

Olivehurst Public Utility District



Agenda Item Staff Report

Meeting Date: 12/17/2020

Item description/summary:

Consider awarding contract for design of the Steel Main Replacement Project.

Last board meeting, the board approved publishing an RFP for water infrastructure design for the Steel Main Replacement Project. On December 10th, we received two proposals. They are attached. One proposal came in at @ \$264,485 by Domenichelli Associates. The other came in at \$219,372 by Bennett Engineering Services. Based on the proposals and previous experience with the District, I recommend selecting the proposal by Domenichelli Associates.

Fiscal Analysis:

Funding for Design is from the Interregional Water Management Grant.

Sample Motion/Staff Recommendation:

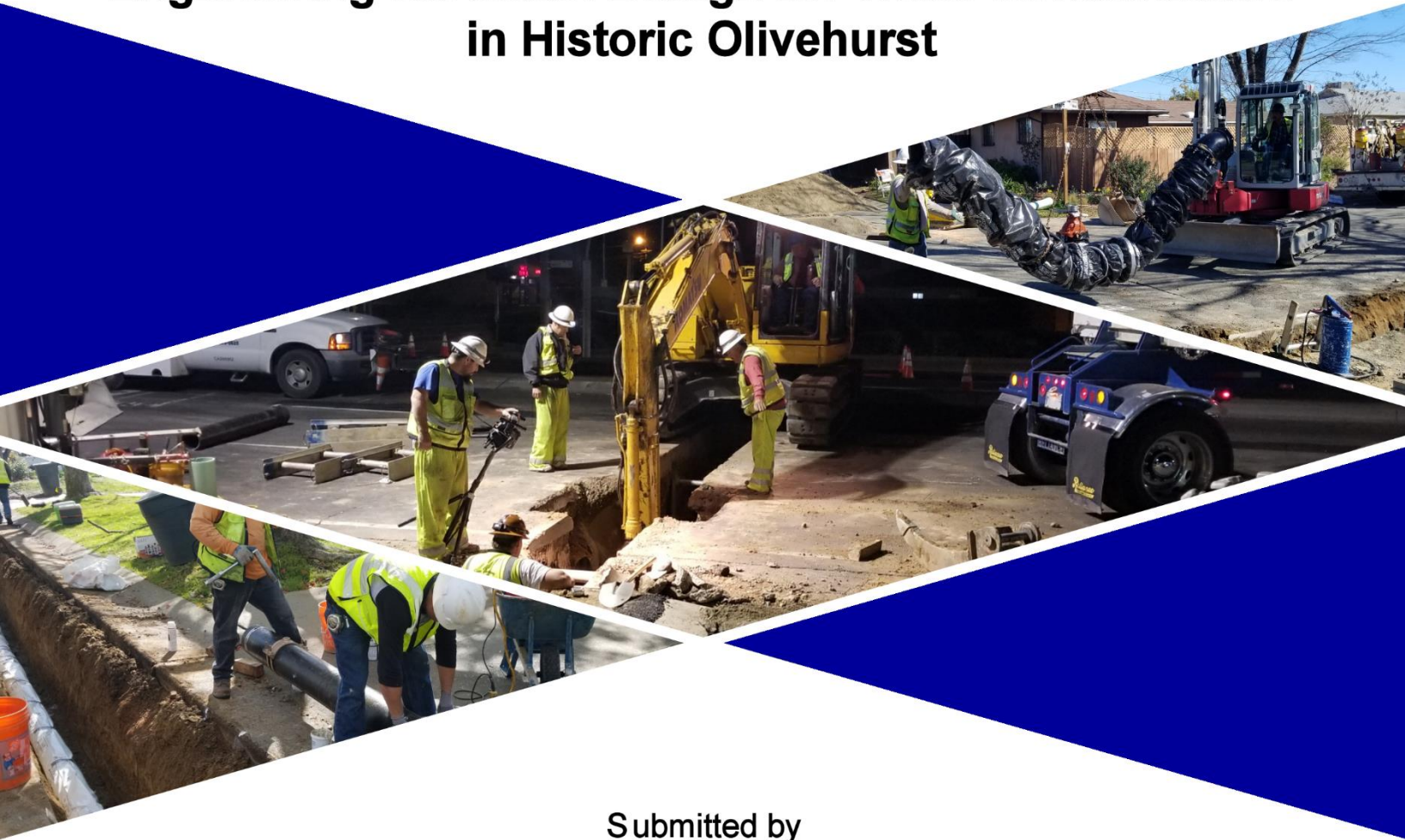
Award the contract for design of Water Infrastructure in the Steel main Replacement Project to Domenichelli Associates for \$264,485

Prepared by:

Christopher Oliver, Public Works Engineer



Proposal for: Engineering Services: Design for Water Infrastructure in Historic Olivehurst



Submitted by
Domenichelli & Associates, Inc.





DOMENICHELLI AND ASSOCIATES, INC. CIVIL ENGINEERING

Olivehurst Public Utility District
ATTN: John Tillotson and Christopher Oliver
1970 9th Avenue
Olivehurst, CA 95961

December 10, 2020

RE: Proposal for Design for Water Infrastructure in Historic Olivehurst

Dear Selection Committee,

Domenichelli and Associates, Inc. (D&A) is pleased to submit the attached Proposal for OPUD's Water Infrastructure in Historic Olivehurst project. You will see from this proposal that the D&A team will be the right choice for the District to provide these design services.

Our point of contact will be myself, Joe Domenichelli, President at *JoeD@daengineering.net*. Our address and phone numbers are:

Corporate Office:

5180 Golden Foothill Parkway, Suite 220
El Dorado Hills, CA 95762
Phone: (916) 933-1997

Sacramento Office:

3301 C Street #1000
Sacramento, CA 95816
Cell: (916) 716-4207 (Joe)

Our team will be led by Tom Dugan, who has over 19-years of experience managing and/or designing distribution water main replacement projects throughout northern California. His experience also includes construction management of multiple pipeline replacement projects. He will be supported by Joe Domenichelli who has over 35-years of design and construction experience in the water resources industry. Our D&A team also includes Adam Motiejunas, Juana Tellez, and Jim Cade, all with extensive experience in pipeline design. Mr. Motiejunas, with over 15-years of pipeline design experience, will serve as the project engineer.

For this design effort we are teaming with MHM for surveying, Blackburn Consulting for optional geotechnical services, and Road Tech Safety Services for traffic control plans. All our sub-consultants are familiar with the project area and have extensive experience in their respective areas of expertise. MHM will also provide support during construction (local inspection) if needed.

D&A will perform all services defined in the RFP and adhere to the requirements of the RFP, RFI #1 issued December 7, 2020 and RFI#2 issued December 8, 2020. Thank you for the opportunity to provide a proposal for the District's Historic Olivehurst Infrastructure Project. We look forward to continuing to develop a strong working relationship with the District. If you have any questions or require additional information, please do not hesitate to contact myself.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joe Domenichelli', is written over a light blue background.

Joe Domenichelli, P.E. – President
Domenichelli and Associates, Inc.



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ATTACHMENT B: COVER SHEET

Name of Person, Business or Organization:	Domenichelli and Associates, Inc.
Federal Tax ID Number:	76-0806846
Contact Person – Name	Joe Domenichelli
Contact Person – Address	5180 Golden Foothill Parkway, Suite 220 El Dorado Hills, CA 95762
Contact Person – Phone Number (s)	(916) 933-1997
Contact Person – e-mail address	JoeD@DAEngineering.net

By signing this **Cover Sheet** I hereby attest: that I have read and understood all the terms listed in the RFP; have read and understood all terms listed in this proposal; that I am authorized to bind the listed entity into this agreement; and that should this proposal be accepted, I am authorized and able to secure the resources required to deliver against all terms listed within the RFP as published by OPUD, including any amendments or addenda thereto except as explicitly noted or revised in my submitted proposal.


Signature of Authorized Representative

Joseph W Domenichelli
Printed Name of Authorized Representative

12-7-20
Date

SECTION 6.2: DESCRIPTION OF SERVICES, BACKGROUND AND STAFF

PROJECT OVERVIEW AND UNDERSTANDING

From current work for the District in the South Planning Area, D&A has a clear understanding of the District’s water supply and distribution system, the conditions of the existing roadways, the underlying soil and groundwater conditions and the requirements of the local regulating agencies. We also have a great deal of practical knowledge of what it takes to design and construct replacement pipelines in existing streets from nearly 100 miles of pipeline replacement projects for Central Valley communities.

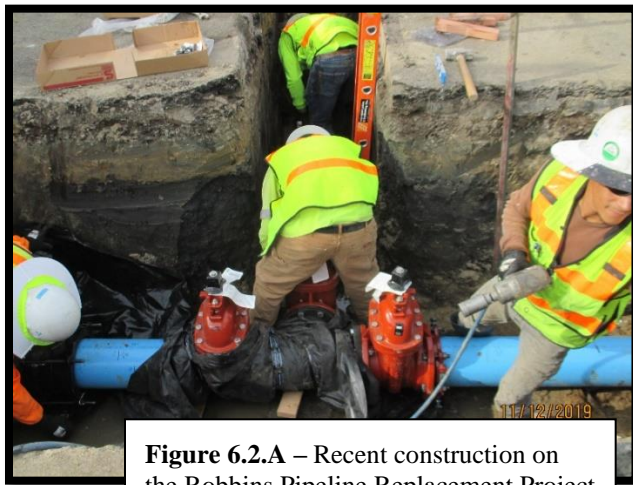


Figure 6.2.A – Recent construction on the Robbins Pipeline Replacement Project

We have reviewed the scope of services and the project limits and generally concur with the scope tasks listed with little exception. We are offering optional services for SWPPP development, geotechnical services, and full construction management services.

The relatively low-cost services to complete the SWPPP prior to construction will save time after award of the construction contract and assure that stormwater quality requirements and guideline will be followed without significant issues during construction.

The new pipe is proposed to be PVC, constructed at relatively shallow depths, therefore, the need for a typical geotechnical evaluation is diminished. Also, we intend to provide corrosion protection for ductile iron fittings, valves and any

ferrous metal pipe sections regardless of new geotechnical data. If the District would like some geotechnical work to be provided, we would recommend a focused study after the design team has walked the reaches and discussed trenching history with District personnel and other team members with experience in the area. This focused study could be beneficial to provide assurance against change orders due to unanticipated groundwater or poor soils for trench stability. We would negotiate the study with Blackburn Consulting who are currently providing these services for the South Planning Area and suggest an allowance of no more than \$18,000 for this work.

Although not included in the RFP, we understand that the District may need the support of a construction manager and daily inspector if the District is too busy to provide these services in house. We have provided a separate scope and fee for these services under Task 8 to follow.

Relative to construction traffic control and construction sequencing, we understand that the work will be spread throughout the community and will impact many residences and public entities. Our traffic control plans will address each reach (street) individually with requirements depending on street widths and anticipated traffic volumes. We also recognize public facilities such as schools will have special time of day impacts from the construction, and that provisions to reduce these impacts should be included in the contract documents.

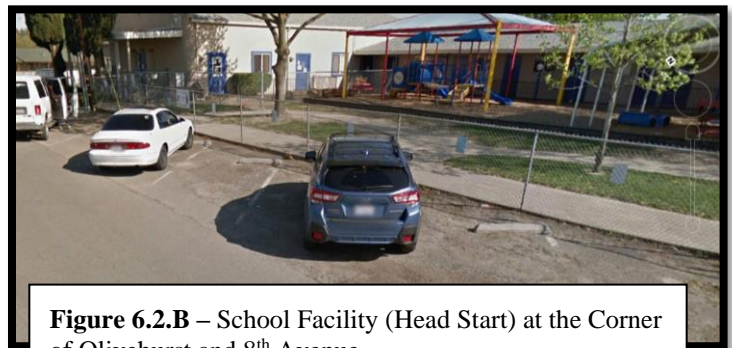


Figure 6.2.B – School Facility (Head Start) at the Corner of Olivehurst and 8th Avenue



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Proposal for Design for Water Infrastructure in Historic Olivehurst

D&A strives to be proactive in our design efforts and provide clear communications and quality control throughout the design process. We have the experience to see the issues early and to anticipate efforts required to stay on schedule and budget. For example, we are asking our survey subconsultant, MHM to include scope and budget for dipping manholes and other gravity system components to ensure that our profiles properly reflect crossings of such facilities. This early effort in design will avoid more costly change orders to the profiles during construction and lost time for processing DDW amendments. In addition, we have already started to look at the street reaches for other potential special survey needs and have completed a quick utility search for the project. The following utilities were listed in a USA North utility search of the project area. Although listed, these are potential utilities and often they are not present within the project boundaries, but rather within a buffer limit of the search. D&A will contact each of these agencies and companies to obtain any utility information and maps for use in the project design.

POTENTIAL UTILITIES WITHIN THE PROJECT AREA
COMCAST NORTHERN CALIFORNIA
CITY OF MARYSVILLE
KINDER MORGAN / SFPP-CHI
LINDA COUNTY WTR DIST
LEVEL 3 COMM - CALIF
MCI WORLDCOM CALIFORNIA
OLIVEHURST PUD
PACIFIC BELL
PGE DISTR MARYSVILLE
SPRINT
TERRADEX INC.

Our services during construction are typical services and follow the scope provided in the RFP. However, D&A often provides complete construction management (CM) and inspection services for our pipe replacement clients. As mentioned previously, we have included as optional services, complete CM and inspection

services as a separate task. We have had follow up CM services (after completion of the D&A design) for several projects for Sacramento Suburban Water District and the Sacramento County Water Agency. We have found that having the design engineer follow up with the CM services is a big advantage to avoid project team misunderstanding and head off costly changes by solving design issues before they become a problem.

WATER INFRASTRUCTURE PROJECT COMPONENTS

The following project components are considered part of the water infrastructure project and are part of the basis for our scope and fee. This is based on the map provided by the District.

- 11th Avenue (983 feet)
- Ardmore Avenue (Baugh to 11th) (2650 feet)
- Beverly Avenue (1310 feet)
- Western Avenue (8th to 10th) (1970 feet)
- Pacific Avenue (2675 feet)
- Chapman Avenue (765 feet)
- 8th Avenue (East of Fleming) (1255 feet)
- Tulsa Avenue (904 feet)
- 4th Avenue (1340 feet)
- 5th Avenue (1937 feet)
- Canal Street (910 feet)
- 9th Avenue (1290 feet)
- 8th Avenue (1960 feet)
- 10th Avenue (1290 feet)
- Okmulgee Avenue (586 feet)

The project includes a total of 21,825 feet of pipeline replacement. Our scope and fee includes design of all of the pipelines. We understand that the District will have limited funds for the construction of the project. All construction cost estimates will break out costs by section to determine what can be completed for the District’s construction budget.



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SCOPE OF SERVICES

The following provides a detailed discussion of our project approach and scope of work. The scope of services is broken down by tasks as defined in the RFP. Additional (supplemental) tasks are also provided for reference. These supplemental tasks will be discussed, and scope refined with the District, prior to finalizing the contract scope and fee. These tasks are used as the basis for development of our fee estimate (provided at the end of this proposal).

Task 1 – Project Management

Domenichelli & Associates (D&A) will provide a proactive project management strategy that will involve close communication with the District, D&A's subconsultants, and other project stakeholders. These efforts will be led by D&A's Project Manager (Tom Dugan) who is well versed in managing these type of design projects.

1.1 Invoicing and Progress Reports

D&A will submit monthly payment request (invoices) that will identify tasks and subtasks with percent complete, total invoice amount, budget billed to date and amount remaining. Included with the invoice will be a monthly progress report that will describe work completed, current activities and updated schedule for each task.

1.2 Kickoff Meeting

An initial meeting will be held at the District office to go over the project and discuss item such as: 1) project team introductions and communications protocols, 2) project schedule, 3) project scope review, 3) any anticipated issues or concerns, and 4) next steps and immediate action items. Following the meeting will be a project site tour for D&A staff and District or other team members choosing to attend.

1.3 Progress and Coordination Meetings

D&A will conduct regularly scheduled meetings to review project progress and to discuss submittal reviews. We anticipate a 6-month design schedule with two meetings per month.

Most of the meetings will be one hour "MS Teams" meetings, however we anticipate two workshop review meeting at the District at the 50% and 90% stages. Total number of meetings include ten 1-hour remote meetings and two half day review workshop meetings. Bid and construction related meetings are included under those scope tasks.

Task 1 Deliverables:

- *Monthly invoicing and associated progress reports (electronic pdf files)*
- *Meeting agendas and minutes for all coordination and progress meetings (electronic word and pdf files)*

Task 2 – Preliminary Design

2.1 Field and Utility Data Investigations

D&A has already contacted USA for a list of potential utilities. We will send out Utility Letters to each utility to obtain any information and mapping relative to the project areas. In addition, D&A design staff will walk the project reaches with aerial base maps provided by MHM, to become familiar with the project area and document any utility information found that is not consistent with the gathered utility maps. This investigative field work will also help refine the scope of the in-field topographic surveying needs described under Task 4.1

Coordination with Existing Utilities – The gathering of information will include reviewing and incorporating requested utility information obtained through the "A", "B", "C" letter utility process onto the base maps from survey and mapping information obtained in Task 4.

2.2 Prepare Pre-design Technical Memorandum

A Technical Memorandum will be prepared by D&A to summarize design criteria, present preliminary designs, discuss permitting and environmental documentation processes and any related potential issues, and to present preliminary costs. Also included under this task will be a hydraulic model (using H2ONet) to verify pipe sizes for the design. D&A has



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recently modeled portions of the community's water system for the South Planning Area Project and will build on that effort to complete this verification.

2.3 Prepare Preliminary Plan and Profiles (50%)

After receiving base maps from MHM (under Task 4.1), D&A will produce preliminary plan and profile drawings. Also included in the (50%) preliminary design will be typical details for the project and preliminary traffic control plans.

2.4 Prepare Preliminary Project Costs (by Street)

Per the pre-proposal meeting, the District is interested in developing preliminary costs broken out per the various reaches (Streets), to determine how much of the overall project can be completed with available funding. D&A will provide 50% opinions of costs for each reach separately to be included in the Preliminary Design Technical Memorandum.

Task 2 Deliverables:

- *Draft and final Pre-Design Technical Memorandum (PDF versions).*
- *Draft and Final 50% Design sheets to accompany the Pre-Design TM (PDF versions).*

Task 3 – Final Design

The following Final Design tasks assume that all of the project reaches will be included in the final design and that the design will be completed as a single construction contract. If due to funding, the overall project will be phased into more than one construction contract, re-allocation of scope and negotiated fees will be made after the phasing is determined.

3.1 – 90% Plans, Specifications, and Cost Estimates

D&A will build on the 50% design plans and District comments to complete a 90% set of documents that will include all required plans and profile sheets, detail sheets, traffic control plans, and a complete specification book that would be considered a biddable set of

documents. D&A will incorporate the District's "Front End" specifications to provide a complete set of project specifications. Also included will be a 90% opinion of probable construction cost \pm 10% with supporting cost documentation, and a potential construction schedule for each project reach.

3.2 – 100% (Bid Ready) Plans, Specifications, and Cost Estimates

The 100% Design will incorporate District review comments from the 90% design to have the complete design documents (plans and specifications) ready for bidding. Also included with the 100% design documents will be the final Engineer's estimate.

3.3 – Prepare Construction Sequencing Schedule and Cost Estimates

As discussed under Task 3.1 a construction schedule and cost per reach of pipeline will be provided. As the design nears completion and funding opportunities are better defined, D&A will create a final construction sequencing schedule and Engineer's estimate to represent the final design reaches. The reaches may contain all or a portion of the overall project based on the final costs and funding.

Task 3 Deliverables:

- *Draft and final 90% Plans, Specifications and Cost estimate (PDF versions).*
- *Draft and final 100% Plans, Specifications and Cost estimate (PDF versions and 3 full sized hard copies of plans and one MSWord version of the Specifications). Bid documents will be delivered electronically, ready for reproduction and distribution by the District for bidding.*
- *Draft and final Construction sequencing plan and cost breakdown (PDF versions and final MSWord version).*



Task 4 – Surveying, Mapping, Geotechnical Services, and Traffic Control

Task 4.1 Surveying and Mapping – MHM Engineering

MHM will provide all surveying and base mapping for the project design as described in Appendix A. MHM will also provide right-of-way mapping from existing record data and County maps. MHM has significant surveying experience in the project area and understands there are local right-of-way discrepancies that will be addressed.

Task 4.2 Traffic Control Plans (Preliminary and Final)

Road Tech Safety Services Inc will provide the traffic control plans that are to be included in the design documents as noted above under Task 3. The traffic control plans will be specific to each reach with a moving road closure anticipated for many of the narrow streets. We anticipate 19 plan sheets for this effort.

Task 4.3 Geotechnical Investigation – Blackburn Consulting (Optional)

If this service is desired by the District, Blackburn Consulting will provide geotechnical explorations, lab analyses and Geotechnical Report for the project.

Task 4.3 Deliverables:

- *PDF version of base survey mapping sheets.*
- *Optional Geotech Report (PDF version)*
- *Traffic Control Plans (PDF version)*

Task 5 – Permitting

Task 5.1 Yuba County Coordination and Permitting

The project pipeline alignments are all within County roads. Upon incorporating the District’s 50% plan comments, D&A will assist the District in preparing the County Encroachment Permit application and working through the process of obtaining the encroachment permit and the County’s conditions for the construction and surface restoration.

Task 5.2 State Water Resource Control Board – Division of Drinking Water (DDW) Waiver

When separation requirements between the new water pipelines and any sewer or drainage lines cannot be met, D&A will prepare a DDW Waiver Request that will identify these locations, how the potable water main will be constructed (e.g. push-on restraint joint or mechanically restrained joint), and describe the pipe material type. The engineer of record (EOR) will prepare a letter of recommendation specific to these locations and stating that their construction complies with DDW’s variance requirements. D&A will prepare the DDW Waiver Package that will include the EOR’s letter, all the supporting documentation, and a draft copy of the District’s formal letter acknowledging their agreement to the Waiver Package. It will be the District’s responsibility to submit the Waiver Package.

Task 5.3 Stormwater Pollution Prevention Plan Development (Optional)

D&A recommends a Stormwater Pollution Prevention Plan (SWPPP) be developed during the design phase of the project so that State WDID number can be issued allowing the contractor to begin work upon receiving the project notice to proceed. This relatively low cost effort can save at least a month time in the construction schedule, and improve bids by providing the Contractor a good understanding of the SWPPP criteria and what will be expected of them.

Task 5 Deliverables:

- *Draft of County Encroachment Permit (PDF and MSWord versions).*
- *Draft and final DDW Waiver submittal packages (final PDF versions sent to District and DDW).*
- *Draft and final SWPPP and State SMARTs submittal (PDF versions).*

Task 6 – Bid and Award Services

D&A will provide bid support services as follows:



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- Conduct a pre-bid meeting
- Prepare bid document addenda (3) in response to bidder questions, including any changes to the bid documents
- Evaluate and provide a recommendation for award based upon the bid results
- Prepare “Conformed for Construction Plans and Specifications” based on the issued addendum.

Task 6 Deliverables:

- *Electronic versions of Addenda to be distributed by the District. Electronic versions of conformed documents to be distributed by the District.*

Task 7 – Engineering Services During Construction

Per the RFP, during the construction phase of the project, the D&A team will provide typical engineering services during construction (ESDC) such as submittal reviews, RFI and change order reviews, occasional site visits to attend meetings and perform requested inspections, and prepare As-built plans. D&A will also support the District during claim requests and change order preparation. Currently, we are assuming a 12-month duration construction.

Task 7 Deliverables:

- *Electronic review forms for submittals, RFIs and Change Order reviews; Electronic Inspection reports by D&A team members; one hard copy and an electronic (AutoCAD & PDF) version of the As-Built Drawings.*

Task 8 Supplemental Construction Management, Full Time Inspection

Per the pre-proposal conference, the District indicated that the consultants should include construction management and inspection in our proposal as an optional service. We have provided a separate task item and supplemental costs for complete construction management (CM) and full-time inspection. Material testing

services is assumed to be provided by the District through a third-party consulting contract.

The construction management efforts are difficult to quantify before the construction contracts are defined. However, based on our preliminary assessment of the required construction sequencing, we have provided the following scope of services and associated costs.

Task 8.1 CM Service Administration

D&A will submit monthly payment request (invoices) that will identify tasks and subtasks with percent complete, total invoice amount, budget billed to date and amount remaining. Included with the invoice will be a monthly progress report that will describe work completed, current activities and updated schedule for each task.

Task 8.2 Contract Administration

8.2.1 Project Meetings: D&A’s CM will communicate and coordinate regularly with the District, Contractor, and the Inspector to facilitate the Contract Documents and keep the project on schedule and budget. Upon awarding the contract, D&A’s CM would conduct a pre-construction meeting with the contractor and all applicable project stakeholders. This would allow for formal introductions, define lines of communications and project expectations, and address any questions prior to the contractor breaking ground. Subsequently, regular construction progress meeting would be held once construction is underway. D&A’s CM would initially conduct these meeting on a weekly basis.

These meeting would allow all project stakeholders the ability to monitor the construction progress and identify and/or resolve project related concerns. All meetings would be documented by way of meeting agendas and minutes.

Deliverables:

- *Pre-construction Meeting: Agenda and Minutes*
- *Progress Meetings: 14 meetings (2 per month for 7 months)*



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8.2.2 Progress Payment Reviews: D&A's CM would conduct monthly progress payment requests reviews with the Contractor. These reviews will be based on the Inspector's verified quantities and confirmation by the CM that all pay requests and documentation are prepared in compliance with the Contract Documents. D&A CM recognize that this Project is grant funded and may require special progress reporting to the funding agency. D&A's CM will support the District in updating those reports.

Deliverables:

- *Progress payment reviews and progress reports (7)*
- *Assist the District with Grant Funding report updates (7)*

8.2.3 Stakeholder and Public Coordination:

D&A's CM and inspector in conjunction with the Contractor would maintain open communication with the Project stakeholders (e.g. County and District) along with the general public to keep all aware of the construction progress and to efficiently and effectively resolve any potential project related concerns. Project related matters would be properly documented and distributed. D&A's CM and inspector would work to ensure that construction related matters that directly impact the general public be communicated through the contractor and/or themselves. This has been proven to maintain good public relations with those in the project area.

Deliverables:

- *Documentation of coordination with stakeholders and public*

8.2.4 Potential Change Order and Contract Change Order Review:

D&A's CM will take the lead in reviewing and responding to any potential change order (PCO) request, and in negotiating and preparing any applicable contract change order (CCO). The CM will prepare a form response to any PCO and will present their opinion to the District for review prior to responding to the Contractor. PCO's that are determined to be acceptable will be processed

into a formal change order and executed in accordance with the contract documents.

Deliverables:

- *PCO/CCO review and negotiations (Assume 5 PCOs; 2 CCOs)*

8.2.5 Document Processing and Filing:

D&A's CM will coordinate directly with the District on how they prefer construction documents be received, processed, and filed (electronically). Assuming the District does not have formal contract document transmittal forms, D&A's CM would prepare and present for District approval such forms as: Submittal forms, RFI forms, daily inspection forms, field directive forms, etc. These forms would be utilized during construction to provide an organized and retrievable filing structure.

Assuming the District does not have an electronic filing structure in place, D&A's CM would coordinate with the District to establish an acceptable digital filing structure. For a project of this size and complexity, D&A suggest the filing structure be setup on either Google Docs, Drop Box, or Box and that appropriate administrative permission be granted to key individuals. This type of digital platform provides secure location to file documents while allowing transparency to those authorized to view and access the site. More elaborate document filing platforms can be considered at the District request.

D&A's CM would be the clearing house for all contract related documents. These documents will be processed and filed in accordance with the project accepted filing structure discussed above. The CM will receive, process, and distribute these documents for review and/or response according to the document type.

Assumptions:

- *Submittals (25)*
- *RFI (20)*
- *PCO (5)/CCO (2)*



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Deliverable:

- *Develop the contract field forms (electronic)*
- *Coordinate with the District to develop a digital file structure*

8.2.6 Project Closeout: D&A's CM will follow the project closeout documentation process outlined in the specifications. The CM will review, process, and file the necessary closeout documentation that is anticipated to include the following:

1. Evidence of Compliance with Requirements of Governing Authorities.
2. Project As-built plans approved by the CM Team and District.
3. Operation and Maintenance Manuals.
4. Warranties and Bonds.
5. Evidence of Payment and Release of Liens and Stop Payment Notices as outlined in Conditions of the Contract.
6. Release of claims as outlined in Conditions of the Contract.
7. Survey Record Documents
8. SWPPP Documentation
9. Certificate of Final Completion

Upon obtaining all necessary contract documentation, the CM would prepare a letter of final acceptance for the District's review and approval. This letter would be issued to the Contractor, which would authorize the release of final payment and begin the clock to release the payment retention.

At this time, the CM would provide the District will all project related files. The CM would coordinate with the design engineer to obtain the final Project record drawings.

Deliverables:

- *Final contract documentation (electronic format)*

Task 8.3 Field Inspection

D&A intends to use a local inspector to provide daily inspection. Initially, we anticipate the inspector would provide 8-hours of daily inspection. As the project progress and assurances by the contractor are observed, the inspections would reduce to 4-hours daily. The inspector's responsibilities will include at a minimum: observing and documenting the contractor's daily progress; verifying that materials and connections are installed and property tested in accordance with contract documents; communicating with all stakeholder; verifying quantities daily, punch list and final site walks, and that as-built plans are updated based on modifications to the design.

As a condition of the DDW Separation Waiver, the inspector will be tasked with properly documenting all crossings and parallel pipe sections listed on the DDW waiver. This will consist of taking field measurements and photographing all horizontal and vertical separations. This information will be conveyed with the design engineer who will be responsible for certifying all non-potable water crossing were installed in compliance with the DDW waiver.

Deliverable:

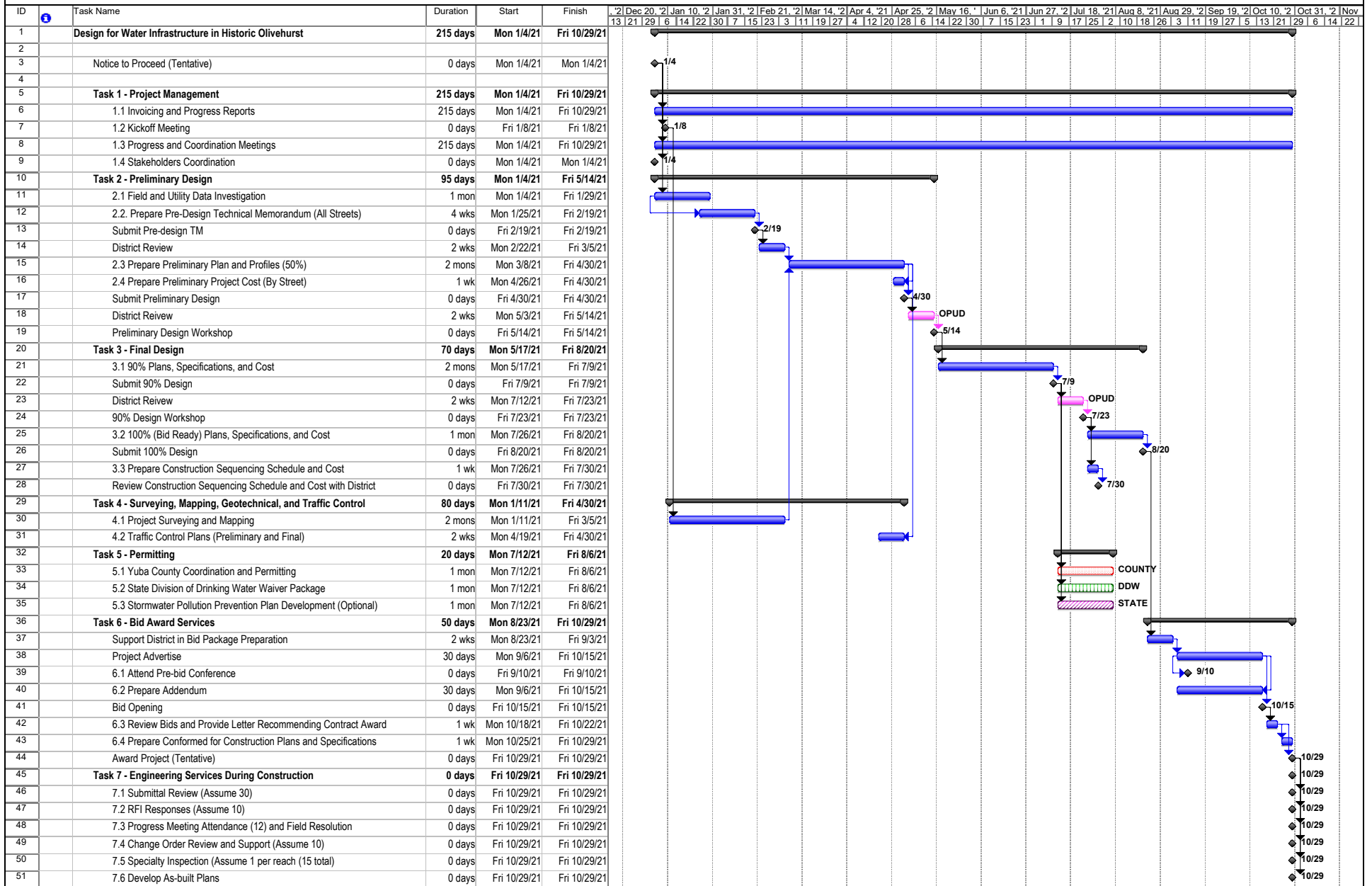
- *Daily inspection reports and photos*
- *DDW Waiver documentation*

PROJECT SCHEDULE

The following schedule provides an outline of our anticipated design task timelines. The schedule will be reviewed with the District during the kick-off meeting and adjustments will be made as needed.

