



NOTICE OF ENGINEERING COMMITTEE MEETING

Covering Design, Construction, Capital Improvement,
Master Plan and other Engineering, Operational and
Planning Related Matters

NOTICE IS HEREBY GIVEN that the San Lorenzo Valley Water District has called a special meeting of the Engineering Committee to be held on Tuesday, June 15, 2021, 2:00 pm, via video/teleconference.

<https://global.gotomeeting.com/join/518357533>

You can also dial in using your phone.

(For supported devices, tap a one-touch number below to join instantly.)

United States (Toll Free): 1 877 309 2073

- One-touch: <tel:+18773092073,,518357533#>

United States: +1 (571) 317-3129

- One-touch: <tel:+15713173129,,518357533#>

Access Code: 518-357-533

AGENDA

1. Convene Meeting/Roll Call
2. Oral Communications
This portion of the agenda is reserved for Oral Communications by the public for items which are not on the Agenda. Please understand that California law (The Brown Act) limits what the Board can do regarding issues raised during Oral Communication. No action or discussion may occur on issues outside of those already listed on today's agenda. Any person may address the Committee at this time, on any subject that lies within the jurisdiction of the District. Normally, presentations must not exceed five (5) minutes in length, and individuals may only speak once during Oral Communications. Any Director may request that the matter be placed on a future agenda or staff may be directed to provide a brief response.
3. Old Business:
Members of the public will be given the opportunity to address each scheduled item prior to Committee action. The Chairperson of the Committee may establish a time limit for members of the public to address the Committee on agenda items.
 - A. ENGINEERING CALENDAR
Review and discussion by the Committee.

4. New Business:
Members of the public will be given the opportunity to address each scheduled item prior to Committee action. The Chairperson of the Committee may establish a time limit for members of the public to address the Committee on agenda items.
- A. REVIEW OF REQUEST FOR PROPOSALS & REQUEST FOR QUALIFICATIONS CURRENTLY OUT TO BID
Discussion and possible action by the Engineering Committee regarding a review of RFPs & RFQs progress.
- B. AMERICAN WATER INFRASTRUCTURE ACT 2018 EMERGENCY RESPONSE PLAN
Discussion and possible action by the Engineering Committee regarding the AWIA 2018 Emergency Response Plan.
- C. PROPOSALS RECEIVED FOR 5-MILE PIPELINE
Discussion and possible action by the Engineering Committee regarding the 2 proposals received for the 5-Mile Pipeline Constructability.
- D. REVIEW OF DISTRICT PREVENTATIVE MAINTENANCE PROGRAM AND WORK ORDERS
Discussion and possible action by the Engineering Committee regarding the Preventative Maintenance Program and Work Orders.
5. Informational Material:
Here is a link <https://www.slwvd.com/node/81/minutes> to previous Engineering Committee minutes.
6. Adjournment

Agenda documents, including materials related to an item on this agenda submitted to the Committee after distribution of the agenda packet, are available for public inspection and may be reviewed at the office of the District Secretary, 13060 Highway 9, Boulder Creek, CA 95006 during normal business hours. Such documents may also be available on the District website at www.slwvd.com subject to staff's ability to post the documents before the meeting.


Certification of Posting

I hereby certify that on June 11, 2021, I posted a copy of the foregoing agenda in the outside display case at the District Office, 13060 Highway 9, Boulder Creek, California, said time being at least 72 hours in advance of the meeting of the Engineering Committee of the San Lorenzo Valley Water District in compliance with California Government Code Section 54956.

Executed at Boulder Creek, California, on June 11, 2021.

Holly B. Hossack, District Secretary
San Lorenzo Valley Water District

Engineering Department Project Calendar June 2021

	June	July		August	
Lompico Tanks					
	Project Completion in June, due to setbacks				
Water Master Plan					
	Draft Water Master Plan Report by end of June				
Lyon Complex Road					
	Currently In Design				
Quail Hollow Pipeline					
	RFP for Construction in June, delayed by PG&E				
Glen Arbor Bridge					
	RFP for Construction in Late June				
Eckley Tank					
	In Design				
Alta Via Pipeline					
	In Design, Geotech has been awarded.		Site Investigation in July or Late June		
5 - Mile Pipeline					
	Bids are in following Re-Bid, going to board on Thursday				

Index:	In Design	Out to Bid	Pre Construction
	In Construction	Post Construction	N/A

Engineering Department Project Calendar June 2021

	June		July		August	
Lyon Pipeline Replacement						
	Awaiting Survey/Geotech					
Foreman Electrical						
	Expanding Project scope again, still in design		Construction RFP in July			
Little Lyon Tank Recoating						
	Project in progress		Expected completion in July			
AWIA Emergency Response Plan						
	Memo for award going to Board on Thursday					
Riverside Grove Booster						
	Project begins June					
Blueridge Tank Replacement						
	Geotech has been awarded.		Site Investigation in July or Late June			
Foreman Grading & Erosion Control						
	In Design					
Fall Creek Fish Ladder						
	Out for ReBid					

Index:	In Design	Out to Bid	Pre Construction
	In Construction	Post Construction	N/A

Current as of:	6/11/2021	Disclaimer:	Dates on this calendar are approximated given current information, and are expected to change due to unforeseen circumstances and project variability.
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Memo

From: District Engineer

To: Engineering Committee

Date: 6/15/2021

Subject: Summary of Requests for Proposals/Quotes Currently Out for Bid, Recently Closed, and/or Recently Awarded

The District currently has the following RFPs out for bid

1. Fall Creek Fish Ladder Construction, Due June 22. This is a re-bid, no bids were received during initial bid period.
 - a. Staff have been pushing contractors for bids. To date, three GCs have visited the site and expressed interest in bidding.
 - b. Construction of the Fish Ladder will include:
 - i. Demo of existing weirs, control structures, and access structures
 - ii. Construction of new weirs, to include two additional weirs which reduce the jump height from 18-in to the currently required 12-in
 - iii. Placement of new concrete in the stream bed to reduce leakage or bypass of the fish ladder
 - iv. Construction of new control and access structures
 - v. Rehabilitation of existing submersible pumps
 - vi. Relocation of pump intakes

2. Fall Creek Fish Ladder Construction Management, due June 1
 - a. Bids have been received for this project, Staff are holding them until construction bids (item 1, above) are received.
 - b. Construction Management for the Fish Ladder project will include:
 - i. Coordinate construction/maintenance/demo of temporary diversion and water intake structures with Contractor and District Staff; ensure that the temporary intake is operational at all times during the course of the project except when transferring flow from existing intake to temporary intake and from temporary intake to proposed intake.
 - ii. Issue necessary clarifications and interpretations of the contract documents as appropriate to the orderly completion of contractor's work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the contract documents.
 - iii. Review, approve and monitor traffic control plans.
 - iv. Coordinate the submittal process by transmitting to the appropriate design professional for compliance with construction documents. Develop and maintain files of approved submittals.
 - v. Establish and hold weekly progress and coordination meetings with SLVWD and the Contractor at the site during active on-site construction phase. Prepare the agenda and summary notes for weekly meetings and review the Contractor's

- schedule. Monitor Contractor's compliance with submitted schedule. Request new schedules as they become outdated due to changes. Summarize project progress and include the status of change orders, number of contract days remaining, work completed, adherence to schedule, and work in progress.
- vi. Visit the site each working day during the active on-site construction phase as necessary to observe the work and document compliance with the plans and specifications. Confirm that materials and installation methods used are those specified in approved submittals or the contract documents. Photographically document the progress of the work daily; document milestones with additional photos. Review traffic control installation and ongoing traffic control efforts by the construction contractor. Prepare daily site observation logs that document progress of work performed, labor and equipment on site, and communications with the Contractor.
 - vii. Coordinate all required Special Inspections with Contractor and third-party Inspectors; maintain a spreadsheet of required Special Inspections and date/time each takes place; document with additional photographs as appropriate.
 - viii. Document conformance/non-conformance of Contractor with all permit requirements.
 - ix. Review Contractor's progress payment requests and provide recommendations regarding payment in accordance with the work complete and the contract documents.
 - x. Assist with Contractor coordination with the utility companies, PG&E, Comcast, AT&T, Verizon, Sprint, etc.
 - xi. If a change order request is presented by the Contractor, Consultant shall review the request, communicate with SLVWD, the Contractor, and any involved inspection/testing sub-consultants, and provide a recommendation to the District. Consultant shall maintain current records and documentation for all change orders, along with changes in contract days and contract dollar amount.
 - xii. Review test reports and notify the District and the Contractor regarding reports indicating non-conforming items. Coordinate with the Contractor and the special testing and inspection sub-consultants to resolve and document variations in the work from that specified in the construction documents.
 - xiii. Prepare a final punch list of items not yet satisfactorily completed and visit the project site to verify completion of those items.
 - xiv. Obtain letters of final acceptance from the associated design professionals summarizing their observations and conformance with the project plans and specifications.
 - xv. Obtain record drawings from the associated design professionals based on Contractor's as-built drawings, site observation logs, and RFI logs for District records.
 - xvi. Review construction for adherence with the project plans and specifications.

Staff have prepared a memo to the Board recommending award of the following projects:

1. Cross Country Pipeline Constructability Study, due June 8 – RECOMMEND AWARD TO FREYER & LAURETA, INC. (proposals attached).
 - a. The Study will be presented to the Engineering Committee in draft form for review and comment in collaboration with District Staff and again in Final form prior to release for Board acceptance.
 - b. Solicitation to obtain quotes for preparation of a Study intended to identify and evaluate possible materials and strategies to replace the raw water pipelines and intakes on Ben Lomond Mountain destroyed during the CZU fire event (August 2020).
 - c. Study to include:
 - i. Evaluation of pipe materials other than the existing HDPE for fire resistance
 - ii. Evaluation of construction methodologies for disaster resistance and construction challenges
 - iii. Determination of agencies with jurisdiction (environmental, etc.)
 - iv. Evaluation of possible inclusion of hydroelectric power generation in rebuild of the raw water system
 - v. Evaluation of possible alternate routing of pipelines
2. AWIA Emergency Response Plan, due May 28 – ONE BID, SANDIS CIVIL ENGINEERS (proposal attached)
 - a. The Plan will be presented to the Engineering Committee in draft form for review and comment in collaboration with District Staff and again in Final form prior to release for Board acceptance.
 - b. Solicitation to obtain quotes for preparation of the Emergency Response Plan (ERP) required by the American Water Infrastructure Act of 2018 (AWIA)
 - c. ERP shall include:
 - i. strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system;
 - ii. plans and procedures that can be implemented, and identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water;
 - iii. actions, procedures and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes and construction of flood protection barriers; and
 - iv. strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system.
 - d. In addition, the Consultant will review the District's Risk and resilience Assessment (RRA), produced in-house earlier this year.

In addition, the District has awarded the following smaller projects:

1. Blue Ridge Tank Geotech, due May 25 - AWARDED TO HARO KASUNICH & ASSOCIATES

- a. Solicitation for quotes to perform site characterization, including:
 - i. Borings to obtain subsurface soil samples
 - ii. Laboratory analysis of samples
 - iii. Provide recommendations for foundations, grading, paving, and storm drainage

2. Alta Via/CA-9 Geotech, due May 25 - AWARDED TO PACIFIC CREST ENGINEERING
 - a. This investigation is required by Caltrans prior to making hot tpped connection to the existing main under CA-9
 - b. Solicitation for quotes to perform site characterization, including:
 - i. Borings to obtain subsurface soil samples
 - ii. Laboratory analysis of samples
 - iii. Provide recommendations for pavement restoration



OAKLAND
CAMPBELL
PLEASANTON
MODESTO
ROSEVILLE
SPOKANE



PROPOSAL

MAY 28TH, 2021

San Lorenzo Valley Water District
RFQ Development of AWIA Emergency Response Plan

Sandis Civil Engineers Surveyors and Planners
1700 S. Winchester Blvd., Suite 200, Campbell, CA 95008

SANDIS.NET

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May 28, 2021

Josh Wolff
District Engineer
San Lorenzo Valley Water
District 13060 Highway 9
Boulder Creek, CA 95006

RE: Professional Services for the Development of an Emergency Response Plan

Dear Mr. Wolff,

Since the CZU fires in 2020, Sandis has been providing emergency response and repair to damaged water pipelines and tanks for the San Lorenzo Valley Water District (SLVWD). With this experience, we truly understand the critical need of providing professional services to assist SLVWD in developing an Emergency Response Plan (ERP) in conformance with the American Water Infrastructure Act and EPA guidelines. Our goal is to help the District develop a robust ERP so that the systems that we have helped to bring back online will be preserved and remain operational/functional through any type of event. To achieve this, we propose a team that you know, that has knowledge of your systems and operations, and who have expertise in risk and resilience analysis, emergency response planning, water/utility systems, and knowledge of EPA and AWIA guidelines. Sandis is ready to provide reliable evaluation, risk assessment and Emergency Response Planning for the District that will preserve the integrity, security and resiliency of both the physical and cybersecurity systems in the event of natural or malevolent hazards, and that the ability of the system to deliver safe drinking water to the communities of the District is never compromised.

Front-line Knowledge: Our experience includes firsthand knowledge in damage assessment, repair, and construction of impaired water systems due to natural disasters such as wildfires. We have become intimately familiar with SLVWD's systems and we have worked side by side to develop a partnership based on trust in our efforts to help this community. In addition, Sandis is also assisting UC Santa Cruz with a damage assessment of Mount Hamilton and Lick Observatory structures and also helping the City of Napa to activate pipeline to restart the Milliken Water Treatment Plant after two fire events. We also have assisted local hospital campuses with emergency water planning and critical infrastructure needs in response to emergencies. We have decades of experience supporting campuses such as Santa Clara Valley Medical Center, Lucile Packard Children's Hospital, and New Stanford Hospital.

Reliable Experts: Our proposed Leadership Team includes Jeff Setera, PE, LEED AP, QSD/P, with over 30 years of experience in the planning and development of complex water and utility systems for public agencies. Jeff's knowledge of water systems and drive to reach technical excellence provides a strong backbone for the team members to guarantee certification of the RRA, ERP, and overall project success. Jeff will work closely with Chad Browning, PE, QSD/P, LEED AP who has worked with various local agencies and municipalities in planning and designing for utility and water systems, including, in the last year, with the District on Emergency Repair Projects following the CZU Lightning Fires.

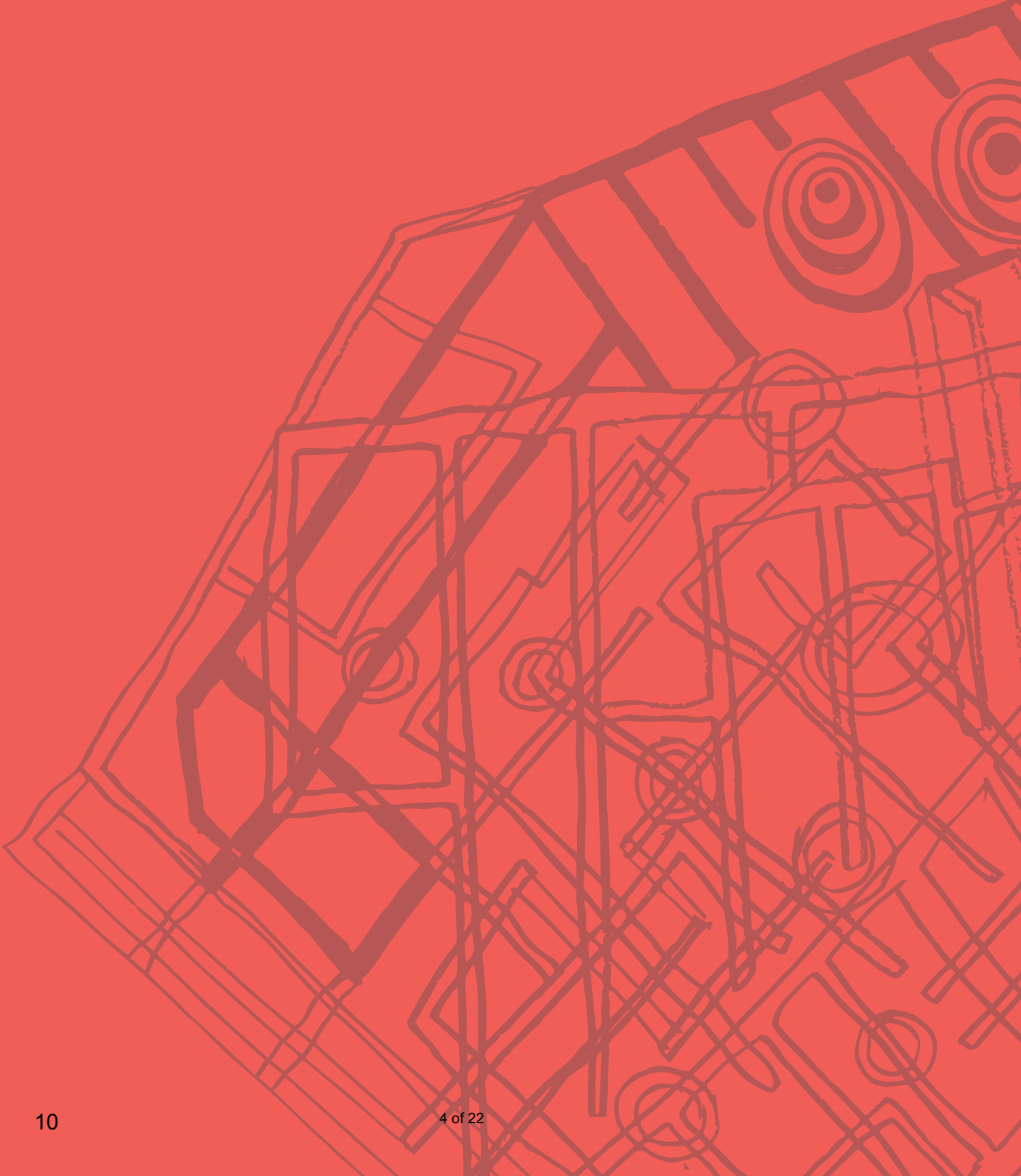
Trusted Partnership: We propose to work collaboratively with the District to impart what we have learned about your systems in this past year and guide you through the development of an ERP. To be successful, we believe this takes a true understanding of your systems combined with our expertise in designing and planning utility systems. We are knowledgeable and keep abreast of current AWIA and EPA guidelines and will work to deliver an ERP ahead of schedule. We have made it our firm's goal to commit to helping communities ravaged by disaster events. We hope to continue to provide the San Lorenzo Valley Water District with the professional services needed to meet the goals and deadlines associated with the EPA and AWIA.

As Principal, I, Jeff Setera, PE, QSD/P, LEED AP, am legally authorized to contractually bind Sandis. Please feel free to contact me at 408.892.3792 or jsetera@sandis.net should you have any questions, require additional information, or would like to schedule an interview.

Thank you,

Jeff Setera, PE, QSD/P, LEED AP
President, Principal-in-Charge
408.892.3792 | jsetera@sandis.net

BACKGROUND



Office

Sandis
1700 S. Winchester Blvd.
Suite 200,
Campbell, CA 95008

Additional Offices

Campbell, CA
Pleasanton, CA
Modesto, CA
Roseville, CA
Spokane, WA

Primary Contacts

Jeff Setera
President, Principal In-Charge
408.892.3792
jsetera@sandis.net

Firm Type

California Corporation

DIR #

1000005108

Year Established

1965

Number of Employees

120+

Sandis' In-House Services

Civil Engineering
Traffic Engineering
Surveying and Mapping
3D Laser Scanning
QSP/QSD
Planning
Utility Locating

Ongoing Litigation/ Claims

No Claims made against Sandis have resulted in litigation or arbitration in the last 5 years.

Bankruptcy Filings

Sandis has never filed for bankruptcy.



FIRM BACKGROUND

Sandis is a full-service professional interdisciplinary services corporation with 120+ employees across six offices in California and Washington State. Locally and statewide, Sandis is known and credited for our broad array of surveying expertise, civil design experience, project management, and quality service. We specialize in civil engineering, traffic engineering, storm and sanitary sewer systems, stormwater management, QSP/D, 3D-laser scanning, land surveying, and planning. We help those who build to build the best for us all.

LOCAL EXPERIENCE

Our firm's experience in Risk & Resilience Assessment, as well as our knowledge of the District and its topography gained through previous projects will significantly reduce the amount time required to form a comprehensive and thorough ERP in conjunction with AIWA, and allow us to meet the needs of the SLVWD, its residents and stakeholders both efficiently and effectively. Since 2020, Sandis has worked closely with the District to provide emergency repair services. Following the CZU Lightning Fire Complex, Sandis has provided engineering and surveying services for the District's damaged water system that include: Rapid Fire Damage Assessment, Big Steel to Lyon Interconnect Pipeline, Foreman Intake and Utility Corridor to Water Treatment Plant, Alta Via Water Pipeline, and erosion control measures for water intakes.

SERVICE PHILOSOPHY

Sandis is about reliability and experience, connecting people and projects to the communities we work for. Sandis helps clients, who construct the fabric of civilization, build more confidently by accurately and reliably designing, planning, inspecting, and documenting the foundations upon which we build. Our industry leading services and team serve as an integral part of our clients' design and build process. We are valued partners, and our work becomes the basis of truth for successful projects. Our diverse range of engineering, surveying and planning expertise provides a more holistic plan of action for everything we do, saving money and resources. We are a passionate company committed to helping our partners build better and more connected communities that endure the test of time.

EXPERIENCE



UC SANTA CRUZ MOUNT HAMILTON SCU FIRE DISASTER ASSESSMENT AND REPAIRS



Sandis expedited engineering services in response to damage caused by the SCU Lightning Complex wildfires on Mount Hamilton, located in the Diablo Range in Santa Clara County, CA. The peak, at 4,265 feet, overlooks Santa Clara Valley and is the site of Lick Observatory, the world's first permanently occupied mountaintop observatory. Owned by the University of California and operated by the University of California Observatories (UCO), it is home to the multiple families and residents who maintain the facilities. These residents live in homes spread out at various locations and rely on pumps and transformers to supply basic utilities (such as water and electricity).

Our services were divided in three main categories: damage assessment; planning and budgeting; and design for repairs/replace. Damage assessment included site visits, documentation of damage, and cost estimating for repairs or replacement. Planning and budgeting efforts were focused on breaking damage into categories and developing project budgets for future public bid. Design efforts including preliminary and final plans, specifications cost estimates necessary for UCSC review and approval.

All of our work focused on infrastructure elements such as roads, drainage systems, water sources, water storage and water distribution system, site electric and telecommunications, buildings, retaining structures as well as vegetation and ground cover. The first of many future projects is out to bid currently for the slope stabilization and roadway safety elements damaged during the fire.

Our team worked closely with UCSC project managers as well as facilities personnel at Mt Hamilton to prioritize work efforts to maximize fire restoration efforts.

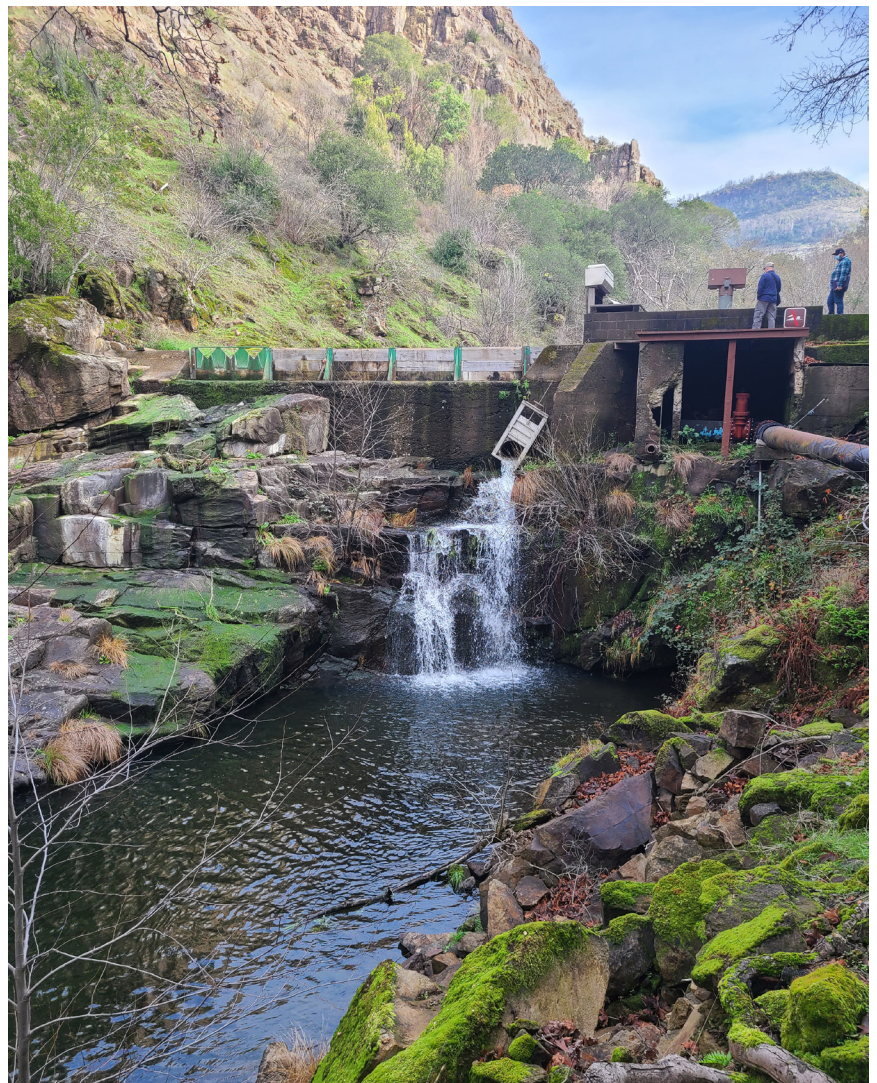


CITY OF NAPA MILLIKEN PIPELINE RESILIENCE AND HARDENING PROJECT

City of Napa, CA



Phase 1 of a multi-phase project to improve, protect and harden the existing 16-inch pipeline in Milliken Canyon. Sandis and Mountain Cascade under a design-build contract are executing repairs to the existing 16-inch steel pipeline that was damaged during the 2017 and 2020 wildfires. The focus of Phase 1 is to affect repairs required to reactivate the pipeline to allow the Milliken Treatment Plant to restart and provide water to the City. The existing pipeline is now more than 60 years old and has sustained damage not only from wildfire, but also tree and rock falls as well as normal pipe corrosion. The pipeline is located in the steep canyon on a rock ledge with very limited access. Special attention has been made to habitat, personal safety along with careful selection of construction means and methods. The pipeline is undergoing hydrostatic testing at this time with an expected reactivation date in early 2021. A high level of collaboration between the City and the design-build team has been required due the unique nature of the project.



SANTA CLARA VALLEY MEDICAL CENTER ON-CALL

San Jose, CA



For over 15 years, Sandis has held engineering and surveying on-call master agreements with Santa Clara Valley Medical Center. Sandis has been working closely with the SCVMC on significant improvements to the healthcare campus including resiliency and emergency response planning of utilities. A majority of the on-call projects have focused on infrastructure improvements including studies, design, procurement and permitting. Providing planning input for long term projects and budgets for nearly two decades, Sandis has made invaluable engineering and surveying contributions to the development of SCVMC. Sandis' institutional knowledge and vast healthcare experience has allowed for rapid project kick-off throughout our on-call agreements. We use this knowledge and our team's expertise to comply with local and state healthcare regulations, always meeting standards and codes for every project.

Services have ranged from complete utility system design for new buildings to campus surveys. To date, projects have included: Ginger Lane Extension Phase 1 and Phase 2;

Renova Drive realignment; Rehabilitation Building Seismic Upgrade Project; Seismic Safety Project – Peer Review; and Old Main East & Sobrato Pavillion (Bed Building 1).

As part of the as-needed services, Sandis is currently providing site utilities, extensive building utilities rerouting, and seismic upgrade and demolition services to the medical center.

SCVMC As-Needed Projects

- Bed Tower
- Emergency Department Expansion
- Behavioral Health Services Center
- Rehab Building
- New Ambulatory Specialty Center
- Building E Offices
- Bascome Avenue Lot
- Respite Center
- Water distribution system mapping and analysis

COUNTY OF SANTA CLARA PARKS AND RECREATION ON-CALL

County of Santa Clara, CA



Sandis has provided over 10 years of annual engineering and surveying on-call master agreements to the Santa Clara County Parks and Recreation Department. Sandis' on-call projects have ranged from smaller landscape improvements, to gas line improvements to one of the largest county parks. Assignments have included landscape improvements to Casa Grande, assessment reports and as-builts for Dyer House at Sanborn County Park, Curie Drive Roadway Widening, Vasona Park Modular Project, Grant Ranch Programming and Feasibility Study, and finally the Martial Cottle County Park. Through our decade plus of work for the Santa Clara County Parks and Recreation Department, Sandis has provided planning and design input for long term projects and budgets.

Martial Cottle

Sandis provided engineering and surveying services for the development of Martial Cottle Park, a park jointly owned by the State of California and the County of Santa Clara. Sandis managed a multi-discipline team consisting of civil engineers, land surveyors, landscape architects, mechanical, electrical and plumbing engineers, environmental engineers geotechnical engineers and structural engineers as well as crop consultants and biologists. The project includes a roadway widening on Snell Avenue from four lanes to six lanes and signal modifications at the intersection of Branham Avenue and Snell Avenue. Storm drain solutions include the use of previous pavement, retention pond, infiltration wells, and bioswales. The project consists of the development of a 287-acre park that is jointly owned by the State of California and the County of Santa Clara. The park's vision includes 3 miles of trails, a visitor center, pavilion, maintenance facility, passive recreational uses, community gardens and small agricultural uses

Sandis coordinated with multiple agency stakeholders throughout the developed of the park. The stakeholders include the City of San Jose Public Works California Department of Parks and Recreation, Army Corp of Engineers, and California Fish and Wildlife.

