wind or any other perils to the extent covered by any type of property insurance applicable to the claimed damage or loss. This waiver of subrogation shall be effective even though that person or entity would otherwise have a duty of indemnification.

The Client shall ensure that all of its contractors and subcontractors maintain General Liability Insurance (minimum of \$1,000,000 per occurrence limits of coverage). Modified occurrence policies are not acceptable; any coverage exclusion in addition to standard ISO coverage forms must be noted and approved by C Below. The Client will require and make certain that its contractors and subcontractors list C Below as an additional insured using ISCO CG2010 1985 Form B or equivalent with no limitation to "ongoing operations" for each project C Below performs services for the Client. The additional insured endorsement or certificate must also contain a statement that "the protection afforded the additional insured hereunder shall be primary and any other coverage available to the additional insured shall be excess and non-contributing."




**Ardurra | CITY OF SANTA ANA ON-CALL WATER RESOURCES RATE SHEET**
*Rates effective through June 30, 2023*
**HOURLY RATES**

LABOR DESCRIPTION	HOURLY RATE
Principal	\$268.00
Senior Project Manager	\$242.00
Project Manager	\$215.00
Senior Project Surveyor	\$200.00
Project Surveyor	\$190.00
Senior Survey Analyst	\$168.00
Survey Analyst	\$147.00
Survey Technician	\$126.00
Project Coordinator	\$105.00
<b>Field Survey Rates by Prevailing Wage Classification*</b>	
1-Person Survey Crew	\$205.00
2-Person Survey Crew	\$330.00
3-Person Survey Crew	\$435.00

\*1-, 2- and 3-person survey crews are inclusive of survey vehicles, conventional and GPS survey equipment, and associated survey tools, safety equipment, etc.

**MINIMUM HOURLY CHARGE (PREVAILING WAGE ONLY)**

Office classifications will be billed based on the hours worked, no minimum hourly charge. Field classifications will be billed on an hourly basis with a minimum of 4, 6, and 8 hours in accordance with prevailing wage requirements.

**ESCALATION**

Non-represented classifications will escalate 5% annually, all field rates will escalate in accordance with the International Union of Operating Engineers, Local 12.

**OVERTIME**

Straight time will be billed for all work performed on-site up to 8 hours each day, Monday through Friday. Overtime will begin after 8 hours, Monday through Friday and on Saturdays. Double time will begin after 12 hours and on Sundays and holidays. The overtime/double labor rates will include:

Overtime (on-site over 8 hours Mon-Fri and Sat)	1.5 times the hourly base rate
Sundays and Holidays	2.0 times the hourly base rate
Nighttime Non-Overtime	1.5 times the hourly base rate

**OTHER DIRECT COSTS**

1. Reimbursable costs including but not limited to delivery or messenger fees, reproduction costs, agency fees, permits, title company fees, etc., shall be billed at cost plus 15% markup.
2. Mileage will be billed at the approved IRS rate.
3. Subconsultant fees shall be billed at cost plus 15% markup
4. Costs related to specialty survey requirements, (i.e., traffic control, specialty safety equipment, etc.) will be billed at cost plus 15% markup.
5. Expenses for any special equipment and/or requests shall be at the approval of the client.

**SOUTHERN CALIFORNIA LOCATIONS**  
 LOS ANGELES 444 W Ocean Blvd, Suite 800, Long Beach, CA 90802 | ORANGE COUNTY 9241 Irvine Blvd, Suite 100, Irvine, CA 92618  
 INLAND EMPIRE 3536 Concourse, Suite 201, Ontario, CA 92408 | SAN DIEGO 380 State Place, Escondido, CA 92029  
 TOLL FREE 855-90GUIDA | WWW.GUIDA.INC.COM

