REQUEST FOR PROPOSALS FOR

RECYCLED WATER FEASIBILITY STUDY

11/15/2024 | 2:00 PM

HOCH CONSULTING

November 15, 2024

Kevin McDannold, Engineering Technician
City of Fort Bragg
416 N Franklin Street
Fort Bragg, CA 95437

RE: RESPONSE TO REQUEST FOR PROPOSALS | RECYCLED WATER FEASIBILITY STUDY

Dear Kevin McDannold and Members of the Selection Committee:

Hoch Consulting (Hoch) is pleased to submit this proposal for engineering services to develop the City of Fort Bragg's Recycled Water Feasibility Study. With over a decade of dedication to various utilities and municipalities, we have consistently showcased our quality and commitment to our client's success. We combine our experience as well-rounded and nimble project managers with the technical expertise of our trusted colleagues to provide a best-in-class project team capable of organizing and analyzing myriads of data to make competent and trusted recommendations for critical local water projects. This phase of developing recycled water supplies for the City's needs to be cost-conscious and involves and environmental considerations in addition to technical considerations.

A PROVEN TEAM

Our approach is designed to provide a comprehensive roadmap for the City to achieve its supply goals. The Feasibility Study will also position the City to secure additional federal funding alongside the State Water Recycling Funding Program (WRFP), maximizing the value of its financial resources. Our team will be led by Cari Dale as Project Manager, bringing a wealth of experience and leadership in water resource projects. Aaron Gress will serve as Deputy Project Manager, leveraging his eleven years of experience managing water infrastructure projects. The team is further strengthened by additional members of the Hoch Consulting team, who bring significant expertise in water resources and extensive experience working with the Bureau of Reclamation and the State Water Resources Control Board. Our partners include **Trussell Technologies**, who has an unparalleled reputation for wastewater treatment and has been a leader in reuse projects in California, and **HELIX Environmental**, who has significant experience with environmental documentation and compliance with CEQA and NEPA regulations and environmental assessments. Together, we have the right management, experience, expertise, and relationships to efficiently and effectively plan for a project to ensure water reliability in the community.

TECHNICAL EXPERTISE

Hoch boasts a team of skilled engineers and professionals with specialized knowledge in water treatment, distribution, and infrastructure design, ensuring that the project's technical requirements are met with precision and efficiency.

Thank you for your careful review and consideration of our qualifications. Our entire team looks forward to this opportunity, and I am personally committed as your main point-of-contact. Should you need further information or clarification, please do not hesitate to reach out to me at 858.431.9767 or email at ahoch@hochconsulting.com.

Sincerely,

Adam Hoch, PE, QSP, QISP, NASSCO PACP, LACP, MACP
President

HOCH CONSULTING

We deliver more than just feasibility studies; we provide comprehensive blueprints for success.

Legal Name of Organization

Hoch Consulting, APC

Address

804 Pier View Way,
Suite 100,
Oceanside, CA 92054

Authorized Individual Submitting the Proposal

Adam Hoch,
President

804 Pier View Way,
Suite 100,
Oceanside, CA 92054

P: 858.431.9767

E: ahoch@
hochconsulting.com

Contact Person Regarding the Proposal

Cari Dale, Director of Water Resources

804 Pier View Way,
Suite 100,
Oceanside, CA 92054

P: 760.650.6613

E: cdale@
hochconsulting.com

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TAB A

Firm Description

TAB A

FIRM DESCRIPTION

Provide a description of your firm and list relevant information about capabilities, size, rate of services, and length of time in existence.

Hoch Consulting is committed to delivering high-value engineering, design, management, and funding services. With substantial experience in innovative water treatment solutions throughout California, we have earned a reputation for consistently exceeding client expectations, especially in executing challenging projects. Our approach centers on assembling teams of seasoned water treatment specialists with a unique blend of engineering, design, management, and construction expertise. This positions us perfectly to address the specific requirements outlined in developing a work plan for a comprehensive feasibility study.

OUR MISSION: **To provide high-value engineering, design, management, and funding solutions.**

Our dedicated team members excel in proactively identifying and resolving potential issues before they escalate. Hoch is not just a consulting firm; we are a partner dedicated to delivering value through a client-centric approach, innovative solutions, and a solid commitment to quality and community involvement. The City of Fort Bragg can count on us to provide exceptional engineering services, setting the stage for successful, cost-effective project.

Our guiding principles are to provide technical expertise, creativity, accountability, integrity, and efficiency in everything we do.

Our difference. Founded and led by former public utility managers, we operate with an owner's perspective in every project, ensuring we deliver results exceeding our client's expectations. Our reputation speaks to our role as a trusted teaming partner, and we are committed to providing exceptional service.

Quality. We deliver projects that not only meet but exceed client goals. Our proven track record on construction projects includes consistently achieving change order costs below industry averages through meticulous QA/QC reviews of plans and effective execution as construction managers.

Our approach. We prioritize our clients by actively listening and understanding their needs. This approach enables us to develop innovative solutions, proving us as a trusted partner.

Experience. As a small firm, we have proven ourselves by successfully completing impactful, community-shaping projects and programs throughout Southern California.

Our track record speaks for itself.

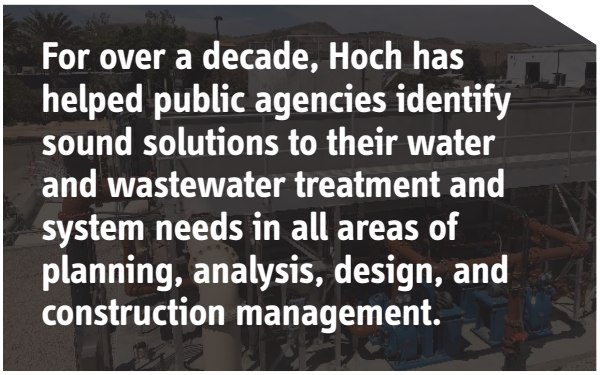
12
Years in Business

50+
Water Treatment Projects

22
Highly Qualified & Experienced Team Members

SBE
Small Business Enterprise Certified

#4
Best Places to Work
San Diego Business Journal



RATE OF SERVICES

Hoch is **committed to providing cost-effective** and **value-driven services tailored** to meet the unique needs of each project. We utilize **a transparent pricing structure designed to maximize efficiency while ensuring top-tier quality.** Our focus on delivering exceptional results at competitive rates has allowed us to consistently meet and exceed client expectations. For a detailed breakdown of our rates and costs, please refer to our comprehensive cost proposal included in this submission.

SERVICES

Water	Wastewater	Water Reuse	Stormwater

Hoch was founded with the mission of delivering high-value municipal services to public agencies, with a focus on water and wastewater systems. Staying true to this mission, 99% of our work is dedicated to public sector clients. We have supported public agencies throughout Southern California by identifying sound solutions for their water and wastewater needs through comprehensive planning, analysis, and system evaluations. Over the past 12 years, we have steadily expanded our capacity and capabilities, demonstrating a consistent commitment to serving our communities. Our team brings extensive expertise in all aspects of water reuse, treatment, wastewater collection, conveyance, and recycling. **Clients value our collaborative approach, ability to develop cost-effective strategies, and focus on long-term operational sustainability.**

FEASIBILITY STUDY EXPERIENCE

Hoch has worked throughout California to improve our clients' water reuse planning and project implementation for reuse projects, water treatment and for treatment plant systems. We have completed a variety of feasibility studies, plans, studies and water treatment plant-related designs in the past five years. Our team brings the experience and depth of technical knowledge of a large firm, and the responsiveness and personal commitment of a small firm, to meet your reuse project needs. Hoch has completed or participated in the completion of numerous water supply feasibility studies.

The Hoch, Trussell, and Helix team has worked together on a variety of projects and have experience developing all aspects of recycled water and reuse projects. The projects on the following pages are a small sample of successful water treatment projects our team has completed within the past five years. This volume of experience allows our team to make informed decisions quickly while avoiding typical pitfalls.

- Recycled Water & Advanced Water Treatment
- Hydraulic & Treatment Capacity Analysis
- Rehabilitation, Upgrade, & Expansion of Existing Facilities
- Analysis & Design for Disinfection Improvements
- Chemical Feed Systems
- Coagulation & Filtration Improvements
- Primary & Secondary WW Process Design
- UV Disinfection Design for Open Channel UV & Closed Reactor UV
- Tertiary Treatment Planning & Design

TAB B

Relevant Experience

RELEVANT EXPERIENCE

Describe relevant experience conducting feasibility studies for recycled water projects for other public agencies.

Recycled Water Feasibility Study

VALLEY SANITARY DISTRICT

The Valley Sanitary District Recycled Water Feasibility Study is a strategic initiative to explore the development of a sustainable recycled water project, designed to meet future water demands and enhance water reuse capabilities within the district. The study centers on evaluating the feasibility of constructing a one-million-gallon-per-day (MGD) tertiary treatment facility, with scalability options for future expansion. This proposed facility will utilize a portion of the secondary effluent from the Valley Sanitary District's existing wastewater reclamation operations.

Key objectives of the study include assessing various tertiary treatment technologies, addressing water quality considerations, and analyzing regulatory and environmental impacts. By examining treatment options and permitting requirements, the project aims to establish a solid foundation for responsible water reuse and resilience against future water shortages.