Sandis' scope of work included

- Bidding and Construction Administration
- Boundary Surveys
- Capital Improvements
- Construction Notes and Details
- Construction Staking
- Design of Miscellaneous Facilities and Improvements
- Drainage Infrastructure Repair
- Emergency Responses
- Environmental Analysis
- Erosion Control and Repair
- Estimates
- Grading and Drainage
- Landscaping
- Pavement Rehab
- Pedestrian/Bicycle/Vehicular Access/Pathways
- Preparation of Construction Plans and Specifications
- Pump House Design
- Review of Land Development Plans and Calculations
- Right of Way Mapping and Adjustments
- Roadway Design, Sidewalk, Parking
- Signalization
- Storm Water Management/SWPPP



CERTIFICATE OF COMPLETION
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AWARDED TO

JEFFREY SETERA

Operator Code: o

State Code: CA

Course Code:

Course: AWIA Region 8 Module 1

For completion of U.S. EPA Updated Risk Assessment and Emergency Response
Plan Tools

ONE AND A HALF WATER CONTACT HOUR

Awarded March 29, 2021

Charlene Kormondy

March 2021

1



CERTIFICATE OF COMPLETION
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AWARDED TO

JEFFREY SETERA

Operator Code:

State Code: CA

Course Code:

Course: AWIA Region 8 Module 2

For completion of U.S. EPA Updated Risk Assessment and Emergency Response
Plan Tools

ONE AND A HALF WATER CONTACT HOUR

Awarded March 29, 2021

Charlene Kormondy

March 2021

1



CERTIFICATE OF COMPLETION
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AWARDED TO

JEFFREY SETERA

Operator Code:

State Code: CA

Course Code:

Course: AWIA Region 8 Module 3

For completion of U.S. EPA Updated Risk Assessment and Emergency Response
Plan Tools

ONE AND A HALF WATER CONTACT HOUR

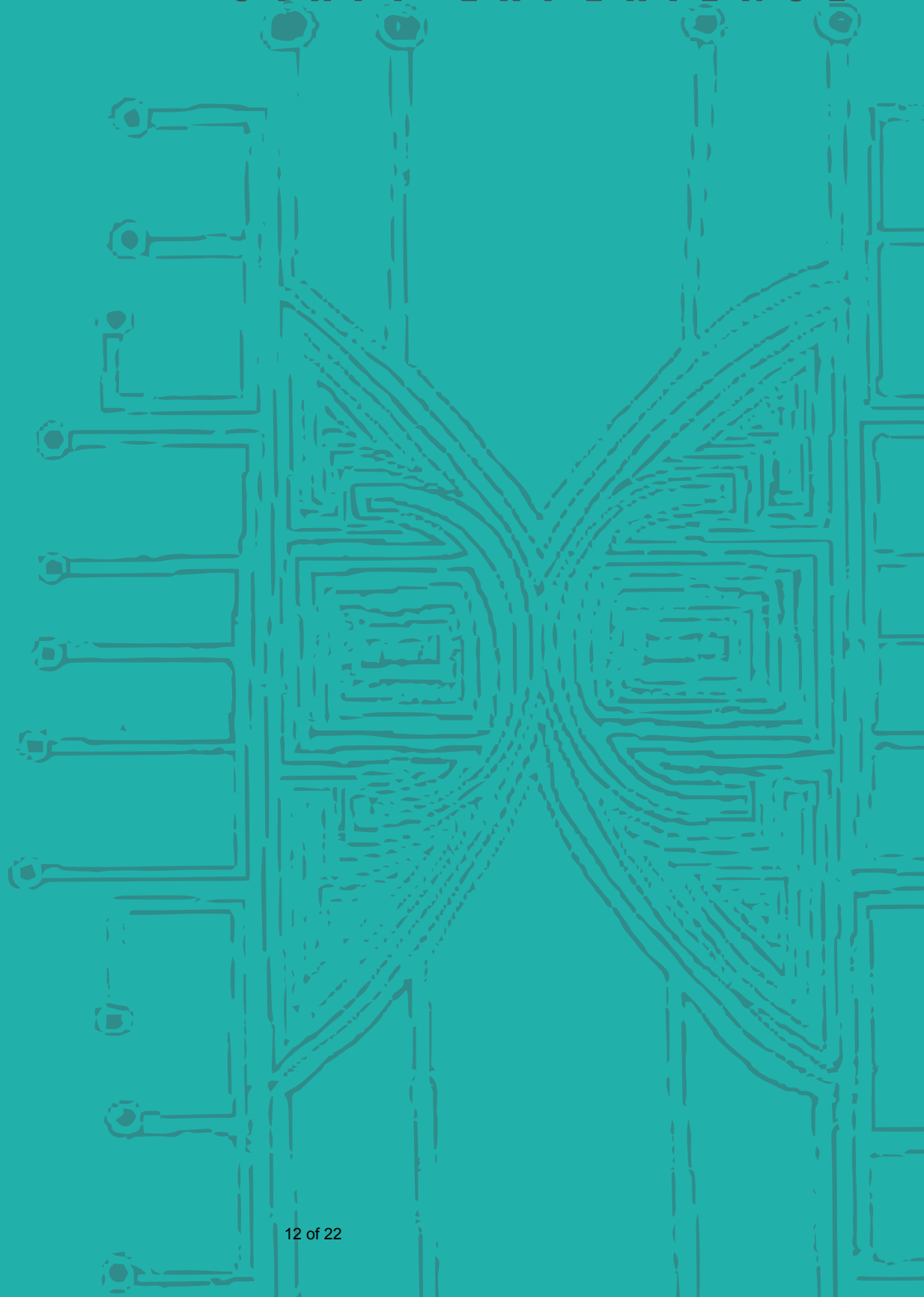
Awarded March 29, 2021

Charlene Kormondy

March 2021

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STAFF EXPERIENCE



Dedicated to assisting Bay Area Water Districts, the Sandis Leadership Team is certified in EPA's AWIA Train the Trainer Seminar, Modules 1, 2 & 3.



JEFF SETERA, PE, LEED AP, QSD/P

PRINCIPAL-IN-CHARGE

Jeff Setera is Principal and President of Sandis Civil Engineers Surveyors Planners and has been with the firm for more than 30 years. Jeff is state renown for his leadership in engineering design and project management of utility and infrastructure projects for public agencies, hospital, and educational facilities. Jeff has extensive experience working with Water Districts throughout Northern California. His familiarity and insights across a wide range of water and wastewater projects and system planning are invaluable to agencies seeking compliance in the EPA's American Water Infrastructure Act RRA and ERP. Jeff's full resume can be found on the following page.



CHAD BROWNING, PE, LEED AP

DIRECTOR OF ENGINEERING

Chad offers over 22 years of local engineering experience. Chad has most recently led Sandis' engineering efforts for SLVWD's fire recovery services, where he served as Principal-in-Charge, and will use his intimate familiarity of the locale to inform and guide the critical work necessary to develop a compliant and robust Emergency Response Plan. Chad understands the importance of early and regular communication and the collaborative effort it will take to ensure project success. Chad's previous work with the District will afford Sandis valuable insights into the requirements needed throughout this process to meet the proposed deadlines of this project.

JEFF SETERA, PE, LEED AP, QSD/P PRINCIPAL-IN-CHARGE

About

Jeff Setera is Principal and President of Sandis. His decades of experience includes engineering design and project management of utility and infrastructure projects for public agencies, hospital, and educational facilities, including . His vision as President is to ensure Sandis' processes bring out high quality, technically competent and client-focused design solutions. Jeff has extensive experience working with Water Districts throughout Northern California. His familiarity and insights across a wide range of water and pipeline projects are invaluable when facing complex project challenges.

Relevant Experience

San Lorenzo Valley Water District CZU Fire Damage Assessment and Repairs

Santa Cruz, CA

Jeff has served as Principal and has played an integral role in working closely with the San Lorenzo Valley Water District to assist in the destroyed or heavily damaged parts of the District's water pipeline systems and storage tanks. For the Foreman Intake, Jeff provided engineering and construction management to replace a surface mounted pipeline that was destroyed during the CZU fire of 2020. He provided rapid evaluation and assessment of damage, planning and design of replacement, inclusion of pipeline hardening/protections and alignment revision to provide pipeline accessibility. The new 12-inch and 8-inch lines were designed and installed in rapid fashion to meet the District demands immediately and long term. Jeff worked with the District within days of the fire to assist the District with complete turn-key services to replace the pipeline.

For the Big Steel to Lyon Tank Interconnect Pipeline, Jeff was part of the rapid assessment team providing critical engineering assessment and design of 1,200 linear feet of surface mounted pipeline that was destroyed. Sandis provided turn-key services to assess damage, plan, design, and manage the reconstruction. Jeff quickly deployed a team of surveyors and engineers to develop a plan, work with a contractor to refine, and procure materials, as well as management of construction activities.

UCSC Mt. Hamilton SCU Fire Damage Assessment and Repairs Mt. Hamilton, CA
Principal-in-Charge. Jeff served as PIC for the assessment of damage caused by wildfires on Mount Hamilton and the Lick Observatory. Jeff deployed Sandis' engineering team in an effort to document the damage to Lick Observatory and surrounding areas, identify necessary restoration work, and provide a rough estimate of the cost of restoring the facilities. Sandis provided a damage assessment report and recommended repairs to the site. The report noted damage to structures and focused on site elements such as retaining walls, utilities, and landscape.



31 Years of Experience

31 Years with Sandis

Professional Engineer

Civil Engineer CA #62793

Qualified SWPPP Developer/Practitioner
#340

BS, Civil Engineering

San Jose State University

LEED AP BD+C USGBC

California OES SAP Evaluation

ASCE Environmental & Water Resources
Institute

EPA AWIA Train the Trainer Seminar,
Modules 1, 2 & 3

Additional Relevant Experience

Santa Clara Valley Medical Center On-Call
San Jose, CA

**County of Santa Clara Parks & Recreation
On-Call** Santa Clara, CA

Montevina Water Treatment Plant
Los Gatos, CA

**Elmwood Correctional Facility Emergency
Water Supply** Milpitas, CA

Emergency Water Storage, VA Hospital
Palo Alto, CA

CHAD BROWNING, PE, QSD/P, LEED AP

ASSOCIATE PRINCIPAL, DIRECTOR OF ENGINEERING

About

Chad offers over 23 years of local engineering experience. Chad has most recently led Sandis' engineering efforts for San Lorenzo Valley Water District's fire recovery, where he served as Principal-in-Charge, and will use his intimate familiarity of the District's systems and needs to inform and guide the development of the Emergency Response Plan. He has committed to providing early and regular communication to the District for previous and current project and will continue to provide high-level collaboration for this project.

Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

Principal-In-Charge. In response to the CZU Lightning Complex Fire, Sandis has been providing engineering and surveying services to the San Lorenzo Valley Water District. Sandis' services to date have included: a Rapid Fire Damage system assessment of 7.5 miles of water pipeline and 7 intakes of the damaged waterlines; an expedited design and procurement of construction needed to replace or reroute the rest of the system that has become non-operational; and recovery efforts including assessment, design, permit, and procurement.

As Principal-in-Charge, Chad's responsibilities included oversight, quality assurance and quality control, meeting attendance, site visits, construction observation, and plan reviews. Chad played a vital role in overseeing the waterline design and development and continues to provide regular expertise to the team, ensuring Sandis' services are provided in a timely manner and on budget.

Additional Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

- Alta Via Water Pipeline
- Erosion Control Measures for raw water intakes
- Erosion Control Measures for the Water Treatment Plant
- Erosion Control Measures for Foremen Utility Corridor

San Lorenzo Valley Water District Big Steel to Lyon Interconnect Pipeline Boulder Creek, CA

Foreman Intake and Utility Corridor to Water Treatment Plant Boulder Creek, CA

UCSC Mount Hamilton SCU Fire Disaster Assessment & Repairs Mount Hamilton, CA

Santa Clara County Parks and Recreation Dept. On-Call Santa Clara County, CA

Santa Clara Valley Medical Center On-Call San Jose, CA

Santa Clara County FAF Malech Road Pipeline Replacement Santa Clara County, CA



23 Years of Experience

16 Years with Sandis

Professional Civil Engineer

CA #68315

Qualified SWPPP Developer/Practitioner (QSD/P)

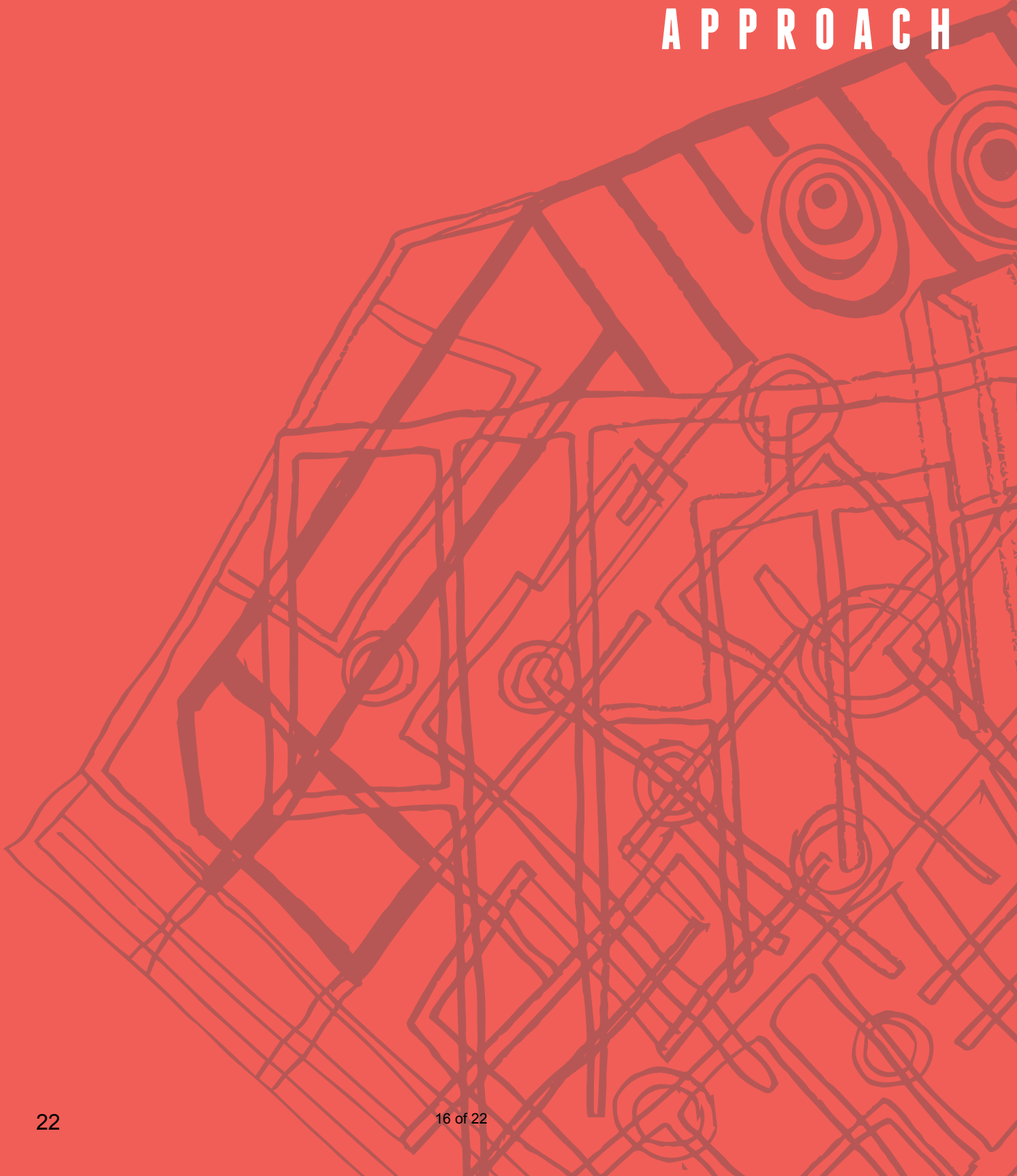
#00917

Bachelor of Science, Civil Engineering

California State University, Long Beach

LEED™ Accredited Professional, USGBC

UNDERSTANDING & APPROACH



U N D E R S T A N D I N G A N D A P P R O A C H

APPROACH KEYS TO SUCCESS

- 01** We love civil engineering and the positive impact we bring to the communities we work in.
- 02** Principal led tasks and project actions.
- 03** Focus on the goal and commitment to the deadline.
- 04** Use of available EPA resources.
- 05** Excellent communication and progress transparency.

PROJECT UNDERSTANDING

San Lorenzo Valley Water District (SLVWD) is required to certify to the EPA they have completed a Risk and Resilience Assessment (RRA) and prepared an Emergency Response Plan (ERP) that meets EPA guidance and requirements. Deadlines for each are June 30, 2021, and December 31, 2021, respectively. The AWIA program and the backing legislation were borne out of America's Water Infrastructure Act of 2013 and replace many aspects of the EPA Safe Drinking Water Act of 1996. The mandate from EPA is to enforce minimum standards of practice and documentation that in part can ensure drinking water systems remain safe and are prepared.

APPROACH

In both cases the RRA evaluation and ERP preparation and associated certifications are simple and straightforward and can be successfully completed ahead of the mandated deadlines. SLVWD has already completed the RRA documentation and likely the certification as well. EPA has prepared an ERP template that not only serve to simplify the effort, but more importantly ensure the intent of the emergency response plan are in conformance with EPA requirements.

We will expedite the RRA to not only complete ahead of the mandated deadline, but to lay the groundwork and District specific knowledge as a basis for the ERP. We expect to meet with District staff kick-off the RRA, gather information, access data, and understand the District system, operations, and procedures. We will prepare the RRA using the EPA Guidance for Small Community Water Systems on Risk and Resilience Assessments under the America's Water Infrastructure Act. This tool streamlines the assessment process with a focus on critical water system infrastructure and a limited list of risk areas. This template will be completed after a thorough understanding of the District is attained. The completed template will be shared with SLVWD via a presentation meeting. Self-certification will follow shortly after with an electronic submission to EPA as the final task. While the deadline is June 30, 2021 we expect to be completed by June 1, 2021 and would expect we immediately move to work on the ERP. Under AWIA once the RRA is submitted and accepted CWS's have six (6) months to complete and self-certify that a compliant ERP has been prepared. One area of optional study during or following the preparation of the RRA is to develop a list of countermeasures to reduce risk and improve resiliency. This optional area of study will be useful to create a list of improvements that have a positive impact and may allow access to funding through EPA or state programs.

Sandis' goal is to expedite the Emergency Response Plan preparation under AWIA to complete the certification ahead of the mandated deadline. We expect there will be a high level of interaction with SLVWD throughout ERP preparation process. To streamline this process we will request a current copy of the ERP provided by SLVWD, including an update to all critical/secured information, as well as access to water system facilities. We will prepare the ERP using the EPA Community Water System Emergency Response Plan Template. Like the RRA template, this tool greatly streamlines the process with a focus on critical water system infrastructure emergency response criteria. A high level of understanding of the District water system and its operation is required to complete this task. While we believe Sandis has a good understanding of District facilities and operations, we will take nothing for granted and seek confirmation where appropriate. We expect a combination of the current ERP and meetings with District staff will be required. Most of the effort in preparing the ERP will

U N D E R S T A N D I N G A N D A P P R O A C H

focus on the following areas: **Resilience Strategies; Emergency Plans and Procedures; Mitigation Actions; and Detection Strategies.** Six (6) months after certification of the RRA or by December 31, 2021 the ERP must be certified.

Two items of optional effort during or following the preparation of the ERP are a table-top emergency exercise and a small-scale physical exercise. Both are hugely valuable to an organization to fully understand the ERP and how to use it, but also valuable to develop the teamwork required to respond when an actual emergency occurs. We would invite SLVWD to enable these options for the huge benefits to their organization and we would welcome the opportunity to participate.

WORKPLAN KEYS TO SUCCESS

- 01** Understanding EPA AWIA and requirements and processes.
- 02** Developing tasks and subtasks to complete.
- 03** Commitment to client.
- 04** Excellent communication.

This project, more so than with improvement projects, requires a strong bond, trust, and ultimately a partnership to be successful. We understand the mandate from EPA, understand how to achieve certification ahead of the deadline, and most importantly how to complete the planning and documentation required. We see the completion of this project as an effort concentrated in a small group (Sandis plus one to two District staff) and with regular communication to a larger group within the District as the best way to deliver these services. We will use the available EPA tools as the best way to meet the mandate and do so at the least cost. As with all of our projects, we take project planning, resource assignments and scheduling very seriously. We utilize our cloud-based system, Liquid Planner, for every project no matter the size or complexity. As such, we will make sure this project and the important scheduling and project planning will be fully integrated into our staff schedules to meet our projected project deadlines. We anticipate this project, as we see it, will be delivered as a concentrated effort by the Project Principal, Chad Browning, PE, with back-office administration added as needed.

The tasks we envision for the ERP are as follows:

ERP TASKS	
1 Project Kick-off	8 ERP revised draft 2
2 Data collection (current Emergency Operations Document, staff responsibilities, vendor information, undocumented emergency procedures)	9 ERP review with SLVWD
3 Review of data	10 Table-top exercises, 2 scenarios (optional)
4 Template setup and formatting	11 ERP template final
5 Understand current communication protocols to other local agencies and EOCs	12 Self-certification
6 ERP first draft 1	13 Upload to EPA
7 ERP review with SLVWD	14 ERP lessons learned and development of a "to do" list and budgeting. (optional)

CLIENT REFERENCES

C L I E N T R E F E R E N C E S

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ddemaster@cityofnapa.org

FEE SCHEDULE



F E E S C H E D U L E

		Hours														
		Principal	Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Computer Technician	Project Admin	Senior Survey Manager	Survey Manager, level 1	Project Surveyor	Survey Technician	2 Person Survey Crew	Utility Locating Crew	Total Hours	Total Fee
1 ERP Preparation and Testing																
Work Items																
1	Collect documents (ex. Emergency Plan)	4													4	\$ 1,400
	Prepare Template Document (EPA std)						16									\$ 1,040
2	Complete Template Draft 1	24					24								48	\$ 9,960
3	Meet with District to Review/Comment	4													4	\$ 1,400
4	Revise and Update Template Draft 2	12					8								20	\$ 4,720
5	Meet with District to Review/Comment	4													4	\$ 1,400
6	Revise and Update Template Draft 3	4					8								12	\$ 1,920
7	Conduct Table Top ERP Test 1 (optional)	8					4								12	\$ 3,060
8	Revise and Update Template (optional)	4					4								8	\$ 1,660
9	Conduct Table Top ERP Test 2 (optional)	8					4								12	\$ 3,060
	Small Scale Physical Exercise (optional)	8					4								12	\$ 3,060
10	Prepare Final ERP	4					4								8	\$ 1,660
11	Conduct Final Review with District	2													2	\$ 700
12	Upload to EPA/Certify Compliance	2													2	\$ 700
13	Management														0	\$ -
14	QA/QC														0	\$ -
	Total Hours	88	0	0	0	0	76	0	0	0	0	0	0	0	148	\$ 35,740
	Average per Week	0	0	0	0	0	0	0	0	0	0	0	0	0		\$ 35,740
	Total Proposal															\$ 35,740

		Hours														
		Principal	Senior Project Manager	Project Manager	Project Engineer	Design Engineer	Computer Technician	Project Admin	Senior Survey Manager	Survey Manager, level 1	Project Surveyor	Survey Technician	2 Person Survey Crew	Utility Locating Crew	Total Hours	Total Fee
2 EPA AWIA RRA Revision (optional)																
1	Review RRA	4													4	\$ 1,400
2	Prepare Revisions to RRA	8					12								20	\$ 3,580
3	Review with District	4													4	\$ 1,400
4	Review and Update RRA	4					8									
5	Upload to EPA/Certify Compliance	2														
	Total Hours	22	0	0	0	0	20	0	0	0	0	0	0	0	28	\$ 9,000
	Average per Week															\$ 6,380
	Total Proposal															\$ 6,380



Proposal for Consulting Services for the Cross Country Pipeline Constructability Study

June 8, 2021





CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS

June 8, 2021

Mr. Josh Wolff, P.E.
District Engineer
San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006

RE: Proposal for Consulting Services
Cross Country Pipeline Constructability Study
San Lorenzo Valley Water District, Boulder Creek, California

Dear Josh,

Freyer & Laureta, Inc. (F&L) is pleased to submit the attached proposal in response to the Request for Proposals (RFP) to provide Consulting Services to the San Lorenzo Valley Water District (District) for the Cross Country Pipeline Constructability Study dated May 2021. We believe you will find that we have assembled a team of experts to lead a risk based approach to evaluate the potential alternatives to replace the Cross Country Pipeline (also referred to as the 5-Mile Pipeline) in a timely manner to restore the critical raw water supply to the District.

F&L has partnered with the following specialty consultants:

- WRA Environmental Consultants will provide environmental and permitting support.
- Cal Engineering & Geology, Inc. will provide geotechnical support.
- Alpine Development will provide pipeline constructability and cost estimating support.
- Advanced Hydro Engineering will provide hydraulics support.

The F&L Team is comprised of technical experts that have the correct technical knowledge to evaluate the potential options for not only restoring the Cross Country Pipeline but also develop potential project enhancements to improve the long term resiliency and reliability of the raw water conveyance system.

Please contact me at (650) 619-3226 or tarantino@freyerlaureta.com with any questions.

Sincerely,
FREYER & LAURETA, INC.

A handwritten signature in black ink, appearing to read 'Jeffrey J. Tarantino', enclosed in a hand-drawn oval.

Jeffrey J. Tarantino, P.E.
Vice President

CC: None

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3 of 58

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825 Washington Street, Suite 237
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Tel: (510) 937-2310

1 Executive Summary

Project Team

Freyer & Laureta, Inc. (F&L) is an award winning civil and infrastructure engineering firm experienced in the planning, design, and construction of public utilities throughout the San Francisco Bay area. We have experience implementing projects to construct thousands of feet of pipeline construction throughout a variety of conditions.

To further support F&L, the F&L Team includes the following specialty subconsultants:

- WRA Environmental Consultants will provide environmental and permitting support.
- Cal Engineering & Geology, Inc. will provide geotechnical support.
- Alpine Development will provide pipeline constructability and cost estimating support.
- Advanced Hydro Engineering will provide hydraulics support.

The F&L Team is comprised of technical experts that have the correct technical knowledge to evaluate the potential options for not only restoring the Cross Country Pipeline but also develop potential project enhancements to improve the long term resiliency and reliability of the raw water conveyance system.

Project Approach

The F&L Team has reviewed the scope presented in the RFP as well as considered the discussions and observations from our team's field meeting to develop a comprehensive approach for the Project. The F&L team recognizes that our efforts to develop the Study are focused on the constructability, permitting, and resiliency studies to identify the preferred solution that the District can then move forward to the design and construction phase. Our analysis must consider both the risks associated with each alternative, the relative weight of each risk, and the potential mitigation approaches to resolve the risk to develop the comprehensive solution.

To determine the best approach to execute a complex project within a sensitive environment similar to the San Lorenzo Valley watershed, the F&L Team has identified several key items that will be considered during the alternative development to identify the preferred solution. The key challenges the F&L team identified and will be addressed by our efforts include:

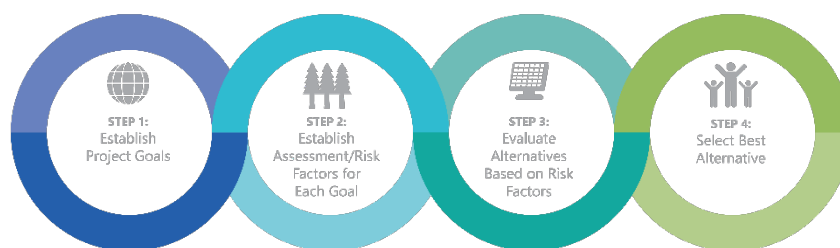
- How significant was the CZU Fire Event and how can lessons learned predict future risks?
- Should the 5-Mile Pipeline be replaced in-kind?
- What are the risks the District should be concerned with?
- Who can build the replacement facilities?

The F&L team is experienced with supporting utility owners to evaluate potential pipeline construction within sensitive environments. We also understand the additional complexities associated with the local area based on our team's project experience with Santa Cruz County. We will leverage our extensive technical knowledge and local experience to develop a Study that will address the potential concerns highlighted in the RFP but also additional challenges that may be encountered during reconstruction of the 5-Mile Pipeline.

The F&L team will implement a goals based risk assessment to establish design criteria goals for a successful project developed in coordination with the District, anticipated to relate to long term water supply resiliency, effective pipeline operations and maintenance, construction and maintenance cost, and quickly restoring operational capacity. For each design criteria goal, potential risks will be identified for use in evaluating each alternative identified including, but not limited to:

- Watershed protection measures required for different types of construction
- Geological considerations
- Debris flow and flood risk
- Biological resources and other environmental factors
- Risk of catastrophic natural events such as fire, mud flows and seismic activity

Project Alternatives Risk Assessment



$$\text{Risk} \times \text{Consequence} = \text{Rating}$$

The F&L team understands that District facilities damaged/destroyed during the CZU fire will still be at risk after the 5-Mile Pipeline is reconstructed. The potential risks associated with future wildfires, but also seismic and other natural disasters, will be evaluated as part of the Study. The pipeline material and routing selection must consider many potential risks to develop effective mitigation measures including costs, permitting, reliability, and resiliency.

The Study will consider not only potential alternative pipe materials and construction methods but the F&L Team will also perform a desktop study of District provided information related to the water diversions to identify the potential benefits and risks with modifying the diversion rates from any of the diversion points. The current conditions provide the District, with support from the F&L team, to think broadly of potential solutions that will provide a comprehensive evaluation of a range of options.

The Study will provide the District with the engineering and environmental evaluation necessary to develop a preferred alternative that addresses the multiple challenges facing the District. The Study will document the comprehensive technical evaluation that will be performed by the F&L team to allow for a transparent process to select the preferred solution. The final solution, which may very well be to reconstruct the 5-Mile pipeline in a similar condition, will be selected based on technical design criteria with consideration of the long-term operation challenges and risks with potential damage/impacts from the changing natural environment.

2 Project Description

The following sections presents the F&L team's understanding of the project including highlighting our team's approach to the project to deliver the Scope of Work outlined in Section III – Project Scope of Services of the *Request for Proposals to Provide Consulting Services to the San Lorenzo Valley Water District for the Cross Country Pipeline Constructability Study* dated May 2021 (RFP).

2.1 Project Background and Identification of Need



San Lorenzo Valley Water District (District) is an urban water supplier established in 1941 and serves several communities within the 136 square-mile San Lorenzo River watershed. The District serves a population of approximately 21,924 through approximately 7900 connections. The District owns, operates, and maintains two water systems that include the San Lorenzo Valley Water District (SLVWD) and the San Lorenzo Valley Water District – Felton (SLVWD-Felton). The Cross Country Pipeline Constructability Study (Study) will focus on restoring the raw water conveyance system that serves the SLVWD system.