Olivehurst Public Utility District
Engineering Services: Design for Water Infrastructure in Historic Olivehurst

December 10, 2020



Project: Olivehurst Historic - WMR Pro
Date: Wed 12/9/20

█ Task Progress
▬ Split
● Milestone
▬ Summary
◆ Project Summary
▬ External Tasks
◆ External Milestone
▬ Deadline
↓



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Proposal for Design for Water Infrastructure in Historic Olivehurst

SECTION 6.2.1: BACKGROUND AND EXPERIENCE

D&A is a California Corporation and water resources engineering firm with extensive experience working for public agencies owning and operating water and wastewater systems. D&A was **established in 2002** by President **Joseph Domenichelli**. Vice President, **Sara Rogers**, has been with the company since 2003. They have put in place a vision of growth and innovation and have assembled a team of highly specialized individuals that are the foundation of the firm's success. Our diverse team gives us the flexibility to provide superior client services at competitive rates. The majority of our work is derived from repeat clients, a direct result of how we cultivate relationships and maintain customer satisfaction.

D&A has provided a wide range of services from design and construction management of municipal improvement facilities such as pipelines, pump stations and sewer lift stations, water storage and hydraulic structure designs, to the master planning of water, wastewater, and drainage systems for entire communities. For the past 18 years, a majority of our firm's work has involved infrastructure replacement and rehabilitation including a significant amount of water pipeline design projects within northern California.

D&A has strong client relations and a proven track record of providing quality designs on time and on budget. Our staff takes exceptional pride in working closely with our clients, local agencies, and the local community to develop feasible designs that meet the Project's intent, constraints, and deadlines.

Our firm is comprised of six (6) registered engineers, three (3) engineers-in-training, one (1) staff engineer, a full-time drafter, and part time office staff. As previously mentioned, Joe Domenichelli and Sara Rogers have been with the firm since its founding. Most of our other professional staff and engineers-in-training have been with our company for over 5 years. Our limited turnover speaks to our ability to retain staff through competitive compensation and a stimulating work environment.

Project Team

For this project, our team includes MHM Engineering (surveying, optional inspection and material testing), Road Tech Safety Services (Traffic Control Plans), and Blackburn Consulting (Optional Geotechnical Services). Brief descriptions of our key teaming partners are provided below. Key staff member qualifications are included in Section 6.2.2 – Staffing, of this proposal.

RESPRESENTATIVE CLIENTS

D&A has provided water and wastewater main replacement and hydraulic facilities design services to many of our clients including the following:

- ❖ Sacramento Suburban Water District (SSWD)
- ❖ Sacramento County Water Agency (SCWA)
- ❖ City of Sacramento
- ❖ San Juan Water District (SJWD)
- ❖ El Dorado Irrigation District (EID)
- ❖ City of Placerville
- ❖ City of Folsom
- ❖ City of West Sacramento (CoWS)
- ❖ Carmichael Water District (CWD)
- ❖ Citrus Heights Water District (CHWD)
- ❖ Placer County Water Agency
- ❖ Sutter County Development Services



OLIVEHURST PUBLIC UTILITY DISTRICT

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ENGINEERS & SURVEYORS SINCE 1892

MHM | Surveying

MHM, Inc is an engineering and surveying firm with over one hundred twenty-five years of history in northern California, established in 1892 and incorporated in 1975. The company has maintained its main office in Marysville, CA for over sixty years and is a certified California Small Business. MHM’s staff is a group of highly qualified professionals, including Civil Engineers, Geotechnical Engineers, and Land Surveyors, as well as a support staff of experienced technicians. Our clients include public agencies, from federal and state agencies to local cities, counties, and special districts as well as many private clients. MHM takes pride in its long history of delivering quality engineering and surveying services to our clients in a timely manner. MHM has local knowledge of the area through their past experience with the District.



Blackburn Consulting, Inc. | Geotechnical Consulting (Optional)

Founded in 1998, Blackburn Consulting (BCI) provides materials testing, construction inspection services, and geotechnical/geo-environmental consulting. BCI is a certified small business with offices in West Sacramento, Auburn, and Fresno, California. We have a strong reputation for quality because we take the time to do things right. BCI is committed to public sector projects and specializes in pipelines, water/wastewater treatment plants, tanks, roadways, bridges, levees, and dams. BCI stays current with state and local agency requirements. This translates into efficient analysis, less review time, and practical solutions.

There are multiple factors that differentiate the Domenichelli and Associates (D&A) team from others including:

- 1 **Response and timeliness** – D&A’s team includes local resources. Additionally, our staff has the ability to respond to the District’s requests and needs promptly, keeping the project on-time and within budget.
- 2 **Similar Project Experience** – As discussed in the experience section of this proposal, D&A team members have extensive experience working on projects similar in nature to the Historic Olivehurst Water Infrastructure Project from design through construction.
- 3 **Principal Involvement** – Our philosophy is to have significant principal involvement on every project. No deliverable leaves the office without an extensive review by a principal member of our staff.
- 4 **Competitive Rates** – As you will see in our cost proposal, the D&A team has competitive rates which allow us to provide highly skilled staff while keeping costs reasonable.

D&A team members are proficient in the use of the latest design software, including AutoCAD Civil 3D, water system modeling software such as H2ONet and InfoWater, and hydrologic and hydraulic programs including HEC-RAS, HEC-HMS, and XP-STORM. The D&A office includes the necessary support staff to complete and manage engineering services. We have the latest versions of the required software with state-of-the-art computer hardware for delivery of final products and presentation materials.

D&A’s firm has the necessary credentials to provide the services requested including professional engineering licenses in the State of California and Qualified SWPPP Developer and Practitioner certifications. Copies of licenses and certificates are available upon request.



Quality Control/Quality Assurance Plan

Our QA/QC plan and process begins and ends with the Project Manager. Our project manager is always a senior level engineer that has personal responsibility for the final product. As a smaller firm, we have the flexibility to manage our workload in order to ensure that each project receives commitment from our principals who have a vested interest in the success of our company and therefore in the quality of each work product. Relative to design QA/QC, it is company policy that all design documents be reviewed by a principal member of our staff before submittal. We have not wavered from this policy since the company was formed in 2002.

The following are several ways that we incorporate quality control during the design.

Conformance to Standards – Quality control ensures that the work is done correctly the first time. D&A’s engineers are familiar local and industry standards and will become familiar with District preferences. Our team is committed to ensuring that the standards are incorporated into all aspects of the project.

Proactive Design and Review – Quality is controlled by adequate planning, coordination, supervision, and technical direction; proper definition and a clear understanding of job requirements and procedures; and the use of appropriately skilled personnel. At D&A we believe in empowering our engineers to make decisions necessary to ensure the design process is efficient and effective. This includes encouraging open communication among team members and staff. We have created a standard of personal responsibility for product quality. As a smaller firm we can quickly identify and resolve issues as they arise before they become problems.

Principal Involvement – Our philosophy is to provide each project with a significant level of effort from a principal of the firm. This allows for personal commitment to quality control and quality assurance by the principal owners. We

have assigned Joe Domenichelli to the project to provide oversight and quality control.

Lessons Learned – At the end of each design and construction project D&A engineers conduct a “Lessons Learned” workshop internally (and with the client when possible). This workshop highlights areas for future improvement on design projects including plan and specification preparation. Improvements identified are then incorporated as appropriate into future design efforts.

Construction Services Experience

The D&A team also has extensive experience with construction management and inspection of these types of projects. While full time CM and inspection services are not specifically requested by the District at this time, we understand that the District may have limited staff available for full time management and inspection during construction. D&A staff has provided construction management and part-time/full-time inspection services.

Our services have ranged from typical engineering services during construction to management of the complete project. Currently, D&A will work closely with the District to determine if any additional services are necessary during construction.



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PROJECT EXPERIENCE

For nearly 20-years the D&A team has provided design services similar to the District’s Historic Olivehurst Water Infrastructure Project. Our team understands the complexity of these projects and has a proven method to minimize costly surprises during construction.

The following projects demonstrate our firm’s most recent design and construction management experience. The projects listed include design, permitting, and services during construction. References are provided for projects listed.

Water Pipeline Design Experience

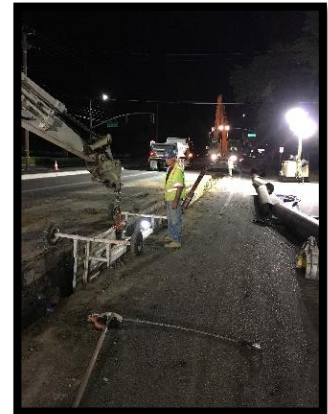
Sacramento County Water Agency (SCWA)

Arden Service Area (ASA) Pipe and Meter Installation Project

Reference: Helen R. Rocha, M.S., P.E.
Associate Civil Engineer – Water Supply
Department of Water Resources
(916) 876-7191,
RochaH@SacCounty.net

D&A has been contracted with Sacramento County Water Agency (SCWA) since 2016 for a multi-year, multi-phased water main and meter installation project that will bring the Agency into compliance with SB 2572 and to ensure the system is adequately sized to meet fire flow demands. The entire Project will install over 38 miles of 6- to 16-inch ductile iron and C900 PVC pipe within residential and major arterial roads and over 3,000 residential and commercial water meters. This project will abandon existing water mains located in backyard easements and install new water mains within the road right-of-way to allow better access.

Using the SCWA current water model, D&A conducted a system and fire flow analysis and prepared an implementation plan that provided recommendations for pipe sizing and project phasing. Construction of Phase 1A was completed in 2019. This phase of the project included 16-inch ductile iron water mains within Fair Oaks Blvd, and the Watt Ave and Fair Oaks Blvd intersection, and 8-inch ductile iron and PVC pipes within adjacent residential roads. This Phase installed over 12,000-feet of pipeline and 76 residential and commercial water meters. As part of the project, D&A has conducted an extensive in-field property survey, coordinated with the property owner, and produced meter location sheets that were included in the bid documents. Permitting for the project has included a CEQA exemption, preparation of a Stormwater Pollution Prevention Plan (SWPPP), and submittal of a waiver request to the Division of Drinking Water (DDW).



D&A completed design of Phase 2A which includes approximately 20,000 feet of 12-inch and 8-inch ductile iron pipe south of Fair Oaks Blvd to American River Drive between Burbank Way and Watt Ave, along with over 200 new service lines and meters. D&A is currently providing construction management and inspection services for the project as part of a larger team. Construction started in March 2020 and is close to completion. The D&A team will also provide construction management and inspection services for the next phase of the project which is currently bidding.

The project applied for and was awarded a grant for meter installations from the Bureau of Reclamation. D&A assisted with project information required for the grant application and will assist the Agency with administration of the grant funds. Additionally, Phase 1A of the project was awarded the American Society of Civil Engineers’ 2018 Community Improvement Project of the Year.

Sacramento Suburban Water District (SSWD)

On-call Pipeline Replacement Projects

Reference: David Espinoza, P.E. – Senior Engineer – SSWD, 916-679-2886, despinoza@sswd.org

Provided design services for over 300,000 feet of 8-inch, 12-inch and 16-inch ductile iron mainline replacement as part of the District’s long-term distribution main relocation program. The District is relocating mainlines from the backyards into streets in an effort to make access easier as well as replace aging and leaking systems. In addition to mainline replacements, water meters are being added to each service as part of the District’s on-going meter retrofit project. D&A also provided construction management services including full time inspection services. D&A was selected for SSWD’s current on-call services contract with the District to provide design of main replacement projects and construction management services.



City of Roseville

On-call Engineering Services

Downtown Water Mains Replacement Project – Hillcrest Neighborhood

Reference: Janice Gainey, P.E., City of Roseville Project Manager, (916) 774-5535, JRGainey@roseville.ca.us

The Hillcrest Neighborhood is in an older portion of the City of Roseville where infrastructure such as water mains and roadway surfaces are in need of replacement.

The D&A team provided the design for the water mains replacement project for this area including approximately 20,000 lineal feet of water distribution pipe and fire hydrant replacement. The project included preparation of plan and profile sheets, specifications, DDW Waiver preparation, and SWPPP preparation. The proposed system will primarily consist of new 8-inch water mains (PVC and ductile iron pipe) and 6-inch standard barrel fire hydrants.

The project is currently being bid as a design-assist project with the contractor working with the City and Engineer to finalize the design once potholing investigations are completed. Construction is planned for 2021.

Placer County Water Agency (PCWA)

Whitney Boulevard Main Replacement Project

Reference: Kelly Shively, P.E. – PCWA Project Manager, (530) 823-4883, kshively@pcwa.net

In 2017, D&A completed the design for approximately 4,100 linear-feet of 18-inch ductile iron pipeline along Whitney Boulevard in Rocklin, CA. The project was constructed by the end of 2018. The design included mainline replacement of the corroding water main, reconnecting 76 residential and commercial metered services, cathodic protection system, multiple tie-ins to the existing water system, and full road overlay restoration. The project included coordination with the City of Rocklin to obtain an encroachment permit and assist in negotiations regarding pavement restoration requirements, and coordination with South Placer Municipal Utility District with regards to the sewer. D&A provided engineering services during construction and prepared record drawings.





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City of West Sacramento

State Street Water Capacity and Sewer Rehabilitation Project

Reference: Amber Wallace, Associate Civil Engineer (916) 617-5327, amberwa@cityofwestsacramento.org

D&A was selected for the City of West Sacramento’s On-call Engineering Services in 2018. The following describes our most recent project with the City.

The project includes preparing plans, specifications and cost estimates for the replacement of approximately 10,000-feet of water mains and rehabilitation of approximately 38,000-feet of 12-inch and 8-inch gravity sewer main. D&A conducted a condition assessment on approximately 38,000-feet of gravity sewer main and provided rehabilitation recommendation using cured-in-place pipe (CIPP) and full remove and replacement of sewer main segments. The project has been divided into two bid packages – one for sewer main improvements (with a majority of the pipelines receiving CIPP rehabilitation) and one package for water main replacement. The sewer rehabilitation project is currently under construction, and the water pipeline bid package was bid in late 2020 with construction planned in 2021.

Carmichael Water District

Main Replacement Program

Reference: Scott Bair, Field Superintendent (916) 483-2452, scottb@carmichaelwd.org

Since 2014 D&A has provided the Carmichael Water District (CWD) water main design and construction management on several projects both within the County right-of-way and on private property. These projects comprise of over 10,000-feet of 6-inch and 8-inch Class 52 ductile iron pipe and smaller 2-inch to 4-inch PVC pipe. All projects required the reconnection and/or relocation of existing water services and various water system appurtenances. D&A has supported CWD through the encroachment permit process, DDW waiver process, and right of entry agreements process including coordination effort to obtain new easements. D&A design teams work closely with CWD staff maintaining an open line of communication to quickly and efficiently meet design and construction objectives, budgets and schedules.

Grant Avenue Mainline Replacement Project – 2019/2020 to Current

The Grant Avenue Mainline Replacement Project is bound by Garfield Avenue, Whitney Boulevard, Fair Oaks Boulevard, and Grant Avenue located in Carmichael CA. This project is scheduled to be constructed in May 2020. The project consists of installing approximately 6,000 feet of 8-inch and approximately 430 feet of 6-inch Class



52 ductile iron pipe within multiple minor residential and Fair Oaks Blvd, one (1) hot tap onto an existing 14-inch steel main, and water service reconnections to 77 existing water meters. In addition to preparing and submitting for a County Encroachment Permit, D&A prepared the DDW waiver package addressing the water main separation conditions from non-potable water utilities and lead the efforts to obtain new easements for a new section of pipeline across private property. D&A will provide engineering

services during construction consisting of attendance at construction meetings, construction documentation review, RFI and design clarification response, DDW waiver inspection as needed, and record drawing preparation.

Luna Lane Mainline Replacement Project – 2018/19

The Luna Lane Mainline Project is located off California Avenue, Carmichael CA and was recently constructed. The project consisted of hot



tapping an existing 12-inch steel main within California Avenue using an 12-inch x 6-inch hot tap connection with 6-inch gate valve, installing approximately 460-feet of new 6-inch Class 52 ductile iron pipe within a prescriptive easement, installing a new fire hydrant assembly at the end of the new 6" mainline, installing five new 1-inch water services that are to be re-connected to

existing metered services, the abandonment of five existing water services, and restoring the private and County road. D&A prepared the DDW waiver package addressing the water main separation conditions from non-potable water utilities and prepared the DDW waiver closeout documentation for CWD to submit. D&A also provided engineering services during construction consisting of construction documentation review and record drawing development.

As part of a larger team, D&A assisted in the design of approximately 65,000 feet of 4- to 8-inch C900 DR-14 PVC pipeline to replace the existing aging and undersized 2- to 6-inch pipelines for the Blue Lake Springs Mutual Water Company (BLSMWC). The project is currently under construction and will install 830 new metered services, retrofit 470 meters, replace 15 pressure reducing stations, and install 81 fire hydrants. As part of the project, D&A also designed a replacement potable water booster pump station with a skid mounted pump, flow metering, surge control, and SCADA operation. The pump station utilizes a dedicated high pressure 6-inch pipeline designed to transfer flows between Blue Lake Springs and an adjacent water purveyor, Calaveras County Water District.

D&A performed extensive hydraulic modeling of the system. Modeling was necessary to ensure pipelines were sized correctly for fire flow capacity and to determine pressure zones for PRV locations, PRV sizes and PRV pressure settings. Hydraulic modeling was also utilized to confirm booster pump operation within the system and with the adjacent water purveyor's system.

Blue Lakes Springs Mutual Water Company Water System Improvement Project

Reference: Dave Hicks
General Manager
(209) 795-7025,
dhicks@blsmwc.com

West Valley Construction for San Jose Water Company

On-going Pipeline Replacement Design Services

Reference: Mike Cadei –
West Valley Construction
(916) 662-7049,
MCadei@wvcc.com



D&A provided design plans as part of a design/build team with West Valley Construction Company for over 100,000 feet of 8-inch, 12-inch, 16-inch and 24-inch PVC and Ductile Iron pipeline in the City of San Jose. Many of these projects also included meter replacements. Challenges have included existing roadways containing a significant number of utilities

and traffic control concerns along heavily traveled roadways. Solutions incorporated into the designs include roadway closures, directional bore through busy intersections and night work. Although these have been design-build contracts, the Agency has required the design plans to be completed to the 100% stage before construction begins, strictly following Water Company design standards.

D&A has been providing these on-call services since 2010.

CONSTRUCTION MANAGEMENT AND INSPECTION EXPERIENCE

As mentioned earlier, D&A has experience providing complete construction management services. D&A's recent construction management projects include:

- ❖ **Sacramento Suburban Water District (SSWD)** – Various mainline replacement and meter installation projects – included construction management and inspection services for multiple projects which have included over 300,000-feet of mainline installation (up to 16-inch) and trenchless water service line installations. D&A was also recently selected to provide on-call construction management services for the District's main replacement program for 2021-2023.
- ❖ **El Dorado Irrigation District (EID)** – On-call Construction Inspection Services – D&A was selected for a three-year contract with EID to provide on-call inspection services for various water and wastewater projects including hydroelectric facilities, pipelines, pump stations along with development related projects.
- ❖ **Citrus Heights Water District (CHWD)** – Corporation Yard Safety Improvements Project – Included construction management services for the construction of a materials storage building, wash down station, vector pit and parking improvements.
- ❖ **Sacramento Suburban Water District (SSWD)** – Antelope Pumpback Pump Station – Included construction management and inspection services for a 15,000gpm pump station including climate controlled PLC/SCADA Control Room, a 2,000gpm booster pump that SSWD can utilize to increase pressure to a low-pressure zone, and a 48-inch magnetic flow meter.
- ❖ **Rio Linda/Elverta Community Water District (RLECWD)** – Well 15 Pump Station and Pipeline –included construction management and inspection services for a 2,800gpm well pump station and a 16-inch pipeline associated with the project.

Current, Pending, or Past Litigation

Domenichelli and Associates, and all listed subconsultants, have no current, pending, or past litigation (within the last 10 years) to report.

SECTION 6.2.2: STAFFING

D&A’s team brings the following benefits to the District’s Project:

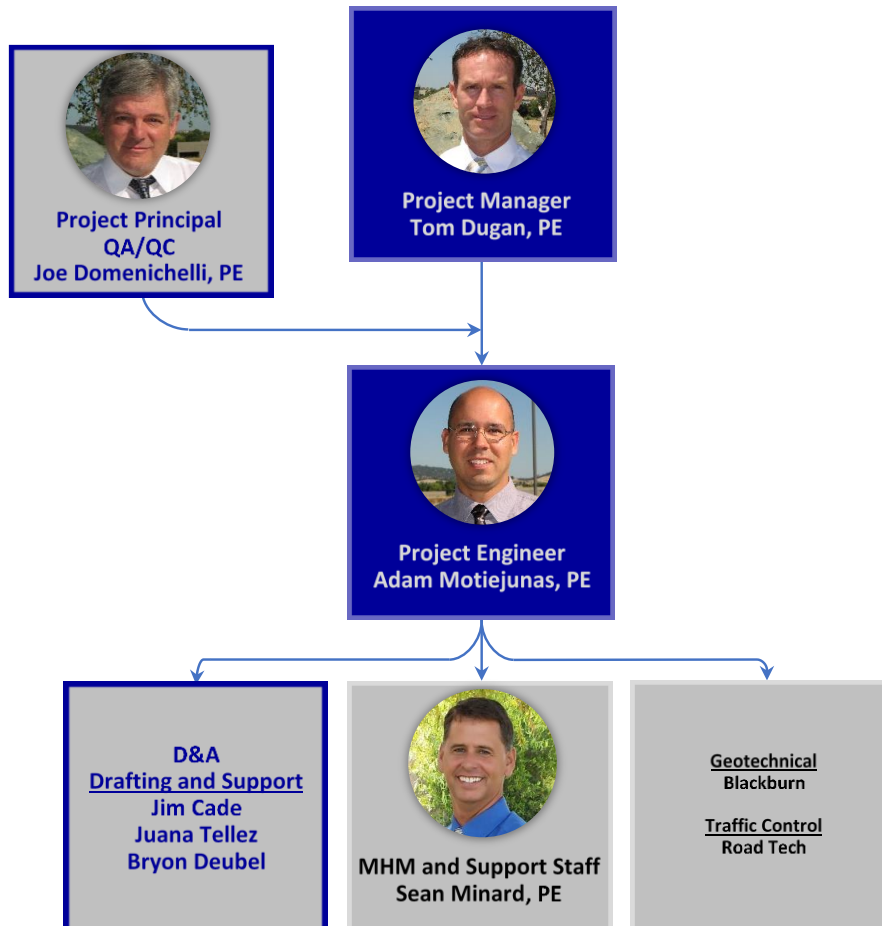
- A commitment to the District’s success. Our team is headed by senior level and principal staff members from each of our company’s teams. All team members have a personal interest in the project’s success.
- A successful project manager, Tom Dugan, with a proven record of leading large pipeline and water facility projects through design and construction.
- A qualified project engineer, Adam Motiejunas, who is knowledgeable in

pipeline design and construction from his past work with multiple public agencies.

- Knowledge of the area and past work on the project through our teaming partners Sean Minard (MHM).

The organizational chart below shows our proposed project team. The work location is provided in the following section along with a summary of their experience. Resumes and additional information on each of our team members are available upon request.

OLIVEHURST PUBLIC UTILITY DISTRICT



Summary Qualifications:

Tom Dugan, PE, QSD

Project Manager



Location – Sacramento and El Dorado Hills office (Approximately 50% of time in each)

- Over 19 years of design and construction management experience.
- Proven water/wastewater design and construction manager for multiple agencies.
- Strong understanding of pipeline construction and sequencing.
- Extensive regulatory experience including knowledge of DDW waiver requirements and state water quality standards.
- Field experience interacting with the utility owner, designer, and contractor during design and construction.

Years of Experience – 19 total | **Registration** – Professional Engineer CA, Qualified SWPPP Developer/Practitioner, NASSCO CIPP Certified, Water Treatment Operator D1 | **Education** – B.S. BioResource and Agricultural Engineering, California Polytechnic State University, San Luis Obispo | **Years with D&A** – 7 total

Tom Dugan is a California Registered Engineer with over 19 years of experience on water infrastructure design and construction management projects. Mr. Dugan has been involved with several large and small diameter water pipeline designs and has had the opportunity to serve as the construction manager on several of these projects. He holds certifications as a State certified SWPPP developer, and State certified D1 Drinking Water Operator. He is experienced in bid document and cost estimate development, value engineering, bid services, and engineering services during construction.

Having both design and CM experience, he has successfully designed and managed projects with the following local agencies:

- ❖ Project Engineer for the State Streets Water Capacity and Sewer Rehabilitation Project, City of West Sacramento (CoWS) – The design includes preparing plans, specifications, and cost estimate for approximately 12,000 feet of new water main and rehabilitating over 40,000 feet of gravity sewer main within the CoWS State Street area. The prepared Contract Documents will allow CoWS to bid both the water mains and sewer main rehabilitations as a single project.
- ❖ Project Manager and Lead Engineer for the Robbins Water Meter Installation and Water Main Repairs Project, County of Sutter – This project is being prepared under State Revolving Fund (SRF) Construction Loan guidelines. Engineering services include providing design, plans, and specifications of approximately 1,700 feet of PVC pipe at five different locations within the Robbins Community, Sutter County. The project included preparing project overview maps showing the 93 properties where new water services and meters will be installed. The project also included providing bid support and engineering services during construction.
- ❖ Project Manager and Lead Engineer for Albatross Main Replacement Project, Sacramento Suburban Water District – Project includes preparing design plans and specifications and cost estimate for over 3,700 feet of 12-inch, 8-inch and 6-inch mainline replacement. Engineering services include reviewing the system hydraulic model and preliminary design report, permit coordination with City of Sacramento and Caltrans; assisting with public outreach, bid assistance and engineering service during construction.

Joe Domenichelli, PE

Project Principal

Quality Assurance/Control



Location – El Dorado Hills office

- Over 35 years providing quality control and/or design services in water resources.
- Strong contract negotiation skills and practical value engineering ability.
- Firm understanding of developing feasible designs that are constructible.
- Effective communication skills with all parties involved
- Knowledgeable of construction methods and sequencing process.

Summary Qualifications:

Years of Experience – 35 total | **Registration** – Professional Engineer CA | **Education** – B.S. Civil Engineering, California State University, Chico | **Years with D&A** – 18 total

As project principal, Joe Domenichelli’s responsibilities will include overall Project QA/QC as well as design assistance and review. Mr. Domenichelli has more than 35 years of engineering experience primarily in the area of water and wastewater engineering. Mr. Domenichelli has provided QA/QC and design services for all the projects listed under our experience section. He has also been Project Manager/Engineer for multiple water main replacement projects that include design/build or design/assist processes. He has a strong understanding of how the District’s project will be designed and managed through construction.

Recent applicable design experience has included:

- ❖ Sac. Suburban Water District – QA/QC on multiple water main projects. Provided review and design assistance for over 300,000 feet of pipelines throughout the District in some of the highest traffic volume streets in Sacramento County.
- ❖ Sac. County Water Agency – QA/QC for the multi-phased pipeline replacement project. Most recent phases included 16-inch pipeline along Fair Oaks Blvd and Watt Avenue.
- ❖ Robbins Water Meter Installation and Water Main Repairs Project, County of Sutter – QA/QC for providing design, plans, and specifications of approximately 1,700 feet of PVC pipe at five different locations within the Robbins Community, Sutter County. The project includes preparing project overview maps showing the 93 properties where new meters will be installed and close coordination with the County to procure the 93 meters that will be installed. The project also includes providing bid support and engineering services during construction.
- ❖ Alta Loop Pipeline – Cable Road Project, Placer County Water Agency (PCWA) – Provided QA/QC for the design plans and specification, system hydraulic modeling, and cost estimating. The design includes installing 1,200 feet of new ductile iron pipe within mountain terrain, multiple connections to the existing facility, a new PRV station at a tie-in to a high-pressure line, and 40-meter service reconnections and relocations. The project will include bid support and engineering service during construction.

Adam Motiejunas, PE Project Engineer



Location – El Dorado Hills office

- Over 15 years of experience.
- Experience with design-assist projects working with SSWD, and West Valley Construction.

Summary Qualifications:

Years of Experience – 15 total | **Registration** – Professional Engineer CA | **Education** – B.S. Civil Engineering, California State University, Sacramento | **Years with D&A** – 7 total

Adam Motiejunas is a Registered Engineer who has been with D&A since 2013, serving D&A's clients on a multitude of water infrastructure projects. Mr. Motiejunas' experience includes multiple water system designs and modeling projects with thousands of feet of pipe length ranging in diameter from 4 to 18 inches. Mr. Motiejunas' work on past pipeline projects (including main replacements for SSWD, West Valley Construction, CWD, EID, City of Placerville, Blue Lakes Springs WD, Placer County Water Agency, and City of West Sacramento) has given him an opportunity to become versed in pipeline design, bid document development, shop drawing review, and cost estimating.

Applicable project experience has included – 25 miles of water pipeline design (more than 30 projects) up to 18-inch diameter, hydroelectric project, booster stations, and multiple site civil designs. Water modeling and masterplans. Projects have included:

❖ Placer County Water Agency – Design Engineer for Whitney Blvd. Pipeline in Rocklin, CA. The project included 4,100 linear-feet of 18-inch ductile iron pipeline along Whitney Boulevard in 2018. The design included mainline replacement of the corroding water main, reconnecting 76 residential and commercial metered services.

❖ City of San Jose Water Pipeline Replacement Projects – For over 10 years designing ductile iron water replacement projects within the City of San Jose from 8-inch to 12-inch diameter for an on-going replacement program. Designed more than 100,000 feet of pipelines for West Valley Construction who has contracted with the City over this time span. Much of the design has included trenchless construction through busy streets.

❖ Arden Oaks Main Replacement Project – SSWD – Design of over 35,000 feet of 8-inch and 12-inch pipeline installation and over 300 service reconnections.

❖ Blue Lake Springs MWC Water Systems Improvements Project – Provided hydraulic modeling and design services for 65,000-ft of new pipeline. Project included backyard connections.



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Juana Tellez Staff Engineer

Location – Sacramento and El Dorado Hills office (Approximately 50% of time in each)

- Over 4 years of experience working under professional staff.
- Experience with design and construction support for multiple pipeline replacement projects throughout Sacramento County.

Summary Qualifications:

Years of Experience – 4 total | **Education** – B.S. Civil Engineering, California State University, Sacramento | **Years with D&A** – 4 total

Juana Tellez has worked for D&A since 2016 providing design and drafting assistance. Ms. Tellez works to support our professional staff on projects including pipeline design. Prior to working at D&A, Ms. Tellez worked as an intern at SSWD. Ms. Tellez has recently worked on the Albatross, Edison Meadows, and Jonas Main Replacement projects for SSWD. She assisted the District in development of the details and formatting standards for the DDW permitting. Ms. Tellez is also currently providing engineering services for the SCWA Arden Service Area Pipeline and Meter Installation project.

Jim Cade | CAD Drafter

Jim Cade provides AutoCAD drafting services for D&A. Mr. Cade has 25 years of CAD experience. Throughout his career, he has worked on a number of projects that involved pipeline design (water and sewer). He has extensive drafting experience in site layout including grading and paving, and above and below ground water and wastewater infrastructure designs. He has a strong ability to grasp project scopes and identify potential project complications and bring them to the engineers’ attention.

Other Staff | As needed

Our engineers-in-training and staff engineers work under the responsible charge of a professional engineer as listed above. We anticipate that the engineers listed above will be the primary engineers responsible for the Water Infrastructure Project work. However, depending on the specific project and timeline, additional staff may be required and can be utilized as needed. Resumes are included as an attachment for all staff.

Summary Qualifications:

Sean Minard, PE, PLS
Pipeline Design
Survey Lead

M·H·M

ENGINEERS & SURVEYORS SINCE 1892



Location – Marysville

- Over 28 years of design and construction experience.
- Local experience.

Years of Experience – 28 total | **Registration** – Professional Engineer CA and Licensed Land Surveyor, CA| **Education** – B.S. Civil Engineering, California Polytechnic State University, San Luis Obispo

Mr. Minard currently serves as the President of MHM and has worked with the firm for over twenty-eight (28) years in overseeing a variety of engineering design and construction management projects for various cities, agencies, and districts. He has prepared engineering analysis, designs, and calculations both for private improvements and public works projects as well as construction plans, specifications, and cost estimates. He is fully versed in the use of numerous computer modeling programs for design, construction management, and analysis. He currently serves as District Engineer for the following public agencies:

- Reclamation District No. 784, Yuba County, California
- Reclamation District No. 900, Yolo County, California
- Marysville Levee District, Marysville, California
- Levee District No. 1, Sutter County, California
- Levee District No. 9, Sutter County, California
- Feather Water District, Sutter County, California
- Sutter Extension Water District, Sutter County, California

Recent pipeline design projects have included:

❖ City of Yuba City – Prop 84 Water Line Extension Project – MHM assisted the City of Yuba City in the design and construction of a new water main to serve Franklin School and several subdivisions along Franklin Road. The project involved extending the water main in City and County Roads and providing new services to the residents and facilities from the new City main to replace the contaminated existing private water and well connections. The design services provided by MHM included plans, specifications, estimate, and support during construction.