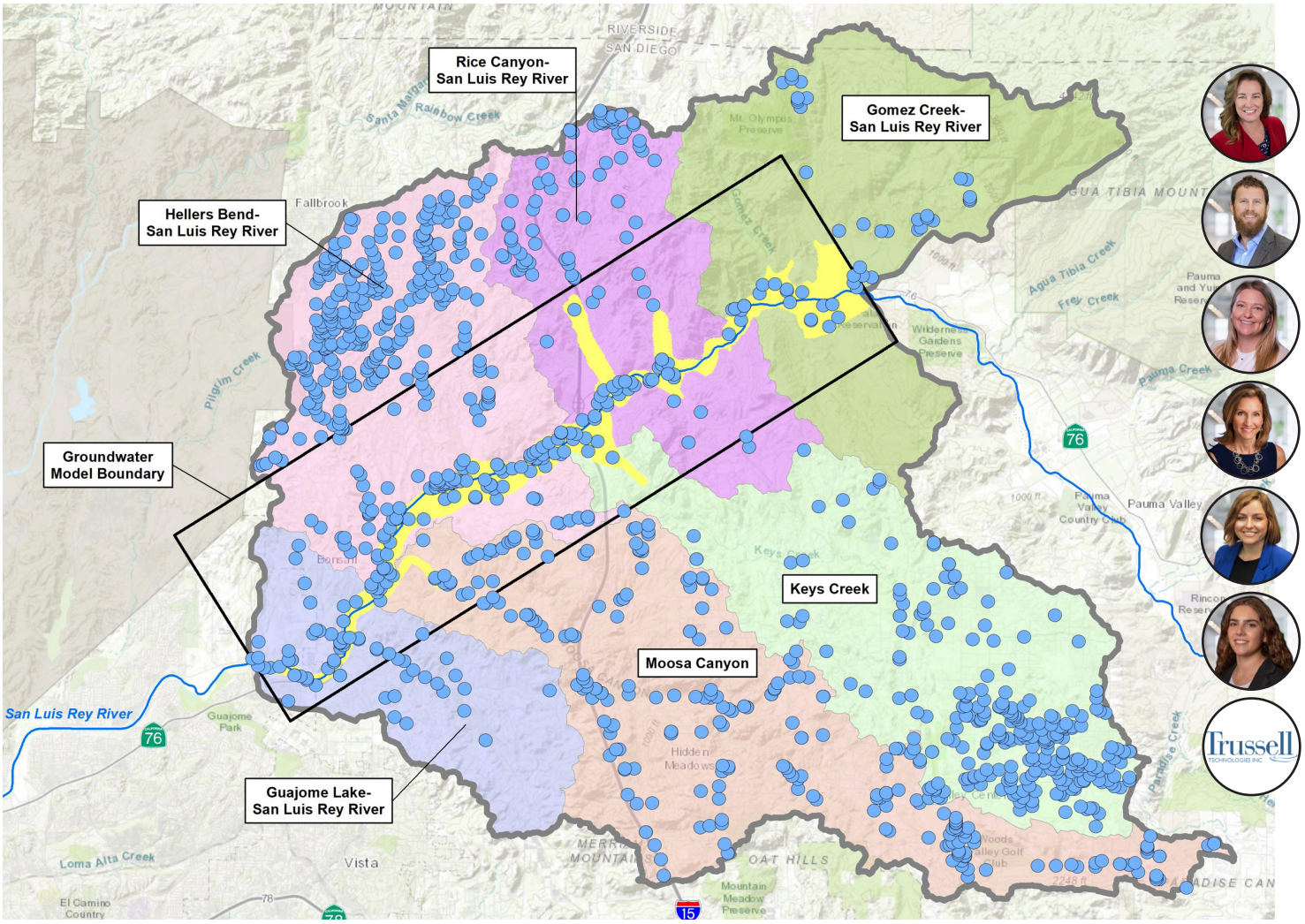
Hoch, leads the technical analysis, while HELIX Environmental Planning supports environmental assessments. This comprehensive study is not only poised to advance the district's recycled water infrastructure but also aims to position the Valley Sanitary District for future funding opportunities through the Bureau of Reclamation's WaterSMART Title XVI program. Ultimately, this project will provide a pathway for sustainable water reclamation, recycling, and desalination options that support the District's long-term water security goals. Work included a crosswalk between the Bureau of Reclamation's Title XVI Feasibility Study and the SWRCB's Water Recycling Funding Planning (WRFP) Study requirements. This cost savings approach will allow the District to be eligible for both WRFP and Bureau of Reclamation construction funding.

PROJECT RELEVANCY

- **WRFP & WTR 11-01 Cross Cutting Document Development**
- **Permitting Evaluation due to Reduction of Effluent Discharges**
- **Layout Development and Hydraulic Feasibility**
- **Constructability of Tertiary Treatment Disinfection**

Title XVI Return Flow Feasibility Study

RAINBOW MUNICIPAL WATER DISTRICT



Hoch is the primary contractor responsible for the Return Flow Feasibility Study. Our team is leading the project effort to assess and update the imported water return flows by the Rainbow Municipal Water District into the San Luis Rey Valley Groundwater Basin. Over the last ten years, the San Luis Rey Valley Groundwater Basin has undergone multiple studies for the development of a local water supply project. Hoch is leading the engineering, optional analysis, research, and technical writing, and working in collaboration with sub-consultants on groundwater modeling, water quality, and environmental/permitting tasks. As a part of this effort, Hoch evaluated several project options and recommended the most viable one, which is detailed in a completed feasibility study following the Bureau of Reclamation Standards WTR 11-01. Additionally, the project team carried out hydrogeologic investigations and surveying, developed plans and specifications, provided bid phase support, construction inspection, testing, and reporting.

PROJECT RELEVANCY

Title XVI Feasibility Study	**Bureau of Reclamation**	**Hoch + Trussell Partnership**	**Evaluation of existing water quality data to guide treatment design**

Pure Water Oceanside Phase II

CITY OF OCEANSIDE

Hoch managed the Title XVI feasibility study, with Trussell serving as a member of the study team. During her tenure as Water Utilities Director for the City of Oceanside, Cari Dale played a key role in guiding and contributing to the development of the feasibility study.

Pure Water Oceanside is an indirect potable reuse (IPR) groundwater augmentation project. The initial construction phase included construction of a 4.5 million gallon per day (MGD) advanced water purification facility (AWPF) that is expandable up to 6.0 MGD in a subsequent phase, conveyance piping, backwash piping, injection wells, monitoring wells, an upper recycled water pump station, blending facilities for both the upper and lower recycled water service areas, and Nitrification Denitrification upgrades in plant 2 at the San Luis Rey Water Reclamation Facility (SLRWRF). The Project included a direct coupled UF/RO train, Hydranautics ESPA 2 membranes, and a predictive algorithm for the UVAOP system. The City began injecting water into the Mission Groundwater Basin in December, 2021.

PROJECT RELEVANCY

Secondary Wastewater Characterization Study

NPDES and Regulatory Permitting

First Indirect Potable Reuse (IPR) project online in San Diego County

Bureau of Reclamation

Pure Water Oceanside Phase III Title XVI Feasibility Study

CITY OF OCEANSIDE

The Pure Water Oceanside Phase III Title XVI Feasibility Study, led by Trussell Technologies, Inc., and supported by Hoch Consulting, evaluates opportunities to expand Oceanside's water treatment and reuse potential. Our study focuses on assessing advanced treatment alternatives that maximize beneficial reuse, including expansion of indirect potable reuse (IPR), direct potable reuse (DPR) and seawater desalination. By identifying feasible methods for rerouting additional source water to the San Luis Rey Water Reclamation Facility and its Advanced Water Purification Facility, the project aims to strengthen Oceanside's water security and expand upon the initial IPR project.

Trussell and Hoch bring a collaborative approach rooted in expertise in wastewater treatment, advanced treatment processes, and potable reuse. Our team is dedicated to meeting the requirements of the U.S. Bureau of Reclamation's grant funding, supported by established relationships with both the City and the Bureau. This project builds on the successful outcomes of the Pure Water Oceanside program, the City's first potable reuse initiative, highlighting the City's commitment to innovative water management solutions.

PROJECT RELEVANCY

Feasibility Study

Cost-Conscious Design

IPR and DPR Evaluations

WTR 11-01 Bureau Format

Regional Plant Ultraviolet Disinfection System Upgrade Feasibility Study

VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY

The Victor Valley Wastewater Reclamation Authority's (VVWRA) critical project at their Westside Water Reclamation Plant (WWRP) includes the replacement of their existing UV equipment and determining the feasibility of installing a new low-pressure high-output (LPHO) closed vessel UV system. Hoch is working with Xylem's engineering team to develop a robust strategy for the construction and installation of the selected equipment.

Our team's approach is to provide the VVWRAs management, engineering, operation, and maintenance staff with important information, including costs, O&M ease, and constructability of the Wedeco LBX reactors for both gravity and pumping feed installation scenarios. Installation of Wedeco LBX 1500 UV Reactors will provide redundancy of treatment equipment at Westside, Happy Valley, and Hesperia.

Retrofits of existing treatment facilities can be complex, as plant permit compliance and treatment performance must be maintained while replacing existing equipment with new equipment. The long-term success of this retrofit project depends on the careful planning laid out in the Feasibility Report.

PROJECT RELEVANCY

Feasibility Study

Cost-Conscious Design

Layout Development and Hydraulic Feasibility

Constructability of Tertiary Treatment Disinfection

Indian Wells Title XVI Feasibility Study

INDIAN WELLS VALLEY GROUNDWATER AUTHORITY

Indian Wells Valley Groundwater Authority contracted Stetson Engineers and Trussell Technologies to perform a Recycled Water Use Alternatives Analysis of the potential beneficial uses of recycled water. This analysis was performed to identify the additional treatment requirements for the City's wastewater treatment facility and to develop recycled water projects that not only are cost-effective but also contribute to sustainable basin management consistent with the Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin.