The SLVWD system water supply consists of surface water diversions and cross country pipeline to convey water to the Lyon Surface Water Treatment Plant. During months of low-flow, the SLVWD surface water supply is supplemented by blending with three groundwater sources. Surface water is supplied from Peavine, Silver, Foreman, Clear, and

Sweetwater Creeks from a total of seven diversion points. The raw water conveyance pipeline consists of two branches; Peavine (northern) and Sweetwater (southern). Both cross country pipelines consisted of 6inch and 8inch high density polyethylene (HDPE) pipe that was laid on an approximate 2-foot bench and, in some locations, free-standing wooden trestles. The entirety of the Peavine and Sweetwater branches were destroyed during the CZU fire and the District has received FEMA funding to replace the impacted system.

The Peavine and Sweetwater branches, commonly referred to as the 5-Mile Pipeline, must be reconstructed to restore the critical surface water supply for the SLVWD system. The District is considering several strategies for replacement of the 5-Mile Pipeline including:

1. Replace in kind with new 8-inch diameter HDPE pipeline above grade along the same alignment;
2. Replace with new 8-inch pipeline with alternative pipeline materials above grade along the same alignment;
3. Replace with new 8-inch pipeline with HDPE or other suitable material below grade in a shallow trench; and
4. Replace with new 8-inch pipeline with HDPE or other suitable material along an alternative alignment that increases the maximum axial slope of the pipeline to 5%.

The F&L team suggests that the Study include consideration of reducing the total number of diversions as a means to reduce the overall length of the Peavine and/or Sweetwater branches. Several considerations would need to be made including but not limited to:

- Maximum diversion rates for each diversion point based on existing water rights and permitting;
- Impact, if any, on the overall reliability of the 5-Mile Pipeline conveyance system; and
- Potential need for additional groundwater studies to evaluate impact, if any, on long-term groundwater recharge.

2.II Key Challenges

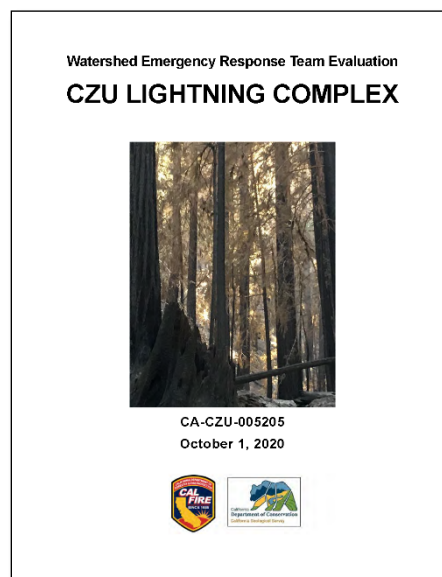
The CZU fire resulted in extensive damage to the San Lorenzo River watershed with significant impacts to the District's facilities. In addition to the complete loss of the 5-Mile Pipeline system, the HDPE pipe melted releasing smoke containing volatile organic compounds (VOCs) that were ultimately conveyed and trapped into an existing steel reservoir. The VOCs bounded with the interior coating also requiring the coating to be removed and interior to be recoated.

The F&L team recognizes that the goal of the Study is not to just confirm the preferred approach to restore the 5-Mile Pipeline conveyance system but to learn from the CZU experiences, identify potential long-term environmental changes that may cause an increased risk of loss, and develop enhanced design criteria to improve the overall resiliency and reliability of the District's critical infrastructure. The potential reoccurrence of pipeline loss may also result in both short and long term impacts to multiple District facilities including storage and treatment components.

The Study will focus on key questions that will influence the evaluation by considering the potential risks and mitigation strategies through the alternative evaluation resulting a preferred solution. We have found by identifying the key questions that the engineering evaluation and study can be focused on critical risk items that will have the largest influence on the preferred alternative selection process.

2.II.1 *How significant was the CZU Fire Event and how can lessons learned predict future risks?*

The District desires to evaluate potential fire hardening strategies for the replacement conveyance facilities because of the significant difficulty of constructing a replacement pipeline. To identify potential effectiveness of mitigation measures (i.e. alternative pipe material, alternative installation requirements, etc.), the F&L team will review available reports documenting the extent and intensity of the CZU fire and other fires in the region to guide development of risk based design criteria to be used to evaluate potential alternative solutions. What we know is that topography and dense vegetation provided conditions that allowed the fire to move quickly while burning intensely. Reviewing the relative intensity of the CZU fire compared to other regional fires would provide a range of data that can be used to evaluate the effectiveness of potential future mitigation strategies.



In addition to the future fire risk, the aftermath of the fire has resulted in an increase risk to erosion and debris flow that could persist for several years. The replacement pipeline design criteria must consider the near term risks associated with erosion and debris flow while also incorporating fire hardening criteria.

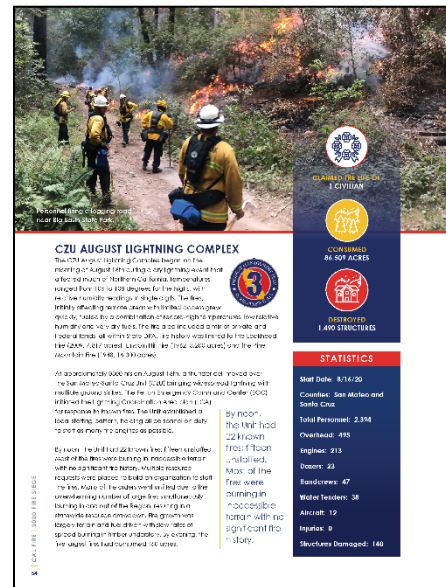
2.II.2 Should the 5-Mile Pipeline be replaced in-kind?

The 5-Mile Pipeline conveyance system was constructed with non-standard methods because of the challenges associated with the location of the existing diversion structures. The original construction approach and materials use was effective for more than 40 years providing a reliable system to meet the needs of the District customers. The CZU fire event now requires the District to consider whether the original facilities were constructed in the most effective and resilient manner. Although there have been numerous advances in pipeline materials and construction methods, the location of the 5-Mile Pipeline conveyance system poses unique challenges that require evaluation of the feasibility of industry standard materials and construction techniques.

When considering the potential impacts associated with implementing a more conventional construction project, the F&L team will also consider the long-term risk associated with an event similar to the CZU fire. The question is whether the near term schedule, costs, and mitigation requirements associated with utilizing alternative materials and construction techniques to provide a more resilient system outweighs the ongoing risk with replacing the facilities in kind. To determine the preferred approach, a comprehensive risk study must be implemented.

2.II.3 What are the risks the District should be concerned with?

The potential for fire damage is likely not reduced as a result of the CZU fire and it only highlights the potential risk for future damage to District facilities. But fire and the associated post-fire damage are not the only risks that the Study will need to consider when determining the preferred alternative to restore the raw water conveyance system. To identify and quantify the potential risks, the F&L team will implement a risk assessment process that considers multiple evaluation categories such as geotechnical stability, fire risk, environmental risk, and cost to assign a weighted probability to compare the effectiveness of different alternatives for restoring the District's water supply. This process provides a clear weighting of risks and benefits of each alternative to support alternative selection and also provides a clear means to communicate the logic behind the alternative selection process.



Clearly identifying and enumerating the risks can also help clarify, refine and further develop the range of potential mitigation strategies by better understanding the relative impacts of each risk category evaluated. The F&L team will develop a risk assessment to facilitate evaluation of each alternative and provide a methodology to develop a preferred alternative. The risk evaluation will allow the District and the F&L team to identify the potential near- and long-term implications of each alternative and clearly document the cost benefit analysis supporting the alternative selection.

2.II.4 Who can build the replacement facilities?



The project location poses several construction challenges including but not limited to access, equipment limitations, and construction methods. The existing site conditions will also influence the number of pipeline contractors that may be interested in performing the work regardless of the selected option. The potentially limited contractor pool provides opportunities to develop alternative delivery methods such as construction management at risk (CMAR), design/build, and guaranteed maximum price (GMP).

The F&L team will include the potential delivery methods with the risk assessment evaluation to identify the potential benefits and/or mitigation potential with implementing an alternative delivery project. The potential challenges faced by the project team warrant construction strategies that bring the most experienced team of consultants and contractors to the table.

2.III Project Approach

The F&L team has reviewed the Scope of Work presented in the RFP and has found the scope to be largely complete. We have included below key tasks to outline our team's approach to develop and deliver the Study.

2.III.1 Presentations (Task 1)

The F&L team recognizes the importance of engaging not only the District board but also the public. Our team, and in particular our proposed project manager, has extensive experience supporting the reporting and public outreach required of complex public infrastructure projects. The F&L team will develop presentations for one District Board meeting and two public meetings including attending and presenting at those meetings.

2.III.2 Kickoff Meeting and Document Review (Task 2)

The F&L team will begin with preparing for and facilitating a kickoff meeting with District staff. The goal of the kickoff meeting is to review the scope of work, approach, and outline our team's strategy for documenting existing conditions. We will develop and provide an Existing Conditions Memorandum that will document our team's observation from the preproposal site visit, including engineering, geotechnical, and environmental baseline information, as well as other key information identified by the team.

2.III.3 Agency Jurisdiction Determination (Task 3)

Following the kickoff meeting performed under Task 2, we propose to perform three days of site walks to review the existing alignment footprint as well as the surrounding area for potential alternative alignments. Based on the data collected during the site walks, the F&L team will identify all public agencies with jurisdiction over the project area, identify triggers for permits from each agency and the level of effort anticipated for obtaining those permits. The agency jurisdiction determination will include information assessing the potential need for permits from each agency for each alternative being evaluated, including in-kind replacement of the pipe on the surface of the ground. The existing alignment is within largely natural area corridors and the potential temporary construction impacts to both existing vegetation and sensitive species will

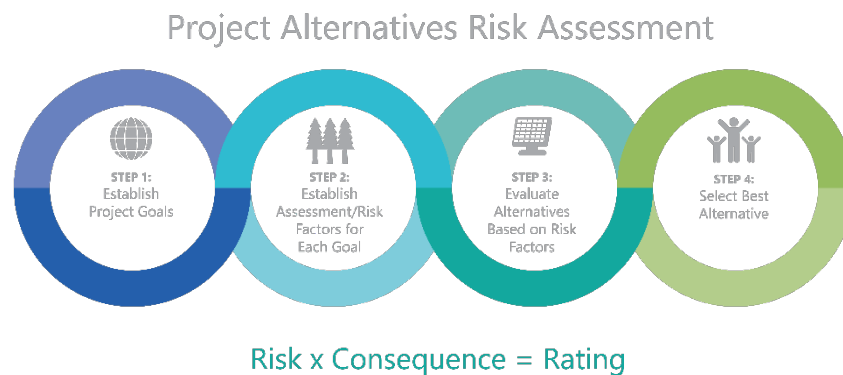
be incorporated into this analysis. A Jurisdictional Assessment Summary will be prepared including information on agency jurisdiction presented in a tabular format. The agency jurisdiction is critical to inform risk evaluation of the potential alternative construction methods and alignments to be evaluated.

2.III.4 Develop Design Criteria and Evaluate Risk for Multiple Environmental Factors (Task 4)

The alternative evaluation requires that the F&L team determine the potential effects of numerous environmental factors in addition to material selection and constructability challenges on the long term effectiveness and operations of the District's water system. The F&L team proposes a goals based risk assessment that would compare each alternative in addressing the numerous environmental risk factors, as well as factoring in cost and operational considerations to determine the most effective project alternative.

This process involves establishing design criteria goals for a successful project developed in coordination with the District, anticipated to relate to long term water supply resiliency, effective pipeline operations and maintenance, construction and maintenance cost, and quickly restoring operational capacity. For each design criteria goal, potential risks will be identified for use in evaluating each alternative identified including, but not limited to:

- Watershed protection measures required for different types of construction
- Geological considerations
- Debris flow and flood risk
- Biological resources and other environmental factors
- Risk of catastrophic natural events such as fire, mud flows and seismic activity



For each alternative, the risk factors will be reviewed and assigned numeric scores based on the risk presented by each factor and the consequence that each risk factor would have on achieving the goals. In this context, risk is defined as the potential that an event will occur within the lifetime of the project and consequence is defined as the potential effect that an event might have on the project goal (water supply resiliency, operations and maintenance, etc.). Multiplying the numerically defined values of risk and consequence provides a numeric value rating how well each alternative achieves each project goal. These numeric values can be weighted or unweighted based on the relative importance of each goal and can be used to develop a final numeric score to select the preferred project alternative. The work product provided by this task will be a brief memo with tabular results of the risk-based alternatives evaluation results.

2.III.5 Pipe Material and Construction Alternative Evaluation (Task 5)

The original construction utilized HDPE placed above ground because of the challenges with accessing the conveyance system alignment. The access limitations will potentially impact the feasibility of utilizing a more resilient pipe materials (such as ductile iron) or burying the new pipe. However, the use of alternative pipe materials and/or construction methods may be more suitable if an alternative pipeline routing could be identified.

The replacement pipeline, regardless of alignment, may potentially utilize a combination of installation methods including open-cut direct bury, shallow bury, and above ground sections with pipe supports. The F&L team will also perform a feasibility evaluation to selectively utilize trenchless installation such as a Horizontal Directional Drill (HDD). Sections of trenchless installation could eliminate some of the challenges with a deeper cover and not requiring vegetation removal, trench excavation, or long term stabilization of disturbed slopes and drainages.

The Study will identify the potential pipe materials and construction methods that could be selected but the pipeline routing evaluation will inform the feasibility and associated risk with each option. Construction method alternatives may not simply be different construction techniques but also alternative approaches for backfill and/or providing covering. We will leverage the risk based criteria developed under Task 4 to identify potential methods that will provide long-term protection to the District facilities while balancing potential construction costs and permitting requirements.

2.III.6 Alternative Pipeline Routing (Task 6)

The existing pipeline alignment presents a number of challenges that will require independent consideration as part of the Study. In parallel with the site walks described for Task 3, we will walk the site to observe the existing conditions and begin to identify potential alternative alignments. As with any new pipeline determining pipeline alignment and installation methods are paramount in creating a reliable long term system. Reducing owner liability, construction cost, and long term maintenance are also important considerations. Although all of these are important, the F&L team believes that long term reliability and potential owner liability, should be at the top of the decision making model.

The RFP indicates that the District has identified potential benefits with an alternative alignment that could increase the axial slope of the pipeline. Although there are potentially several alignment options that would allow for slope increase, the additional slope (e.g. building perpendicular to existing contours) may result in additional and new construction challenges. Desktop study complemented with site reviews will result in evaluations of alignment, seismic risk identification, geotechnical risk identification, material selection, realistic installation methods, value engineering comparisons, and detailed budget cost estimating will all be needed to complete a comprehensive Study.

We understand many of the challenges of the pipeline alignment including active geology, limited access, steep slopes, drainage crossings, heavy vegetation, and environmentally sensitive areas. The proposed replacement will need to address all of these challenges.

In addition to routing alternatives to increase axial slope, the F&L team will review the feasibility of increasing diversion rates with fewer diversion points to potentially reduce the overall length of the conveyance system. The potential risks and permitting challenges associated with modified water diversion will be identified including identification of the approval process that would be required to modify the District's current water diversion approach. The Study will

provide a feasibility level review for water diversion modification. The F&L team believes it is important to develop a wide range of alternatives that isn't simply focused on materials and construction methods to develop a comprehensive and defensible Study.

2.III.7 Hydropower Generation (Task 7)

The existing 5-Mile Pipeline Conveyance system operates under pressures approaching 300 pounds per square inch (psi) at the Lyon Water Treatment Facility. The F&L Team will perform a hydraulic feasibility evaluation to identify the potential for hydropower by taking advantage of the hydraulic head break that occurs when the Peavine, Sweetwater, and Foreman raw water pipelines are combined into the single raw water supply. The potential use of commercially available products that utilize pressure reducing valve (PRV) referred to as "microhydropower" may provide the District with opportunities to reduce the overall electrical demand of the treatment facilities.



The F&L team will engage manufacturers of microhydropower systems to evaluate the feasibility and potential benefits of a hydropower generation. The Study will include a benefits analysis with implementing a microhydropower system including the additional facilities to convey power to the Lyon WTP including risks associated with power line failure.

3 Identification of Prime Consultant

3.I Legal Name and Address of Company

As requested in the Request for Proposal, the legal name and address of the company is:

Freyer & Laureta, Inc.
 144 North San Mateo Drive
 San Mateo, California 94401

3.II Legal Form of Company.

Freyer & Laureta, Inc. is a California S-Corporation.

3.III Additional Company Information

Freyer & Laureta, Inc. is an independent company.

3.IV Primary Contact

Freyer & Laureta, Inc.'s primary point of contact for this proposal is:

Jeffrey J. Tarantino, P.E.
 Freyer & Laureta, Inc.
 144 North San Mateo Drive
 San Mateo, California 94401
 Phone: (650) 344-9901 ex 103
 Mobile: (650) 619-3226
 Email: tarantino@freyerlaureta.com

3.V Number of Staff and Discipline/Job Title

Title	Number of Employees
Principal	3
Associate Principal	1
Senior Project Manager	1
Project Manager	2
Associate	1
Staff Engineer IV	2
Staff Engineer III	3
Staff Engineer II	4
Staff Engineer I	4
Administration	2
Total	23

4 Identification of Sub Consultants

F&L has selected key specialty subconsultants to supplement F&L's experience to provide the District with an experienced team to deliver the Project. The information requested for each subconsultant is provided in Table 4-1.

Legal Name and Address	Contact Information	Number of Staff
WRA Environmental Consultants	Justin Semion Principal 2169-G East Francisco Blvd San Rafael, CA 94901 (415) 524-7531	90
Cal Engineering & Geology Inc.	Mark Myers, PE, GE Principal Engineer 785 Ygnacio Valley Rd Walnut Creek, CA 94596 (925) 935-9771	30
Alpine Development	Aaron Smud Managing Director 1852 W. 11 th Street, Ste 266 Tracy, CA 95376 (925) 605-6762	1
Advanced Hydro Engineering	Dr. Jeff Lewandowski, P.E. President 3082 Cafeto Drive Walnut Creek, CA 94598 (925) 639-7053	1

Table 4-1: Subconsultant Information

5 Project Organization and Experience of the Project Team

The proposed staff from F&L and our team members have been selected based on long-standing working relationships with our project manager in addition to the project experience necessary to deliver a comprehensive study to identified the most-cost effective and protective approach to restore the District's raw water conveyance system.

5.1 Project Team

F&L has partnered with our subconsultants to provide the District with the most experienced team to develop and deliver the Study. F&L has a long history of work with all of our team members, which provides the synergy required of a multi-disciplinary team to deliver the comprehensive study. Our partners include:

WRA, Inc. (WRA) provides professional consulting services in plant, wildlife, and wetland ecology, environmental and master planning, regulatory compliance, mitigation and conservation banking, restoration planning and design, and GIS. Formed in 1981, we are a certified small business (OSBCR ref. #13333) with more than 90 professionals in four California offices. Our company vision is cultivating a sustainable future where people and the environment thrive. We partner with public agencies, non-profit, and private organizations to plan, design, and implement innovative projects throughout the state. We are proud to collaborate on award-winning projects recognized by the American Society of Civil Engineering, Association of Environmental Professionals, California Water Environment Association, and American Society of Landscape Architects.



Cal Engineering & Geology, Inc. (CE&G) has provided geotechnical and related civil engineering (geo-civil) consulting and design services to public agency and private industry clients throughout California since 1993. In that time, CE&G has worked together with local public agencies to complete more than 300 improvement projects including water and wastewater pipelines, tanks, and pump stations, dams and levees, flood control structures, roads, trails, parks, and buildings. Services for these projects have included geologic/seismic hazard evaluation; geotechnical investigations for foundations, retaining walls, pipelines, and dams; and geo-design for landslide repairs, retaining walls, flood walls, dams, and pedestrian bridges.



Alpine Summit Development LLC (ASD) was founded in 2012 by Managing Director Aaron Smud who has over twenty years of construction experience as an estimator and project manager on numerous project types including water infrastructure, wastewater, storm drainage, site grading, natural gas pipeline, roadways, environmental, and minor structures. Role of experience includes developing resource loaded definitive construction cost estimates, constructability reviews, means and methods, value engineering, contract negotiation, change order estimating and cost validation that all lead to successful project delivery.



Advanced Hydro Engineering (AHE), located in Walnut Creek, CA, has continued providing high quality and practical solutions for water related projects for over fifteen years. AHE was founded in 2006 by Dr. Jeff Lewandowski, P.E., who is the principal and sole staff member. Dr. Lewandowski's expertise is performing analysis and modeling of many different types of water systems. He is a specialist at developing and integrating straightforward solutions for complex water, wastewater, storm water, and groundwater projects.



5.II Project Manager

Jeffrey (Jeff) Tarantino, P.E. will serve as the Principal-in-Charge/Project Manager for the District's project. Jeff has over 22 years of experience with the management, planning, design, and construction of a variety of public agency infrastructure projects. Jeff has performed as the engineer of record for small improvement projects as well as multi-disciplinary teams of consultants for large infrastructure development projects. Jeff will be the District's primary point of contact, providing leadership and direction to our team members.

Jeff has extensive experience with water main planning, design, and construction projects. His experience includes project implementation through both urban and rural environments that each present unique construction challenges. Jeff recognizes the importance of engaging not only the utility owner's engineering group but also the operations group to be able to develop potential solutions that meet multiple requirements while still recognizing the long-term operation and maintenance strategies. For the Project, the long term resilience of the new pipeline will be a critical evaluation criteria and Jeff's experience with multiple pipe materials and construction methods with support from our technical experts will provide the team with the ability to deliver a comprehensive study for the District.

5.III Project Organization

5.III.1 Key Staff

We have identified the key staff for the District's project that will support Jeff to complete the necessary studies, risk assessments, and evaluation needed for the study. The key staff are identified below with one-page resumes provided in Appendix A:

- **Richard J. Laureta, P.E.** will lead our Technical Advisory Committee (TAC), which includes our Quality Control and Quality Assurance (QA/QC) program.
- **Camille Bandy, P.E., QSD/P** will be the senior project engineer with focus on the pipeline material and alignment evaluation collaborating with all disciplines to develop a comprehensive risk assessment including identifying mitigation methods.
- **Mark Myers, P.E., G.E.** will lead the geotechnical aspects of the study to provide guidance for the alignment and constructability evaluation including consideration of temporary and permanent erosion control and slope stabilization methods.
- **Aaron Smud, P.E.**, will lead constructability and cost estimating aspects of the study to identify the most feasible construction methods for each potential pipe material and alignment while also assessing the cost risk based on the challenging site conditions as well as contractor availability.
- **Justin Semion** will lead the evaluation of environmental review and permitting risks and feasibility for the alternatives evaluation process. He will be supported by other WRA

wildlife biologists and aquatic ecologists with experience evaluating and mapping sensitive resources in the Santa Cruz Mountains.

- **Jeff Lewandowski, P.E., Ph.D.**, will lead the hydropower feasibility effort to evaluate the hydraulic feasibility and potential benefits for a microhydropower installation to provide a review of the advantages and disadvantages.
- **Technical Advisory Committee** Our team includes a group of highly experienced engineers to provide Quality Assurance (QA) and Quality Control (QC) Review as part of our TAC. The TAC members, led by Rich Laureta, include:
 - **Phil Gregory, P.E., G.E.** has over 35 years of experience managing public works geotechnical investigations and geo-design projects for public agencies. Mr. Gregory is an invited lecturer on geosynthetics, slope stability and erosion control. He will provide QA/QC for geotechnical and design aspects of the project.
 - **Ms. Jenn Hyman, P.E.**, spent 11 years working for the Santa Cruz Water Department. She will provide insight related to water system operations in Santa Cruz County.
 - **Virginia Mahacek** is a leader in municipal planning for fire recovery efforts in Sonoma County following the catastrophic fires in the North Bay over the past few years. She will provide review of risks related to fire resiliency, including frequency fire risks and potential consequences of recurring fire on each proposed design alternative.

5.IV Project Management Approach

F&L has led the planning and design of over \$100 million of infrastructure improvements since our founding in 1997. F&L is experienced with managing multi-disciplinary teams to deliver complex infrastructure improvement projects including projects that involve multiple potential permitting agencies. We understand the importance documenting all requirements of all potential jurisdictional agencies earlier in the conceptual design stages to ensure that project alternatives are properly developed. F&L will leverage our experience to develop the preferred alternative that can meet multi-jurisdictional requirements while delivering a cost effective project for the District. We understand the importance for regular communication to keep the District apprise of progress, upcoming work, submittal status, and overall project status. Communication between Jeff and the District will rely on both telephone and electronic mail communication.

5.V Project Schedule

The F&L team has developed a project schedule to implement the study including highlighting key points for engaging the District. The project schedule also provides suggested milestones for potential public meetings and District Board updates. The proposed project schedule is included as Appendix B to this proposal.

5.VI Firm's Capacity

F&L and all of our subconsultants have assigned the key staff with the correct technical experience to develop the Study. All staff are committed to deliver their assigned tasks in accordance with the proposed schedule provided in Appendix B and the estimated level of effort presented in Section 9.

6 Experience and Past Performance

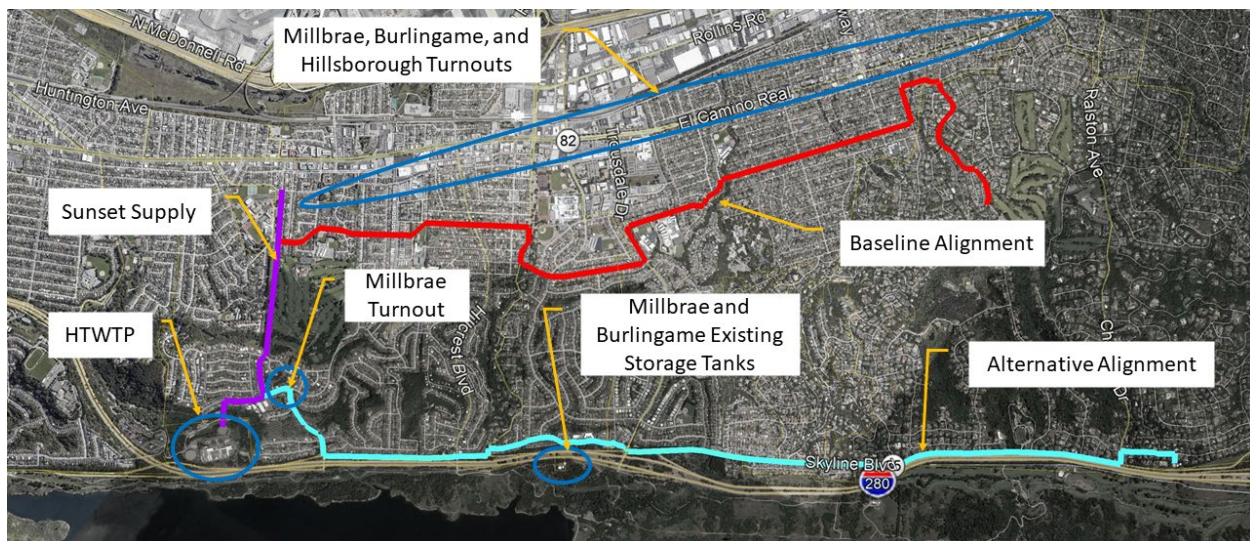
6.1 Experience

This Section presents the F&L team’s experience with similar projects.

Project Reference 1: Town of Hillsborough Harry Tracy Water Treatment Plant Pipeline Project

Reference	Budget	On Schedule?	On Budget?
Paul Willis, P.E. Director of Public Works Phone: (650) 375-7444 Email: pwillis@hillsborough.net	\$300,000	Yes	Yes

Description: F&L, with support from WRA and CE&G, is leading the alternatives analysis and conceptual design of a new potable water transmission main to provide the Town of Hillsborough (Town) with an additional point of connection to the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy System. The Town current points of connection are isolated on the Hetch Hetchy Peninsula Pipelines, which are a series of parallel pipelines that deliver water to the Town from the Bay Division Pipeline crossing the southern San Francisco Bay. If there is any disruption to the Peninsula Pipelines, the Town’s water service could be disrupted. The Town is concerned with potential service impacts due to Public Safety Power Shutoffs (PSPS) and following a significant seismic event. An additional concern is related to the potential for wildfire as the Town is densely forested with significant elevation change and the western Town limits is the Wildland Urban Interface (WUI).



The alternative evaluation involves consideration of risks and potential mitigation as well as benefits for each alignment to provide the Town with a new transmission main that will not only reduce the potential service disruption risk but provides additional potential capacity for fighting a forest fire. The Town must also develop an alignment that is acceptable to the Cities of Millbrae and Burlingame, which are both located between the Town’s northern limits and the SFPUC Harry Tracy Water Treatment Plant located in San Bruno. The alignment must consider the potential impacts to partner agencies to develop an alignment that provides the Town with the redundant point of connection while minimizing impacts to project stakeholders.

Project Reference 2: Silicon Valley Clean Water RESCU Program

Reference	Budget	On Schedule?	On Budget?
Kim Hackett, P.E. Authority Engineer Phone: (650) 832-6217 Email: khackett@svcw.org	\$1,500,000	Yes	Yes

Description: F&L and WRA are part of the consulting team supporting the Silicon Valley Clean Water (SVCW)'s Regional Environmental Sewer Conveyance Upgrade (RESCU) Program. The RESCU Program describes eleven projects which constitute full replacement and rehabilitation of SVCW's conveyance system. RESCU includes the Gravity Pipeline, Front of Plant (FoP, Pump Stations, and Belmont Force Main projects. The FoP includes six of the eleven projects. F&L served as the Lead Engineer with key support from WRA for the Front of Plant planning, CEQA, and permitting phase.



Pipeline replacement through a tidal marsh

The RESCU Program success is critical to SVCW ability to continue to provide reliable service including considering the potential future environmental changes. The FoP improvements include the influent pump station, new headworks facilities, and flow equalization components constructed within undeveloped portions of the existing treatment facility at the edge of San Francisco Bay. The FoP improvements location required an integrated engineering and environmental evaluation process to identify the preferred improvements that could be successfully approved through CEQA and received multiple jurisdictional permits including from U.S. Army Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), San Francisco Bay Conservation and Development Commission (BCDC), National Marine Fisheries Service (NMFS), and U.S. Fish & Wildlife Service (USFWS).

