



MEETING AGENDA
for
PLANNING, RESOURCES AND OPERATIONS
COMMITTEE

June 28, 2022 @ 3 pm
by Virtual/Online or Teleconference

Please join our meeting from your computer, tablet or smartphone.

<https://meet.goto.com/155238501>

You can also dial in using your phone.

United States: [+1 \(669\) 224-3412](tel:+16692243412)

Access Code: 155-238-501

▪ **Call to Order**

1. Recognitions and Presentations:

2. Additions-Deletions to the Agenda:

3. Public Comments

This is the time for any shareholder or member of the public to address the committee members on any topic under the jurisdiction of the Company, which is on or not on the agenda. Please note, pursuant to the Brown Act the Committee is prohibited from taking actions on items not listed on the agenda. For any testimony, speakers are requested to keep their comments to no more than four (4) minutes, including the use of any visual aids, and to do so in a focused and orderly manner. Anyone wishing to speak is requested to voluntarily fill out and submit a speaker's form to the manager prior to speaking.

4. Approval of Committee Meeting Minutes

A. Regular Committee Minutes of April 26, 2022

5. Planning and Operational Issues:

6. Planning and Operational Updates:

A. Project Status Report/Project List

Report on on-going projects

B. Glendale Drive Pipeline Replacement

Proposed CIP project

7. Basin Issues and Updates:

○ San Antonio Canyon Watershed – Verbal report

○ Chino Basin - Verbal report

○ Six Basins - Verbal report

○ Cucamonga Basin – Verbal report

8. Closed Session: None.

9. Committee's Comments and Future Agenda Items:

This is the time for the Committee to comment and consider future agenda items relative to planning, water resources and operations of the company and its shareholders.

Adjournment:

The next regular PROC Meeting will be held on August 23, 2022 at 3:00 p.m.

NOTE: All agenda report items and back-up materials are available for review and/or acquisition at the Company Office (139 N. Euclid Avenue, Upland, CA.) during regular office hours, Monday through Thursday [8:00 – 11:30 & 12:30 – 4:00] and alternating Fridays [8:00 – 11:30 & 12:30 – 3:00]. The agenda is also available for review and copying at the City of Upland at 460 N. Euclid Avenue and Upland Public Library located at 450 N. Euclid Avenue.

POSTING STATEMENT: On June 23, 2022 a true and correct copy of this agenda was posted at the entry of the Company Office (139 No. Euclid Avenue), at the City of Upland at 460 N. Euclid Avenue, on the public bulletin board at 450 N. Euclid Avenue (Upland Public Library), and on the Company website.

MINUTES OF THE SAN ANTONIO WATER COMPANY
 PLANNING, RESOURCES, and OPERATIONS COMMITTEE
 April 26, 2022

An open meeting of the Planning, Resources, and Operations Committee (PROC) of the San Antonio Water Company (SAWCo) was called to order virtually at 3:00 p.m. on the above date. Committee members present were Will Elliott and Kati Parker. Also in attendance were SAWCo's General Manager Brian Lee and Senior Administrative Specialist Kelly Mitchell. Director Elliott presided.

1. Recognitions and Presentations – None.
2. Additions-Deletions to the Agenda – None.
3. Public Comments – None.
4. Approval of Committee Meeting Minutes:
 - A. **Regular Committee Minutes of February 22, 2022** – Director Parker moved, and Director Elliott seconded to approve the meeting minutes of February 22, 2022 as presented. Motion carried unanimously with Director Zuniga absent.
5. Planning and Operational Issues:
6. Planning and Operational Updates -
 - A. **Project Status Report/Project List** – Mr. Lee stressed the region needs water. There we no additional updates from the previous week's Board meeting.

Director Elliott commented there are agencies completely dependent upon import water that are having such difficulties in providing water to their customers; SAWCo is in a good position comparatively.
 - B. **Glendale Drive Pipeline Replacement** – Mr. Lee reported this project is one that staff has been discussing and would like to have added to this year's budgeted projects. Staff would like to issue a short list Request for Proposal (RFP) and get the project started this year. There are homes currently connected to a two-inch waterline and others on the same street connected to a six-inch water line. The project will upgrade the services to one, eight-inch waterline.

Director Parker moved and Director Elliott seconded to recommend the Board authorize including the project in the current year's budget and authorize staff to issue a short list RFP. Motion carried unanimously with Director Zuniga absent.
7. Basin Issues and Updates
 - **San Antonio Canyon Watershed** – Mr. Lee advised the Annual Watershed Clean-up day has been postponed another year.
 - **Chino Basin** – The final court meeting prior to the judge's retirement. His ruling dictated to the Appropriative Pool (AP) that the majority vote in the AP will control everything. A majority vote allows the AP to charge and invoice its members whatever it wants. It dilutes the minor appropriators power and

influence. The ruling was against the filing by City of Ontario, Monte Vista Water District, and the City of Chino. It moved forward the settlement with the Agricultural Pool (Ag Pool) which does not have details on how it will be implemented. The AP will pay roughly \$400,000 in arrears to the Ag Pool to cover legal costs that were not adversarial to the AP. Unfortunately, there are no invoices for those legal costs. The agreement was made simply to get the issue resolved and move forward. In the future, invoices will be required prior to payment. In response, the Ag Pool will drop its contexts both for the storage and the appeal of the ruling that the AP does not have to pay any of the Ag Pool's legal expenses. These decisions will most likely impact the AP negatively for as long as current members of the AP are participating in the basin activities. Mr. Lee advised SAWCo voted against the settlement agreement due to serious issues with the terms of the agreement and how it was going to be implemented. However, after the settlement agreement passed SAWCo now stands to receive a small refund of monies previously paid into the Ag Pool fund.

- ***Six Basins*** – Nothing new to report since most recent Board meeting.
- ***Cucamonga Basin*** – Mr. Lee reported he is looking to obtain both a Federal and State permits to allow SAWCo to do long term maintenance.

8. Closed session: None.

9. Committee's Comments and Future Agenda Items: None.

Adjournment: –The meeting adjourned at 3:10 p.m.

Assistant Secretary
Brian Lee

Agenda Item No. 6A

Item Title: Projects and Operations Update

Purpose:

To update the PROC and Shareholders on Company capital projects.

Updates:

1507 – Office Relocation

Staff intends to initiate conversations regarding Company plans to either move this project forward or remove it from the books.

1602 – Holly Drive Reservoir, Phase 3

Proposed construction of a second 120,000-gallon tank at the Holly Drive Tank site. Professional services agreement has been fully executed. Predesign meeting being scheduled. 90% Review set of plans and specifications due for review this month.

1902 – Cucamonga Crosswalls Mitigation

TKE Engineering is working with staff to close out certain State and Federal Permits. Staff is also looking into long-term maintenance permits that will allow the Company yearly access to the site for clearing and grubbing.

1905 – 2020 Master Plan

Computer Water Model being constructed by consultant. Staff is coordinating with consultant regarding areas of concern in the water model to improve accuracy. Revised schedule is to complete Master Plan by Spring. Staff is currently reviewing draft chapters and hydraulic profiles. Confirming system pressures in the field with computer simulation model pressures.

Original Budget.....	\$240,000
Original Contracts	\$204,085
Authorized Change Orders	NA
Current Contracts	\$204,085

2007 Well 19

Staff is working on a Request for Proposals to construct a new Well 19. RFP should be released next year for consideration by the Board. Project approved at April 2022 Board Meeting. Contract being completed.

2103 Booster 19 (Holly Drive) Generator

Purchase Order has been submitted. Generator has been installed.

At the request of property owner Staff is working to hire a landscape architect with the intent to install screening landscaping. Staff has hired Soltis Landscaping to develop a screening plan. Staff and consultant met with homeowner last week to discuss proposed plan. Waiting on homeowner's approval before start of construction.

Original Budget\$75,000
Original Contracts\$61,366
Authorized Change Orders NA
Current Contracts \$61,366

2112 Treatment Plant

Technical memorandum discussing the pros and cons of a company treatment plant. Contract with TKE fully executed. Scheduling pre-design meeting. Pre-design meeting held and data review is ongoing. Consultant conducted a site visit in late February. Draft technical report due this month.

Original Budget\$27,000
Original Contracts\$24,500
Authorized Change Orders..... NA
Current Contracts \$24,500

2201 Paloma Hydraulic Break

Technical study to review available options to modernize the facility and reduce low frequency noise during high waterflow events. Contract has been fully executed. Predesign meeting being scheduled.

Original Budget\$40,000
Original Contracts\$39,750
Authorized Change Orders..... NA
Current Contracts \$39,750

2202 Glendale Road Pipeline

Replace aged pipelines within Glendale Road. Project was approved at the regular may Board Meeting. Request for Proposals were sent to five design firms; Civiltech, Dudek, IEC, Provost & Prichard, and WSC. ~~Proposals are due June 23rd with plans to review at the PROC on the 28th of June.~~

Original Budget\$276,000
Original Contracts NA
Authorized Change Orders..... NA
Current Contracts NA

Purpose:

To discuss a pipeline replacement/upgrade project within Glendale Road.

Issues:

Which proposing Engineering firm is the most qualified to complete the project?

Manager's Recommendation:

Discuss and recommend the PROC's selection of most qualified firm for consideration by the full Board.

Background:

Glendale Road is currently supplied water by two pipelines: a 6" diameter pipeline located within the landscaping of homes on the southern side of the street and a 2" diameter pipeline located on the northern edge of the pavement. Both pipelines have reached the end of their service life.

The PROC and Board reviewed and authorized staff to issue a Request for Proposal (RFP) for design and construction support services. Staff issued the attached RFP to five engineering firms: CivilTech, Dudek, IEC (now Ardurra), Provost & Prichard, and WSC.

Proposals were received from the following firms: CivilTech, Dudek, Ardurra and Provost & Prochard. Proposals (sans proposed fees) are attached for PROC consideration. Proposed fees will be provided once the PROC has discussed who they believe is the most qualified firm.

Previous Action:

Release of RFP was approved by the Board at its regular May 17th Meeting.

Impact on Budget:

\$276,000 proposed budget

- \$230,000 construction
- \$46,000 professional services



San Antonio Water Company

Incorporated October 25, 1882
Serving the original Ontario Colony lands

A REQUEST FOR PROPOSALS

TO PROVIDE CONSULTING SERVICES TO THE SAN ANTONIO WATER COMPANY

PROJECT TITLE:

Glendale Road Pipeline Replacement

RESPONSE DUE BEFORE 3:00 PM

On June 23, 2022

Introduction

The San Antonio Water Company is soliciting proposals from select invited firms to assist in the design and construction of a pipeline replacement within Glendale Road. The project is more fully described on the attached budgetary project sheet.

The Company proposes to retain a single consultant to design the replacement pipeline for the above project, as well as construction management services, including bidding support and construction inspection (including soil and material testing). The Company is expecting 'cradle to grave' consulting services for the above project.

General Information

Since 1882 the San Antonio Water Company has consistently provided water service to its shareholders. The Company does not import any water. Instead we are dependent on our local San Antonio Canyon and Cucamonga Canyon watersheds and downstream groundwater basins.

Currently, our shareholders include most residents of the unincorporated area of San Antonio Heights, the Cities of Upland and Ontario, the Monte Vista Water District, local quarries and the proud heritage of remaining grove irrigators. Annual shareholder water entitlements are established based on projected availability.

The Company provides water through two separate systems: domestic and irrigation.

The domestic system receives the majority of its water through the San Antonio tunnel. Groundwater percolating through the alluvium collects in the tunnel and, after chlorination provides 4-log inactivation, is channeled into the Company's potable water system through the Company's Forebay facility.

The domestic water system provides service to the San Antonio Heights, also known as our Basic Service Area. Consisting primarily of large residential lots, the Heights is an unincorporated area of San Bernardino County approximately 2.6 square miles in size located immediately north of the City of Upland. The Company provides water to individual residential lots through 1,200 domestic meters.

The main irrigation system primarily receives water from surface water diversions in the San Antonio Canyon and provides service to the Company's 'extended' service area. Shareholders in the extended service area include municipal and private companies. Most of the distributed irrigation water is provided to the City of Upland's treatment plant located just below the San Antonio Canyon dam. The city's treatment plant has a minimum operating limit of 1.0 MGD. This restriction makes it difficult for the City to receive their full entitlement of SAWCO water when canyon flows seasonally dip and in extended periods of drought. Water that bypasses the city's treatment plant is typically sent to the Company's Forebay facility where it is diverted to groundwater settling basins, assuming there are no irrigation or rock quarry needs.

A separate Company irrigation system currently provides groundwater from three wells to the Water Facilities Authority (WFA) for treatment and distribution to shareholders who also participate in the WFA (Monte Vista Water District and City of Ontario). The City of Upland also participates in WFA but does not currently receive any Company water through the WFA. The Company's irrigation system delivering water from San Antonio Canyon runs up to the Company owned property on Benson Avenue just south of the WFA facility.

Project Scope of Services

Task 1 – Project Management

Provide overall project management services including:

- Preparing a proposed schedule for the project
- Teleconferences and meetings at appropriate intervals to keep Company staff updated on progress and address any needed management level decisions
- Quality assurance/ quality control
- Present recommendations for Company selection regarding material selection, scheduling, etc.

Task 2 – Preliminary Design Phase

- Prepare preliminary design phase documents consisting of final design criteria, preliminary drawings, outline specifications and preliminary cost estimate.
- Provide necessary field surveys, topographic and utility mapping for design purposes. Utility mapping will be based upon information obtained by consultant from utility owners and field locates.
- Furnish one review copy of the preliminary design phase documents and any other deliverables to Company
- Review and revise preliminary design phase documents based on Company comments.

Task 3 – Environmental Phase

- Review the project and make a recommendation to Company for appropriate CEQA requirements. Because this is a pipeline replacements within disturbed roadways, Company anticipates 'categorical exemptions' for this project.
- Prepare appropriate CEQA documentation and filings as necessary.

Task 4 – Final Design Phase

- Prepare final drawings, specifications and cost estimate indicating the scope, extent, and character of the work to be performed and furnished by Contractor. Consultant will field locate, as necessary, existing utilities to determine crossing and connection points.
- As an agent of Company, consultant shall obtain permits or approvals from appropriate governmental authorities having jurisdiction to review or approve the final design of the project. Traffic control and pavement restoration is overseen by the County of San Bernardino.
- Represent the Company in consultations with such authorities and revise the drawings and specification in response to directives from said authorities.
- Prepare and furnish bidding documents (plans, specifications, and estimate) for review by the Company, its legal counsel and regulatory agencies.
- After revising the bidding documents in accordance with comments and instructions from Company, Consultant shall provide one reproducible copy and one electronic copy of all documents in their native format (Word, AutoCAD, etc.), as well as one full document set copy in Adobe Acrobat PDF format.

Task 5 – Bidding Phase

- Coordinate advertising and obtaining bids for the work and maintain a record of prospective bidders to whom project documents have been issued.
- Coordinate any pre-bid conferences.
- Respond to Contractor’s Prebid Request for Information (RFI) through appropriate bidding addenda as necessary to correct, clarify or change the bidding documents.
- Coordinate bid opening and review bids for acceptability of prime contractor, subcontractors, supplies and other individuals and entities proposed by prospective contractors.
- Review and advise the Company on the acceptability of substitute materials and equipment proposed by contractor during the bidding or negotiating phase.
- Prepare a bid evaluation sheet showing each bidder and their respective line-item bids, along with a total proposed bid price for each bidder.
- Advise Company regarding which bidder was the ‘lowest responsible bidder’.
- After Company Board awards contract the Consultant shall coordinate construction contract execution and assemble construction contract documents.

Task 6 – Construction Phase

- Provide appropriate field oversight (inspection services) of construction activity to ensure contractor’s compliance with contract and permits.
- Provide appropriate material testing, including soil compaction testing, to ensure contractor’s compliance with contract and permits.
- Issue necessary clarifications and interpretations of the contract documents as appropriate to the orderly completion of contractor’s work.
- Review and organize any shop drawings, samples, and other information which contractor is required to submit to ensure conformance with contract documents and compatibility with design.
- Respond to Contractor Requests for Information (RFI) through appropriate addenda as necessary to correct, clarify or change the contract documents.
- Coordinate progress payments with contractor and forward a recommendation to Company for processing, along with appropriate contractor paperwork.
- At the appropriate completion of work, Consultant shall prepare necessary paperwork to close out project.

Schedule

The Company anticipates the following timeline and key milestones for award of the project:

Proposal Due Date	June 23, 2022
Consultant’s Notification	July 20, 2022

Proposal Requirements

The Company expects a short-form proposal not to exceed 4 pages, excluding resumes, proposed schedule and fee schedule. No other documents will be reviewed. Please do not submit additional material. Responses to this RFP shall be in the following order and shall include:

Project Understanding and Approach

Proposer shall demonstrate its preliminary understanding of the project by providing a clear and concise description of the project and major issues, based on the information provided in this RFP.

Proposer shall clearly define the tasks and activities necessary to meet the objectives outlined in the scope of work:

- I. Description of the tasks and activities, the methodology that will be used to accomplish them.
- II. Description of the products that would result from each task and activity.
- III. Identification of points of input and review with Company staff.
- IV. Proposed project schedule identifying key tasks, their expected duration, and milestone dates.
- V. Proposers are invited to suggest additional (optional) work tasks that could be performed in conjunction with or subsequent to the scope of work. Any such tasks are to be described as optional and the benefits of performing such tasks shall be described.

Proposed Total Professional Fee and Fee Schedule

Proposed fee shall not be the sole basis of award but will be used to evaluate the Consultant's understanding of the Scope of Work.

Include the hourly rates of all staff that will charge to the project.

Selection Process and Schedule

Key senior staff and Directors will independently review and rank each proposal. Based on an aggregate of those reviews, the Company will likely enter negotiations with the top ranked firm.

At this time, the Company contemplates the use of a Time and Material Not to Exceed contract for the services requested. Negotiations will cover scope of work, contract terms and conditions, attendance requirements, and appropriateness of the proposed fee.

After negotiating a proposed agreement that is fair and reasonable the General Manager will execute a contract with the most responsive firm.

Submittal Requirements

The proposal shall be signed (digital signature is acceptable) by an individual, partner, officer or officers authorized to execute legal documents on behalf of the Firm.

The Response Proposal, including fee estimate must be emailed to blee@sawaterco.com no later than 3:00 p.m. local time, on or before June 23, 2022.