Trussell led the evaluation of various potable and non-potable treatment alternatives and the costs associated with three alternatives: i) tertiary treatment with landscape irrigation (non-potable reuse); ii) tertiary treatment with surface spreading (potable reuse); iii) tertiary and advanced treatment with subsurface injection (potable reuse). This began with an evaluation of the source water quality and the criteria described in the regulations for potable and non-potable reuse. The investigation into non-potable reuse via irrigation included a robust evaluation of tertiary filtration and disinfection technologies including preliminary design criteria. Trussell also identified research needs and performed a preliminary planning level treatment and cost analysis.

Trussell TECHNOLOGIES INC

PROJECT HIGHLIGHTS

- **Non-potable reuse treatment evaluations**
- **Potable reuse treatment evaluations**
- **US Bureau of Reclamation Title XVI Feasibility Study**

Ventura Water Reclamation Facility Membrane Bioreactor and Ultraviolet Disinfection Upgrade

CITY OF VENTURA

The City of Ventura is pursuing an upgrade to its Ventura Water Reclamation Facility (VWRF) that includes a membrane bioreactor (MBR) as the secondary treatment process and ultraviolet light (UV) as the disinfection process. The MBR/UV Upgrade Project is a critical step to meeting the objectives of the Consent Decree to reduce discharges to the Santa Clara River Estuary and to divert treated water for beneficial reuse by the end of 2025. This project will replace aging infrastructure, improve tertiary water quality, and become the first treatment components of the planned VenturaWaterPure potable reuse advanced purification process. The existing aeration tanks, secondary clarifiers, and gas chlorine disinfection systems will be replaced with new MBR/UV treatment facilities. The existing VWRF headworks, primary clarifiers, and primary equalization facilities will be utilized to treat and equalize diurnal and wet-weather flow variations ahead of the new MBR/UV treatment facilities.

The discharge to the Santa Clara River Estuary has strict limits such as very low nitrate concentrations. A biological process model was used to design the secondary treatment process under current and future flow conditions. The process will include aerobic and anoxic tanks to promote nitrification and denitrification in all scenarios. The tertiary treated water from the MBR and UV process will be directed to the following locations: 1) new indirect potable reuse treatment (with potential for future direct potable reuse); 2) existing non-potable reuse; 3) regulated continued discharge limit to the Santa Clara River Estuary; and 4) flows to the ocean outfall. The overall program objective is to provide water quality that satisfies all destinations of the tertiary treated water. Trussell is leading the design of the biological treatment process MBR, and UV disinfection system.

Trussell TECHNOLOGIES INC

PROJECT HIGHLIGHTS

- **Biological design for strict nutrient requirements**
- **MBR design for non-potable recycled water and potable reuse**
- **UV disinfection design for non-potable recycled water and potable reuse**

TAB C

Key Personnel Qualifications

KEY PERSONNEL QUALIFICATIONS

Identify key personnel who would work on the project as assigned, their respective roles,and a synopsis of relevant experience.

Adam Hoch, PE, QSP, QISP, NASSCO PACP, LACP, MACP
Principal in Charge

Cari Dale, MPA
Project Manager

Aaron Gress, PE
Deputy Project Manager

WATER RESOURCES

Kyrsten Burr, MPA
Water Resources Principal

Joni German, MPA
Water Resources Support

Emily Donhue
Water Resources Support

PUBLIC OUTREACH

Sarah Davis
Public Outreach Lead

Skylar Stephens, MPA
Public Outreach Support

ENGINEERING SUPPORT

Richard Roth
Engineering Support

Olivia Meirelles
Engineering Support

Lena Bagnol
Engineering Support

SUBCONSULTANTS

- **Shane Trussell**
- **Brett Faulkner**
- **Mitch Bartolo**

- **Lesley Owning**
- **Patrick Britton**
- **Martin Rolph**

Adam Hoch, PE, QSP, QISP, NASSCO PACP, LACP, MACP

Principal in Charge

Adam leverages extensive experience in Public Works to ensure the highest standards of quality control and project excellence. With over a decade of diverse project oversight, he brings strategic insight essential for effective administration, permitting, and planning. Adam's commitment to quality and detail makes him a trusted advocate for enhancing and optimizing project outcomes. As Principal-in-Charge, he is dedicated to delivering results that not only meet but consistently surpass expectations, providing a clear path to success for Fort Bragg's initiatives.

12 YEARS WITH HOCH

19 YEARS OF EXPERIENCE

EDUCATION

B.S., Civil Engineering,
Lehigh University

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer (Civil) California, #C77635

Qualified SWPPP Developer (QSD), #C77635

Qualified Industrial SWPPP Practitioner (QISP), #C77635

American Society of Civil Engineers

American Public Works Association

California Water Environment Association

WateReuse

California Stormwater Quality Association

RELEVANT EXPERIENCE

INDIRECT POTABLE REUSE
CITY OF OCEANSIDE

Pure Water Oceanside is the $80 million program to plan, design, and construct an advanced water purification facility (AWPF) at the San Luis Rey Water Reclemation Facility. The facility provides 3.0 MGD of advanced treated water for injection into the Mission Groundwater Basin and 1.5 MGD of advanced treated water for blending with recycled water. The work included conveyance and backwash facilities, injection, and monitoring wells in the Mission Groundwater Basin. Adam oversaw this project and reviewed several critical elements, including evaluations and studies of the Mission Groundwater Basin, borings, geophysical surveying, regulatory discussions, production of engineering reports and reports of waste discharge, permitting through the City (including but not limited to Conditional Use Permitting (CUP), building permits, and grading permits), coordination with SDG&E, budgeting, and report writing. Adam also guided advanced planning efforts for the future water reuse program, including sizing the AWPF for 6.0 mgd, sizing the conveyance piping for 6.0 mgd, recommending well-site locations, and providing insight on funding sources and support.

NORTH CITY PURE WATER
CITY OF SAN DIEGO

Adam performed a constructability review for the North City Pure Water Phase 1, Indirect Potable Reuse Project for the City of San Diego. Work included site evaluations and a review of the plans and specifications to assess the overall design of a pump station, dechlorination facility, pipeline, and subaqueous pipeline. Provided technical review services and project coordination services.

ADVANCED WATER TREATMENT
SAN ELIJO JOINT POWERS AUTHORITY

The $4.2 million project included the microfiltration/reverse osmosis advanced purification facility at the San Elijo Water Reclamation Facility (SEWRF). Adam provided review of conceptual, preliminary, and final design, managed environmental permitting, provided discretionary permitting, managed construction, and provided field inspection services for a facility designed to reduce total dissolved solids (TDS) in the SEJPA's reclaimed water.

Cari Dale, MPA

Project Manager

Cari brings over three decades of technical expertise and leadership in guiding the development and implementation of water supply programs and funding initiatives for various agencies in Southern California. She served as the Water Utilities Director for the City of Oceanside for over a decade, and has been instrumental in moving forward high-profile utility projects, such as San Diego County's first Potable Reuse Project, Pure Water Oceanside. Cari is skilled in navigating the Federal appropriations process and has a strong relationship with the Bureau of Reclamation staff. In her most recent role, she acted as the City's liaison on the creation of a Groundwater Sustainability Agency and collaborated with representatives on developing mutual legislation for water supplies.

3 YEARS WITH HOCH

31 YEARS OF EXPERIENCE

EDUCATION

B.A., Biology, *Macalester College*

M.S., Public Administration, (Water Resources Management), *California State University, San Bernardino*

REGISTRATIONS/ ORGANIZATIONS

Recycled Water Advocate of the Year, WateReuse CA, 2022

Pathogen Study, White House Water Summit, 2016

Women in Water

California Water Environment Association

WateReuse

California Association of Sanitation Agencies

Association of California Water Agencies

RELEVANT EXPERIENCE

NORTH SAN DIEGO COUNTY REGIONAL RECYCLED WATER PROJECT, BUREAU OF RECLAMATION FEASIBILITY STUDY AND FACILITIES PLAN
CITY OF OCEANSIDE

Partnered with ten water and wastewater agencies in North San Diego County to collaborate and plan for recycled water and alternative water supply projects in Northern San Diego County. Participated in efforts to develop a Regional Recycled Water Facilities Plan, which became the foundation for developing a Bureau of Reclamation Feasibility Study, and garnered funding from the Bureau of Reclamation and the Department of Water Resources (IRWM). A second Feasibility Study was submitted to the Bureau of Reclamation once funding for Phase I of the project was exhausted.

SAN LUIS REY VALLEY GROUNDWATER RECOVERY PROJECT
RAINBOW MUNICIPAL WATER DISTRICT

Key author of the Title XVI Feasibility Study to assess the technical, economic, environmental, regulatory and overall feasibility of a groundwater recovery project as a source of locally controlled water supply. The report is being written to conform to the Bureau of Reclamation requirements for feasibility studies, positioning the District to be eligible for federal funding.

PURE WATER OCEANSIDE
CITY OF OCEANSIDE

Identified and pursued strategies, technical studies, funding and programs, including development of a Title XVI Feasibility Study, to further local water supply development in support of City Council's goal of 50% local supplies by 2030. Pure Water Oceanside was put into operation at the end of 2021 and is San Diego's first Indirect Potable Reuse (IPR) project.

BRINE MINIMIZATION AND WELL EXPANSION
CITY OF OCEANSIDE

Cari led the effort to author a Title XVI Feasibility Study to add a third Stage Reverse Osmosis Unit at the Mission Basin Groundwater Purification Facility and to construct additional extraction wells in the Mission Basin, which ultimately will increase local water supplies for the City.