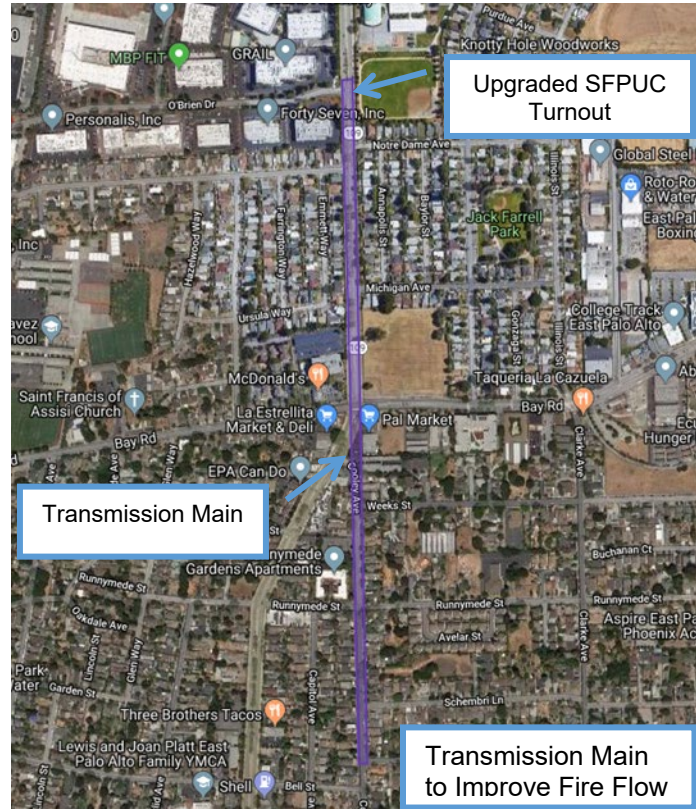
F&L's and WRA's role to develop potential improvement alternatives, site layouts, and mitigation measures was critical to ultimate successful completion of CEQA and securing the necessary jurisdictional permits. The engineering and environmental alternative evaluation process focused on identifying the potential risks, the associated mitigation strategies, and the resulting benefits. The technical and owner team members collaborated throughout comprehensive evaluation process that resulted in selection of preferred alternative that balanced construction costs, long-term operation requirements, constructability, and permitting requirements.

Project Reference 3: City of East Palo Alto Water System Project Management and Staff Augmentation

Reference	Budget	On Schedule?	On Budget?
Kamal Fallaha, P.E. Director of Public Works Phone: (650) 853-3117 Email: kfallaha@cityofepa.org	\$190,000	Yes	Yes

Description: F&L, with support from C&EG and WRA, provides project management, planning, and design services for East Palo Alto’s water distribution system. F&L is leading the planning and design of a new water transmission main improvements to improve fire flow availability throughout the system to support existing multi-use developments and planned developments.

As part of the transmission main improvements planning efforts, F&L is working closely with the SFPUC to upgrade one of the three existing SFPUC turnouts that provides East Palo Alto’s water supply. F&L utilized East Palo Alto’s existing hydraulic model to evaluate potential routing options, predict the likely pressure and flow improvements with the upgraded SFPUC turnout, and develop opinions of probable cost for each alternative evaluated. F&L is developing a phased improvement program to allow East Palo Alto to implement a series of focused projects that will provide immediate improvements to available fire flow adjacent to several key redevelopment projects that also include much needed affordable housing.



The preferred water transmission alignment was determined through evaluation potential fire flow improvements throughout the City, reducing potential constructability risks, and identifying temporary construction impacts to an active transportation corridor. The design was developed to reduce risks associated with existing utility crossings and geotechnical conditions through a comprehensive site investigation process.

7 Firm's Local Experience

The F&L team members will leverage our local experience throughout Santa Cruz County with our experience supporting utility owners to develop and implement the pipeline improvements within sensitive and challenging environments. The following table provides an overview of our team members experience within the local area.

Project Name	Brief Description	Client Name
Bear Creek Road PM 1.71 Landslide Repair	Geotechnical investigation and design assistance	Santa Cruz County Dept of Public Works
Trout Gulch Road PM 1.16, PM 1.85, PM 1.90, PM 2.74 Landslide Repairs	Geotechnical investigation and design assistance for road embankment landslide repair projects	Santa Cruz County Dept of Public Works
Soquel – San Jose Road PM 5.91 Landslide Repair	Geotechnical investigation and design assistance for road embankment landslide repair projects	Santa Cruz County Dept of Public Works
CZU Fire Complex Geologic Hazard Response	Geologic reconnaissance and reporting for post-emergency conditions in burn areas	PG&E
CZU Fire Complex Residential Rebuild Geologic Hazard Evaluation	Geologic hazard assessment and geotechnical peer review for proposed residential rebuilds in burn areas	Santa Cruz County Planning Dept: Environmental Planning Division
Brackney Landslide Pipeline Project	Geologic mapping and investigation for mitigation for force-main pipeline within a large, active landslide	City of Santa Cruz
Biological Compliance Services	Biological monitoring and permit compliance related to water pipeline construction	City of Santa Cruz
Skyview Water Treatment Plant Storage and Disinfection Replacement	Construction management for replacement of 176,000 gallon bolted steel tank and addition of chloramine disinfection	Villa Del Monte Mutual Water Company (Unincorporated Santa Cruz County)

8 Creative Alternatives

The F&L team has worked closely with utility owners to develop solutions that provide multiple benefits when numerous stakeholders have interest in the project implementation strategy. The Study will highlight the stakeholder expectations to inform the alternative evaluation process to identify the preferred alternative that meets the District's goal to cost effectively restore the raw water conveyance system while reducing the long-term risk with the constantly changing environmental conditions.

The F&L team will explore not only alternative construction details but also water supply diversion strategies that may allow for overall total pipeline length reduction. Reducing the pipeline length in combination with potential alternative pipeline materials and construction methods will potentially improve the overall resiliency and reliability of the system.

8.1 Pipeline Protection Methods

The F&L team has observed the site conditions and understands the challenges associated with access and construction in the wooded steep terrain. During our site visit, the team noted that sections of the 5-mile pipeline survived where they were covered by a nominal thickness (two to six inches) of soils. There are likely several "non-conventional" methods available to replace the damaged pipe and which would result in a significant improvement in fire protection compared to the performance of the pipe installation destroyed by recent fires. In general, the greater the cover, the greater the protection from fire. Considering the challenging site conditions, an important aspect of the design will be determining an appropriate balance between the level of fire protection versus construction method and cost.

The team will develop and evaluate multiple options to arrive at a preferred alternative. At a minimum, the following options will be considered: reinstall pipe similar to the method used in the pre-fire installation (no fire protection), mass grading to install as conventional as possible (maximum fire protection), and two to four other concepts (which may have intermediate levels of fire protection). The preferred alternative will likely incorporate using multiple methods based on site conditions and access and terrain variations along the alignment.

Another installation method that may be selected for further development is anchored steel mesh pipe covering and retainer (variable fire protection based on the cover depth of material

OUR SOLUTIONS: SAFE, SUSTAINABLE, EFFICIENT.

The RUVOLUM® tool offers a complete solution. You benefit from components that are perfectly matched to each other. Key benefits are the efficient installation process combined with a system-wide dimensionable solution which is both visually appealing and durable.

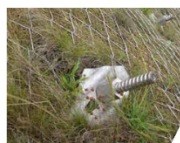


Above: SPIDER® on rock slopes
The spiral rope made of three twisted, high-tensile steel wires is characterized by its high puncturing resistance. At the same time it is unobtrusive and can be tightly secured around protruding rock boulders.



Right: TECCO® system on a soil slope
The mesh surface is easily clipped together without the need to overlap panels which results in efficient use of mesh material without any waste.

SOLUTION FOR HIGHLY CORROSIVE AREAS.



Above and right: Stainless steel TECCO® installed at the coast
Our stainless steel mesh is made out of high-tensile steel and has the same advantages as our other TECCO® systems. Stainless steel is well suited to applications in coastal areas.

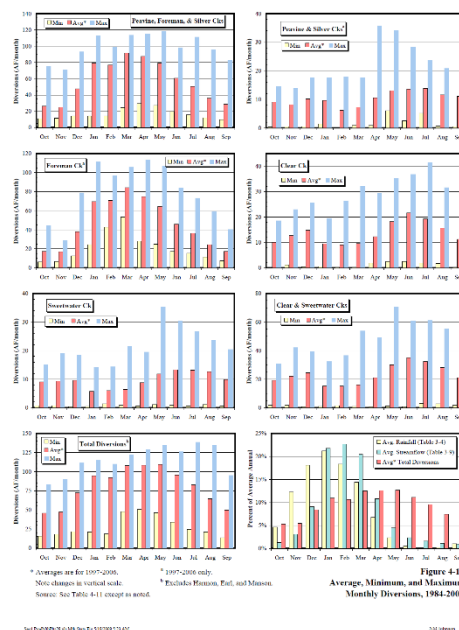


*Wire Mesh system that can be adapted to hold pipeline with cover material to provide protection
(Source: Geobrugg TECCO®)*

and durability of steel mesh) Anchored steel mesh (such as TECCO mesh) can be readily installed on very steep terrain using portable equipment. The pipeline with sufficient soil material cover above the pipeline would be anchored to competent, erosion-resistant ground using this method. The F&L team has used anchored steel mesh to provide erosion protection on steep slopes and we will adapt the technique to develop an unique option that leverages existing technologies for an alternative purpose. We are confident we can develop the alternative approach during the early stages of our work so project development can proceed and constructability, costs, and performance can be evaluated.

8.II Surface Water Diversions

The existing Cross Country Pipeline system conveys water from seven surface water diversions to the Lyon Water Treatment Plant. The F&L team understands that the District maintains the existing diversions in accordance with existing permits from the State Water Resources Control Board (SWRCB). We also reviewed publicly available information related to the District's surface water diversions including the *Administrative Draft San Lorenzo Valley Water District Water Supply Master Plan* prepared by Nicholas M. Johnson, Ph.D, R.G., C.Hg. dated May 2009 (WSMP). When considering the potential alternatives for restoring and operating seven miles of pipeline through the District's watershed, it is important to consider the potential benefits with each of the seven surface water diversions including the long-term risks associated with the increase pipeline length for the upstream diversion points.



The F&L team believes that the Study can consider the pros and cons with potentially reducing the total number of diversion points by increasing the diversion flow rates at select diversion points. The WSMP provides several key data points related to the Cross Country Pipeline creek diversions and identified that since 1998 the Foreman Creek diversion provides almost 60% of the District's total surface water diversion of 1,040 acre feet per year (AFY). The Northern Branch provides approximately 13% of the surface water and the Southern Branch provides approximately 27% of the surface water for the District. The overall percentage of supply for each diversion should be considered with the overall potential risk factor that can be assigned with the construction, operation, and potential vulnerability for the pipeline segments required to reach each stream diversion.

The feasibility of delivering the necessary raw water supply from fewer diversion points must also be considered as part of the Study. The SWRCB operating permits will provide the boundary conditions for minimum bypass flows at each diversion point, which, when evaluated in the context of potential water supply from each diversion can provide an estimated maximum diversion while balancing delivering minimum downstream flows. In addition, the potential long-term water rights impact in particular during dry years must be considered when evaluating potential surface water diversion strategies.

9 Proposed Total Professional Fee and Schedules

The F&L team's proposed level of effort, hourly rates, and not-to-exceed budget is presented in Table 9-1 included on the following pages.

TABLE 9-1
BUDGET ESTIMATE FOR CROSS COUNTRY PIPELINE CONSTRUCTABILITY STUDY
San Lorenzo Valley Water District

TASKS	ESTIMATED LABOR (Hours) (1)														TOTAL LABOR COST (\$)	OTHER DIRECT COSTS				ESTIMATED COST (2)	
	F&L				WRA				CEG			AD	AH	UNIT		QNTY	UNIT COST (\$)	7% MARKUP (\$)	TOTAL COST PER ITEM (\$)	SUB TOTALS (\$)	
	Clerical	Staff Engineer II	Associate Engineer	Principal	Principal	Associate Biologist	Senior Engineer	Scientist	GIS Manager	GIS/CADD	Project Engineer/Geologist	Principal Engineer	Senior Principal Engineer								Project Manager
90	135	170	235	242	198	242	161	224	139	177	262	310	198	225							
Task 1: General Requirements																					
Board of Directors' Meeting Preparation and Presentation (One, 1-hour meeting)		2	2	4	4							2		1		\$3,240				\$3,240	
Public Meeting No. 1 Preparation and Presentation (One, 1-hour meeting)		2	2	4	4							2		2		\$3,437				\$3,437	
Public Meeting No. 2 Preparation and Presentation (One, 1-hour meeting)		2	2	4	4							2		1		\$3,240				\$3,240	
Coordination with District	4			4	4							2				\$2,792				\$2,792	
Subtotal Labor Hours - Task 1	4	6	6	16	16						8		4		\$12,708	Estimated Cost - Task 1				\$12,700	
Task 2: Kick-Off Meeting/Preliminary Work																					
Prepare for and facilitate kickoff meeting (In-Person)			6	6	6	2	2	2			4	6		4		\$8,152				\$8,152	
Review District Provided Documents	4	2		2						2	1		2		\$2,375				\$2,375		
Review publicly available documents (e.g. LiDAR, CDF studies, etc.)	4	2		2		6		6		2	1				\$4,772				\$4,772		
Prepare Existing Conditions Memorandum	8	2			8		4	16							\$7,224				\$7,224		
Internal Review			2	2							2				\$1,478				\$1,478		
General Project Management	2		4	4	2	4		4			2				\$4,242				\$4,242		
Subtotal Labor Hours - Task 2	2	16	16	12	14	14	8	10	22		8	12		6	\$28,242	Estimated Cost - Task 2				\$28,200	
Task 3: Agency Jurisdiction Identification																					
Perform site walk for jurisdictional determination (Assume three days)					40		40	4							\$15,233				\$15,233		
Coordination with agencies				4											\$967				\$967		
Prepare Draft Jurisdictional Assessment Summary			2		16		4	4							\$5,044				\$5,044		
Internal Review				2	4										\$1,437				\$1,437		
Agency Jurisdiction Review Workshop (Conference Call)				2	2										\$954				\$954		
Prepare Final Jurisdictional Assessment Summary			2		2	4									\$1,615				\$1,615		
General Project Management	2			2	2		2								\$1,381				\$1,381		
Subtotal Labor Hours - Task 3	2		4	4	14	62		46	8						\$26,630	Estimated Cost - Task 3				\$26,600	

TABLE 9-1
BUDGET ESTIMATE FOR CROSS COUNTRY PIPELINE CONSTRUCTABILITY STUDY
San Lorenzo Valley Water District

TASKS	ESTIMATED LABOR (Hours) (1)															TOTAL LABOR COST (\$)	OTHER DIRECT COSTS				ESTIMATED COST (2)			
	F&L			WRA					CEG			AD	AH	UNIT	QNTY		UNIT COST (\$)	7% MARKUP (\$)	TOTAL COST PER ITEM (\$)	SUB TOTALS (\$)				
	Clerical	Staff Engineer II	Associate Engineer	Principal	Principal	Associate Biologist	Senior Engineer	Scientist	GIS Manager	GIS/CADD	Project Engineer/Geologist	Principal Engineer	Senior Principal Engineer								Project Manager	Principal		
	90	135	170	235	242	198	242	161	224	139	177	262	310								198	225		
Task 4: Research Other Environmental Factors																								
Geologic and Geotechnical Evaluation																								
Perform Site Walk (Assume three days)											33	33								\$14,477				\$14,477
Identify potential geologic and geotechnical risks											8	4								\$2,461				\$2,461
Develop risk evaluation criteria											4	4								\$1,755				\$1,755
Perform risk evaluation											8	4								\$2,461				\$2,461
Identify potential mitigation approach											8	8								\$3,510				\$3,510
Prepare draft Geologic and Geotechnical Evaluation memorandum									16	8	4									\$4,687				\$4,687
Internal review			1	1										2						\$1,026				\$1,026
Prepare final Geologic and Geotechnical Evaluation memorandum									4	2	1									\$1,172				\$1,172
Biological Resources Evaluation																								
Identify potential biological risks				2	2		2													\$1,201				\$1,201
Develop risk evaluation criteria				4																\$967				\$967
Perform risk evaluation				2	4		2													\$1,596				\$1,596
Identify potential mitigation approach				2	4		2													\$1,596				\$1,596
Prepare draft Biological Resources Evaluation memorandum					8		4													\$2,226				\$2,226
Internal review			1	1	4															\$1,372				\$1,372
Prepare final Biological Resources Evaluation memorandum					2															\$396				\$396
Catastrophic Natural Events Evaluation																								
Identify potential natural event risks						12		8		4	2									\$5,921				\$5,921
Develop risk evaluation criteria				2		8				4	2									\$3,649				\$3,649
Perform risk evaluation						8		4		4	2									\$4,060				\$4,060
Identify potential mitigation approach						8		4		4	2									\$4,060				\$4,060
Prepare draft Catastrophic Natural Events Evaluation memorandum				2	8	8		8		4	2									\$7,021				\$7,021
Internal review			1	1	4								1							\$1,683				\$1,683
Prepare final Catastrophic Natural Events Evaluation memorandum					4	4		2		2	1									\$2,822				\$2,822
Operational Evaluation																								
Identify potential water supply impact risk		8	4																	\$1,760				\$1,760
Develop risk evaluation criteria		4	2	1																\$1,115				\$1,115
Perform risk evaluation		4	2																	\$880				\$880
Identify potential mitigation approach		4	2																	\$880				\$880
Prepare draft Operational Evaluation memorandum		4	4																	\$1,220				\$1,220
Internal review				2																\$470				\$470
Prepare final Operational Evaluation memorandum		2	2																	\$610				\$610
Environmental Factor Risk Evaluation Workshop (Assume two workshops)			10	10	10		10			4	4									\$10,641				\$10,641
General Project Management	2		4	2	4		4		2		4									\$4,760				\$4,760
Subtotal Labor Hours - Task 4	2	26	33	18	36	32	62	10	28	20	97	77	3							\$92,453	Estimated Cost - Task 4			\$92,500

TABLE 9-1
BUDGET ESTIMATE FOR CROSS COUNTRY PIPELINE CONSTRUCTABILITY STUDY
San Lorenzo Valley Water District

TASKS	ESTIMATED LABOR (Hours) (1)															TOTAL LABOR COST (\$)	OTHER DIRECT COSTS				ESTIMATED COST (2)								
	F&L				WRA					CEG			AD	AH	UNIT		QNTY	UNIT COST (\$)	7% MARKUP (\$)	TOTAL COST PER ITEM (\$)	SUB TOTALS (\$)								
	Clerical	Staff Engineer II	Associate Engineer	Principal	Principal	Associate Biologist	Senior Engineer	Scientist	GIS Manager	GIS/CADD	Project Engineer/Geologist	Principal Engineer	Senior Principal Engineer	Project Manager								Principal							
90	135	170	235	242	198	242	161	224	139	177	262	310	198	225															
Task 5: Evaluate Pipe Material and Installation Options																													
Site Walk (Three Days)		30	30	8										24								\$15,781				\$15,781			
Pipeline Material Evaluation																													
Identify potential pipeline material risks		4	4	1										4													\$2,247		
Develop risk evaluation criteria		4	4	1										2													\$1,851		
Perform risk evaluation		4	4	1										2													\$1,851		
Identify potential mitigation approach		4	4	1																							\$1,455		
Construction Methods Evaluation																													
Identify potential construction method risks			2	1						8	4			16													\$6,203		
Develop opinion of probable cost			2	1										16													\$3,742		
Develop risk evaluation criteria		4	4	1						4	2			2													\$3,081		
Perform risk evaluation		4	4	1							2			2													\$2,375		
Identify potential mitigation approach		4	4	1							2			4													\$2,771		
Prepare draft Pipe Material and Installation Evaluation Memorandum		8	4																								\$1,760		
Internal Review				2							2			2													\$1,390		
Prepare final Pipe Material and Installation Evaluation Memorandum		2	1																								\$440		
Evaluate Pipe Material and Installation Risk Evaluation Workshop (Assume one workshop)			4	4																							\$2,016		
General Project Management	2		4	4																							\$1,800		
Subtotal Labor Hours - Task 5	2	68	75	27						12	12			76													\$32,983		
																	Estimated Cost - Task 5					\$48,800							
Task 6: Alternative Routing of Pipeline																													
Pipeline Routing Evaluation																													
Identify potential pipeline routing risk		8	8		2	2				8	4			10														\$8,081	
Develop opinion of probable cost			2											16														\$3,507	
Develop risk evaluation criteria		8	4							4	2			4	2													\$4,232	
Perform risk evaluation		8	4											2														\$2,284	
Identify potential mitigation approach		8	4											2														\$2,284	
Prepare draft Pipeline Routing memorandum		8	4																									\$1,760	
Internal review				2										2														\$1,390	
Prepare final Pipeline Routing memorandum		2	1																									\$440	
Pipeline Routing Workshop (Assume one workshop)			4	4																								\$2,016	
General Project Management	2		4	4																							\$1,800		
Subtotal Labor Hours - Task 6	2	42	35	10	2	2		2		12	12			34	2												\$27,795		
																	Estimated Cost - Task 6					\$27,800							

TABLE 9-1
BUDGET ESTIMATE FOR CROSS COUNTRY PIPELINE CONSTRUCTABILITY STUDY
San Lorenzo Valley Water District

TASKS	ESTIMATED LABOR (Hours) (1)															TOTAL LABOR COST (\$)	OTHER DIRECT COSTS				ESTIMATED COST (2)		
	F&L			WRA					CEG			AD	AH	UNIT	QNTY		UNIT COST (\$)	7% MARKUP (\$)	TOTAL COST PER ITEM (\$)	SUB TOTALS (\$)			
	Clerical	Staff Engineer II	Associate Engineer	Principal	Principal	Associate Biologist	Senior Engineer	Scientist	GIS Manager	GIS/CADD	Project Engineer/Geologist	Principal Engineer	Senior Principal Engineer								Project Manager	Principal	
	90	135	170	235	242	198	242	161	224	139	177	262	310	198	225								
Task 7: Possible Hydropower Generation																							
Identify potential hydroelectric alternatives		4	2												2						\$1,329	\$1,329	
Evaluate hydroelectric options		4	2												8						\$2,678	\$2,678	
Develop opinion of probable cost			2											10							\$2,320	\$2,320	
Prepare draft hydroelectric alternatives memorandum		4	2												4						\$1,779	\$1,779	
Internal review				2	2							2			2						\$1,927	\$1,927	
Prepare final hydroelectric memorandum		2	1												2						\$889	\$889	
General Project Management		2	2	2																	\$990	\$990	
Subtotal Labor Hours - Task 7	2	14	11	4	2						2		10	18							\$11,912	Estimated Cost - Task 7	\$11,900
Total Labor Hours	16	172	180	91	84	110	70	68	58	20	129	123	3	130	20						\$248,504	Total Estimated Cost	\$248,500

Notes to Table:

- (1) Billing rates for subconsultants includes 7% markup.
- (2) Estimated costs are rounded to the nearest \$100.

10 Exceptions

We have reviewed the information included with the RFP and observed in the field during the F&L team's site visit and do not have any exceptions to highlight.

Appendix A

Key Personnel Resumes



Jeffrey J. Tarantino, P.E. Vice-President

Education: Bachelor of Science in Civil Engineering
Santa Clara University

Professional Qualification: Registered Civil Engineer – California No. 63936

Mr. Tarantino has extensive experience in civil engineering design and construction that has been developed during his 20 years of civil and environmental work experience. Mr. Tarantino has served as project manager on numerous program management, planning, design, permitting and construction management projects. His project experience includes civil site development, water supply treatment and distribution, wastewater treatment and collection, water reuse treatment and distribution, flood control, groundwater extraction and treatment systems, and water quality. Mr. Tarantino serves as the primary point of contact with permitting and environmental resources agencies on behalf of clients to facilitate open dialogue with the agencies. Mr. Tarantino has demonstrated a unique ability to assist clients to bridge technical and non-technical challenges to deliver multi-beneficial projects within budget and on schedule. A representative sampling of past and current projects includes:

Development and Campus Projects

UCSF, Minnesota Street Student Housing
UCSF, Campus Wide Technical Criteria Development
1000 Channel Street (SF) Owner, One Mission Bay
Uber Headquarters, 1455 and 1515 Third Street
TNDC, Candlestick Block 10A
Alexandria Real Estate Equities (ARE), 1450 Owens

UC Berkeley, Berkeley Way Project
UCSF, Weill Institute for Neuroscience
Mission Bay, Park P2-P8
Mission Bay, Park P3
TNDC, 681 Florida Street
ARE, Confidential Site (San Mateo County)

Infrastructure Projects

City of Burlingame, Water Distribution
Valley of the Moon Water District, Water Distribution
City of Calistoga, Water Treatment
Mission Bay, Wastewater Collection
City of Pacifica, Wastewater Collection
Town of Hillsborough, Creek Stabilization
UCSF, 2nd Parcel Infrastructure

Town of Hillsborough, Water Distribution
City of San Mateo, Wastewater Collection
Coastside County Water District, Water Distribution
City of Burlingame, Storm Drain Collection
City of Pacifica, Stormwater Collection
City of San Mateo, Stormwater Collection
UCSF, Surcharge Removal

Environmental Projects

SLAC National Laboratories, Groundwater Treatment
Aircraft Service International Group, Groundwater Treatment

City of Emeryville, Soil Remediation
Peninsula Open Space Trust, Soil Remediation

Phone: 415-534-7070
Fax: 650-344-9920
E-mail: tarantino@freyerlaureta.com

150 Executive Park Boulevard, Suite 4200
San Francisco, CA 94134

Richard J. Laureta, P.E.

President

Education: Bachelor of Science in Civil Engineering
California Polytechnic State University, San Luis Obispo

Professional Qualification: Registered Civil Engineer – California No. 55783
Registered Civil Engineer – Hawaii No. 10545

Mr. Laureta has broad experience in civil engineering design and construction. In his 25 years of professional engineering experience, he has participated in the design, project management, and construction coordination of private sector engineering projects, as well as city, county, state and federal rehabilitation projects. His broad experience gives him the knowledge necessary to be an integral part of multi-disciplined teams in the planning, design and installation of challenging civil engineering projects. Mr. Laureta has a growing reputation in urban master planning and wastewater collection design and construction management. He serves as the District Engineer for the West Bay Sanitary District in Menlo Park and the East Palo Alto Sanitary District. The combination of his design experience and his expertise in computer-aided drafting ensures accurate design drawings. His experience and dedication to the profession allows him to be a contributor to the success of diverse engineering projects. A representative sampling of past and current projects includes:

District Engineer/Public Works Projects

West Bay Sanitary District, District Engineer
East Palo Alto Sanitary District, District Engineer
Silicon Valley Clean Water, Conveyance System

City of San Leandro, Wastewater Collection Systems
City of Burlingame, Storm Drain Collection Systems
University of San Francisco, Misc. Projects

Office/Commercial/Residential Projects

Britannia Oyster Point, South San Francisco
Hercules Properties PUD, Hercules
McGrath Rentcorp Offices, Livermore
Childrens' Center, NAS North Island, San Diego

Marriott Courtyard, So. San Francisco
Bay West Cove, So. San Francisco
Sutro Tower Improvements, San Francisco

Infrastructure Master Planning and Design

Mission Bay Residential Area
Mission Bay Park NP 1-2 Project
Mission Bay Park NP 3-5 Project
Mission Bay Park P16

Mission Bay Drive and Circle Project
Mission Bay Blocks 29 - 32 and 33 - 34
Utility Master Plan, South of Channel

Roadway and Infrastructure Projects

Naval Training Center Drainage Design, San Diego
Rankin Pump Station Design, San Francisco
Ralston Avenue Grade Separation, Belmont
Special Weapons Area Pump Station, NAS North Island

Pier 45 Seismic Retrofit, San Francisco
Guadalupe River Retaining Walls, San Jose
Bollman Water Treatment Plant Expansion, Concord

Phone: 415-534-7070
E-mail: laureta@freyerlaureta.com

150 Executive Park Blvd., Suite 4200
San Francisco, CA 94134

Camille R. V. Bandy, P.E., QSD/P

Associate Engineer

Education: Bachelor of Science in Civil Engineering, California Polytechnic State University, San Luis Obispo

Professional

Qualification: Registered Civil Engineer – California No. 88920

Ms. Bandy has managed and designed numerous civil engineering projects including public infrastructure and redevelopment improvements. Responsibilities have included preparing plans and technical specifications for storm drain, sanitary sewer, water utilities, site grading and roadways. Other responsibilities have included coordinating multi-disciplinary project teams, construction administration, and sanitary sewer and storm drain analysis for several Mission Bay Development projects. Recent project sites have included multiple public infrastructure sites as well as on site civil work within the Mission Bay Development.

Public Works Projects

Redwood City Pump Station Chopper Pump Replacement, Silicon Valley Clean Water, Redwood City, CA

West Bay Sanitary District Sewer Replacement Project, Middlefield Road, Menlo Park, CA

Flow Equalization Studies, Silicon Valley Clean Water, Redwood City, CA

Bayshore Sanitary District CIP, Brisbane, CA

Redevelopment Projects

Mission Bay Park P3 Public Infrastructure Project, San Francisco, CA Mission Bay Park P2-P8 Public Infrastructure Project, San Francisco CA

Mission Bay Block 1 Public Infrastructure Project, San Francisco, CA

Mission Bay Block 33-34 Public Infrastructure Project, San Francisco, CA

Mission Bay Block 29-32, Public Infrastructure Project, San Francisco, CA

Mission Bay Block 11/12 Public Infrastructure Project, San Francisco, CA

Mission May Block 1 Residential Development Project, San Francisco, CA

Candlestick Point CP-05/07 Infrastructure Project, San Francisco, CA

Justin Semion, PWS

Principal

Justin Semion focuses his work on guiding clients to outcomes that benefit organizational goals and contribute to environmental sustainability by integrating social and environmental risks and benefits into the decision making process. Justin has worked at WRA since 2001 and has managed hundreds of diverse projects involving the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), regulatory permitting, restoration and habitat management. Justin's experience with environmental permitting includes working with the Corps of Engineers (Corps), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW). He has also managed the completion of CEQA and NEPA documentation for federal, state, and local organizations and provides planning consultation for private organizations engaging in the CEQA and NEPA approval process.



Relevant Project Experience

Port of San Francisco, Seawall Resiliency Project, San Francisco, California

As a subconsultant to CH2MHill/Jacobs, Justin leads the WRA team in identifying biological and aquatic resources constraints, risks and opportunities, assessing biological impacts, developing regulatory permitting strategy, and ultimately securing permits for project implementation.