Project Title: **Glendale Road Pipeline Replacement**

Total Budget: **\$276,000**

Engineering: \$46,000

Construction: \$230,000

Schedule:

Design: June 2022-August 2022

Construction: September 2022 – October 2022

Location:

Glendale Road

Justification: Glendale Road is currently supplied water by two pipelines: a 6" diameter pipeline located within the landscaping of homes on the southern side of the street and a 2" diameter pipeline located on the northern edge of the pavement. Both pipelines have reached the end of their service life.

The project would install approximately 770 LF of new 8" diameter pipeline within Glendale Road, along with appurtenances (valving, service laterals and hydrants).



June 23, 2022

San Antonio Water Company
Brian C. Lee
139 North Euclid Avenue
Upland, CA 91786

REFERENCE: Proposal for Glendale Road Pipeline Replacement Project

Dear Mr. Lee:

Thank you for the opportunity to develop a proposal for Glendale Road Pipeline Replacement Project. Ardurra is excited to partner with San Antonio Water Company (SAWCo) to provide engineering design, bidding support, construction inspection and materials testing, and construction management services for this project.

Project Understanding and Approach

The SAWCo project is located in the residential community of San Antonio Heights, California, in the County of San Bernardino. Customers on Glendale Road are supplied water by two pipelines: a 6-inch diameter pipeline located within the landscaping of homes on the southern side of the street and a 2-inch diameter pipeline located on the northern edge of the pavement (Figure 1). Both pipelines have reached the end of their service life. Per GIS information provided to Ardurra by SAWCo, 8 southside meters are connected to the existing 6-inch line. Additionally, there are 4 meters on the north side – 3 connected to the 2-inch and 1 connected to the 6-inch.



Figure 1 – Project site.

Ardurra proposes to design and provide construction phase services for approximately 770 LF of new 8-inch diameter pipeline within Glendale Road, along with appurtenances (valving, service laterals, and hydrants). The new pipeline will be connected to existing residential meter boxes with new water service lines. Existing pipeline sections to be replaced, per Figure 1, will be abandoned per industry accepted standard.

A site visit was performed by Ardurra on June 14, 2022 (Figure 2). Meter boxes were easily visible on the south side of the street served by the 6-inch pipeline, but meter boxes on the north side of street were more obscure. Utility markings on the street were noted for underground gas and water lines, with electric lines and poles observed aboveground. Valves were observed at each end of Glendale Road and a fire hydrant at the southeast corner of Glendale/Park. No sewer or storm drains were observed along the proposed project alignment.

Ardurra has extensive experience in providing services, from design and through construction, for pipeline projects. We understand the unique project challenges within neighborhoods such as: ensuring continual resident access to driveways, not interrupting trash service and mail/package delivery, and not impeding emergency services. We will provide seamless management and coordination with SAWCo, local jurisdictions, and contractor throughout each phase of the project.

Scope of Work

The Ardurra design process will include project management, surveying & mapping (by LD King), data collection, utility review, preparation of preliminary design documents, CEQA documentation, and permitting support. Ardurra will execute three submittals for the 8-inch pipe design including delivery of final signed plans, specifications, and cost estimate. Additionally, Ardurra will manage the bidding phase for the project.

Ardurra construction phase services will include continuous construction inspection, soil compaction testing (by Converse), submittal reviews, RFI responses, coordination of progress payments with contractor, and project close-out.

Task 1 – Project Management

Ardurra will provide project management, proposed project schedule, recommendations for material selections, quality management, and progress meetings for SAWCo to ensure adherence to project scope, schedule, and budget. We propose three (3) meetings: kickoff meeting/site visit followed by two (2) virtual review meetings.

Deliverables:

- Proposed project schedule
- Meeting agendas and minutes

Task 2 – Preliminary Design Phase

Ardurra will team with LD King to provide field survey, topographic, and utility mapping. We will incorporate mapping into the design drawings. Ardurra will prepare preliminary design phase documents consisting of final design criteria, preliminary drawings, outline specifications and preliminary cost estimate. Ardurra will review and revise preliminary design phase documents based on SAWCo comments.

Deliverables:

- One (1) review copy of the preliminary design phase documents, which is anticipated to consist of a Technical Memorandum and associated figures



Figure 2 – Glendale Rd. facing east. Utility boxes in grass and USA markings on street.

Task 3 – Environmental Phase

Ardurra will review the project and make a recommendation to SAWCo for the appropriate level of CEQA document. Ardurra anticipates a categorical exemption for this project given the pipeline replacement lies within disturbed roadway.

Deliverables:

- CEQA Notice of Exemption (NOE) documentation
- CEQA NOE filing with the County of San Bernardino

Task 4 – Final Design Phase

Ardurra shall coordinate encroachment permitting, traffic control, and pavement restoration with the County of San Bernardino. Ardurra will design the project in compliance with permit and other jurisdictional requirements. Ardurra scope includes data collection, utility review, Shut Down and Tie-In Plan, drawings, specifications, three design submittals – 50% (drawings only), 90%, and final.

Ardurra shall prepare and furnish bidding documents (plans, specifications, and estimate) for review by SAWCo and affected agencies. Ardurra will revise in accordance with comments and instructions from SAWCo and provide final documents and signed plan deliverables.

Deliverables:

- 50% plan and profile drawings – PDF Format
- 90% drawings and specifications – PDF Format
- Final signed plans, specifications, fee estimate – One (1) reproducible copy, one (1) electronic copy in native format, and one (1) full document set copy in Adobe Acrobat PDF format

Ardurra scope **excludes** Stormwater Pollution Prevention Plan (SWPPP), traffic control plans, shoring plans and calculations, and utility potholing – The contractor shall be responsible for these tasks, which will be required in the technical specifications for the project.

Task 5 – Bidding Phase

- Ardurra will consult with SAWCo to identify 2-3 reputable construction contractors; and given Ardurra’s familiarity with water construction industry in the region, will also recommend 2-3 additional constructors.
- Ardurra will notify prospective bidders of the project and coordinate and obtain bids for the work. We will provide all necessary construction bid documents to bidders and maintain a record of prospective bidders to whom project documents have been issued.
- Ardurra will coordinate a Pre-bid Meeting and process and respond to questions regarding the bid documents by way addendum(s).
- Ardurra will coordinate a Bid Opening Date and location, and perform Bid Opening activities. We will review bids for acceptability of prime contractor, subcontractors, supplies and other individuals and entities proposed by prospective contractors.
- Ardurra will review and advise SAWCo on the acceptability of substitute materials and equipment proposed by contractor during the bidding or negotiating phase.
- Ardurra will prepare a bid evaluation sheet showing each bidder and their respective line-item bids, along with a total proposed bid price for each bidder.
- Ardurra will evaluate the apparent lowest bidder for responsiveness, accuracy, and confirm that licenses, bond/surety and insurance requirements are in order and advise SAWCo of the “Lowest Responsible Bidder”.
- Ardurra will notify the “Lowest Responsible Bidder” and assemble all contract documents prior to final signature.

Deliverables:

- Record of prospective bidders
- Bid evaluation sheet
- Construction contract documents

Task 6 – Construction Phase

Engineering Design Services

Submittals and RFIs – Ardurra will review and organize shop drawings, samples, and other information which contractor is required to submit to ensure conformance with contract documents and compatibility with design, and provide six (6) submittal reviews. We will respond to two (2) Contractor Requests for Information (RFI) through appropriate addenda as necessary to correct, clarify or change the contract documents.

Construction Management Services

Kickoff Meeting – Ardurra will schedule and organize a Kickoff Meeting with contractor, SAWCo, designers, CM team, and other stakeholders. At this meeting the CM will go over all the nuances of the project, such as material submittal, RFI process, and work hours and have the designer available for any pertinent questions. The Contractor shall submit a Baseline Schedule at this meeting for Ardurra to review.

Progress Meetings – Ardurra will conduct construction progress meetings and provide agenda and minutes for such.

Change Orders – The Ardurra CM team is highly experienced in providing services for water pipeline projects; therefore, any change order matters will be effectively evaluated for justification and if justifiable will be addressed by quantity change per the schedule of values or per a negotiated cost and time.

Inspection Services – A highly experienced inspector will be provided to not only inspect installation activities with conformance to the construction documents but will also be ahead of the production work to identify and resolve any potential construction issues to eliminate delays to the project. Our inspector will be the point of contact, on site, from the public's perspective and therefore be available, to them, regarding information about the project. Given that the project is located on a residential road and adjacent to a busy street, Ardurra will inspect, such that the appropriate traffic control is in place and that access to driveways are addressed as well as postal services and trash services.

Materials Testing – Ardurra will include a materials testing firm, Converse Consultants, to provide four (4) visits to the site for backfill compaction testing, backfill method observation & recommendations. Converse will run a Maximum Compaction Lab Analysis for the material to be used for backfill to ensure the contractor's compliance with contract and permits.

Contractor Payment – Ardurra will process and review contractor payment requests and final payment and file the project with the County Recorder Office, given the contractor meets all substantial completion requirements.

Closeout Activities – Ardurra will perform all Final Closeout activities, which include: Final Punchlist Site-walk and Final Approval, Warranty documentation, Delivery of all project files, close out any potential liens, receive all contractor releases, and make recommendation for Final Payment.

Deliverables:

- Meeting agendas and minutes
- Warranty documentation
- Project Files

Design and Construction Schedule

The Ardurra Design schedule is built from a Notice to Proceed starting July 25, 2022. SAWCo will have one week for review of each submittal package. Signed Plans, Specifications, and Fee Estimate will be delivered to SAWCo November 11, 2022. The construction phase is expected to be 4 weeks in duration. See Appendix A for itemized design schedule.

Fee Estimate and Hourly Rates

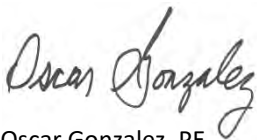
See Appendix B for itemized fee estimate and hourly rates.

Resumes

See Appendix C for resumes.

We appreciate the opportunity to provide this proposal and encourage you to please reach out with any questions. We look forward to working with SAWCo on the Glendale Road Pipeline Replacement Project.

Respectfully submitted,



Oscar Gonzalez, PE
Project Director
Cell: 213.379.3471
ogonzalez@ardurra.com



Robert S. Weber, P.E.
Southwest Water Practice Director
Direct: 858.842.6978
rweber@ardurra.com

APPENDICES

Ardurra Proposal

for

San Antonio Water Company

Glendale Road Pipeline Replacement Project



APPENDIX A

Project Schedule

PROJECT SCHEDULE

San Antonio Water Company Glendale Road Pipeline Replacement



ID	Task Name	Duration	Start	Finish	7/22 Jul	8/22 Aug	9/22 Sep	10/22 Oct	11/22 Nov	12/22 Dec	1/23 Jan
1	Engineering Design and Construction Services For Glendale Road Pipeline Replacement	130 days	Mon 7/25/22	Fri 1/20/23							
2	Project Management	130 days	Mon 7/25/22	Fri 1/20/23							
3	NTP	0 days	Mon 7/25/22	Mon 7/25/22							
4	Kick-off Meeting/Site Visit	0 days	Mon 7/25/22	Mon 7/25/22							
5	Preliminary Design Phase	40 days	Mon 7/25/22	Fri 9/16/22							
6	Data Compilation Review	1 wk	Mon 7/25/22	Fri 7/29/22							
7	Survey and Mapping	1 wk	Mon 8/1/22	Fri 8/5/22							
8	Utilities Research	1 wk	Mon 8/8/22	Fri 8/12/22							
9	Prepare PDR	3 wks	Mon 8/15/22	Fri 9/2/22							
10	City Review	1 wk	Mon 9/5/22	Fri 9/9/22							
11	Final PDR	1 wk	Mon 9/12/22	Fri 9/16/22							
12	Environmental Phase	40 days	Mon 7/25/22	Fri 9/16/22							
13	Final Design Phase	40 days	Mon 9/19/22	Fri 11/11/22							
14	Prepare 50% Design	2 wks	Mon 9/19/22	Fri 9/30/22							
15	City Review	1 wk	Mon 10/3/22	Fri 10/7/22							
16	Prepare 90% Design	2 wks	Mon 10/10/22	Fri 10/21/22							
17	City Review	1 wk	Mon 10/24/22	Fri 10/28/22							
18	Final PS&E	2 wks	Mon 10/31/22	Fri 11/11/22							
19	Bidding Phase	20 days	Mon 11/14/22	Fri 12/9/22							
20	Advertisement	0 days	Mon 11/14/22	Mon 11/14/22							
21	Questions Due	1 wk	Mon 11/14/22	Fri 11/18/22							
22	Addenda	1 wk	Mon 11/21/22	Fri 11/25/22							
23	Bids Due	7 days	Mon 11/28/22	Tue 12/6/22							
24	Award	3 days	Wed 12/7/22	Fri 12/9/22							
25	Construction Phase	6 wks	Mon 12/12/22	Fri 1/20/23							
26	Preconstruction Conference	0 days	Mon 12/12/22	Mon 12/12/22							
27	Construction	4 wks	Mon 12/12/22	Fri 1/6/23							
28	Punchlist	1 wk	Mon 1/9/23	Fri 1/13/23							
29	Record Drawings	1 wk	Mon 1/16/23	Fri 1/20/23							

APPENDIX C

Resumes



Education

MS/1998/Environmental Engineering
(Water/Wastewater)/California
Polytechnic University, Pomona

BS/1994/Mechanical Engineering/
California State University, Los
Angeles

Registrations

2004/PE/Civil/CA # C66241

Years of Experience: 35

Office Location: El Segundo, CA

Oscar Gonzalez, PE

Project Director

Oscar Gonzalez, PE, has an extensive background in program and project leadership, construction management, and civil engineering in his more than 30-year career. He has successfully delivered water and wastewater infrastructure for treatment, conveyance, storage, and alternate delivery facilities throughout Southern California. Oscar has managed various phases in the water/wastewater practice, ranging from planning and design to construction management and facility operations start-up. His public works expertise consists of public facilities, wet and dry utilities, street improvements, recreation centers, and landscaping and masonry.

As a project management consultant for water/wastewater clients in the public sector and director of construction in the land development industry, Oscar has delivered successfully on programs for new water and wastewater facilities and for new infrastructure in planned communities. His tasks for such programs have included coordination with city staff; budget and cash flow development; schedule development; management of professional consultants and review of deliverables; permitting with cities and dry/wet utilities; procurement of construction contractors; and construction management. As the first point of contact at construction sites, Oscar was the primary source for public outreach and information for such projects. As the Chair of the Finance Committee at Cucamonga Valley Water District, Oscar oversaw and gave direction for grant application to FEMA/ Cal EMA, California Prop 1, and California Prop 50; Cucamonga received approximately \$8 Million from such funding agencies.

RELEVANT EXPERIENCE

30-Inch West Pipeline Project, East Valley Water District, Highland, CA.* Construction manager for this \$1.4-million project that consisted of the installation of over 5,000 lineal feet of new potable water pipeline. The project involved traffic control installation, public notification, and testing and disinfection of pipeline. Duties included public outreach, change order negotiation, and contractor payment request review. (01/2014-08/2014)

New Model Colonies project in the City of Ontario, CA. Served as Construction Manager for the construction of Phase 1 of the backbone infrastructure for the At build-out this program will consist of a 4,000 acre development project, comprised of 30,000LF sewer, 58,000LF storm drain, 63,000LF domestic water, 72,000LF recycled water, and 80,000LF roads. The Phase 1 construction cost is over \$60million. Services include: Change Order negotiation and processing, Schedule Review, Progress Payment review and approval, RFI resolution, Submittal Review, and Construction oversight.

City of Highland: Storm Drain and Water Pipeline Project / Highland CA. Served as Construction Manager for the installation of over 17,000 lineal feet of new pipeline, including: sewer, water line, and stormdrain facilities, which included: traffic control installation, public notification, and testing and disinfection of pipeline. Duties included: constructability review, bid assistance, public outreach, change order negotiation, and contractor payment request review.

Served as Resident Engineer and Construction Manager for the construction of the Ventura Road Utility Improvements and Resurfacing Project in Oxnard, California. Included sewer line, potable water line, recycled water line, and forcemain. Each line consists of approximately 9,000 linear feet. Pipe material is PVC and diameters range from 16" to 21".

Evan's Reservoir and Inlet/Outlet System, City of Riverside Public Utilities Department, Riverside, CA.* Construction manager and resident engineer for this ASCE award-winning project, which involved the replacement of a reinforced concrete reservoir and inlet/outlet system (72-inch and



60-inch-diameter steel cement-mortar lined and coated (CML&C)). The project included demolition and construction of a 16-MG concrete reservoir, yard piping, site concrete work, electrical work, start-up and operation, and maintenance manuals covering all equipment. Construction and construction management fees totaled over \$14 million.

968 Reservoir and Pump Station Replacement, City of Glendale Water and Power Department, Glendale, CA.* Project/Construction Manager, and resident engineer for the replacement of the 968 Reservoir and Pump Station, located at Chevy Chase Country Club. The project included demolition, construction of a 14.5-MG concrete reservoir, the construction of a new pump station, yard piping, concrete work, pumps and motors, modifications to the existing irrigation system, and electrical work. The project also involved HVAC, electrical, and instrumentation; electrical and instrumentation wiring and interconnections; all structural, architectural, mechanical, electrical, plumbing, and yard piping, site grading and paving, utilities, drainage, yard structures; permitting; and operation and maintenance manuals covering all equipment. Provided outreach to contentious residents who ultimately championed the project.

The Preserve at Chino Land Development Program, Lewis Management Corporation, Chino, CA.* Director of construction for over \$80-million in public improvements. Improvements included the construction of backbone infrastructure and facilities that will serve new residential communities. Tasks included: budget development; coordination with the City of Chino; coordination with other public stakeholders, such as IEUA, SAWPA, County of San Bernardino, and State of California; management and coordination of design and construction management consultants; review of design deliverables; review of the Sewer Master Plan; and managing the program to re-design and re-construct street improvements to revised City ADA-compliant standards. The new construction consisted of wet utilities (including a lift station and force main), dry utilities, street improvements, recreation center, masonry walls, and landscaping. Oscar developed and managed an aggressive schedule. The timeline for completion was aggressive, due to the scheduled opening days of the new communities. (06/2017-12/2020)

North Fontana Land Development Program, Lewis Management Corporation, Fontana, CA.* Director of construction for over \$70 million in public improvements. Improvements included the construction of backbone infrastructure and facilities that will serve new residential communities. Tasks included budget and cash flow development and review/updates; schedule development and review/updates; management and coordination of design and construction

management consultants; coordination with the City of Fontana; coordination with other public stakeholders, such as West Valley Water District, Metropolitan Water District, and San Gabriel Valley Water District; and permitting with the City and utilities. The new construction included wet utilities, dry utilities, street improvements, masonry walls, and landscaping. The timeline for completion was aggressive, due to the scheduled opening days of the new communities. (06/2017-12/2020)

Malibu Mesa Water Reclamation Plant, Los Angeles County Department of Public Works, Malibu, CA.* Project manager for the 50% design effort of a new wastewater membrane treatment facility. The new plant will have the capacity to treat up to 200,000 gallons per day. The plant designer is Jacobs. The project includes installation of temporary filters, demolition of existing filter equipment, installation of a Parshall flume, pump station with diversion structure, fine screens, anoxic/aerobic bioreactors, membrane tanks, and permeate pumps; membrane thickening tank, new UV system, installation of new structural members in the existing building to support new electrical equipment; installation of a new standby generator, new process equipment and pump replacement; demolition of the existing generator and fuel tank; refurbishment of the existing round activated sludge process structure, refurbishment of the existing building; relocation of Southern California Edison equipment; and a paved parking area.