Aaron Gress, PE

Deputy Project Manager

Aaron brings a strong background in civil and environmental engineering, providing the expertise needed to guide each project phase with precision. He has managed numerous water treatment projects, including the design of groundwater treatment systems. Aaron has also contributed to groundwater supply development studies, water quality and treatment needs analyses, and wastewater expansion evaluations. His comprehensive approach and technical proficiency make him a valuable asset as Deputy Project Manager, ensuring projects are delivered efficiently and effectively.

2	11
YEARS WITH HOCH	YEARS OF EXPERIENCE

EDUCATION

B.S., Natural Resources and Environmental Sciences, *University of Illinois Urbana-Champaign*

M.S., Civil Engineering, *University of Illinois Urbana-Champaign*

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer (Civil) California, #C86657

Professional Engineer (Civil) Oregon, #93850PE

Professional Engineer (Civil) Washington, #22021860

RELEVANT EXPERIENCE

1,2,3-TRICHLOROPROPANE REMOVAL FEASIBILITY STUDY
HONOLULU BOARD OF WATER SUPPLY

Provided water treatment assistance in support of AECOM's lead office in Hawaii. The Honolulu Board of Water Supply (BWS) was assessing the requirements for 1,2,3-trichloropropane (TCP) removal at various contaminant levels. TCP is a chlorinated hydrocarbon and the byproduct of a pesticide that was banned in the late 1970s to early 1980s. Consistent with other chlorinated hydrocarbons, TCP is persistent in groundwater decades after its application to crops was discontinued. Aaron assisted the co-author for the wellhead sampling program and the bench-scale testing program and conducted activated carbon modeling using AdDesignS modeling software.

WASTEWATER SYSTEM EXPANSION EVALUATION
VALLEY CHILDREN'S HOSPITAL

Project Engineer responsible for providing wastewater treatment support for the design of a 0.8-MGD packaged treatment plant. Design responsibilities include process modeling using BioWin, site development, and process equipment design including pump design, filter design, and UV disinfection design. The project also evaluated Title 22 water reuse requirements and preliminary design of system requirements.

85 MGD WTP EXPANSION
JOINT WATER COMMISSION

Process engineer responsible for developing and implementing a tracer study for the Joint Water Commissions expanded water treatment plant (55 MGD to 85 MGD). Complicated clearwell system which required updating existing CT calculations for compliance. Work included updated CT calculations, analyzing hydraulic performance of clearwell, and planning for and implementing a tracer study. A step dose method was performed using chlorine and the tracer study was approved by the Oregon Health Authority.

MADERA COUNTY WELLHEAD TREATMENT FACILITY
MADERA COUNTY

The water treatment support for a new well in Bass Lake, California. Assisted project manager in conducting a pilot study program to determine effective treatment technologies for onsite water with high uranium concentrations. Other responsibilities included site layout design and coordination activities between the client and key stakeholders. The project also consisted of site survey coordination work and process design of the selected water treatment technology.

Kyrsten Burr, MPA

Water Resources Principal

Kyrsten has over 20 years of experience in water resources management, specializing in water, recycled water, wastewater, water conservation, stormwater, and community development. Her roles as a senior management analyst and planner have provided her with a deep understanding of water systems and infrastructure planning. Kyrsten is skilled in budget and finance management, public outreach, and effective communication strategies, ensuring that complex water resource projects are delivered efficiently and align with community needs and regulatory requirements. Her comprehensive approach ensures integrated solutions for sustainable water management and resource optimization.

5 YEARS WITH HOCH

21 YEARS OF EXPERIENCE

EDUCATION

B.A., Urban Economic Geography/Urban Planning, *University of California, Berkeley*

M.S., Public Administration, *San Diego State University*

RECOGNITION/ CERTIFICATIONS

Women in Water

Water for People

RELEVANT EXPERIENCE

RECYCLED WATER FEASIBILITY STUDY
VALLEY SANITARY DISTRICT
Kyrsten led efforts to develop a cross walk document for the feasibility study which allowed the District to satisfy feasibility study content requirements for a WRFP Planning Grant and also a Bureau of Reclamation Planning Grant. This positions the District to be eligible for both State and Federal funding for the project.

MWD LOCAL RESOURCES PROGRAM, CITY OF OCEANSIDE ($43M APPROVED)
CITY OF OCEANSIDE
Developed two LRP applications for the City of Oceanside's PureWater and Recycled Water initiatives, which resulted in the approval of $415 per acre-foot rebates from MWD for water produced by new water sources.

GRANT WRITING & ADMINISTRATIVE SERVICES
OTAY WATER DISTRICT (2011 – PRESENT)
Provide grant writing and grant administrative services. Functions include screening and identification of funding opportunities; preparing grant applications; executing grant agreements; and coordinating with granting agencies. Specific grant writing efforts have included preparing grant application packets for submittal to FEMA, SWRCB, SANDAG, and USBR.

GRANT WRITING & ADMINISTRATIVE SERVICES
CITY OF OCEANSIDE
Since 2019, Kyrsten has provided grant administration support services for all Federal funding programs with the Water Utilities Department, which has included tracking grant budgets, invoices, and expenditures and processing pay requests. She has administered multiple Bureau of Reclamation WaterSMART grant agreements and liaised with Bureau staff to problem solve and to modify grant agreements as needed. One of her primary grant administration duties is to also develop and submit required status reports to the granting agency per the funding agreement requirements.

Joni German, MPA

Water Resources Support

Joni brings extensive experience in water resource management, having previously served as a water resources specialist at the San Diego County Water Authority (SDCWA) and in roles with regional water agencies as a management analyst and specialist. Her expertise spans water conservation, stormwater management, agricultural initiatives, and leak detection projects, with a strong track record of successful collaboration with public agencies and local non-profits. Her diverse experience provides valuable insights and innovative solutions for Fort Bragg's water resource initiatives.

1	21
WITH HOCH	TOTAL EXPERIENCE

EDUCATION

B.A., Political Science/Business,
University of California, Los Angeles

M.S., Public Administration,
San Diego State University

RECOGNITION/ CERTIFICATIONS

Women in Water

California Water Efficiency Partnership

RELEVANT EXPERIENCE

RECYCLED WATER FEASIBILITY STUDY
VALLEY SANITARY DISTRICT

Joni supported efforts to develop a cross walk document for the feasibility study which allowed the District to satisfy feasibility study content requirements for a WRFP Planning Grant and also a Bureau of Reclamation Planning Grant. This positions the District to be eligible for both State and Federal funding for the project.

DEPARTMENT OF WATER RESOURCES PROP 1, ROUND 2 IMPLEMENTATION GRANT, INTEGRATED MULTI BENEFIT SOLUTIONS FOR CLIMATE RESILIENCY IN THE SAN DIEGO REGION ($2.3M AWARDED)

Developed and submitted the SDCWA (lead agency), City of San Diego and Mission Resource Conservation District grant proposal. Successfully implemented three main project components: 1) Multi-Benefit Sustainable Landscapes including direct-install irrigation efficiency and turf replacement; 2) Community-Driven Water Improvements in the disadvantaged and underserved communities of San Diego; and 3) City of San Diego Residential Water Conservation Rebate Program Expansion. Designed and managed the first two projects including scope of work development, vendor acquisition and management, and grant monitoring including quarterly reports to DWR.

COUNTY OF SAN DIEGO AGREEMENT FOR SUPPLEMENTAL WATER USE EFFICIENCY FUNDING ($4.1M CONTRACT VALUE)

Negotiated, executed, and managed an agreement with the County to pass-through $4.1 million in regional incentives through the Metropolitan Water District of Southern California's (MWD) SoCal Water$mart Program. This funding pass-through was only available to the Water Authority's 24 member agencies. The agreement formalized each party's responsibilities for administering supplemental water efficiency in the County jurisdiction and for funding these incentives. The agreement assisted the Water Authority and County in achieving complementary goals for increased water use efficiency and reduced runoff through multi-benefit programs county-wide.

Emily Donahue

Water Resources Support

Emily, a recent graduate of California State University, Monterey Bay, with a Bachelor of Science in Environmental Science, Technology, and Policy, brings a fresh perspective and strong analytical skills to water resources management. Her expertise in environmental reporting and policy analysis enables her to effectively assess and communicate complex issues related to water resource planning. Emily's background in reviewing state and federal policies for impact reports and her experience as a writing mentor enhance her ability to refine project documentation and contribute to strategic planning initiatives.

1	2
WITH HOCH	TOTAL EXPERIENCE

EDUCATION

B.S., Environmental Science, Technology & Policy
California State University - Monterey Bay

RECOGNITION/ CERTIFICATIONS

Women in Water

RELEVANT EXPERIENCE

WATERSHED GUARDIAN PROJECT
PACIFIC GROVE MUSEUM OF NATURAL HISTORY
Emily conducted long-term monitoring of local watersheds, testing for water quality indicators such as alkalinity, pH, dissolved oxygen, and nitrate levels. She contributed to understanding how anthropogenic activities affect watershed health, providing valuable insights for sustainable water resource management.

NATIVE PLANT RESTORATION AND INVASIVE SPECIES MANAGEMENT
HABITAT STEWARDSHIP PROJECT (FORMERLY RETURN OF THE NATIVES)
Emily engaged in planting native species and removing invasive plants at restoration sites in Monterey, CA. Her role focused on improving habitat resilience and biodiversity, aligning with water conservation goals through hands-on ecological restoration.