North Coast County Water District Shamrock Ranch Water Service Connection, Pacifica, California

Shamrock Ranch requested a new service connection from North Coast County Water District (NCCWD) which required an application to the Local Agency Formation Commission (LAFCo) for San Mateo County. Justin led discussions with LAFCo, NCCWD and Shamrock Ranch to facilitate the environmental process while WRA prepared the CEQA documentation and LAFCo application for the project, which was approved in 2016.

Silicon Valley Clean Water RESCU Program Environmental Services, Redwood City, California

Silicon Valley Clean Water (SVCW) is a Joint Powers Authority (JPA) providing wastewater treatment to much of Silicon Valley. Justin manages environmental permitting and environmental risk for SVCW, providing program management input for selection of design alternatives, permit strategy, regulatory permits, CEQA and NEPA biological resource impact assessment, ecological best management practices, and environmental compliance during construction.

PG&E Pit 3, 4, 5 Hydroelectric Project License Implementation Biological Studies and Permitting, Shasta County, California

Justin led wetland and rare plant surveys and permitting support for FERC relicensing along approximately 10 linear miles in a remote area of northern California.

Years of Experience

21

Education

M.B.A. Sustainable Management,
Presidio Graduate School

B.S., Resource Ecology and
Management, University of
Michigan, School of Natural
Resources and Environment

Professional Certifications

Certified Professional Wetland
Scientist (#2072)

Professional Affiliations

Association of Environmental
Professionals

Specialized Training

Ecosystem Services Valuation,
International Society of
Sustainability Professionals,
January – April 2014

Section 7 Endangered Species Act
Biological Assessment Workshop,
U.S. Fish and Wildlife Service, June
2007

San Francisco Bay Eelgrass
Workshop, November 2006

Peter Kobylarz, GISP

Senior GIS Coordinator

Peter is the GIS Technical Team Leader at WRA. He supervises a team of six GIS professionals that provides GIS support to all WRA projects and clients. Peter also serves as a senior spatial analyst and strategic consultant on numerous projects. Peter’s experience with Enterprise GIS, spatial data management, and complex spatial analysis allows WRA to deliver valuable spatial problem solving and insights to our clients in order to achieve ideal project outcomes.

Relevant Project Experience

2017-2018 California Wildfires Tort Claimants Committee

Project Director, Lead GIS Consultant and Analyst

WRA acted in an essential role providing GIS analytical support and spatial strategic guidance to the Tort Claimants Committee that represented the victims of the 2017 and 2018 wildfires which wreaked havoc throughout the California. Peter acted as the lead GIS consultant on the project and directed the efforts of numerous staff across the entire team. Although WRA provided strategic guidance throughout the entire lifespan of the project, our primary contribution to the effort was developing a GIS data model and analysis process that helped the TCC objectively estimate the value of numerous different categories of damages caused by the wildfire. This effort contributed to a settlement which allowed the TCC to secure \$13.5 billion to distribute to the tens of thousands of victims of the wildfires.

Southern California Fire Damage Assessment GIS Analysis

Project Director, Lead GIS Consultant and Analyst

WRA was hired to provide GIS analytical support and spatial strategic guidance to attorneys representing victims of several large wildfires that affected communities in Southern California in 2018. These fires destroyed numerous structures and infrastructure and triggered devastating mudslides in affected areas. WRA assisted in estimating damage values to physical property, agricultural production, and forestry resources.

City of San Rafael Fire Department Fuels Reduction Project

Lead GIS Consultant and Analyst

WRA is assisting the City of San Rafael Fire Department with ongoing efforts to identify opportunities for fuel reduction and treatment in public spaces owned by the City. These efforts to reduce fuels in open spaces are critical to ensuring the safety of the community as wildfire continues to threaten the urban wildland interface. Peter has coordinated and conducted spatial analysis and map production services support to these efforts.



Years of Experience

14

Education

B.A., Geography (College and Departmental Honors), University of Washington

B.A., Political Science, University of Washington

Professional Certifications

Geographical Information Systems Professional

Virginia Mahacek

Senior Geomorphologist

Virginia is a fluvial geomorphologist with extensive experience in watershed planning, river and floodplain restoration, wildfire recovery and resilience, environmental compliance, stakeholder facilitation, and project design and implementation. She has over 27 years of experience as a technical analyst and project manager of watershed assessments, stream studies, restoration planning, design development, baseline and performance monitoring, alternatives analysis, compliance, and construction oversight. Virginia is accomplished in environmental compliance pursuant to the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), Tahoe Regional Planning Agency (TRPA) regulations, and Federal Energy Regulatory Commission (FERC) licensing. She has served a variety of local, state, tribal, non-governmental and federal lead agencies and on projects of varied spatial scale, technical complexity and regulatory context.



Relevant Project Experience

Upper York Creek Dam Removal and Ecosystem Restoration, City of St. Helena, CA

Principal Geomorphologist

Virginia provided geomorphology oversight of engineered log structure installations in the stream reach downstream of the dam removal site to rebuild aquatic habitat and accommodate sediment delivery. Virginia assisted with post-fire assessment, retrofit measures, and secondary hazard monitoring.

General Plan Update and Environmental Impact Report, City of Fairfield, CA

Principal Geomorphologist

Virginia is leading hydrology and water quality and wildfire hazards components of the Fairfield GPU and EIR. To-date, the team has developed existing conditions reports to identify key hydrology features, drainage, flooding and water quality issues, the wildfire history and existing threat zones, and climate change vulnerabilities.

Taking Action to Reduce Wildfire Hazards: An Initiative of the Rebuild NorthBay Foundation, Sonoma, Napa, Lake and Mendocino Counties, California

Project Manager/Compliance Specialist

Virginia managed technical services and capacity-building project regional scale innovations for collaborative and sustainable climate adaptation and wildfire resilience, facilitating the organizational transition from a pro-bono advocates to a distinct entity. WRA contributed monetization, compliance and process modeling.

Fire Recovery & Resiliency Planning, County of Sonoma, Sonoma County, California

Virginia was the Natural Resources/Watershed coordinator for the County of Sonoma after the 2017 wildfires. She led watershed recovery measures and collaborative planning with stakeholders laying out County-wide vision, goals, actions, and funding for recovery and resiliency.

Years of Experience

28

Education

M.A., Physical Geography,
University of California, Davis

B.A., Physical Geography, with
Honors, University of California,
Davis

A.A., Liberal Arts, with Highest
Honors, Santa Rosa Junior
College, Santa Rosa

Professional Affiliations

River Restoration Northwest

Society for Ecological Restoration

Salmon Restoration Federation

Specialized Training

2019 sUAS LiDAR and Imagery

2018 Understanding Rivers

2017 River Sediment Dynamics

2015 Restoration Strategies for
Non-Salmonids

**Additional upon request*

Jenn Hyman, PE, LEED AP, ENV SP

Restoration Engineering Director

Jenn Hyman is a civil engineer specializing in restoration and water infrastructure with over 28 years of engineering experience in water resources planning, design, permitting, project management, and construction management. She has managed or designed numerous restoration and water pipeline projects. Jenn has also spent 11 years of her career working for water utilities including the Santa Cruz Water Department, providing her with a deep understanding of successful client project delivery.

Relevant Project Experience

Upper York Creek Dam Removal and Ecosystem Restoration, City of St. Helena, Napa County, California

Program/Engineering Project Manager

Jenn led this restoration project to remove a 100-year-old dam and restore geomorphic processes and habitat for federally threatened steelhead in York Creek, while protecting a county road. WRA provided design, regulatory permitting, compliance surveys, and biological monitoring on an accelerated schedule due to grant funding requirements.

Sandra/Hayne Storm Drain Replacement and Creek Restoration, Town of Hillsborough Public Works Department, San Mateo County, California

Engineering Project Manager

For a previous employer, but working closely with WRA, Jenn managed this project to design and permit upgrades and replacement of headwalls, culverts, tunnels, and failing corrugated metal storm drains including restoration of a section of Cherry Creek to a more natural state.

Monterey Peninsula Water Supply Transmission Mains, Feed Water and Brine Pipelines. California American Water, Monterey and Seaside, California

Project Engineer

For a previous firm, Jenn managed the preparation of plans and specifications for the installation of over 20 miles of transmission mains in the Monterey area for the new desalination water supply project. Jenn worked closely with biologists, archeologists and planners to identify the least impactful yet most direct pipeline alignments and acquire regulatory permits.

Newell Creek Pipeline Replacement, Santa Cruz Water Department, Santa Cruz County, California

Project Engineer

For a previous firm, Jenn was responsible for the preparation of predesign study and design documents for the replacement of 2,000 ft of the Newell Creek Pipeline transmission main. The design of this 24-inch ductile iron pipe included hanging a segment on a new bridge over the creek, working in a narrow, steep alignment, and special construction sequencing.

Meadowood Tanks Emergency Replacement Project, City of St. Helena Public Works, St. Helena, California

Project Manager

Responsible for planning and procurement of three 65,000-gallon bolted steel tanks to replace redwood tanks burnt in the Glass Fire, for a previous employer. Prepared piping and electrical work scopes to replace damaged equipment. Assisted the City with FEMA reimbursement.



Years of Experience

28

Education

M.S., Civil and Environmental Engineering, Massachusetts Institute of Technology (MIT)

B.S., Materials Science and Engineering, Massachusetts Institute of Technology (MIT)

Professional

Licenses/Certifications

Professional Engineer (Civil):
CA #C50926

LEED Accredited Professional, GBCI

ISI Envision Sustainability
Professional, ISI

PHILLIP GREGORY, P.E., G.E.

Senior Principal Engineer

RELEVANT EXPERIENCE

Penitencia Water Treatment FM Seismic Retrofit **San José, CA**

Technical reviewer as part of a team of structural and geotechnical engineers and geologists to complete a landslide study, Landslide Displacement Hazard Analysis (LDHA), and provide geotechnical design recommendations to prevent catastrophic failure due to an earthquake. The project includes three adjacent pipelines that service the Penitencia Water Treatment Plant (PWTP) which is located over the slow-moving Penitencia Creek Landslide. All three pipelines cross the stable Santa Clara Valley floor onto the landslide mass.

North Lane Storm Water Mitigation **Orinda, CA**

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

Glorietta Boulevard Culvert **Orinda, CA**

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

Bair Island Force Main **Redwood City, CA**

Managed a geotechnical exploration for a proposed new 48-inch forced sewer main near Bair Island Slough. Duties for the project included historical research of the project area, collection of previous exploration data, coordination with local and state permitting agencies, coordination with multiple consulting and development agencies, coordination with the drilling subcontractors, field investigation, laboratory testing selection, and report development. The field investigation included 5 over-land exploratory borings utilizing a track-mounted all-terrain drilling rig and 4 over-water exploratory borings utilizing a barge-mounted drilling rig. Drilling consisted of the use of rotary wash borings, containment of the drilling fluid and cuttings in drums, coordination of environmental testing and removal of drums, and locating and marking the explorations with the use of buoys and stakes. In addition to the exploratory borings, 3 piezometers were installed at selected locations adjacent to the borings. The monitoring wells were developed and periodic readings of the groundwater levels were performed.

Sewer Relief Pipeline **Oakland, CA**

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

Zone 13 Line B Pump Station **San Leandro, CA**

Quality control manager and technical reviewer for a geotechnical investigation and report for an Alameda County Flood Control District pump station at the west end of Davis Street in San Leandro. The 25 foot deep, below-grade pump station includes a sump structure, pump house, and discharge flume. Geotechnical investigation of the site conditions addressed shoring, dewatering, foundations, retaining walls, and uplift for construction of the below-ground sump structure.



CERTIFICATIONS

- CA Civil Engineer No. 40728
- CA Geotechnical Engineer No. 2193

YEARS OF EXPERIENCE

37 (28 with CE&G)

EDUCATION

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

ACCOMPLISHMENTS

- Managed more than 100 public works geotechnical investigation and geo-design projects for ten - separate agencies
- Former soil testing instructor at Chabot Junior College in Hayward
- Invited lecturer on geosynthetics, slope stability, and erosion control
- Former co-Chairman of the Slope Technology Committee of IECA
- Project engineer for design and analysis of various embankment dams through western U.S.
- Designer of over 150 geogrid reinforced slopes and retaining walls

MARK MYERS, P.E., G.E.

Principal Engineer

RELEVANT EXPERIENCE

Penitencia Water Treatment FM Seismic Retrofit **San Jose, CA**

Senior project engineer as part of a team of structural and geotechnical engineers and geologists to complete a landslide study, Landslide Displacement Hazard Analysis (LDHA), and provide geotechnical design recommendations to prevent catastrophic failure due to an earthquake. CE&G's scope included meetings and consultations with the project team, completion of a finite element seismic displacement analysis of the landslide, management of the geotechnical investigation, geotechnical review of design documents, evaluation of existing data, development and implementation of a subsurface exploration and laboratory testing program, engineering analyses, evaluation of existing implementation and development of a long-term geotechnical monitoring plan, preparation of a technical memorandum regarding Landslide and Seismic Hazards Evaluation, and development of geotechnical analyses models for alternatives feasibility.

Wet Weather Equalization/Upland Ecotone Restoration **San Lorenzo, CA**

Project manager for a geotechnical investigation and design recommendations report for Ecotone/Wet Weather Equalization and restoration to be constructed at the Oro Loma Sanitary District Water Treatment Plant in San Lorenzo. Work included a preliminary geotechnical evaluation, site investigation, and geotechnical design recommendations. The proposed project consists of the construction of an equalization facility for treated wastewater which will divert peak flows, store the water for a period of hours, and then return the stored volume to the waste water treatment plant. The project will also include construction of an earthen dike, pipelines, manhole structures, and inlet and outlet structures. CE&G provided preliminary analysis, recommendations, and a memorandum for levee construction to address the suitability of potential onsite borrow and stockpiled materials.

Hilltop Green Lift Station New Wet Well **Richmond, CA**

Completed geotechnical services to support design of the West County Wastewater District's Hilltop Green Lift Station in Richmond, California. The planned lift station improvements include construction of a larger wet well to improve operational efficiency of the lift station. Scope includes completion of a geotechnical subsurface exploration, an evaluation of surface and subsurface site conditions, and development of geotechnical recommendations pertaining to the design and construction of the new wet well.

Bair Island Force Main **Redwood City, CA**

Prepared geotechnical design recommendations for construction of 30 to 60 feet deep access shafts for construction of a new force main. The force main is located in Old Bay Mud deposits and below an existing marina. The access shafts were used as jacking and recovery locations for microtunneling of the new force main. The recommendations assumed either square or round shafts on the order of 20-35 feet in diameter or dimension. Being located along the bay margin, the recommendations also needed to account for hydrostatic pressure in addition to earth pressure.

Agua Fria Creek Improvements **Hayward, CA**

Project manager for geotechnical investigation and design of creek bank retaining wall systems as part of a creek restoration project for Alameda County Flood Control and Water Conservation District. CE&G evaluated several grading and wall alternatives for the project. The final project uses wood crib walls near the creek and pier supported concrete crib walls farther up the embankment. Due to property line constraints, CE&G also designed temporary shoring to allow construction of one of the concrete crib walls. CE&G's work included development of design alternatives, preliminary design of the alternatives, final design of the selected alternative and preparation of plans, specifications, and engineer's estimate for the retaining walls.



CERTIFICATIONS

CA Civil Engineer No.57494
CA Geotechnical Engineer
No.2580

YEARS OF EXPERIENCE

26 (24 with CE&G)

EDUCATION

M.S., Civil Engineering
(Geotechnical), University of
California at Davis
B.S., Civil Engineering, Case
Western Reserve University

ACCOMPLISHMENTS

- Geotechnical investigations for public works projects related to facility improvements and repairs
- Liquefaction hazard assessment and analysis
- Evaluation (static, seismic, rapid drawdown) of embankment dams
- Design of pier and lagging, tie-back, masonry, segmental block, and soil nail retaining wall systems
- Geogrid reinforced slopes and retaining wall systems
- Seismic embankment deformation analyses
- Forensic geotechnical studies and expert witness services



Aaron Smud

BACKGROUND QUALIFICATION

With over twenty years of construction experience as an estimator and project manager on numerous project types including water infrastructure, wastewater, storm drainage, site grading, natural gas pipeline, roadways, environmental, and minor structures. Role of experience includes developing resource loaded definitive construction cost estimates, constructability reviews, mean and methods, value engineering, contract negotiation, change orders estimating and cost validation that all lead to successful project delivery. Versed in developing and negotiating proposals within project teams for Design-Bid/Build, CM/GC, Alliance, and other bid delivery methods. Background includes extensive involvement in all aspects of civil construction including, estimating, project management, project startup, submittals, subcontracts, scheduling, project sequencing, change controls and negotiations.

Substantial field experience, has provided a thorough understanding of construction equipment capabilities, realistic production rates, the importance of safety, and the significance of a high quality product. This hands on experience and knowledge has allowed for the highest level of construction support.

Select Project Experience:

- **City of Fort Bragg Raw Water Project – Fort Bragg, CA; \$6,480,135**
Approximately 11,696 LF of 10” raw water pipeline from the Summers Lane Reservoir to the WTP. The project is mostly an offset replacement of an existing failing asbestos pipeline. Most of the pipeline ROW is cross county requiring extensive clearing, tree trimming/protection, grading, erosion control, creek crossings, and re-vegetation. Much of the project is located within or near Environmental classified Coastal Zones that require comprehensive biological surveys, studies, timber harvest plans, and extensive permitting.
- **Willamette Water Supply Program PLW 2.0 - Hillsboro, OR; \$64,681,000**
A Transmission waterline program that will increase capacity and service area. Large diameter steel finished water pipeline with a total approx. footage of 17,167 LF. The pipeline is mostly 48” WSP diameter waterline and included appurtenances such as blow-off valves, air release valves, pipeline drains, turnout structures, and major modifications and expansions to an existing PRV facility. It also included extensive traffic control, site work, mechanical improvements, surface restoration and trenchless crossings.
- **Juniper Ridge Hydroelectric Power Project – Bend, OR \$23,237,455**
This project was a Design Build RFP that consisted of enclosing a 13,300 LF section of existing canal with 108” WSP that would increase velocity and divert flows into a new 3.8 MW turbine generator. Extensive site work, rock excavation, and limited working season were all project challenges. The bid format required compiling both a design, and construction team that are equally competent, creative, and competitive to generate a proposed design and a hard cost estimate.
- **Plymouth Pipeline Project, - Plymouth, CA \$5,599,653**
Approximately 38,600 LF of 12” domestic waterline, 80 foot span prefabricated steel pedestrian/pipe bridge, and nine pressure reducing stations. The cross-country site work including ROW clearing, grading, erosion control, creek crossing, and re-vegetation. The project also had a number of other pipeline appurtenances such as blow-offs, air release valves, fire hydrants, and modifications to the existing Plymouth Treatment Plant and Water Tank Site.

JEFF LEWANDOWSKI, D. ENG., P.E.

EDUCATION

D. Eng., Civil Engineering (Hydraulic and Coastal Engineering), University of California, Berkeley, 1993

M.S., Engineering, South Dakota State University, 1985

B.S., Civil Engineering, South Dakota State University, 1984

REGISTRATION

Professional Civil Engineer, California, 1994, C52503

AFFILIATIONS

American Society of Civil Engineers (ASCE)

SUMMARY

With over 35 years of experience in study and design of water related planning, management, and operations, Dr. Lewandowski has been project engineer and project manager for a number of projects involving storm water, drinking water, wastewater, recycled water and groundwater, including over two dozen master planning projects. He has provided innovative solutions to resolve many water related issues and has performed numerous technical reviews of water and wastewater projects. He also has extensive experience in modeling, including both steady and unsteady flow in pipelines and natural systems such as rivers and wetlands. He also has experience in sedimentation and scour, and their impacts on water quality.

EXPERIENCE

Served as Project Engineer or Project Manager on the following projects:

Pumping and Piping Studies and Designs

- ◆ Hydraulic Analysis of 30 MGD Bypass Conditions in Flow Measurement Structure, Sacramento, CA
- ◆ Water Supply, Treatment, Storage and Pressure Study, Central Valley Foothills, CA
- ◆ Low Water Pressure Investigation, Sacramento HOA, Sacramento, CA
- ◆ Quarry Lake Emergency Water Delivery System Technical Review, Purissima Hills Water District, Los Altos Hills, CA
- ◆ Wastewater Disposal Pipeline Hydraulics Peer Review, Cupertino, CA
- ◆ Pipeline Transient Pressure Analysis, Clayton, CA
- ◆ Low Water Pressure Investigation, Home Owners Association, Brisbane, CA
- ◆ Roddy Ranch Pump Station Reliability Study, Brentwood, CA
- ◆ Lockwood Siphon Rehabilitation Study, Contra Costa Water District, CA
- ◆ Untreated Water Pipeline Routing Study, Zone 7 Water Agency, Alameda County, CA
- ◆ Altamont Water Treatment Plant Siting Study, Zone 7 Water Agency, Alameda County, CA
- ◆ Multi-Purpose Pipeline Routing Study, Contra Costa Water District, CA

Appendix B

Proposed Schedule

Appendix B - Proposed Schedule

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Jul '21												Aug '21				Sep '21				Oct					
							6/27	7/4	7/11	7/18	7/25	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26												
1		Cross Country Pipeline Constructability Study	63 days	Tue 7/6/21	Thu 9/30/21		[Gantt bar from 7/6 to 9/30]																									
2		Task 1: Presentations	15 days	Thu 9/9/21	Thu 9/30/21		[Gantt bar from 9/9 to 9/30]																									
3		Board Presentation	0 days	Thu 9/16/21	Thu 9/16/21	29,22,34,39	[Milestone diamond at 9/16]																									
4		Public Meeting No. 1	0 days	Thu 9/9/21	Thu 9/9/21	21FS+5 days	[Milestone diamond at 9/9]																									
5		Public Meeting No. 2	0 days	Thu 9/30/21	Thu 9/30/21	3FS+10 days	[Milestone diamond at 9/30]																									
6		Task 2: Kickoff Meeting and Document Review	10 days	Tue 7/6/21	Mon 7/19/21		[Gantt bar from 7/6 to 7/19]																									
7		Kickoff Meeting	0 days	Tue 7/6/21	Tue 7/6/21		[Milestone diamond at 7/6]																									
8		Document Review	5 days	Tue 7/6/21	Mon 7/12/21	7	[Gantt bar from 7/6 to 7/12]																									
9		Prepare Existing Conditions Memorandum	5 days	Tue 7/13/21	Mon 7/19/21	8	[Gantt bar from 7/13 to 7/19]																									
10		Task 3: Agency Jurisdiction Determination	18 days	Tue 7/13/21	Thu 8/5/21		[Gantt bar from 7/13 to 8/5]																									
11		Site Walk	3 days	Tue 7/13/21	Thu 7/15/21	7FS+5 days	[Gantt bar from 7/13 to 7/15]																									
12		Prepare draft Jurisdictional Assessment Summary	10 days	Fri 7/16/21	Thu 7/29/21	11	[Gantt bar from 7/16 to 7/29]																									
13		Workshop	0 days	Thu 7/29/21	Thu 7/29/21	12	[Milestone diamond at 7/29]																									
14		Prepare final Jurisdictional Assessment Summary	5 days	Fri 7/30/21	Thu 8/5/21	13	[Gantt bar from 7/30 to 8/5]																									
15		Task 4: Research Other Environmental Factors	30 days	Thu 8/5/21	Thu 9/16/21		[Gantt bar from 8/5 to 9/16]																									
16		Environmental Factor Risk Evaluations Workshop #0	0 days	Thu 8/5/21	Thu 8/5/21	13FS+5 days	[Milestone diamond at 8/5]																									
17		Prepare Draft Geologic/Geotechnical Evaluation	20 days	Fri 8/6/21	Thu 9/2/21	16	[Gantt bar from 8/6 to 9/2]																									
18		Prepare Draft Biological Resources Evaluation	20 days	Fri 8/6/21	Thu 9/2/21	16	[Gantt bar from 8/6 to 9/2]																									
19		Prepare Catastrophic Natural Events Evaluation	20 days	Fri 8/6/21	Thu 9/2/21	16	[Gantt bar from 8/6 to 9/2]																									
20		Prepare Operational Evaluation	20 days	Fri 8/6/21	Thu 9/2/21	16	[Gantt bar from 8/6 to 9/2]																									
21		Environmental Factor Risk Evaluations Workshop #0	0 days	Thu 9/2/21	Thu 9/2/21	17,18,19,20,28,33	[Milestone diamond at 9/2]																									
22		Prepare Final Evaluation Memoranda	10 days	Fri 9/3/21	Thu 9/16/21	21	[Gantt bar from 9/3 to 9/16]																									
23		Task 5: Evaluate Pipe Material and Installation Options	33 days	Tue 7/13/21	Thu 8/26/21		[Gantt bar from 7/13 to 8/26]																									
24		Site Walk	0 days	Tue 7/13/21	Tue 7/13/21	11SS	[Milestone diamond at 7/13]																									
25		Pipeline Material Evaluation	15 days	Tue 7/13/21	Mon 8/2/21	24	[Gantt bar from 7/13 to 8/2]																									
26		Construction Methods Evaluation	15 days	Tue 7/13/21	Mon 8/2/21	24	[Gantt bar from 7/13 to 8/2]																									
27		Prepare Draft Memorandum	10 days	Fri 8/6/21	Thu 8/19/21	16,25,26	[Gantt bar from 8/6 to 8/19]																									
28		Workshop	0 days	Thu 8/19/21	Thu 8/19/21	27	[Milestone diamond at 8/19]																									
29		Prepare Final Memorandum	5 days	Fri 8/20/21	Thu 8/26/21	28	[Gantt bar from 8/20 to 8/26]																									
30		Task 6: Alternative Routing of Pipeline	38 days	Tue 7/13/21	Thu 9/2/21		[Gantt bar from 7/13 to 9/2]																									
31		Pipeline Routing Evaluation	15 days	Tue 7/13/21	Mon 8/2/21	24	[Gantt bar from 7/13 to 8/2]																									
32		Prepare Draft Memorandum	10 days	Fri 8/6/21	Thu 8/19/21	16,31	[Gantt bar from 8/6 to 8/19]																									
33		Workshop	0 days	Thu 8/19/21	Thu 8/19/21	32	[Milestone diamond at 8/19]																									
34		Prepare Final Memorandum	10 days	Fri 8/20/21	Thu 9/2/21	33	[Gantt bar from 8/20 to 9/2]																									
35		Task 7: Possible Hydropower Generation	20 days	Fri 8/20/21	Thu 9/16/21		[Gantt bar from 8/20 to 9/16]																									
36		Review Potential Hydroelectric alternatives	10 days	Fri 8/20/21	Thu 9/2/21	27,32	[Gantt bar from 8/20 to 9/2]																									
37		Prepare Draft Memorandum	5 days	Fri 9/3/21	Thu 9/9/21	36	[Gantt bar from 9/3 to 9/9]																									
38		Workshop	0 days	Thu 9/9/21	Thu 9/9/21	37	[Milestone diamond at 9/9]																									
39		Prepare Final Memorandum	5 days	Fri 9/10/21	Thu 9/16/21	38	[Gantt bar from 9/10 to 9/16]																									

Project: CrossCountryPipelineS Date: Tue 6/8/21	Task		Project Summary		Manual Task		Start-only		Deadline	
	Split		Inactive Task		Duration-only		Finish-only		Progress	
	Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
	Summary		Inactive Summary		Manual Summary		External Milestone			



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(650) 344-9901

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Suite 237
Oakland, CA 94607
(510) 937-2310

www.freyerlaureta.com



P R O P O S A L

JUNE 8, 2021

San Lorenzo Valley Water District
Consulting Services for Cross Country Pipeline
Constructability Study

Sandis Civil Engineers Surveyors and Planners
1700 S. Winchester Blvd., Suite 200, Campbell, CA 95008

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June 8, 2021
San Lorenzo Valley Water District
13060 Highway 9
Boulder Creek, CA 95006
831.338.2153

RE: San Lorenzo Valley Water District, Consulting Services RFP for Cross Country Pipeline Constructability Study

Dear San Lorenzo Valley Water District,

Sandis is honored to present our team’s qualifications for the San Lorenzo Valley Water District’s Consulting Services RFP for Cross Country Pipeline Constructability Study. Sandis is a professional services firm specializing in civil engineering, land surveying, traffic engineering, 3D laser scanning, stormwater management, and planning. We began as a small firm in 1965 with a single goal - provide nothing short of excellent services. For 55 years, Sandis has been serving all of our communities with this very philosophy.

The Sandis team understands the project needs and has composed a local team of experts to bring to life the District’s goals. Sandis’ core strengths include strong project management, proactive communication, quality engineering and surveying services, integrity, and an extensive resume of relevant experience. Sandis offers a strong local presence, proven results in the area, continuity of staff with local familiarity and a diverse portfolio of experience. Our team is proactive in evaluating project schedules and staff resource needs. As such, we are effective at prioritizing work and deliverables to meet deadlines and maintain schedules.

TEAM QUALIFICATIONS Our seasoned team of engineers and surveyors offer years of relevant experience and expertise. Principal-in-Charge, **Chad Browning, PE, QSD/P, LEED AP**, will be supported by Senior Project Manager, **Nate Dickinson, PE, QSD/P**, Project Engineer, **Nebiyu Taddesse, EIT**, and Senior Project Manager of Surveying, **Kelly Johnson, PLS**. In addition to our in-house engineering and surveying departments, we have supplemented our project team with **Haro, Kasunich, & Associates** to provide geotechnical engineering and **Rincon Consultants** for environmental services. Our team is uniquely equipped with the tools, knowledge, and District experience to provide the requested services without delay.

SANDIS
CIVIL ENGINEERING, SURVEYING

- Continuity of Staff
- Local Experience
- District Experience
- Resource Availability
- Zero Delay Time
- Local Offices

HARO, KASUNICH & ASSOC.
GEOTECHNICAL ENGINEERING

- Local Experience
- Experience Working with Sandis
- Decades of District Experience
- Local Offices
- Continuity of Staff

RINCON CONSULTANTS
ENVIRONMENTAL CONSULTING

- Local Experience
- District Experience
- Local Offices
- 330+ Professional Staff
- Resource Availability

STAFFING COMMITMENT FOR DURATION OF PROJECT The team presented herein is committed to seeing through the District’s goals from start to end. In the case of additional services, Sandis will propose the team change or sub consultant addition to the District. To minimize potential delays, our team was selected based on experience, familiarity, and location. Our team will serve as an extension to the District’s staff, working hand in hand to achieve project goals and milestones.