❖ City of Yuba City / Barry School Waterline Project - The project involved constructing a 3-inch service waterline approximately 1.22 miles long along Railroad Avenue and Barry Road beginning from the intersection of Railroad Avenue and Stewart Road. The 14-inch and 12-inch water mains along Railroad Avenue and Stewart Road, respectively, were extended from their current dead ends to the intersection where the 3-inch waterline would connect.



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STAFFING PLAN

Our team's staffing flexibility allows us to quickly assign staff and mobilize to meet the District's schedule and budget expectations.

We have carefully planned our workload to ensure that the District's Historic Olivehurst Water Infrastructure Project is adequately staffed. D&A has assigned project personnel based upon our understanding of the District's needs and expectations, the project type and scope, and our team member's qualifications. Our team can start immediately once a contract is issued. Our senior level staff members are available to contact at any time by cell phone and email if not immediately available at the office. Our goal is to always have engineering staff members available by phone when needed. If any team member is not available, we do our best to locate staff that can help as quickly as possible. Multiple references have been provided that can attest to our past performance and responsiveness. We encourage the selection committee to contact these references.

Our previous water pipeline design experience with multiple agencies demonstrates our ability to quickly respond to project issues in order to

keep the project on schedule and within budget. While many of our services involve designs that have comfortable project timelines for completion, we have also provided assistance on specialty projects that have a shorter timeline and emergency services with accelerated schedules. Emergency and accelerated requests have required nighttime and weekend work, and our staff has the flexibility and expertise to meet these needs.

D&A has demonstrated on past projects that our staff can quickly provide services necessary to keep projects on track. This is essential during construction of these types of projects.

On all our projects, we work to closely monitor the budget while ensuring that the project is completed on time and to the highest technical standards.

Our company philosophy has always been to provide superior customer service at reasonable rates, and we continue to structure our company and workload with this in mind. You can be confident that the D&A team will continue to provide a responsive and high-quality team for the District's project.



OLIVEHURST PUBLIC UTILITY DISTRICT

Proposal for Design for Water Infrastructure in Historic Olivehurst

SECTION 6.3: PROPOSED COSTS

The following provides our estimate of cost associated with the project. The costs are based on the scope of services included in this proposal. Appendix A (following the cost proposal) includes more detailed breakdown of fees by area for MHM’s surveying proposal along with their standard rate sheet. A copy of the project map provided by the District that the proposal is based on is also included.

As mentioned before, our costs are based on design of the complete 21,825 feet of pipeline. Depending on the District’s final budget, the scope of services for design can be adjusted to reduce the fee. The fee can be broken down by approximate dollars of design per foot (tasks 2 and 3) at approximately \$5 per foot of pipe design. These costs can be proportionally reduced if the design scope is reduced. Surveying costs can be reduced by area as shown in MHM’s fee breakdown provided in Appendix A. Other tasks can also be adjusted as needed. The final scope and fee will be negotiated with the District following award.

D&A’s current rate sheet is provided below for reference. Our rates (along with our sub-consultants) are good until the end of 2021. Rate adjustments for subsequent years will not exceed 3% each year.

DOMENICHELLI AND ASSOCIATES, INC. SCHEDULE OF FEES

The following rates are provided through the end of 2021. Expenses including printing and postage will be billed at cost.

Job Title	Rate (\$/hr)
Project Principal 1 – QA/QC	\$190.00
Project Principal 2	\$180.00
Project Manager 1	\$175.00
Project Manager 2	\$165.00
Senior Engineer 1	\$155.00
Senior Engineer 2	\$145.00
Project Engineer 1	\$135.00
Project Engineer 2	\$125.00
Staff Engineer 1	\$115.00
Staff Engineer 2	\$110.00
Senior CAD Drafter	\$105.00
CAD Drafter 1 / Intern	\$85.00
Construction Manager	\$155.00
Inspection	\$150.00



Fee Estimate

Olivehurst Public Utility District Design of Water Infrastructure in Historic Olivehurst

Tasks	Labor					Total Hours	Total Labor Costs (1)	Outside Services		Sub Consultant Total Cost (2)	ODCs	Total Fee
	QA/QC	Project Manager	Project Engineer	Staff Engineer	Jim Cade			Road- Tech	MHM Engineering, Inc			
	Joe Domenichelli	Tom Dugan	Adam	Juana Tellez	CAD			Traffic Control	Surveying			
Task 1: Project Management	\$190	\$155	\$125	\$110	\$105							
1.1 Invoicing and Progress Reports		28				28	\$4,340			\$0		\$4,340
1.2 Kickoff Meeting	4	4	16			24	\$3,380			\$0	\$100	\$3,480
1.3 Progress and Coordination Meetings		16	24	8		48	\$6,360			\$0	\$100	\$6,460
Subtotal Task 1:	4	48	40	8	0	100	\$14,080	\$0	\$0	\$0	\$200	\$14,280
Task 2: Preliminary Design												
2.1 Field and Utility Data Investigation		8	24	8		40	\$5,120			\$0		\$5,120
2.2 Prepare Pre-design Technical Memorandum (All Streets)	4	8	24	8		44	\$5,880			\$0		\$5,880
2.3 Prepare Preliminary Plan and Profiles (50%)	4	4	100	40	160	308	\$35,080			\$0	\$200	\$35,280
2.4 Prepare Preliminary Project Costs (By Street)	2		24	16		42	\$5,140			\$0		\$5,140
Subtotal Task 2:	10	20	172	72	160	434	\$51,220	\$0	\$0	\$0	\$200	\$51,420
Task 3: Final Design												
3.1 90% Plans, Specifications, and Cost Estimate	6	40	80	40	240	406	\$46,940			\$0	\$200	\$47,140
3.2 100% (Bid Ready) Plans, Specifications, and Cost Estimate	4	24	80	16	24	148	\$18,760			\$0	\$200	\$18,960
3.3 Prepare Construction Sequencing Schedule and Cost Estimate	2	4	24	8		38	\$4,880			\$0		\$4,880
Subtotal Task 3:	12	68	184	64	264	592	\$70,580	\$0	\$0	\$0	\$400	\$70,980
Task 4: Surveying, Mapping, Geotechnical Services, and Traffic Control												
4.1 Project Surveying and Mapping - MHM Engineering		2	16			18	\$2,310		\$55,768	\$61,345		\$63,655
4.2 Prepare Traffic Control Plans (Preliminary and Final)			4			4	\$500	\$4,000		\$4,400		\$4,900
Subtotal Task 4:	0	2	20	0	0	22	\$2,810	\$4,000	\$55,768	\$65,745	\$0	\$68,555
Task 5: Permitting												
5.1 Yuba County Coordination and Permitting	2	8	16			26	\$3,620			\$0		\$3,620
5.2 State Water Resource Control Board - Division of Drinking Water (DDW) Waiver	4		16	80		100	\$11,560			\$0	\$100	\$11,660
Subtotal Task 5:	6	8	32	80	0	126	\$15,180	\$0	\$0	\$0	\$100	\$15,280
Task 6: Bid and Award Services												
6.1 Attend Pre-Bid Conference		2	2			4	\$560			\$0		\$560
6.2 Prepare Addendum (Assume 3)	3	8	24			35	\$4,810			\$0		\$4,810
6.3 Review Bids and Provide Letter Recommending Contract Award		2	8			10	\$1,310			\$0		\$1,310
6.4 Prepare Conformed for Construction Plans and Specifications	2		4		24	30	\$3,400			\$0	\$200	\$3,600
Subtotal Task 6:	5	12	38	0	24	79	\$10,080	\$0	\$0	\$0	\$200	\$10,280
Task 7: Engineering Services During Construction												
7.1 Submittal Review (Assume 30)			60			60	\$7,500			\$0		\$7,500
7.2 RFI Responses (Assume 10)	4		30			34	\$4,510			\$0		\$4,510
7.3 Progress Meeting Attendance (12) and Field Resolution		8	48	8		64	\$8,120			\$0		\$8,120
7.4 Change Order Review and Support	8		24	8		40	\$5,400			\$0		\$5,400
7.5 Specialty Inspection and Final Walkthrough		8	16			24	\$3,240			\$0		\$3,240
7.6 Develop As-Built Plans		4			40	44	\$4,820			\$0	\$100	\$4,920
Subtotal Task 7:	12	20	178	16	40	266	\$33,590	\$0	\$0	\$0	\$100	\$33,690
TOTAL	49	178	664	240	488	1619	\$197,540	\$4,000	\$55,768	\$65,745	\$1,200	\$264,485

OPTIONAL TASKS

4.3 Geotechnical Investigation - Blackburn Consulting (Optional): \$18,000 Allowance
5.3 Stormwater Pollution Prevention Plan Development (Optional): \$6,500

1. The individual hourly rates include salary, overhead and profit.
2. Subconsultants will be billed at actual cost plus 10%.
3. Other direct costs (ODCs) such as reproduction, delivery, mileage (rates will be those allowed by current IRS guidelines), and travel expenses will be billed at actual cost.



Fee Estimate

Olivehurst Public Utility District

Supplemental Construction Management, Full Time Inspection of the Water Infrastructure in Historic Olivehurst

Tasks	Labor			Total Hours	Total Labor Costs (1)	ODCs (2)	Total Fee
	QA/QC	Construction Manager	Project Inspector				
	Joe Domenichelli	Tom Dugan					
	\$190	\$155	\$150				
Task 8: Supplemental Construction Management, Full Time Inspection							
8.1 CM Service Administration		16		16	\$2,480		\$2,480
8.2 Contract Administration							
8.2.1 Project Meetings		40		40	\$6,200	\$300	\$6,500
8.2.2 Progress Payment Reviews		32		32	\$4,960		\$4,960
8.2.3 Stakeholder and Public Coordination		24		24	\$3,720		\$3,720
8.2.4 Potential Change Order and Contract Change Orders	4	32		36	\$5,720		\$5,720
8.2.5 Document Processing and Filing		60		60	\$9,300		\$9,300
8.2.6 Project Closeout		40		40	\$6,200		\$6,200
8.3 Daily Field Inspection		40	640	680	\$102,200	\$2,000	\$104,200
Subtotal Task 8:	4	284	640	928	\$140,780	\$2,300	\$143,080
TOTAL	4	284	640	928	\$140,780	\$2,300	\$143,080

1. The individual hourly rates include salary, overhead and profit.
2. Other direct costs (ODCs) such as reproduction, delivery, mileage (rates will be those allowed by current IRS guidelines), and travel expenses will be billed at actual cost.



OLIVEHURST PUBLIC UTILITY DISTRICT

Proposal for Design for Water Infrastructure in Historic Olivehurst

APPENDIX A – SUBCONSULTANT FEE BREAKDOWN INCLUDING RATE SHEETS

The following sub-consultants have provided more detailed breakdown of fees which are included here for reference. Rate sheets are also included where applicable.

- MHM, Inc.

Task Order No. 1 - Attachment No. 2
MHM Team - Surveying and Mapping Services
OPUD Historic Olivehurst Area
2020 WATERLINE IMPROVEMENT PROJECT
DETAILED FEE SUMMARY


No.	Task Description	Labor										Total Hours	Total Labor (\$)	Expenses	Total		
		E7	E6	E5	E4	T4	Inspect	Soils	Survey	Acct	Clerical						
	Rates	237.00	201.00	165.00	155.00	134.00	170.00	170.00	268.00	118.00	98.00				3.50%		
SURVEYING AND MAPPING SERVICES - OPUD HISTORIC OLIVEHURST - 2020 WATER LINE PROJECT																	
1	Project Management and Coordination																
1.1	Project Management (January 1, 2021 through April 30, 2021)	8											2	10	\$ 2,092	\$ 73	\$ 2,165
1.2	Invoicing and Progress Reports	3											2	5	\$ 947	\$ 33	\$ 980
1.3	Progress Meetings	2	2											4	\$ 876	\$ 31	\$ 907
	Subtotal Project Management and Coordination	13	2	0	0	0	0	0	0	2	2		19	\$ 3,915	\$ 137	\$ 4,052	
2A	Surveying for 11th, Beverly, and Ardmore Ave - Water (4,945')																
2A.1	Topographic Surveying and Mapping - 11th, Beverly, and Ardmore Ave		8		2	10								34	\$ 7,010	\$ 945	\$ 7,955
2A.2	ROW and Surveys (Research, Boundary Surveys, and Mapping)		4	6		2								18	\$ 3,670	\$ 428	\$ 4,098
	Subtotal Surveying for 11th, Beverly, and Ardmore Ave - Water (4,945')	0	12	6	2	12	0	0	20	0	0		52	\$ 10,680	\$ 1,374	\$ 12,054	
2B	Surveying for Western, 8th, 9th, and 10th Ave - Water (5,455')																
2B.1	Topographic Surveying and Mapping - Western, 8th Ave, 9th Ave, and 10th Ave		8		2	12								34	\$ 6,742	\$ 836	\$ 7,578
2B.2	ROW and Surveys (Research, Boundary Surveys, and Mapping)		4	6		2								16	\$ 3,134	\$ 310	\$ 3,444
	Subtotal Surveying for Western, 8th, 9th, and 10th Ave - Water (5,455')	0	12	6	2	14	0	0	16	0	0		50	\$ 9,876	\$ 1,146	\$ 11,022	
2C	Surveying for Canal St, 4th, 5th, Tulsa, Okmulgee Ave - Water (5,685')																
2C.1	Topographic Surveying and Mapping - Canal St, 4th, 5th, Tulsa, and Okmulgee Ave		8		2	12								34	\$ 6,742	\$ 836	\$ 7,578
2C.2	ROW and Surveys (Research, Boundary Surveys, and Mapping)		4	6		2								16	\$ 3,134	\$ 310	\$ 3,444
	Subtotal Surveying for Canal St, 4th, 5th, Tulsa, Okmulgee Ave - Water (5,685')	0	12	6	2	14	0	0	16	0	0		50	\$ 9,876	\$ 1,146	\$ 11,022	
2D	Surveying for Chapman Ave and East 8th Ave - Water (2,020')																
2D.1	Topographic Surveying and Mapping - Chapman Ave and East 8th Ave		4		2	8								24	\$ 4,866	\$ 670	\$ 5,536
2D.2	ROW and Surveys (Research, Boundary Surveys, and Mapping)		4	4		2								14	\$ 2,804	\$ 298	\$ 3,102
	Subtotal Surveying for Chapman Ave and East 8th Ave - Water (2,020')	0	8	4	2	10	0	0	14	0	0		38	\$ 7,670	\$ 968	\$ 8,638	
2E	Surveying for Pacific Ave - Water (2,675')																
2E.1	Topographic Surveying and Mapping - Pacific Avenue		4		2	8								24	\$ 4,866	\$ 670	\$ 5,536
2E.2	ROW and Surveys (Research, Boundary Surveys, and Mapping)		4	6		2								16	\$ 3,134	\$ 310	\$ 3,444
	Subtotal Surveying for Pacific Ave - Water (2,675')	0	8	6	2	10	0	0	14	0	0		40	\$ 8,000	\$ 980	\$ 8,980	
TOTAL EFFORT		13	54	28	10	60	0	0	80	2	2		249	\$ 50,017	\$ 5,751	\$ 55,768	

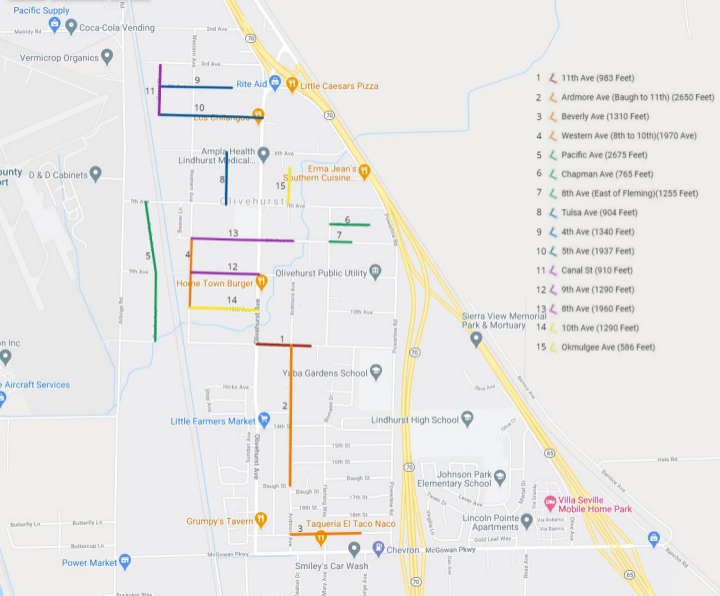
**Task Order No. 1 - Attachment No. 3
 MHM Team - Surveying and Mapping Services
 OPUD Historic Olivehurst Area
 2020 WATERLINE IMPROVEMENT PROJECT
 LABOR RATE SCHEDULE**

Fully Burdened Labor Rates		3.00%		3.00%		3.00%		3.00%		0% 2020, 100% 2021, and 0% 2022
Labor Classification		2020 Labor Rates	2021 Labor Rates	2022 Labor Rates	2023 Labor Rates	2024 Labor Rates				Weighted
E7 - Principal-in-Charge	Senior Professional - Grade 8	\$ 230.00	\$ 237.00	\$ 244.00	\$ 251.00	\$ 259.00	\$	\$	\$	237.00
E6 - Project Manager	Senior Professional - Grade 7	\$ 195.00	\$ 201.00	\$ 207.00	\$ 213.00	\$ 219.00	\$	\$	\$	201.00
E5 - Project Engineer / Project Surveyor	Senior Professional - Grade 6	\$ 160.00	\$ 165.00	\$ 170.00	\$ 175.00	\$ 180.00	\$	\$	\$	165.00
E4 - Senior Engineer / Senior Surveyor	Senior Professional - Grade 5	\$ 150.00	\$ 155.00	\$ 160.00	\$ 165.00	\$ 170.00	\$	\$	\$	155.00
E3 - Associate Engineer/ Associate Surveyor	Senior Professional - Grade 4	\$ 140.00	\$ 144.00	\$ 148.00	\$ 152.00	\$ 157.00	\$	\$	\$	144.00
E2 - Assistant Engineer/ Assistant Surveyor	Senior Professional - Grade 3	\$ 130.00	\$ 134.00	\$ 138.00	\$ 142.00	\$ 146.00	\$	\$	\$	134.00
E1 - Junior Engineer/ Surveyor	Staff Professional - Grade 2	\$ 120.00	\$ 124.00	\$ 128.00	\$ 132.00	\$ 136.00	\$	\$	\$	124.00
T4 - Senior CADD Technician / Senior Technician	Senior CADD Drafter and Designer	\$ 130.00	\$ 134.00	\$ 138.00	\$ 142.00	\$ 146.00	\$	\$	\$	134.00
T3 - Staff CADD Technician/ Associate Technician	CADD Drafter/Designer and Senior Technician	\$ 120.00	\$ 124.00	\$ 128.00	\$ 132.00	\$ 136.00	\$	\$	\$	124.00
T2 - Assistant CADD Technician/ Asst. Technician	Staff Professional - Grade 1	\$ 105.00	\$ 108.00	\$ 111.00	\$ 114.00	\$ 117.00	\$	\$	\$	108.00
T1 - Junior Technician	Technician, Word Processor, Administrative Staff	\$ 95.00	\$ 98.00	\$ 101.00	\$ 104.00	\$ 107.00	\$	\$	\$	98.00
E4 - Resident Engineer/Lead Inspector	Senior Professional - Grade 4	\$ 190.00	\$ 196.00	\$ 202.00	\$ 208.00	\$ 214.00	\$	\$	\$	202.00
T4 - Building/Construction Inspector	Building/Construction Inspector	\$ 160.00	\$ 165.00	\$ 170.00	\$ 175.00	\$ 180.00	\$	\$	\$	170.00
E4 - Resident Engineer/Lead Inspector - OT	Senior Professional - Grade 4 - Overtime	\$ 220.00	\$ 227.00	\$ 234.00	\$ 241.00	\$ 248.00	\$	\$	\$	227.00
T4 - Building/Construction Inspector - OT	Building/Construction Inspector - Overtime	\$ 205.00	\$ 211.00	\$ 217.00	\$ 224.00	\$ 231.00	\$	\$	\$	211.00
Survey Crew - 1 Man (prevailing)	Survey Crew - 1 Man (prevailing)	\$ 190.00	\$ 196.00	\$ 202.00	\$ 208.00	\$ 214.00	\$	\$	\$	196.00
Survey Crew - 2 Man (prevailing)	Survey Crew - 2 Man (prevailing)	\$ 260.00	\$ 268.00	\$ 276.00	\$ 284.00	\$ 293.00	\$	\$	\$	268.00
Survey Crew - 3 Man (prevailing)	Survey Crew - 3 Man (prevailing)	\$ 380.00	\$ 391.00	\$ 403.00	\$ 415.00	\$ 427.00	\$	\$	\$	391.00
Survey Crew - 1 Man (prevailing) - OT	Survey Crew - 1 Man (prevailing) - Overtime	\$ 220.00	\$ 227.00	\$ 234.00	\$ 241.00	\$ 248.00	\$	\$	\$	227.00
Survey Crew - 2 Man (prevailing) - OT	Survey Crew - 2 Man (prevailing) - Overtime	\$ 310.00	\$ 319.00	\$ 329.00	\$ 339.00	\$ 349.00	\$	\$	\$	319.00
Survey Crew - 2 Man (non-prevailing)	Survey Crew - 2 Man (non-prevailing)	\$ 250.00	\$ 258.00	\$ 266.00	\$ 274.00	\$ 282.00	\$	\$	\$	258.00
Survey Crew - 3 Man (non-prevailing)	Survey Crew - 3 Man (non-prevailing)	\$ 310.00	\$ 319.00	\$ 329.00	\$ 339.00	\$ 349.00	\$	\$	\$	319.00
Accounting	Technician, Word Processor, Administrative Staff	\$ 115.00	\$ 118.00	\$ 122.00	\$ 126.00	\$ 130.00	\$	\$	\$	118.00
Clerical	Office Aide	\$ 95.00	\$ 98.00	\$ 101.00	\$ 104.00	\$ 107.00	\$	\$	\$	98.00

Other Direct Costs (ODCs)

Item	Unit
<i>(Some EXAMPLES below; add others if needed:)</i>	
Vehicle Equipped with Survey Equipment	\$12.50/hr
Vehicle Equipped with GPS Survey Equipment	\$50.00/hr
Boat Equipped with GPS and Sounding Equipment	\$14.50/hr
Vehicle Equipped with Nuclear Gage Equipment	\$7.50/hr
Aerial Drone Service Per Aerial Model	\$500 each
Computer & Peripherals	\$5.25/hr
Travel Expenses/Per Diem	T&M
Vehicle Mileage	IRS Standard Rate
Photocopies	\$0.50/ea
Plotting - 20 lb Bond	\$0.40/sq ft
Plotting - Mylar	\$6.00/sq ft
Mailings and Communication	T&M
Miscellaneous Supplies	T&M
Outside Equipment and Services	15% Markup

 Construction work was assumed to be 100% 2022 and 0% 2023



- 1 11th Ave (983 Feet)
- 2 Ardmore Ave (Baugh to 11th) (2650 Feet)
- 3 Beverly Ave (1310 Feet)
- 4 Western Ave (8th to 10th)(1970 Ave)
- 5 Pacific Ave (2675 Feet)
- 6 Chapman Ave (765 Feet)
- 7 8th Ave (East of Fleming)(1255 Feet)
- 8 Tulsa Ave (904 Feet)
- 9 4th Ave (1340 Feet)
- 10 5th Ave (1937 Feet)
- 11 Canal St (910 Feet)
- 12 9th Ave (1290 Feet)
- 13 8th Ave (1960 Feet)
- 14 10th Ave (1290 Feet)
- 15 Okmulgee Ave (586 Feet)





Project Cost Calculation Methodology Examples:
 Base Cost + Group 1: (a) + (b) = \$104, 247 + \$16,167 = \$120,414
 Base Cost + Group 1 + Group 2 = (a) + (b) + (c) = \$157,078
 Base Cost + Group 1 + Group 2 + Group 3 + Group 6 = (a) + (b) + (c) + (d) + (g) = \$206,486

Fee Estimate

Olivehurst Public Utility District Design of Water Infrastructure in Historic Olivehurst

Tasks	(a)	(b)	(c)	(d)	(e)	(f)	(g)	Total Cost for All Group
	Project Base Base Cost (Common to All Groupings) (4)	Project Groupings (Reaches) per OPUD						
	Group 1 Cost 11th Street (983 LF)	Group 2 Cost Ardmore Ave, Beverly Ave, Western Ave (5,930 LF)	Group 3 Cost Pacific Ave, Chapman Ave, 8th Ave (4695 LF)	Group 4 Cost Tulsa Ave, 4th Ave, 5th Ave (4,181 LF)	Group 5 Cost Canal St, 9th Ave, 8th Ave (4,160 LF)	Group 6 Cost 10th Ave, Okmulgee Ave (1,876 LF)		
Task 1: Project Management								
1.1 Invoicing and Progress Reports	\$4,340	\$0	\$0	\$0	\$0	\$0	\$0	\$4,340
1.2 Kickoff Meeting	\$3,480	\$0	\$0	\$0	\$0	\$0	\$0	\$3,480
1.3 Progress and Coordination Meetings	\$6,460	\$0	\$0	\$0	\$0	\$0	\$0	\$6,460
Subtotal Task 1:	\$14,280	\$0	\$0	\$0	\$0	\$0	\$0	\$14,280
Task 2: Preliminary Design								
2.1 Field and Utility Data Investigation	\$5,120	\$0	\$0	\$0	\$0	\$0	\$0	\$5,120
2.2 Prepare Pre-design Technical Memorandum	\$5,880	\$0	\$0	\$0	\$0	\$0	\$0	\$5,880
2.3 Prepare Preliminary Plan and Profiles (50%)	\$10,170	\$1,840	\$6,400	\$5,960	\$4,960	\$4,960	\$2,500	\$36,790
2.4 Prepare Preliminary Project Costs	\$630	\$250	\$750	\$750	\$500	\$500	\$250	\$3,630
Subtotal Task 2:	\$21,800	\$2,090	\$7,150	\$6,710	\$5,460	\$5,460	\$2,750	\$51,420
Task 3: Final Design								
3.1 90% Plans, Specifications, and Cost Estimate	\$5,920	\$3,010	\$11,350	\$8,550	\$7,955	\$6,955	\$4,255	\$47,995
3.2 100% (Bid Ready) Plans, Specifications, and Cost Estimate	\$3,130	\$1,405	\$2,840	\$4,280	\$2,595	\$3,595	\$1,000	\$18,845
Subtotal Task 3:	\$9,050	\$4,415	\$14,190	\$12,830	\$10,550	\$10,550	\$5,255	\$66,840
Task 4: Surveying, Mapping, Geotechnical Services, and Traffic Control								
4.1 Project Surveying and Mapping - MHM Engineering	\$5,267	\$8,782	\$12,124	\$11,001	\$11,001	\$11,001	\$8,782	\$67,958
4.2 Prepare Traffic Control Plans (Preliminary and Final)	\$4,900	\$0	\$0	\$0	\$0	\$0	\$0	\$4,900
Subtotal Task 4:	\$10,167	\$8,782	\$12,124	\$11,001	\$11,001	\$11,001	\$8,782	\$72,858
Task 5: Permitting								
5.1 Yuba County Coordination and Permitting	\$3,620	\$0	\$0	\$0	\$0	\$0	\$0	\$3,620
5.2 State Water Resource Control Board - Division of Drinking Water (DDW) Waiver	\$1,360	\$880	\$2,200	\$2,200	\$1,980	\$1,980	\$880	\$11,480
Subtotal Task 5:	\$4,980	\$880	\$2,200	\$2,200	\$1,980	\$1,980	\$880	\$15,100
Task 6: Bid and Award Services								
6.1 Attend Pre-Bid Conference	\$560	\$0	\$0	\$0	\$0	\$0	\$0	\$560
6.2 Prepare Addendum (Assume 3)	\$4,810	\$0	\$0	\$0	\$0	\$0	\$0	\$4,810
6.3 Review Bids and Provide Letter Recommending Contract Award	\$1,310	\$0	\$0	\$0	\$0	\$0	\$0	\$1,310
6.4 Prepare Conformed for Construction Plans and Specifications	\$3,600	\$0	\$0	\$0	\$0	\$0	\$0	\$3,600
Subtotal Task 6:	\$10,280	\$0	\$0	\$0	\$0	\$0	\$0	\$10,280
Task 7: Engineering Services During Construction								
7.1 Submittal Review (Assume 30)	\$7,500	\$0	\$0	\$0	\$0	\$0	\$0	\$7,500
7.2 RFI Responses (Assume 10)	\$4,510	\$0	\$0	\$0	\$0	\$0	\$0	\$4,510
7.3 Progress Meeting Attendance (12) and Field Resolution	\$8,120	\$0	\$0	\$0	\$0	\$0	\$0	\$8,120
7.4 Change Order Review and Support	\$5,400	\$0	\$0	\$0	\$0	\$0	\$0	\$5,400
7.5 Specialty Inspection and Final Walkthrough	\$3,240	\$0	\$0	\$0	\$0	\$0	\$0	\$3,240
7.6 Develop As-Built Plans	\$4,920	\$0	\$0	\$0	\$0	\$0	\$0	\$4,920
Subtotal Task 7:	\$33,690	\$0	\$0	\$0	\$0	\$0	\$0	\$33,690
TOTAL	\$104,247	\$16,167	\$35,664	\$32,741	\$28,991	\$28,991	\$17,667	\$264,468

OPTIONAL TASKS
4.3 Geotechnical Investigation - Blackburn Consulting (Optional): \$18,000 Allowance
5.3 Stormwater Pollution Prevention Plan Development (Optional): \$6,500

1. The individual hourly rates include salary, overhead and profit.
2. Subconsultants will be billed at actual cost plus 10%.
3. Other direct costs (ODCs) such as reproduction, delivery, mileage (rates will be those
4. Base cost would be added to any combination of project groups to achieve a total design



**BENNETT ENGINEERING SERVICES PROPOSAL FOR THE
OLIVEHURST PUBLIC UTILITY DISTRICT**

Design for Water Infrastructure in Historic Olivehurst

December 10, 2020



TRUSTED ENGINEERING ADVISORS

December 10, 2020

Christopher Oliver or John Tillotson
Olivehurst Public Utility District
1970 9th Avenue
Olivehurst, CA 95961



TRUSTED ENGINEERING ADVISORS

Bennett Engineering Services
1082 Sunrise Avenue, Suite 100
Roseville, California 95661

T 916.783.4100

F 916.783.4110

www.ben-en.com

Re: **Engineering Services: Design for Water Infrastructure in Historic Olivehurst**

Dear Christopher, John, and Members of the Selection Committee:

We understand that the Olivehurst Public Utility District (OPUD) wishes to replace approximately 20,000 lineal feet of old steel water main within the historical area of Olivehurst to reduce water losses due to leaks, increase fire flow and reduce ongoing maintenance costs to the District. In addition, approximately 69 8-inch valves, 25 fire hydrants, and 40 tie-in locations will be replaced as part of this project.

Bennett Engineering Services (**BEN|EN**) possesses an abundance of knowledge and is highly experienced with pipeline replacement and water resources projects involving State Revolving Fund (SRF) grant monies.

BEN|EN has successfully assisted our clients to acquire and manage more than \$26 million in grant funding for water resources projects.

Our experience and knowledge of the SRF funding process enables our clients to successfully meet the requirements and deadlines inherent with this type of funding. This keeps our projects moving forward smoothly—on schedule and within budget. In addition, we offer extensive experience with similar, recent pipeline replacement projects with similar jurisdictions.

I, Stacey Lynch, PE, will be your Project Manager. With more than 16 years of civil engineering experience, I specialize in water resources projects involving SRF funding. My knowledge of the funding and permitting requirements for these types of projects also includes rate studies, rate increases (Proposition 218 regulations), environmental requirements, funding applications and requirements, and Department of Drinking Water (DDW) compliance. My team has also managed and successfully delivered many pipeline projects for agencies such as the City of Lincoln, Placer County Water Agency, City of Gridley, City of Biggs, City of Oroville, Citrus Heights Water District, and Camptonville CSD.

I am supported by a team of highly-experienced, licensed engineers and engineering support staff. The **BEN|EN** team consists of specialists with specific, extensive knowledge and the experience necessary to achieve the District's project goals. The subconsultants listed below were selected for our project team because of our successful partnering history and their experience with federal and State funding. The **BEN|EN** team consists of the following firms:

- ▶ **Bennett Engineering Services** – Civil Engineering and Project Management
- ▶ **Unico** – Topographic Surveys, Base Mapping, and Right-of-Way Determination
- ▶ **Ecorp** – Environmental, CEQA Initial Study/Mitigated Negative Declaration (IS/MND)
- ▶ **Discovery Hydrovac** – Potholing

As Vice President of **BEN|EN**, I have authority to bind the firm/team. I will be your first point of contact and can be reached at 916.539.9418, slynch@ben-en.com, or 1082 Sunrise Avenue, Suite 100, Roseville, CA 95661. I am available at any time to provide additional information or answer questions you may have. We are eager to work with the City and deliver a successful project, on time, and within budget. Thank you for your consideration.