**IDS GROUP, INC.**  
2022 Rate Sheet

<b>Title - Association</b>	<b>Hourly Rate</b>
Principal	\$216
Associate Principal	\$202
Senior Project Manager   Associate	\$191
Project Manager	\$178
Senior Architect   Engineer	\$166
Senior Cost Estimator	\$153
Project Architect   Engineer	\$153
Designer Architect   Engineer	\$139
Engineering Designer - BIM	\$122
Two Man Survey Crew	\$290
Architectural Job Captain   Designer	\$116
CAD Drafting Engineer   Architect	\$104
Office Administration	\$64

Expenses such as, but not limited to plan check fees, permits inspections, testing services, title company fees, special delivery charges, plotting/presentation boards, maps, aerial photographs, and reprographics / illustrations that may be required for community or other stakeholder presentations, shall be billed to the owner at Consultant's direct cost plus 5%.

## Schedule of Fees

### Hourly Charges for Personnel

#### Professional Staff

Principal Engineer/Geologist/Environmental Scientist/Certified Industrial Hygienist	\$ 210
Senior Engineer/Geologist/Environmental Scientist	\$ 200
Senior Project Engineer/Geologist/Environmental Scientist	\$ 195
Project Engineer/Geologist/Environmental Scientist	\$ 185
Senior Staff Engineer/Geologist/Environmental Scientist	\$ 170
Staff Engineer/Geologist/Environmental Scientist	\$ 155
GIS Analyst	\$ 130
Technical Illustrator/CAD Operator	\$ 110

#### Field Staff

Certified Asbestos/Lead Technician	\$ 195
Field Operations Manager	\$ 130
Nondestructive Examination Technician (UT, MT, LP)	\$ 125
Supervisory Technician	\$ 120
Special Inspector (Concrete, Masonry, Structural Steel, Welding, and Fireproofing)	\$ 115
Senior Technician	\$ 110
Technician	\$ 110

#### Administrative Staff

Information Specialist	\$ 90
Geotechnical/Environmental/Laboratory Assistant	\$ 95
Data Processor	\$ 75

### Other Charges

Concrete Coring Equipment (includes technician)	\$ 190/hr
Anchor Load Test Equipment (includes technician)	\$ 190/hr
GPR Equipment	\$ 180/hr
Inclinometer	\$ 100/hr
Hand Auger Equipment	\$ 80/hr
Rebar Locator (Pachometer)	\$ 25/hr
Vapor Emission Kit	\$ 65/kit
Nuclear Density Gauge	\$ 12/hr
X-Ray Fluorescence	\$ 70/hr
PID/FID	\$ 25/hr
Air Sampling Pump	\$ 10/hr
Field Vehicle	\$ 15/hr
Expert Witness Testimony	\$ 450/hr
Direct Expenses	Cost plus 15 %
Special equipment charges will be provided upon request.	

### Notes

For field and laboratory technicians and special inspectors, overtime rates at 1.5 times the regular rates will be charged for work performed in excess of 8 hours in one day Monday through Friday and all day on Saturday. Rates at twice the regular rates will be charged for all work in excess of 12 hours in one day, all day Sunday and on holidays.

Field technician and special inspection hours are charged at a 4-hour minimum, and 8-hour minimum for hours exceeding 4 hours.

Invoices are payable upon receipt. A service charge of 1.5 percent per month may be charged on accounts not paid within 30 days.

Our rates will be adjusted in conjunction with the increase in the Prevailing Wage Determination during the life of the project, as applicable.



## RA-DA

### Hourly Rates for 2022

Principal - \$250

Project Manager - \$200

Architect - \$175

Architectural Designer - \$150

Administration - \$110



### **2022 Billing Rates**

(Rates Held Through June 30, 2023)

#### **Corrosion Engineering Services**

Principal Engineer \$195  
(NACE Certified or Corrosion PE)

Senior Project Manager \$185  
(NACE Certified or Corrosion PE)

CP Technician (CPT) \$145  
(NACE Certified or Corrosion PE)