P A S T E X P E R I E N C E L O C A L & D I S T R I C T K N O W L E D G E Since 2020, Sandis has worked closely with the District to provide emergency repair services. Following the CZU Lighting Fire Complex, Sandis has provided engineering and surveying services for the District’s damaged water system. Since the onset of our work, Principal-In-Charge, **Chad Browning, PE, QSD/P, LEED AP**, has attended weekly meetings for progress updates and site walks with the District. Chad’s knowledge of the area and history of successfully completed projects will aid our efficacy in the Cross Country Pipeline Constructability Study services. Additional SLVWD and local experience include: Big Steel, Lyon Tank Complex, Highland Way PM 3.25, Bean Creek Road Slip-Out PM 2.10, Lyon Tank Access Road Landslide Repair, 900 & 1220 Hopkins Gulch Road Slip Outs, Dark Gulch Crossing Stabilization Project Old Haul Road, and Alpine Road Trail Improvement Project, Swim Tank Project and Five Water Pipeline Project, and Storm Damage Repair Projects - Biological Studies and Regulatory Permitting.

A P P R O A C H F O R C R O S S C O U N T R Y P I P E L I N E C O N S T R U C T A B I L I T Y S T U D Y The existing HDPE 5-mile raw water line system has been in operation for well over 30 years. The system has functioned well during that time, and if not for the devastating CZU fire, the HDPE pipe would still be in operation today. Our approach to this project is to meet with Rick, James and Josh to discuss at a high level all the expectations of this project. Our goal is not to waste District resources on studying pipe material and pipe installation techniques which don’t meet the goals of the District. We understand that the District wants to harden their raw water intake system, but the team is open minded to harden all, some or none of the HDPE pipes. The important aspect of this project is to find the balance between District resources, schedule, constructability, and their willingness for some portions of the pipeline to be sacrificial.

R E S O U R C E A V A I L A B I L I T Y F O R A L L S L V W D P R O J E C T S Sandis is backed by over 120 professional engineers and surveyors. Due to our well dispersed office locations, Sandis has flexible staffing capacity to guarantee satisfactory work for our clients. In addition to our flexible staffing capacity, Sandis utilizes a web-based project management software that is accessible to all Sandis staff. Our project management software, LiquidPlanner, warrants our staff the ability to update project information from anywhere, anytime. Our use of LiquidPlanner, makes it easy to discern project needs and staffing requirements from project kickoff - allowing our team to seamlessly begin work. The team presented in this proposal will be supported by an expansive team of Project Engineers, Design Engineers, and Engineering Technicians.

Sandis, Haro, Kasunich and Associates and **Rincon Consultants** all meet the District’s Insurance requirements. In addition, Sandis and both sub consultants have carefully read through the RFP and do not wish to make any changes.

We know Sandis is the right team for the job given our proven track record and a staff deeply experienced in working closely with the District to provide exceptional service. Please feel free to contact me at 650.793.6642 or cbrowning@sandis.net should you have any questions, require additional information, or would like to schedule an interview.

Sincerely,

Chad Browning, PE, QSD/P, LEED AP
Director of Engineering, Principal-in-Charge
650.793.6642 | cbrowning@sandis.net
1700 S. Winchester Blvd., Suite 200, Campbell, CA 95008

PROJECT DESCRIPTION

Sandis understands the San Lorenzo Valley Water District (District) is seeking a qualified firm to prepare a Constructability Study for the replacement of roughly seven linear miles of raw water supply cross-country pipeline. The pipeline originally consisted of 6-inch and 8-inch High Density Polyethylene (HDPE) pipeline installed at grade along a narrow (approx. 2-foot wide) shelf cut into the hillside, sloped at 1% along the axis of the pipeline. It is Sandis' understanding that certain reaches of the pipeline were installed on free-standing wooden trestles where needed to clear watercourses or maintain consistent slope. The pipeline as a whole is referred to as the "5-Mile Pipeline", and is split into two legs, Sweetwater (or Southern) and Peavine (or Northern). This pipeline was completely destroyed during the CZU fire event, and the shelf has suffered erosion since the pipeline was installed.

Sandis understands SLVWD is considering alternative replacement strategies for this pipeline, including:

1. Replacement in kind, installing new HDPE pipe at grade along the existing shelf;
2. Installation of new pipeline at grade with alternate materials intended to be more fire-resistant, with or without additional fire protection measures intended to harden the installation against future wildfires;
3. Installation of HDPE or other suitable material pipe below grade; and
4. Possible re-routing of pipeline by increasing axial slope of pipeline to 2%, for each of items 1 through 3, inclusive, above.

Sandis' project team of civil engineers, surveyors, geotechnical engineers, and environmental consultants will work in unison to perform the necessary services. Our full range of services for the Study, will include, but not be limited to delineation of: required permitting; agency coordination; pipe material selection pro/con factors; additional work implicit in choice of alternate materials and/or to bury the new pipeline; access restrictions and constructability issues presented by each material and/or placement strategy; anticipated environmental impacts of the pipe replacement work; and anticipated cost of each presented option.

The Sandis team has walked the entire 7 mile pipeline and are very familiar with the existing constraints of building a new pipeline in the rugged terrain. Additionally, Jerry Kasunich on our team was part of the geotechnical team that worked on the design for the original HDPE project and will bring valuable information to our team.

Legal Name

Sandis Civil Engineers Surveyors
Planners

Headquarter Office

1700 S. Winchester Blvd., Suite 200
Campbell, CA 95008
P: 408.636.0900
F: 408.636.0999

Additional Offices

Oakland, CA
Pleasanton, CA
Modesto, CA
Roseville, CA
Spokane, WA

Primary Contact

Chad Browning, PE, QSD/P
Principal-In-Charge
650.793.6642
cbrowning@sandis.net

Firm Type

California Corporation

Year Established

1965

Number of Employees

120

Sandis' In-House Services

Traffic Engineering
Civil Engineering
Surveying and Mapping
3D Laser Scanning
QSP/QSD
Planning
Utility Locating



FIRM BACKGROUND AND SERVICES

Sandis is a professional services firm specializing in civil engineering, traffic engineering, land surveying, stormwater management, QSP/D, utility locating, 3D laser scanning, construction staking, and planning. Established in Northern California in 1965, Sandis is a California Corporation comprised of 120 employees. Sandis employs the best and the brightest in our industry. We recruit well rounded individuals committed to innovation, excellence, leadership and environmental stewardship. Sandis' expertise is expansive. We service private and public clients in the academic, hospitality, healthcare, civic, justice, public works, corporate, and commercial sectors. Sandis' designs achieve economic, social and ecological sustainability.

FIRM STABILITY

As we have all learned in the past year, a company's ability to weather economic downturns is of vital importance. While the current pandemic has altered the normal practices of the engineering and surveying industries, Sandis has gained invaluable insight on our firm's strength, resilience, and readiness to provide ongoing support to our clients and staff.

Sandis has a diverse mix of small and large projects across multiple market sectors allowing us to weather the impacts of a fluctuating economy. We are a multi-disciplinary firm, providing in-house services from planning to design through construction. Our array of expertise and diverse client base allow us to hone in on the market sector that requires the most attention. Our engineering staff and surveying crews have been continuously providing services for local projects following all health and safety protocols.

Staff	Discipline/ Job Title	Role
Chad Browning, PE, QSD/P	Director of Engineering/ Associate Principal	Principal-in-Charge
Nate Dickinson, PE, QSD/P	Senior Project Manager of Engineer/ Associate Principal	Project Manager
Nebiyu Tadesse, EIT	Project Engineer	Project Engineer
Kelly Johnson, PLS	Senior Project Manager of Surveying/ Associate Principal	Senior Project Manager of Surveying

Legal Name

Haro, Kasunich and Associates, Inc

Sub Consultant Address

116 East Lake Ave
Watsonville, CA 95076
831.722.4175

Sub Consultant Contact

Moses Cuprill, PE
Principal Geotechnical Engineer
831.722.4157
mcuprill@harokasunich.com

Sub Consultant Staff

Moses Cuprill, PE
Geotechnical Project Manager
Andrew Kasunich, EIT
Geotechnical Engineer

HARO, KASUNICH, AND ASSOCIATES, INC

FIRM DESCRIPTION

Haro, Kasunich and Associates (HKA) is a professional consulting firm dedicated to providing quality geotechnical and coastal engineering services to private and public clients throughout the Central Coast of California. HKA's staff consists of a team of professionals and technical specialists recognized for their expertise in the fields of geotechnical engineering, coastal engineering, earthwork construction testing and expert testimony. We offer a local presence with 35+ years experience and practice in Santa Cruz and Monterey Counties as prime and/or subconsultant's on over 12,000 projects.

The firm's strength is built on the extensive experience with a wide range of projects from small private developments to some of the more moderately large public projects in the Central Coast region. Established in 1984, the firm (headquartered in Watsonville, California) was founded to provide geotechnical engineering, coastal engineering and construction monitoring and testing services to public and private clients including municipalities, developers, architects and engineers throughout the Central Coast of California. The range of public projects typically supported by HKA includes streets, bridges, water service infrastructure, parks, wastewater treatment facilities, schools, fire stations, and other buildings.

Legal Name

Rincon Consultants, Inc

Legal Form

California "S" Corporation

Sub Consultant Address

180 N. Ashwood Avenue
Venture, California 93003

Sub Consultant Contact

Craig Lawrence
Project Manager
200 Washington Street, Suite 207
Santa Cruz, CA 95060
831.440.3899 x2059

Professional Staff

330+

RINCON CONSULTANTS, INC

FIRM DESCRIPTION

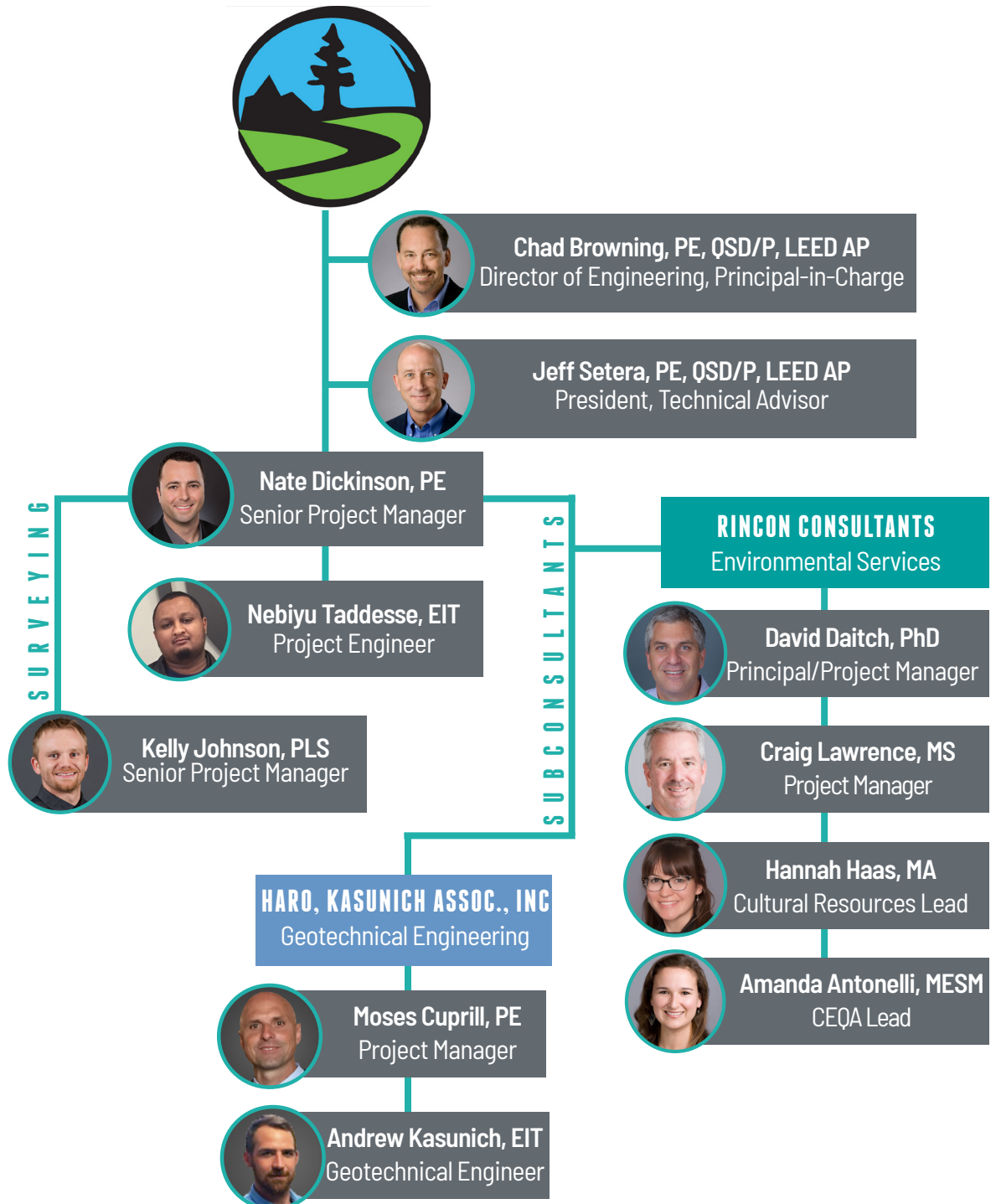
Rincon Consultants is a multi-disciplinary environmental science, planning, and engineering consulting firm that has provided quality professional services to government and industry for over 25 years. Rincon prides itself on the considerable depth of its staff, which includes professional geologists, including a certified engineering geologist and geochemists; biologists, including wildlife biologists, certified wetland specialists, arborists, and botanists; noise and air quality experts; accredited LEED professionals; and certified urban planners.

CEQA compliance, biological studies and documentation, regulatory permitting, and hazardous material assessments are core business areas for Rincon. Our Biological and Wetland Resources group offers a range of biology and wetland resources services that serve public and private sector needs. We leverage a comprehensive understanding and objective approach to ecological and regulatory facets of biological resource issues to ensure high value outcomes for our clients. The skills of our talented botanists, wildlife biologists, ecologists, and wetland scientists support projects from concept through implementation.

Staff	Discipline/ Job Title	Role
David Daitch, PhD	Biological Resources/ Principal	Project Manager
Craig Lawrence	Biological Resources/ Senior Biologist and Regulatory Specialist	Project Manager
Amanda Antonelli	CEQA Compliance/ Environmental Planner	CEQA Lead
Hannah Haas	Cultural Resources/ Senior Archaeologist	Cultural Resources Lead

PROJECT ORGANIZATION

The Sandis Team will be led by **Chad Browning, PE, QSD/P, Principal-in-Charge**. Chad will be responsible for oversight of the Constructability Study and the overall performance of the Sandis Team. He will work hand-in-hand with the District throughout the Study period. **Nate Dickinson, PE, QSD/P, Senior Project Manager**, will work daily with Chad and the District to keep the project moving forward within the defined goals and objectives of the scope of work. Sandis' Project Management Team will be powered by a comprehensive team of civil project engineers, design engineers, and engineering technicians, including surveying support. Sandis is joined by subconsultants, HKA for geotechnical engineering, and Rincon for environmental analysis support.



PROJECT MANAGER QUALIFICATIONS

Sandis' Senior Project Manager, Nate Dickinson, PE, QSD/P, has more than 15 years of engineering and project management experience. He previously worked with the District providing engineering services for Big Steel to Lyon Tank Interconnect Pipeline. In addition to his recent work for the District, Nate grew up in Boulder Creek and possesses an intimate knowledge of the locale. Having familiarity of the area and successfully completing similar services for the District has afforded Nate invaluable insight into the necessary components to completing work for the District on time and on budget.

In 2020, the Sandis team, led by Chad Browning, PE, QSD/P, LEED AP and the Sandis office engineers led by Nate Dickinson, PE, QSD/P, performed emergency infrastructure assessment and repair services for SLVWD, utilizing LiquidPlanner project management software. As Senior Project Manager, Nate took the lead on managing the office staff to provide the engineering support for the District. He also ensured our project management software was set up and updated in a timely manner to guarantee the easy and constant access of real time information and progress updates.

APPROACH

Sandis' proposed team has worked directly with the District on the cross-country pipeline system and is familiar with the damaged area having assessed the seven-mile system for emergency repairs in September 2020. Our experience provides us uniquely specific insights into how our designs and services will need to be shaped and delivered to most accurately fit the needs of the District and this Constructability Study.

Upon award, Principal-in-Charge, Chad Browning, PE, QSD/P, will engage with the project team to align project understanding, objectives, budget and key milestones with the District's expectations of level of detail, key objectives and deliverables. Once our team is aligned with the overall project goals and vision for the project, Sandis will refine and publish the delivery schedule and work plan showing key milestones, progress set deliverables, QA/QC schedule and schedule of final deliverables.

PROJECT MANAGEMENT: There are several key elements essential to project success. First, developing a comprehensive plan will be crucial for managing the Study. Second, effectively communicating and managing the flow of information to and from project participants will allow for seamless cohesion. To manage this, our approach will place an emphasis on maximizing coordination and communication opportunities through mindfully planned meetings. At the same time, we will develop a smooth and efficient project management system that utilizes cloud-based document controls, project workplans, and scheduling systems providing our team with up-to-date information at a moment's notice.

The key elements of our approach to project management are the following:

- Management Work Plan
- Succinct Team Coordination/Collaboration
- Project Kick-off meeting with weekly meetings
- Thoughtful planning and scheduling of site visits
- Frequent Progress Reporting
- Cloud-based File Sharing and Document Control
- Coordination of Responses to Review Comments at each step of the project
- QA/QC Plan

EFFECTIVE COMMUNICATION: Our communication and project approach will be centered around maintaining our existing relationships and collaborative partnership with the District and stakeholders. In this partnership, Sandis can be entrusted to reinforce the District's overall mission to provide its customers with reliable, safe, and high quality water. Sandis will work with SLVWD to ensure that open and effective lines of communication are maintained with staff at all times. At project kick-off, Sandis will meet with the Project Manager Josh Wolff as well as Rick Rogers and James Furtado to review and confirm project objectives, priorities, scope, schedule, and budget. With our frequent progress reporting, we will be able to anticipate any risks to the project and work with the team to problem solve and recommend the best possible solutions.

WORK LOCATION: Sandis' primary office is located a short distance and drive from Boulder Creek in Campbell, CA. Also, we have a mix of staff working from home located even closer to the project site, providing SLVWD with the opportunity to have quick and fast-tracked in-person meeting responses, if needed. We envision frequent field visits and meetings to keep the project moving forward as was the case for our prior experience working with the District.

RESOURCE MANAGEMENT: Sandis has always employed a high level of project planning to aid our efficacy and results. In 2015, we doubled on those efforts and launched the cloud-based project management software, LiquidPlanner, to combine our survey and engineering operations into a single database. At a moment's notice, we can review the progress on any project – down to the task level of detail. Our survey and engineering project teams work in the software 24/7, updating progress and completed documents (calculations, reports, plans, amps) and adding more detail to the work plans.

All Sandis engineers and surveyors take part in the organizational process and are capable of viewing all project steps. The initial setup of the project includes initializing this platform for each phase of work executed in an agreement. Nate Dickinson, PE, QSD/P will ensure there is a clean translation of scope/intent input into the project management platform. Once the project is underway, the entire project team will add details, upload project documents, enter timecard information, etc. LiquidPlanner allows employees to rank priorities so that all deadlines are met on the individual and team level.

QUALITY CONTROL SYSTEM: Maintaining quality and consistency will be enforced through Sandis quality assurance/ quality control (QA/QC) procedures. Sandis believes QA/QC is a technical concern and a management responsibility. Sandis' QA/QC policy commits partners and key personnel to an active role in quality control and project management. Our QA is both an error catching and error prevention tool. We involve partners to assist in the management of projects and to monitor workflow processes. Our whole-team involvement holds our teams accountable and ultimately produces documents fully representative of our client's needs.

Quality control is exercised throughout the project duration and during specific submittal stages. Our QA/QC personnel provides our work with a fresh set of eyes and serves as an additional level of peer review. The selected reviewer will be involved at all critical submission points in the project so that he or she may provide input to the team and make changes or corrections before the next submission deadline. Our quality assurance program is a continual process, not a final plan check. As part of our quality assurance program, we will keep the District abreast of progress.

SCHEDULE

Having worked with the District and the proposed Sub consultants, Sandis is confident our schedule will be carried out in a timely and efficient manner. Once the District gives the notice to proceed, Senior Project Manager, **Nate Dickinson, PE, QSD/P**, will load our scope and schedule into our project management software, allowing all staff access to the set schedule. We will use this schedule and project management software to assign resources to each team to meet the District's goals and objectives.

Task	Duration of Task	Firm Performing Services		
		Sandis	HKA	Rincon
1: Kick-off Meeting/Preliminary Work	8 Weeks	●	●	
2: Agency Jurisdiction Identification	4 Weeks	●		
3: Environmental Factor Research	8 Weeks	●	●	●
4: Evaluate Pipe Material/ Installation	8 Weeks	●		
5: Alternate Routing of Pipeline	6 Weeks	●		

CAPACITY TO PERFORM SERVICES

Sandis is powered by over 120 professional engineers and surveyors, spanning across six offices. Our team of experts, dispersed across the Bay Area, allow us to seamlessly perform our services for multiple clients simultaneously. LiquidPlanner has increased Sandis' ability to share project data, update project progress, and assign staff to necessary tasks. Our heightened form of communications have propelled the speed and quality of our services. Due to our well trained staff of professionals, adherence to regular communication, and use of technology, Sandis is well versed in managing concurrent complex and fast track contracts. Our extensive use of advanced technology allows us to: **Have immediate and constant contact with field operations and engineering team; Adjust staffing based on project needs and productivity; Utilize real time information.**

CHAD BROWNING, PE, QSD/P, LEED AP

PRINCIPAL-IN-CHARGE

About

Chad offers over 22 years of local engineering experience. As Principal-in-Charge, Chad has most recently led Sandis' engineering efforts for San Lorenzo Valley Water's fire recovery services and will use his intimate familiarity of the locale to inform and guide the work necessary for the Cross County Pipeline Constructability Study. Chad understands the importance of early and regular communication with involved agencies to ensure that all parties are aware of the project objectives and goals. Chad's previous work with the District will afford Sandis valuable insights into the required procedures and methodologies needed throughout the project.

Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

In response to the CZU Lightning Complex Fire, Sandis has been providing engineering and surveying services to the San Lorenzo Valley Water District. Sandis' services to date have included: a Rapid Fire Damage system assessment of 7.5 miles of water pipeline and 7 intakes of the damaged waterlines; an expedited design and procurement of construction needed to replace or reroute the rest of the system that has become non-operational; and recovery efforts including assessment, design, permit, and procurement.

As Principal-in-Charge, Chad's responsibilities include oversight, quality assurance and quality control, meeting attendance, site visits, construction observation, and plan reviews. Chad played a vital role in overseeing the waterline design and development and continues to provide regular expertise to the team, ensuring Sandis' services are provided in a timely manner and on budget.

Additional Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

- Alta Via Water Pipeline
- Erosion Control Measures for raw water intakes
- Erosion Control Measures for the Water Treatment Plant
- Erosion Control Measures for Foremen Utility Corridor

San Lorenzo Valley Water District Big Steel to Lyon Interconnect Pipeline Boulder Creek, CA

Foreman Intake and Utility Corridor to Water Treatment Plant Boulder Creek, CA

UCSC Mount Hamilton SCU Fire Disaster Assessment & Repairs Mount Hamilton, CA

Morgan Hill Downtown Place Making Program Morgan Hill, CA

Santa Clara County Fleets and Facilities (FAF) On-Call Civil Engineering & Surveying Contract #1 Santa Clara County, CA

Santa Clara County Fleets and Facilities (FAF) On-Call Civil Engineering & Surveying Contract #2 Santa Clara County, CA

Santa Clara County FAF Malech Road Pipeline Replacement Santa Clara County, CA

Curie Drive Roadway Widening San Jose, CA



22 Years of Experience

14 Years with Sandis

Professional Civil Engineer

CA #68315

Qualified SWPPP Developer/ Practitioner (QSD/P)

#00917

BS, Civil Engineering

California State University, Long Beach

LEED™ Accredited Professional, USGBC

JEFF SETERA, PE, QSD/P, LEED AP

PRESIDENT, TECHNICAL ADVISOR

About

Jeff Setera is Principal and President of Sandis Civil Engineers Surveyors Planners and has been with the firm for 30 years. Jeff is state renown for his leadership in engineering design and project management of utility and infrastructure projects for public agencies, hospital, and educational facilities. His vision as President is to ensure Sandis' processes bring out high quality, technically competent and client-focused design solutions. Jeff has extensive experience working with Water Districts throughout Northern California. His familiarity and insights across a wide range of water and pipeline projects are invaluable on design-build teams when facing complex project challenges.

Relevant Experience

SLVWD Foreman Intake to WTP Pipeline Santa Cruz, CA

Jeff has served as Principal and has played an integral role in working closely with the San Lorenzo Valley Water District to assist in the destroyed or heavily damaged parts of the District's water pipeline systems and storage tanks. For the Foreman Intake, Jeff provided engineering and construction management of 3,500 linear feet of pipeline to replace a surface mounted pipeline that was destroyed during the CZU fire of 2020. He provided rapid evaluation and assessment of damage, planning and design of replacement, inclusion of pipeline hardening/protections and alignment revision to provide pipeline accessibility. The new 12-inch and 8-inch lines were designed and installed in rapid fashion to meet the District demands (Pipeline feed raw water to WTP) immediately and long term. Jeff worked with the District within days of the fire to assist the District with complete turn-key services to replace the pipeline. services are provided in a timely manner and on budget.

SLVWD Big Steel to Lyon Tank Interconnect Pipeline Santa Cruz, CA

Jeff has served as Principal throughout the District's process in its repair and construction of their water pipeline infrastructure. Jeff was part of the rapid assessment team providing critical engineering assessment and design of 1,200 linear feet of surface mounted pipeline destroyed during the CZU fire of 2020. Sandis provided turn-key services to assess damage, plan, design, and manage the reconstruction. Jeff has worked with the District, County and other agencies to overcome and solve project challenges such as high angle topography, fire damaged trees, and limited equipment access to make way for the repair and construction of the Big Steel Lyon Tank interconnect pipeline. Jeff quickly deployed a team of surveyors and engineers to develop a plan, work with a contractor to refine, and procure materials, as well as management of construction activities.



30 Years of Experience

30 Years with Sandis

Professional Civil Engineer

CA #62793

Qualified SWPPP Developer/ Practitioner (QSD/P)

#340

BS, Civil Engineering

San Jose State University

LEED™ Accredited Professional, USGBC

NATE DICKINSON, PE, QSD/P

PROJECT MANAGER

About

Nate has more than 15 years of engineering and project management experience. He brings passion, engineering excellence, and out of the box problem solving with a focus on building long-lasting relationships with his clients and stakeholders. As Senior Project Manager, Nate took the lead on managing the office staff to provide engineering support for the District for emergency infrastructure assessment and repair services. In addition to his recent work for the District, Nate grew up in Boulder Creek and possesses an intimate knowledge of the locale. Having familiarity of the area and successfully completing similar services for the District has afforded Nate invaluable insight into the necessary components to completing work for the District on time and on budget.

Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

Following the 2020 CZU Lightning Fire Complex, Sandis has been providing engineering and surveying to SLVWD. Sandis assisted SLVWD in temporary restoration and repair of the damaged water system. As Senior Project Manager of Engineering, Nate is responsible for plan reviews, and coordination with SLVWD and Sandis' in-house engineering and surveying departments. Nate has worked closely with Principal-in-Charge, Chad Browning, and the engineering team to ensure that Sandis' work is completed quickly and on budget.

Additional Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

- Alta Via Water Pipeline
- Erosion Control Measures for raw water intakes
- Erosion Control Measures for the Water Treatment Plant
- Erosion Control Measures for Foremen Utility Corridor

San Lorenzo Valley Water District Big Steel to Lyon Interconnect Pipeline Boulder Creek, CA

Foreman Intake and Utility Corridor to Water Treatment Plant Boulder Creek, CA

UCSC Mount Hamilton SCU Fire Disaster Assessment & Repairs Mount Hamilton, CA

Street Improvement - Perimeter at Stevens Creek Cupertino, CA

Roadway Design for Panama Mall Via Ortega Stanford, CA



15 Years of Experience

9 Years at Sandis

BS, Civil Engineering

Cal Poly San Luis Obispo

Professional Engineer

Civil Engineer CA #79716

Qualified SWPPP Developer/ Practitioner

QSD/P #24248

NEBIYU TADDESSE, EIT

PROJECT ENGINEER

About

Nebiyu Tadesse, EIT has over 15 years of engineering experience with the Sandis team. Nebiyu been part of the engineering team assisting the San Lorenzo Valley Water District this past year and will use his familiarity with the locale and the District to guide his work on the requested services.

Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

As Project Engineer, Nebiyu's responsibilities included the preparation of damage assessment report, CAD drafts, research, coordination, pipeline design, design of erosion control measures at water treatment plant, construction observation and plan review for Foreman Utility Corridor to Intake Design, design and drafting of Foreman Intake utilities, design and drafting of Alta Via temporary utilities, design and drafting of Alta Via permanent Utilities, preparation of SLVWD site-wide damage assessment report and exhibits, construction observation and administration at the Foreman Intake project, and preparation of Little Lyon Tank recoating memo and specifications.

Additional Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

- Alta Via Water Pipeline
- Erosion Control Measures for raw water intakes
- Erosion Control Measures for the Water Treatment Plant
- Erosion Control Measures for Foremen Utility Corridor

San Lorenzo Valley Water District Big Steel to Lyon Interconnect Pipeline Boulder Creek, CA

Foreman Intake and Utility Corridor to Water Treatment Plant Boulder Creek, CA

UCSC Mount Hamilton SCU Fire Disaster Assessment & Repairs Mount Hamilton, CA

Mount Madonna Water Tank Watsonville, CA

Storm Drain Extension for Santa Ynez and Delores St. Stanford, CA

Vasona Park Modular Project Los Gatos, CA

Palo Alto Public Safety Building & Parking Palo Alto, CA

ADA Boat Access at Vasona Lake County Park Los Gatos, CA

Silver Creek Essential Facilities San Jose, CA

Santa Clara County Fire Department Headquarters Campbell, CA

Malech Road Water Line Repair Coyote, CA



15 Years of Experience

7 Years with Sandis

BS, Civil Engineering

University of California, Berkeley

Engineer in Training

KELLY JOHNSON, PLS

SENIOR PROJECT MANAGER

About

Kelly Johnson has over 18 years of experience in land surveying and has worked closely with our in-house surveying team on the preparation of topographic and boundary surveys. His background includes an extensive knowledge and expertise in post data collection processes; preparation of calculations; preservation of project field control; maintaining documentation i.e. reports, project plans, specifications, and as-builts; and managing project budget and change orders.

Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

As Senior Project Manager of Surveying, Kelly was responsible for survey coordination and date review, topographic survey review, boundary survey - control survey, and Right of Way review. Sandis has been working closely with SLVWD to provide emergency repair to the District's water system damage caused by 2020 fires. Kelly has played a vital role in the timely and efficient delivery of surveying services throughout Sandis' contract. Kelly's experience surveying the SLVWD local has afforded him great insight into the area and the necessary components to successfully completing surveying work for the District.

Additional Relevant Experience

San Lorenzo Valley Water District Boulder Creek, CA

- Alta Via Water Pipeline
- Erosion Control Measures for raw water intakes
- Erosion Control Measures for the Water Treatment Plant
- Erosion Control Measures for Foremen Utility Corridor

San Lorenzo Valley Water District Big Steel to Lyon Interconnect Pipeline Boulder Creek, CA

Foreman Intake and Utility Corridor to Water Treatment Plant Boulder Creek, CA

UCSC Mount Hamilton SCU Fire Disaster Assessment & Repairs Mount Hamilton, CA

Street Improvement - Perimeter at Stevens Creek Cupertino, CA

Roadway Design for Panama Mall Via Ortega Stanford, CA

Churchill Avenue Corridor Palo Alto, CA

Derby Street San Francisco, CA

Persian Drive Sidewalk Addition Sunnyvale, CA

Jefferson Avenue & Cleveland Street Intersection Redwood City, CA

Paradise Drive Roadway Improvements Fairfield, CA



18 Years of Experience

8 Years with Sandis

Professional Land Surveyor,
California #9126

Professional Land Surveyor,
Washington #48759

Certificate, Land Surveying
Renton College

MOSES CUPRILL, PE

PRINCIPAL GEOTECHNICAL ENGINEER/ PROJECT MANAGER

About

Mr. Cuprill is currently Principal/Owner at Haro, Kasunich and Associates. His responsibilities include work plan development for various geotechnical engineering investigations pertaining to landslide stability, coastal bluff recession, retaining walls, roadway infrastructure and public works projects, coastal protection structures (new and maintenance of existing), ocean wave runup, and liquefaction. Mr. Cuprill prepares cost estimate proposals, directs field studies and laboratory testing program, analysis of data, develop design criteria, and preparation of report summarizing findings. Mr. Cuprill also manages each of his project budgets and monitors efficiency.

Relevant Experience

Highland Way PM 3.25 Santa Cruz County, CA

Provided design recommendation and construction oversight for a 20 ft. high tieback soldier pile retaining wall to restore access through Highland Way.

County of Santa Department of Public Works

701 Ocean Street, Room 410 Santa Cruz, CA 95060

831-454-2385

Bean Creek Road Slip-Out PM 2.10 Santa Cruz County, CA

Provided design criteria, recommendations, and construction oversight for engineered fill slopes, pier and lagging retaining walls, and site drainage.

County of Santa Department of Public Works

701 Ocean Street, Room 410 Santa Cruz, CA 95060

831-454-2385

Lyon Tank Access Road Landslide Repair Boulder Creek, CA

Landslide study of a broad soil mass that disconnected from the hillside undermining Madrone Road during the winter rain season of 2016/2017. Provided geotechnical design criteria to restore the roadway and stabilize the soil mass.

San Lorenzo Valley Water District

13060 Highway 9, Boulder Creek, California



20 Years of Experience

15 Years with Haro, Kasunich & Associates, Inc.

Professional Engineer

California #78901

BS, Civil Engineering

Cal Poly State University, San Luis Obispo

ANDREW KASUNICH, EIT

GEOTECHNICAL ENGINEER

About

Andrew has been working in the geotechnical consulting field at HKA for 4.5 years. His experience includes geotechnical site characterization, foundation design, retaining wall design, landslide slope stability, coastal bluff analysis, soil nail and tieback anchor design, and various civil/coastal engineering projects. Andrew is also responsible for management of both the design and construction observation phase of projects. He most recently managed the construction and oversight of the 100 Esplanade Seawall Rehabilitation Project in Pacifica, California. He prides himself on his ability to listen to his client's needs and develop engineered solutions that meet those needs.

Relevant Experience

323, 900 & 1220 Hopkins Gulch Road Slip Outs Boulder Creek, CA

Provided repair alternatives, design criteria, and construction observation for various road slip-outs along Hopkins Gulch Road. Recommended repairs, included cantilever soldier pile, pin pile, and tieback walls.

CSA 51/Hopkins Gulch Road Users Association
831-566-7909

Dark Gulch Crossing Stabilization Project Old Haul Road San Mateo County, CA

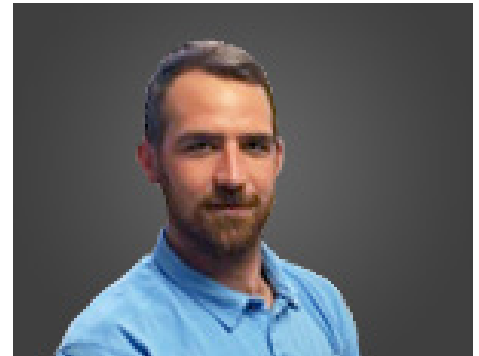
Provided design criteria, recommendations, and construction oversight for repair of an 80-foot-deep stream crossing failure on Old Haul Road. The project included removal of unstable fill material and crib logs, installation of a 66-inch x 240 ft new culvert and reconstruction of the fill embankment to restore road access.

Sara Polgar, Conservation Program Specialist
San Mateo Resource Conservation District
650-669-9077

Alpine Road Trail Improvement Project Alpine Road San Mateo County, CA

Provided geotechnical design criteria for proposed road and trail improvements along approximately 7,400 LF of existing road within the Coal Creek Open Space Preserve.

Bryan Apple
Midpeninsula Regional Open Space District
650-691-1200



4.5 Years with Haro, Kasunich & Associates, Inc.

Professional License
EIT 159907

BS, Civil Engineering & Environmental Engineering
University of California, Davis

DAVID DAITCH, PHD

PRINCIPAL, BIOLOGICAL RESOURCES/ PROGRAM MANAGER

About

Dr. David Daitch serves as a Principal, Senior Ecologist and Paleontology Principal Investigator in Rincon's Monterey, California office. He has over 20 years of professional experience providing biological and paleontological environmental services. As a biologist and paleontologist, Dr. Daitch has over 15 years of environmental consulting experience managing projects, coordinating and conducting field surveys, consulting with federal, state and local agencies, and producing and editing technical scientific documents for private industry, regulatory agencies, and publication. Dr. Daitch prepares, and oversees the preparation of technical reports, permit applications, CEQA and NEPA documents, and compliance reports, ensuring proper QA/QC of all environmental documents. He works directly with clients, lead agencies, resource agencies and other stakeholders to ensure successful project execution and submission of high-quality technical documents.

Relevant Experience

San Lorenzo Valley Water District Lyon Tank Access Road Rehabilitation Santa Cruz, CA
San Lorenzo Valley Water District – Biological Assessment Boulder Creek, CA
Monterey County Pacific Grove ASBS Storm Water Project Monterey County, CA
San Mateo County Parks Department/Bellecci & Associates – Memorial Park Water Treatment Plant Upgrades Project San Mateo County, CA
City of Los Angeles Sanitation District (LASAN) – LA-Glendale Wastewater Treatment Plant IS-MND and Technical Studies, Kennedy/Jenks Consultants Los Angeles County, CA
Santa Clara Valley Water District – Santa Clara Valley Water District On-Call Biological Services Santa Clara, CA
MidPeninsula Open Space District, Bear Creek/Mud Lake Permitting San Mateo County, CA
Santa Cruz Department of Public Works – Storm Drain Repair Project Biological Studies Santa Cruz County, CA
Fresno Storm Water Treatment Plant Project Fresno County, CA
Milpitas Recycled Water Conversion Project Milpitas, CA
City of Fresno Water Treatment Project Fresno, CA
Pacific Grove ASBS Storm Water Project EIR Cultural Resources Section Monterey County, CA



24 Years of Experience

8 Years with Rincon

BLM Paleontological Resources

Permit- Principal Investigator

California Permit #CA-16-01P, Nevada Permit #V93678

MS, Geology

University of Colorado Boulder

BA, Geology

The Evergreen State College, Olympia

CRAIG LAWRENCE, ME

SENIOR BIOLOGIST/ PROJECT MANAGER

About

Mr. Lawrence is a senior biologist and regulatory compliance specialist with over 22 years of experience managing and conducting comprehensive environmental and biological studies on large transportation and energy infrastructure projects throughout the San Francisco Bay Area and across California. His experience includes conducting environmental constraints analyses; performing baseline natural resource surveys; assessing impacts to sensitive biological resources; regulatory agency negotiations and permitting for federal and state endangered species, wetlands, and water quality permits; Storm Water Pollution Prevention Plan (SWPPP) and environmental compliance management during construction; and developing appropriate mitigation for unavoidable project-related impacts.

Relevant Experience

San Lorenzo Valley Water District Lyon Tank Access Road Rehabilitation Santa Cruz, CA
PG&E – Gas Line 109 Replacement Project San Francisco to Santa Clara County, CA
Port of Oakland – Pump House 4 and Pump House 6 Replacement Alameda County, CA
PG&E Gas Line 210A and 210B In-Line Investigation Project Solano County, CA
PG&E Gas Line 132 Replacement Project Santa Clara County, CA
PG&E Jefferson-Martin 230-kV Transmission Line San Francisco and San Mateo, CA
Kinder Morgan LS-64 Vegetation Management Project Placer County, CA
PG&E Supervisory Control and Data Acquisition Switch Pole Replacement Bay Area, CA
Park Facility Master Plan Update, Biological Resource Section, CEQA IS/MND Hollister, CA
Dublin San Ramon Services District Reservoir 10A Replacement San Ramon, CA
PG&E Vaca Dixon – 230kV Transmission Line Reconductoring Solano County, CA
Caltrans District 4, Highway 101 HOV Widening Projects Sonoma County, CA
Caltrans District 4, State Route 84 Pigeon Pass Realignment Project Alameda County, CA
Montezuma Wetlands Restoration Project Solano County, CA
Clean Water Act Permitting Northern California, CA
Santa Rosa City Farms – California Tiger Salamander Survey Sonoma County, CA
Blue Rock Country Club Development Alameda County, CA
Vista Del Mar and Mare Island – H-1 Landfill Biological Assessments Solano County, CA
PGA Design – Vallejo Waterfront History Art Park Permitting Support Solano County, CA



23 Years of Experience

2 Years with Rincon

U.S. Army Corps of Engineers

Determining Federal Wetlands
Jurisdiction (2000)

California Stream Bioassessment Procedure

Aquatic Resource Assessment
Training (2001)

40-Hour Hazardous Waste

Operations Training (HAZWOPR)

MS, Environmental Management

University of San Francisco

BS, Aquatic Biology

Sonoma State University

HANNAH HAAS, MA

SENIOR ARCHAEOLOGIST/CULTURAL RESOURCES LEAD

About

Ms. Haas has over nine years of experience working in cultural resources management conducting projects in compliance with CEQA, Section 106 of the National Historic Preservation Act, and NEPA. She has experience in performing archaeological and cultural resources surveys, archaeological testing and monitoring, and the preparation of technical reports. She has worked on more than 130 projects and served as lead author of more than 90 cultural resources technical reports. Ms. Haas uses her academic training and professional experience to ensure that all cultural resources components of projects are satisfactorily conducted.

Relevant Experience

San Lorenzo Valley Water District – Swim Tank Project and Five Water Pipelines Project Initial Study–Mitigated Negative Declaration and U.S. Department of Agriculture Funding Documentation Santa Cruz, CA
Monterey Storm Drainage System Maintenance Project Monterey County, CA
RMC Water and Environment – Milpitas Recycled Water Pipeline Santa Clara County, CA
Central Coast Blue CEQA-Plus EIR Pismo Beach, CA
Ashlan and Palm Intersection Improvements Project Fresno County, CA
Recurrent Energy – RE Tranquility Solar Project Fresno County, CA
Cultural Resources Study for the Jennings Ditch Trail Project Visalia, CA
Initial Study for the Well 3 Tank Demolition Project Merced, CA
RMC Water and Environment, Tulare Lakes Reservoir Project Kings County, CA
Metropolitan Water District of Southern California – Palos Verdes Reservoir Project, Rolling Hills Estates Los Angeles County, CA
Southland Wastewater Treatment Facility Phase I Expansion Project San Luis Obispo County, CA
Eastern Municipal Water District Alessandro Ponds Optimization Project Riverside County, CA
Eastern Municipal Water District Temecula Valley Recycled Water Pipeline Name Riverside County, CA
Eastern Municipal Water District EMWD Perris II Brackish Groundwater Desalter Project Riverside County, CA



10 Years of Experience

9 Years with Rincon

Registered Professional Archaeologist
ID #49570646

MA, Anthropology
San Diego State University

BA, Anthropology
University of California, Santa Barbara

AMANDA ANTONELLI, MESM

ASSOCIATE ENVIRONMENTAL PLANNER/ CEQA LEAD

About

Ms. Antonelli specializes in environmental impact analysis for water infrastructure projects. Ms. Antonelli is experienced in preparing CEQA and NEPA documents such as IS-MNDs, EIRs, and EAs. Ms. Antonelli's technical expertise in hydrology and water quality analysis, air quality/greenhouse gas modeling, and geospatial analysis equip her to evaluate the quantitative and qualitative environmental impacts of water projects. Ms. Antonelli has worked on projects for water agencies across California, including Metropolitan Water District, Casitas Municipal Water District, San Lorenzo Valley Water District, and others. She currently serves as Deputy Project Manager for a number of water infrastructure projects, including the John Anson Ford Park Cistern Project IS-MND, the Ventura-Santa Barbara Counties Intertie Project IS-MND, and the Coachella Valley Water District Non-Potable Water Master Plan EIR.

Relevant Experience

San Lorenzo Valley Water District – Swim Tank and Five Water Pipelines Boulder Creek, CA

Casitas Municipal Water District – Ventura-Santa Barbara Counties Intertie Project

Various Counties, CA

Bell Gardens John Anson Ford Park Infiltration Cistern Project IS/MND Bell Gardens, CA

Coachella Valley Water District – Non-Potable Water Pipeline Connections Project

Coachella Valley, CA

Montecito Water District – Smart Meter Facilities Project Name Santa Barbara County, CA

Carpinteria Valley Water District, Indirect Potable Reuse Project Santa Barbara County, CA

Coachella Valley Water District – Palm Desert Groundwater Replenishment Project EIR

Coachella Valley, CA

Water Replenishment District of Southern California – Sativa Well #5 Project & Maywood

Avenue Well Treatment System IS/MND Los Angeles County, CA

Coachella Valley Water District – Whitewater River Stormwater Channel Flood Easement

Renewal IS/EA & Bureau of Indian Affairs Permitting Assistance Coachella Valley, CA

Mound Well #2 IS-MND Ventura, CA

Santa Clara Valley Water District – Pure Water Program Infrastructure Mapping Santa

Clara, CA

Elsinore Valley Municipal Water District – SB88 Compliance Work Plan Elsinore, CA



5 Years of Experience

4 Years with Rincon

MESM, Water Resources Management

Bern School of Environmental Science
& Management

BA, Geography/ Environmental Studies

University of California, Los Angeles

SAN LORENZO VALLEY WATER DISTRICT



Starting in August of 2020, Sandis provided civil engineering and surveying to the San Lorenzo Valley Water District (SLVWD) in an emergency response to the wildfires in the Santa Cruz Mountains. The CZU Lightning Complex Fire burned 86,000 acres, leaving roads closed and 1,185 structures burned in Santa Cruz and San Mateo Counties. All residents in the SLVWD were evacuated, and although many safely returned, they confronted power outages and an uncertain tap water status.

As a result of the CZU Lighting Complex Fire, SLVWD facilities sustained significant facility and operational capacity losses. The water system's primary damage included intakes and raw water pipelines from the Peavine; Silver; Foreman; Clear Creek 1, 2 and 3; and Sweetwater water intake locations. The Bennett Spring Overflow, Settling Tanks, related piping, and controls were also completely destroyed. The Lyon, Little Lyon, and Big Steel Water Tanks, as well as the Water Treatment Plant with its associated structures, were spared from significant damage but require some minor repair before resuming full operation.

To assist SLVWD in temporary restoration and repair of the system, and to begin long-term planning solutions, Sandis performed a Rapid Fire Damage system assessment of 7.5 miles of water pipeline and 7 intakes of the damaged waterlines. More than 50% of the structures assessed were completely destroyed or majorly damaged, while other facilities have heat damage, smoke, or possible contamination. SLVWD worked on emergency repairs to bring the water system back to functioning condition. The next step in restoring the water supply was the reconnection of the Little Lyon and Big Steel Tanks that were destroyed in the fire. Sandis provided expedited design and procurement of construction needed to replace or reroute the rest of the system that became non-operational.

Sandis' management of recovery efforts included assessment, design, permit, and procurement. Sandis completed the Fire Damage Assessment Report and the on-call services to assist SLVWD in the repair and recovery of the water system. The team provided weekly reporting to the District Manager. Sandis provided

development and management task/project schedule and cost model for all recovery efforts. Throughout this project, the Sandis team implemented expedited "best practice" study for longer term system reconstruction. In addition to the recovery of the water system, Sandis provided expedited study and design for watershed protection during winter weather.

Owner San Lorenzo Valley Water District
Contact Rick Rogers, rrogers@slvwd.com, 831.338.2153
Project Size 7.5 Miles
Design Budget N/A - Emergency Repairs
Total Value of Completed Design N/A
Budgeted Project Design Schedule N/A
Total Time to Design Completion 3 Months
Estimated Contract Costs \$415,015
Actual Contract Costs \$415,015

SAN LORENZO VALLEY WATER DISTRICT BIG STEEL TO LYON INTERCONNECT PIPELINE

Boulder Creek, CA
2020 - 2021



For the San Lorenzo Valley Water District, Sandis provided engineering services for the repair and replacement of 1,200 linear feet of surface mounted pipeline which was destroyed during the CZU fire of 2020. Sandis provided turn-key services to assess damage, plan, design, and manage the reconstruction. High angle topography, fire damaged trees, limited equipment access and critical District demand outlines the challenges of the project. Sandis provided rapid deployment of surveyors and engineers to develop a plan, work with a contractor to refine, and procure materials, as well as management of construction activities. Additional scope included large tree removal, agency permitting, electric and telecom system replacement and erosion controls to protect the work zone during the fast approaching winter season.

Owner San Lorenzo Valley Water District
Contact Rick Rogers, rrogers@slvwd.com, 831.338.2153
Project Size 1,200 Linear Feet of Surface Mounted Pipeline
Design Budget N/A - Emergency Repairs
Total Value of Completed Design N/A - Emergency Repairs
Budgeted Project Design Schedule N/A
Total Time to Design Completion 3 Months
Estimated Contract Costs \$400,000
Actual Contract Costs \$400,000

SAN LORENZO VALLEY WATER DISTRICT FOREMAN INTAKE TO WTP PIPELINE

Boulder Creek, CA
2020 - 2021



Sandis provided engineering services for the San Lorenzo Valley Water District for 3,500 linear feet of pipeline to replace a surface mounted pipeline that was destroyed during the CZU fire of 2020. Sandis performed rapid evaluation and assessment of damage, planning and design of replacement, inclusion of pipeline hardening/protections and alignment revision to provide pipeline accessibility. The new 12-inch and 8-inch lines were designed and installed in rapid fashion to meet the District demands (Pipeline feed raw water to WTP) immediately and long term. Sandis services include survey, engineering and construction management within days of the fire to assist the District with complete turn-key services to replace the pipeline. Additional scope included large tree removal and erosion controls to protect the work zone during the fast approaching winter season.

Owner San Lorenzo Valley Water District
Contact Rick Rogers, rrogers@slvwd.com, 831.338.2153
Project Size 3,500 Linear Feet of Pipeline
Design Budget N/A - Emergency Repairs
Total Value of Completed Design N/A - Emergency Repairs
Budgeted Project Design Schedule N/A
Total Time to Design Completion 3 Months
Estimated Contract Costs \$400,000
Actual Contract Costs \$400,000

LOCAL EXPERTISE

Since 2020, Sandis has performed engineering and surveying services for the San Lorenzo Valley Water District. Our recent work in the area, including engineering and surveying services for:

- Rapid Fire Damage System Assessment of all damaged District infrastructure
- Big Steel and Lyon Tank Interconnect Pipeline
- Foreman Intake and Utility Corridor to Water Treatment Plant
- Alta Via Water Pipeline
- Lyon Tank Recoating Project
- Erosion Control Plans for Raw Water Intakes
- Erosion Control Plans for the Water Treatment Plant
- Erosion Control Plans for the Foreman Utility Corridor

Sandis has an intimate knowledge of the District’s raw water system. As part of Sandis’ Rapid Fire Damage Assessment, we performed calculations on the raw water intake system. These calculations were used to determine the amount of expected flow to the various intakes during a 10 year rain event. Sandis’ study helped determine which intakes to bring online first. Ultimately, in collaboration with the District, we determined to bring the Foreman intake online first.

Both Chad, Nate, and our entire project team have studied the project site and understand the opportunities and constraints of the project to the extent that we know we can confidently work with and provide the District with a high-quality and reliable Study. From our experience providing emergency response engineering services, we gained a world of insight and knowledge about the pipeline system, structures, rugged terrain, and topography. Not only are we familiar with the project but we also know and understand the operations and processes of the District, the County, and other agencies we have worked with in the past. Our local expertise will lend continuity to the project in dedicated staff and their knowledge, efficiencies for the project, creating an overall benefit to the District.

In addition to Sandis’ experience, both **Haro, Kasunich and Associates** and **Rincon Consulting** have decades of local and District experience. Two of Rincon’s expansive local project examples include:

Water Systems Consulting, Inc. Swim Tank Project and Five Water Pipeline Project	TY Lin – Storm Damage Repair Projects – Biological Studies and Regulatory Permitting
<p>The San Lorenzo Valley Water District required environmental review assistance for projects designed to remedy safety concerns, operational problems, and water losses. The Swim Tank Project and Five Water Pipelines Project were intended to replace and improve existing water infrastructure. The Swim Tank Project consisted of the replacement of two existing 20,000-gallon redwood storage tanks with one 62,000-gallon bolted steel storage tank, as well as installation of a new pump station, pipelines, and motor control center to service the new tank. The Five Water Pipelines Project involved trenching and replacing water pipeline in five high-priority areas in the District distribution system. As a sub consultant to Water Systems Consulting, Inc., Rincon was responsible for preparing environmental documentation to satisfy NEPA and CEQA requirements, including NEPA Environmental Reports for Categorical Exclusion and a CEQA-Plus IS-MND. In support of the NEPA and CEQA documents, Rincon conducted a site visit and prepared stand-alone technical reports for air quality, biological resources, and cultural resources. Amanda Antonelli was the Project Manager for this scope of work.</p>	<p>Rincon is providing environmental support for a suite of storm damage repair projects that spans 15 sites in the Santa Cruz Mountains in Santa Cruz County. Rincon’s scope of work includes site-by-site analysis of potential impacts to sensitive biological resources and jurisdictional waters at 15 damage sites, the preparation of California Department of Transportation (Caltrans) Natural Environment Study and Jurisdictional Delineation reports, as well as Biological Assessment (BA) reports that support Section 7 consultations between USACE and USFWS/National Marine Fisheries Service (NMFS). Rincon works closely with T.Y. Lin engineers and project managers, the County of Santa Cruz, and Caltrans to compile pertinent information and coordinate the preparation of the Caltrans PES forms to meet Caltrans expectations. The Natural Environment Study and BA documents will support CEQA and National Environmental Policy Act (NEPA) environmental reviews for biological resources including potential impacts to California red-legged frog, steelhead, and coho salmon. Rincon is also leading the permitting process for impacts to waters of the U.S. and waters of the state. Colby J. Boggs and Samantha Kehr serve as the Principal-in-Charge and Project Manager, respectively, andCarolynn Daman serves as the regulatory permitting lead for this project.</p>

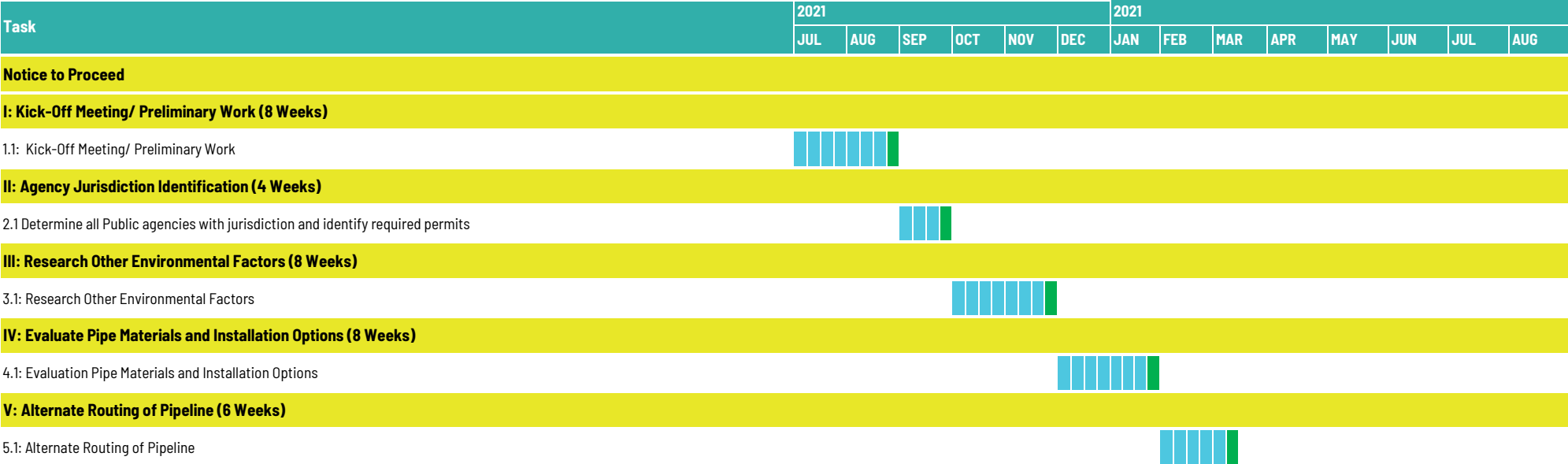
CREATIVE ALTERNATIVES

As we progress through projects and continue to learn and improve solutions, we foresee opportunities to **work with pipe manufacturers to develop a fire resistant gasket for DIP fittings, valves, and pipes** for the Cross Country Pipeline Constructability Study. Additionally, we would also **work with pipe manufacturers to develop a fire resistant wrapping for HDPE pipes**.

We believe these creative alternatives will contribute to long-term solutions and the preservation of the District's pipeline system should another fire disaster occur.

PROJECT SCHEDULE

San Lorenzo Valley Water District
 Cross Country Pipeline Constructability Study



LEGEND

- █ Task in progress
- X Project Meeting(s)
- █ Milestone / Deliverable
- █ District Review Period

PROFESSIONAL FEE SCHEDULE

TASK	Principal Geotechnical Engineer (Moses Cuprill / John Kasunich) / Staff Geotechnical Engineer (Andrew Kasunich) / Engineering Geologist (Tim Best) / Geotechnical Expenses / Principal (Rincon) / Senior Supervisor II (Rincon) / Senior Professional II (Rincon) / Professional IV (Rincon) / Professional III (Rincon) / Professional II (Rincon) / Production Specialist II (Rincon) / Technical Editor (Rincon) / GIS/CADD Specialist II (Rincon)																Task Hours	Total Task Fee	
	Director Engineering/PIC Chad Browning, PE	Sr. Project Manager Nate Dickinson, PE	Project Engineer Nebiyu Taddesse	Design Engineer Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff	Office Staff			
2021 Hourly Rate*	\$235	\$235	\$175	\$125	\$205	\$140	\$195	\$1,000	\$227	\$211	\$180	\$149	\$134	\$118	\$91	\$115	\$129		
Task 1: Kick-Off Meeting/Preliminary Work	14	38	66	60	41	78	74	0	0	0	0	0	0	0	0	0	0	371	\$65,025
1.1 Review the previously existing pipeline alignment, raw water intake locations, and watershed geography.	8	32	60	60	37	74	70											341	\$58,995
1.2 Kick-off meeting with SLVWD to ensure clarity of intent; establish coordination expectations; and determine schedules.	6	6	6		4	4	4											30	\$6,030
Task 2: Agency Jurisdiction Identification	2	8	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	\$5,150
2.1 Determine all Public agencies with jurisdiction	2	4	12															18	\$3,510
2.2 For each agency, identify required permits and determine required effort for each permit		4	4															8	\$1,640
Task 3: Research Other Environmental Factors	12	68	76	72	51	140	183	1	12	12	36	40	8	24	4	1	12	752	\$131,467
3.1 Evaluate possible/required watershed protection measures for each type of construction	4	12	40	40														96	\$15,760
3.2 Identify any geological and/or climatological considerations, to include depth to bedrock, soil types, impact of sideslopes, impact of the CZU fires on the area, and elevated debris flow or flood risk	4	40	10		51	140	183	1										429	\$78,830
3.3 Evaluate biological resources within the work area which may require protection during or after construction		8							12	12	36	40	8	24	4	1	12	157	\$25,507
3.4 Evaluate likely scope and frequency of future catastrophic natural events in the project area. These events could include but not be limited to fires, seismic activity, flooding, and mud/debris flow.	4	8	26	32														70	\$11,370
Task 4: Evaluate Pipe Material and Installation Options	24	76	194	226	0	0	0	0	0	0	0	0	0	0	0	0	0	520	\$85,700
4.1 Provide an evaluation of the advantages and disadvantages of each of the following scenarios:																		0	\$0
a. Replacement in kind of HDPE pipeline, placed at grade or on stations;	2	12	16	16														46	\$8,090
b. Installation at grade or on stations of alternate pipe materials, to include ductile iron pipe (DIP), welded steel pipe, and any other material that the Consultant believes to be suitable;	4	12	40	40														96	\$15,760
c. Fire-hardening measures for any pipe material installed at grade or on stanchions;	2	6	32	24														64	\$10,480
d. Hardening of proposed pipe installation against other natural disasters; and	2	6	8	8														24	\$4,280
e. Installation below grade of HDPE pipe. This option must include evaluation of required depth of bury, shelf widening and restoration. Final condition of this option should include the provision of access suitable for ATV or Mule type vehicles for operations and maintenance of the pipeline and associated fittings/valves/appurtenances.	4	12	40	40														96	\$15,760
4.2 The Consultant shall address each of the following factors in their evaluation of item 4.1, above:																		0	\$0
a. Access issues/moving materials. Existing access to the pipeline is limited to the existing 2-foot wide shelf cut into the hill;	2	4	8	12														26	\$4,310
b. Assembly challenges related to weight and awkwardness of materials/fittings/equipment;	1	4	8	12														25	\$4,075
c. Grading needs, to include but not be limited to equipment types, extent of grading, and permitting for necessary grading;	1	4	12	12														29	\$4,775
d. Costs and effects of full or partial site restoration subsequent to pipe installation;	2	6	12	32														52	\$7,980
e. Approximate construction costs and time requirements; and	2	6	12	24														44	\$6,980
f. Safety concerns for crews working in the rugged environment.	2	4	6	6														18	\$3,210
Task 5: Alternate Routing of Pipeline	10	32	48	108	0	0	0	0	0	0	0	0	0	0	0	0	0	198	\$31,770
5.1 The Consultant should evaluate alternate routes which meet the following requirements:																		0	\$0
a. All pipes, fittings, and appurtenances must be located within District-owned property or existing recorded easements;	2	4	8	8														22	\$3,810
b. All construction must be located within District-owned property or existing recorded easements. No new easements are acceptable;	2	4	4	4														14	\$2,610
c. Pipe axial slope shall be 2% minimum, 3% maximum;	2	8	12	32														54	\$8,450
d. Sweetwater pipeline shall include the four existing intakes at Sweetwater Creek (one) and Clear Creek (three); and	2	8	12	32														54	\$8,450
e. Peavine pipeline shall include the three existing intakes at Peavine Creek, Silver Creek, and Foreman Creek (one each).	2	8	12	32														54	\$8,450
Staff Hours	62	222	400	466	92	218	257	1	12	12	36	40	8	24	4	1	12	1867	\$319,112
Project Total	\$14,570	\$52,170	\$70,000	\$58,250	\$18,860	\$30,520	\$50,115	\$1,000	\$2,724	\$2,532	\$6,480	\$5,960	\$1,072	\$2,832	\$364	\$115	\$1,548		\$319,112

GENERAL NOTES:
 * Hours and staff assignments can be adjusted by the consultant as needed to implement the tasks described during the course of the project.
 * Hourly rates are for the initial contract term and will be adjusted if work is continued into contract amendment(s).