Sincerely,
Bennett Engineering Services, Inc.

A handwritten signature in blue ink, appearing to read "Stacey Lynch".

Stacey Lynch, PE
Vice President.

Bennett Engineering Services, Inc. is a California corporation (Tax ID# 26-1388516), a California certified Small Business Enterprise (SBE), #52302 and a California certified Disadvantaged Business Enterprise (DBE) #43459.

ATTACHMENT B: COVER SHEET

Name of Person, Business or Organization:	Bennett Engineering Services
Federal Tax ID Number:	26-1388516
Contact Person – Name	Stacey Lynch
Contact Person – Address	1082 Sunrise Avenue, Suite 100 Roseville, CA 95661
Contact Person – Phone Number (s)	916.539.9418 or 916.783.4100
Contact Person – e-mail address	slynch@ben-en.com

By signing this **Cover Sheet** I hereby attest: that I have read and understood all the terms listed in the RFP; have read and understood all terms listed in this proposal; that I am authorized to bind the listed entity into this agreement; and that should this proposal be accepted, I am authorized and able to secure the resources required to deliver against all terms listed within the RFP as published by OPUD, including any amendments or addenda thereto except as explicitly noted or revised in my submitted proposal.



Signature of Authorized Representative

Stacey Lynch | Vice President

Printed Name of Authorized Representative

December 10, 2020

Date



PROJECT UNDERSTANDING

We understand that the Olivehurst Public Utilities District (OPUD or the District) would like to replace various aging water distribution pipes in Historic Olivehurst. The District has identified 15 segments that need replacement as part of this proposed project. Those 15 pipeline segments have been divided by the District into six groups according to the color-coded map provided. The project includes the replacement of approximately 20,000 lineal feet of steel water main with 8-inch PVC pipelines, replacement of the valves, and shortening/extending, and reconnecting the existing water services. No pipeline upsizing has been identified in the scope.

Similar to many other public agencies in the region, the District's available funding for public infrastructure falls short of goal. Many agencies apply for funding from a variety of funding sources available to fund the design and construction for much needed infrastructure improvements. OPUD is a "Disadvantaged Community" and is therefore eligible for set aside grant money. We understand that the District has been awarded (or is in the process of being awarded)

a State Water Resources Control Board – Drinking Water State Revolving Fund (DWSRF) Planning Grant for the planning and design of this project in the amount of \$225,000. In addition, the District is also working with the Yuba County Integrated Regional Water Management (IRWM) to fund the construction. We commend OPUD for initiating this effort ahead of time since funding for a project dictates different items to consider during the design effort.

PROJECT APPROACH

We have organized a team to deliver this project that has the experience and expertise to make this project a success for OPUD. We have included specialty subconsultants to assist with the design that have experience with SRF requirements and waterline replacement design needs. **Unico Engineering** will provide topographic and boundary survey information for the design. They will also provide surveying services after potholing activities. We have worked with Unico on nearly all of our recent design projects and are always very pleased with the product they provide. **Discovery Hydrovac** will provide the potholing services. Replacing old watermains in an older

part of town is always a challenge due to numerous utilities in the roadway. Sometimes as-builts on file do not contain all of the info that is needed to avoid, move, remove, or abandon existing underground infrastructure. Discovery uses Ground Penetrating Radar (GPR) to identify the existing utilities in the ground and then follows up with potholing of critical pipeline design crossings to be used during design. This reduces the number "dry holes" and provides a more targeted effort when identifying adjacent underground utilities. The timeliness and thoroughness of potholing efforts is very important for pipeline replacement projects, especially in an older part of town. We have also included **ECORP Consulting** (as an optional task) to assist with any environmental needs for this project. An environmental package will need to be prepared and submitted including the federal cross cutters required by the DWSRF. We believe this effort may be needed to complete this project.

Our approach to this project is to focus on the items that have the potential to delay the project or increase costs. One of the first tasks will be to confirm the scope and quickly engage our surveyor to gather



the surveys necessary (including encroachment permits) to complete design. Identifying utilities and coordinating with utility companies is key to a complete set of plans and specifications, and contract success. Coordination to obtain any rights-of-entry during construction must be started as early as possible to allow sufficient time to obtain approvals.

It is very important that the design team consider alternatives that will minimize impacts to emergency vehicles, motorists, and residents during construction. Some of the challenges that may occur during the design process include, but are not limited to, the following:

PIPELINE

It is assumed that the right-of way for the roadway extends beyond the limit of the existing pipeline. But sensitivity must be maintained to the homeowners along these alignments. Alignments for new waterlines will be selected based on other utilities in the roadway and connection to upstream and downstream pipelines. The pipeline design will adhere to current OPUD Design Standards and the American Water Works Association Standards. Service laterals to each home will be extended, or reduced in length, to connect to the new waterline. Existing hydrants along the alignment will be replaced and reconnected to the new main. If parallel replacement is implemented, the new location will be

set in accordance with Department of Drinking Water (DDW) offsets for sewer and storm drain.

PUBLIC OUTREACH

With the project area so close to many homes and businesses, we believe that a successful public outreach program is important to the success of this project. In addition to notices and public meetings about the project, it will be important to inform the residents and businesses of water outages and possible access limitations to properties during construction. We would suggest that OPUD include budget for public outreach engagement ahead of construction by accounting for the money in the DWSRF construction application. We are not dedicating a specific budget or effort for Public Outreach in our fee estimate. But we expect to support the District's efforts from our design plan progress and exhibits.

UTILITY COORDINATION

Often utility coordination gets put off until the end of the project or gets overlooked until it is too late. Early coordination with utility purveyors is imperative on this project. Relocating utilities can sometimes take longer than expected if utility companies are not involved early. We will coordinate with all utility companies early and encourage them to partner with us as the project moves forward.

DDW WAIVER REQUESTS

Many older roadways are filled with both wet and dry utilities and sometimes old gas or electrical lines abandoned in place. This can potentially create a problem when installing a new waterline. It can sometimes be difficult to meet the current State requirements for clearances, etc. A waiver request from the DDW will likely be required if the design constraints require the waterline to be below a storm drain or a sewer line or if the minimum clearance requirements cannot be met. We are very familiar with the requirements and the mitigations acceptable to the DDW representative for this area (Reese Crenshaw) for locations that do not meet the requirements. For example, if we must run the waterline under an existing stormdrain or sewer pipeline, we will need to provide "upgraded pipe materials" within 8-feet of the crossing. This can be accomplished by providing PVC with no joints, welded steel pipe, or possibly a concrete encasement. We will determine these crossings, discuss and propose a solution and request a waiver to the standards early in the design to avoid delays to the schedule.

RIGHT-OF-WAY

Right-of-way acquisition is not anticipated. We believe there is adequate right-of-way for the pipeline replacement to occur within existing right-of-way. Especially in older neighborhoods, we have found yard improvements that encroach into the public right-of-way or parts of the roadway outside the public right-of-way. It will be important, as the design progresses, to determine the existing rights-of-way locations and ensure that the public improvements are within the public right-of-way.

COST SAVING MEASURES

- One way to reduce construction costs on a pipe replacement project is to **abandon the existing watermain in-place**, in the road. The contractor's price can be reduced if removal of the old pipe is not required. It can potentially be a challenge to fit another pipe in the roadway. Older neighborhoods often have many utilities that need to be avoided. They may also contain previously abandoned pipes that will need to be removed if they are in the way. Additionally, this will require a new tie-in location at each of the connections to the existing mains. Potholing in those locations will then be necessary to obtain accurate horizontal locations for the tie-in.
- While we believe that public outreach will be an important part of this project, we propose that **OPUD staff coordinate the public outreach to homeowners and businesses**. This will save money on design costs.
- We have not included a water modeling component of this project from our scope. We understand that OPUD does not currently have one and we

believe that **the effort involved to create and run a model for purposes of verifying a pipe size for increased fire flow is cost prohibitive**. We can certainly discuss the needs of the District that are not being met and increase the pipe sizes as appropriate to increase the fire flows if future growth is anticipated in the area.

- We have also included as an optional task to **prepare and submit the construction grant application package to SRF, including the environmental package**. BEN|EN has prepared several grant applications (specifically SRF) and we are very familiar with the requirements. We have excluded this from our proposed scope to save costs but would be happy to support the District, if needed.
- We have also **excluded the preparation of the environmental document**. This is an important part of the design phase that can sometimes get overlooked. Although this is an exempt project according to CEQA guidelines, because you have federal money, CWSRF will want all the federal cross cutters to be completed and included in the environmental

package for the funding application. We have included ECORP on our team to help with this task if needed, but have included that effort as an optional task to try to save on costs.

- Another major component in the design costs that requires a lot of administrative time is **reimbursement requests and reporting required for the grant**. BEN|EN is very familiar with the requirements and procedures for actually getting reimbursed by the grant, and are happy to provide that service to the District, if necessary. For the purpose of keeping our costs down, we have eliminated that effort from our scope. But please let us know if you need assistance with that.
- Our proposal includes 65%, 90%, 100% and Final PS&E submittals. This is the typical submittal schedule we have seen and are familiar with. One way we can reduce our fee would be to **eliminate one of the formal submittals** and only provide three formal submittals (possibly 65%, 100%, and Final). We would be happy to discuss this change if OPUD feels it is appropriate.





SCOPE OF WORK

This Scope of Services will apply to the following pipeline replacement groupings:

- ▶ RED – 11th Avenue (983 Feet)
- ▶ ORANGE – Ardmore Avenue, Beverly Avenue, and Western Avenue (5,930 Feet)
- ▶ GREEN – Pacific Avenue, Chapman Avenue, and 8th Avenue (4,695 Feet)
- ▶ BLUE – Tulsa Avenue, 4th Avenue, 5th Avenue (4,181 Feet)
- ▶ PURPLE – Canal Street, 9th Avenue, and 8th Avenue (4,160 Feet)
- ▶ YELLOW – 10th Avenue, and Okmulgee Avenue (1,876 Feet)

TASK 1. PROJECT MANAGEMENT

Subtask 1.1. Develop Project Workplan

BEN|EN, in coordination with OPUD Project Manager, will develop the project workplan with representatives from sub-consultants and appropriate OPUD staff. The team will finalize the scope of work, budget, schedule and work plan based on feedback from the OPUD Project Manager. We will identify the

critical path elements to keep project delivery on schedule. **BEN|EN** shall notify OPUD immediately if there are problems that adversely impact the project schedule.

Subtask 1.2. Monthly Invoices and Status Reports

BEN|EN will prepare and submit monthly invoices and status reports to OPUD. The status reports will include project tasks completed, deliverables submitted, and budget expenditures for that month's invoice. In addition, monthly invoices shall be accompanied by a budget summary indicating task breakdown for budget, percent complete, spending to date, and remaining budget. Invoices will include employee rates, and expenses per task. **BEN|EN** will update the schedule in Microsoft Project, showing the activities and milestones outlined in our project scope. The activities will show begin and end dates as well as, duration and dependency on other tasks. The schedule will be refined and maintained on a regular basis and as decisions are made throughout the life of the project. We will discuss issues that may affect the project design, budget or schedule. Assume twelve (12) monthly invoices and reports.

Subtask 1.3. Project Meetings and Coordination

BEN|EN will setup and facilitate a project kick-off meeting, Project Team progress meetings, field review meetings, and other project meetings and coordination as required to obtain the necessary project information. **BEN|EN** will prepare all meeting agendas, meeting minutes and distribute to the Project Team. Also included in this task is preparation of exhibits needed for assisting OPUD with public outreach. Assume a total of six (6) project meetings.

Subtask 1.4. Quality Assurance / Quality Control (QA/QC)

BEN|EN will provide technical resources necessary to ensure that deliverables are complete, and that they meet the OPUD's requirements. Reviews will be conducted by experienced senior staff and documented using a review form indicating the reviewer name, date of review, and the resolution of any review comments. This task includes providing quality control reviews for the 65%, 90%, and Final PS&E submittals.

DELIVERABLES:

- ▶ Monthly Invoices, Project Schedule Updates, and Status Reports

- ▶ Meeting notices, agendas, minutes, and sign-in-sheets.
- ▶ Public Outreach exhibits, as needed.
- ▶ Quality Control Reviews

TASK 2. PRELIMINARY ENGINEERING, SITE INVESTIGATION, & DATA COLLECTION

Subtask 2.1. Preliminary Engineering

BEN|EN will review existing records, maps, and data relevant to the project, walk the project limits and record all existing conditions. We will identify the project requirements, key constraints and review applicable design standards. Improvement needs will be discussed with OPUD staff and approved recommendations will be incorporated into the project design. Project design will comply with OPUD Improvement Standards and the American Water Works Association latest standards.

Subtask 2.2. Survey and Mapping

UNICO will work with design team and OPUD to identify the proposed replacement water mains, valves, hydrants and tie-ins. UNICO will perform topographic field surveys, research and define existing right-of-way, and develop base mapping. A detailed, design level topographic strip survey of the street segments will be performed utilizing conventional (non-aerial) field surveying methods from edge of right-of-way to edge of right-of-way. UNICO will locate and map all topographic features necessary to complete the design and construction. Items located will include, but are not limited to, roadway improvement features, curbs, gutters, sidewalks, ramps, pavement, concrete, slopes, grade breaks, drainage structures, inlets, signs, fences, striping, driveway features, and trees. UNICO will also locate all visible above ground utility features such as manholes, valves, meters, hydrants, vaults, signals and utility poles. Measurements to all sewer and storm drain structures will be performed to include approximate size, down and direction. UNICO

will provide this topographic information at cross-section intervals of 50' or closer, including all horizontal and vertical change in directions, including curve points. Mapping, 1' contours and digital surface will be provided in an AutoCAD based drawing. UNICO will search for and survey right-of-way and property monuments to resolve and map the right-of-way and property boundaries along the project alignments. All survey monuments that are discovered and may be compromised by the project will be noted. UNICO will set durable control points to be preserved for utilization of surveys and for future construction control. UNICO will base its survey on approved Yuba County State Plane Coordinates (NAD83 California Zone 2) and NAVD88 elevations.

Subtask 2.3. Potholing

Discovery Hydrovac will perform utility potholing and ground penetrating radar of the existing roadway. **BEN|EN** will determine where potholing is needed to confirm utility conflicts and tie-in locations. Potholing will be performed where needed to verify utility location and confirm impact and develop resolution. A total of fourteen (14) potholes are assumed for this work scope.

Subtask 2.4. Utility Coordination

Subtask 2.4.a Utility Verification and Coordination with Owners

We will send "Utility A" letters with project location/limit map with a OPUD-approved letter requesting verification of the location, size,

and depth of each facility within the project area. We will identify all public or private utilities that may be affected by project and determine potential relocations and responsibility for cost. A utility log documenting all correspondence with the utility owners will be maintained for the duration of the project.

Subtask 2.4.b Utility Impact Resolution

Once the existing utility information is compiled, we will prepare a summary of utility impacts and proposed resolutions. Subsequent "Utility B and C" letters with project plans will be sent to the respective utility companies. Verification maps, conflict maps, relocation maps, will be included, as needed as part of this task.

Subtask 2.4.c Utility Adjustment/Relocation Coordination

For existing utilities that need to be adjusted or relocated, we will coordinate with utility companies for final utility relocation plans and construction schedule for the relocations prior to or during project construction.

DELIVERABLES:

- ▶ AutoCAD base file
- ▶ Point Files
- ▶ Record Maps and Deeds if requested
- ▶ Utility Maps
- ▶ Base Maps
- ▶ Utility A, B, and C letters and plans, summary of impacts and resolutions
- ▶ Utility Relocation Schedule and Coordination



TASK 3. FINAL DESIGN PS&E DOCUMENTS

BEN|EN will prepare the contract plans, specifications, and cost estimates in accordance with the OPUD requirements. PS&E submittals will be prepared for 65%, 90%, 100%, and Final. All plans and specifications will comply with the OPUD Improvement Standards and the American Water Works Association latest standards. The OPUD will provide the Front-End Specifications and we will prepare the Technical Specifications in CSI format. Plan and profile sheets will be at 1" = 20' scale. The plan set will include the following:

- ▶ Title/Cover Sheet
- ▶ General Notes/Legend/Abbreviations
- ▶ Survey Control
- ▶ Pipeline Plan and Profile Sheets
- ▶ Connection Details Sheets
- ▶ Utility Relocation Plan, if required
- ▶ Traffic Control Plan

We will schedule two weeks for OPUD review following each submittal. Review comments received from OPUD will be tabulated; responses will be addressed and incorporated in the subsequent PS&E submittal. For purposes of separating the project groupings as described in the RFP, the below subtasks include all of the above design submittals for the respective groupings.

Subtask 3.1. RED GROUPING--11th Avenue (983 Feet)

The **BEN|EN** Team will prepare and submit Plans, Specifications, and Estimates for the 65%, 90%, 100%, and Final submittals to the OPUD for review and comment.

Subtask 3.2. ORANGE GROUPING-- Ardmore Avenue, Beverly Avenue, and Western Avenue (5,930 Feet)

The **BEN|EN** Team will prepare and submit Plans, Specifications, and Estimates for the 65%, 90%, 100%, and Final submittals to OPUD for review and comment.

Subtask 3.3. GREEN GROUPING-- Pacific Avenue, Chapman Avenue, and 8th Avenue (4,695 Feet)

The **BEN|EN** Team will prepare and submit Plans, Specifications, and Estimates for the 65%, 90%, 100%, and Final submittals to OPUD for review and comment.

Subtask 3.4. BLUE GROUPING-- Tulsa Avenue, 4th Avenue, 5th Avenue (4,181 Feet)

The **BEN|EN** Team will prepare and submit Plans, Specifications, and Estimates for the 65%, 90%, 100%, and Final submittals to OPUD for review and comment.

Subtask 3.5. PURPLE GROUPING-- Canal Street, 9th Avenue, and 8th Avenue (4,160 Feet)

The **BEN|EN** Team will prepare and submit Plans, Specifications, and Estimates for the 65%, 90%, 100%, and Final submittals to OPUD for review and comment.

Subtask 3.6. YELLOW GROUPING-- 10th Avenue, and Okmulgee Avenue (1,876 Feet)

The **BEN|EN** Team will prepare and submit Plans, Specifications, and Estimates for the 65%, 90%, 100%, and Final submittals to OPUD for review and comment.

DELIVERABLES:

- ▶ A PDF and two (2) 11" x 17" hard copy sets of the 65% Plans, Specifications, and Estimates, Comment Response Table addressing OPUD review comments.
- ▶ A PDF and two (2) 11" x 17" hard copy sets of the 90% Plans, Specifications, and Estimates, Comment Response Table addressing OPUD review comments.
- ▶ 100%: 24"x 36" plans (two (2) hard copy sets and PDF), Specifications, and Estimate, Comment Response Table addressing OPUD review comments.

- ▶ Final PS&E Documents: 24"x 36" plans (three (3) hard copies and PDF), Specifications, and Estimate.
 - Three (3) sets of copies of the plans shall be provided, along with: Plans shall be signed and stamped by a licensed Civil Engineer. Plans shall be in 24"x36" format, at a scale not greater than 1" = 20'.
 - One (1) original copy of the technical specifications (bound). It should be noted, the OPUD will prepare the Front End Specifications. We will provide the OPUD with a bid schedule and anticipated contract items of construction and prepare the remainder of the Technical Specifications in compliance with Federal funding provisions.
 - One (1) original of the construction cost estimate shall be provided.
 - Electronic (Digital) versions of the plans, specifications and cost estimate shall be provided via electronic transmittal, in Microsoft Word, Microsoft Excel and/or AutoCAD .dwg format, as appropriate.
 - Electronic (Digital) versions of the plans, specifications and cost estimate shall be provided via electronic transmittal in PDF Format.

TASK 4. DWSRF CONSTRUCTION FUNDING APPLICATION (OPTIONAL)

Subtask 4.1. Funding Application

BEN|EN will prepare and submit the application packages for funding through the Drinking Water State Revolving Fund (DWSRF). **BEN|EN** will coordinate with OPUD staff to gather information as needed. Using the project information obtained from OPUD staff, we will prepare a complete SRF funding application for the construction of this project. **BEN|EN** will complete all the necessary system evaluations, assist the District with projections of the water fund in anticipation of this project,

prepare all the forms required, and support OPUD in submitting all application components to Division of Financial Assistance (DFA) via the required online submission hub (FAAST). The application package will include:

- ▶ Detailed project description
- ▶ Estimated cost breakdown of all outstanding project costs
- ▶ Evaluation of existing rate structure to cover project costs
- ▶ Operation budget information
- ▶ Financial audits from previous years
- ▶ Required financial forms
- ▶ California Environmental Quality Act (CEQA+) document (with federal cross cutters)
- ▶ Other required environmental forms (with assistance from ECORP Consulting)
- ▶ Various resolutions to be approved by the OPUD Board
- ▶ Bond counsel opinion, if required
- ▶ Water rights documentation
- ▶ Proof of land ownership or public right-of-way documentation
- ▶ Water conservation compliance
- ▶ Exemption request for Urban Water Management Plan documentation requirement

Subtask 4.2. Technical, Managerial, and Financial Report

BEN|EN will submit a Technical Assistance request through the DFA to prepare a Technical, Managerial, and Financial (TMF) Report for the OPUD water system. Once approved, **BEN|EN** will provide assistance and help gather necessary information for the selected agency to prepare the Plan for OPUD. Once completed, we will support OPUD in submitting to DFA via FAAST. This TMF document is required for funding through the DFA.

Subtask 4.3. Environmental Document and Funding Package

Subtask 4.3.a Project Initiation, Project Description, and Public Meetings

Because of the Project Team's familiarity with Olivehurst and projects of this type, we would suggest that no site visit would be necessary and a conference call or on-line video call for a start-up meeting with OPUD staff and Bennett Engineering

to discuss Project objectives and Project characteristics would be adequate. This would reduce cost of preparation for the IS/MND. Topics to be discussed will include the schedule, key Project issues, communication protocol, the procedure for data gathering, Project characteristics and the proposed scope of work. Approximately two (2) hours of meeting time is assumed for this call. Following the start-up meeting/call, ECORP will conduct an internal team meeting to initiate the Project.

ECORP will coordinate with OPUD and Bennett Engineering to develop and clarify the Project Description. Coordination for this task will be by telephone and/or email. Development of the Project Description will establish the critical elements of the site plan, construction schedule and equipment, and operation and maintenance of the Proposed Project. The Project Description will include:

- ▶ Project setting: a description of the Project's regional and local location, environmental setting, local transportation system, land use designations, and surrounding land uses. Maps showing the regional and specific location of the Project will be included in this section.
- ▶ Project characteristics: Project construction schedule and sequencing; site layout; and a detailed description of site operations. Site layout maps, elevations, etc. shall be provided by the Project architect/engineer in CAD with .PDF format exhibits.
- ▶ Intended uses of the CEQA IS/MND: a list of uses of the IS/MND, including a list of potential Project approvals required by other agencies.

ECORP's Project Manager and appropriate staff will attend up to two (2) public meetings. This may include a meeting to solicit public comment on the Draft IS/MND and/or attending the OPUD Board of Directors meetings for consideration of the Project. It is assumed that OPUD will coordinate all public meetings associated with the Proposed Project. ECORP can provide exhibits and make



presentations at the meetings, if requested, as an optional task.

Subtask 4.3.b Technical Studies

The following technical studies will be conducted for the Proposed Project:

Air Quality/Greenhouse Gas Emissions Analysis

The Project will not be a source of operational emissions, and therefore the assessment will only quantify short-term (i.e., construction) emissions generated by the Project using the California Emissions Estimator Model version 2016.3.2 (CalEEMod) software. CalEEMod is a statewide land use emissions computer model designed to quantify pollutant emissions associated with construction of a variety of land use projects. ECORP proposes to evaluate potential air quality and greenhouse gas (GHG) emission impacts in a technical memorandum. The analysis will be supported by modeling documentation, which would be included as an attachment to the memorandum.

The Project is located within Yuba County, which is under the jurisdiction of the Feather River Air Quality Management District (FRAQMD). Project criteria air pollutant emissions will be compared to the thresholds of significance promulgated by the FRAQMD. Concerning GHG emissions, the FRAQMD has yet to establish thresholds of



significance and therefore Project emissions will be compared to the thresholds issued by the California Air Pollution Control Officers Association (CAPCOA), which is an association of the air pollution control officers from all 35 local air quality agencies throughout California, including the FRAQMD.

Biological Resource Assessment

ECORP will conduct a biological resources assessment (BRA) for the project area. ECORP will conduct a review of existing biological information in the region and documentation specific to the project, including a desktop review. The desktop review will include available information such as aerial photography and database queries of the CDFW California Natural Diversity Database (CNDDDB), California Native Plant Society (CNPS) and U.S. Fish and Wildlife Service (USFWS) for potentially occurring special-status species in the vicinity of the project. The BRA will include an assessment-level pedestrian survey by a qualified biologist to identify and characterize vegetation communities present onsite and the approximate extent of potential aquatic resources (preliminary aquatic resources assessment). The survey will focus on verifying existing conditions as described from the desktop review and adjusting habitat delineation boundaries and types as needed. The biologist will also identify any special-status resources present or potentially present in the project area during the survey. The results of the survey will include vegetation community and habitat suitability mapping from which potential for occurrences of sensitive species will be determined by ECORP biologists.

A summary of the findings will be incorporated into the BRA report. The BRA report will be used to support the preparation of a CEQA document. The BRA report will provide the regulatory context, which is also necessary for incorporation into the CEQA document; methods of the analysis; results; discussion of direct, indirect and cumulative effects; and recommendations for appropriate mitigation measures. Finally, as part of the BRA, ECORP will also identify any likely required environmental permits, approvals, or further studies to implement the project design and construct the project.

Optional Tasks

If any wetlands are determined to be onsite, then you will potentially need the following permits:

- ▶ California Department of Fish and Wildlife 1602
- ▶ Regional Water Quality Control Board 401
- ▶ U.S. Army Corps of Engineers 404

ECORP can complete these permitting processes if needed and if so desired by OPUD. However, these permits and the cost of completing these permits are not included in this proposal.

Cultural Resources Records Search and Literature Review

ECORP will conduct a cultural resources inventory and evaluation for the proposed Project. The cultural resources inventory will include a records search and literature review with the California Historical Resources Information System's (CHRIS) North Central Information Center (NCIC), an intensive pedestrian survey of the Area of Potential Effect (APE) using current protocols for the identification of cultural resources, and preparation of a cultural resources inventory and evaluation report. The study will include recording and evaluation of up to 10 historic-period road segments and the water infrastructure within the APE for eligibility to the National Register of Historic Places and California Register of Historical Resources, if necessary.

This study will be conducted pursuant to compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA) for the identification of cultural resources.

A summary of the findings and results of the evaluation of historic-period roads and water infrastructure will be provided in an inventory and evaluation report, following OHP's recommended content and format. The report will provide the historic context, which is also necessary for incorporation into the CEQA document, as well as the methods, results, and recommendations.

All work will be conducted by, or under the direct supervision of, a Registered Professional Archaeologist, who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeology. The draft report will be submitted to the client, electronically, within 60 days of the receipt of a notice to proceed and fully executed contract.

Noise Impact Analysis

The evaluation of noise impacts associated with the installation of new water lines will be completed by Senior-level staff members who are noise experts, accounting for intervening structures and specific distances between Project noise sources and sensitive receptors. For efficiency and to reduce costs, ECORP proposes to complete the analysis of Project noise in the body of the Initial Study.

The predominate source of Project noise will be construction activities. Noise from construction sources will be quantified using the Federal Highway Administration's Roadway Construction Noise Model based on the anticipated equipment to be used. The construction noise impacts will be evaluated with the use of the Roadway Construction Noise Model in terms of hourly equivalent continuous noise levels (Leq) and the frequency of occurrence at nearby

sensitive land uses like residences. The anticipated level of construction noise associated with the installation of new sewer lines will be compared with the County of Yuba noise regulations.

Subtask 4.3.c CEQA Administrative Draft IS/MND, Draft NOI, and Draft NOC

ECORP, will prepare an Administrative Draft IS/MND for the Proposed Project which meets the additional requirements of a CEQA analysis. The scope of the IS/MND will address the full scope of potential environmental issues as based on Appendix G of the State CEQA Guidelines. Additionally, the analysis will include those additional federal cross cutting NEPA requirements such as the National Historic Preservation Act Section 106, an alternatives analysis, and environmental justice evaluations. The analysis conducted for Task 4 will be summarized in the IS/MND, and technical studies will be attached as appendices. ECORP will also prepare a draft Notice of Intent to Adopt (NOI) an IS/MND, Notice of Completion (NOC) (SCH cover sheet) and 1-page flyer to accompany the public NOI, providing additional description on the CEQA process and opportunity for comment. Based on the Project information in the Project description and our knowledge of the local area, ECORP has assumed that the appropriate CEQA document will be an IS/MND. However, if one or more technical studies reveal a potentially-significant environmental impact that cannot be mitigated, we will work with the applicant to avoid or minimize the impact through Project design. If the impact cannot be avoided or minimized through design, ECORP will submit a separate scope of work and cost estimate to prepare an Environmental Impact Report (EIR). It is anticipated that the Initial Study will focus on issues identified in Section 1 Understanding and Approach of this proposal.

Subtask 4.3.d Prepare Draft IS/MND, NOI, NOC, and Summary Form

On receipt of OPUD staff comments on the Administrative Draft IS/MND and notices, ECORP will make the appropriate revisions to the documents. A Revised Administrative Draft IS/MND and notices will be prepared. After receipt of comments on the Revised Administrative Draft IS/MND and notices, a screencheck draft copy of the Draft IS/MND and notices will be provided prior to printing. ECORP will coordinate with OPUD to resolve all issues between administrative and final versions of the document. ECORP assumes that the OPUD will mail the NOI to any persons of the Project mailing list, publish the NOI in local newspapers and Yuba County Clerk's office, and place public notice advertisements to announce the Draft MND public/agency workshop in local newspapers. ECORP will submit the NOC, NOI and Summary Form and the Draft IS/MND State Clearinghouse. We have assumed that the OPUD will pay all fees associated with posting of the NOI at the County Clerk and local newspapers.

Subtask 4.3.e Prepare Administrative Final IS/MND and Notice of Determination

After the conclusion of the 30-day public and agency comment period, ECORP will prepare draft responses to comments and make the appropriate revisions to the IS/MND. On completion of the Administrative Final IS/MND, ECORP will provide copies to OPUD for review and comment. ECORP will also prepare the draft Notice of Determination (NOD). Our cost estimate assumes up to ten comment letters with a total of 30 distinct comments.

Subtask 4.3.f Prepare Administrative Final IS/MND and Notice of Determination

After receipt of comments on the Administrative Final IS/MND, ECORP will finalize the IS/MND and provide a Revised Administrative Final IS/MND. After comments on the Revised Administrative Final IS/

MND, ECORP will provide a print check copy of the Final IS/MND to OPUD. ECORP will prepare the final NOD based on any comments received from OPUD on the draft documents. ECORP assumes that OPUD will file the notices at the Yuba County Clerk's office in compliance with CEQA requirements. We have assumed OPUD will pay all fees associated with the notice filing (not to paid for by ECORP Consulting).

Subtask 4.3.g Mitigation Monitoring and Reporting Program

ECORP will prepare an Administrative Draft MMRP based on the Final IS/MND. The MMRP will be prepared in a manner consistent with CEQA Section 21081.6 and will be in table format subject to review and approval by OPUD. After receipt of all OPUD comments, ECORP shall prepare the Final MMRP.

DELIVERABLES:

- ▶ Construction Grant Application (General, Environmental, and Technical)
- ▶ Technical Assistance request for the Fiscal Sustainability Plan
- ▶ Technical Assistance request for the TMF Report
- ▶ Project Team conference call or on-line video call
- ▶ Draft Project Description, provided electronically via email in a MSWord file format.
- ▶ Meeting attendance at up to two (2) public meetings.
- ▶ One (1) electronic copy of an Administrative Draft IS/MND in the MSWord and .PDF file formats.
- ▶ Ten (10) CD copies and three (3) bound copies of the public Draft IS/MND to OPUD.
- ▶ The NOC, the Summary Form, the NOI and the Draft IS/MND to the State Clearinghouse.
- ▶ One (1) copy of the Administrative Final IS/MND in PDF and Word format and Draft NOD.
- ▶ Two (2) bound copies and an electronic copy of the Final IS/MND.
- ▶ One (1) electronic copy of the Final NOD
- ▶ One (1) electronic copy of the Final MMRP.

TASK 5. BIDDING SUPPORT

Subtask 5.1. Assistance During Bidding

BEN|EN will assist OPUD with addressing bidder questions, attend pre-bid meeting, and design support for addenda during the bidding phase. Assume one (1) pre-bid meeting.

TASK 6. ENGINEERING SERVICES DURING CONSTRUCTION

Subtask 6.1. Review and Respond to Requests for Information (RFIs)

BEN|EN will review requests for information from the contractor and provide written responses to the City. RFIs will be tracked and logged in a spreadsheet and made available to OPUD upon request. Assumes ten (10) RFIs.

Subtask 6.2. Review and Respond to Submittals

BEN|EN will review contractor submittals and provide stamped approvals to the City. Contractor submittals will be tracked and logged in a spreadsheet and made available to OPUD upon request. Assumes ten (10) submittals.