Replacement of Marina Del Rey Pump Station (MDRPS), Los Angeles County Department of Public Works, Marina Del Rey, CA.* Project manager for the design of the replacement and relocation of the MDRPS and rehabilitation or replacement of the existing forcemain. The facility designer is Stantec. The project includes odor control for MDRPS system, minimization of impacts to stakeholders and the public, pump station equipment, dewatering/managing tidal influence, decommissioning of existing pump station, electric systems, and site security.

Concrete Drying Beds, South San Joaquin Irrigation District, Oakdale, CA.* Construction manager for this \$4-million project that involved the construction of two new concrete drying beds and related earthwork, piping, and appurtenances. The project expands the sludge drying capacity at the Nick C. Degroot Water Treatment Plant. The project required diligent change order negotiation and potential claims avoidance. (12/2020-10/2021)

Belmont Plaza Pool Rebuild/Revitalization Project, City of Long Beach, CA. Project manager for this new, \$103.1-million aquatics center that replaces 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. Ardurra represents the City

OSCAR GONZALEZ, PE | ARDURRA | Page 3

and its interests in all negotiations, meetings, community outreach, entitlements, permitting, design management and related activities throughout the project. Oscar is assisting with the construction management RFP/consultant selection process as well as with administering an application from the Los Angeles County Flood Control District (LACFCD) DNAP program. He is also coordinating the design and permitting of the Olympic Plaza Storm Drain upgrade.

Capital Improvement Projects, Golden State Water, Santa Fe Springs, CA.* Served as district engineer (contracted) performing the tasks of construction manager and field engineer for all capital projects under construction. Coordinated all activities for construction services including contractor approvals, bidding, awards, contracts, inspection services, negotiations during construction, liaison with city and other agency inspectors, as-builts, and job closings. Completed field checks during design of capital projects; investigated and recommended solutions to engineering or system operational problems; maintained all capital and maintenance budgets; and supervised contract administrators, inspectors, engineering technicians, and other support staff performing all new business activities within the District—from initial contact with applicants, to preparation of final contracts, and installation of facilities.

Plant 143 Improvements, East Valley Water District, Highland, CA.* Construction manager and resident engineer for the Plant 143 Improvements, which included construction of a new 5,300-gallons-per-minute (gpm) booster pump station and a 1-million-gallon (MG) welded steel storage break tank for air dissipation treatment and distribution of groundwater from the District's existing wells, as well as from future groundwater sources from other pressure zones. Developed a sequence plan with District staff and the contractor for connecting to the existing system. The project included furnishing, installing, start-up and testing of mechanical piping, thermal insulation and appurtenances; flow meters and valves; motor control centers, variable frequency drives and controls; raw water bypass and meter and control valve; emergency generator connection provisions; fire protection systems; building support systems including plumbing, HVAC, electrical, and instrumentation; electrical and instrumentation wiring and interconnections; all structural, architectural, mechanical, electrical, plumbing, and distribution piping – including installation by mining and jacking, site grading and paving, utilities, drainage, yard structures; permitting; and operation and maintenance manuals covering all equipment. Duties included construction inspection; public outreach, change order negotiation, and contractor payment request review.

Anion Exchange Plant Expansion, City of Pomona Public Works Department, Pomona, CA.* Construction manager and resident

engineer for the construction of the City of Pomona's Anion Exchange Plant Expansion project, which included demolition, relocation of the sodium hypochlorite system, installation of a new resin storage tank, salt storage/brine generation system, yard piping, concrete work, pumps and motors, modifications to the existing SCADA system to control the new salt storage/brine generation system, electrical work, and the installation and start-up of the new Anion Exchange Plant.

***Work performed prior to joining Ardurra.**



Robert Weber, PE

Senior Project Manager

Mr. Weber 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. Mr. Weber 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 interagency approvals, and gaining community project acceptance.

Mr. Weber's project success based is 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 the 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. Mr. Weber has applied his engineering and project management talents in all of these settings to construct water transmission and distribution lines, forcemains, and gravity sewers. Mr. Weber 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

Pipeline Project CIP19005, Helix Water District. Project Manager for the design of approximately 7,500 linear feet of cast iron pipeline replacement through busy and congested/narrow streets of La Mesa. Project challenges included keeping existing service to customers during construction, tie ins and shutdowns, encroachment permitting, and keeping the project on schedule.

Ontario Ranch Phase 2 Water Main Improvements, Ontario Municipal Utilities Company/City of Ontario. Principal-in-Charge for approximately 1.5 miles of 30-in 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-in 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. Principal-in-Charge for design for 2,900 linear feet of new 30-inch cement mortar lined and coated welded steel pipe (CML&C WSP); abandonment of approximately 3,700 linear feet of existing 18-inch steel pipe.

Upas Street Pipeline Replacement, City of San Diego. Principal-in-Charge. Upas Street project extend 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

Education

State University of New York at Buffalo
B.S. Civil Engineering, 1990

Registrations

Registered Professional Engineer
California No. C59312

Professional Affiliations

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

Years of Experience: 32

Office Location: Poway, CA



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 high density polyethylene (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.

Mountain Avenue Gap Pipeline, Eastern Municipal Water District – Principal-in-Charge for the design of 1,800 linear feet of 18-inch diameter potable water main along Mountain Avenue (also known as Ramona Expressway) in the City of San Jacinto to close a gap between existing 18-inch potable water transmission mains at Oak Knoll Road and Old Mountain Avenue. The project team conducted a high-level review of two alternative alignments. The preferred alignment was Mountain Avenue since it is the shortest alignment, has less potential utility crossings, and will keep the pipeline in established public right of way. The new water main will provide reliability and redundancy by looping the water system in the 1807 Upper Fruitvale Pressure Zone (PZ). The proposed pipeline material is cement mortar lined and coated (CML&C), welded steel pipe (WSP). The project included coordination with the City of San Jacinto to ensure their requirements for pavement repairs were incorporated into the project.

Wolf Store Road 12-inch Waterline Inter-tie, Rancho California Water District – Principal-in-Charge. Approximately 5,000 lf of new 12-inch PVC potable water main along privately owned Wolf Store Road within the City of Temecula. The new waterline provides redundancy and improved water quality to the Vail Ranch Business Park. The waterline is adjacent to the existing Temecula Creek owned by the Riverside County Flood Control and Water Conservation District (RCFC&WCD). Wolf Store Road is a privately owned road within the Vail Ranch Business Park. Plat and legal documents are necessary, as well as coordination with the District's real estate agent for property acquisitions. Project challenges include crossing major storm drain facilities owned by RCFC&WCD, including an existing 7'x12' RCB and a 96" RCP. Multiple agency coordination includes RCFC&WD, Vail Ranch Property Owner's Association, and City of Temecula. Other project challenges include high groundwater and various utility crossings.

Sewer Rehabilitation and Upsizing, City of Lemon Grove. Project Manager 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.

Sewer Facilities and Access Improvements at The Woods, Irvine Rancho Water District. Project Manager for an evaluation of an existing gravity sewer network located parallel and within Upper San Diego Creek. Assessed repair and relocation alternatives, advantages/disadvantages and planning level costs and environmental constraints.

South Oceanside Water & Sewer Main Replacement, City of Oceanside. Project Manager. 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 re-routing of several existing water services in order to eliminate a problematic alley main.

Myers Street Sewer Replacement, City of Oceanside. 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 and 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.

Gibraltar Sewer Replacement, Leucadia Wastewater District. Project Manager. Design of 500 lf of new 12-inch gravity sewer to eliminate a section of hydraulically deficient sewer that was a historical source of maintenance problems for District staff. The existing sewer traversed private property through an easement to the La Costa golf course. Pending development plans for the private property necessitated the sewer to be relocated to a more accessible area in cooperation between the District, property owner, and golf course. The new sewer will coordinate with the site development plans and will also rectify the identified hydraulic deficiencies.

Downtown Sewer Upsizing, City of National City. Project Manager. Designed 10,100 linear feet of 10, 12, and 15-inch gravity sewer main for the downtown area of the City of National City. The project was prompted by the need to upsize and replace existing gravity sewer pipes ahead of planned redevelopment in the downtown area. Included coordination with the U.S. Navy for access to existing City-owned sewers on Navy property, coordination with Caltrans for permitting for

ROBERT WEBER, PE | ARDURRA | Page 3

a trenchless crossing of Interstate 5, and phasing of the project to meet the City's redevelopment timeline.

Olivenhain Trunk Sewer, City of Encinitas. Principal-in-Charge. Project to address existing maintenance issues, improve system reliability, and provide better protection for water quality and habitat values in Escondido Creek and San Elijo Lagoon. Specific objectives include; rehabilitating 54 existing sewer manholes to reduce I&I, relocating approximately 2,800 linear feet 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. Provided comprehensive planning, design, and construction phase services for this multi-phase project.

Trunk Sewer Main Replacement, City of Escondido. 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 has 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 five (5) segments of trunk sewer remaining from the original construction, which totals 6,900 linear feet of trunk sewer.



Education

University of California, Irvine,
Certificate Land Use and
Environmental Planning, 1991

University of California, Davis, B.S.
Environmental Policy, Analysis, and
Planning, 1985

Registrations

American Institute of Certified
Planners, AICP, Member 107286

Certifications

Licensed Sales Agent, CalBRE
#10984449

Years of Experience: 32

Office Location: Newport Beach, CA

Lori Trottier, AICP CEP Environmental Planner

Ms. Trottier has 32 years of experience as primary author and Environmental Project Manager for compliance with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Her experience includes a variety of development and infrastructure projects involving master plans for large-scale phased development, roadways and intersections, energy transmission, radio and communication sites, development of residential, commercial, mixed-use, and industrial land uses, regional recreation facilities, General Plans, General Plan Elements, and Specific Plans. She has managed numerous multi-disciplinary teams and been primary author on regionally significant and high-profile CEQA documents involving considerable public input. Ms. Trottier is an expert on CEQA compliance, environmental planning, and analysis. Ms. Trottier can quickly focus on key project issues, understand client needs and develop cooperative agency and stakeholder relationships resulting in win-win outcomes. Her experience extends beyond environmental planning and includes many types of entitlement permits for development, natural resources, and construction.

RELEVANT EXPERIENCE

Darrell Tank Replacement, Town of Hillsborough – Environmental Review Task Leader for the Darrell Tank Initial Study/Mitigated Negative Declaration. Darrell Tank replacement involves demolition of two existing steel tanks with a 2-million-gallon prestressed concrete tank. Potentially significant impacts from the project involve geology, soils and seismicity, tree removals, views, noise, air quality, traffic, biological resources, cultural and tribal resources.

Mountain View Street Condominiums (301 & 305 North Mountain View St.), City of Santa Ana – IEC provided CEQA analysis and documentation for the proposed redevelopment and General Plan Amendment components for the project. IEC completed the City of Santa Ana's Environmental Checklist, a site visit, research, and technical analyses including trip generation comparison, vehicle miles travelled screening analysis, air quality, greenhouse gas, energy, noise, and historical resources. IEC 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. IEC 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. IEC provided a Mitigation Monitoring and Reporting Program (MMRP), Notice of Intent to Adopt a Mitigated Negative Declaration, and Notice of Completion.

Lake Skinner Boat Launching Facility #1141, Riverside County Regional Parks & Open Space District – Researched County needs and requirements for improvements. Managed preparation and filing of a Notice of Exemption for rehabilitation of Lake Skinner boat launch and recreation facilities.

Sewer Replacement Nevada Avenue and Bodger Street Area (CIP No. 005), City of El Monte – Environmental Project Manager. 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 back yards of private residential properties, making it difficult for the City to access and conduct maintenance. As a result, approximately 4,500-linear-feet (lf) 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 back yard, requiring realignment of laterals from the rear of properties to the street.

Oceanside Boulevard Lift Station IS/MND and Conditional Use Permit, City of Oceanside – The project involves demolition of an existing pump station, development of a new pump station, and associated pipeline upgrades in Oceanside Boulevard.

Project issues include mitigation for sensitive habitat, cultural resources, AB 52 compliance, access, noise, and air quality.

La Jolla View Reservoir Replacement, City of San Diego – Coordinated CEQA-plus technical analysis of resources including biological, cultural, historic architectural, air quality, and greenhouse gas emissions, for demolition of Exchange Place Reservoir and demolition/replacement of the outdated and undersized La Jolla View Reservoir, located in La Jolla Natural Park.

Project issues are related to proximity with numerous residences and challenges associated with grading, traffic and circulation, noise, air quality, dust control, and significance of biological, and cultural and historic resources. The La Jolla View site vicinity is sensitive for cultural and biological resources, and per the terms of an internal City memorandum, design will be required to include restoration of natural topography and vegetation following demolition at the site.

Lotus Street Improvements Constraints Analysis, City of Oceanside – Coordinated cultural and biological resources constraints analyses and provided alternatives analysis for the City of Oceanside Lotus Street Improvements along Mission Avenue in an unimproved canyon between San Luis Rey Road and the intersection of Lotus and Pahvant Streets.

The project involves construction of two new manholes and replacement of approximately 250 lf of 6-inch cast iron sewer with 8-inch PVC sewer, and construction of approximately 340 lf of new 8-inch PVC sewer. All sewer lines will undergo open trench construction.

Golf Course Drive Improvements Constraints Analysis, City of San Diego – Coordinated cultural and biological resources constraints and provided alternatives analysis for widening approximately 2,300 lf of roadway on Golf Course Drive near the Balboa Park Golf Course.

The project includes construction of curb and gutter, retaining walls, where necessary to reduce grading and environmental impact, and storm water improvements such as bio-swale and detention basins to accommodate multi-modal transportation including pedestrian, bike, and automobiles.

Olivenhain Trunk Sewer Improvements FEIR/EA, City of Encinitas – Project Manager for final environmental documents and permits.

IEC is providing comprehensive design, environmental, and outreach support for relining 50 existing manholes, relocating approximately 2,800 lf of sewer line within existing roadway, and installing 21,000 lf of environmentally appropriate maintenance access way within a floodplain and wetland. The project includes re-vegetation and off-site compensatory mitigation plans for construction of permanent, improved maintenance access way within the floodplain and riparian corridor of Escondido Creek and in wetlands associated with San Elijo Lagoon. Environmental services include joint EIR/EA, Clean Water Act Section 404 permit, California Streambed Alteration Agreement, federal and state Endangered Species Act take authorization, and Coastal Development Permit, City of Encinitas Major Use Permit (MUP), San Diego County permits, Wetland Restoration Plan, and a NEPA Environmental Assessment for easement modification under the Natural Resource Conservation Service Agriculture Conservation Easement Program.

Storm Pump Station No 1. Rehabilitation, City of Sunnyvale – Responsible for a CEQA Categorical Exemption, regulatory permits, construction monitoring, and habitat mitigation monitoring plan for impacts associated with wetland habitat and species, cultural resources, and revegetation for compliance with Sections 404 and 401 of the Clean Water Act and compliance with Section 106 of the Historic Resources Preservation Act.



Education

Columbia College/Sonora, CA

U.S. Army Corps of Engineers Training

Certifications

Certified Erosion, Sediment and Storm Water Inspector (CESSWI), #4695; Qualified SWPPP Practitioner (QSP), #25929; NICET Railway/Subway Certification;

Confined Space Entry; Working at Heights; GI Safety Induction (Coal Surface);

Resources and Infrastructure Industry Supervisor's Course;

Communicate Information, #MNCG1009/#RIICOM301;

Certificates II and III in Surface Extraction Operations, #RII20209/#RII30109;

Certificate III/Mining Exploration; Four-Wheel Drive Vehicle, #RII30509

Years of Experience: 33

Office Location: El Segundo, CA



Keith Forbes, QSP

Construction Inspector

Keith Forbes, QSP, has more than 30 years of construction inspection experience for public agencies, including local, regional, state, and federal, as well as large commercial and industrial clients. Keith has substantial experience with water utilities including water lines, water mains with laterals, hydrants and individual house connections, and overall water services as well as wastewater and stormwater improvements. His specific project experience includes roadways, bridges, highways, light and heavy rail, concrete structures, liquid natural gas (LNG) storage tanks, mining/tunneling, bulk earth works, LNG plants and field compression stations, coal preparation plants (CPP), petroleum refineries as well as engineer procure and construction management (EPCM) projects. Keith is well-versed at addressing the rigorous administrative and quality assurance requirements of various funding requirements.

Keith's key responsibilities have included observing and inspecting all aspects of construction to identify document and report construction performance, in addition to verifying compliance with plans, specifications and codes. Keith's background expands in many areas including onsite inspection, plans examination, project coordination, working with architects and planners, report preparation, document control, and client relations. He has extensive experience with Caltrans specifications and standards, the Standard Specifications for Public Works Construction (SSPWC, AKA "the Greenbook"), Construction Standards Institute (CSI), American Institute of Architects (AIA), Engineers Joint Contract Documents Committee (EJCDC), documentation and report procedures and systems, as well as experience with coordination and interfacing with multiple agencies and the public simultaneously. Keith is Caltrans highway safety trained, OSHA construction safety certified, and possesses multiple ICC and ACI certifications.

RELEVANT EXPERIENCE

Reclaimed Water Line, City of Ceres, CA.* Senior inspector for construction of 12.5 miles of 24-inch C900 PVC underground reclaimed water line and a pump station from the Ceres wastewater treatment plant to the Turlock water treatment plant. Project included air release valves, blow-off valves, thrust blocks, backfilling and compaction.