EXCEPTIONS TO RFP

Sandis has carefully read through the District's RFP and does not wish to make any exceptions or modifications to the RFP.

Rincon certifies herein that they fully read the RFP and do not take exception to any portion of the RFP.

SCOPE OF SERVICES

TASK 1: GENERAL REQUIREMENTS

- 1.1 The Consultant should be prepared to present their findings to the Board of Directors, and at up to two public meetings. Each presentation shall include:
- a. A 20-minute presentation by the Consultant providing an overview of their findings
 - b. Up to 40-minutes per meeting for questions and answers from the Board and/or the Public

TASK 2: KICK-OFF MEETING/ PRELIMINARY WORK

- 2.1 Review the previously existing pipeline alignment, raw water intake locations, and watershed geography.
- 2.2 Kick-off meeting with SLVWD to ensure clarity of intent; establish coordination expectations; and determine schedules.

TASK 3: AGENCY JURISDICTION IDENTIFICATION

- 3.1 Determine all Public agencies with jurisdiction.
- 3.2 For each agency, identify required permits and determine required effort for each permit.
- 3.3 Evaluate possible exemption from requirements of Agencies identified in 2.1, above, if work is limited to replacement in kind of the previously existing pipeline.

TASK 4: RESEARCH OTHER ENVIRONMENTAL FACTORS

- 4.1 Evaluate possible/required watershed protection measures for each type of construction
- 4.2 Identify any geological and/or climatological considerations, to include depth to bedrock, soil types, impact of sideslopes, impact of the CZU fires on the area, and elevated debris flow or flood risk;
- 4.3 Evaluate biological resources within the work area which may require protection during or after construction
- 4.4 Evaluate likely scope and frequency of future catastrophic natural events in the project area. These events could include but not be limited to fires, seismic activity, flooding, and mud/debris flow. For each risk, delineate both the criteria used to evaluate the risk and the resulting likely damage to the proposed pipeline for each type of material and construction strategy
- 4.5 Evaluate the operational impact on the District's ability to provide water to SLVWD customers, including but not limited to: water supply failure/limitation, water quality issues, reduced access to facilities, increased employee work load, increased risk to employees during/following each catastrophic natural event.

TASK 5: EVALUATE PIPE MATERIAL AND INSTALLATION OPTIONS

The destruction during the CZU fire of the District's at-grade HDPE pipelines shows the vulnerability of such installations. Destruction of HDPE pipelines in the CZU fire resulted in both loss of water conveyance and secondary damage to other facilities. The District was forced to sandblast and recoat a welded steel storage tank when smoke from the burning HDPE overflow pipe was drawn back into the tank by low pressure developed when the tank rapidly emptied through the destroyed outlet pipe and deposited volatile oxidizing compounds (VOCs) in unsafe concentrations on interior surfaces; the VOCs then bonded to the tank's internal coating and could not be removed by normal methods.

As a result, the District desires to construct a more fire resistant raw water supply facility. Additional data regarding other natural disasters and their effects on the proposed pipeline replacement shall be included in this Study.

5.1 Provide an evaluation of the advantages and disadvantages of each of the following scenarios. Materials used should be evaluated for secondary damage vectors such as VOCs emitted by the material when exposed to fire; and the effectiveness of material restoration techniques, such as pressure washing, after a fire. Scenarios to be evaluated include:

- a. Replacement in kind of HDPE pipeline, placed at grade or on stanchions
- b. Installation at grade or on stations of alternate pipe materials, to include ductile iron pipe (DIP), welded steel pipe, and any other material that the Consultant believes to be suitable
- c. Fire-hardening measures for any pipe material installed at grade or on stanchions
- d. Hardening of proposed pipe installation against other natural disasters
- e. Installation below grade of HDPE pipe. This option must include evaluation of required depth of bury, shelf widening and restoration. Final condition of this option should include the provision of access suitable for ATV or Mule type vehicles for operations and maintenance of the pipeline and associated fittings/valves/appurtenances.

5.2 The Consultant shall address each of the following factors in their evaluation of item 5.1, above:

- a. Access issues/moving materials. Existing access to the pipeline is limited to the existing 2-foot wide shelf cut into the hill
- b. Assembly challenges related to weight and awkwardness of materials/fittings/equipment
- c. Grading needs, to include but not be limited to equipment types, extent of grading, and permitting for necessary grading
- d. Costs and effects of full or partial site restoration subsequent to pipe installation
- e. Approximate construction costs and time requirements
- f. Safety concerns for crews working in the rugged environment

TASK 6: ALTERNATE ROUTING OF PIPELINE

The existing pipeline route was determined based on maintaining a pipeline axial slope of approximately 1% and providing collection of surface water from eight separate intakes. Since that time, the Malosky intake has been abandoned and will not be returned to service. SLVWD is considering increasing the axial slope from 1% to as high as 5%, allowing for shorter pipelines and increasing velocity within the pipeline to promote self-cleaning of minor debris that may enter the pipeline. The Consultant should evaluate alternate routes which meet the following requirements:

- a. All pipes, fittings, and appurtenances must be located within District-owned property or existing recorded easements
- b. All construction must be located within District-owned property or existing recorded easements. No new easements are acceptable
- c. Increased pipe axial slope shall be 2% minimum, 5% maximum
- d. Sweetwater pipeline shall include the four existing intakes at Sweetwater Creek (one) and Clear Creek (three)
- e. Peavine pipeline shall include the three existing intakes at Peavine Creek, Silver Creek, and Foreman Creek (one each)

TASK 7: POSSIBLE HYDRO-POWER GENERATION

The Consultant shall evaluate the feasibility of utilizing the change in elevation along the proposed pipelines to generate hydro-electric power. This evaluation shall include:

- a. Types of hydro-electric installations possible given the terrain, pipe size, friction losses, and total head
- b. Advantages and disadvantages of each type of installation
- c. Quantification of possible power generation
- d. Costs associated with installation and maintenance of each type of installation
- e. Recommendation as to feasibility and advantages/disadvantages of installing hydro-electric generation equipment



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
3/26/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Dealey, Renton & Associates P. O. Box 12675 Oakland, CA 94604-2675 License #0020739	CONTACT NAME: PHONE (A/C, No, Ext): 510-465-3090 FAX (A/C, No): 510-452-2193 E-MAIL ADDRESS: Certificates@Dealeyrenton.com													
	<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : Continental Insurance Company</td> <td>35289</td> </tr> <tr> <td>INSURER B : American Casualty Company of Reading PA</td> <td>20427</td> </tr> <tr> <td>INSURER C : Travelers Casualty and Surety Co of America</td> <td>31194</td> </tr> <tr> <td>INSURER D : Transportation Insurance Company</td> <td>20494</td> </tr> <tr> <td>INSURER E :</td> <td></td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </tbody> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : Continental Insurance Company	35289	INSURER B : American Casualty Company of Reading PA	20427	INSURER C : Travelers Casualty and Surety Co of America	31194	INSURER D : Transportation Insurance Company	20494	INSURER E :		INSURER F :
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INSURED Sandis Civil Engineers Surveyors Planners 3007 Douglas Blvd, Suite 105 Roseville CA 95661	SANDICIVI													

COVERAGES CERTIFICATE NUMBER: 1303851348 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Contractual Liab <input checked="" type="checkbox"/> XCU Included GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	Y	Y	6075819456	3/3/2021	3/3/2022	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 OTHER: \$
D	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	6075819473	3/3/2021	3/3/2022	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ OTHER: \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			6075819439	3/3/2021	3/3/2022	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 OTHER: \$
D B	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N Y	N/A	6075819425 6075819411	3/3/2021 3/3/2021	3/3/2022 3/3/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	Professional Liability			107211098	3/3/2021	3/3/2022	Per Claim \$5,000,000 Annual Aggregate \$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 Umbrella Liability policy is a follow-form to underlying General Liability/Auto Liability/Employers Liability.
 FOR PROPOSALS: An Actual Certificate will be issued upon the request of the Named Insured.

CERTIFICATE HOLDER **CANCELLATION 30 Day Notice of Cancellation**

For Proposal Purposes	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
-------------------------	---

PM FORM

MAIN RECORD

EQ#: CP-01377	EQ NAME: CATHODIC PROTECTION SYSTEM
JOB#:	EQ PARENT: FA-187
PM ACTIVE: Y	DEPARTMENT:
PRIORITY:	LOCATION: QUAIL TANK 2
PM ORDER:	ADDRESS:
PM RESCHEDULE TYPE: Fixed - Every Time	ACCOUNT:
GROUP:	SHIFT: 0

REMARK: Reads found within normal parameters.

By Frequency: Y 60 Day(s)
 By Day of the Week: N
 Daily: N

LEAD TIME: 5
 PM LAST DONE: 06/03/2021

FREQ. METER 1: 0	FREQ. METER 2: 0
NEXT DUE: 0	NEXT DUE 2: 0
ADVANCE: 0	ADVANCE 2: 0
LAST METER 1: 0.00	LAST METER 2: 0.00
METER UNITS:	METER 2 UNITS:

WORK ORDER ACTIVE FOR THIS JOB:

DESCRIPTION:

Check reads to confirm they are within parameters. Perform visual check of components.

LABOR

<u>CLOCK</u>	<u>CRAFT</u>	<u>EST. HOURS</u>	<u>REG.HOURS</u>	<u>ACCOUNT</u>
219	OPS	1.50	0.00	
REMARK:				

PROCEDURES

<u>CODE</u>	<u>NAME</u>
CATH	CATHODIC PROTECTION FOR STEEL TANKS

PM NEXT DUE

07/11/2021
 09/09/2021
 11/08/2021
 01/07/2022
 03/08/2022
 05/07/2022
 07/06/2022

PM LAST DONE

<u>DATE REQ.</u>	<u>DATE COMPLETED</u>	<u>WO#</u>	<u>WHO</u>
05/12/2021	06/03/2021	21052000001	219
03/13/2021	03/19/2021	21031100002	219
05/17/2020	05/17/2021	21031100001	219
01/18/2020	01/31/2020	20012700001	219

PM FORM

03/18/2020	04/08/2020	20040800001	219
09/20/2019	12/12/2019	19092500001	219
11/19/2019	11/21/2019	19112100001	219
07/22/2019	07/23/2019	19072200001	219
05/30/2019	05/29/2019	19052000001	219
03/24/2019	03/22/2019	19032200001	219
01/23/2019	01/18/2019	19011800001	219
11/24/2018	11/26/2018	18112600001	219
09/25/2018	09/21/2018	18092100001	219
03/29/2018	05/02/2018	18033000001	219
01/28/2018	02/05/2018	18012300001	219
09/30/2017	09/29/2017	17092700001	219
08/01/2017	09/01/2017	17073100002	219
11/29/2017	11/28/2017	17112700001	219

PM FORM

MAIN RECORD

EQ#: EQ-02042

EQ NAME: GAS DETECTOR (SNIFFER) - MSA ALTAIR
4XR

JOB#:

EQ PARENT: FA-188

PM ACTIVE: Y

DEPARTMENT:

PRIORITY:

LOCATION: OPERATIONS

PM ORDER:

ADDRESS:

PM RESCHEDULE TYPE: Fixed - Every Time

ACCOUNT:

GROUP:

SHIFT: 0

REMARK: BUMP TEST

By Frequency: N

By Day of the Week: Y Every Monday

Daily: N

LEAD TIME: 0

PM LAST DONE: 11/21/2019

FREQ. METER 1: 0

FREQ. METER 2: 0

NEXT DUE: 0

NEXT DUE 2: 0

ADVANCE: 0

ADVANCE 2: 0

LAST METER 1: 0.00

LAST METER 2: 0.00

METER UNITS:

METER 2 UNITS:

WORK ORDER ACTIVE FOR THIS JOB:

DESCRIPTION:

Bump Test and Calibrate Gas detector

LABOR

<u>CLOCK</u>	<u>CRAFT</u>	<u>EST. HOURS</u>	<u>REG.HOURS</u>	<u>ACCOUNT</u>
219	OPS	0.00	0.00	

REMARK:

PM NEXT DUE

- 11/25/2019
- 12/02/2019
- 12/09/2019
- 12/16/2019
- 12/23/2019
- 12/30/2019
- 01/06/2020
- 01/13/2020
- 01/20/2020
- 01/27/2020
- 02/03/2020
- 02/10/2020
- 02/17/2020
- 02/24/2020
- 03/02/2020
- 03/09/2020
- 03/16/2020
- 03/23/2020

PM FORM

03/30/2020
04/06/2020
04/13/2020
04/20/2020
04/27/2020
05/04/2020
05/11/2020
05/18/2020
05/25/2020
06/01/2020
06/08/2020
06/15/2020
06/22/2020
06/29/2020
07/06/2020
07/13/2020
07/20/2020
07/27/2020
08/03/2020
08/10/2020
08/17/2020
08/24/2020
08/31/2020
09/07/2020
09/14/2020
09/21/2020
09/28/2020
10/05/2020
10/12/2020
10/19/2020
10/26/2020
11/02/2020
11/09/2020
11/16/2020
11/23/2020

PM LAST DONE

<u>DATE REQ.</u>	<u>DATE COMPLETED</u>	<u>WO#</u>	<u>WHO</u>
11/11/2019	11/21/2019	19112100002	219
09/09/2019	09/25/2019	19092500002	219
08/26/2019	08/26/2019	19082600001	219
08/19/2019	08/19/2019	19081900002	219
08/12/2019	08/15/2019	19081500001	219
07/22/2019	08/06/2019	19080600001	219
09/02/2019	09/04/2019	19090400002	219

PM FORM

MAIN RECORD

EQ#: FA-142	EQ NAME: OLYMPIA WATERSHED
JOB#:	EQ PARENT: FA-144
PM ACTIVE: Y	DEPARTMENT: 05
PRIORITY:	LOCATION: EAST ZYANTE RD.
PM ORDER:	ADDRESS:
PM RESCHEDULE TYPE: Fixed - Every Time	ACCOUNT:
GROUP:	SHIFT: 0

REMARK:

By Frequency: Y 30 Day(s)
 By Day of the Week: N
 Daily: N

LEAD TIME: 0
 PM LAST DONE: 03/22/2019

FREQ. METER 1: 0	FREQ. METER 2: 0
NEXT DUE: 0	NEXT DUE 2: 0
ADVANCE: 0	ADVANCE 2: 0
LAST METER 1: 0.00	LAST METER 2: 0.00
METER UNITS:	METER 2 UNITS:

WORK ORDER ACTIVE FOR THIS JOB: 19110500002

DESCRIPTION:

Empty trash cans at watershed. Trash to be dumped in dumpster behind admin building.

LABOR

<u>CLOCK</u>	<u>CRAFT</u>	<u>EST. HOURS</u>	<u>REG. HOURS</u>	<u>ACCOUNT</u>
219	FS	1.00	0.00	

REMARK:

CHECKLIST

<u>TYPE</u>	<u>REMARK</u>
	Empty pet waste cans
	Replace with thick black garbage bags
	Replace small pet waste bags
	Dump all trash in dumpster behind admin building
	Do not dump in Oly yard dumpster

PM NEXT DUE

11/10/2019
 12/10/2019
 01/09/2020
 02/08/2020
 03/09/2020
 04/08/2020
 05/08/2020
 06/07/2020
 07/07/2020
 08/06/2020

PM FORM

09/05/2020
10/05/2020
11/04/2020
12/04/2020

PM LAST DONE

<u>DATE REQ.</u>	<u>DATE COMPLETED</u>	<u>WO#</u>	<u>WHO</u>
03/20/2018	03/22/2019	18032100001	219
09/11/2019	09/27/2019	19092500003	219
08/12/2019	09/25/2019	19081500002	219
07/23/2017	08/24/2017	17082200001	219
06/13/2019	06/25/2019	19061700001	219
02/13/2019	02/20/2019	19021400001	219
01/14/2019	01/23/2019	19011400001	219
12/15/2018	12/17/2018	18121700001	219
11/15/2018	11/16/2018	18111500001	219
10/16/2018	10/19/2018	18101800001	219
09/16/2018	09/24/2018	18091800001	219
08/17/2018	08/20/2018	18081700001	219
07/18/2018	07/23/2018	18071800001	219
06/18/2018	06/28/2018	18061800001	219
05/19/2018	06/13/2018	18061200002	219
02/18/2018	03/01/2018	18022600002	219
12/20/2017	12/22/2017	17122100001	219
11/20/2017	11/22/2017	17112000001	219
10/21/2017	10/23/2017	17102300001	219
05/24/2017	05/26/2017	17052600001	219
04/24/2017	05/08/2017	17050800002	219

PM FORM

MAIN RECORD

EQ#: FA-165

JOB#:

PM ACTIVE: Y

PRIORITY:

PM ORDER:

PM RESCHEDULE TYPE: Fixed - Every Time

GROUP:

EQ NAME: OLYMPIA WELL 3

EQ PARENT: FA-165

DEPARTMENT: 08 SUPPL

LOCATION:

ADDRESS:

ACCOUNT:

SHIFT: 0

REMARK: Weed whip and clean entire facility inside and out

By Frequency: Y 6 Month(s)

By Day of the Week: N

Daily: N

LEAD TIME: 0

PM LAST DONE: 04/01/2019

FREQ. METER 1: 0

NEXT DUE: 0

ADVANCE: 0

LAST METER 1: 0.00

METER UNITS:

FREQ. METER 2: 0

NEXT DUE 2: 0

ADVANCE 2: 0

LAST METER 2: 0.00

METER 2 UNITS:

WORK ORDER ACTIVE FOR THIS JOB: 19110700001

PM NEXT DUE

03/31/2020

09/30/2020

03/31/2021

PM LAST DONE

<u>DATE REQ.</u>	<u>DATE COMPLETED</u>	<u>WO#</u>	<u>WHO</u>
03/31/2019	04/01/2019	19040100002	219
09/30/2018	10/15/2018	18101200001	219
09/30/2017	06/18/2018	17100500001	209
03/31/2017	03/27/2017	17033100001	219

PM FORM

MAIN RECORD

EQ#: FA-237

JOB#:

PM ACTIVE: Y

PRIORITY:

PM ORDER:

PM RESCHEDULE TYPE: Fixed - Every Time

GROUP:

EQ NAME: I.T. 6 PUMPING STATION

EQ PARENT:

DEPARTMENT: 04

LOCATION: TURN OUT HWY 9 FELTON

ADDRESS: 7400 Hwy 9 Felton

ACCOUNT:

SHIFT: 0

REMARK:

By Frequency: Y 1 Month(s)

By Day of the Week: N

Daily: N

LEAD TIME: 0

PM LAST DONE: 03/05/2019

FREQ. METER 1: 0

NEXT DUE: 0

ADVANCE: 0

LAST METER 1: 0.00

METER UNITS:

FREQ. METER 2: 0

NEXT DUE 2: 0

ADVANCE 2: 0

LAST METER 2: 0.00

METER 2 UNITS:

WORK ORDER ACTIVE FOR THIS JOB: 19110700002

DESCRIPTION:

Flush lines into plant to maintain system residual on dead end mains.

PER 149

LABOR

<u>CLOCK</u>	<u>CRAFT</u>	<u>EST. HOURS</u>	<u>REG. HOURS</u>	<u>ACCOUNT</u>
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149	WQ	1.00	0.00	
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REMARK:

PM NEXT DUE

12/06/2019

01/06/2020

02/06/2020

03/06/2020

04/06/2020

05/06/2020

06/06/2020

07/06/2020

08/06/2020

09/06/2020

10/06/2020

11/06/2020

12/06/2020

PM LAST DONE

<u>DATE REQ.</u>	<u>DATE COMPLETED</u>	<u>WO#</u>	<u>WHO</u>
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03/06/2019	03/05/2019	19030600001	149
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03/06/2018	11/07/2018	18030600001	149
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PM FORM

07/04/2018	07/03/2018	18061200003	149
04/20/2018	04/19/2018	18041600005	149
02/06/2018	02/08/2018	18020600001	149
12/06/2017	12/06/2017	17120600001	149
01/06/2018	01/08/2018	18010800001	149
10/11/2017	10/19/2017	17101100001	149
06/28/2017	06/29/2017	17062800002	149
07/05/2017	07/07/2017	17070700001	149
07/12/2017	07/18/2017	17071800001	149
08/23/2017	08/24/2017	17082400001	149
07/26/2017	08/22/2017	17082200002	149
07/19/2017	07/21/2017	17072100001	149

PM FORM

MAIN RECORD

EQ#: EQ-01933

JOB#:

PM ACTIVE: Y

PRIORITY:

PM ORDER:

PM RESCHEDULE TYPE: Floating

GROUP:

EQ NAME: HIGH SERVICE PUMP # 2

EQ PARENT: FA-244

DEPARTMENT: 08

LOCATION: KIRBY WTP

ADDRESS:

ACCOUNT:

SHIFT: 0

REMARK:

By Frequency: Y 90 Day(s)

By Day of the Week: N

Daily: N

LEAD TIME: 5

PM LAST DONE: 10/04/2019

FREQ. METER 1: 0

NEXT DUE: 0

ADVANCE: 0

LAST METER 1: 0.00

METER UNITS:

FREQ. METER 2: 0

NEXT DUE 2: 0

ADVANCE 2: 0

LAST METER 2: 0.00

METER 2 UNITS:

WORK ORDER ACTIVE FOR THIS JOB:

DESCRIPTION:

Check oil level in pump and drain plug for leaks.

PM NEXT DUE

01/02/2020

04/01/2020

06/30/2020

09/28/2020

12/27/2020

PM LAST DONE

DATE REQ.

01/08/2018

09/06/2017

DATE COMPLETED

10/04/2019

10/10/2017

WO#

19080900001

17090800001

WHO

219

215

EQUIPMENT FILE - MAIN RECORD

Equipment Number:	FA-210	Vendor Code:	
Name:	ECHO BOOSTER	Vendor Name:	
Equipment Parent:	FA-210	Contact Person:	
Department:	04 OPS	Phone:	
Location:	HWY 9	Mfr:	
Address:		Model/Type:	
Account#:		Serial No:	
Asset Number:		Mfr Contact:	
System:		Mfr Phone:	
Asset?			
Cost:	\$0.00	GPS Latitude:	
Cost Year to Date:	\$0.00	GPS Longitude:	
Cost Life to Date:	\$0.00	Group:	
Avg Cost Per Year:	\$0.00	Tree Branch Only:	N
		PM Acitve Date:	00/00/0000
Size/Capacity:		PM Active:	Y
Rating:		Created:	00/00/0000
Weight:		Last Edited:	06/11/2021 11:55
Downtime Cost/Hr:	\$0.00	Last Edited By:	JAMESFURTA
EQ Class:		Purchase Date:	00/00/0000
EQ Sub Class:		Cost/Basis:	\$0.00
EQ Sub Sub Class:		Useful Life(Months):	0
Date Installed:	00/00/0000	Annual Deprecation:	\$0.00
Build Date:	00/00/0000	Salvage Value:	\$0.00
Warranty Date:	00/00/0000	Present Value:	\$0.00
Supervisor:		Image Folder:	

EQUIPMENT FILE - Meter Info

Avg Usage/Day Meter 1:	0.00	Avg Usage/Day Meter 2:	0.00
Usage Date Meter 1:	00/00/0000	Usage Date Meter 2:	00/00/0000
Previous Reading Meter 1:	0.00	Previous Reading Meter 2:	0.00
Meter 1 Reading:	0.00	Meter 2 Reading:	0.00
Meter 1 LTD Reading:	0.00	Meter 2 LTD Reading:	0.00
Meter 1 Units:		Meter 2 Units:	
Update Meter 1 From Master:	N	Update Meter 2 From Master:	N

EQUIPMENT FILE - Closed Work Orders

WO#/REMARK/ACTION	Work Cat.	Date Completed	WO Cost
20031800001 Clean, prime and paint rusting pipe fitting inside	CM	04/07/2020	\$0.00
20070600001 Determine and repair cause of low pressure at eyew Inspected and found debris cloggin	EM	07/09/2020	\$0.00
17060900003 Rebuild Cla-Vals when parts come in.	CM	08/24/2017	\$0.00
17062600003 rebuild damaged Cla-Val rebuilt Cla-Val internals and repla	EM	06/22/2017	\$0.00
17062100002 Echo booster failed to shut off Reported to supervisor	EM	06/03/2017	\$0.00
14030500003	SA	03/12/2014	\$0.00

COMPLETE PUMP STATION PUNCH LIST			
completed punch list			
13053000004	CM	05/30/2013	\$0.00
booster pump 2 leaking o ring			
Replaced leaking o ring on clay val			
12120700001	CM	12/07/2012	\$0.00
Echo booster #1 clay valve leaking out top stem			
Replaced O ring on stem			
12041200004	AM	04/17/2012	\$0.00

EQUIPMENT FILE - Spare Parts			
Part#	Quantity	Is Inv?	Name
	0	N	

EQUIPMENT FILE - Components	
Type	Value/Name
SUB	EQ-02246 CHLORINE PUMP
SUB	EQ-02397 MAG METER- MCCROMETER
SUB	EQ-00006 MAG METER

EQUIPMENT FILE - Statistics - MTBF						
All WO	Failure	PM	Other			
Range:	30	#Of:	0	0	0	0
Begin Date:	04/22/1882	Part Cost:	\$0.00	\$0.00	\$0.00	\$0.00
End Date:	00/00/0000	Labor Cost:	\$0.00	\$0.00	\$0.00	\$0.00
		Other Cost:	\$0.00	\$0.00	\$0.00	\$0.00
		Total Cost:	\$0.00	\$0.00	\$0.00	\$0.00
MTBF for Date:	0.00	MTBF for Meter 1	0.00	MTBF for Meter 2	0.00	
Range:	90	#Of:	0	0	0	0
Begin Date:	02/21/1882	Part Cost:	\$0.00	\$0.00	\$0.00	\$0.00
End Date:	00/00/0000	Labor Cost:	\$0.00	\$0.00	\$0.00	\$0.00
		Other Cost:	\$0.00	\$0.00	\$0.00	\$0.00
		Total Cost:	\$0.00	\$0.00	\$0.00	\$0.00
MTBF for Date:	0.00	MTBF for Meter 1	0.00	MTBF for Meter 2	0.00	
Range:	365	#Of:	0	0	0	0
Begin Date:	05/22/1881	Part Cost:	\$0.00	\$0.00	\$0.00	\$0.00
End Date:	00/00/0000	Labor Cost:	\$0.00	\$0.00	\$0.00	\$0.00
		Other Cost:	\$0.00	\$0.00	\$0.00	\$0.00
		Total Cost:	\$0.00	\$0.00	\$0.00	\$0.00
MTBF for Date:	0.00	MTBF for Meter 1	0.00	MTBF for Meter 2	0.00	

EQUIPMENT FILE - Depreciation/YTD Info				
Year	Depreciation	End Value	# of	Cost
07/01/2011	\$0.00	\$0.00	WOs: 1	\$0.00
			Req: 0	
			PMs: 0	\$0.00
			Failures: 0	\$0.00

			Other:	1	\$0.00
07/01/2012	\$0.00	\$0.00	WOs:	2	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	2	\$0.00
07/01/2013	\$0.00	\$0.00	WOs:	1	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	1	\$0.00
07/01/2016	\$0.00	\$0.00	WOs:	2	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	2	\$0.00
07/01/2017	\$0.00	\$0.00	WOs:	1	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	1	\$0.00
07/01/2018	\$0.00	\$0.00	WOs:	0	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	0	\$0.00
07/01/2019	\$0.00	\$0.00	WOs:	1	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	1	\$0.00
07/01/2020	\$0.00	\$0.00	WOs:	1	\$0.00
			Req:	0	
			PMS:	0	\$0.00
			Failures:	0	\$0.00
			Other:	1	\$0.00