Subtask 6.3. Review and Respond to Contractor Change Order Requests (CCOs)

BEN|EN will review contractor change order requests and provide written recommendations to the City. Assumes two (2) CCOs.

DELIVERABLES:

- ▶ Tracking log of RFIs and Responses spreadsheet in Excel format.
- ▶ Tracking log of Submittals and Responses spreadsheet in Excel format.
- ▶ Written responses to Change Order Requests

TASK 7. CONSTRUCTION MANAGEMENT AND INSPECTION (OPTIONAL)

Subtask 7.1. Construction Management and Inspection Estimate

Unico has provided a ballpark estimate for full construction management and inspection services for this project for budgetary purposes. Once the project is more defined a more accurate scope and fee can be provided.

TASK 8. PROJECT CLOSEOUT

Subtask 8.1. Record Drawings

The BEN|EN Team will prepare Record Drawings in AutoCAD based on contractor's notes and plan set red lines provided by OPUD.

DELIVERABLES:

- ▶ Record Drawings, stamped and signed by a CA registered PE. Record drawings will be submitted in PDF, full-size hard copy, half-size hard copy, and AutoCAD files

ASSUMPTIONS:

- ▶ All proposed project work is within existing right-of-way and no new ROW or TCEs are anticipated.
- ▶ No project construction work is proposed within UPRR right-of-way.
- ▶ Caltrans coordination will not be required.
- ▶ If needed, OPUD will obtain property access to complete preliminary site studies, including surveys and environmental technical studies.

- ▶ OPUD will provide public and property owner outreach.
- ▶ OPUD will prepare and submit the construction grant application, including all required environmental documentation
- ▶ Geotechnical Report is not required.
- ▶ Contractor to prepare SWPPP, if required
- ▶ Water services do not need to be replaced
- ▶ This scope assumes one bid set of improvement plans, specifications, and estimates.
- ▶ CSI format Specification
- ▶ OPUD will provide the Front-End Specifications
- ▶ OPUD will prepare full financial package for the construction grant application
- ▶ OPUD will prepare the necessary resolutions for Board approval
- ▶ Technical assistance will be provided by a DFA-appointed entity (RCAC, or other) for the preparation of the TMF Report
- ▶ The preliminary aquatic resources assessment will not be conducted in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (U.S. Army Corps of Engineers 2008), and the U.S. Army Corps of Engineers Sacramento District's Minimum Standards for Acceptance of Preliminary Wetland Delineations (U.S. Army Corps of Engineers 2001).



- ▶ One round of revisions by the client is included in this report.
- ▶ The BRA may identify the need for focused surveys; however, this task does not include focused (protocol-level) surveys for sensitive species or coordination or consultation with the regulatory agencies regarding those species.
- ▶ ECORP assumes that all work will be conducted in the road Right-of-Way and no part of the APE will include private property.
- ▶ No cultural resources, other than the segments of historic period roads, will be identified or recorded as part of the field survey. If any sites are identified as a result of the records search or survey, then a contract amendment will be required to record, test, and/or evaluate the resources.
- ▶ This scope does not include testing or collection of any resources identified within the Project area. A scope and cost for these activities cannot be established until completion of the cultural resources inventory and records search and may be completed under change order.
- ▶ The Client will ensure consecutive-day field access to the Project area for surveys and will notify ECORP of any hazards in the Project area. Adverse weather conditions in the Project area may delay field survey until ground conditions are suitable for fieldwork.
- ▶ Project meetings, tribal consultation assistance for AB 52, hard copies of reports, responses to comments, and other tasks not specified above will require a contract change order.
- ▶ In compliance with the terms of agreement between ECORP and the OHP, one unbound copy of the final report will be submitted to the appropriate confidential OHP Information Center within 60 days of completion, where it will be archived and remain confidential (note that this is required, regardless of Project status, and does not affect Project approval).

PRELIMINARY SCHEDULE

PROJECT MILESTONE	DATES
Notice to Proceed	January 2021
Preliminary Engineering Complete	April 2021
SRF Construction Application Submitted (with Environmental)	June 2021
Final Design Complete	October 2021
SRF Funding Approved	April 2022
Bid Project	April 2022
Construction Starts	May 2022



BENNETT ENGINEERING SERVICES

Project Management Civil Engineering

Providing high quality civil engineering services to cities, counties, special districts, universities, private companies, and other professionals has always been the firm's focus. BEN|EN takes pride in finding innovative and cost-effective engineering solutions to water, wastewater, transportation, drainage, site improvement, and other important infrastructure projects. What sets the firm apart is its ability to partner with clients early in project development and retain that partnership through construction. Through ownership transitions Bennett Engineering Services, as it is organized today, has been providing service since 1995. We believe offering dedicated staff and assuring a cohesive team from project inception to completion maximizes client confidence.

BEN|EN's water systems project experience includes **new pipeline design and rehabilitation and/or replacement of existing pipeline facilities**. Design experience ranges from small to large diameter pipelines. In addition, we provide design services for wells, pumping stations,

in-conduit hydroelectric power generation facilities, pressure reducing stations, and flow control facilities. Reservoirs include steel and concrete, underground and aboveground. BEN|EN staff have experience in water system hydraulic analysis modeling. We also utilize our exclusive PipeOpt software for sizing water pipelines based on life-cycle costs.

The BEN|EN team has extensive experience delivering waterline replacement projects of various sizes and complexity, many of which are similar to the District's waterline project.

Some of BEN|EN's most recent and relevant work follows:

- ▶ **City of Lincoln | East Avenue Waterline Replacement**
 - Ongoing (Currently in Construction)
 - This project includes **pipeline replacement, fire hydrant replacement, service replacement, Department of Drinking Water (DDW) coordination, stormdrain improvements, utility coordination, and construction and bidding assistance**
- ▶ **City of Lincoln | Downtown Waterline and Street Replacement**
 - Completed 2019

- This project included **pipeline replacement, water service connection replacements, and full-depth roadway replacement**
 - The project required a substantial public outreach component since many of the existing pipelines were located in the front yards of private parcels
- ▶ **City of Gridley | Watermain Replacement Funding and Design**
- Ongoing
 - This project will replace aged pipes with 6- and 10-inch PVC water pipe. The project will also replace associated valves, hydrants, and other required appurtenances.
 - Tasks include SRF funding assistance, design, and design support during construction

- ▶ **Citrus Heights Water District | 2012 Water Distribution Infrastructure**
- Completed in 2013
 - The project included replacement of aged, undersized water distribution pipelines and water meter connections, and replacement of wharf fire hydrants with wet barrel hydrants

- The boundaries of the project overlapped with the City of Roseville and Placer County. **BEN|EN** produced a design that was able to incorporate City and County standards

The **BEN|EN** team has prepared plans, special provisions, specifications, and estimates for dozens of public works projects, with estimates aligning closely with bid results. We solicit labor and material pricing trends through our relationships in the public and private sector and in turn produce estimates based on current economic factors. This approach allows our clients to adjust project elements to best fit their budgets and add bid alternates to maximize funding allocations.

BEN|EN is a California certified Small Business Enterprise (SBE), #52302 and a California certified Disadvantaged Business Enterprise (DBE) #43459.

Our firm's **Pipeline Rehabilitation and Replacement** experience includes the following projects:

- ▶ Arcade Creek Crossing Design | Sacramento Suburban Water District
- ▶ 2018 Treated Waterline and Canal Reliability Project | Georgetown Divide Public Utility District
- ▶ New Cement Hill Pipeline | Suisun-Solano Water Authority
- ▶ Highway 50 Pipeline Crossing | California American Water
- ▶ South Jefferson Infrastructure Improvements | City of Dixon
- ▶ Verdera North Tank #3 and Pipeline | City of Lincoln
- ▶ High Street Pipeline Replacement and Street Repairs | Placer County Water Agency
- ▶ 2013 Water Distribution Project | Citrus Heights Water District
- ▶ 2012 Water Main Replacement | Citrus Heights Water District
- ▶ Old Auburn Road Water Main Replacement | Citrus Heights Water District
- ▶ Gold Run Pipeline, Phases IV and V | Placer County Water Agency
- ▶ North Industrial Pipeline | City of Roseville
- ▶ Antelope/PFE Road Pipeline | City of Roseville
- ▶ Londonberry Drive Creek Crossing Design | California American Water



Waterline and Street Replacement in Lincoln



CLIENT

- ▶ City of Lincoln

REFERENCE

- ▶ Araceli Cazarez
Associate Civil Engineer
600 Sixth Street
Lincoln, CA 95648
(916) 434-2486
Araceli.Cazarez@lincolnca.gov

COMPLETED

- ▶ March 2017 - December 2018

CONTRACT FEE

- ▶ \$ 260,000

PROJECT COST

- ▶ \$2.56 million

KEY STAFF

- ▶ Carlton Allen, PE
- ▶ Stacey Lynch, PE
- ▶ Michael Massaro, PE
- ▶ Gabriel Rodell, PE
- ▶ Lizette Martinez, PE
- ▶ Andrea Orozco

SERVICES

- ▶ Project Management
- ▶ Utility Coordination
- ▶ Public Outreach
- ▶ Plans, Specifications, and Estimate
- ▶ Bidding and Construction Design Support
- ▶ Surveying
- ▶ Right-of-Way Engineering
- ▶ Geotechnical

SUBCONSULTANTS

- ▶ Unico Engineering (Survey)
- ▶ NV5 (Geotechnical)
- ▶ Bess Testlab (Potholing)

DOWNTOWN WATERLINE AND STREET REPLACEMENT

This project replaced 4,200 LF of existing water mains and provided full-depth roadway replacement on multiple residential streets in the City of Lincoln. Shallow underground utilities within the existing pavement section limited rehabilitation options and strategies. Full-depth reclamation (FDR) was selected. FDR reduces the amount of paving material transported by recycling the existing pavement as the base layer for new pavement, thus saving the County time and construction costs. The team provided utility coordination, right-of-way mapping, and drainage design.



Challenges & Solutions

Many of the existing pipelines were located in the front yards of private parcels so special consideration was given to the homeowners along these alignments. The new alignment for the waterline was based upon other utilities in the roadway and connections to upstream and downstream pipelines. After connecting to the new pipelines, the old ones were abandoned, eliminating the need to disturb residents for future repairs.

Shallow underground utilities within the existing pavement section limited rehabilitation options and strategies. The team selected full-depth reclamation (FDR), which recycled the existing pavement as the base layer for new pavement and saved time and construction costs by reducing the amount of material that needed to be transported.



Waterline Replacement within Four Streets



Challenges & Solutions

The City set an aggressive schedule with 80% plans and specifications due two months after the Notice to Proceed was issued. BEN|EN staff was able to fulfill the City's request and submitted the 80% plans and specifications within the expedited deadline. Other concurrent construction within the project area proved to be a challenge. Tie-ins to this new construction are expected. Therefore, BEN|EN staff coordinated closely with the other contractor since no as-builts have been produced yet. BEN|EN also initiated potholing in key areas to verify the depths of utilities that were unknown. To tie-in to existing facilities, it was sometimes necessary for the new pipeline to lie beneath storm drain and sewer facilities. Additionally, existing sewer mains in the project area are shallow. BEN|EN coordinated with the Department of Drinking Water to obtain the required waiver requests.

CLIENT

- ▶ City of Lincoln

REFERENCE

- ▶ Araceli Cazarez
Associate Civil Engineer
600 Sixth Street
Lincoln, CA 95648
916.434.2486
Araceli.Cazarez@lincolnca.gov

COMPLETED

- ▶ August 2019 - In Construction

CONTRACT FEE

- ▶ \$195,000

PROJECT COST

- ▶ \$1.5 million

KEY STAFF

- ▶ Stacey Lynch, PE
- ▶ Michael Massaro, PE
- ▶ Gabriel Rodell, PE
- ▶ Kaitlyn Sethares, EIT
- ▶ Ali Holladay

FEATURES

- ▶ Waterline Replacement
- ▶ New Fire Hydrants
- ▶ Storm drain Improvements
- ▶ Service Replacements

SERVICES

- ▶ Project Management
- ▶ PS&E
- ▶ Utility Coordination
- ▶ Potholing
- ▶ Survey

SUBCONSULTANTS

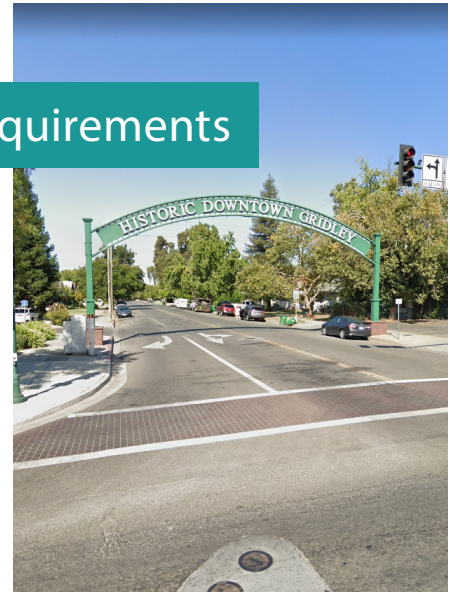
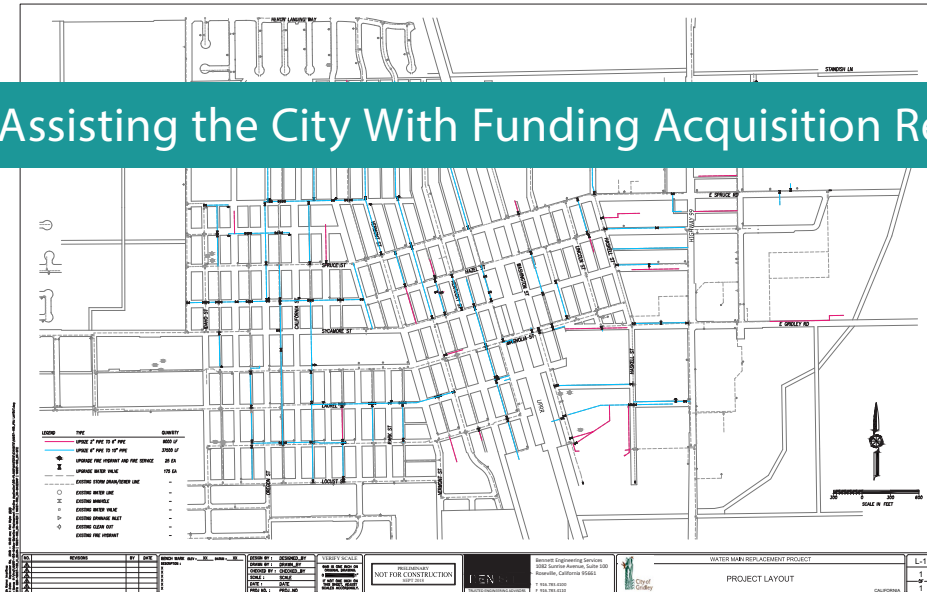
- ▶ Unico Engineering
- ▶ Bess Testlabs

EAST AVENUE WATERLINE REPLACEMENT

The BEN|EN team provided surveying, design, and potholing services to replace approximately 4,300LF of aged, undersized distribution pipelines within four streets. The existing pipe consists of 4-10" cast iron and asbestos-cement pipe. To increase capacity and comply with new City standards, 8-10" PVC pipe will be installed. The project also includes fire hydrant replacement service replacement, storm drain improvements, utility coordination, and construction and bidding assistance.



Assisting the City With Funding Acquisition Requirements



CLIENT

- ▶ City of Gridley

REFERENCE

- ▶ Ross Pippitt
Public Works Director
853 Laurel St
Gridley, CA 95948
530.846.2298
rpippitt@gridley.ca.us;

COMPLETED

- ▶ August 2018 - ongoing

CONTRACT FEE

- ▶ \$30,000 for SRF application assistance
- ▶ Est. \$330,000 for total design

PROJECT COST

- ▶ est. \$13 million

KEY STAFF

- ▶ David Harden, PE
- ▶ Kati Sethares, EIT

FEATURES

- ▶ Agency Coordination
- ▶ SRF Funding Application
- ▶ Project Technical Report
- ▶ Life Cycle Cost Analysis

SERVICES

- ▶ Design
- ▶ Plans, Specifications, and Estimate
- ▶ Grant Application Assistance

GRIDLEY WATERLINE REPLACEMENT

The City has approximately 46,500 feet of very old 2-inch and 4-inch watermain throughout its water distribution system. Corrosion in the existing pipes is causing poor water quality, reduced pressure in the system, and leaky pipes, resulting in water loss of up to 20%. The purpose of this project is to replace these aged pipes with 6- and 10-inch PVC water pipe. The project will also replace associated valves, hydrants, and other required appurtenances. This will improve water quality, increase system pressures to adequate levels, and decrease losses in the system—improving the City's water conservation efforts.

As City Engineer, **BEN|EN** assisted the City by identifying problem areas requiring replacement and upsizing of pipe. This evaluation also included 172 valves and 29 fire hydrants. Design plans and estimate have been developed to a 30% level to support a funding application submitted to the California Drinking Water State Revolving Fund (DWSRF). The environmental requirements for this SRF funding have been completed through the Waterboards Technical Assistance (TA) program.

Challenges & Solutions

The City originally applied for DWSRF construction funding to finance the project. However, because of the magnitude of the project, **BEN|EN**, in coordination with DWSRF staff, was able to change the funding request from a construction funding application to planning grant application.

This approach will more effectively provide funding for this project by separating it into three separate phases, develop detailed topographic survey and utility locations, develop a water model to address the most critical areas, and complete 90% PS&E for each phase. Additionally, this phased approach will give City Staff flexibility when managing the large amount of construction entailed as they replace nearly one quarter of the entire water distribution system.

Secondary Pipeline Enables Clear Well Functionality



Challenges & Solutions

Schedule - Implementing conventional design practices would have resulted in a tie-in to the water system early in construction, causing substantial interruptions to the water service. Instead, **BEN|EN** adapted the design to tie-in at the end of the construction process, allowing us to accommodate the operational schedule and reduce impacts to the water system.

Property Access - The project crosses properties owned by several entities (Solano County, City of Fairfield, Solano Irrigation District, US Bureau of Reclamation, and private property,). The team assisted with plats and legal descriptions, easements, and exhibits to gain temporary and permanent access to all the properties located within the project limits.

CLIENT

- ▶ Suisun-Solano Water Authority

REFERENCE

- ▶ Jim Daniels
District Engineer
810 Vaca Valley Parkway
Vacaville, CA 95688
707.455.4015
jdaniels@sidwater.org

COMPLETED

- ▶ March 2018 - July 2020

CONTRACT FEE

- ▶ \$503,000

PROJECT COST

- ▶ \$2.4 million

KEY STAFF

- ▶ Michael Massaro, PE
- ▶ Orin Bennett, PE
- ▶ Stacey Lynch, PE
- ▶ Gabriel Rodell, PE
- ▶ Chelsea Gillis, PE
- ▶ Kaitlyn Sethares, EIT

FEATURES

- ▶ 20" PVC Pipeline
- ▶ Partial Tank Recoating
- ▶ Electrical and Fiber Optic Design
- ▶ Flow Meter Installation

SERVICES

- ▶ Civil Design
- ▶ Plans, Specifications & Estimates
- ▶ USBR Coordination
- ▶ Right-of-Way Assistance
- ▶ Environmental Compliance

NEW CEMENT HILL PIPELINE

The New Cement Hill Pipeline provides a second pipeline consisting of 20-inch diameter PVC from the Cement Hill Water Treatment Plant to the site of the existing Tank 2A and new Tank 2B, enabling the tanks to become a clear well for the treatment plant. During construction of the new pipeline, the existing pipeline remained in operation. Tasks included project management, bypass, sequencing and connection plans, design plans, specifications and estimate, flow meter installation, fiber optic cable installation, assistance with acquisition of an encroachment permit from the US Bureau of Reclamation for construction within the Putah South Canal right-of-way, ensuring environmental compliance, permitting, preparation of a Storm Water Pollution Prevention Plan (SWPPP), and public outreach.



Pipeline Design to Accommodate a New 5MG Tank



CLIENT

- ▶ City of Lincoln

REFERENCE

- ▶ Ray Leftwich
City Engineer
600 Sixth Street
Lincoln, CA 95648
(916) 434-2457
ray.leftwich@lincolncal.gov

COMPLETED

- ▶ 4/12/2016 - Ongoing

CONTRACT FEE

- ▶ \$13,970,000

PROJECT COST

- ▶ \$985,000

KEY STAFF

- ▶ Stacey Lynch, PE
- ▶ Orin Bennett, PE
- ▶ Steve Ainsworth, PE
- ▶ Michael Massaro, PE
- ▶ David Harden, PE
- ▶ Gabriel Rodell, PE

FEATURES

- ▶ Pre-stressed Concrete Tank
- ▶ 16" and 36" Pipeline
- ▶ Cathodic Protection System
- ▶ Storage Pond
- ▶ Pedestrian Trail
- ▶ Access Road

SERVICES

- ▶ Design
- ▶ Plans, Specifications, and Estimates
- ▶ Environmental
- ▶ Geotechnical
- ▶ Public Outreach
- ▶ Construction Assistance

VERDERA NORTH TANK #3 AND PIPELINE

The purpose of the project is to provide the city with an adequate supply of water during a rapid growth period and provide additional redundancy. In addition to the 5MG tank and site improvements, the project includes a 16-inch pipeline connection and a 36-inch pipeline connection to a metering station. The **960 LF of 16-inch pipeline** provides water to the existing water system serving an adjacent neighborhood. Approximately **5,500 LF of 36-inch pipeline** provides water from the 5MG reservoir to the water system at a lower elevation. The pipeline design included evaluation of pipe material and a cathodic protection system. The design provided rough grading for a second 5MG tank.

While the city is funding the design and construction, after construction is complete, Placer County Water Agency (the supplying water agency) will own, operate, and maintain the PR&M station. The City will own, operate and maintain the storage tank. Placer County Water Agency and the City have worked together in a similar way on previous projects. **BEN|EN** ensured communication and coordination with city staff, PCWA, and other agencies. The **BEN|EN** team also provided public outreach support, including a presentation to the adjacent homeowner association.

Challenges & Solutions

The tank site is underlain by a cemented volcanic mudflow rock formation, overlying variably weathered granitic rock. Such variability can lead to construction difficulties and non-uniform, foundation-bearing conditions for the new structures. Therefore, detailed geotechnical/geological assessment and analysis were essential for project success.



Helping Our Clients with Funding Requirements



WWTP Upgrades – City of Biggs



WWTP Decommissioning – Newcastle Sanitary District

GRANT FUNDING ASSISTANCE

BEN|EN has extensive experience with project delivery of state and federally-funded water resources projects ranging from watermain replacements to wastewater treatment plant upgrades for various local agencies. Our many years of collaboration with resource agencies, and local agencies on a variety of projects has gained us experience that will aid in keeping the District's projects on schedule and within budget.

Some of the projects and agencies for whom we have successfully obtained grant funding for water resources projects are shown in the list at right.

PROJECT	FUNDING SOURCE	GRANTED
Newcastle Sanitary District - WWTP Decommissioning	EPA	\$1,629,845
Newcastle Sanitary District - WWTP Decommissioning	SPMUD	\$4,885,000
Newcastle Sanitary District - WWTP Decommissioning	SRF	\$6,842,234
City of Isleton-Sewer System and Headworks	SRF	\$485,000
City of Biggs - WWTP Upgrades Ph 1	SRF	\$3,411,335
City of Biggs - WWTP Upgrades Ph 2	SRF	\$6,000,000
City of Biggs - WWTP Upgrades Ph 2-Land Acquisition	USDA	\$2,996,397
City of Gridley - Feather River Sewer Crossing	CWSRF	\$500,000
City of Gridley - Inflow and Infiltration Study	USDA	\$138,000
TOTAL FUNDING ACQUIRED TO DATE \$26,887,811		
APPLICATIONS CURRENTLY IN PROGRESS		
City of Gridley - Little Avenue Forcemain and Lift Station	CWSRF	\$500,000
City of Gridley - Watermain Replacement Project	DWSRF	\$575,000
City of Gridley - Wilson Well Rehabilitation Evaluation	DWSRF	\$300,000
City of Biggs - Water Tank	DWSRF	\$4,300,000
City of Marysville - Wastewater Treatment Plant	CWSRF	\$6,000,000
City of Jackson - Water Tank	DWSRF	\$4,000,000
Camptonville CSD - Water Resiliency Project	DWSRF	\$500,000
TOTAL APPLICATIONS IN PROGRESS \$16,175,000		

DOWNTOWN WATERLINE AND STREET REPLACEMENT

This project replaced 4,200 LF of existing water mains and provided full-depth roadway replacement on multiple residential streets in the City of Lincoln. Shallow underground utilities within the existing pavement section limited rehabilitation options and strategies. Full-depth reclamation (FDR) was selected. FDR reduces the amount of paving material transported by recycling the existing pavement as the base layer for new pavement, thus saving the County time and construction costs. The team provided utility coordination, right-of-way mapping, and drainage design. Unico provided all survey for the project.

CLIENT

- ▶ City of Lincoln

REFERENCE

- ▶ Subconsultant to **BEN|EN**
- ▶ Client Contact
Araceli Cazarez
Associate Civil Engineer
600 Sixth Street
Lincoln, CA 95648
(916) 434-2486

COMPLETED

- ▶ March 2017 - May 2017

STAFF LIST

- ▶ Rob Markes
- ▶ Ryan Thompson, PLS
- ▶ Tim Pringle

EAST AVENUE WATERLINE REPLACEMENT

The **BEN|EN** team provided surveying, design, and potholing services to replace approximately 4,300LF of aged, undersized distribution pipelines within four streets. The existing pipe consists of 4-10" cast iron and asbestos-cement pipe. To increase capacity and comply with new City standards, 8-10" PVC pipe will be installed. The project also includes fire hydrant replacement service replacement, stormdrain improvements, utility coordination, and construction and bidding assistance. Unico provided all survey for the project.

CLIENT

- ▶ City of Lincoln

REFERENCE

- ▶ Subconsultant to **BEN|EN**
- ▶ Client Contact
Araceli Cazarez
Associate Civil Engineer
600 Sixth Street
Lincoln, CA 95648
(916) 434-2486

COMPLETED

- ▶ August 2019 - October 2019

STAFF LIST

- ▶ Rob Markes
- ▶ Ryan Thompson, PLS
- ▶ Tim Pringle

NEW CEMENT HILL PIPELINE

The New Cement Hill Pipeline provided a second pipeline consisting of 20-inch diameter PVC from the Cement Hill Water Treatment Plant to the site of the existing Tank 2A and new Tank 2B, enabling the tanks to become a clear well for the treatment plant. During construction of the new pipeline, the existing pipeline remained in operation. Tasks included project management, bypass, sequencing and connection plans, design plans, specifications and estimate, flow meter installation, fiber optic cable installation, assistance with acquisition of an encroachment permit from the US Bureau of Reclamation for construction within the Putah South Canal right-of-way, ensuring environmental compliance, permitting, preparation of a Storm Water Pollution Prevention Plan (SWPPP), and public outreach. Unico provided all survey for the project.

CLIENT

- ▶ Suisun-Solano Water Authority

REFERENCE

- ▶ Subconsultant to **BEN|EN**
- ▶ Client Contact
Jim Daniels
District Engineer
810 Vaca Valley Parkway, Suite 201
Vacaville, CA 95688
(707) 455-4015

COMPLETED

- ▶ March 2018 - August 2018

STAFF LIST

- ▶ Rob Markes
- ▶ Ryan Thompson, PLS
- ▶ Tim Pringle

ECORP PROJECT EXPERIENCE

WATERLINE REPLACEMENT PROJECT – CEQA PLUS IS/ MND

The Waterline Replacement Project occurred throughout the City. The Project included the replacement of approximately 8,980 linear feet of 2-inch waterlines with 6-inch waterlines, 37,490 linear feet of 6-inch waterlines with 10-inch waterlines, upgrading of 172 water valves, upgrading of 940 service connections, and the replacement of 29 fire hydrants. The Project abandoned in place portions of the pipeline while removing other portions. The Waterline Replacement Project occurred throughout the City. The Project included the replacement of approximately 8,980 linear feet of 2-inch waterlines with 6-inch waterlines, 37,490 linear feet of 6-inch waterlines with 10-inch waterlines, upgrading of 172 water valves, upgrading of 940 service connections, and the replacement of 29 fire hydrants. The Project abandoned in place portions of the pipeline while removing other portions.

CLIENT

- ▶ City of Gridley

REFERENCE

- ▶ Subconsultant to **BEN|EN**
- ▶ City Contact
Ross Pippitt
Project Manager
853 Laurel Street
Gridley, CA 95948
530.846.3631

COMPLETED

- ▶ April 2019 - October 2019

KEY STAFF

- ▶ Scott Friend
- ▶ Mike Martin

LITTLE AVENUE LIFT STATION AND FORCEMAIN REPLACEMENT

The Proposed Project was for the replacement of approximately 2,872 linear feet of 4-inch and 6-inch forced main wastewater pipeline with a 10-inch pipeline, one lift station, relocation of one control box, and the installation of a backup generator. The Project abandoned in place portions of the pipeline while removing other portions. Most of the construction occurred within the existing Little Avenue ROW, except for approximately 280 feet that will occur within the City's utility easement on private land and the section crossing under a BWD irrigation canal. The replacement of the pipeline under an irrigation canal was completed using horizontal direction drilling.

CLIENT

- ▶ City of Gridley

REFERENCE

- ▶ Subconsultant to **BEN|EN**
- ▶ City Contact
Ross Pippitt
Project Manager
853 Laurel Street
Gridley, CA 95948
530.846.3631

COMPLETED

- ▶ June 2019 - October 2019

KEY STAFF

- ▶ Scott Friend
- ▶ Mike Martin

STIRLING CITY SEWER REHABILITATION PROJECT

The Project was the rehabilitation of a portion of the wastewater collection system under the authority of County Service Area (CSA) 82, Stirling City Sewer System. Replacement and repair of portions of the system had been completed in the past, but further rehabilitation was needed. Approximately 2,700 linear feet of the original 5,500-foot clay pipe wastewater collection system was replaced. The Project also included the replacement of 12 existing manholes with nine standard 48-inch manholes and the installation of 83 new laterals (approximately ten linear feet each, up to the new sewer cleanouts). All construction occurred within the existing pipeline right-of-way under unpaved alleys and roads throughout the small community.

CLIENT

- ▶ Butte County Public Works

REFERENCE

- ▶ Eric Schroth, PE, LS
Associate Civil Engineer
7 County Center Drive
Oroville, CA 95965
530.538.7266

COMPLETED

- ▶ February 2020 - July 2020

KEY STAFF

- ▶ Scott Friend
- ▶ Mike Martin

LITIGATION STATUS

Bennett Engineering Services has never been a party in any litigation, past, present, or pending.

STAFFING

Members of the **BEN|EN** team have worked together on dozens of projects, including pipeline replacement projects for the cities of Lincoln, Gridley, Roseville, and other districts and agencies such as the Citrus Heights Water District, Nevada Irrigation District, Placer County Water Agency, and many others.

BEN|EN is familiar with the District through our participation in a master services agreement in 2014 and a piping upgrade project at the Plumas Lake Water Treatment Plant. We look forward to once again providing civil engineering services to the District on this very important infrastructure project.

PROJECT TEAM

Contact Person and Project Manager

Our proposed project manager, Stacey Lynch, PE will work closely with District staff to ensure that the District's expectations are met and that there are no surprises. Stacey has more than 16 years of engineering experience with water resources projects.

She is highly accessible and offers a proven track record of on-time, on-budget delivery. She will provide ongoing communication and rapid responses to questions or concerns from design through construction. Stacey can be reached at Telephone: 916.539.9418 and email: slynch@ben-en.com.

Consulting Team

BEN|EN has the experience and in-depth project understanding to partner with firms that specialize in single-focus engineering specialties to provide the best value and service to the City. Recent hires have expanded our capability to successfully manage more projects simultaneously and our 29 team members have ample availability for this project. The following pages summarize the capabilities and experience of the staff proposed for the OPUD Pipeline Replacement Project. **Full resumes for all staff can be found in the Appendix.**



Our team is comprised of experts with successful delivery experience and knowledge of pipeline replacement projects funded by the State Revolving Fund.

Water Infrastructure Improvements - Citrus Heights Water District

PROJECT ORGANIZATION

OLIVEHURST PUBLIC UTILITY DISTRICT

PROJECT MANAGER
Stacey Lynch, PE
BEN|EN

QUALITY CONTROL
Michael Massaro, PE
BEN|EN

CIVIL ENGINEERING
Gabriel Rodell, PE
Kati Sethares, EIT
BEN|EN

SUBCONSULTANTS

SURVEY
Ryan Thompson, PLS
Rob Markes
Tim Pringle

UNICO ENGINEERING

POTHOLING
DISCOVERY HYDROVAC

ENVIRONMENTAL
Scott Friend
Michael Martin
Seth Myers
Rosemary Warden
Keith Kwan
Jeremy Adams
ECORP



STACEY LYNCH, PE
Project Manager

Stacey Lynch has more than 16 years of experience in the civil engineering field. Her experience includes planning, design, management, and construction assistance for water resources

projects. Stacey's knowledge of the funding and permitting for water resources projects includes rate studies, rate increases (Proposition 218 regulations), funding applications and requirements (specifically the Clean Water State Revolving Fund (CWSRF)), and permitting negotiations and requirements with the Regional Water Quality Control Board (RWQCB).