Elk Grove Florin Road Water Main Improvements, Elk Grove Water District, Elk Grove, CA.* Inspector for the replacement of a 1,500-linear foot, 16-inch C900 ductile iron pipe water line, including 17 one-inch water services, air relief valves and three hydrant services for residents and local businesses. Monitored bacteriological testing for compliance with specification requirements.

New Tract Division Development Utility Installation, City of Roseville, CA.* Inspector for new 1,100-linear foot, 18-inch C900 pipe water main, including 12 one-inch water services, valves and air relief valves, storm drain and sewer systems, two hydrants and associated structures. Coordinated hydro-testing and bacteriological testing of water main.

Water Line Relocation at Millbrae Avenue, Bay Area Rapid Transit (BART), Millbrae, CA.* Inspector for relocation of an 800-linear foot, 24-inch C900 pipe water main and two 6-inch laterals for future hydrants for a BART station. Monitored hydro-testing and bacteriological testing of main line and services for residential and business properties.

New Subdivision Projects, County of Mesa, AZ.* Inspector for subdivision projects involving all underground utilities. These included water mains, laterals, hydrants and individual house connections, sewer lines and storm drains, including associated structures. Monitored water line services installations, hydro-testing of mains and laterals and coordinated bacteriological testing of services and main lines.

Water and Storm Drain Installation Improvements, City of Elk Grove, CA.* Senior inspector for the inspection and documentation of a new 16-inch water main. Inspections addressed fire hydrants, one-inch water services, air release valves, backflow preventers, gate valves and thrust blocks. Project included a new 48-inch RCP storm drain with manholes and pavement overlay. Performed hydro-testing and bacteriological testing in conformance with AWWA and Florin Resource Water District standards.

Wastewater Treatment Plant No. 3 Expansion, Public Works Department, City of Bakersfield, CA.* Senior construction inspector for \$373-million project that included civil works, process piping above and below ground, CMU block and concrete structures, concrete storage tanks and underground conduit duct banks.

Water and Sewer Main Infrastructure Upgrades, Public Utilities Commission, City of San Francisco, CA.* Senior construction inspector for this \$8.5-million project that included 24-inch water main and sewer main installation along with concrete structures.

On-Call Inspection Services, City of Lake Forest, CA. Public works inspector for construction of capital improvements citywide. Performs wide range of inspections involving construction of new homes in the Shea Baker Ranch master-planned community. Inspecting mass grading and final precise grading for new homes in Baker Ranch neighborhoods, such as The Landing (Shea Homes), Parkside (Toll Brothers) and Encanto (Meritage). Inspections address variety of elements, such as construction of storm drains, area drains, curbs and gutters, sidewalks, ADA ramps, street lighting and wet and dry utilities. Inspects all projects requiring encroachment permits. Also performed grading inspection for two restaurants and a U-Haul facility.

Torrance Transit Park and Ride Regional Terminal, City of Torrance, CA. Senior public works inspection for a flagship terminal for the City's 11-route agency, Torrance Transit, and other public transportation providers. This LEED v2009 Gold project includes parking for buses and automobiles, covered passenger boarding areas, offices, employee break areas and retail spaces. The project also involves off-site improvements for the installation of required utilities, the widening of Crenshaw Boulevard and construction of an extension of 208th Street as well as related improvements.

Kern and Mono County Bridge Replacements and Repair Project, Caltrans, Bridgeport to Tehachapi, CA. Assistant resident engineer/inspector for this \$7.5 million federally funded bridge replacement and repair project, which involved replacement and/or repair of nine bridge locations in Kern and Mono Counties. Improvements ranged from concrete and safety repairs to entire bridge

removal and replacement. The project included over 330 lineal feet of guardrail removal and replacement with over 360 lineal feet of Midwest guardrail, double Midwest guardrail, transition rail, and alternative in-line terminal systems.

Sherwin Summit Shoulders Widening and Barrier Rail Project, Caltrans, Mammoth, CA. Assistant resident engineer/inspector for this \$17-million project that includes eight retaining walls and a barrier rail.

Cache Creek Bridge Construction, Caltrans, Tehachapi, CA. Assistant resident engineer/inspector for construction of this new \$17-million bridge. The project includes pre-cast concrete girders.

2017-22 Street Pavement Maintenance Rehabilitation Project, City of Corona, CA. Interim construction inspection services that involve localized removal and replacement of failing asphalt sections, grinding and overlay, crack sealing, application of ARAM, and slurry sealing approximately 68 lane miles of local and major street. There is also removal and replacement of PCC ADA ramps.

Oso Creek Multi-Use Trail, City of Laguna Niguel, CA. Inspector for \$3-million project to construct multi-use trail. The trail is located along Oso Creek Channel between the Laguna Niguel Metrolink Station and Three Flaggs commercial center. The project involved building contiguous bicycle and pedestrian/equestrian trails, stormwater control and treatment best management practices, landscaping, lighting and street improvements. The project was partially on City street right-of-way and partially on Orange County Flood Control District right-of-way for the Oso Creek Flood Control Channel. Ardurra provided grant funding services for two grants, one from the OCTA Tier 2 Environmental Cleanup Program, the other a State Water Resources Control Board (SWRCB) Proposition 84 Stormwater grant.

La Cienega Boulevard and Fairview Boulevard, City of Inglewood, CA. Inspector for federally funded roadway project to improve traffic safety and ease congestion. This project involved widening Fairview Boulevard between La Cienega and La Tijera boulevards and constructing dedicated right- and left-turn pockets at Fairview Boulevard and La Cienega. Upgrades included traffic signal improvements, masonry retaining walls, concrete sidewalks and driveway ramps, cross-gutters, curbs and gutters, pavement resurfacing and striping. The project included rough grading, road excavation and compaction, asphalt paving over a compacted base and subgrade preparation.

Cherry Avenue Widening, City of Signal Hill, CA. Inspector for the first phase of project extending from 230 feet south of Pacific Coast Highway (PCH) to the 19th Street intersection. Services for this federally

funded project were provided in compliance with federal standards and requirements, as detailed in the Caltrans "Local Assistance Procedures Manual."

North End Projects, Alameda Corridor Transportation Authority, CA.* Inspector for a federally funded multi-mile reconstruction of a railroad bridge, widening of an existing bridge, excavation work, demolition and reconstruction of a 300-foot box culvert, landscaping, new track installation, and signal installation.

Jump Start Safety Program, Alameda Corridor East Construction Authority, City of Irwindale, CA.* Resident inspector for the federally funded, \$27.8-million heavy civil and heavy rail project. Inspection involved safety improvements for up to 45 surface intersections along a 30-mile route. This project was a portion of the nationally significant, rail improvement project to improve safety and reduce traffic and rail delays in the San Gabriel Valley.

Pavement Overlay and Slurry Seal, City of Chino Hills, CA.* Senior inspector for inspection services and public relations for 91 streets that involved slurry seal, overlay, reconstruction and striping. Coordinated and inspected the installation of drainage facilities designed by CBM on a fast-track schedule after construction started.

Citywide Residential Slurry Seal Program, City of Elk Grove, CA.* Senior inspector for \$500,000 citywide residential slurry seal program. Responsibilities included managing and coordinating public notifications, troubleshooting vehicle relocations, providing comprehensive quality assurance and contract administration.

Citywide Residential Slurry Seal Program, City of West Sacramento, CA.* Senior inspector for \$500,000 citywide residential slurry seal program. Responsibilities included management and coordination of public notifications, troubleshooting vehicle relocations, and comprehensive quality assurance and contract administration support.

223rd and Abalone Improvements, City of Torrance, CA.* Senior inspector for comprehensive infrastructure and road improvements for \$2-million project. Coordinated closely with the City's staff, contractor and public to complete project on time and within budget. The improvements included street reconstruction, overlays, curb and gutter, storm drain, waterlines, sewer and landscaping. The utilities portion of the project included a new deep sewer line and a 16-inch C900 water main with fire hydrants, water services, gate valves, backflow preventers and air release valves, hydro testing and bacteriological testing. Project compliant with Torrance Municipal Water District AWWA standards.

Pedestrian and Parking Lot Enhancements, City of Santa Monica, CA.* Lead inspector for multi-faceted, fast-track public improvements project. Project elements included streetscape improvements, pedestrian crosswalks, curb extensions, street realignments, sidewalk widening, landscaping, parking lot reconstruction, traffic signal improvements, drainage improvements, utility coordination, street reconstruction and overlays, and street and parking lot slurry seal. Construction was coordinated with five other projects scheduled for construction in the same timeframe.

I-405 Freeway Realignment, Caltrans District 7 and City of Carson, CA.* Senior construction inspector for \$22-million project involving a freeway interchange realignment. Construction involved concrete bridge and stormwater realignment, new pavement sections, abutment construction and earthwork.

U.S. 101/Millbrae Avenue Interchange, Caltrans District 4, Millbrae, CA.* Senior construction inspector for \$16.5-million project that involving concrete bridge work, on-ramp civil and paving work, stormwater improvements, signal conduit duct banks, signal pole work and earth work.

I-215 Freeway Western Segment, Las Vegas Beltway, Section 11A, Clark County Public Works, Clark County, NV.* Inspector for \$20-million project with a 390-day schedule. Inspected a three-mile stretch of freeway, including three bridges, a storm drain system, street lighting, traffic signals and paving. The project was part of Clark County's accelerated plan to circle the Las Vegas metropolitan area to improve traffic circulation throughout the Valley. Construction created two diamond interchanges using soffit-fill construction, a twin-bridge grade separation, 12 miles of the initial four lanes of the eight-lane PCC pavement highway and associated drainage, traffic and retaining wall improvements.

New Subdivision Infrastructure, City of Rocklin, CA.* Senior inspector for the construction inspection and documentation of new subdivision infrastructure, including water mains, residential services, hydrants, backflow preventers, air release valves, tees, hydro- and bacteriological testing documentation. Project involved stormwater and sewer line installation, laterals curb and gutter and sidewalks.

Wheatstone Liquid Natural Gas (LNG) Project, Bechtel/Chevron, Western Australia.* Quality control and pipeline inspector for Bechtel/Chevron gathering and trunk lines. Inspected Wheatstone temporary camp water supply installation, including backflow preventers, services. Documented backfilling operation, hydro- and bacteriological testing.

Rail Spur Track Installation Upgrades, Former Concord Naval Weapons Station, City of Concord, CA.* Senior construction inspector for rail spur track installation. Project involved eight spur tracks leading to ammunitions storage facilities at the station's missile facility. Project involved removal of existing spurs. Responsible for inspection, documentation and testing.

Metro Red Line-Hollywood Boulevard Segment, Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, CA.* Senior construction inspector for track installation for the Red Line system through the Hollywood Boulevard corridor tunnel. Addressed track installation, documentation, and testing.

Red Line Station Construction, LA Metro, Los Angeles, CA.* Inspected all reinforced steel, concrete and HDPE for \$300-million station construction. Inspected all architectural finishes, mechanical and electrical installations. Tracked contractor's manpower and progress in relation to critical milestones.

Red Line B-271 Subway Station, LA Metro, Los Angeles, CA.* Senior construction inspector for \$600-million project involving station excavation and backfilling, concrete placement of invert and station construction.

Hollywood Boulevard Corridor, LA Metro, Los Angeles, CA.* Senior construction inspector for tunnel invert and wall placement. The \$8.6-million project included concrete segment placement, rebar and an HDPE lining.

Various Projects, U.S. Department of Defense (DoD), CA and Overseas.* Construction inspector for 10 years for various projects throughout California and overseas. Worked with three contractors on a major DoD project on the Island of Diego in Garcia. The \$800-million project involved runway, control tower and runway lighting construction.

California Department of Transportation (Caltrans), CA.* Work consisted of various bridges on state highways US 395, Highway 58 in Kern and Mono counties. Scope included polyester overlay of bridge decks, new approach and departure slabs, spall repairs, installation of B seals at expansion joints, and new guard rails at approach and departure slabs. Another new bridge construction project was at Cache Creek on SR-58, No. 50-0201R. The project consisted of new abutment walls, placement of bridge deck, barrier railing and western guard railing at approach and departure slabs.

***Work performed prior to joining Ardurra.**



Dalia Mulato

Engineer III

Ms. Mulato is an Engineer III with five years of experience in design engineering and AutoCAD drafting on a wide variety of projects including water pipelines, and sewer gravity mains. Ms. Mulato is knowledgeable in the development of details and pipeline plan and profile drawings, development of detailed cost estimates, and preparation of preliminary design reports. Additionally, she has extensive knowledge with AutoCAD, Revit, Google SketchUp, and GIS.

RELEVANT EXPERIENCE

Trunk Sewer Main Replacement, City of Escondido – Design Engineer. 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 has 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 five (5) segments of trunk sewer remaining from the original construction, which totals 6,900 linear feet of trunk sewer.

Canyon Del Rey CMP Sewer Line Replacement Project, Seaside County Sanitation District – Design Engineer for the replacement and upsizing of three sewer segments of corroded sewer main totaling approximately 850 lf of 12" and 15" PVC. Project also consisted of four 48" diameter sewer manholes, and reconnection of three sewer laterals; two of which serve major users, the State Department of Motor Vehicles and the City of Seaside City Hall Complex.

Sewer Replacement Nevada Avenue and Bodger Street Area (CIP No. 005), City of El Monte – 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 back yards 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 back yard, requiring realignment of laterals from the rear of properties to the street.

Ontario Ranch Phase 2 Water Main Improvements, Ontario Municipal Utilities Company/City of Ontario – Design Engineer for approximately 1.5 miles of 30-in 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-in diameter CML&C WSP, PZ 1010, along Chino Avenue between Grove Avenue and the Chino Avenue Bridge (Cucamonga Creek).

Education

University of California, Davis
B.S. Civil & Environmental
Engineering, 2016

Years of Experience: 6

Office Location: Bakersfield, CA





Leah Russell

Project Coordinator

Leah Russell is a multi-disciplinary resource encompassing water science, engineering, and policy. She is a strong communicator with several years of experience in private consulting firms and public agencies. Skills include GIS spatial analysis, mapping, data analysis, project coordination, CEQA compliance, report writing, environmental permitting, and graphics design. Additionally, Leah provides general support to Ardurra's environmental, engineering, construction management, and marketing teams. Leah strives to cultivate collaboration and build accurate, efficient systems.

RELEVANT EXPERIENCE

Sewer Facilities and Access Improvements at The Woods, Irvine Rancho Water District.

Engineering support for an evaluation of an existing gravity sewer network located parallel and within Upper San Diego Creek. Assessed repair and relocation alternatives, advantages/disadvantages and planning level costs and environmental constraints. Updated Maps and Graphics utilizing GIS.

Lester J Berglund Water Treatment Plant Clearwell Bypass, City of Poway. Construction phase support for project submittal reviews and RFIs – in-house and subconsultants. Utilization of Procore for document management with construction management, client, and contractor.

Tomlin Pipeline Replacement, Elsinore Valley Municipal Water District. Engineering support for 60% submittal of specifications and technical appendices. Research for CEQA Initial Study and early coordination with environmental subconsultants.

Olivenhain Trunk Sewer Improvements, City of Encinitas. Environmental Specialist for four-mile sewer construction project in environmentally sensitive habitat. Comprehensive design, environmental, and outreach support for relining 50 existing manholes, relocating approximately 2,800 linear feet of sewer line within existing roadway, and installing 21,000 linear feet of environmentally appropriate maintenance accessway. The project includes re-vegetation and off-site compensatory mitigation plans for construction of permanent, improved maintenance accessway within the floodplain and riparian corridor of Escondido Creek and in wetlands associated with San Elijo Lagoon. Environmental services include joint EIR/EA, Clean Water Act Section 404 permit, California Streambed Alteration Agreement, federal and state Endangered Species Act take authorization, Coastal Development Permit, City of Encinitas Major Use Permit (MUP), San Diego County permits, Wetland Restoration Plan, and a NEPA Environmental Assessment for easement modification under the Natural Resource Conservation Service Agriculture Conservation Easement Program. Additional tasks include GIS spatial analysis for impacts to habitats, site plan design in ESRI ArcMap for engineering plan set, generation of maps, project coordination, data analysis, report writing.

Anza Road 1550 Pressure Zone Pipeline Extension, Rancho California Water District.

Professional design engineering services and bid phase support. Provided engineering support for GIS mapping, graphics, and exhibits for Right of Entry.

Vasona Pump Station Upgrade, Valley Water (Santa Clara, CA). Phased Environmental Analysis for project. Provided GIS mapping and graphics for project description.

Sewer Replacement Nevada Avenue and Bodger Street Area (CIP No. 005), City of El Monte.

Environmental Specialist for CEQA compliance – Response to Comments, updates to ISMND and MMRP written content, graphics, and GIS mapping. Approximately 4,500 linear feet of existing small diameter sewer to be 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.

Education

California State University, Fullerton
M.S. Environmental Engineering
Student – Class of 2023

University of California, Irvine
B.S. Earth System Science, Hydrology,
and Terrestrial Ecosystems, 2019

Professional Affiliations

American Society of Civil Engineers,
Environmental & Water Resources
Institute

Association Of Environmental Planners

Years of Experience: 4

Office Location: Newport Beach, CA



Sunnyvale Storm Pump Station #1 Rehabilitation, City of Sunnyvale. Environmental Specialist for updates to reports, Habitat Mitigation and Monitoring Plan (HMMP), revised revegetation plan, graphics, maps, and Contract Amendment Request.

Regional Water Quality Environmental Compliance, South Orange County Wastewater Authority (SOCWA). Environmental Compliance Research for regional beach quality regulatory assessments. Designed and executed targeted analysis of beach water quality data from 2010-2015 using Microsoft Excel pivot tables and statistical methods. Designed and executed Enterococcus bacteria speciation project: research, writing of SOP, inventory management, membrane filtration and microbiology techniques, biochemical testing, data analysis, weekly reports. Researched environmental water quality regulatory compliance framework and documents: SOC WMA WQIP, Integrated Regional Water Management, Regional and State Water Boards, federal law. Gained knowledge of wastewater treatment plant engineering, design, and management.

State Water Board BMP Efficiency Analysis, Southern California Coastal Water Research Project (SCCWRP). Research Assistant for State Water Board efficiency analysis project for the formation of public database and tool. Compiled and organized over 20 years of California stormwater BMP water quality and flow datasets in Excel. Designed structures of identification and methods of analyses for tens of thousands of data points. Performed data pre-processing of raw data with data inspection, cleansing, editing, validation. Utilized SigmaPlot to create graphs for Bight 18 report. Attended SCCWRP meetings and workshops for current and proposed water quality projects.