RESEARCH ON FISH CHORUSES IN MONTEREY BAY NATIONAL MARINE SANCTUARY
SCRIPPS INSTITUTION OF OCEANOGRAPHY, UC SAN DIEGO
Emily analyzed acoustic data to identify spatial and temporal patterns of fish choruses. This project involved using RStudio and MATLAB for data analysis and statistical modeling, showcasing her technical skills in environmental data interpretation relevant to water ecosystems.

TRAP LOSS OF THE CALIFORNIA SPINY LOBSTER FISHERY
CALIFORNIA DEPARTMENT OF FISH & WILDLIFE
Emily analyzed data on trap loss patterns from 2017 to 2022, assessing spatial and seasonal factors impacting the fishery. Her role included statistical data analysis using Microsoft Power BI, enhancing her expertise in managing and interpreting complex datasets relevant to resource management.

ABALONE RESTORATION PROJECT
CALIFORNIA DEPARTMENT OF FISH & WILDLIFE
Emily contributed to the restoration of endangered white abalone populations by preparing and releasing juvenile abalone at designated sites. Her role involved data collection, species identification, and hands-on habitat management, demonstrating her ability to support ecological restoration and conservation projects.

Sarah Davis

Public Outreach Lead

Sarah understands of the significance of public awareness and engagement in relation to public utilities across California. Customer acceptance and comprehension play a crucial role in any project, particularly concerning utility services. With her technical background, Sarah can effectively bridge the gap between technical projects and community relations and outreach. She will provide the public with credible, relevant, and timely information in a coherent and understandable manner to build and nurture community trust and acceptance. Sarah has successfully implemented several high-profile customer-facing public outreach programs, such as What-to-Flush, sewer maintenance, pipeline replacement, and indirect potable reuse.

3 YEARS WITH HOCH

12 YEARS OF EXPERIENCE

EDUCATION

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

ORGANIZATIONS

WaterReuse

Women in Water

SPECIAL RECOGNITION

CAPIO, 2020 Excellence in Public Information & Communications – Communication Plan, Pure Water Oceanside Community Relations

CAPIO, 2020 Excellence in Public Information & Communications –Media Event, City of Oceanside Green Oceanside Kitchen Launch Event

RELEVANT EXPERIENCE

BREWER TANK DEMOLITION
ELSINORE VALLEY MUNICIPAL DISTRICT
Sarah was proactive in promoting the project by taking various measures. She compiled all the relevant information and uploaded it to the District SharePoint to make it easily accessible to everyone. She went door-to-door to introduce herself to the local neighbors and handed out flyers containing project details. Sarah also patiently answered all the questions and inquiries from the neighbors, making sure that they were well-informed and satisfied with the information provided.

PURE WATER OCEANSIDE
CITY OF OCEANSIDE
The City of Oceanside's indirect potable reuse project, Pure Water Oceanside, included creating and maintaining factual, positive publicity of the project, emphasizing a reliable, high-quality, safe, drought-proof water supply for Oceanside. The specific tasks included providing outreach communications in support of the project, educating the community on the benefits and goals of the project, and conducting outreach activities for the duration of the project to build support and public understanding and successfully garner public support and awareness for the need of the project during construction including coordination regarding construction impacts.

RECYCLED WATER PIPELINE EXPANSION
CITY OF OCEANSIDE
The Recycled Water expansion project of the City of Oceanside required effective communication with the residents in order to minimize any negative impact during construction. This included maintaining a customer hotline to address any construction complaints or queries, visiting stakeholders in person to discuss upcoming construction activities and their effects, sending e-newsletters to interested parties, and updating the website regularly. Construction projects that are highly visible to the public can lead to complaints if proper communication with the surrounding neighbors is not established, but Sarah made sure that the public was kept up-to-date with the latest construction activities through mailers, message boards, workshops, and website updates.

Skylar Stephens, MPA

Public Outreach Support

Skylar has more than ten years of experience with a focus on outreach and customer service in every role she has held. At Hoch, Skylar was involved in various activities such as facility tours and presentations, creating educational materials for facilities and new public ordinances, and developing outreach plans. Skylar understands the significance of factual and effective communication through her experience providing door-to-door notifications, delivering project information presentations, and developing outreach strategies. Skylar is skilled in public outreach, including public education, community-based social marketing, call-to-action messaging, and fostering open dialogue with stakeholders.

2 YEARS WITH HOCH

13 YEARS OF EXPERIENCE

EDUCATION

M.S., Public Administration, *University of North Texas*

B.A., International Studies, *University of North Texas*

REGISTRATIONS/ CERTIFICATIONS

Women In Water San Diego

RELEVANT EXPERIENCE

UPSIZE BLENDING AT DIAMOND
ELSINORE VALLEY MUNICIPAL WATER DISTRICT

This project is currently on-going. This project includes replacing a 12" PVC water line with a new 20" line to improve water flow from the Back Basin Groundwater Treatment Plant to the Corydon Blend Facility. This upgrade will enhance operational flexibility and the use of Cereal 1 and Corydon Wells. The project involves removing the existing 12" pipe, installing 3,030 feet of new 20" ductile iron and welded steel pipe, adding new valves, and repaving the area. Skylar is serving as Public Outreach Support to ensure the community is well informed.

CUSTOMER HOTLINE MANAGEMENT
VARIOUS CLIENTS

Throughout Skylar's career, she has managed and staffed a variety of customer call services and construction hotlines. Including at SDCWA during emergency shut downs, at the City of Lewisville for community development and neighborhood services, and at the Texas Sunset Advisory Commission where she provided responses to media and the public during legislative session. She has developed effective communication tools in order to ensure customers answers are met with a calm demeanor while delivering effective and concise project answers. Skylar understands the importance of a customer hotline, where it is often the first opportunity for a customer to reach a person of the construction team. Skylar effectively manages upset customers by providing a listening ear in order to establish trust and project acceptance.

PROJECT OUTREACH SUPPORT
CITY OF OCEANSIDE

Skylar provides outreach support services for various projects that Hoch provides public outreach for at the City of Oceanside including Pure Water Oceanside, WaterSmart meter project, and Marine Debris Ordinance Implementation. In these projects, Skylar provides support in order to actively engage with the community and ensure that major projects aspects are actively communicated. This includes the development of social media posts, website updates, workshop management, in-person site visits and development of project articles. Skylar is an effective member of the outreach team that provides effective and efficient project information to residents and businesses in Oceanside.

Richard Roth

Engineering Support

Richard has over 35 years of experience in civil engineering design and land surveying. As a project design lead, he has managed the technical aspects and production of our Civil design teams. Richard is well-versed in all releases of Autodesk AutoCAD Civil 3D, BENTLEY Microstation, and ProjectWise software, enabling him to implement the latest computer technology for various engineering projects. He is responsible for preparing plans, specifications, and estimates for submittals, along with the technical design of water, wastewater, and general civil engineering projects. Richard spent his early career as a party chief for a survey crew, which provided him with a knowledge base for all survey-related coordination necessary for the management of sub-consultants.

5 YEARS WITH HOCH

35 YEARS OF EXPERIENCE

EDUCATION

AA, CADD,
Platt College

REGISTRATIONS/ CERTIFICATIONS

California Land Surveyors Association (CLSA)

10-Hour Construction Outreach Training

Amtrak – Roadway Worker Protection On-Track Safety

First Aid

Hazard Communication (US)/ WHMIS (Canada)

RELEVANT EXPERIENCE

REGIONAL PLANT ULTRAVIOLET DISINFECTION SYSTEM UPGRADE FEASIBILITY STUDY
VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
The project included the development of a strategic approach for replacing the existing 22 million gallons per day (mgd) open channel UV equipment system at the VVWRA facility. The primary objective was to introduce a more energy-efficient system with minimal maintenance requirements, providing enhanced redundancy across the facility. This comprehensive initiative signifies a forward-thinking upgrade aimed at optimizing operations, ensuring sustainability, and reducing energy consumption within the VVWRA facility.

FLUME REPLACEMENT STUDY
VISTA IRRIGATION DISTRICT
This project is focused on examining the current infrastructure in the City of Escondido, City of San Marcos, and County of San Diego. This examination is crucial to support the proposed alignment alternatives. A site reconnaissance of existing and WSPS-developed alignments was conducted to identify additional constraints. The project also involved preparing conceptual plan and profile drawings for alignment alternatives. This strategic effort aims to enhance planning studies by documenting existing infrastructure and facilitating the development of alignment alternatives.

COUNTY OF SAN BENITO WATER TREATMENT SYSTEM
WILLIS CONSTRUCTION
This project is designed to treat the groundwater from Well #2, and it aims to remove contaminants like arsenic, iron, and manganese. The project focuses on integrating a single treatment facility with filter packages and chemical feed systems. The development of site and equipment plans is based on insights gathered during the initial pilot study and aligns with owner preferences. This project represents a strategic approach to water treatment, with the goal of efficiently and effectively removing contaminants to improve the quality of the groundwater supply.

Olivia Meirelles

Engineering Support

Olivia is a dynamic professional with a unique blend of engineering expertise and data analysis understanding, making her a valuable asset for any project. With a keen sense of fluid dynamics and hydraulic principles, Olivia is adept at using modeling software to simulate complex hydraulic systems precisely and accurately. Her meticulous approach to data analysis ensures that the hydraulic models she develops meet project requirements and provide valuable insights for informed decision-making.