LICENSES | REGISTRATION

- ▶ Civil Engineering, CA, 81860

EDUCATION

- ▶ BS Civil Engineering, California State University, Sacramento

PROJECT EXPERIENCE

- ▶ East Avenue Waterline Replacement, City of Lincoln
- ▶ Downtown Waterline and Street Replacement, City of Lincoln
- ▶ Verdera North Tank #3 and Pipeline, City of Lincoln
- ▶ New Cement Hill Pipeline, Suisun-Solano Water Authority
- ▶ Gold Run Pipeline Replacement, Phase IV and V, Placer County Water Agency
- ▶ North Industrial Water Pipeline, City of Roseville
- ▶ Clover Valley Reservoir Desilting and Reservoir Supply Pipeline, Placer County Water Agency
- ▶ Lincoln Regional Pipeline, Placer County



MICHAEL MASSARO, PE
Quality Control/Assurance

With more than 20 years of experience, Mike Massaro has managed design teams, subconsultants, budgets, and schedules. His projects have required the production of plans, specifications, cost estimates, public outreach,

utility coordination and coordination for environmental permitting. Mike's technical expertise and experience includes water, sewer, and recycled water facilities, including pump stations, interceptors, and pipelines. The pipelines have included vitrified clay pipe (VCP), reinforced concrete (RCP), polyethylene (HDPE), polyvinyl chloride (PVC), ductile iron pipe (DIP), and have ranged from 8- to 120-inches in diameter and as long as 38,000 feet.

LICENSES | REGISTRATION

- ▶ Civil Engineering, CA, 82712

EDUCATION

- ▶ BS Civil Engineering, University of Arizona

- ▶ MS Environmental Engineering, University of Arizona

PROJECT EXPERIENCE

- ▶ New Cement Hill Pipeline, Suisun-Solano Water Authority
- ▶ Verdera North Tank #3 and Pipeline, City of Lincoln
- ▶ Downtown Waterline and Street Replacement, City of Lincoln
- ▶ East Avenue Waterline Replacement, City of Lincoln
- ▶ Highway 50 Pipeline Crossing, California American Water
- ▶ South Jefferson Street Improvements, City of Dixon
- ▶ Arcade Creek Crossing, Sac Suburban Water District
- ▶ Poplar Avenue Waterline Replacement, Citrus Heights Water District



GABRIEL RODELL, PE
Project Engineer

Gabriel Rodell has more than seven years of experience in engineering consulting. His experience includes design and analysis for potable water systems, including pipelines, water tanks, and pump stations.

Gabriel has experience in CAD plan and detail work, funding assistance through SRF and Caltrans, district and city engineering services, and he has coordinated with Regional and State Water Boards for permitting, regulations, and funding.

LICENSES | REGISTRATION

- ▶ Civil Engineering, CA 86446

EDUCATION

- ▶ BS Civil Engineering, University of California at Davis

PROJECT EXPERIENCE

- ▶ East Avenue Waterline Replacement, City of Lincoln
- ▶ Arcade Creek Crossing, Sacramento Suburban Water District

- ▶ Londonberry Drive Creek Crossing Design, California American Water
- ▶ 2018 Treated Water Line And Canal Reliability Project, Georgetown Divide Public Utility District
- ▶ New Cement Hill Pipeline, Suisun-Solano Water Authority
- ▶ Downtown Waterline and Street Replacement, City of Lincoln
- ▶ Butte View Drive Sewer Replacement, City of Gridley
- ▶ Highway 50 Pipeline Crossing, California American Water
- ▶ Verdera North Tank #3 and Pipeline, City of Lincoln
- ▶ Poplar Avenue Waterline Replacement, Phase 2, Citrus Heights Water District
- ▶ Sewer Mains and Manhole Repairs, City of Grass Valley



KATI SETHARES, EIT
Assistant Engineer

Kaitlyn (Kati) Sethares graduated in 2018 with honors from the University of Vermont with a Bachelor of Science in Civil Engineering and a minor in Mathematics. She now has more than one year of professional

civil engineering experience, all with Bennett Engineering Services.

Since joining the firm, Kati has assisted with construction document preparation, preparing funding applications for both water and wastewater projects, encroachment permits, and writing technical memorandums. She has performed calculations for and assisted in the design of water and wastewater pipelines, a water storage tank, and a pump station. She is technically proficient in AutoCAD, MATLAB, Revit, MicroStation, COMSOL, and GIS.

LICENSES | REGISTRATION

- ▶ Engineer-in-Training CA, 166036

EDUCATION

- ▶ BS Civil Engineering, University of Vermont

PROJECT EXPERIENCE

- ▶ East Avenue Waterline Replacement, City of Lincoln
- ▶ Arcade Creek Crossing, Sac Suburban Water District
- ▶ Londonberry Drive Creek Crossing Design, California American Water
- ▶ New Cement Hill Pipeline, Suisun-Solano Water Authority
- ▶ 2018 Treated Water Line And Canal Reliability Project, Georgetown Divide PUD District

UNICO ENGINEERING | SURVEY

ROB MARKES
Survey Manager

Mr. Markes has worked in the survey industry for 32 years. As crew chief Rob oversees field procedures and is responsible for all office and field personnel. He is an experienced, Survey Crew Chief, excelling in topographic mapping, construction staking, and boundary

surveys. His land surveying expertise includes supervising and performing Global Positioning System surveys, topographic surveys, aerial control surveys, horizontal and vertical control networks, title surveys, boundary surveys, cadastral surveys, geodetic surveys, engineering surveys and construction surveys, plus construction control and staking for a wide range of projects.

PROJECT EXPERIENCE

- ▶ Downtown Waterline and Street Replacement, City of Lincoln
- ▶ New Cement Hill Pipeline, Suisun-Solano Water Authority
- ▶ Highway 50 Crossing Design, California American Water
- ▶ CRA Erosion Project, Metropolitan Water District
- ▶ Sanitary Sewer Projects, City of Oroville
- ▶ Well 21, City of Lathrop

RYAN THOMPSON, PLS
Land Surveyor

Mr. Thompson has a proven ability to carry out all aspects of land surveying from boundary determination, topographic surveying, construction staking and mapping. Mr. Thompson specializes in complex legal and easement preparation. His experience also includes using Global Positioning Systems and conventional robotic

instruments and laser levels. Ryan is experienced at delivering projects that require the ABC process and meet Caltrans right-of-way standards. Mr. Thompson has 20 years' experience in both the public and private sector including several years as an Associate Land Surveyor for the County of Sacramento.

LICENSES | REGISTRATION

- ▶ Professional Land Surveyor, CA 8749

PROJECT EXPERIENCE

- ▶ New Cement Hill Pipeline, Suisun-Solano Water Authority
- ▶ Highway 50 Crossing Design, California American Water
- ▶ Punta Del Monte Water Main Replacement, Monterey County
- ▶ Well 21, City of Lathrop
- ▶ Highway 193 Project, Georgetown Divide Public Utility District
- ▶ CRA Erosion Project, Metropolitan Water District

SCOTT FRIEND

Senior Environmental Planner

Mr. Friend manages the planning and environmental services activities of ECORP Consulting, Inc.'s (ECORP) Chico office. With more than 24 years of professional planning and environmental analysis experience, he is responsible for project acquisition, preparation and management activities; provides technical review and oversight of office staff and projects; and provides direct "hands-on" engagement with clients and projects. He

specializes in current and long-range contract planning activities as well as the preparation and review of general plans, municipal codes and California Environmental Quality Act (CEQA) environmental compliance documents. He manages and prepares the full range of CEQA and National Environmental Policy Act (NEPA) environmental compliance and analysis documents.

LICENSES | REGISTRATION

- ▶ American Institute of Certified Planners (AICP)

EDUCATION

- ▶ BA Political Science, California State University, Chico

- ▶ Masters of Environmental Planning Program (MEP), Arizona State University

PROJECT EXPERIENCE

- ▶ Treated Wastewater Land Discharge Project and EIR, Butte County
- ▶ Wastewater Collection System Upgrade and Rehabilitation project, Hamilton City CSD
- ▶ Wastewater Treatment Plant (WWTP) and Collection Upgrade Project, City of Biggs
- ▶ WWTP Upgrade and Expansion Environmental Analysis, City of Willows
- ▶ Classroom Addition Project, Capay Joint Union Elementary School District

MICHAEL MARTIN

Senior Environmental Planner

Mr. Martin's responsibilities include environmental planning, policy document preparation, and contract planning services for client agencies. As a project manager and assistant project manager with 15 years of experience, he has completed environmental impact reports for large-scale residential developments, multi-use developments, commercial developments, and general plan updates. He has written numerous initial studies/

negative declarations for a variety of development types. He has also provided contract planning staff for various jurisdictions in northern California and has written zoning code and subdivision code updates, municipal service reviews, development impact fee updates, housing elements, and general plan updates. He has written housing condition and income surveys, and housing needs assessments, written Community Development Block Grant (CDBG) P/TA and General Allocation grants, and written over 35 Affordable Housing Feasibility studies throughout the United States.

EDUCATION

- ▶ BA Environmental Studies with Urban Planning minor, San Jose State University

PROJECT EXPERIENCE

- ▶ Little Avenue Wastewater Replacement Project IS/MND, City of Gridley
- ▶ Waterline Replacement Project IS/MND, City of Gridley
- ▶ Stirling City Wastewater Pipeline Project IS/MND, Butte County
- ▶ Sugar Pine Project Water Rights Permit Extension and Radial Gates Installation EIR/EIS, Foresthill PUD
- ▶ Yreka Creek Greenway Master Plan and Flood Reduction EIR and EA, City of Yreka

SETH MYERS

Air Quality/Greenhouse Gas/ Noise Analyst

With 14 years of experience as an environmental planner and air quality/noise analyst, Mr. Myers is involved in the preparation of a full range of CEQA and NEPA environmental compliance and review documents including environmental impact reports. He has extensive expertise conducting air quality, greenhouse gas emissions, and noise analyses and has a comprehensive working knowledge of the associated regulatory environment. Mr.

Myers prepares implementation documents and programs such as zoning ordinance updates, design review programs, and planning program guidelines.

LICENSES | REGISTRATION

- ▶ Certified Arborist, International Society of Arboriculture (WE 7501A)

EDUCATION

- ▶ BA Environmental Studies and Planning (minor in Biology), Sonoma State University

PROJECT EXPERIENCE

- ▶ Little Avenue Lift Station and Force Main Replacement, City of Gridley

- ▶ WWTP Enhancement Project, City of Biggs
- ▶ WWTP Improvements Project, City of Jackson
- ▶ Bert Crane Solar Facility Project, City of Atwater
- ▶ School Modernization Project, Lake Elementary School District
- ▶ East Brawley Geothermal Plant, County of Imperial Planning Department
- ▶ Kiowa Well and Mojave Reservoir Projects, Golden State Water Company
- ▶ Judson Rancho Agricultural Pump Acoustic Analysis, San Bernardino County

ROSEMARY WORDEN

Environmental Planner

Ms. Worden offers a keen interest in horticulture, soil conservation and environmental studies. She has experience in conducting air quality, greenhouse gas emissions, and noise analysis and has a comprehensive understanding of environmental regulatory framework. This is paired with a working knowledge of CalEEMod, AERMOD, SoundPLAN, the Roadway Construction Model, the Federal Highway Administration (FHWA)

Highway Traffic Noise Prediction Model, and other industry standard modeling tools. She has excellent analytical, reasoning, research skills and thrives on challenges and the opportunity to learn..

EDUCATION

- ▶ BS Environmental Science, California State University, Chico

PROJECT EXPERIENCE

- ▶ Air Quality and Emissions Analysis Leo Solar, Apex Energy Solutions
- ▶ Emissions/Noise Analysis, 13131 Los Angeles Street Industrial Project EIR, City of Irwindale Community Development Department

- ▶ Corridor Improvement Project, Yolo County
- ▶ Moreno Valley Amphitheater Project, Architerra Design Group
- ▶ S. Oregon Ready Mix Noise/Emissions Analysis, County of Siskiyou
- ▶ Temecula Winery And Hotel, Riverside County
- ▶ Concar Passage, David J. Power & Associates
- ▶ Whitney Ranch Chevron and Carwash, Tera Properties
- ▶ 3rd and Claremount Mixed Use Project, David J. Power & Associates

KEITH KWAN

Senior Biologist/Avian Ecologist

Mr. Kwan has more than 25 years of experience as a wildlife biologist and wetland ecologist. He specializes in avian ecology, wetland delineations and wetland ecology, special-status species ecology, environmental impact assessment, regulatory compliance, and project management. He also has expertise in conducting biological resource assessments, bird censuses, special-status species surveys, general biotic inventories, and biodiversity

monitoring of created, restored, and existing terrestrial habitats of California. He has expertise in delineation of waters of the U.S. and has delineated over a hundred sites throughout California, Nevada, and Colorado. He also has expertise in California's Central Valley annual grassland and oak woodland communities, having conducted hundreds of wetland and biological resource evaluations related to site development, impact assessment, California Environmental Quality Act (CEQA) compliance, Clean Water Act (CWA) 404 compliance, and California Department of Fish and Wildlife (CDFW) 1602 compliance.

EDUCATION

- ▶ BS Biological Sciences, California State University, Sacramento

PROJECT EXPERIENCE

- ▶ Ukiah WWTP Expansion, City of Ukiah
- ▶ Orland Simplot Expansion Project, City of Orland
- ▶ Road MM Sanitary Sewer Improvement Project, City of Orland
- ▶ Vineyard Crossing Vesting Tentative Map Subdivision Planned Development, County of Mendocino
- ▶ West Capitol Avenue Property, City of West Sacramento

HANNAH STONE

Staff Biologist

Hannah Stone is a biologist with more than eight years of professional experience in botanical, forest inventory, and ecological data collection. She is experienced in leading and conducting floristic surveys, special-status plant surveys, vegetation community mapping, invasive plant species mapping, and habitat assessments. She is also experienced in preparing technical reports including special-status plant reports, Biological Resource

Assessments (BRAs), biological evaluations/biological assessments (BEs/BAs) for Forest Service projects, BAs for Section 7 consultation, and National Environmental Policy Act compliance documents.

LICENSES | REGISTRATION

- ▶ California Plant Voucher Collecting Permit

PROJECT EXPERIENCE

- ▶ Biological and Regulatory Tasks, County of Lassen
- ▶ Placer Gold, Phase 2, Placer County
- ▶ Fairway Oaks Project and Annexation Area, Sacramento County

- ▶ Brunswick Commons, Pacific West Communities, Inc.
- ▶ Fredonyer Butte Trail, Lassen County
- ▶ Common Diversion, Madera County
- ▶ Oroville Wildlife Area Flood State Reduction Project, Sutter Butte County Flood Control Agency
- ▶ CCC Replace Ukiah Center, California Department of General Services
- ▶ Leviathan Peak Telecommunications Tower, California Department of General Services

Fee Estimate

Client: Olivehurst Public Utility District

Consultant: Bennett Engineering Services Inc

Project: Design for Water Infrastructure in Historic Olivehurst

Date: December 10, 2020



Fee Estimate	Principal Engineer 250 \$/hr		Project Manager IV 204 \$/hr		Engineer V 204 \$/hr		Engineer II 168 \$/hr		Engineer I 153 \$/hr		Labor Compliance Specialist 110 \$/hr		Administrative 80 \$/hr		BEN EN Subtotal		MISC. EXPENSES	Unico Contract	ECORP Contract	Discovery Hydrovac Contract	TOTAL
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost					
Task 1 Project Management																					
1.1 - Develop Project Workplan	hrs	\$0	2 hrs	\$408	1 hrs	\$204	4 hrs	\$672	hrs	\$0	hrs	\$0	hrs	\$0	7 hrs	\$1,284	\$60	\$0	\$0	\$0	\$1,344
1.2 - Monthly Invoices and Status Reports	hrs	\$0	10 hrs	\$2,040	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	8 hrs	\$640	18 hrs	\$2,680	\$130	\$0	\$0	\$0	\$2,810
1.3 - Project Meetings and Coordination	hrs	\$0	10 hrs	\$2,040	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	4 hrs	\$320	14 hrs	\$2,360	\$120	\$0	\$0	\$0	\$2,480
1.4 - Quality Assurance/Quality Control (QA/QC)	4 hrs	\$1,000	4 hrs	\$816	8 hrs	\$1,632	3 hrs	\$504	hrs	\$0	hrs	\$0	1 hrs	\$80	20 hrs	\$4,032	\$200	\$0	\$0	\$0	\$4,232
Subtotal	4 hrs	\$1,000	26 hrs	\$5,304	9 hrs	\$1,836	7 hrs	\$1,176	hrs	\$0	hrs	\$0	13 hrs	\$1,040	59 hrs	\$10,356	\$510	\$0	\$0	\$0	\$10,866
Task 2 Preliminary Engineering, Site Investigation, & Data Collection																					
2.1 - Preliminary Engineering	2 hrs	\$500	12 hrs	\$2,448	8 hrs	\$1,632	30 hrs	\$5,040	10 hrs	\$1,530	hrs	\$0	2 hrs	\$160	64 hrs	\$11,310	\$570	\$0	\$0	\$0	\$11,880
2.2 - Survey & Mapping	hrs	\$0	hrs	\$0	hrs	\$0	1 hrs	\$168	6 hrs	\$918	4 hrs	\$440	hrs	\$0	11 hrs	\$1,526	\$80	\$51,750	\$0	\$0	\$53,356
2.3 - Potholing	hrs	\$0	hrs	\$0	hrs	\$0	1 hrs	\$168	4 hrs	\$612	4 hrs	\$440	hrs	\$0	9 hrs	\$1,220	\$60	\$0	\$0	\$23,000	\$24,280
2.4 - Utility Coordination	hrs	\$0	4 hrs	\$816	hrs	\$0	2 hrs	\$336	8 hrs	\$1,224	hrs	\$0	2 hrs	\$160	16 hrs	\$2,536	\$130	\$0	\$0	\$0	\$2,666
Subtotal	2 hrs	\$500	16 hrs	\$3,264	8 hrs	\$1,632	34 hrs	\$5,712	28 hrs	\$4,284	8 hrs	\$880	4 hrs	\$320	100 hrs	\$16,592	\$840	\$51,750	\$0	\$23,000	\$92,182
Task 3 Final Design PS&E Documents																					
3.1 - RED GROUPING-11th	hrs	\$0	4 hrs	\$816	2 hrs	\$408	8 hrs	\$1,344	14 hrs	\$2,142	hrs	\$0	8 hrs	\$640	36 hrs	\$5,350	\$270	\$0	\$0	\$0	\$5,620
3.2 - ORANGE GROUPING-Ardmore, Beverly, and Western	hrs	\$0	24 hrs	\$4,896	4 hrs	\$816	40 hrs	\$6,720	84 hrs	\$12,852	hrs	\$0	8 hrs	\$640	160 hrs	\$25,924	\$1,300	\$0	\$0	\$0	\$27,224
3.3 - GREEN GROUPING-Pacific, Chapman, and 8th	hrs	\$0	20 hrs	\$4,080	6 hrs	\$1,224	32 hrs	\$5,376	70 hrs	\$10,710	hrs	\$0	8 hrs	\$640	136 hrs	\$22,030	\$1,100	\$0	\$0	\$0	\$23,130
3.4 - BLUE GROUPING-Tulsa, 4th, and 5th	hrs	\$0	16 hrs	\$3,264	4 hrs	\$816	24 hrs	\$4,032	56 hrs	\$8,568	hrs	\$0	8 hrs	\$640	108 hrs	\$17,320	\$870	\$0	\$0	\$0	\$18,190
3.5 - PURPLE GROUPING-Canal, 9th, and 8th	hrs	\$0	16 hrs	\$3,264	4 hrs	\$816	24 hrs	\$4,032	56 hrs	\$8,568	hrs	\$0	8 hrs	\$640	108 hrs	\$17,320	\$870	\$0	\$0	\$0	\$18,190
3.6 - YELLOW GROUPING-10th, and Okmulgee	hrs	\$0	8 hrs	\$1,632	2 hrs	\$408	10 hrs	\$1,680	28 hrs	\$4,284	hrs	\$0	8 hrs	\$640	56 hrs	\$8,644	\$430	\$0	\$0	\$0	\$9,074
Subtotal	hrs	\$0	88 hrs	\$17,952	22 hrs	\$4,488	138 hrs	\$23,184	308 hrs	\$47,124	hrs	\$0	48 hrs	\$3,840	604 hrs	\$96,588	\$4,840	\$0	\$0	\$0	\$101,428
Task 4 DWSRF Construction Grant Funding Application (OPTIONAL)																					
Subtotal	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	\$0	\$0	\$0	\$0	\$0
Task 5 Bidding Support																					
5.1 - Assistance During Bidding	hrs	\$0	4 hrs	\$816	hrs	\$0	6 hrs	\$1,008	2 hrs	\$306	hrs	\$0	2 hrs	\$160	14 hrs	\$2,290	\$110	\$0	\$0	\$0	\$2,400
Subtotal	hrs	\$0	4 hrs	\$816	hrs	\$0	6 hrs	\$1,008	2 hrs	\$306	hrs	\$0	2 hrs	\$160	14 hrs	\$2,290	\$110	\$0	\$0	\$0	\$2,400
Task 6 Engineering Services During Construction																					
6.1 - Review and Respond to RFIs	hrs	\$0	12 hrs	\$2,448	2 hrs	\$408	4 hrs	\$672	hrs	\$0	hrs	\$0	1 hrs	\$80	19 hrs	\$3,608	\$180	\$0	\$0	\$0	\$3,788
6.2 - Review and Respond to Submittals	hrs	\$0	3 hrs	\$612	hrs	\$0	6 hrs	\$1,008	16 hrs	\$2,448	hrs	\$0	1 hrs	\$80	26 hrs	\$4,148	\$210	\$0	\$0	\$0	\$4,358
6.3 - Review and Respond to Change Order Requests	hrs	\$0	4 hrs	\$816	2 hrs	\$408	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	6 hrs	\$1,224	\$60	\$0	\$0	\$0	\$1,284
Subtotal	hrs	\$0	19 hrs	\$3,876	4 hrs	\$816	10 hrs	\$1,680	16 hrs	\$2,448	hrs	\$0	2 hrs	\$160	51 hrs	\$8,980	\$450	\$0	\$0	\$0	\$9,430
Task 7 Construction Manamement and Inspection (OPTIONAL)																					
Subtotal	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	\$0	\$0	\$0	\$0	\$0
Task 8 Project Closeout																					
8.1 - Record Drawings	hrs	\$0	2 hrs	\$408	hrs	\$0	4 hrs	\$672	12 hrs	\$1,836	hrs	\$0	hrs	\$0	18 hrs	\$2,916	\$150	\$0	\$0	\$0	\$3,066
Subtotal	hrs	\$0	2 hrs	\$408	hrs	\$0	4 hrs	\$672	12 hrs	\$1,836	hrs	\$0	hrs	\$0	18 hrs	\$2,916	\$150	\$0	\$0	\$0	\$3,066
PROJECT TOTAL	6 hrs	\$1,500	155 hrs	\$31,620	43 hrs	\$8,772	199 hrs	\$33,432	366 hrs	\$55,998	8 hrs	\$880	69 hrs	\$5,520	846 hrs	\$137,722	\$6,900	\$51,750	\$0	\$23,000	\$219,372

OPTIONAL TASKS:

Task 4 DWSRF Construction Grant Funding Application	hrs	\$0	40 hrs	\$8,160	hrs	\$0	16 hrs	\$2,688	30 hrs	\$4,590	hrs	\$0	hrs	\$0	86 hrs	\$15,438	\$770	\$0	\$57,500	\$0	\$73,708
Task 7 Construction Manamement and Inspection	hrs	\$0	2 hrs	\$408	hrs	\$0	hrs	\$0	hrs	\$0	hrs	\$0	4 hrs	\$320	6 hrs	\$728	\$40	\$386,400	\$0	\$0	\$387,168
OPTIONAL TASKS TOTAL	hrs	\$0	42 hrs	\$8,568	hrs	\$0	16 hrs	\$2,688	30 hrs	\$4,590	hrs	\$0	4 hrs	\$320	92 hrs	\$16,166	\$810	\$386,400	\$57,500	\$0	\$460,876
PROJECT TOTAL with OPTIONAL TASKS	6 hrs	\$1,500	197 hrs	\$40,188	43 hrs	\$8,772	215 hrs	\$36,120	396 hrs	\$60,588	8 hrs	\$880	73 hrs	\$5,840	938 hrs	\$153,888	\$7,710	\$438,150	\$57,500	\$23,000	\$680,248

Additional Fee Information

- ▶ This fee estimate is valid for 90 days from the date show above.
- ▶ This fee estimate contains an abbreviated list of staff classifications and does not restrict BEN|EN to those classifications. The Standard Rate Schedule with a full list of staff classifications is available upon request.
- ▶ This fee estimate contains an approximation of the breakdown between labor, expense, and consultants. BEN|EN reserves the rights to distribute funds differently based on project needs.
- ▶ Standard hourly rates do not apply to a demand to perform work during an overtime period. Work required to be performed during an overtime period (as mandated by California law) may be charged at a 50% premium. Work mandated by Prevailing Wage laws may be charged at a 25% premium.
- ▶ Hourly rates include all compensation for wages, salary-related benefits, overhead, general office administration, and profit. Direct project administrative hours will be billed at the rate shown above.
- ▶ Classifications may be added or removed as-needed without notice.
- ▶ Changes in the requested scope of work or projected schedule may result in the revision of the proposed fees and amendment to the total contract amount.
- ▶ Rates are subject to change annually effective July 1st.



STACEY LYNCH, PE

Stacey Lynch has more than 16 years of experience in the civil engineering field. Her experience includes planning, design, management, and construction assistance for water resources projects. Stacey has extensive experience in small community wastewater projects. Her knowledge of the funding and permitting for these types of projects includes rate studies, rate increases (Proposition 218 regulations), funding applications and requirements (specifically the Clean Water State Revolving Fund (CWSRF)), and permitting negotiations and requirements with the Regional Water Quality Control Board (RWQCB).

In addition, Stacey's expertise includes analysis of flow for hydroelectric facilities, design of intake screen systems, drainage analysis and design, water and wastewater systems design, and residential and commercial development site improvements design. Responsibilities include research, conceptual analysis, planning, design calculations, and technical studies. Technical skills include proficiency in AutoCAD, water modeling software, and Visual Basic.

Stacey specializes in design-build project delivery and design-bid-build delivery. Her design-build projects include the Nevada Irrigation District Banner-Taylor Reservoir Replacement, Nevada Irrigation District Siphon Lane Pump Station, Santa Cruz Bay Street Reservoir Replacement, and Los Angeles County In-Conduit Hydro projects.

PROJECT EXPERIENCE

East Avenue Waterline Replacement, City of Lincoln. This waterline replacement project was in an older, historical part of the City and required new services to each home/business. The project required plans, specifications, and estimates (PS&E), DDW waiver requests, utility coordination, potholing, survey, and bidding support. As Project Manager, Stacey was responsible for the overall project delivery and coordination.

Downtown Waterline and Street Replacement, City of Lincoln. Replaced 4,200 LF of existing water mains and provided full-depth roadway replacement on multiple residential streets. Team provided utility coordination, right-of-way mapping, and drainage design. As Project Manager, provided overall project management and design for the waterline replacement portion of the project.

Wastewater Treatment Ponds Closure, City of Marysville. Decommissioning of the City's WWTP Ponds was the last milestone in the closure of their WWTP. The ponds decommissioning project included removal of the old remaining wastewater sludge and regrading of the entire two ponds sites. As project manager, Stacey was responsible for overall project management, SRF funding acquisition and management, RWQCB permit management, design PS&E, and construction management.

Stirling City Sewer System Rehabilitation Planning Study, Butte County. Project includes assessment of the collection system with a report identifying deficiencies and repairs needed; preliminary engineering; evaluation of rehabilitation and replacement alternatives with cost estimate; income survey; CEQA/NEPA documentation; evaluation of existing rights-of-way and land acquisitions for proper ownership. Stacey assisted the project team by providing the Rate Study for the County's service area and assisted the County with the SRF funding application.

New Cement Hill Pipeline, Suisun-Solano Water Authority. This project will provide a second pipeline, consisting of 20-inch diameter PVC, from the Cement Hill Water Treatment Plant (CHWTP) to the site of the existing Tank 2A and future Tank 2B. The scope of work included design for updating the connection to the tank with an above ground manifold, double-ball flexible expansion joint, motor-operated valve, and chlorine sampling points. Tasks include project management, plans, specifications, and estimate, flow meter installation, assistance with acquisition of an encroachment permit for construction within the Putah Canal right-of-way with the US Bureau of Reclamation, assuring environmental compliance, permitting, preparation of a Storm Water Pollution Prevention Plan (SWPPP), public outreach, and design support during construction.

BEN | EN

PROJECT ROLE

Project Manager

PROFESSIONAL REGISTRATION

Civil Engineering, CA 81860

EDUCATION

Bachelor of Science Civil Engineering,
California State University,
Sacramento

PROFESSIONAL AFFILIATIONS

American Public Works Association
American Society of Civil Engineers

CONTACT

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Roseville, California 95762
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Direct (916) 771-6153
sbennett@ben-en.com

Verdera North Tank #3 and Pipeline, City of Lincoln.

This project involved construction of a new, 5-million-gallon, pre-stressed concrete water storage tank, associated tank piping, yard piping, valves and appurtenances; more than 5,000 LF of 36-inch pipeline connecting the new tank to the existing water system in Twelve Bridges Drive, a higher pressure 16-inch pipeline to connect to their upper zone, and a 36-inch pipeline connecting to a new PCWA metering station. As Project Manager, Stacey was responsible for the overall project deliverables, coordination of subconsultants, City staff, and other entities involved, responsible for design of the water tanks and coordination with the tank supplier.

The Rivers Tank and Pump Station - Design Build, City of West Sacramento.

This design-build tank and pump station project including preparation of civil design, building layout, structural design, site grading, and electrical/controls design for a new steel tank and pump station. The tank connects to the City's water system with a 2,000-foot waterline, sewer connection and stormdrain pipeline. As Project Manager, Stacey was responsible for the coordination with the client and subconsultants, and the deliverables to meet the strict construction schedule.

Wastewater Treatment Plant Improvements, City of Biggs.

Prepared design converting the City's existing Wastewater Treatment Plant (WWTP) from a surface water discharge facility to a land application discharge facility and achieve compliance with RWQCB. Phase 1 consisted of plant upgrades with rehabilitation of existing facilities. Design included a new influent pump station, a new influent screen to remove large debris and plastics, improvements to the rock filters, improvements to the chlorine distribution system, updated electrical power and controls, and updates to the operations/laboratory building. Phase 2 included the acquisition of approximately 150 acres of land for irrigation, grading and drainage improvements to the crop fields and storage pond, field irrigation piping design, a pump station to transport water to the storage pond, and updates to the electrical system and controls. For both phases, **we provided funding acquisition and management through SRF (two separate grants) and USDA (one grant)** and coordination with RWQCB for changes to the permit. Stacey assisted with the design of each component of the project and was **responsible for funding including preparation of the SRF funding applications (3). reimbursement requests and compliance funding requirements throughout the project.** Also responsible for permitting and compliance of the treatment plant with the Regional Water Quality Control Board. This effort included compliance items as part of the Time Schedule Order issued, overseeing the design to verify compliance with the new regulations, compliance with Title 22 requirements including a Title 22 Report and the Report of Waste Discharge.

Lincoln Metering and Hydroelectric Station, Placer County Water Agency.

The purpose of this project was to provide Placer County Water Agency with an operational system for hydroelectric generation utilizing the tank fill flow of the Lincoln Metering Station. The control strategy had to recognize that water deliveries take precedence over power production and the necessity to maintain the existing control strategy that allows for the ranging historic flows from 2,400 to 10,000 gpm. The scope included review of the feasibility report; recommending selection of the turbine-generator equipment; design options including alternative piping plans for the adding turbines; developing a project budget and projected hydroelectric revenue; applying to the utility for permitting and site interconnection; completing detailed design; and construction assistance. As Project Manager, Stacey was responsible for overall project management including deliverables of the contract documents. Provided hydraulic design calculations and power generation calculations for hydroelectric generation and provided coordination with the turbine supplier and PG&E.

Gold Run Pipeline Replacement Phase V, Placer County Water Agency.

This phase included the second section of ductile iron pipe (DIP) to extend and replace an existing pipeline over challenging terrain within Union Pacific Railroad right-of-way. Services included alignment analysis, design, cost analysis, grant application assistance, permitting assistance, and construction assistance. The project eliminated pipe failures, significantly reduced bluff erosion, and improved maintenance access. As Project Engineer, assisted the design team with preparation of improvement plans and construction management.

Gold Run Pipeline Replacement, Phase IV, Placer County Water Agency.

This project includes 5,000 feet of 36-inch ductile iron pipe (DIP) to extend and replace existing pipeline over challenging terrain within Union Pacific Railroad right-of-way. Services included alignment analysis, design, cost analysis, grant application assistance, and permitting assistance. The project eliminated pipe failures, significantly reduced bluff erosion, and improved maintenance access. As Project Engineer, assisted the design team with preparation of improvement plans and construction management.