Civil, Water, Wastewater, Drainage, Transportation and
Electrical/Controls Engineering • Construction Management • Surveying
California • Arizona

Brian C. Lee | General Manager
San Antonio Water Company
139 North Euclid Avenue
Upland, CA 91786

June 23, 2022
Sent Via Email: Blee@sawaterco.com

RE: Proposal for Glendale Road Pipeline Replacement

Dear Brian,

Civiltec engineering, inc. (Civiltec) appreciates the opportunity to provide professional, engineering and construction phase services to San Antonio Water Company (SAWC). We propose to assign Terry Kerger, PE, as Project Manager/Project Engineer. W. David Byrum, PE, President of the firm, will serve as principal-in-charge. David has complete authority to handle all contractual matters, commit **Civiltec's** resources as necessary and take all action necessary to meet your requests. Terry will be assisted by the inhouse survey and design team and our geotechnical consultant Leighton Consultants. This team has completed numerous similar projects during the last 15 years. **Civiltec** will manage this project directly from our Monrovia office.

PROJECT UNDERSTANDING AND APPROACH

The existing 6-inch and 2-inch diameter pipelines have reached their end of service life, this project will abandon the existing 2-inch service line, replace the existing 6-inch pipeline, construct approximately 770 linear feet of new 8-inch diameter replacement pipeline within Glendale Road, relocate existing services for improved meter reading access, relocate existing section of 6-inch water main in Park Boulevard to a location within the street pavement, replace all valves, and add one mid-block fire hydrant and replace existing fire hydrants.

Glendale Road Pipeline

As identified in the Master Plan, the old 2-inch pipe in Glendale Road between Mountain Avenue and Park Boulevard is aged and insufficient in providing flow and pressure to existing customers. This project will construct a new 8-inch water line in Glendale Road, abandon the existing 6-inch water main, and replace the service laterals to reconnect existing customer services to the new 8-inch water main. The existing 6-inch and 2-inch main line will be abandoned in place. The existing 2-inch blow off and 2-inch valve will be replaced, and the 2-inch valves will be abandoned.

Critical Design Issues

The streets in this portion of the service area are narrow residential streets with sewer lines and other utilities. The engineering challenge will be to determine an alignment for the new water main that allows for the required water line separation from existing utilities for constructability purposes as well as standard traffic control during construction. All utility as-builts will be obtained so the proposed pipeline alignment considers both utility and minimum distance separation requirements from existing utilities.

Identifying existing soils conditions and pavement resurfacing requirements will minimize the possibility of change orders to address these construction issues. SAWC field staff has considerable experience



excavating in the foothill locations. We will rely on their experience to specify soil excavation requirements and backfill material requirements. San Bernardino County trench pavement thickness and limits will be determined and incorporated in the specifications and on the plans. Specification language will be revised to clarify any unaccounted trenching issues.

Scope of Services

Based on our understanding and experience, we have identified the following scope of services.

Task 1 – Project Management

Civiltec will schedule a kick-off meeting to discuss project information, goals, schedules, potential conflicts, and construction requirements. We will also schedule meetings following every design submittal to discuss your comments and ensure the project is progressing on schedule. Overall project management services including:

- Preparing a proposed schedule for the project,
- Teleconferences and meetings at appropriate intervals to keep SAWC updated on progress and address any needed management level decisions, and
- Quality assurance/quality control.

Task 2 – Preliminary Design Phase

Utility and Records Research. **Civiltec** will conduct complete utility research and contact each utility company requesting verification of location, size, and depth of facilities within the project limits. Utility research performed may include, but is not limited to, existing water, sewer, storm drain, gas, telephone, electrical, cable TV, fiber optic and oil. We will perform a record and data search consisting of survey information (assessor maps, parcel maps, records of survey, right-of-way maps, easement documents, etc.). A project base map will be prepared utilizing information received from the utility and records research efforts.

Preparation of preliminary design documents including final design criteria, preliminary drawings, outline specifications and preliminary cost estimate. Necessary field surveys, topographic and utility mapping will be provided for design purposes. Utility mapping will be based upon information obtained by consultant from utility owners and field locates. **Civiltec** will provide preliminary construction plans as PDF files for SAWC review and comment. The preliminary design phase documents will be revised based on SAWC comments.

Task 3 – Environmental Phase

Civiltec will review the project and prepare an initial assessment to determine if environmental documents are required for this project. These pipeline replacement projects are typically categorically exempt from the California Environmental Quality Act (CEQA). This project is within dedicated public roadway and SAWC anticipates a “categorical exemption.” If needed, **Civiltec** will prepare appropriate CEQA documentation and filings as necessary.

Task 4 – Final Design Phase

90% Plans. The 90% plans will address all comments from the preliminary submittal and include construction notes, dimensions, large-scale details, pipeline connection details, and all other information required for a complete set of plans. Sheets will be prepared on SAWC title block and drawings prepared in accordance with its drafting standards.



Specifications and Cost Estimate. *Civiltec* will edit the SAWC standard contract documents, prepare the bid proposal, edit the special provisions sections, edit the technical specifications, and prepare the cost estimate in accordance with the SAWC's requirements. The specifications will include all sections necessary for the construction of the project. The cost estimate and specifications will be submitted in PDF format for review with the 90% design plan submittal.

Civiltec will prepare the 90% plan set, specifications and cost estimate for review by SAWC, its legal counsel and regulatory agencies.

100% Final Plans. The final plan sets, specifications and cost estimate will incorporate all review comments from SAWC. The plans will be signed by a California Registered Civil Engineer and delivered as PDF files copies. Plan drawings will be prepared in AutoCAD, Version 2019 on 24-inch by 36-inch sheets with 1-inch equals 40-foot horizontal scale. *Civiltec* will provide final signed drawing and specification document files in PDF, Microsoft, and AutoCAD formats for your files.

Civiltec will prepare the final bidding documents for review by SAWC, its legal counsel and regulatory agencies. As an agent of SAWC, *Civiltec* will obtain permits or approvals from appropriate governmental authorities having jurisdiction to review or approve the final design of the project. Traffic control and pavement restoration is overseen by the County of San Bernardino.

Task 5 – Bidding Phase

Civiltec will provide a bidders list, coordinate advertisement, maintain a record of prospective bidders to whom project documents were issued, coordinate pre-bid conferences, respond to contractor's request for information (RFI), evaluate bids, and advise SAWC of the lowest responsible bidder. If necessary, *Civiltec* will respond to contractor's pre-bid RFIs through appropriate bidding addenda as necessary to correct, clarify or change the bidding documents. *Civiltec* will coordinate the bid opening and review bids for acceptability of prime contractor, subcontractors, supplies, substitute materials, equipment, and other individuals and entities proposed by prospective contractors. A bid evaluation sheet showing each bidder and their respective line-item bids, along with a total proposed bid price for each bidder will be provided to SAWC. Following SAWC Board approval of the contract, *Civiltec* will coordinate the construction contract execution and assemble construction contract documents.

Task 6 – Construction Phase

During construction appropriate field oversight (observation services) of construction activity will be provided to ensure contractor's compliance with contract and permits. *Civiltec* has estimated the observation hours that will be required by estimating the length of the project and proposing observation services 50% of the time. *Civiltec* will also issue necessary clarifications and interpretations of the contract documents, shop drawings and RFIs as appropriate. Leighton will provide appropriate material testing, including soil compaction testing, to ensure contractor's compliance with contract and permits. Progress payments will be reviewed with the contractor and a recommendation forwarded to SAWC for processing, along with appropriate contractor invoicing. At completion, *Civiltec* will prepare project close-out documents.

Tasks Required by SAWC Staff

- Collaboration on design alternatives.
- Review and comments on submittals.
- Pay permit fees.



Proposed Schedule

Civiltec is available to commence this project immediately. Based on the scope of work described previously, we can complete based on the schedule included at Attachment B.

PROPOSED TOTAL PROFESSIONAL FEE AND FEE SCHEDULE

Professional fees for the above-described services will be billed on a time and materials, not to exceed basis as summarized below. A breakdown of our hours and fees is included as Attachment A.

Task 1 – Project Management.....	
Task 2 – Preliminary Design Phase	
Task 3 – Environmental Phase	
Task 4 – Final Design Phase.....	
Task 5 – Bidding Phase.....	
<u>Task 6 – Construction Phase</u>	
Total	

Any work not authorized within 3 months of the date of this proposal will be subject to renegotiations based on current rates. Capacity and impact fees associated with application filings shall be the responsibility of SAWC. Additional services may be authorized based on **Civiltec's** Hourly Rate Schedule. **Civiltec** will bill monthly for all work performed and expenses incurred on the project's behalf.

Again, thank you for the opportunity to submit this proposal. We look forward to working with you on this project. Please contact the undersigned directly with any comments or questions.

Sincerely,

Civiltec engineering, inc.

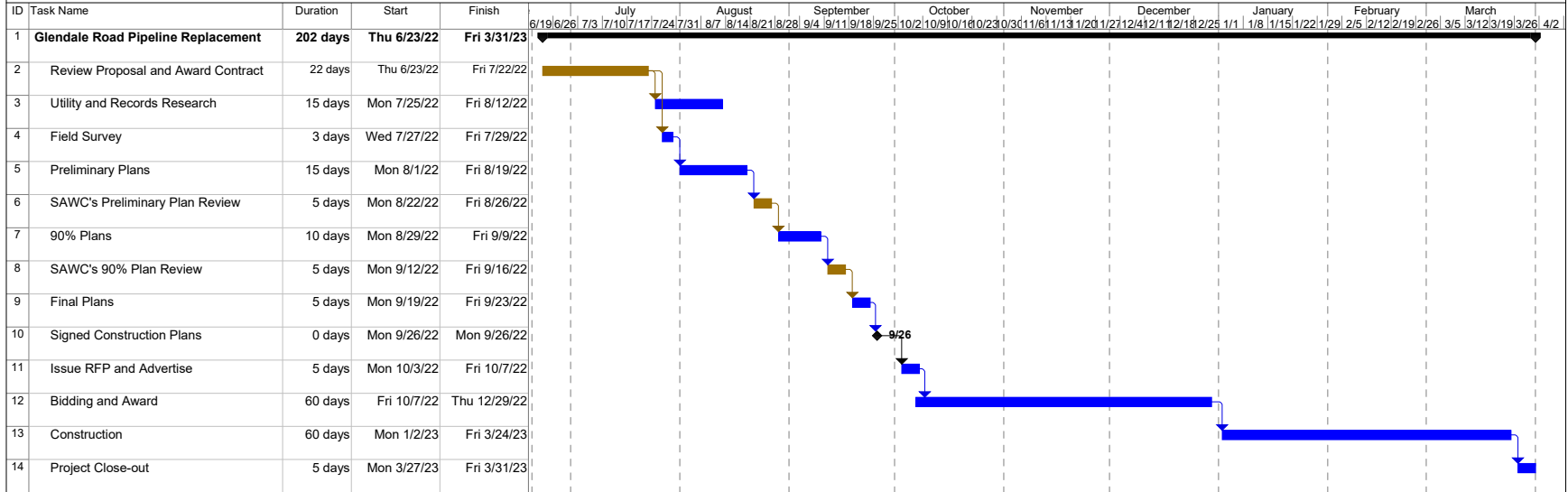
W. David Byrum, PE (dbyrum@civiltec.com)
President, Principal Engineer

Terry Kerger, PE (tkerger@civiltec.com)
Principal Engineer/Project Manager

Attachment(s): A – Breakdown of Hours and Fees
B – Proposed Project Schedule

Attachment B
Proposed Schedule

Glendale Road Pipeline Replacement
San Antonio Water Company



Project: Design Schedule.mpp
Date: Mon 6/20/22



Attachment C

Resumes



TERRY KERGER, PE

PRINCIPAL ENGINEER / PROJECT MANAGER

PROFESSIONAL REGISTRATION

Professional Civil Engineer
California No. 34896

EDUCATION

B.S. Civil Engineering, California State University, Los Angeles, 1985
A.A., Architecture, El Camino College

PROFESSIONAL AFFILIATIONS

Southern California Water
Utilities Association

EXPERTISE

- Civil Engineering
- Drainage Engineering
- Electrical Engineering
- Transportation Engineering
- Wastewater Engineering
- Water Engineering
- Survey
- Construction Management

SUMMARY

Mr. Kerger has 50+ years (17+ with **Civiltec**) of experience in project management, design, and construction of civil engineering projects. His experience includes flow computations for master plans, hydraulic calculations, more than 50 miles of water transmission mains (ranging from 6- to 30-inches), flow control facilities, pump stations, reservoirs, wells, treatment plants, sewerage, water containment, investigations of wellhead water treatment and well water blending, hydraulic modeling, capital improvement planning, telemetry system design, feasibility studies for purchase of adjacent mutual water systems, including system appraisal, financial options and identifying system upgrades, flood control facilities, water master plans and agency plan check programs.

Mr. Kerger has designed pipelines for the cities of Arcadia, Alhambra, Ontario, Huntington Park, Manhattan Beach, Cerritos, El Monte, and Industry as well as Kinneloa Irrigation District, Orchard Dale Water District, and Rowland Water District. He has been responsible for the design and project administration of over 100,000 linear feet (LF) of distribution and transmission pipelines that included construction traffic control design, pump stations, wells, and reservoirs. He has also been responsible for securing permits for projects with public agencies and cities located in Los Angeles, Orange, and Ventura Counties and with the California Department of Public Health and Caltrans.

PROJECT EXPERIENCE

Tract 72216 Candlelight, Suburban Water Systems

Project Manager. This project included approximately 630 LF of 12-inch, 2,125 LF of 8-inch and 2,260 LF of 4-inch poly-vinyl chloride (PVC) pipes, four 6-inch fire hydrants, ninety-two 1-inch meter assemblies, three 1-inch meter assemblies for irrigation and eighteen 2-inch blow-off assemblies within La Mirada. Services included records review, weekly progress meetings, observation, managing the contractor's requests for information, change of conditions and preparation of an as-built package.

Phases 1-5 Water Improvement Projects, Valley County Water District

Project Manager & QA/QC Manager. Projects included design and construction administration for numerous capital improvement water main replacement projects. Designed approximately 16,500 LF of 8-inch and 12-inch DIP replacement including service connections, fire hydrants and street improvements over 5 phases.

Lincoln, Washington, Telephone and Monte Vista Avenues Water Main Replacements, City of Chino

QA/QC Manager. Design of this project included approximately 8,656 LF of 8- to 12-inch PVC pipeline replacement including fire hydrants, domestic services, and abandonments. The project was located on Lincoln Avenue from Monte Vista Avenue to 7th Street and Russell Avenue to Monte Vista Avenue; Washington Avenue from 3rd Street to Telephone Avenue; Telephone Avenue from Riverside Drive to Walnut Avenue; and Monte Vista Avenue from Riverside Drive to Walnut Avenue.



W. DAVID BYRUM, PE PRESIDENT / PRINCIPAL ENGINEER

PROFESSIONAL REGISTRATION

Professional Civil Engineer
California No. 43296

EDUCATION

B.S., Mechanical Engineering,
University of California, Los Angeles,
1977
A.S., Electro-Mechanical Engineering,
Western Texas College, 1974

PROFESSIONAL AFFILIATIONS

American Council of Engineering
Companies
American Water Works Association
Association of California Water
Agencies
California Utility Executives
Management Association, Board of
Directors
California Water Environment
Association
Orange County Water Association
Rural Water Association of Arizona
Southern California Water Utilities
Association, Past President
San Gabriel Valley Water Association

EXPERTISE

- Civil Engineering
- Drainage Engineering
- Electrical Engineering
- Transportation Engineering
- Wastewater Engineering
- Water Engineering
- Survey
- Construction Management

SUMMARY

Mr. Byrum has 40+ years (29+ with **Civiltec**) of experience as a systems planner, design engineer, project manager, principal engineer, and construction manager. He is an expert in the planning and design of water distribution and transmission pipelines, water treatment plants, booster pumping stations, steel and concrete reservoirs, groundwater wells, specialty valving stations, wastewater lift stations, flow equalization stations, wastewater treatment plants, storm drains and street improvement projects. He also prepares regulatory agency compliance reports and technical studies to ensure water purveyors remain in compliance with current regulations.

PROJECT EXPERIENCE

Skyline Ranch Water System Infrastructure, Santa Clarita Water Division

Project Manager/Principal. Responsible for the entire water system infrastructure design spanning three pressure zones. This project included pipelines, reservoirs, and pump stations. Phase 1 included the in-tract pipeline design of approximately 23,000 feet of 8-inch, 12-inch and 16-inch PVC pipe for distribution and transmission. Phases 2 and 3 included an additional 60,000 feet of 8-inch to 16-inch distribution and transmission pipelines, two 2.5-million-gallon steel reservoirs, two 0.6-million-gallon steel reservoirs, and two booster pump stations.

Alondra and Pioneer Pipeline Replacement, City of Norwalk

Principal. Responsible for the design of approximately 1,900 LF of water main replacement. Alondra Boulevard from Maidstone Avenue to Pioneer Boulevard was approximately 1,410 LF of a new 12-inch pipeline. Pioneer Boulevard from Alondra Boulevard to 160th Street is approximately 490 LF of new 12-inch pipeline.

Lincoln, Washington, Telephone and Monte Vista Avenues Water Main Replacements, City of Chino

Principal. Responsible for the design of approximately 8,656 LF of 8- to 12-inch PVC pipeline replacement including fire hydrants, domestic services, and abandonments. The project was located on Lincoln Avenue from Monte Vista Avenue to 7th Street and Russell Avenue to Monte Vista Avenue; Washington Avenue from 3rd Street to Telephone Avenue; Telephone Avenue from Riverside Drive to Walnut Avenue; and Monte Vista Avenue from Riverside Drive to Walnut Avenue.

San Gabriel, Sheffield and Vista Pipelines, Sunny Slope Water Company

Principal. Project included approximately 4,680 LF of 12-inch distribution mains in street right-of-way in San Marino and Los Angeles County. The project was split into two phases to accommodate an elementary school on Sheffield Boulevard. Service connections, water meters, fire hydrants, street improvements and complete traffic control plans were also part of the scope of work.