1	13
YEARS WITH HOCH	YEARS OF EXPERIENCE

EDUCATION

M.S., Water Resources Engineering
Katholieke Universiteit Leuven

B.S., Civil Engineering
University of Sao Paulo

ENGINEERING SKILLS

AutoCAD

WaterCAD

SCIA

Sofistik

ArcGIS/ILWIS

HEC-HMS

HEC-RAS

SWMM

RELEVANT EXPERIENCE

RECYCLED WATER FEASIBILITY STUDY
VALLEY SANITARY DISTRICT
Olivia performed assistant engineering tasks including evaluating site layout alternatives, development of tertiary treatment alternatives, evaluation of secondary wastewater characteristics, and hydraulic analysis of existing facilities. Tasks also included review of existing as-builts, reports, and plant data to develop planning level documents for the 1 MGD tertiary treatment facility. Olivia assisted with project management support including coordinating with subconsultants, developing meeting agendas and minutes, and cost estimates.

CIVIL ENGINEER (MAUBERTEC ENGINEERING, BRAZIL) WATER RESOURCES ASSESSMENT AND IMPROVEMENT

- Conducted extensive field visits to 36 cities of the UGRH 14 in Sao Paulo Brazil, to assess the condition and functionality of existing sanitation systems, gaining valuable insights into the real-world challenges faced by the municipalities.
- Analyzed the existing sanitation units, identifying areas requiring immediate attention and improvement.

Participated in the development of comprehensive proposals aimed at improving water supply systems (production, processing, reservation, and distribution), sewage systems (collection, removal, treatment, and disposal), and overall sanitation infrastructure.

PROJECT ENGINEER (ARCADIS, BELGIUM)

- Designed and calculated structures (bridges, tunnels, retaining walls) using SCIA and AutoCAD, ensuring safety and compliance with industry standards.
- Conducted regular site inspections to monitor construction progress, quality, and safety.
- Designed Excel VBA macros to facilitate reinforcement calculations, significantly enhancing efficiency for the entire project team.
- Managed project documentation, including technical drawings, specifications, and reports, ensuring accuracy and completeness.

Lena Bagnol

Engineering Support

Lena, a passionate Environmental Engineer, is dedicated to implementing sustainable solutions in the water and wastewater industry. Her background includes impactful work with NOAA, contributing to water quality assessments in Southern California. As a staff engineer and project management support, Lena has excelled in coordinating reviews, estimating construction costs, and refining project documents across diverse initiatives. Proficient in tools like Bluebeam, ArcGIS, Microsoft Office, and AutoCAD, she possesses strong communication skills, facilitating adequate project support and report generation.

1	2
YEARS WITH HOCH	YEARS OF EXPERIENCE

EDUCATION

B.S., Environmental Engineering,
San Diego State University

REGISTRATIONS/ CERTIFICATIONS

American Society of Civil Engineers (ASCE San Diego Chapter)

Women In Water San Diego

RELEVANT EXPERIENCE

AERATION BASIN NITRIFYING/DENITRIFYING MODIFICATION
SAN ELIJO JOINT POWERS AUTHORITY

SEJPA was looking to improve effluent quality at the San Elijo Water Reclamation Facility by reducing the concentration levels of Nitrate and Ammonia. Lena's team proposed achieving this by altering the aeration basins to create a Modified Ludzack-Ettinger process to effectively improve effluent quality. Project Management services included coordinating site visits, conceptual design and cost estimates, completion of plans and submittal review and quality control. Lena also conducted calculations to ensure effluent quality improved and modifications were possible. She also coordinated with project consultants and industry leaders, facilitated project-related meetings, and reviewed project deliverables and provided recommendations.

SAN LUIS REY WATER RECLAMATION FACILITY (SLRWRF) MAJOR UPDATES - PHASE II
CITY OF OCEANSIDE

Engineering Support for the City of Oceanside while the City moves forward with Major Upgrades to the San Luis Rey Reclamation Facility Project. The project consists of two phases. Lena has helped perform QA/QC of plans and specifications, coordination reviews between multiple agencies, and identified elements to help the City mitigate future construction errors or change orders.

HUTTON TURNER PUMP STATION
RAINBOW MUNICIPAL WATER DISTRICT

This project consisted of three pre-packaged EFI pump stations to convey water from the District's Morrow system to the South system. Historically, the District utilized temporary water pump stations comprised of rental equipment to provide water service to customers within portions of its service area. The District had determined that it was more cost effective to construct permanent pump stations to replace the temporary pump stations and has been working with EFI-Solutions to design packaged pump stations to meet the demands of future developments within the District. Lena provided engineering assistance, which included review of plans and project deliverables, QA/QC, and participating in meetings with district staff and project consultants.

OUR TRUSTED SUBCONSULTANTS

A key component of our success is our collaboration with a network of trusted subconsultants. **These partners bring specialized knowledge and diverse skills that will enhance project success.**

Our subconsultants are carefully selected based on their proven track record, industry reputation, and dedication to quality, making them invaluable extensions of our team.

Trussell TECHNOLOGIES INC

For nearly two decades, Trussell has been involved in a multitude of water reuse projects throughout the state, providing innovative ideas to implement projects even when there isn't always a clear path forward. Examples include designing advanced treatment systems to maximize pathogen log reduction credit (East County Advanced Water Purification Program), developing creative waste discharge permitting strategies (Pure Water Monterey), and guiding the City of San Diego as they become the first to implement surface water augmentation in California (San Diego Pure Water Program). Trussell's understanding of California's rigorous regulations has been an asset to recycled water projects, particularly those implementing potable reuse. Trussell has been intricately involved in the development of potable reuse regulations, from groundwater recharge and surface water augmentation to the new frontier: direct potable reuse. With our extensive involvement in the research that the regulations are being founded on, Trussell guides clients through the stages of developing a potable reuse project and navigating the regulatory complexity that often comes with them.

HELIX Environmental Planning

HELIX Environmental Planning is a leader in environmental planning, design, and natural resource sustainability. Established in 1991, HELIX provides a broad range of environmental compliance services throughout California and the western United States. Their team has extensive experience helping public and private clients across a variety of sectors comply with local, state and federal environmental laws and regulations, manage natural and cultural resources, and design and construct sustainable projects. Creative problem-solving, a high level of commitment to our clients, and high-quality service and products are the hallmark of HELIX's success. Many clients, as a measure of their confidence, bring their largest, most sensitive, and controversial projects to them.

HELIX has extensive expertise and a proven track record helping water districts, municipal water departments, and other public agency and utility clients successfully navigate environmental compliance requirements. HELIX has provided environmental consulting services – many of which were under long-term on-call contracts – for more than 1,000 water infrastructure and management projects spanning potable, waste water, and recycled water (e.g., water storage/reservoirs, treatment plants, pump/lift stations, pipelines, groundwater extraction/replenishment, wells, outfalls, canals, drainages, and emergency repairs).

Shane Trussell, Ph.D., P.E., BCEE

EDUCATION

- Ph.D. Civil and Environmental Engineering, *University of California, Berkeley*
- M.S., Civil and Environmental Engineering, *University of California, Los Angeles*
- B.S., Chemical Engineering, *University of California, Riverside*

REGISTRATION

- Civil Engineer, State of California-No. 66887

CERTIFICATIONS

- Board Certified Environmental Engineer, American Academy of Environmental Engineers – No. 11-10042
  Specialty: Water Supply & Wastewater

SUMMARY

R. Shane Trussell is the President and Chief Executive Officer of Trussell Technologies, Inc. Dr. Trussell is a registered Civil Engineer in the State of California with more than 20 years of hands-on experience with the processes used to treat water, wastewater, and potable reuse. Dr. Trussell has extensive involvement in numerous potable reuse projects throughout the state, ranging from feasibility studies and pilot testing to design and regulatory permitting. Dr. Trussell led two major research efforts funded by the WateReuse Research Foundation (now Water Research Foundation): WRRF 11-02 (Equivalency of Advanced Treatment Trains for Potable Reuse) and WRRF 14-12 (Demonstrating Redundancy and Monitoring to Achieve Reliable Potable Reuse), with a combined project budget total of $3.4 million, to advance the implementation of potable reuse in California. Recently, the State Water Board selected Dr. Trussell to co-lead a state-funded project to evaluate strategies for dealing with peaks of chemical contaminants. The State Board is now using the findings from this research to develop statewide regulations for DPR. Dr. Trussell is an industry leader in potable reuse and developing water supplies, leading innovative, effective engineering and research projects throughout California.

PROJECT EXPERIENCE

Metropolitan Water District of Southern CA/Sanitation Districts of LA County

Title: Regional Recycled Water Advanced Purification Center Demonstration Project

Date: 2016-present

The Metropolitan Water District of Southern California (MWD) and the Sanitation Districts of Los Angeles County (LACSD) are developing plans for a 150 million gallon per day (mgd) advanced water purification facility (AWPF) at the Joint Water Pollution Control Plant (JWPCP) in Carson, CA. Trussell is supporting the development of this project through full-scale planning support and work at the 0.5 mgd Advanced Purification Center (APC) demonstration plant which includes tertiary membrane bioreactors (MBRs), reverse osmosis (RO), and ultraviolet with advanced oxidation (UV/AOP). At the APC, Trussell assisted in design development, led the operations of the plant, and developed and executed a 15-month test plan which included robust chemical and pathogen sampling. At the time, an MBR pathogen crediting framework had not yet been established in California. Trussell worked alongside regulators to develop a thorough test plan whose results served as precedent for receiving pathogen credits from MBRs. In addition to the innovative work at the APC, Trussell has also led the development of the DPR concept for the Regional Recycled Water Program through preliminary assessments of the feasibility of expanding their existing groundwater recharge plans to include DPR. Trussell led the development of two separate memos to describe what would be needed to implement DPR.