MICHAEL MASSARO, PE

With more than 20 years of experience, Mike Massaro has managed design teams, subconsultants, budgets, and schedules. His projects have required the production of plans, specifications, cost estimates, public outreach, utility coordination and coordination for environmental permitting. As the current City Engineer at the City of Oroville, Mike reviews capital improvement plan projects for streets, sewer, and storm drainage, reviews encroachment permits, provides review and comment on parcel mergers and splits, lot line adjustments, tentative parcel maps, tentative subdivision maps, plan checking on site civil improvements and general conformance with the City of Oroville Municipal Code.



PROJECT ROLE

Quality Assurance Manager

PROFESSIONAL REGISTRATION

Civil Engineering, CA 64733
Civil Engineering, WA 45753

EDUCATION

Bachelor of Science Civil Engineering,
University of Arizona
Master of Science Environmental
Engineering, University of Arizona

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers
Water Environmental Federation
California Water Environment
Association
American Public Works Association

CONTACT

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mmassaro@ben-en.com

Mike's technical expertise and experience includes water, sewer, and recycled water facilities, including pump stations, interceptors, and pipelines. The pipelines have included vitrified clay pipe (VCP), reinforced concrete (RCP), polyethylene (HDPE), polyvinyl chloride (PVC), ductile iron pipe (DIP), and have ranged from 8- to 120-inches in diameter and as long as 38,000 feet. Mike has significant planning and design experience with open cut, horizontal directional drilling, tunneling, pipe jacking, and trenchless railroad and light rail crossings. He also provides engineering services during construction, reviewing submittals and requests for information and resolving challenges in the field.

PROJECT EXPERIENCE

Downtown Waterline and Street Replacement, City of Lincoln. Replaced 4,200 LF of existing water mains and provided full-depth roadway replacement on multiple residential streets. Team provided utility coordination, right-of-way mapping, and drainage design. As Quality Assurance, provided quality control and quality assurance support during design. East Avenue Waterline Replacement, City of Lincoln. Waterline replacement project requiring plans, specifications, and estimates (PS&E), utility coordination, potholing, survey, and bidding support. Quality Assurance Manager.

New Cement Hill Pipeline, Suisun-Solano Water Authority. This project will provide a second pipeline, consisting of 20-inch diameter PVC, from the Cement Hill Water Treatment Plant (CHWTP) to the site of the existing Tank 2A and future Tank 2B. The scope of work included design for updating the connection to the tank with an above ground manifold, double-ball flexible expansion joint, motor-operated valve, and chlorine sampling points. Tasks include project management, plans, specifications, and estimate, flow meter installation, assistance with acquisition of an encroachment permit for construction within the Putah Canal right-of-way with the US Bureau of Reclamation, assuring environmental compliance, permitting, preparation of a Storm Water Pollution Prevention Plan (SWPPP), public outreach, and design support during construction. As Project Manager, prepared the Preliminary Design Report, performed quality control, coordination of subconsultants, and acting liaison for multiple agencies.

Arcade Creek Crossing, Sacramento Suburban Water District. This project includes installation of new distribution main onto an existing bridge to replace the pipeline currently exposed within the existing creek bed. Tasks include project management, background research, design services, environmental and permitting services bid services, and engineering services during construction. Quality Assurance Manager.

Londonberry Drive Creek Crossing Design, California American Water. This project includes replacement of an existing 8-inch diameter steel pipe that was partially exposed within Mark West Creek. Installation of new 12" water main crossing the creek via horizontal directional drilling methods was chosen. Tasks include project management, topographic surveying and mapping, plans, specifications, and estimate, permitting (CEQA, California Department of Fish and Game, and a Sonoma County Riparian Corridor Zoning Permit), Bidding and Construction support. Quality Assurance Manager.

2018 Treated Water Line and Canal Reliability, Georgetown Divide Public Utility District. Engineering design, environmental review, permitting, bid documents, engineering estimates, bid support services, and engineering support during construction for the replacement and upgrade of 4-inch water mains. Quality Assurance Manager.

Lower Wyandotte Road Culvert Rehabilitation, City of Oroville. Dig and replacement of a 72-inch culvert within a paved section of roadway. Tasks included project management, predesign (including topographic survey and utility coordination), design of sidewalk, curb, and gutter, construction document preparation and construction bidding assistance. As City Engineer, provided project management and produced plans, specifications, and estimates for the project.

Highway 50 Pipeline Crossing, California American Water. This project includes design, permitting, bidding, and construction assistance services for 450 LF of 16-inch main to cross Route 50 via jack-and-bore and approximately 600 LF of 12-inch main to be installed via open cut on the North side of the highway. On the South side of the highway, approximately 300 LF of 12-inch main is to be installed via open cut. As Project Manager, provided technical solutions, scope, schedule, and budget as well as assisting CAW with property access, preliminary and final design of the bore and jack Highway 50 crossing. When completed the project will equalize pressure zones within a key service area.

South Jefferson Street Improvements, City of Dixon. Street rehabilitation and sewer upgrade project, incorporating full depth reclamation (FDR) repaving. Analyzed road conditions and recommended repaving strategy; upgraded sidewalks, ADA ramps, curbs, and gutters; evaluated sewer line degradation and proposed options for repair and replacement; coordinated with utility companies for utility relocation and adjustments to grading; Conducted public outreach to local residents. As Project Manager, led the sewer replacement, laterals, and utility coordination portion of the project. Rehabilitation will be accomplished with a dig and replace approach and temporary bypass pumping.

Verdera North Tank #3 and Pipeline, City of Lincoln. This project involved construction of a new, 5-million-gallon, pre-stressed concrete water storage tank, associated tank piping, yard piping, valves and appurtenances; more than 5,000 LF of 36-inch pipeline connecting the new tank to the existing water system in Twelve Bridges Drive, a higher pressure 16-inch pipeline to connect to their upper zone, and a 36-inch pipeline connecting to a new PCWA metering station. As Senior Engineer, led the pipeline

design portion of the work. Designed a connection to the new water tank and metering station and a connection to the existing conveyance system for the City. The project will bid ductile iron pipe and cement mortar lined steel pipe as options to choose the most competitive cost for the City.

Poplar Avenue Waterline Replacement, Phase 2, Citrus Heights Water District (CHWD). This project included surveying, design and permitting for a water main replacement project located in a residential neighborhood. As Project Manager, led pipeline connection design and support easement acquisition for the final phase of the water main rehabilitation and upsizing.

Sewer Mains and Manholes Repair, City of Grass Valley. The team prepared plans, specifications, engineering cost estimates and schedules for the lining and repair of sewer main lines and manholes throughout the City. The evaluation included approximately 10,000 LF of 6-inch, 3,000 LF of 8-inch, and 3,000 LF of 10 to 24-inch sewer main. The plans included trenchless repairs for areas of cracking, and infiltration and open trench construction where required for pipeline sagging or severe joint offsets. As Quality Assurance, performed quality review and assisted with preparation of the specifications.

Sacramento Power Authority Recycled Water Pipeline Facility Plan and Preliminary Design, Sacramento Regional County Sanitation District. Project engineer responsible for pipeline alignment alternatives analysis, project description for the Environmental Impact Report, team management, and project engineering for recycled water pipeline design for more than 33,000 feet of pipeline including more than 3,300 feet of horizontal directional drilling, and a trenchless railroad and light rail crossing.

Bradshaw Interceptor Section 6A, Sacramento Regional County Sanitation District. Project consisted of 15,400 feet of 108-inch reinforced concrete gravity sewer. The alignment of Bradshaw 6A crossed five high-voltage power line easements, two county roads and one railroad easement. The project included two tunnels completed by pipe-jacking with an open face digger shield. As project engineer/manager, responsibilities included public outreach coordination, sub consultant coordination, drawing production coordination, production of specifications, technical memorandums, basic flow modeling, and engineering services during construction. Dealt directly with the public on several occasions to inform and negotiate access agreements for preliminary fieldwork. Also responsible for all utility coordination and assumed project management duties at the ESDC phase.



GABRIEL RODELL, PE

Gabriel Rodell has more than seven years of experience in engineering consulting. His experience includes design and analysis for the following: potable water systems, stormwater systems, wastewater collection systems, wastewater treatment plants, potable water tanks, and potable and raw water pump stations. Gabriel also has experience in groundwater compliance monitoring and reporting, water system operations and resource optimization, water modeling using H2OMap Water, capital improvement plan recommendations, CAD plan and detail work, funding assistance through SRF and Caltrans, district and city engineering services, and negotiations with state and regional water quality control boards for wastewater permits.

Gabriel specializes in design and evaluation of drinking water systems. He has coordinated with Regional and State Water Boards for permitting, regulations, and funding. He has also assisted in evaluations which included alternatives analyses and provided recommendations for water system operations programs, wastewater treatment plant improvements, and pipe rehabilitation/replacement.

As project engineer, Gabriel has assisted in the production, management, and delivery of several projects for a variety of clients including Nevada Irrigation District, Placer County Water Agency, Suisun Solano Water Authority, California American Water, Citrus Heights Water District, South Placer Municipal Utility District, Markleeville Public Utility District, Olivehurst Public Utility District, as well as the Cities of Lincoln, Folsom, Biggs, St. Helena, Grass Valley, Roseville, Citrus Heights, Yuba City, Rocklin, and the Town of Loomis.



PROJECT ROLE

Project Engineer

PROFESSIONAL REGISTRATION

Civil Engineer, CA 86446

EDUCATION

Bachelor of Science Civil Engineering,
University of California, Davis

PROFESSIONAL AFFILIATIONS

Water For People
Sacramento Area Water Works
Association

CONTACT

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Direct (916) 771-6150
grodell@ben-en.com

PROJECT EXPERIENCE

Downtown Waterline and Street Replacement, City of Lincoln. Replaced 4,200 LF of existing water mains and provided full-depth roadway replacement on multiple residential streets. Team provided utility coordination, right-of-way mapping, and drainage design. As Project Engineer, assisted with design, specifications, and CAD drafting.

East Avenue Waterline Replacement, City of Lincoln. Waterline replacement project requiring plans, specifications, and estimates (PS&E), utility coordination, potholing, survey, and bidding support. As Project Engineer, assisted in pipeline design, coordinated with City at monthly meetings, managed survey and potholing subconsultants, performed QA/QC, and coordinated with Division of Drinking Water for adherence to California Waterworks standards.

Arcade Creek Crossing, Sacramento Suburban Water District. This project includes installation of new distribution main onto an existing bridge to replace the pipeline currently exposed within the existing creek bed. Tasks include project management, background research, design services, environmental and permitting services bid services, and engineering services during construction. As Assistant Project Manager, oversaw design of pipeline crossing and preparation of technical specifications, coordinated with pipe manufacturers, assisted in environmental/permitting reviews, supported an onsite biological survey, and managed survey, structural, environmental subconsultants. As Lead Project Engineer, performed civil design, oversaw production of PS&E package, coordinated with the City of Citrus Heights and California Department of Fish and Wildlife on permitting, managed topographic survey work and structural design, and coordinated with pipe manufacturers.

Londonberry Drive Creek Crossing Design, California American Water. This project includes replacement of an existing 8-inch diameter steel pipe that was partially exposed within Mark West Creek. Installation of new 12" water main crossing the creek via horizontal directional drilling methods was chosen. Tasks include project management, topographic surveying and mapping, plans, specifications, and estimate, permitting (CEQA, California Department of Fish and Game, and a Sonoma County Riparian Corridor Zoning Permit), Bidding and Construction support. As Assistant

Project Manager, oversaw horizontal direction drill pipeline design and preparation of technical specifications, managed survey and environmental/permitting subconsultants, facilitated site visit with Client and County of Sonoma, coordinated with the County for environmental compliance, a zoning permit, and an encroachment permit. As Lead Project Engineer, performed horizontal directional drilling calculations and design, oversaw production of PS&E package, prepared basis of design report, reviewed plat and legal descriptions, managed topographic survey work, and oversaw environmental and permitting coordination.

New Cement Hill Pipeline, Suisun-Solano Water Authority. This project will provide a second pipeline, consisting of 20-inch diameter PVC, from the Cement Hill Water Treatment Plant (CHWTP) to the site of the existing Tank 2A and future Tank 2B. The scope of work included design for updating the connection to the tank with an above ground manifold, double-ball flexible expansion joint, motor-operated valve, and chlorine sampling points. Tasks include project management, plans, specifications, and estimate, flow meter installation, assistance with acquisition of an encroachment permit for construction within the Putah Canal right-of-way with the US Bureau of Reclamation, assuring environmental compliance, permitting, preparation of a Storm Water Pollution Prevention Plan (SWPPP), public outreach, and design support during construction. As Project Engineer, prepared design and drawings for 20" water pipeline, assisted with technical specifications, researched utility easements and provided utility coordination, and prepared construction details of aerial pipeline crossing.

Highway 50 Pipeline Crossing, California American Water. This project includes design, permitting, bidding, and construction assistance services for 450 LF of 16-inch main to cross Route 50 via jack-and-bore and approximately 600 LF of 12-inch main to be installed via open cut on the North side of the highway. On the South side of the highway, approximately 300 LF of 12-inch main is to be installed via open cut. As Project Engineer, assisted with pipeline design, led utility coordination, produced construction plans, and assisted with construction specifications.

2018 Treated Water Line and Canal Reliability, Georgetown Divide Public Utility District. Engineering design, environmental review, permitting, bid documents, engineering estimates, bid support services, and engineering support during construction for the replacement and upgrade of 4-inch water mains. As Project Engineer, provided comprehensive review (QA/QC) of plans, specifications, and cost estimate.

Verdera North Tank #3 and Pipeline, City of Lincoln. This project involved construction of a new, 5-million-gallon, pre-stressed concrete water storage tank, associated tank piping, yard piping, valves and

appurtenances; more than 5,000 LF of 36-inch pipeline connecting the new tank to the existing water system in Twelve Bridges Drive, a higher pressure 16-inch pipeline to connect to their upper zone, and a 36-inch pipeline connecting to a new PCWA metering station. As Project Engineer, drafted preliminary design report, managed utility coordination, assisted in pipeline and tank design, produced exhibits for local HOA and coordinated with environmental subconsultants and surveying.

Butte View Drive Sewer Replacement, City of Gridley.

Project to upsize the existing 6-inch sewer main to 8-inch PVC. Services include project management, review CCTV sewer inspection videos, survey, coordinate with utilities and agencies to relocate lines if required, design new sewer pipeline and manholes, and provide bid and construction assistance.

Natoma Alley Sewer Rehabilitation, City of Folsom.

This project included evaluation and preparation of an alternatives analysis for re-alignment of sewer mains, and preparation of improvement plans for the selected alternative. Provided public outreach to affected neighbors and business owners. As Project Engineer, responsible for predesign alternative development and plans, specifications, and estimate.

Sewer Mains and Manholes Repair, City of Grass Valley.

The team prepared plans, specifications, engineering cost estimates and schedules for the lining and repair of sewer main lines and manholes throughout the City. The evaluation included approximately 10,000 LF of 6-inch, 3,000 LF of 8-inch, and 3,000 LF of 10 to 24-inch sewer main. The plans included trenchless repairs for areas of cracking, and infiltration and open trench construction where required for pipeline sagging or severe joint offsets. Project Engineer for analysis of City's CCTV sewer records, ranking system defects by severity, and preparing construction documents including production of plans and modification of specifications.

Wastewater Treatment Plant Improvements, Phase 2, City of Biggs.

The project involved preparation of a design to convert the City's existing Wastewater Treatment Plant (WWTP) from a surface water discharge facility to a land application discharge facility and return the City to compliance with RWQCB. Phase 2 included the acquisition of approximately 150 acres of land for irrigation, grading and drainage improvements to the crop fields and storage pond, field irrigation piping design, a pump station to transport water to the storage pond, and updates to the electrical system and controls. In addition, the team provided funding acquisition and management through the SRF and coordination with RWQCB for the changes to the permit. Project Engineer for preliminary design of effluent storage pond reservoirs, including grading, sump design, and liner details. Performance of alternatives analysis of gravity versus pumped pipeline system. CAD drafting of plan set.



KATI SETHARES, EIT

Kaitlyn (Kati) Sethares graduated in 2018 with honors from the University of Vermont with a Bachelor of Science in Civil Engineering and a minor in Mathematics. She now has more than one year of professional civil engineering experience, all with Bennett Engineering Services.

Since joining the firm, Kati has assisted with construction document preparation, preparing funding applications for both water and wastewater projects, encroachment permits, and writing technical memorandums. She has performed calculations for and assisted in the design of water and wastewater pipelines, a water storage tank, and a pump station. She is technically proficient in AutoCAD, MATLAB, Revit, MicroStation, COMSOL, and GIS.



PROJECT ROLE
Assistant Engineer

PROFESSIONAL REGISTRATION
Engineer-In-Training, CA 166036

EDUCATION
Bachelor of Science Civil Engineering,
University of Vermont

PROFESSIONAL AFFILIATIONS
American Society of Civil Engineers
Water for People

CONTACT
1082 Sunrise Ave, Suite 100
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Office (916) 783-4100
Direct (916) 771-6169
ksethares@ben-en.com

PROJECT EXPERIENCE

East Avenue Waterline Replacement, City of Lincoln. Waterline replacement project requiring plans, specifications, and estimates (PS&E), utility coordination, potholing, survey, and bidding support. As Assistant Engineer, prepared PS&E, prepared DDW waiver request, and provided utility and pothole coordination.

Waterline Replacement Funding Application, City of Gridley. Provided project management and prepared and submitted the funding application package to the DFA Drinking Water State Revolving Fund (DWSRF) to replace approximately 8,980 linear feet of two-inch waterlines with new six-inch waterlines, 37,490 linear feet of six-inch waterlines with new 10-inch waterlines, upgrade 172 water valves, and replace 29 fire hydrants. As Assistant Engineer, assisted with preliminary PS&E and prepared SRF funding application, including project technical report, preliminary schedule, and life cycle cost analysis.

New Cement Hill Pipeline, Suisun-Solano Water Authority. This project will provide a second pipeline, consisting of 20-inch diameter PVC, from the Cement Hill Water Treatment Plant (CHWTP) to the site of the existing Tank 2A and future Tank 2B. The scope of work included design for updating the connection to the tank with an above ground manifold, double-ball flexible expansion joint, motor-operated valve, and chlorine sampling points. Tasks include project management, plans, specifications, and estimate, flow meter installation, assistance with acquisition of an encroachment permit for construction within the Putah Canal right-of-way with the US Bureau of Reclamation, assuring environmental compliance, permitting, preparation of a Storm Water Pollution Prevention Plan (SWPPP), public outreach, and design support during construction. As Assistant Engineer, assisted with PS&E preparation, utility coordination, submittal review, and RFI responses.

Arcade Creek Crossing, Sacramento Suburban Water District. This project includes installation of new distribution main onto an existing bridge to replace the pipeline currently exposed within the existing creek bed. Tasks include project management, background research, design services, environmental and permitting services bid services, and engineering services during construction. As Assistant Engineer, assisted with plans and specifications, utility coordination, and potholing coordination.

Londonberry Drive Creek Crossing Design, California American Water. This project includes replacement of an existing 8-inch diameter steel pipe that was partially exposed within Mark West Creek. Installation of new 12" water main crossing the creek via horizontal directional drilling methods was chosen. Tasks include project management, topographic surveying and mapping, plans, specifications, and estimate, permitting (CEQA, California Department of Fish and Game, and a Sonoma County Riparian Corridor Zoning Permit), Bidding and Construction support. As Assistant Engineer, assisted with PS&E preparation and provided utility coordination.

Verdera North Tank #3, City of Lincoln. This project involved construction of a new, 5-million-gallon, pre-stressed concrete water storage tank, associated tank piping, yard piping, valves and appurtenances; more than 5,000 LF of 36-inch pipeline connecting the new tank to the existing water system in Twelve Bridges Drive, a higher pressure 16-inch pipeline to connect to their upper zone, and a 36-inch pipeline connecting to a new PCWA metering station. As Assistant Engineer, provided submittal review.

Rachel Lane Storm Drain Investigation and Replacement, Town of Loomis. This project included rehabilitation and alternatives analysis for the replacement of the existing 18-inch storm drain pipe. As Assistant Engineer, calculated pipe capacities, prepared a technical memo discussing storm drain rehabilitation and replacement alternatives, and prepared preliminary cost estimates and exhibits for each alternative.

Lower Wyandotte Road Culvert Rehabilitation, City of Oroville. Dig and replace of a 72-inch culvert within a paved section of roadway. Tasks included project management, predesign (including topographic survey and utility coordination), design of sidewalk, curb, and gutter, construction document preparation and construction bidding assistance. As Assistant Engineer, assisted with PS&E delivery and provided utility coordination.

Oroville Sewer Design Projects 1 and 2, City of Oroville. This project replaces sewer pipelines at multiple locations ranging from 192 LF to 10,108 LF with pipe diameter ranging from 6 to 18-inches. As Assistant Engineer, prepared PS&E for projects 1A, 1D, and 1F, provided utility coordination, and prepared an encroachment permit for project 1A.

Butte View Drive Sewer Replacement, City of Gridley. Project to upsize the existing 6-inch sewer main to 8-inch PVC. Services include project management, review CCTV sewer inspection videos, survey, coordinate with utilities and agencies to relocate lines if required, design new sewer pipeline and manholes, and provide bid and construction assistance. As Assistant Engineer, assisted with PS&E and provided utility coordination.

Feather River Force Main Planning Grant Assistance, City of Gridley. As Assistant Engineer, assisted with construction document preparation for the installation of a new flow meter along the Feather River Force Main. Prepared a preliminary plan set and cost estimate.



Rob Markes
Survey Manager

YEARS OF EXPERIENCE:

Total: 32

With UNICO: 7

Mr. Markes has worked in the survey industry for 32 years. As crew chief Rob oversees field procedures and is responsible for all office and field personnel. He is an experienced, Survey Crew Chief, excelling in topographic mapping, construction staking, and boundary surveys. His land surveying expertise includes supervising and performing Global Positioning System surveys, topographic surveys, aerial control surveys, horizontal and vertical control networks, title surveys, boundary surveys, cadastral surveys, geodetic surveys, engineering surveys and construction surveys, plus construction control and staking for a wide range of projects.

EXPERIENCE:

Downtown Waterline and Street Replacement Project, Lincoln, CA

Survey Manager. This project removes and replaces existing waterlines and constructs a new water main on various streets. The project also included replacement of water service connections and full depth reclamation street improvements. Responsible for records research and topographic mapping

Cement Hill Pipeline Project, Suisun, CA

Survey Manager. This Suisun-Solano Water Authority project provides a second pipeline from the Cement Hill Water Treatment plant to the Tank 2A and 2B sites. The new pipeline will consist of two segments with an overall combined length of the proposed pipeline is approximately 2600 linear feet. Responsible for contract management, field survey and quality control/quality assurance.

CalAm Water Hwy 50 Crossing Design, Rancho Cordova, CA

Survey Manager. The project requires approximately 450 LF of 16-inch main to cross Route 50 via jack-and-bore and approximately 600 LF of 12-inch main will be installed via open cut on the North side of the highway. On the South side of the highway, approximately 300 LF of 12-inch main will be installed via open cut. Survey Manager responsible for project management, records research, agency coordination on quality assurance.

Metropolitan Water District (MWD) CRA Erosion Project, Palm Springs, CA

Survey Manager. This project was for the Metropolitan Water District for 9 sites requiring topography and mapping for design, for a total of 227 acres. Detailed aerial mapping including elevation surface data, surveys of downstream channels and survey of 50' wide strip along 200'-500' strips to locate flowline, toes and tops of banks and other grade features. Responsible for providing conventional supplemental surveying and mapping of key design areas, such as pipe locations, utilities in the vicinity and drainage crossings and coordination of a requested aerial survey and ortho photo.

Engineering Design of Sanitary Sewer Projects, Oroville, CA

Survey Manager. This project prepares plans, specification, and cost estimates for seven sanitary sewer main construction projects identified as Element 1 from the Sewer Master Plan. Responsible for contract management, field survey and quality control/quality assurance.

Well 21, City of Lathrop, CA

Party Chief. This project adds a pipeline to blend water from Well 9, a future connection to Well 10 with Well 21. Responsible for topographic survey and base mapping of 5,300 lineal feet of roadway. Also performed boundary mapping.



Ryan Thompson, PLS

Land Surveyor

YEARS OF EXPERIENCE:

Total: 19

With UNICO: 5.5

REGISTRATION:

Professional Land Surveyor

License 8749

Mr. Thompson has a proven ability to carry out all aspects of land surveying from boundary determination, topographic surveying, construction staking and mapping. Mr. Thompson specializes in complex legal and easement preparation. His experience also includes using Global Positioning Systems and conventional robotic instruments and laser levels. Ryan is experienced at delivering projects that require the ABC process and meet Caltrans right of way standards. Mr. Thompson has 20 years' experience in both the public and private sector including several years as an Associate Land Surveyor for the County of Sacramento.

EXPERIENCE:

Cement Hill Pipeline Project, Suisun, CA

Land Surveyor. This Suisun-Solano Water Authority project provides a second pipeline from the Cement Hill Water Treatment plant to the Tank 2A and 2B sites. The new pipeline will consist of two segments with an overall combined length of the proposed pipeline is approximately 2600 linear feet. Responsible for mapping, records research, and boundary survey.

CalAm Water Hwy 50 Crossing Design, Rancho Cordova, CA

Land Surveyor. The project requires approximately 450 LF of 16-inch main to cross Route 50 via jack-and-bore and approximately 600 LF of 12-inch main will be installed via open cut on the North side of the highway. On the South side of the highway, approximately 300 LF of 12-inch main will be installed via open cut. Responsible mapping and plats and legal descriptions.

Punta Del Monte Water Main Replacement, Monterey County, CA

Land Surveyor. As a part of this water main replacement project, UNICO provided topographic survey with boundary and right of way mapping. Responsible for mapping.

Well 21, City of Lathrop, CA

Land Surveyor. This project adds a pipeline to blend water from Well 9, a future connection to Well 10 with Well 21. Land surveyor responsible for topographic survey and base mapping of 5,300 lineal feet of roadway. Also performed boundary mapping.

GDPUD Highway 193 Project, Georgetown, CA

Land Surveyor. This project relocated an existing 8" water main along State Highway 193 near the intersection with Catbird Hill Lane. Responsible for researching local and State Highway mapping Resolved Caltrans Right of Way along Highway 193. Prepared CAD drawing of topographic survey and boundary. Provided construction staking calculations for water line re-location.

Metropolitan Water District (MWD) CRA Erosion Project, Palm Springs, CA

Land Surveyor. This project was for the Metropolitan Water District for 9 sites requiring topography and mapping for design, for a total of 227 acres. Detailed aerial mapping including elevation surface data, surveys of downstream channels and survey of 50' wide strip along 200'-500' strips to locate flowline, toes and tops of banks and other grade features. Responsible for boundary mapping.

Scott Friend

Senior Environmental Planner/Project Manager

Mr. Friend manages the planning and environmental services activities of ECORP Consulting, Inc.'s (ECORP) Chico office. With more than 24 years of professional planning and environmental analysis experience, he is responsible for project acquisition, preparation and management activities; provides technical review and oversight of office staff and projects; manages the Chico office, and, provides direct "hands-on" engagement with clients and projects. He specializes in current and long-range contract planning activities as well as the preparation and review of general plans, municipal codes and California Environmental Quality Act (CEQA) environmental compliance documents. Mr. Friend has provided principal direction and project management on projects ranging from policy documents such as general and specific plans to implementation documents and programs such as zoning ordinance updates, design review programs, and planning program guidelines. He also manages and prepares the full range of CEQA and National Environmental Policy Act (NEPA) environmental compliance and analysis documents. His experience includes long-range and current planning activities for both public and private sector clients. He regularly provides direct staff support to various boards, councils, and commissions and has extensive experience in the preparation and presentation of visual and oral presentations to citizens, citizen bodies, and appointed and elected officials.

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Education

Graduate Studies – Masters of Environmental Planning Program (M.E.P.), Arizona State University, Tempe
BA, Political Science, California State University, Chico

Registrations, Certifications, Permits and Affiliations

- American Institute of Certified Planners (AICP)
- American Planning Association
- California Planning Association
- Association of Environmental Professionals (AEP)

Professional Experience

Treated Wastewater Land Discharge Project and Environmental Impact Report (EIR), Butte County – City of Biggs. Project Manager who managed the preparation of CEQA and NEPA compliance documents for a project to convert the City's wastewater treatment plant from a direct point-source discharge facility to a land application discharge facility. The project included detailed biological, cultural, and engineering studies and included consultation with the California Department of Fish and Wildlife, the State Office of Historic Preservation, local tribal entities, and the U.S. Fish and Wildlife Service. The project was funded by state and federal grants and loans and included close coordination with the State Water Resources Control Board and the U.S. Department of Agriculture Rural Development office.

Wastewater Collection System Upgrade and Rehabilitation Project, Glenn County – Hamilton City Community Services District. Project Manager who managed the preparation of CEQA and NEPA compliance documents for a project to expand and upgrade and rehabilitate the City’s wastewater collection system infrastructure. The project included consultation with the California Department of Fish and Wildlife, State Office of Historic Preservation, and U.S. Fish and Wildlife Service and compliance and coordination with the local U.S. Department of Agriculture Rural Development office.

Wastewater Treatment Plant and Collection System Upgrade Project, Butte County – City of Biggs. Project Manager who managed the preparation of CEQA and NEPA compliance documents for a project to expand and upgrade the City’s wastewater treatment plant and collection system infrastructure. The project included detailed biological, cultural, and engineering studies and included consultation with the California Department of Fish and Game, the State Office of Historic Preservation, local tribal entities, and the U.S. Fish and Wildlife Service.

Wastewater Treatment Plant Upgrade and Expansion Environmental Analysis, Glenn County – City of Willows. Project Manager who managed the preparation of CEQA and NEPA compliance documents for a project to expand and upgrade the City’s wastewater treatment plant. The project included detailed biological, cultural, and engineering studies and included consultation with the California Department of Fish and Game, State Office of Historic Preservation, and U.S. Fish and Wildlife Service.

Classroom Addition Project, Tehama County – Capay Joint Union Elementary School District. Project Manager who oversaw the preparation of a CEQA compliance effort involving the preparation of an Initial Study/Mitigated Negative Declaration supporting the construction of a new classroom wing at Capay Elementary School. The project involved the removal and reconfiguration of older relocatable classrooms, construction of new utility infrastructure elements (water and wastewater), reconfiguration of the campus parking and student loading-unloading areas, installation of a new fire suppression system, and reconstruction of existing play areas and sports fields.

Campus Modernization Project, Glenn County– Lake Elementary School District. Project Manager who oversaw the preparation of a CEQA compliance effort involving the preparation of an Initial Study/Mitigated Negative Declaration involving the modernization of Lake Elementary School. The project involved the placement of new relocatable classrooms; new utility infrastructure elements (water and sewer); relation of the District’s transportation and maintenance yard; installation of a new fire suppression system; new parking, loading, and unloading areas; and new play structures and sports fields.

Agency/Contract Staffing. Currently serves, or has served, as the contract City Planner/Planning Department for the Cities of Biggs, Yreka, Mt. Shasta, Dunsmuir, Oroville and Live Oak and is currently the contract Community Services/Development Services Director for the Cities of Orland and Red Bluff. Has provided principal oversight of direct on- and off-site contract planning staff for the Counties of Butte, Sutter, Yuba, Siskiyou and Lassen and managed contract staff work in the cities of Chico, Biggs, Orland, Oroville, Yuba City, Live Oak, Red Bluff, Mount Shasta, and Willows.

Michael Martin

Senior Environmental Planner

Mr. Martin's responsibilities include environmental planning, policy document preparation, and contract planning services for client agencies. As a project manager and assistant project manager with 15 years of experience, he has completed environmental impact reports for large-scale residential developments, multi-use developments, commercial developments, and general plan updates. He has written numerous initial studies/negative declarations for a variety of development types. He has also provided contract planning staff for various jurisdictions in northern California and has written zoning code and subdivision code updates, municipal service reviews, development impact fee updates, housing elements, and general plan updates. He has written housing condition and income surveys, and housing needs assessments, written Community Development Block Grant (CDBG) P/TA and General Allocation grants, and written over 35 Affordable Housing Feasibility studies throughout the United States.

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Education

B.A., Environmental Studies with Urban Planning minor, San Jose State University

Professional Experience

City of Gridley, Little Avenue Wastewater Replacement Project IS/MND (2019). Assistant Project Manager and principal analyst/writer for CEQA Plus Initial Study/Mitigated Negative Declaration. This project included the replacement of approximately 2,872 linear feet forced main wastewater pipeline with a 10-inch pipeline, one lift station, relocation of one control box, and the installation of a backup generator. The majority of the proposed project was located within the Little Avenue right of way except for approximately 670 feet on private land and a section that crossed under a BWD irrigation canal of the Butte Water District.

City of Gridley, Waterline Replacement Project IS/MND (2019). Assistant Project Manager and principal analyst/writer for CEQA Plus Initial Study/Mitigated Negative Declaration. The project was the replacement of approximately 46,470 linear feet of waterlines, upgrading of 172 water valves, upgrading of 940 service connections, and the replacement of 29 fire hydrants throughout the city. All construction was to occur within the existing street and alley right-of-way except for the pipelines running through Manual Vierra Park, the Sycamore Middle School playfields.