GRETEL D. OCHOA-NHAC, PE

PROJECT ENGINEER

PROFESSIONAL REGISTRATION

Professional Civil Engineer
California No. 91903
Water Audit Validator Certified,
California-Nevada Section,
American Water Works Association

EDUCATION

M.S., Civil Engineering, Emphasis in
Transportation Engineering,
California State Polytechnic
University, 2015
B.S., Civil Engineering, California State
Polytechnic University, 2012

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers
Institute of Transportation Engineers

EXPERTISE

- Civil Engineering
- Drainage Engineering
- Electrical Engineering
- Transportation Engineering
- Wastewater Engineering
- Water Engineering
- Survey
- Construction Management

SUMMARY

Ms. Ochoa-Nhac has 9+ years (7+ with **Civiltec**) of experience in civil engineering. Her experience includes water modeling/analysis using InfoWater and design of pipelines and roadway improvements. Over the years her experience has led to her becoming an experience person to have on the team from start to finish duties including research, scheduling, coordinating with project manager and stakeholders as well as the whole team, and assisting in driving on time deliverables. She understands the importance of working together with the team to produce a great product, on time. Additionally, Ms. Ochoa-Nhac assisted with the construction management tasks for the Monrovia Station Square project such as keeping various documents organized, preparing pay request packages, updating spreadsheets, and assisting the project manager as needed. Software expertise includes Civil3D, ArcGIS, InfoWater, and Global Mapper.

PROJECT EXPERIENCE

Water Main Replacement Projects, City of Brea

Staff Engineer. Designed multiple water main replacement projects as identified in the seven-year CIP for Fiscal Year 2018-19 through 2024-25 in conjunction with street improvements according to the 2017 Pavement Management Plan. CIP budgets have been allocated for design, construction, and construction engineering into four construction projects. Funding sources for this project are predominately from the 420 Water Fund with a portion also coming from the 220 Gas Tax Fund. Design and engineering services include utility research and notification, topographic survey, hydraulic water modeling and analysis, potholing, geotechnical review, soil corrosivity analysis fire hydrants, valves, services, pavement rehabilitation, signage, striping, and bidding support services.

Skyline Ranch Water System Infrastructure, Santa Clarita Water Division

Staff Engineer. Responsible for the entire water system infrastructure design spanning three pressure zones. This project included pipelines, reservoirs, and pump stations. Phase 1 included the in-tract pipeline design of approximately 23,000 feet of 8-inch, 12-inch and 16-inch PVC pipe for distribution and transmission. Phases 2 and 3 included an additional 60,000 feet of 8-inch to 16-inch distribution and transmission pipelines, two 2.5-million-gallon steel reservoirs, two 0.6-million-gallon steel reservoirs, and two booster pump stations.

Pressure Zone 8, Pipeline Upgrade, City of Beverly Hills

Staff Engineer. Designing upgrades to the existing 6-inch pipeline located in a 10-foot-wide easement is necessary to improve hydraulic conditions. The new pipeline is approximately 700 liner feet of 8-inch pipe and may require replacement of the existing sewer pipeline located within the same easement. The scope of work includes survey, development of design with alternatives, bidding, and construction support services. The design has commenced but has been stalled by an adjacent developer.

Amethyst Road Water Turnout Pipeline, City of Victorville

Staff Engineer. Designed approximately 5,425 LF of 24-inch pipeline. Project scope items included hydraulic analysis to determine the required pipe size, alignment analysis, utility coordination/ relocation and project stakeholder coordination. Permit coordination included the State Water Resource Control Board, U.S. Army Corps of Engineers, State Fish and Game and County of San Bernardino.



CHARLES F. DEVINE STAFF ENGINEER

CERTIFICATIONS

American Society of Certified
Engineering Technicians

EDUCATION

B.S. Industrial Engineering, Eastern
Kentucky University
A.A. Drafting and Design, Seminole
Junior College, 1972

EXPERTISE

- Civil Engineering
- Drainage Engineering
- Electrical Engineering
- Transportation Engineering
- Wastewater Engineering
- Water Engineering
- Survey
- Construction Management

SUMMARY

Mr. Devine has worked in the civil engineering field for 48+ years (23+ with *Civiltec*). His experience also includes field surveys and utility research. Mr. Devine has been involved in planning, preparation of construction plans, technical and special specification, bid schedule, engineer's cost estimates, construction management and shop drawing review for water lines (ranging in size from 6- to 54-inches), booster pump stations, steel and concrete reservoirs, water fire service, water treatment plants and deep-water wells.

PROJECT EXPERIENCE

San Gabriel, Sheffield and Vista Pipelines, Sunny Slope Water Company

Staff Engineer. Project included approximately 4,680 LF of 12-inch distribution mains in street right-of-way in San Marino and Los Angeles County. The project was split into two phases to accommodate an elementary school on Sheffield Boulevard. Service connections, water meters, fire hydrants, street improvements and complete traffic control plans were also part of the scope of work.

Pressure Zone 8 Pipeline Upgrade, City of Beverly Hills

Staff Engineer. Upgrade to the existing 6-inch pipeline located in a 10-foot-wide easement is necessary to improve hydraulic conditions. The new pipeline is approximately 700 liner feet of 8-inch pipe and may require replacement of the existing sewer pipeline located within the same easement. The scope of work includes survey, development of design with alternatives, bidding, and construction support services. The design commenced but has been stalled by an adjacent developer.

San Bernardino Road Pipeline Replacement, Covina Irrigating Company

Staff Engineer. Assisted with the preliminary design report and hydraulic analysis to determine the rehabilitation of approximately 6,000 linear feet of the existing 28-inch riveted steel pipeline in San Bernardino Road from the Baldwin Park Plant to Vincent Avenue. The report included evaluation of pipeline size, rehabilitation methods, alignment for replacement of the pipeline, permit requirements, preliminary cost estimates and construction and design schedule. This project would be completed in two phases. The first phase would replace 3,600 linear feet of the existing 28-inch pipeline with 30-inch cement mortar lined ductile iron pipe as Phase 1. The advantages of pipe replacement would be a longer life span, greater flow capacities, less future maintenance, a life expectancy to match or exceed the new Baldwin Park Pumping Plant, and accurate record as-builts after construction. Phase 2 recommends to slip-line approximately 2,615 linear feet of existing pipeline.

Gayhurst Avenue Pipeline Replacement, Valley County Water District

Staff Engineer. Designed an 8-inch ductile iron distribution line to replace domestic services on Gayhurst Avenue in the City of Industry.

North Elton Avenue Pipeline Replacement, Valley County Water District

Staff Engineer. Designed an 8-inch ductile iron distribution line for replacement of an existing line on Elton Avenue at Ramona Boulevard in the City of Industry.



EUGENE “CHRIS” DUNCAN, PLS

SURVEY MANAGER

PROFESSIONAL REGISTRATION

Professional Land Surveying
California No. 7745

EDUCATION

Extension Courses, Field Surveying,
California State University of Los
Angeles

PROFESSIONAL AFFILIATIONS

California Land Surveyors Association,
Corporate Member

EXPERTISE

- Civil Engineering
- Drainage Engineering
- Electrical Engineering
- Transportation Engineering
- Wastewater Engineering
- Water Engineering
- Survey
- Construction Management

SUMMARY

Mr. Duncan has been an active field and office land surveyor for 39+ years (9+ with *Civiltec*). He has performed all aspects of surveying throughout California and Arizona, including construction staking, boundary surveys, control surveys and topographic surveys. He excels at major hillside subdivision work and is a member of the American Congress on Surveying and Mapping and National Society of Professional Engineers. Mr. Duncan's software/equipment experience includes global positioning system (GPS), Total Station and Trimble VRS RTX GPS.

PROJECT EXPERIENCE

Water Main Replacement Projects, City of Brea

Survey Manager. Project include design of multiple water main replacement projects as identified in the seven-year CIP for Fiscal Year 2018-19 through 2024-25 in conjunction with street improvements according to the 2017 Pavement Management Plan. CIP budgets have been allocated for design, construction, and construction engineering into four construction projects. Funding sources for this project are predominately from the 420 Water Fund with a portion also coming from the 220 Gas Tax Fund. Design and engineering services include utility research and notification, topographic survey, hydraulic water modeling and analysis, potholing, geotechnical review, soil corrosivity analysis fire hydrants, valves, services, pavement rehabilitation, signage, striping, and bidding support services.

Frankish Tunnel and Chino Basin Pipeline Projects, San Antonio Water Company

Survey Manager. The project consisted of design of two pipeline projects for the San Antonio Water Company in San Bernardino County. The Frankish Tunnel pipeline project consisted of approximately 3,000 LF of 8-inch PVC pipeline. The Chino Basin recharge pipeline project consisted of approximately 1,750 LF of 16-inch PVC pipeline.

Pressure Zone 8, Pipeline Upgrade, City of Beverly Hills

Survey Manager. Upgrade to the existing 6-inch pipeline located in a 10-foot-wide easement is necessary to improve hydraulic conditions. The new pipeline is approximately 700 liner feet of 8-inch pipe and may require replacement of the existing sewer pipeline located within the same easement. The scope of work includes survey, development of design with alternatives, bidding, and construction support services. The design has commenced but has been stalled by an adjacent developer.

Chino Water Main Replacement at Various Locations, City of Chino

Survey Manager. The project consisted of design of water pipeline replacement of over 8,656 linear feet of 8-inch to 12-inch PVC pipe including fire hydrants, domestic services, and abandonments. The project is in Chino on Lincoln Avenue from Monte Vista Ave to 7th St and from Russell Ave to Monte Vista Ave, Washington Ave from 3rd St to Telephone Ave, Telephone Avenue from Riverside Drive to Walnut Ave, and Monte Vista Ave from Riverside Drive to Walnut Ave.

Cover Letter

June 23, 2022

Brian Lee
General Manager
San Antonio Water Company
139 North Euclid Avenue
Upland, CA 91786

Subject: Proposal for the Design of Glendale Road Pipeline Replacement Project

Dear Mr. Lee:

Thank you for the opportunity to provide San Antonio Water Company (Company) with our proposal for professional engineering services for the design of Glendale Road Pipeline Replacement. We understand that the Company is looking for an engineering firm that can provide high quality service to successfully complete this project on time and on budget. My recent work for the Company and other similar districts encompasses many of the same project components. We have successfully navigated those projects and will bring those same capabilities to this project.

We have an experienced in-house team that is capable of handling all major aspects of this job without the need to utilize subcontractors. Our team provides extensive pipeline design, surveying, and construction management experience. We understand how to seamlessly work together to deliver the project successfully. We are confident that we are the right team to complete this project successfully on time and budget.

I am pleased to have the opportunity to continue our working relationship with the Company. Should you have any questions, or require any additional information, please contact me at 760.479.4262 or gripperger@dudek.com. This fee estimate is valid for 90 days from the date of this proposal.

Sincerely,



Greg Ripperger, PE
Project Manager



Bob Ohlund, PE
Vice President

Bob Ohlund is authorized to sign on behalf of Dudek.

1 Project Understanding & Approach

Project Understanding

Dudek understands that the Company is requesting engineering design services, including bidding and construction management services for a new pipeline in Glendale Road. The new pipeline will be approximately 770 LF of 8-inch pipeline. It will begin approximately 200 feet east of Mountain Avenue to the intersection of Park Boulevard. It will also include replacing approximately 100 feet of pipeline in Park Boulevard, connecting to the existing Park Boulevard pipeline at the NW corner of the intersection and in the right of way in front of 2388 Park Boulevard. The project will include the installation new water mains, new service laterals, and a new fire hydrant. Some of the water meters for the customers on Glendale Road will need to be moved to edge of the pavement in the locations where they are currently in the customer's yard.

We anticipate a critical issue for the project will be working in customer's landscaped areas, including relocating customer meters to the edge of pavement, and making pipeline connections. Customer's meters that are set off the edge of pavement in the customer's property will require the contractor to bring the customer's existing line to the edge of pavement, disturbing their landscaping. To ensure the contractor is able to bid this appropriately and to that it is done to the customer's satisfaction, it will require reviewing each customer meter individually and providing drawing details where necessary. This will also require customer outreach and coordination, which we anticipate being completed by the Company. We have included budget in the proposal to review each meter and provide drawing details when they are necessary

Secondly, it will be necessary to connect the new pipeline to the existing Park Avenue pipeline in the driveway of 2388 Park Boulevard. This will require working in the customer's driveway to make the connection. This can be minimized by possibly competing testing and disinfection at the edge of the street. Once testing is complete, the short connection to the pipeline can be made in one day. If pressure testing and disinfection were required for the full length of the pipeline, it will require a covered trench in the driveway for several days while all testing is completed. Either way, close coordination with the homeowner will be necessary during design and construction.

Project Approach

Once the initial research is completed, we will move the design forward quickly. The design and review process should move quickly with the 60 and 100 submittal structure. Dudek will maintain ongoing communication with the Company throughout the design phase to ensure the project does not have any delays due to misunderstandings. This will include the bi-weekly calls as well as regular communication from the project manager on progress.

We will provide project support through construction. This includes design, bidding, construction management, and closeout. Once design is completed, we will work with the Company to develop a list of bidders and issue the construction bidding package to them. We will conduct a pre-proposal meeting and site walk, answer contractor questions, and prepare any contract amendments that are necessary. Once bids are received, we will review them and provide the Company with a recommendation for award.

Once the project is awarded, we will manage the construction project on a Time and Materials basis. We will conduct meetings, respond to RFIs, and change order requests, and review submittals. We will prepare any

amendments that are necessary and maintain redlines. We will provide construction observation, as necessary. Once construction is complete, we will assist in closing out the contract and prepare the as-built drawings.

2 Scope of Work

Task 1 Project Management and Meetings

Dudek will provide project management on the project by providing regular updates to the Company to ensure the project is on schedule and budget. This will include three formal meetings (office or teleconference) and informal bi-weekly phone call meetings. We will prepare a schedule and provide monthly schedule updates throughout the project.

Task 2 Preliminary Design

Dudek will research available utility records and identify utilities within the project limits. The information obtained shall be summarized on the project base map.

Dudek will prepare detailed construction drawings in the latest version of AutoCAD and using the Tribe's drafting standards. Each plan sheet shall be 24-inch x 36-inch. Plan and profile sheets shall be scaled at 1"= 40' horizontal and 1"= 4' vertical and to cover approximately 1,000-feet of pipeline per sheet.

The preliminary design will include completed base maps, preliminary alignment, and connection locations to the existing water system. The base map will include topographic survey, all existing utilities located through field exploration and utility record files, right of way and centerlines, and parcel boundaries from County records.

Field Survey

The Topographic survey activities will be completed by the Dudek Survey and UAV field teams and supervised by Stephen Paul, PLS. The topographic survey will include topography, all surface features, existing utilities, right-of-way, parcels from the County geographic information system (GIS), and easement lines. The survey files will include a minimum of 1-foot contours, annotated contour elevations, and spot elevations.

The base map will include location of surface features within the survey area including but not limited to; fire hydrants, valve covers, water meters, sewer and storm drain manholes, all utility vaults and facilities, pull boxes, curb & gutter, driveways, sidewalk, power poles, guy wires, signs, parkway, streetlights, street trees larger in 4" diameter, etc.

Engineer's Cost Estimate and Technical Specifications

Dudek will prepare Engineer's Cost Estimate with quantities and bid items to be included with the Specifications. The Technical Specifications and Cost Estimate will be based on Standard Specifications for Public Works Construction, "Green Book," latest edition. The Tribe will provide the front-end specifications. However, any specialty work items necessary to include in these sections shall be prepared by Dudek.

Task 3 Environmental

We anticipate that the project will qualify for a categorical exemption and be exempt from CEQA. Dudek will submit the CEQA Notice of Exemption. We will also identify and apply for any permits that are required for the project. We anticipate submitting for a County of San Bernardino permit.

Task 4 Final Design

Once comments are received for the preliminary submittal, we will address all comments and provide written responses to all comments provided. The final design will develop the details of the design, including identifying all air vacs, blow-offs, hydrants, valves, and other details necessary for construction. This will include all fittings, detail drawings of connection points and other critical points.

Upon resolution of all review comments, the final signed and sealed drawings and specifications shall be prepared and submitted for approval. The final Bid Package will include drawings, specifications, construction estimate, and a construction schedule. We will provide one full set of drawings and one hard copy set of the specifications and cost estimate. We will also provide electronic copies of all files, including CAD files for the drawings, Word files for the Specifications, and Excel files for the cost estimate.

Task 5 Bidding Services

Dudek will work with the Company to develop a list of bidders. WE will issue the bid package to prospective bidders and maintain a record of who has received the documents. Dudek will provide construction plan interpretation and responses to RFIs. Dudek will prepare bid addenda as required to provide clarification to drawings and provide responses to Requests for Information during the bidding phase within 2 working days upon receipt of Requests for Information.

We will conduct the bid opening meeting. We will review all bids for acceptability and evaluate all bidders. We will summarize the bid results and provide a recommendation for award to the Company. Once the contract has been awarded by the Company, we will coordinate the execution of the construction contract.

Task 6 Construction Management Services

Due to the unpredictability of construction and the range of construction contractors, the construction management will be billed on a Time and Material basis. The budget provided for this task is an estimate of the hours that will be required for each task. Dudek will provide the following services and deliverables during the construction phase of this project:

Construction Observation

Dudek will provide a field inspection services during construction activities to ensure compliance with all contract and regulatory requirements, as needed.

Material Testing

We have teamed with Atlas Technical Consultants to provide materials testing during construction. They will provide compaction testing and observation for backfill, subgrade preparation and asphalt placement.

Contractor's Requests for Information:

Dudek will provide responses for all contractor Requests for Information.

Contract Addendums

Dudek will prepare contract amendments or make minor plan revisions as necessary during construction.

Shop Drawing Review

Dudek will receive and log construction submittals and shop drawings. We will review them for compliance with the contract drawings and solicit the Company's comments on the submittals. Once reviewed, we will return the submittals to the contractor.

Change Orders:

Dudek will review all change orders and provide an opinion on the validity of any change orders submitted by the construction contractor.

Record Drawings and Closeout

Dudek will prepare record drawings at construction completion using the Contractor's and City Inspector's redlines. Final record drawing and AutoCAD electronic files of the final drawings shall be submitted at the completion of construction.

3 Project Fee

Included on the following page is our proposed project fee for completion of this important project for the Barona Tribe. We would be pleased to meet with you to discuss this proposal further and correct any assumptions that we might have incorrectly applied to the scope and cost requirements.

June 23, 2022

Mr. Brian Lee
General Manager
San Antonio Water Company
139 N. Euclid Avenue
Upland, CA 91786

RE: Proposal for Glendale Road Pipeline Replacement Project

Dear Mr. Lee:

Provost & Pritchard Consulting Group (Provost & Pritchard) is pleased to submit this proposal in response to the Request for Proposals issued by the San Antonio Water Company (Company) on May 25 for the Glendale Road Pipeline Replacement Project. For this project, we will be teaming with Engineering Resources of Southern California, Inc. (ERSC), based in Redlands, in order to provide the Company with the most cost-effective product.