Role: *Technical Advisor*

California State Water Resources Control Board/Water Research Foundation/Kennedy Jenks

Brett Faulkner, P.E.

EDUCATION
- M.S., Environmental Engineering, San Diego State University
- B.S., Civil Engineering, University of Colorado

REGISTRATION
- Civil Engineer, State of California – No. 87912

CERTIFICATION
- Grade III Wastewater Treatment Plant Operator—Certificate Number 41525

SUMMARY
Brett Faulkner is a registered professional engineer in the state of California with over thirteen years of experience from numerous wastewater, recycled water, and potable reuse projects. Mr. Faulkner's expertise is in water and wastewater treatment processes with an emphasis on process design and optimization. Mr. Faulkner also operated the City of San Diego's Pure Water Demonstration Facility (PWDF) as a certified Grade 3 wastewater operator in the State of California for over 2 years. The PWDF has a production capacity of 1 MGD and includes ozone, biologically activated carbon filtration, membrane filtration, reverse osmosis, and UV advanced oxidation. Mr. Faulkner is skilled in GPS-X, a dynamic wastewater simulation modeling software, and has utilized biological modeling to assist in the evaluation, optimization, and/or sizing of biological treatment processes at more than 10 facilities ranging from 3 to 300 MGD. Mr. Faulkner currently provides routine operational support and/or as-needed engineering services to 5 wastewater agencies.

PROJECT EXPERIENCE

Rancho California Water District

Title: SRWRF Aeration Evaluation and Blower Replacment

Date: 2015-2018, 2023

Rancho California Water District (RCWD) owns and operates the Santa Rosa Water Reclamation Facility (SRWRF) in Murrieta, California. Trussell Technologies Inc. (Trussell) used the wastewater modeling software GPS-X to evaluate the efficiency of the jet aeration equipment and estimate potential cost savings if the aeration equipment were to be replaced. The evaluation showed potential for significant savings, improved process performance, and a substantial increase in treatment capacity from upgrading the aeration equipment to fine bubble diffusers, new blowers, and implementing DO control. Trussell procured equipment recommendations and cost estimates from three competing manufacturers for blower and fine bubble aeration equipment upgrades. Trussell was retained by RCWD in an owner's rep role to oversee the design. Trussell performed revised modeling for peak conditions to determine required airflow and the appropriate blower sizing criteria that resulted in efficient operation at current conditions and handling of peak design loads in the future. Construction was completed in 2022 and a recent evaluation performed by Trussell showed over 30% energy savings from the upgrades and improved effluent water quality.

Role: *Project Engineer*

San Elijo Joint Powers Authorities

Title: Process Optimization Plan and As Needed Assistance

Date: 2008-Present

San Elijo Joint Powers Authority (SEJPA) owns and operates the San Elijo Water Reclamation Facility (SEWRF) in Cardiff By the Sea, California and produces up to 3 MGD of recycled water. Trussell Technologies worked with SEJPA to develop an operations plan for the whole facility to improve treatment, eliminate guesswork, and minimize the operating cost of the SEWRF. Our staff also provided the SEJPA with the conceptual design for their 0.5 MGD MF/RO demineralization facility that has been operating since 2013. Trussell Technologies has also provided ongoing technical support and recommendations for the MF and RO operation and maintenance procedures. Our recommendations to MF and RO operations ensured that membrane processes operate stably and are able to rebound in performance quickly during any challenging water quality events. The

Mitchel J. Bartolo, P.E.

EDUCATION

- M.S.E., Environmental and Water Resources Engineering, *University of Texas, Austin*
- B.S., Environmental Engineering Science, *University of California, Berkeley*

REGISTRATION

Civil Engineer, State of California – No. C89295

SUMMARY

Mitchel Bartolo is an Engineer at Trussell Technologies and received his B.S. from the University of California at Berkeley and his M.S.E. from the University of California at Berkeley. Mr. At Trussell, Mr. Bartolo has been engaged in numerous potable reuse projects throughout the state of California including roles with tertiary wastewater treatment design, advanced water purification facility (AWPF) process design, demonstration facility testing, control strategies, reservoir tracer studies, pathogen studies, and regulatory approval. He has contributed to the development of engineering design reports and Title 22 Engineering Reports for these projects. Mr. Bartolo has also been a key team member on numerous pathogen monitoring studies to characterize the removal of drinking water pathogens through water reclamation facilities, including membrane bioreactor (MBR) facilities. His work has been instrumental in establishing a robust methodology for attaining pathogen reduction credit through water reclamation facilities for potable reuse projects in California. Most recently, Mr. Bartolo has been involved with the design of several pilot- and demonstration-scale facilities for potable reuse and has helped developed the test plans for crucial testing to demonstrate regulatory compliance and optimize design criteria for the full-scale projects. He is also involved in full-scale MBR designs for reuse. Mr. Bartolo has been with Trussell for 8 years and has over 10 years of experience in the fields of water, wastewater, and recycled water treatment.

PROJECT EXPERIENCE *(Select Projects)*

City of San Diego/Stantec/Brown and Caldwell

Title: Pure Water San Diego Program

Year: 2016 - present

Mr. Bartolo has assisted with the development of the Pure Water San Diego Program beginning with his role on the NCPWF 30% advanced treatment process design team. He also contributed to several components of key regulatory documents including the Title 22 Engineering Report, Operations, Plan, Joint Plan, and Operational Ramp-up Plan Mr. Bartolo has presented to the City's Independent Advisory Panel and has been involved in several meetings with the DDW to discuss several technical aspects of the project. Most recently, Mr. Bartolo has been a part of the Central Area Small-Scale Facility (CASSF) design team. Specifically, he has helped lead the advanced treatment design which consistes of two parallel treatment trains, each train representative of the treatment required for the two reservoir options (Murray and San Vicente). The design includes a Preliminary Design Report and 30%, 60%, 100%, and Final drawing and specification packages. In addition to the design, Mr. Bartolo helped lead the development of the CASSF testing and monitoring plan which outlines the in-depth testing that will occur over the first full year of operation. This testing is pivotal to inform full-scale design decisions and make direct comparision between the IPR and DPR trains being evaluated. Mr. Bartolo has also recently assisted in the planning of the City's full-scale Phase 2 Central Area Project, including a DPR Concept Proposal to DDW. He has also assisted the City in understanding key elements of the draft DPR regulations in CA, and commuinicating implications of the regulation changes for the City's future DPR project concept.

Role: *Deputy Project Manager/Engineer*

City of Ventura/Kennedy Jenks

Title: VWRF MBR/UV Project

Year: 2022 - present

Trussell is a subconsultant under the prime consultant Kennedy/Jenks to lead the process design for the biological nutrient removal (BNR), MBR, and ultraviolet (UV) disinfection process upgrades at the Ventura Water Reclamation Facility (VWRF). This project is a vital first step towards the implementation of the City's VenturaWaterPure Program which will include injection of purified water to a nearby aquifer for indirect potable reuse (IPR), and possible implementation of a future direct potable reuse (DPR) project. Mr. Bartolo is a project

EDUCATION

Bachelor of Science, Biology (Environmental Biology option) with minor in Botany, Humboldt State University, 2001

CERTIFICATIONS

Society of Wetland Scientist, Professional Wetland Scientist No. 2354

CDFW Plant Voucher Collecting Permit No. 2081(a)-24-012-V

International Society of Arboriculture Certified Arborist, No. WE-7449A

Certified Ecological Restoration Practitioner No. 0789

Central Coast Wetlands Group, Qualified California Rapid Assessment Method, Practitioner

Yolo Habitat Conservation Plan/ Natural Community Conservation Plan Approved Biologist

PATRICK BRITTON

Principal

Mr. Britton leads our Northern California teams for CEQA and NEPA compliance, biological resource studies, cultural resource management, landscape architecture, and regulatory permitting services. Additionally, he manages the preparation and submission of Section 404 permit applications (USACE), Section 401 water quality certification applications (RWQCB), permit applications for Coastal Zone Management and McAteer-Petris Act compliance (San Francisco Bay Conservation and Development Commission [BCDC]), and Section 1602 Agreements (CDFW). With 23 years of professional experience, he has completed environmental compliance documents, permits, and technical reports for a variety of clients and project types throughout California, Nevada, and Utah. Mr. Britton has extensive experience leading teams and managing complex projects, ensuring that appropriate entitlements are received in a timely manner and within budget, and helping clients to navigate applicable local, state, and federal regulations.

Moss Landing Wildlife Area. Environmental Compliance Specialist for a 300-acre habitat restoration project in Monterey County. Successfully prepared and coordinated permit applications through various agencies including the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Moss Landing Harbor District, Coastal Commission, and Monterey County. The high number of federal endangered species and their critical habitats and the contention of scour occurring along Elkhorn Slough adjacent to the project site and subsequent deposition in the harbor (for both the Harbor District and the Coastal Commission) were issues that required especially careful navigation. Work performed for Ducks Unlimited, Inc. in partnership with the California Department of Fish and Wildlife Moss Landing Wildlife Area.

Bay Restoration Regulatory Integration Team (BRRIT). Represented Ducks Unlimited, Inc., as a stakeholder, and as part of a larger planning group working to develop streamlined permitting efforts for restoration and other multi-benefit type projects throughout the larger San Francisco Bay Area. Coordinated with regulatory agencies (U.S. Environmental Protection Agency [EPA], USACE, USFWS, NOAA NMFS, SFBRWQCB, CDFW, and BCDC) and other stakeholders (San Francisco Bay Restoration Authority, California State Coastal Conservancy, Santa Clara Valley Water District, Bay Area Toll Authority, and East Bay Regional Park District) to improve the permitting process for multi-benefit habitat restoration projects and associated flood management and public access infrastructure in the San Francisco Bay and along the shoreline of the nine Bay Area counties, excluding the Delta Primary Zone.