#### **Administrative Services**

Administrator \$105

#### **Cadd Design Services**

Senior CADD Technician \$120

**Note: All overhead costs (Mileage, Admin, Per Diem, etc.) are included in the above billing rates**



**RICHARD C. SLADE & ASSOCIATES LLC**  
CONSULTING GROUNDWATER GEOLOGISTS

**SCHEDULE OF CHARGES**

January 2022

**Professional Services**

**Hourly Rates**

President	\$300.00
Principal	\$256.00
Senior Groundwater Geologist	\$220.00
Staff Groundwater Geologist	\$190.00
Field Groundwater Geologist	\$128.00
Clerical	\$ 98.00

**Field Equipment Charges**

Pressure Transducers (water level & barometric pressure monitoring during pumping tests)	\$ 50.00/wk.
Electric Tape Water Level Probe	\$ 25.00/day
Field Water Quality Probe (T, pH, EC)	\$ 50.00/day

**Litigation, Depositions and Testimony**

Depositions and trial testimony are charged at twice the hourly rate (4-hour minimum/day).

**Travel Time and Mileage**

Travel time for meetings and/or to job sites will be charged at our standard hourly rates. Mileage is charged at the current IRS rate.

**Administrative Fee**

In-house costs for phone, e-mail, fax, regular postage, printing, copying, binding, and records retention, unless otherwise provided for in our project proposal Scope of Services, will be charged an Administrative Fee of total project labor charges multiplied by 2.5%.

**Outside Services**

Any services and materials not ordinarily furnished by RCS, including subcontracted services (i.e., water quality laboratory testing), delivery services, reproduction and printing, etc., are billed at cost + 15%. Reproduction costs for large format printing, and/or high volume reproduction and binding of hard copy reports performed in-house by RCS staff, will be billed at rates similar to comparable outside services.

**Conditions**

RCS reserves the right to update this Schedule of Charges on January 1 of each year (the beginning of our Fiscal Year). Invoices are issued at our option on a monthly basis or when the work is completed. A service charge of 1½% will be payable on any amount not paid within 30 days. Any attorney fees or other costs incurred in collecting delinquent charges shall be paid by the client.

Client will furnish rights-of-way to land as required for field visits and field operations, such as sampling or testing of water wells.

14051 BURBANK BLVD., SUITE 300, SHERMAN OAKS, CALIFORNIA 91401  
SOUTHERN CALIFORNIA (818) 506-0418 • NORTHERN CALIFORNIA (707) 963-3914  
WWW.RCSLADE.COM

31591 Camino Capistrano  
 San Juan Capistrano, CA 92675  
 www.RJMdesigngroup.com  
 [949] 493-2690 *fax*  
 [949] 493-2600 *phone*



**RJM DESIGN GROUP, INC.**  
**HOURLY BILLING RATES**  
 August 1, 2022 through July 31, 2023

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**RJM DESIGN GROUP INC. (Landscape Architect)**

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Principal Landscape Architect	\$190 - \$210 per hour
Associate Landscape Architect	\$170 - \$180 per hour
Landscape Architect / Project Manager	\$155 - \$165 per hour
Job Captain / Landscape Designer / Planner	\$140 - \$150 per hour
CADD Technician / Graphics	\$125 - \$135 per hour
Word Processor	\$ 95 per hour

*Fees will be escalated each August 1<sup>st</sup>, in accordance with any increase in the Consumer Price Index or other mutually agreed upon cost index.*





## RATE SCHEDULE

<u>TASK</u>	<u>HOURLY RATE</u>
Standard Professional Services (All Activities)	\$185

This Rate Sheet is effective beginning August 1, 2021 through July 31, 2023.

1. All effort expended will be billed at the standard rate listed above.
2. Overtime work above 8 hours per day will be charged at \$277.50 per hour.
3. Any project that is over a 100 mi (round trip) from San Marcos, CA will be billed based on a 4-hour minimum related to field activities.
4. Drive time not included in the 4-hour minimum above, will be billed at an hourly rate of \$92.50 per hr.
5. The above rates are all inclusive and include overhead.

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