Provost & Pritchard serves numerous public agency clients, including mutual water companies, that depend on us to provide a complete suite of services required for this type of project, including preliminary design through construction management. For this project, we have assigned Jeff Davis, PE as the project manager. Mr. Davis is located in Rancho Cucamonga and will manage the overall budget and schedule and be the Company's primary point of contact. The project engineer will be Mike McGovern, PE, located in our Bakersfield office. Jeff Eklund, PE, in our Bakersfield office, will be the Principal-in-Charge and provide quality control and quality assurance for the project. We will also be using the services of Erik Howard, PE, of ERSC, for field and permitting services during the preliminary design, bid, and construction phases of the project. Aragon Geotechnical (Aragon) will provide soils testing services during construction. Generally speaking, Provost & Pritchard will perform the project management and preliminary and final design, while Mr. Howard will be responsible for the bidding and construction phase of the project, along with survey work and permits. Resumes for all four individuals are included with this proposal.

Project Understanding and Approach

The Company wishes to replace two aging water lines—a 2-inch and a 6-inch—with a single 8-inch line under Glendale Road in San Antonio Heights. This represents just under 800 linear feet of piping. The new pipe will tie into existing lines in three places—one in Glendale Road and two in Park Blvd. New hydrants will be added to the new line in accordance with current codes.

Following the utility location and survey by ERSC, a brief preliminary design report will be prepared and submitted for review and comment to the Company. Based on that document, a design package will be prepared and submitted for review, which is comprised of plans, specifications, and a construction cost estimate. Following Company approval, the final design package will be provided to the Company for distribution to the Company's select list of contractors. We will manage the bidding process once the package is distributed to these contractors, respond to questions, issue addenda as appropriate, manage a pre-bid conference,

open bids, review and analyze the bids, and recommend a lowest responsible bidder to the Company.

Once the Company Board of Directors awards a construction contract, we will manage the details of assembling the construction documents and getting the contract signed, then manage the construction process. Provost & Pritchard will review and respond to Contractor's submittals and shop drawings. ERSC will inspect (as needed and directed by the Company), respond to RFI's, handle field issues as they arise, review and recommend progress payments, perform soil compaction tests through ERSC's material testing subconsultant, Aragon, obtain permits specified below, review proposed change orders, and perform project closeout, including delivery of as-built drawings.

During the project, we will be in contact with the Company on a regular basis, especially if a construction incident occurs, and will work with the Company to manage any such event. Our methodology for designing and constructing this project is detailed below.

Description and Methodology —In general, we agree with the Company's task definition for this project.

Task 1 — Project Management — We have included a proposed project schedule with this proposal. Upon award of contract, we will revise the schedule as needed, with input and approval from the Company, and manage the project to that schedule. We would provide informal status reports via email or virtual meetings on a bi-weekly basis throughout the project. If difficulties arise, we will communicate these immediately. On a project of this size, there is no margin for error in dealing with problems such as unexpected underground utilities, delays in obtaining permits, etc. Jeff Eklund, PE, will provide overall quality control for the project at each phase, ensuring adherence to Provost & Pritchard policies and standards. Our recommendations regarding piping materials, number of hydrants to add, bidding schedule, etc., will be brought to the Company formally for input, and this process will be documented.

Task 2 — Preliminary Design — Projects of this size typically do not require a lot of preliminary design. For this project, we will perform a survey and utility search in advance of final design. We will also research current prices for various pipe materials and recommend one or more pipe materials for this project. If it appears that more than one material may be viable and economically desirable, we will design the project for alternate bids, and recommend the lowest priced responsible alternative to the Company. The preliminary design report will consist of a map of the subject area showing existing utilities and elevations as appropriate, recommendations for pipe material and number of hydrants, and a recommendation regarding CEQA compliance. It will also include a list of required permits for the project. The preliminary design report will also propose a construction schedule in order for the Company to notify its Glendale Road customers of the approximate date of the work well in advance. It appears at this early juncture that construction may stretch into December.

We are proposing an additional, alternative task as part of preliminary design. This additional task would be to review the Company's standard drawings, details, and specifications on the Company website for compliance with current codes and standards of practice, and to make recommendations as to changes/additions. This optional task is included in our proposal cost estimate as a separate line item.

Deliverable: Preliminary Design Report for review by the Company comprised of survey and utility search results, recommendations for pipe material, number of hydrants to install, and other relevant information. We will want to meet with Company staff to discuss your input on this report before finalizing it and starting the final design.

Task 3 — Environmental Phase — We anticipate that this project will fall under the Categorical Exemption for CEQA. We will prepare a Notice of Exemption for the Company to file with the County.

Deliverable: Notice of Exemption submitted to the Company.

Task 4 — Final Design — For a project of this size, Provost & Pritchard anticipates utilizing the Company's standard drawings and standard specifications as much as possible to reduce design costs. We will prepare a plan and profile drawing for the contractor's use during construction. Another significant part of design will be in applying for and obtaining the proper permits for construction, including a County Encroachment Permit. Provost & Pritchard will provide all required documentation to the appropriate parties and submit the permit applications. Provost & Pritchard will prepare a complete package of plans, contract documents, and technical specifications suitable for bidding, and will present the package to the Company for its review, as well as to appropriate regulatory and permitting agencies. We anticipate reviewing the package with Company staff, either in person or virtually. Company comments will be addressed and a final package will be prepared and submitted.

Once the Company has reviewed and approved the package, we will provide a construction cost estimate based on our best understanding of the current construction market.

Deliverable: Draft and Final design package with plans, contract documents, technical specifications, and preliminary construction cost estimate.

Task 5 — Bidding — We propose doing this process completely through our subconsultant, ERSC, who will facilitate the bid phase of this project with the Company's select list of local contractors. It is our assumption that a public bid advertisement is not required for this project. This includes all communication with contractors, receiving their questions and issuing addenda as appropriate. Provost & Pritchard would issue any addenda based on input from ERSC. Based on our experience, we recommend holding a pre-bid conference and making it mandatory for all bidders. We propose doing this at the Company's office, with a field visit to the construction site as part of the event.

We will manage the bid opening, prepare a bid canvass, review them, make determinations as to the acceptability of substituted materials, and make a recommendation to the Company as to lowest responsible bidder. We will meet with Company staff to discuss the process by which the lowest responsible bidder was identified and, in the event this is not the low bidder, explain our rationale for the decision, so that Company staff can explain this to the Board of Directors before it makes the decision to award the construction contract. Further, once a contract is awarded, we will ensure that the contract is executed, assemble the construction documents, and begin working with the contractor from the day the Notice to Proceed is executed.

Deliverable: Bid recommendation with canvass of bids and an executed contract with the lowest responsible bidder.

Task 6 — Construction — We will provide construction administration for the construction contract including: scheduling and facilitating the pre-construction meeting, reviewing and approving submittals, responding to RFI's, construction observation, soil compaction testing, coordination and recommendation of progress payments. We understand that the Company may want its staff to perform some of the construction observation, and that we may not need to be in the field every day during construction. Our budget assumes a 60-day contract and a two-week construction period, and that we will be on site full time for one week and half time for one week. Provost and Pritchard and ERSC will handle all project communication associated with the construction, including project closeout and delivery of record drawings to the Company.

Deliverable: Meeting notes, submittal review forms, RFI responses, construction observation reports, progress payment reviews, and record drawings.

Project Schedule

A proposed project schedule is included in this proposal. Based on our projections at this time, it appears that construction could extend into December. If, after we receive Notice to Proceed and after discussions with Company staff, we cannot shorten the schedule sufficiently to complete construction by the end of November, the Company may wish to delay construction to January in order to not have trenching in Glendale Road during the Christmas season. We have allowed ample time for Company staff to respond to us at each review point. If Company staff does not need as much time as provided, we will be able to shorten the schedule.

Proposed Total Professional Fee and Fee Schedule

Fee schedules for both Provost and Pritchard and ERSC (with Aragon as a subconsultant) are included. The attached fee estimate is for [REDACTED]. All work performed by Provost and Pritchard, ERSC, and Aragon will be charged on a time and material basis. The fee estimate includes a line item for one optional task, review of Company standard drawings and specifications, with recommendations for updating as appropriate.

Regarding your standard contract, we can list SAWCo as an additional insured for our general liability and auto insurance policies, but not for our professional liability. Also, our COI can only confirm a 30-day notice of cancellation via regular mail; there is no notice for expiration. These are requirements of our insurance carrier. We hope we can work with you on this language if we are awarded this project.

Respectfully,



Jeff Eklund, PE
Director of Operations

Provost and Pritchard Consulting Group- San Antonio Water Company-Glendale Road Pipeline Replacement

ID	Task Mode	Task Name	Duration	Start	Finish	Timeline																											
						7/17	7/24	7/31	8/7	8/14	8/21	8/28	9/4	9/11	9/18	9/25	10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1			
0		Task 1- Project Management	110 days	Mon 8/1/22	Fri 12/30/22																												
1		Task 2- Preliminary Design Phase	25 days	Mon 8/1/22	Fri 9/2/22																												
10		Task 3- Environmental Phase	12 days	Mon 8/1/22	Tue 8/16/22																												
13		Task 4- Final Design Phase	28 days	Mon 9/19/22	Wed 10/26/22																												
21		Task 5-Bid Phase	18 days	Thu 10/27/22	Mon 11/21/22																												
27		Task 6-Construction Phase	29 days	Tue 11/22/22	Fri 12/30/22																												

Jeff Eklund

PE

Principal Engineer



Education

- ✓ B.S. Civil Engineering, California State University, Fresno
- ✓ A.S. Engineering, Bakersfield College, California

Registration/Certifications

- ✓ Civil Engineer, California #75680

Affiliations

- ✓ American Society of Civil Engineers (ASCE) – Past President

Areas of Expertise

- ✓ Irrigation District Systems
- ✓ Water Supply Studies
- ✓ Groundwater Wells
- ✓ Canals
- ✓ Groundwater Banking
- ✓ Recycled Water Systems
- ✓ Water Distribution Systems
- ✓ Water Treatment Systems
- ✓ Wastewater Treatment Systems
- ✓ Wastewater Collection Systems
- ✓ Grading & Drainage
- ✓ Pump Station Design
- ✓ Grant Funding
- ✓ Rate Studies

Professional Summary

Jeff Eklund is a principal engineer and the Bakersfield Director of Operations at Provost & Pritchard with over 18 years of experience in the field of civil engineering. He has design experience on a variety of municipal infrastructure projects in the areas of water supply and distribution, wastewater collection, grading and drainage, and pipelines. In addition, he has been involved in the preparation of feasibility studies and construction plans, and as well as coordinating and permitting with various public agencies and utility companies.

Relevant Experience

Steuber Well, Golden Hills Community Services District, Tehachapi, County of Kern, California, Project Manager – Mr. Eklund was the project manager for the Antelope Conjunctive Use Project – Steuber Phase for the Golden Hills Community Services District. The scope of work included design and development of construction and bidding documents for the construction of a 690-foot public water supply production well, and the design and development of construction and bidding documents for the construction of 4,100-feet of 14-inch diameter pipeline, 600-feet of 8-inch pipeline, installation of a precast concrete pumphouse, and associated electrical facilities. Mr. Eklund also provided construction phase services and construction oversight during the construction of the well and pipeline improvements.

Water System Improvements, Buttonwillow County Water District, Kern County, California, Project Manager – Mr. Eklund was the project manager for the Water System Improvements for the Buttonwillow County Water District, which consisted of the replacement of 2.5 miles of 8-inch diameter water mains, isolation valves, and 25 fire hydrants; installation of 270 smart water meters and water service lines; and construction of a new 500 gpm groundwater supply well. The Project started with Mr. Eklund preparing an Integrated Regional Water Management (IRWM) grant application that was successfully awarded grant funding of \$3.7 million. Environmental and County/Caltrans permitting documentation were prepared by the Provost & Pritchard team. The construction plans and specifications were developed, approved by the Division of Drinking Water, and a public bidding process was performed under 2 different contracts (the well was separate). Easements were obtained for the construction of the well facilities. Provost & Pritchard provided construction administration support and field review throughout the contract duration. Due to groundwater quality concerns, the new supply well included depth zone specific water quality formation sampling in the pilot hole and the well was constructed with polyvinyl chloride (PVC) well casing. The final groundwater supply well was constructed to a depth of 810-feet and was successful in mitigating water quality concerns. Additional services included the preparation of a water and sewer rate study for the District, which was needed to implement a metered water rate structure. Mr. Eklund assisted the District with the implementation of the rate structure, including Proposition 218 proceedings.

Water Main Replacement and Meter Installation Project, Lake of the Woods Mutual Water Company, Kern County, California, Principal-In-Charge – Mr. Eklund was the principal-in-charge for preparing a successful grant application package for the Lake of the Woods Mutual Water Company (LOWMWC) Water Main Replacement and Meter Installation Project. The project’s goals are to conserve water supply and improve the distribution facilities. The project consists of the replacement of 11,000 feet of 6-inch PVC water mains and installation of 400 residential and commercial water meters. Mr. Eklund assisted with coordinating with the funding agencies, assisting with administering the grants, design of the improvements, bidding and construction administration.

Water System Improvements and Consolidation Project, Lebec County Water District, Kern County, California, Project Manager – Mr. Eklund was the project manager responsible for the planning, design, environmental review of the water system improvements for the community of Lebec, located along the Interstate 5 corridor near Frazier Park. The district received grant funding to design a new 400 gpm well, 2 miles of water mains ranging from 6” to 10” in diameter, a new 200,000-gallon storage tank, and a booster pump station. The goals of the improvements are to obtain a water well with water quality that meets drinking water standards, provide system reliability, and improve water service to customers. An additional component of the project was added through Self Help Enterprises Technical Assistance Funding. This funding allowed for the project to include a consolidation with the Frazier Mountain High School. The consolidation work includes the construction of an 1.8 mile transmission pipeline to the high school, a booster pump station, and a new tank. The design and permitting of the project are mostly complete. Provost & Pritchard was also responsible for completing the CEQA documentation for the project. The project construction is expected to be funded through grants in 2021.

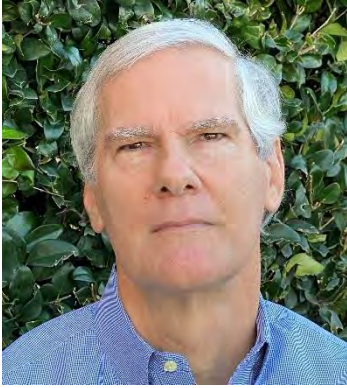
Abajo Avenue Transmission Pipeline, Golden Hills Community Services District, Kern County, California, Project Manager – Mr. Eklund was responsible for the planning and design of a one-mile long, 18-inch water transmission pipeline project that connects two storage tanks improving water system performance. The planning and California Environmental Quality Act (CEQA) portion of the project consisted of the preparation of an initial study and mitigated negative declaration for the project. A right-of-way analysis was conducted at the beginning of the project to determine the pipeline alignment alternatives and potential conflicts with existing utility easements. The project also included the acquisition of pipeline easements along the proposed alignment, including assistance with eminent domain proceedings with one landowner. Design aspects consisted of preparing a WaterCAD model of the distribution system to assist in sizing the pipeline and ensuring that the project objectives would be met. Construction plans, specifications, and a construction cost estimate were prepared in coordination with District staff and the project was advertised for public bid in December 2012. Mr. Eklund coordinated the bidding process and assisted the District with management of the construction contract including construction inspection. The pipeline was completed April 2013 and currently operates in accordance with the design parameters.

Domestic Water Pipeline Replacement for Berrenda Mesa Water District, W.M. Lyles, Kern County, California, Project Manager – Mr. Eklund was responsible for the design of 10 miles of 6-inch and 4-inch water main that delivers water from Lost Hills Utility District to the community of Blackwell’s Corner and other agricultural/industrial customers west of Highway 33. This new pipeline replaces an old and corroded steel pipeline that was installed in the 1950s. The project also replaced the existing booster pump station, located near the Lost Hills Utility District’s tank site at Holloway Road with a Grundfos package pump system, which also required the modification of the site’s complex plumbing layout. Design work consisted of developing a WaterCAD model of the distribution system to properly size the piping and pump station, providing adequate air relief and draining facilities, mitigating the potential for cross connection/contamination, preparing easement documents, and assisting with the consolidation of the water system with Lost Hills Utility District. The project was successfully performed under a design-build contract with WM Lyles Co. in order to expedite the completion of the project. The pipeline system has now been transferred from Berrenda Mesa Water District’s ownership to Lost Hills Utility District.

Jeff Davis

PE

Principal Engineer



Education

- ✓ M.S., Water Resources Engineering, Stanford University
- ✓ B.S., Environmental and Water Resources Engineering, Vanderbilt University

Registration/Certifications

- ✓ Civil Engineer, California #36337

Affiliations

- ✓ American Society of Civil Engineers (ASCE)
- ✓ American Water Works Association (AWWA)
- ✓ Association of California Water Agencies (ACWA), Groundwater Committee

Areas of Expertise

- ✓ Project Management
- ✓ Water Resources
- ✓ Groundwater Recharge

Professional Summary

Jeff Davis is a Principal Engineer at Provost & Pritchard with more than 40 years of water resources engineering experience. For the past 15 years he served as the General Manager and Chief Engineer for the San Geronio Pass Water Agency. He also spent five years as the Director of the Water Institute at California State University, San Bernardino where he developed a regional resource for water agencies and other public agencies by obtaining grants from United States Environmental Protection Agency (EPA) and others.

Relevant Experience

Water Lines

Beaumont Avenue Recharge Facility Pipeline, Beaumont, CA – As GM of San Geronio Pass Water Agency, oversaw the planning, design, and construction of a one mile, 20-inch pipeline conveying SWP water to a new recharge facility.

East Branch Extension Phase II, San Bernardino and Riverside Counties – As GM of SGPWA, provided input to DWR and worked as part of a team to plan, design, and construct a four mile, 54-inch pipeline conveying additional SWP water to the SGPWA service area.

Various Projects, Metropolitan Water District of Southern California – As a Section Head of a group of mechanical engineers, planned and oversaw work on numerous small projects associated with pipeline hydraulics, hydroelectric facilities, chemical feed systems, and other water conveyance and treatment facilities.