County of Butte, Stirling City Wastewater Pipeline Project IS/MND(Ongoing). Assistant project manager and principal analyst/writer for CEQA Plus Initial Study/Mitigated Negative Declaration. This project includes the replacement of approximately 2,700 linear feet of an 8-inch sewer main and approximately 900 linear feet of 4-inch laterals (comprised of 75 laterals at an average length of 12 linear feet each).

Sugar Pine Project Water Rights Permit Extension and Radial Gates Installation EIR/EIS, Placer County – Foresthill Public Utilities District (FPUD) (2019-Ongoing). Senior Environmental Planner and

section writer for EIR/EIS. FPUD proposes to extend its Water Right 15375 and install radial gates at the dam's spillway to increase reservoir storage. This increase in storage will enable FPUD to meet the water needs of anticipated growth and development under the approved 2008 Foresthill Community Plan. Analyzed the environmental topic issues of recreation, transportation, and hydrology and water quality consistent with CEQA and NEPA requirements.

Yreka Creek Greenway Master Plan and Flood Reduction Project Environmental Impact Report and Environmental Assessment, Siskiyou County– City of Yreka (2016-2017). Senior Planner for the project. This project involves the environmental analysis for the Greenway Master Plan as well as three separate flood reduction projects within the Yreka Creek watershed. This project includes an Environmental Impact Report program and project level analysis as well as an Environmental Assessment for portions of the project within the Klamath National Forest properties. The project has impacts associated with cultural resources, biological resources, and water quality.

Paradise Youth Sports and Family Center, Butte County – Town of Paradise (2009). Project Manager for the project. The project consisted of 35 single-family lots, 90 workforce multi-family housing units, 20,900 square feet of commercial uses, two multi-field soccer complexes, a Boys and Girls Club complex, a community center, a middle school, and a wastewater treatment plant. The project had impacts associated with traffic, noise, air quality, biological resources, and land use.

Municipal Service Review, Butte County – City of Biggs (2005). Project Manager for the project. The project included complete analysis and identification of area in need of improvement. The analysis encompassed all existing services provided by the City including police protection, fire protection, water, sewer, storm drainage, parks and recreation, and electric service.

Municipal Service Review, Water Services, Nevada County – County of Nevada (2004). Planner for the project. The project included complete analysis of all existing water agencies in western Nevada County and identification of areas to improve the water service in the county.

Siskiyou County, Kidder Creek Orchard Camp EIR (Ongoing). Assistant Project Manager and principal writer/analyst of EIR. The project includes a request to expand the use of the site allowing for the increase of allowable occupancy at the camp from 165 guests to a total occupancy of 844, increase the physical size of the camp from 333 to 580 acres, and add a number of structures, recreation features, including a 7-acre pond and ancillary facilities. The Project also includes a request for a zone change (Z-14-01) to rezone ±170 acres from TPZ to Rural Residential Agricultural, 40-acre minimum parcel size (R-R-B-40).

White Knob Quarry Mine Expansion and Reclamation Plan Environmental Impact Report, San Bernardino County – County of San Bernardino (2015). Assistant Project Manager for the project. The project consists of a 475.1 -acre area, including 335.1 acres of existing or planned surface mining operation-related disturbance and approximately 40 acres of existing BLM haul road right-of-way on federal public land. The project has impacts associated with noise, air quality, and biological resources.

Seth Myers

Air Quality/Greenhouse Gas/Noise Analyst

With 14 years of experience as an environmental planner and air quality/noise analyst, Mr. Myers is involved in the preparation of a full range of CEQA and NEPA environmental compliance and review documents including environmental impact reports. He has extensive expertise conducting air quality, greenhouse gas emissions, and noise analyses and has a comprehensive working knowledge of the associated regulatory environment. He is proficient in the use of CalEEMod, EMFAC2017, AERMOD, SoundPLAN, the Roadway Construction Model, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model, and other industry standard emissions and noise modeling tools. In addition, Mr. Myers prepares implementation documents and programs such as zoning ordinance updates, design review programs, and planning program guidelines. As a certified arborist (ISA #WE-7501A), Mr. Myers also provides landscape and irrigation plan review for development and public works projects and performs hazardous tree assessments.

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Education

B.A., Environmental Studies and Planning (Minor in Biology), Sonoma State University

Registrations, Certifications, Permits and Affiliations

- Certified Arborist, International Society of Arboriculture (WE 7501A)
- California Native Plant Society

Professional Experience

Little Avenue Lift Station & Forced Main Replacement Project, Butte County – City of Gridley (2019).

Analyzed the potential emissions and noise-related effects of the proposal to install a 2,872-linear foot forced main wastewater pipeline and a lift station. Criteria air pollutants and greenhouse gas emissions were analyzed in conformity to the guidelines provided by the Butte County Air Quality Management District and Project noise was analyzed against the City of Gridley noise standards.

Wildomar Master Drainage Plan Lateral C IS/MND, Riverside County – Riverside County Flood Control & Water Conservation District (2017-2019).

Analyzed the proposal to revise the Wildomar Master Drainage Plan (MDP) Lateral C facility. Stage 1 and Stage 2 of the Lateral C facility have already been constructed and the remaining components are proposed to be constructed under a revised alignment.

Wastewater Treatment Plant Enhancement Project, Butte County – City of Biggs (2014 – 2015).

Analyst for all relevant environmental issue topics as the sole environmental writer of this EIR. The project consisted of the development of a new effluent disposal process consisting of a reclamation/land disposal system (effluent land disposal system). The net effect of the proposed project is the cessation of all effluent discharged to Lateral K, which drains into Butte Creek, which in turn connects with the Sacramento River. The key outcome is compliance with National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078930 and dissolution of the permit. The use of a land disposal system allows the City to eliminate the surface discharge of wastewater effluent, which would release the City from the NPDES permit and convert the facility to a waste-discharge requirements permit facility.

Wastewater Treatment Plant Improvements Project, Amador County – City of Jackson (2012).

Analyzed the environmental issue topics of air quality, greenhouse gas emissions, and cultural resources in this EIR. This Project consisted of improvements to the City's wastewater treatment plant (WWTP) and changes to the associated discharge practices to comply with more stringent waste discharge requirements issued by the Central Valley Regional Water Quality Control Board. The City proposed to improve the WWTP (including wastewater treatment processes and effluent disposal methods) to meet the City's existing and future needs within the limits of the permitted capacity of the existing WWTP. A key issue involved improving the City's wastewater effluent quality and disposal method in a manner that protects the existing beneficial uses of Jackson Creek and Lake Amador.

Bert Crane Solar Facility Project, Merced County – City of Atwater (2010). Prepared an air quality and greenhouse gas analysis for an Initial Study/Mitigated Negative Declaration evaluating the construction of a solar facility at the Bert Crane Wastewater Treatment Plant that includes 204 pole-mounted single-axis azimuth trackers supporting twenty 270-watt modules (1.1 megawatt of direct current electricity).

School Modernization Project, Glenn County – Lake Elementary School District. Acted as the sole environmental analyst preparing the Project initial study. The Project included the proposal to modernize the existing Lake Elementary School campus by reconfiguring existing relocatable classroom buildings on-site; adding a variety of new instructional and instructional support facilities to the existing campus, including five new relocatable classroom buildings; constructing a new multipurpose building, including a kitchen and restroom facilities; relocating the bus and maintenance facility; constructing a new student loading and staff/visitor parking area to enhance safety; and improving current on-site utility systems comprising a new well for potable water, fire, and life safety equipment including an aboveground water storage and water-pressure booster tank, water and wastewater conveyance infrastructure, and a new engineered wastewater disposal system.

East Brawley Geothermal Plant, Imperial County – County of Imperial Planning Department (2010).

Analyzed the effect to air quality for the EIR for Ormat Energy Converters, an expanded geothermal well field beyond the six exploration wells. The Project also included the installation of pipelines to carry the cooled brine to injection wells, pipelines to distribute non-condensable gas from production wells to the power plant area and injection wells, an electrical transmission line to interconnect to the substation, and a water pipeline to bring water from the Imperial Irrigation District canal to the power plant for cooling water.

Kiowa Well and Mojave Reservoir Projects, San Bernardino County – Golden State Water Company (2018). Prepared the air quality, greenhouse gas emissions, energy consumption and noise analyses for two Golden State Water Company infrastructure projects related to the expansion of water supply. The primary environmental issue included noise from on-site construction.

Judson Ranch Agricultural Pump Acoustic Analysis, San Bernardino County – City of Redlands as Sub to Diversified Pacific. In order to analyze the potential noise-related effects of erecting an enclosure around the existing agricultural water pump, ECORP established the existing ambient noise levels currently experienced in at the pump and vicinity via a site visit to conduct short-term noise level measurements. Once the proposed agricultural water pump was enclosed, ECORP conducted three additional noise level measurements at the same three locations in order to establish the noise remediating effects of the built enclosure.

Rosemary Worden

Environmental Planner

Ms. Worden offers a keen interest in horticulture, soil conservation and environmental studies. She has experience in conducting air quality, greenhouse gas emissions, and noise analysis and has a comprehensive understanding of environmental regulatory framework. This is paired with a working knowledge of CalEEMod, AERMOD, SoundPLAN, the Roadway Construction Model, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model, and other industry standard modeling tools. She has excellent analytical, reasoning, research skills and thrives on challenges and the opportunity to learn.

Education

B.S., Environmental Science. California State University, Chico

Professional Experience

Leo Solar, Kings County – APEX Energy Solutions, LLC (2018-2019). Emissions Analyst in charge of analyzing the air quality and greenhouse gas emissions for the construction and operations of a 30-acre, 5-megawatt solar power generation facility located in Kettleman City. CalEEMod was used to accurately calculate emissions associated with construction and the analysis was prepared with the requirements provided by the San Joaquin Valley Air Pollution Control District. Additionally, a calculation of displaced emissions was used to quantify the benefits this project would have on the environment.

13131 Los Angeles Street Industrial Project EIR, Los Angeles County – The City of Irwindale Community Development Department (2019). Emissions/Noise Analyst in charge of analyzing the air quality, greenhouse gas emissions and noise impact for the development of a 528,710 square foot warehouse building that would accommodate approximately 557 heavy-duty truck trips per day. The primary environmental issue was the proximity of the project site to residences. CalEEMod was used to accurately calculate emissions associated with the construction and operations of the project. The analysis was prepared with the requirements provided by the South Coast Air Quality Management District. Additionally, due to the number of heavy-duty trucks that would be visiting the site daily, a health risk assessment was conducted analyzing the Project impact on nearby residence through the use of AERMOD. The SoundPLAN 3D noise model was used to model operational noise while the FHWA Highway Traffic Noise Prediction Model was used to predict traffic noise increase as a result of the Project.

Corridor Improvement Project, Yolo County – Alta Planning and Development (2019).

Emissions/Noise Analyst in charge of preparing an air quality, greenhouse gas emissions and noise impact analysis for a sidewalk improvement project in The City of Davis. The project was proposed to improve sections of sidewalk and bike lanes for the safe and sustainable movement of residence in the community. The project site is adjacent to Davis High School and multiple residence. Due to the location and high levels of construction noise that was determined using the Roadway Construction Model, mitigation was needed during constructing to reduce noise to levels deemed acceptable in the City of Davis General Plan.

Moreno Valley Amphitheater Project, Riverside County – Architerra Design Group (2019).

Emissions/Noise Analyst in charge of analyzing the air quality, greenhouse gas emissions and noise impact for a 600-seat amphitheater in Moreno Valley. The project site is located in an urban area and is encompassed by City Hall, commercial/mix use buildings and multiple residence. The noise generated from events occurring at the amphitheater, some with amplified music, was of primary concern. To accurately represent the effect this would have on the nearby land uses SoundPLAN 3D noise model was used to replicate amplified music events and ensure levels fell within what is acceptable in the Moreno Valley General Plan.

S. Oregon Ready Mix, Siskiyou County – County of Siskiyou (2019). Emissions/Noise Analyst in charge of analyzing the air quality, greenhouse gas emissions and noise impact for the rezoning and development of 34.4 acres of undeveloped land. The project proposed the rezoning from non-prim agriculture to light industrial and the creation of a contractor’s yard, 4,000 square foot shop/office building, concrete washout basin, and truck parking/storage. SoundPLAN 3D noise model was used to model the construction and operational noise associated with the project.

Temecula Winery and Hotel, Riverside County – LA Life Regional Center (2018-2019) Emissions/Noise Analyst in charge of preparing both an emissions assessment and noise report for the development of a winery and hotel located on 21.92 acres of undeveloped agricultural land. CalEEMod was used to accurately calculate emissions associated with the construction and operations of the project. The analysis was prepared with the requirements provided by the South Coast Air Quality Management District. During operations the winery would be subject to events with amplified music, SoundPLAN 3D noise model was used to model these events and the effect this would have on the nearby single-family residence.

Concar Passage, San Mateo County – David J. Power & Associates, Inc. (2019). Greenhouse Gas Analyst in charge of analyzing the greenhouse gas emissions associated with the demolition of an existing 165,000 square foot retail strip center and adjoining surface parking along with the construction of 961 residences and mixed-use buildings. CalEEMod was used to accurately calculate emissions associated with the demolition, constructions and operations of the project to ensure they fall within the appropriate threshold of significance.

Whitney Ranch Chevron and Carwash – Tera Properties, LLC. (2019). Emissions/Noise Analyst in charge of preparing both an emissions assessment and noise report for the construction of a gas station, convenience store, car wash and retail store in the City of Rocklin. The issue of primary concern was the close proximity of residences to the project site. The projected dispersion of diesel particulate matter was modeled uses the AERMOD dispersion software and the associated health risks computations were performed to determine the risk of developing an excess cancer risk calculated on a 70-year lifetime basis, 30-year, and 9-year exposure scenarios, and based on the standardized equations contained in the U.S. EPA Human Health Evaluation Manual and the OEHHA Guidance Manual.

3rd and Claremont Mixed Use Project – David J. Power & Associates, Inc. (2018). Emissions Analyst in charge of preparing an emissions assessment for the demolition and development of a mixed-use building, consisting of residential and commercial use, in the City of San Mateo. The analysis was prepared with the requirements provided by the Bay Area Air Quality Management District.



Keith Kwan

Senior Biologist/Avian Ecologist

Mr. Kwan has more than 25 years of experience as a wildlife biologist and wetland ecologist. He specializes in avian ecology, wetland delineations and wetland ecology, special-status species ecology, environmental impact assessment, regulatory compliance, and project management. He also has expertise in conducting biological resource assessments, bird censuses, special-status species surveys, general biotic inventories, and biodiversity monitoring of created, restored, and existing terrestrial habitats of California.

He has expertise in delineation of waters of the U.S. and has delineated over a hundred sites throughout California, Nevada, and Colorado. He also has expertise in California's Central Valley annual grassland and oak woodland communities, having conducted hundreds of wetland and biological resource evaluations related to site development, impact assessment, California Environmental Quality Act (CEQA) compliance, Clean Water Act (CWA) 404 compliance, and California Department of Fish and Wildlife (CDFW) 1602 compliance.

His expertise in avian ecology includes numerous breeding bird surveys, nest monitoring, and pre-construction clearance surveys in support of various local, state and federal regulations (e.g. CEQA, CDFW 1602). He has developed studies utilizing focal survey and point-count methodologies to assess bird use. He has been an active birdwatcher throughout California and has participated in National Audubon Society Christmas Bird Counts for more than 30 years.

He administers Quality Assurance/Quality Control for many of the biological reports produced in the Northern California office, including wetland delineations, special-status species assessment and survey reports, arborist survey reports, biological assessments, Section 404 mitigation and compliance reports. He also has expertise in identification and field sampling of federally-listed vernal pool branchiopods.

Education

B.S., Biological Sciences, Emphasis in Biological Conservation; California State University, Sacramento

Registrations, Certifications, Permits and Affiliations

- Society of Wetland Scientists
- American Ornithological Society
- Western Field Ornithologists
- Raptor Research Foundation
- The Wildlife Society

Professional Experience

Ukiah Wastewater Treatment Plant Expansion, Mendocino County – Scheidegger & Associates – City of Ukiah (2004). Primary Wetland Delineator for the Ukiah Wastewater Treatment Plant Expansion Project. The delineation was conducted according to three-parameter protocol as required by the U.S. Army Corps

of Engineers pursuant to the Corps of Engineers Wetlands Delineation Manual (1987) and San Francisco District standards. The project consisted of annual grassland vegetation community with abandoned orchards and existing treatment plant grounds.

Orland Simplot Expansion Project, Tehama County – City of Orland (2018). Lead Biologist and primary author who conducted field reconnaissance, literature review, and prepared a Biological Resources Assessment. The Simplot Grower Solutions facility expansion project is to accommodate an increase in business. ECORP was retained to perform CEQA consulting services.

Road MM Sanitary Sewer Improvement Project, Tehama County – City of Orland (2018). Lead Biologist and primary author who conducted field reconnaissance, literature review, and prepared a Biological Resources Assessment in support of an Initial Study/Mitigated Negative Declaration. The proposed project begins on E. South Street/County Road 200 and extends southeast to County Road MM. ECORP was retained to perform CEQA consulting services.

Vineyard Crossing Vesting Tentative Map Subdivision Planned Development, Mendocino County – County of Mendocino (2018). Lead Biologist and primary author who conducted field reconnaissance, literature review, and prepared a Biological Resources Assessment. Vineyard Crossing is a proposed residential development. ECORP was retained to perform CEQA consulting services.

West Capitol Avenue Property, Yolo County – City of West Sacramento (2018). Lead Biologist and primary author who conducted field reconnaissance, literature review, and prepared a Biological Resources Assessment. The proposed project would construct approximately 86 units of permanent supportive housing for homeless persons with mental and/or physical disabilities that require ongoing case management and counseling. ECORP was retained to perform CEQA consulting services.

Westborough Project, Sacramento County – Easton Development Company (2016-2017). Lead Biologist for this project. In support of the Biological Resources Assessment report, conducted a foraging habitat assessment for Swainson's hawk and tricolored blackbird. This assessment was based on vegetation communities, vertical vegetation structure, and woody plant density. This assessment was then used to identify potential foraging impacts resulting from project development that would require mitigation under CEQA. In addition, assisted with protocol level elderberry surveys, exclusive host plant for the federally threatened Valley elderberry longhorn beetle and vegetation community mapping.

Vina Helitack Base Replacement Project, Tehama County – California Department of General Services, Real Estate Services Division (2014-2016). Biologist responsible for wetland delineation and biological resource assessment field studies in support of the Initial Study/Mitigated Negative Declaration under CEQA and CWA Section 404 permit application for the proposed replacement of the CAL FIRE facilities and structures at the Vina Helitack Base.

Hillsborough at Easton Project, Folsom, Sacramento County – Ascent Environmental (2014). Biologist and primary author of the Biological Resources Technical Memorandum prepared to support the CEQA review process. The Technical Memorandum includes identification of sensitive biological resources, impacts, finding of impact/effect, and avoidance and minimization measures. Existing ECORP reports and baseline data, part of the Section 404 permitting process, were used to generate the biological resources pertinent to the project.



Hannah Stone

Staff Biologist

Hannah Stone is a biologist with more than eight years of professional experience in botanical, forest inventory, and ecological data collection. She is experienced in leading and conducting floristic surveys, special-status plant surveys, vegetation community mapping, invasive plant species mapping, and habitat assessments. She is also experienced in preparing technical reports including special-status plant reports, Biological Resource Assessments (BRAs), biological evaluations/biological assessments (BEs/BAs) for Forest Service projects, BAs for Section 7 consultation, and National Environmental Policy Act compliance documents.

Education

B.S., Ecological Management and Restoration, University of California Davis

Registrations, Certifications, Permits and Affiliations

- California Plant Voucher Collecting Permit (No. 2081(a)-19-087-V)
- California Native Plant Society
- Northern California Botanists

Professional Experience

Biological and Regulatory Tasks – County of Lassen (2018-Ongoing). Staff Biologist who has conducted mitigation monitoring for created wetlands and restored riparian habitats, conducted site assessments for biological resources, prepared a restoration plan in support of regulatory permits, and is preparing a Natural Environment Study (NES) for multiple Lassen County projects. The purpose of these projects is to construct, repair, or replace new roads and bridges and to conduct mitigation monitoring. ECORP has conducted a full suite of biological surveys and assessments for these projects site, and has prepared permit applications in support of these projects.

Placer Gold Phase 2, Placer County – CP3500 Cincinnati, LLC (2017-Ongoing). Staff Biologist who conducted the special-status plant survey for this project. Placer Gold Phase 2 is the development of a storage facility on approximately 130 acres in Rocklin, California. ECORP has been retained to provide a Biological Resources Assessment and regulatory permitting through the Placer County Conservation Plan.

Fairway Oaks Project and Annexation Area, Sacramento County – Raney Management (2017-Ongoing). Staff Biologist who prepared a Biological Resources Assessment consistent with the South Sacramento Habitat Conservation Plan for this project. The purpose of the proposed project is to construct a development of 169 lots for single-family homes and dedicate 12 acres of open space along a riparian corridor.

Brunswick Commons, Nevada County – Pacific West Communities, Inc. (2019). Staff Biologist who conducted the arborist survey for this project and assisted with preparing a technical report of the

findings. The purpose of the proposed project is to construct a 41-unit rental apartment. ECORP was retained to conduct a special-status plant survey, arborist survey, California Environmental Quality Act-level biological resources assessment, and permitting for the site.

Fredonyer Butte Trail, Lassen County – Lassen County Department of Public Works (2019-Ongoing). Staff Biologist who prepared the BE/BA and invasive plant risk assessment for this project. The purpose of the proposed project is to construct 26 miles of non-motorized trails in the Lassen National Forest. ECORP was retained to conduct cultural resources surveys, a BE/BA, an invasive plant species risk assessment, a NEPA Environmental Assessment (EA), and a United States Forest Service (USFS) special use permit application.

Common Diversion, Madera County – Tesoro Viejo Development, Inc. (2019-Ongoing). Staff Biologist who conducted floristic and special-status plant surveys for the project and prepared a technical report of the findings. The proposed project would modify existing river diversion facilities located in unincorporated Madera County approximately 3.9 miles downstream of the Friant Dam on the San Joaquin River. ECORP has conducted a full suite of biological surveys on this site.

Oroville Wildlife Area Flood State Reduction Project, Butte County – Sutter Butte County Flood Control Agency (2018-Ongoing). Construction Monitor who conducted 10 days of biological monitoring and five days shadowing other approved biological monitors. The purpose of the proposed project is to improve the connectivity of the Feather River to its historic floodplain, reduce flood stages within the main channel, provide more frequently inundated floodplain rearing habitat for juvenile salmonids, reduce the extent of invasive plant species, and plan for future habitat restoration at the Oroville Wildlife Area.

CCC Replace Ukiah Center, Mendocino County – California Department of General Services (2018-Ongoing). Staff Biologist who conducted the special-status plant survey for this project, which resulted in the finding of occurrences for North Coast semaphore grass (*Pleuropogon hooverianus*), a Threatened species pursuant to the California ESA. The purpose of this project is to construct a new work center for the California Conservation Corps. ECORP has been retained to complete an IS/MND and technical studies for the project.

Bieber, Lassen County – California Department of General Services (2018-Ongoing). Staff Biologist who conducted the special-status plant survey for this project, which resulted in the finding of occurrences for Macoun's buttercup (*Ranunculus macounii*) a California Rare Plant Rank 2B.2 species. The purpose of this project is to construct a fire station and helitack base. ECORP has been retained to complete CEQA documentation and technical studies for the project.

Leviathan Peak Telecommunications Tower, Alpine County – California Department of General Services (2019). Staff Biologist who conducted a floristic and special-status plant survey for the site and prepared a Biological Assessment/Biological Evaluation for special-status plants and wildlife. The purpose of this proposed project is to demolish the existing Telecommunications Tower and equipment vault located on Leviathan Peak which is utilized by the California Highway Patrol (CHP) and other allied agencies and replace the existing facilities with new infrastructure.

Jeremy Adams

Cultural Resources Manager/Senior Architectural Historian

Mr. Adams is a Cultural Resources Manager and Senior Architectural Historian with 10 years of experience in developing cultural resources management strategies and leading the implementation of cultural inventories, evaluations, effects analysis, and preparation of mitigation documents. He holds a Master of Arts degree in History (Public History), a Bachelor of Arts degree in History, and he meets the Secretary of the Interior's Professional Qualification Standards for Architectural History and History. Mr. Adams serves as principal investigator for all architectural history components of projects and is well versed in the practical application of the laws and regulations of Section 106 of the NHPA and California Environmental Quality Act (CEQA). He is highly skilled at historical research and analysis and is familiar with numerous archives, libraries, museums, and other historical repositories throughout California. He has prepared historic contexts, property histories, and carried out architectural site documentation for buildings, structures, and historical landscapes. He has also prepared built-environment impact assessments and has developed mitigation measures for CEQA and Section 106 projects. In addition, he has carried out all three versions of HABS/HAER/HALS historical documentation, developed educational interpretive panels, has completed Caltrans Standard Environmental Reference documents, multiple versions of Finding of Effect documents, and has evaluated numerous historic-age buildings and properties, as well as assisted lead agencies with SHPO consultation. As the manager of ECORP's cultural resources department in Rocklin, he has led numerous cultural resources studies and is the principal investigator and author for multiple architectural history studies.

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Education

M.A., History (Public History), California State University, Sacramento

B.A., History, California State University, Chico

Professional Experience

Cultural Resources Studies Cuesta Heights Water Storage and Distribution Improvement, Tuolumne County – Tuolumne Utilities District (TUD) (2017-Ongoing). Cultural Resources Manager responsible for planning strategy and implementation of the cultural resources inventory and evaluations for the TUD Cuesta Heights Water Storage Project located near Sonora, Tuolumne County. The project required a multi-phased approach to record, evaluate, and prepare a finding of effect impacts assessment for resources within the project impact area. Through project implementation, participated in conference calls and led strategy discussions that supported the TUD through the CEQA process for impacts to cultural resources.

Cultural Resources Studies for the CCWD Ebbetts Pass Reach 1 Water Transmission Pipeline Capital Improvements Project, Calaveras County – Calaveras County Water District (2017-Ongoing). Cultural Resources Manager responsible for the planning strategy and implementation of the cultural resources inventory and evaluations for the CCWD Ebbetts Pass project located along Highway 4, Calaveras County. The project required archaeological survey, recordation, and evaluation of cultural resources located along

Highway 4 within the project area. Supported CCWD with planning and implementation of their project by coordinating the preparation of appropriate cultural resources studies for the project, participating in project planning conference calls, and working with the engineering team.

White Rock North Dump Groundwater Extraction and Treatment System Extraction Wells and Pipeline Project, Sacramento County – Aerojet Rocketdyne (2016). Assistant Cultural Resources Manager responsible for coordination and management of a cultural resources inventory report. To support the USACE 404 permit for the project, coordinated an archaeological inventory, records search, and preparation of a cultural resources inventory report. The project also required coordination with project engineers and regulatory managers.

Water Rights Extension Project EIR/EIS, Placer County – Foresthill Public Utilities District (2015-Ongoing). Assistant Cultural Resources Manager responsible for strategic planning and implementation of cultural resources studies to support the project Environmental Impact Report. Supervised the cultural resources inventory and evaluations, organized and led project consultation meetings with the Foresthill PUD and USFS, as well as coordinated all Tribal consultation. The project required ongoing consultation and strategic planning with the USFS through implementation.

White Pines Stream Gaging Project, Calaveras County – Calaveras County Water District. Cultural Resources Manager responsible for the management and preparation of a cultural resources constraints analysis for the installation of stream gages by the CCWD. To support the CEQA Categorical Exemption for the project, coordinated an archaeological records search and constraints analysis. The analysis included an evaluation of the remains of a washed out historic-age bridge.

Environmental Impact Report and Regulatory Permitting for the Centennial Reservoir Project, Nevada and Placer Counties – Nevada Irrigation District (NID) Subconsultant to HDR (2015-Ongoing). Cultural Resources Manager responsible for cultural resources strategic planning, management, and implementation of all cultural resources studies to support the Centennial Reservoir Project's Environmental Impact Report and Environmental Impact Statement for the 2,100+ acre project area. Participated and led numerous project planning meetings regarding preparation of cultural resources technical studies. Supervised implementation of cultural studies and also presented and defended to the NID Board of Directors regarding further stages of cultural resources compliance needs. Ongoing support with consultation and strategic planning on behalf of NID with the U.S. Army Corps of Engineers, Native American Tribes, and other federal and state agencies through implementation.

Yountville Veteran's Home of California, Napa County – Department of General Services, Real Estates Services Division (2014). Architectural Historian responsible for coordination and management of an historic district record update. The Veteran's Home of California manages the Yountville Historic District and required an update to the District's eligibility and integrity in order to assist with future project planning. Managed subconsultant, participated in project planning conference calls and coordination with SHPO including ghost drafting consultation letters, and prepared an historical resources summary document that outlined the status of the District.



Theadora Fuerstenberg, RPA

Senior Archaeologist

Ms. Fuerstenberg is a registered professional archaeologist with more than 16 years of consulting experience, specializing in Historic-era California, Prehistoric central, southeastern, northern coastal California, and the Great Basin. She meets the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology. Her principal professional abilities include supervising the identification and treatment of cultural resources and preparation of technical documents as required for compliance with the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA); conducting archival and background research; directing large and complex archaeological survey and archaeological excavations; directing and performing laboratory analysis of prehistoric and historic-era collections; and writing research designs, management plans, and reports for archaeological and cultural resource management projects. Additionally, she regularly facilitates client compliance with AB52. She manages large and complex projects daily which entail client communication, tracking dozens of staff, and various tasks including budgets and expenses.

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Education

M.A. Cultural Resource Management, Sonoma State University

B.A., Anthropology, University of Minnesota

Registrations, Certifications, Permits and Affiliations

- Register of Professional Archaeologists
- Society for American Archaeology
- Society for California Archaeology
- Sacramento Preservation Society
- Women in Transportation Seminar

Professional Experience

Cultural Resources Studies for the Cuesta Heights Water Storage Project, Tuolumne County – Tuolumne County Utilities District (TUD) (2017). Senior Archaeologist responsible for data analysis and report preparation for cultural resources inventory and evaluations for the TUD Cuesta Heights Water Storage Project located near Sonora, Tuolumne County. The project required a multi-phased approach to record, evaluate, and prepare a finding of effect impacts assessment for resources within the project impact area. Prepared all research and findings documents, oversaw subsurface testing and data analysis, and wrote evaluations in support of CEQA and Section 106 compliance.

Pioneer Water Rehabilitation Project, Amador County – Amador Water Agency (2017). Principal Investigator responsible for overseeing all aspects of cultural resource investigations for a pipeline

replacement and water systems upgrade project in Amador County. Led project organization, field inventory implementation, data analysis, background research, and report preparation for CEQA and Section 106 compliance.

Cultural Resources Studies for the Ebbetts Pass Reach 1 Water Transmission Pipeline and Canal Improvements Project, Calaveras County – Calaveras County Water District (2017). Archaeological Principal Investigator for subsurface test excavations at a prehistoric site in the southern Sierra Nevada foothills, and site recording and evaluation of prehistoric and historic-era sites along State Route 4 in Calaveras County. Led and oversaw research design preparation, field excavations, data analysis, and report preparation to support evaluations of eligibility for CEQA and Section 106 compliance. Coordination with US Forest Service and local Native American tribes.

Napa State Hospital Solar Installation, Napa County – Department of General Services, Real Estate Services Division (2017). Senior Archaeologist responsible for background research, cultural resources inventory survey, data analysis, and evaluations of eligibility for all cultural resources on the Napa State Hospital Project. Coordinated all field efforts, analyzing background research, and evaluating cultural resources for CEQA and Section 106 compliance. In addition, oversaw and tracked agency compliance with AB52 for consideration of Tribal Cultural Resources under CEQA.

Doty Ravine Pipe Replacement, Placer County – Nevada Irrigation District (NID) (2019-2020). Principal Investigator and Project Manager responsible for cultural resource compliance with CEQA, NEPA, and Section 106 for NID's Doty Ravine pipe replacement Project. Worked with developers, agencies, and tribes to come up with various options for compliance with state and federal regulations, and strategies to avoid and mitigate impacts and effects to sensitive archaeological resources and Tribal Cultural Resources. Led facilitation of AB52 compliance for NID.

Fredonyer Pass Cultural Resources Inventory, Lassen County – US Forest Service and Lassen County (2019) Principal Investigator responsible for cultural resource compliance with CEQA, NEPA, and Section 106 for Lassen County's Fredonyer Pass trail improvements project within Lassen National Forest. Supervised the pedestrian cultural inventory and worked with Forest Service personnel and Lassen County to gain access to and survey 10 miles of planned trail near Fredonyer Pass in Lassen National Forest.

Arroyo Del Valley Cultural Resources Inventory and Evaluation, Alameda County – Compass Land Group, LLC. (2018-2019) Principal Investigator in charge of a cultural resources inventory of 107 acres of the Eliot Quarry for CEQA, NEPA, and Section 106 compliance. Led the field survey and archival research program to record and evaluate the entire historic-period Eliot Quarry.

N-O Intertie Project, Imperial County – Imperial Irrigation District (IID) (2019-2020) Principal Investigator responsible for cultural resource compliance with CEQA, NEPA, and Section 106 for IID's N-O Intertie Project. Worked with developers, agencies, and tribes to come up with various options for compliance with state and federal regulations, and strategies to avoid and mitigate impacts and effects to sensitive archaeological resources and Tribal Cultural Resources.