Previous Experience

San Geronio Pass Water Agency, Beaumont, California, General Manager and Chief Engineer – In this role, Mr. Davis was the Chief Executive Officer of a wholesale water agency serving a rapidly growing region of nearly 100,000 people. His duties included developing and managing a \$30 million budget; planning for and meeting current and projected water demands; managing staff and Board of Directors; managing finances; planning for financing of future water supplies; planning, designing, and constructing infrastructure. His accomplishments in this role included Growing reserves to over \$50 million while maintaining constant water rate for ten years; constructing a regional recharge facility; negotiating deals to augment supply as area grew and SWP allocations dropped, initiated and organized meetings for Class 8 Contractors to discuss common interests and issues. (2005-2020)

Water Resources Institute at CSU San Bernardino, California, Director – As the first Director of newly created institute, Mr. Davis built it into a regional resource for water agencies and other public agencies by obtaining grants from US EPA and others; building and supporting new water-related curriculum programs and finding internships and jobs for

students in the water industry. He hired staff; managed budgets; initiated and managed programs; worked with faculty, administration, and outside water agencies. His key accomplishments included creating a series of scholarships by raising funds through honoring local water leaders; introducing students to the water industry where they still have jobs; building water archive rivaling that of UC Berkeley; building bridges to the water industry through initiation and maintenance of partnerships with public water agencies, flood control districts, regulatory agencies, and NGO's. (2000-2005)

Metropolitan Water District of Southern California, San Bernardino, California, Various Role – Mr. Davis spent 13 years with the Metropolitan Water District of Southern California in progressively more responsible roles. The role included:

Advance Planning Branch—Project engineer on numerous large-scale long-term water supply planning studies for Metropolitan's service area. (1987-1989)

Mechanical Engineering Branch—Section Head supervising group of mechanical engineers designing mechanical projects at filtration plants, hydro plants, and pump stations. Responsible for hiring, managing staff, providing quality control and project management support, budgeting, etc. Managed District's overall chemical containment program. (1989-1998)

Project Management Branch—Developed project management training for entire Engineering Division, trained younger engineers in how to manage projects, managed various projects from budgeting through completion. (1998-2000)

Metcalf & Eddy, Houston, Texas, Project Engineer – In this role, Mr. Davis was a project engineer on major long-term water supply planning study (\$3.1 million) for City of Houston. He was responsible for all technical aspects of project performed by M&E, coordinated with subconsultants performing financial and institutional portions of the study, and testified in front of Houston City Council (1985-1987)

Michael E. McGovern

PE

Senior Engineer



Education

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

Registration/Certifications

- ✓ Civil Engineer, California #61218
- ✓ Water Distribution Operator II, California Department of Public Health (CDPH)
- ✓ Water Treatment Operator II, CDPH
- ✓ Storm Water Pollution Prevention Plan Developer and Practitioner (QSD/QSP), California Stormwater Quality Association (CASQA)

Affiliations

- ✓ American Society of Civil Engineers (ASCE), *Southern San Joaquin Branch President (2015-2016)*

Professional Summary

Michael McGovern joined Provost & Pritchard Consulting Group in May 2022 after 11 years as a Facilities Engineer with Kern County Water Agency. There, Mr. McGovern served as project manager and project engineer in the planning, design, bid, and construction phases of various water infrastructure projects associated with the Agency's canal, water banking, and water treatment and distribution facilities. In addition, Mr. McGovern worked at Kennedy/Jenks Consultants as a project engineer working on various pipeline projects in Kern, Los Angeles, and Riverside counties for over 11 years.

Previous Experience (prior to employment at Provost & Pritchard)

Raw Water Conveyance System to Serve La Paloma Generation Project, West Kern Water District, Kern County, California, Project Engineer – Mr. McGovern provided design and construction review services for the design of a 5,400-gpm pump station, 700,000 gallon welded steel reservoir, eight miles of 24-inch ductile iron raw water pipeline, 1.5 miles of 6-inch PVC domestic water pipeline and an 1,000 foot deep injection well for the plant's backup to their zero discharge system.

CLWA-Castaic Conduit Connection, Castaic Lake Water Agency, Santa Clarita, California, Project Engineer – Mr. McGovern was responsible for the design for 350 feet of 42-inch CML&C welded steel pipe from the in open cut in a busy intersection of Newhall Ranch Road, navigating multiple large utilities under the roadway.

Northeast Bakersfield Water System Project, California Water Service Company, Bakersfield, California, Project Engineer – This project consisted of the design and construction of raw and treated water pipelines to serve the new Northeast Bakersfield Water Treatment Plant. The project included 8,600 feet of 54-inch CML&C steel pipe for the raw water supply to the plant. The treated water pipelines from the plant included 3,000 feet of 54-inch CML&C steel pipe, 6,800 feet of 48-inch CML&C steel pipe, 11,000 feet of 36-inch CML&C steel pipe, 6,000 feet of 18-inch C-900 PVC pipe, and 7,400 feet of 18-inch ductile iron pipe. The project also included feasibility studies to locate the most appropriate connections to the existing California Water Service Company system and multiple phases of work to upgrade the water system to distribute water from the newly constructed Treatment Plant to new developments in the Northeast Bakersfield area.

Raw Water Conveyance System to Serve La Paloma Generation Project, West Kern Water District, Kern County, California, Project Engineer – Mr. McGovern provided design and construction review services for the design of a 5,400 gpm pump station, 700,000 gallon welded steel reservoir, eight miles of 24-inch ductile iron raw water pipeline, 1.5 miles of 6-inch PVC domestic water pipeline and an 1,000 foot deep injection well for the plant's backup to their zero discharge system.

North Bakersfield Water Supply Reservoir and Kern River Diversion Facilities, City of Bakersfield, Water Resources Department, Bakersfield, California, Construction Project Coordinator – This project consisted of the construction of a reinforced concrete turnout structure from the Kern River, a 54-inch RCP double barrel inlet pipeline, and a 15-acre geotextile-lined raw water storage reservoir. The project also included a one-mile 36-inch RCP pipeline from the storage reservoir to the Kern County Parks and Recreation’s Hart Park canal system.

Thomas Bradley International Terminal at LAX International Airport, Los Angeles, California – Assisted in the design of the potable and fire service water supply systems for the new airport terminal and adjacent facilities from existing connections on congested arterial roads into the airport. This project required extensive coordination to design the water system through new and existing utility corridors.

Strand Collection Pipeline, Kern Water Bank Authority, Kern County, California – Mr. McGovern served as the project engineer to design a ½ mile 60-inch HDPE pipeline to collect well water from various recovery wells and deliver it to the earthen-lined Kern Water Bank Canal. Sandy conditions adjacent to the Kern River flood plain created challenging conditions for the design and installation of the pipe.

Hayfield Extraction Well and Pipeline, Metropolitan Water District of Southern California, Project Engineer – Assisted in the design of a groundwater recovery well and above grade HDPE pipeline to Metropolitan’s Hayfield Pumping Plant facility. This included the use of a submersible well pump typically used in the oil industry and temporary above grade HDPE pipe.

Olcese Well No. 2 and No. 3 Pipeline Extension, City of Bakersfield, California, Project Engineer – This project extended the City’s groundwater collection pipeline along the levee of the Kern River Canal with a half mile of 18-inch PVC pipeline.

Kern Water Bank Recovery Well Collection Pipeline Project, Kern Water Bank Authority, Kern County, California – Mr. McGovern served as the project engineer to design pipelines and collection pipelines from the individual recovery wells into the Kern Water Bank Canal.

Station 221 A & B, California Water Service Company, Bakersfield, California, Project Engineer – This project consisted of the construction of a 3,000-gpm pump station including surge tank and related electrical, controls, and emergency power generation.

Westside Canal Improvements, Kern National Wildlife Refuge, Buena Vista Water Storage District, Buttonwillow, California, Project Engineer – This project consisted of the design and construction of the Kern National Wildlife Refuge Water Supply Project in Kern County, California. In order to provide the required 90 cfs of capacity to the wildlife refuge, several improvements were made to the Westside Canal and the Cross Canal. These improvements include: 1) a turnout from the district’s existing 48-inch pipeline from the aqueduct to the Westside Canal, which includes rehabilitation of Westside No. 16 check structure to prevent backflow and an outlet to allow future connection to the Semitropic Canal, 2) replacement of the existing culvert at the intersection of the Westside and Cross Canals with new culverts, 3) expanding the Westside Canal to the Cross Canal one-mile north of Highway 46 and the Cross Canal, east to the Goose Lake Canal to allow 90 cfs capacity, and 4) connection of the Cross Canal to the existing Goose Lake Canal.

Alignment Study for the South Bakersfield Water Treatment Plant Raw Water Pipeline, Water Resources Department, City of Bakersfield, California, Project Engineer – Mr. McGovern conducted an alignment study and present value analysis to determine the most cost-effective route for approximately five miles of 60-inch raw water pipeline across residential, commercial, and industrial areas to serve the proposed 40 MGD South Bakersfield Water Treatment Plant.

Erik Howard, PE, PLS | Sr. Principal Engineer

CA, Civil Engineer No. C53318
CA, Professional Land Surveyor No. 7648

Education

BS, Civil Engineering, California State
Polytechnic Univ., Pomona, CA

Affiliations

California Land Surveyors Association
American Water Works Association
American Society of Civil Engineers

Areas of Expertise

Water/Wastewater Engineering
Project Management
Forensic Evaluations
Survey/Geomatics
Quality Control

Erik Howard has over 30 years of complex project surveying, engineering, construction and management experience in water, wastewater, and civil engineering. Project types include waterlines, welded steel reservoirs, well and booster pumping plants, groundwater recharge facilities, sewer and septic-to-sewer infrastructure, and street and drainage improvements. Specific tasks also include records searches, surveying, utility verification, design, review, preparation of contract documents, and construction observation. His civil engineering portfolio includes site design and access roadway design for various water, wastewater, and civil infrastructure projects including site selection and evaluation, hydrology studies, determination of grading requirements, piping layout, utility relocation, and cost estimates. His professional surveying portfolio includes boundary retracement, records-of-surveys, legal descriptions, conveyance documents, topographic surveying, construction staking, and monumentation. He has also performed contract administration and construction management for various projects, and has also provided expert witness services, legal testimony, and assisted in forensic studies.

Similar Project Experience:

[San Geronio Pass Water Agency, State Water Project, Beaumont, CA](#) – Program / project manager, engineer and surveyor for the study, design and construction of various projects and service connections from the East Branch Extension, a reach of waterline off of the State Water Project aqueduct. As a State Water Contractor, projects allow SGPWA to provide water to local water districts within its service areas to supplement groundwater supplies and reduce pumping overdraft. Projects include the Noble Creek and Mountain View Channel Turnout Connections and the Beaumont Avenue Recharge Facility Pipeline, and require coordinating directly with SGPWA general manager/chief engineer and the State Department of Water Resources (DWR) staff. Extensive permitting coordination has also been required with the Riverside County Transportation Department, Riverside County Flood Control and Water Conservation District, and the City of Beaumont.

[Backup Generator Design Services for Various Well Sites, Mission Springs Water District, Desert Hot Springs, CA](#) – Project Manager and lead engineer for the assessment and design of two 500 kW emergency backup generators (Gensets) and one 600 kW Genset at three (3) different well sites. Services include developing site and grading plans, assessing existing electrical service and switch gear, siting of the Gensets and transfer switches at each location, Genset foundation design, coordination with SCE and the South Coast AQMD regarding discharge limitations and permit requirements, and providing bidding and post-design support services.

[Scott Road Transmission Waterline and Booster Station, Eastern Municipal Water District, Menifee, CA](#) – Project manager, engineer and surveyor for design of approximately 12,500 lineal feet of 30-inch welded steel pipe and 24-inch diameter C-905 PVC waterline and appurtenances. Also responsible for coordinating design of the 5,000 gpm booster (to provide suction and discharge water supply between the 1,627 and 1,700 pressure zones) including site selection and preparing legal documents to procure the site. Extensive work coordination with the Riverside County Transportation Department and EMWD was required to identify alternative alignments to accommodate future roadway improvements and secure right-of-way.

[Verdemont Water Infrastructure Project, San Bernardino Municipal Water Department, San Bernardino, CA](#) – Project manager, engineer and surveyor for design of contract documents for Phases 1 and 2 for the San Bernardino Municipal Water Department (SBMWD) located in the northwestern portion of the City of San Bernardino. Phase 1 (completed in 2010) includes design and construction of approximately 1,500 lineal feet of 24-inch transmission waterline (with bore & jack under I-215) and two boosters; the Palm with a capacity of 10,500 gpm and the Magnolia with a capacity of 6,800 gpm. Phase 2 (design completed June 2009) includes approximately 4,600 lineal feet of 20-inch transmission waterline, the 2300 Zone East Booster with a capacity of 3,300 gpm, and the 2-million-gallon 2300 Zone East Reservoir site.

[1610 Zone \(Warren\) Reservoirs and Transmission Waterline, Rancho California Water District, Temecula, CA](#) – Project manager, engineer and surveyor for the conceptual and preliminary design of approximately 9,000 lineal feet (1.7 miles) of 36-inch transmission waterline and twin 3.5-MG water storage reservoirs. Design includes multiple siting, configuration and grading options for both buried and at-grade scenarios, on-site piping, and appurtenant facility layouts; site access, right-of-way, and property acquisition evaluations; onsite and offsite drainage and operational discharge control assessment; earthwork and grading material management review; developing opinions of probable construction costs; coordination with the existing property owner's engineer; and preparation of property conveyance documents (legal description and plat) of the final design configuration.

[2019 CIP Water Pipeline Replacement Project, City of Redlands, Redlands, CA](#) – Project Manager and Engineer for the design and construction of approximately 55,000

Erik Howard, PE, PLS | Sr. Principal Engineer

linear feet (LF) of 8-inch potable water main and 3,000 LF of 12-inch potable water main in various parts of MUED's services area, encompassing 45 different streets and five (5) different Pressure Zones. Said Pressure zones range in elevation from the 1570 Pressure zone (lower lying areas in the North) up to the 2340 Pressure zone (upper Redlands Heights area to the South). In total, Project is included 55,000 LF of pipe; about 10.4 miles.

[Mojave Narrows Regional Park, County of San Bernardino Regional Parks Department, Victorville; CA](#) – Project manager, engineer and surveyor responsible for the survey and design engineering services to restore a failed segment of the Horseshoe Lake levee, and provide construction support services for 2,200 lineal feet of new levee abutment, metering weir facilities, and an emergency overflow channel structure capable of handling approximately 3,400 cfs. Due to flood waters overtopping the 28-acre Horseshoe Lake levee during a winter storm event in January 2010, a section of the levee suffered a catastrophic failure that resulted in the complete draining of the lake. The project included preparation of a topography map using airborne LiDAR technology to digitally scan the 840 acre park and lake bottom, which was overgrown with dense and tall vegetation. The resultant topography complied with National Map Accuracy Standards and facilitated the environmental permitting required for the project

[County of San Bernardino Special Districts Department, CSA 70J: Oak Hills 3A Tank Site Expansion, Oak Hills, CA](#) – Performed detailed topographic mapping effort and preparation of Record-of-Survey (ROS) Map for filing with the County Surveyor's Office, which included utility coordination, development of utility base for incorporation into developed Base Map with 1-foot contours, establishing centerlines, right-of-ways and property lines; submit ROS and associated support documents to Surveyor's Office for review and interface with Surveyor's Office as-needed during plan check process. Following construction, preparation of As-Built drawings from County Inspector's notes will be completed.

[Waterline Replacement, Idyllwild Water District, Idyllwild, CA](#) – Project Manager on the 1,200 linear feet pipeline replacement along S. Circle Drive and Village Circle Drive. Design pipeline replacement with consideration of replacing standard valving and piping, preservation of existing pipeline in certain areas and tie over of existing services particularly to restaurants and businesses along Village Center Drive.

[Manzanita II Tank Drainage Improvements, City of Moreno Valley, CA](#) – Project manager and engineer for design of contract documents for grading and constructing a 0.5-million-gallon earthen detention/retention basin and appurtenances to control site drainage and operational flows (draining and overflow) for the existing 3.2-million-gallon reservoir. Project also included various street and drainage improvements to existing City of Moreno Valley facilities downstream of the site.

[Nason \(Letterman\) Booster Relocation and Transmission Waterline](#) – Project manager, engineer and surveyor for preliminary design for relocation an existing 2,000 gpm booster to a new site with an upgraded capacity of 7,000 gpm including approximately 1,400 lineal feet of 24-inch diameter C-905 PVC transmission waterline and appurtenances. Also responsible for booster site selection, layout, and preparing legal documents for EMWD to procure the site and waterline corridor assessment. Extensive coordination with the City of Moreno Valley for property negotiations and to identify future right-of-way and roadway improvements.

[CSA70J H2ONet Analysis, San Bernardino County Office of Special Districts](#) – Project Manager responsible for day-to-day project guidance, team oversight, client contact, as well as schedule and budget management throughout the assignment. ERSC evaluated the H2ONet Map analysis for Zone J. Staff assisted the District with the evaluation of options including line extensions or looping the new system to meet new demands.

[CSA 70J Muscatel Street and Aster Road 1,500-foot Line Extension, San Bernardino County Office of Special Districts](#) – Project Manager responsible for day-to-day project guidance, team oversight, client contact, as well as schedule and budget management throughout the assignment. ERSC provided design services for an approximately 1,500 feet CSA 70J line extension from the intersection of Muscatel Street and Aster Road.

[Calico Ghost Town Water System Improvements, San Bernardino County Office of Special Districts](#) – Project manager/engineer for designing an arsenic treatment plant using reverse osmosis and associated support infrastructure to bring the system into California Title 22 compliance. Scope of services includes site surveying and base mapping of select Town areas, assessment of water demand, interaction with Special Districts and Regional Parks staff, review of existing water and sewer infrastructure, preliminary layout of treatment system, and 3.5 acres of evaporation ponds for waste brine disposal.

[Lake Gregory Dam and Outlet Works, County of San Bernardino Special Districts Department, Lake Gregory, California](#) – Detailed mapping and preliminary engineering to investigate and resolve operational restrictions to the lake due to insufficient capacity of the outlet works (valves and piping through an existing tunnel) as mandated by the California Department of Water Resources, Division of Safety of Dams. Due to the challenging topography of the mountainous area, the control and topographic field survey required the use of several technologies including a conventional total station, GPS, laser scanner, and LiDAR technology to penetrate the dense tree growth. The total station and GPS equipment were jointly used to set up a precise X, Y, and Z control network, and the laser scanner and LiDAR were used to develop the actual site topography. The laser scanner was also used to scan the interior of the tunnel, a potentially hazardous confined space.