Sears Point Wetland Restoration. Environmental Compliance Specialist for a 955-acre tidal wetland restoration project in San Pablo Bay, Sonoma County. Successfully coordinated, prepared and negotiated permit applications and other agreements for a phased construction approach through various agencies including the U.S. Army Corps

EDUCATION

Bachelor of Science, Environmental Economics & Policy; Minor-City and Regional Planning, University of California, Berkeley, 2013

Geographic Information System Certified, San Francisco State University, 2015

PROFESSIONAL AFFILIATIONS

Association of Environmental Professionals – Superior Chapter Board Secretary

LESLEY OWNING

Principal Planner

Ms. Owning is a Principal Planner with over 12 years of experience in the provision of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documentation for a variety of project types including water and wastewater infrastructure improvement; restoration; renewable energy; parks and recreation; broadband and telecommunications infrastructure; transportation; and residential, commercial, and mixed-use land development. She manages complex, multi-disciplinary projects from project bid through project construction, ensuring project deliverables are technically accurate and meet requirements under CEQA, NEPA, or other relevant federal, State, and local regulations. Ms. Owning also develops CEQA review and strategy plans early in the project planning phase and prepares project site environmental constraints analyses. She stays abreast of recent CEQA case law and changes to the State CEQA Guidelines and requirements through on-going education and participation in professional environmental planning groups and conferences. Ms. Owning manages HELIX's Northern California Environmental Planning Group.

Yuba City Aquifer Storage and Recovery Well System (2023 - 2024). Principal Planner/Project Manager for the preparation of a CEQA IS/MND and supporting air quality/greenhouse gas emissions, biological resources, cultural resources, and noise/vibration technical studies for the Aquifer Storage and Recovery (ASR) Well Project in the City of Yuba City. To close the gap between future water supply and demand and maximize their allocation of water during wet years, the City proposes to construct an ASR system with a new injection well and associated infrastructure at the Water Treatment Plant (WTP) site. The new ASR system will capture water when it is abundant, such as during a rainy season or spring snowmelt, and store water in an underground aquifer to allow for the recovery of that water when needed. HELIX is supporting the City through CEQA processing and regulatory permitting. Work is being performed as a subconsultant to Carollo Engineers in close coordination with the City of Yuba City as the lead agency.

Delta Water Treatment Plant Groundwater Recharge Basin (2024). Project Manager for preparation of an IS/MND and technical studies for the expansion of the Delta Water Treatment Plant's (DWTP) capacity and the construction of three groundwater recharge basins on 45 acres. The future capacity of the DWTP is anticipated to expand from 30 million gallons per day (MGD) to 60 MGD to supply the groundwater recharge basins. The IS/MND is tiered from the Stockton Delta Water Supply Project Program EIR. Technical studies include air quality/greenhouse gas emissions analysis, biological resources assessment, aquatic resources delineation, cultural resources assessment, and noise and vibration analysis. Work performed as a subconsultant to Nexgen with the City of Stockton Municipal Utilities Department as the lead agency.

EDUCATION
Bachelor of Science, Mechanical Engineering, University of California, Davis, 1991

PROFESSIONAL AFFILIATIONS
Association of Environmental Professionals

MARTIN ROLPH

Senior Environmental Specialist

Mr. Rolph is an environmental specialist with 10 years of experience in air quality, greenhouse gas, and noise impact analysis for California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) compliance, and 15 years of engineering experience. He is proficient in the use of the California Emissions Estimator Model (CalEEMod), the Roadway Construction Model, AP-42 Emissions Factors, EMFAC and OFFROAD Emissions Inventory, and AERMOD/HARP2 health risk assessment tools and evaluating data and model results in accordance with CEQA Guidelines adopted by various air districts in northern California. Mr. Rolph is also proficient in the use of the Computer Aided Noise Abatement (CadnaA) outdoor noise model, the Federal Highway Administration (FHWA) Highway Traffic Noise Model (TNM), the FHWA Roadway Construction Noise Model (RCNM), and the application of other numerical techniques and methods for evaluating and mitigating noise impacts from stationary sources. Mr. Rolph brings his extensive engineering experience to the profession of environmental planning, including mathematical modeling and analysis of systems, preparation of technical documentation, and regulatory compliance analysis.

City of Modesto Municipal Groundwater Supply Contamination Prevention and Cleanup Project (2023). Air Quality/Noise Specialist for preparation of technical studies in support of CEQA IS/MND. The proposed project is intended to address non-point source impacts by arsenic, nitrate, and uranium and consists primarily of modification of water supply well field pumping operations to reduce contaminant levels in raw pumped groundwater and construction of managed aquifer recharge (MAR) basins to increase the volume of uncontaminated water within the aquifer system. The City is considering construction and/or modification of five MAR basins to recharge groundwater supplies in the region. Prepared construction noise modeling and noise report and AQ/GHG modeling and report. Work is being performed for the City of Modesto under a sub-contract with Trihydro Corporation.

Fort Bragg Waste Transfer Station IS/MND (2022). Air Quality/Noise Technical Specialist for the preparation of air quality, greenhouse gas emissions, energy, and noise technical reports to support the preparation of an IS/MND for an solid waste transfer station and recycling/beverage container buyback center. Work is ongoing and being performed for the City of Fort Bragg.

San Juan Water District Kokila Reservoir Replacement (2022). Air Quality Specialist for the preparation of a technical study to determine the air quality impacts and effects of a reservoir replacement project in the community of Granite Bay, Placer County. Analysis was prepared to support State Water Resources Control Board CEQA-Plus requirements and the Drinking Water State Revolving Fund Program, including a conformance analysis with the Federal Clean Air Act. Work was performed as a

HELIX Environmental Planning

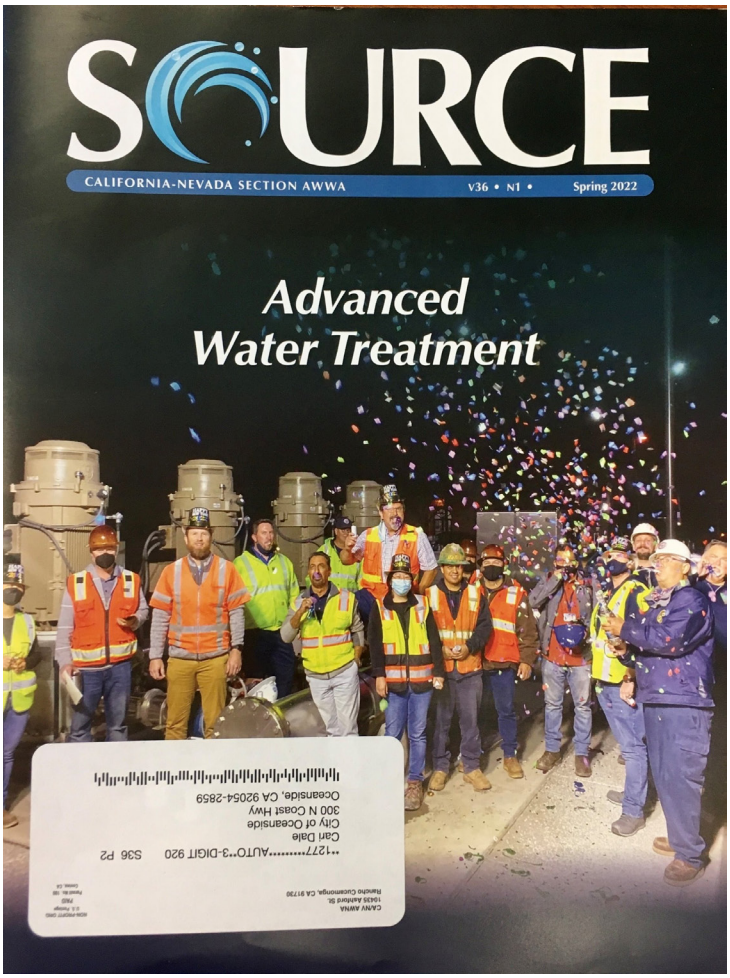
TAB D

References

REFERENCES

List of public agencies or clients for whom similar work has been performed, with the name, title, and phone number of a contact person. The City may request a copy of a similar report prepared previously by the firm for another agency.

PROJECT NAME	Groundwater Return Flow Title XVI Feasibility Study **FEASIBILITY STUDY**	Regional Plant UV Disinfection System Upgrade Feasibility Study **FEASIBILITY STUDY**	Pure Water Oceanside **FEASIBILITY STUDY**	Indian Wells Title XVI Feasibility Study **FEASIBILITY STUDY**
CLIENT	Rainbow Municipal Water District	Victor Valley Wastewater Reclamation Authority	City of Oceanside	Stetson Engineers
CONTACT	Chad Williams, *Engineering and CIP Manager*	Latif Laari, *Environmental Compliance Manager*	Lindsay Leahy, *Water Utilities Director*	Stephen Johnson, *Vice President*
PHONE	760.728.1178	760.246.8638 ext. 285	760.435.5913	626.331.7065
EMAIL	**cwilliams@rainbowmwd.com**	**llaari@vvwra.com**	**lleahy@oceansideca.org**	**jeffh@stetsonengineers.com**



At Hoch, we are driven by a commitment to engineering excellence and environmental stewardship. Our pioneering project showcased on The Source's cover exemplifies our dedication to redefining industry standards and setting new benchmarks for innovation in water reuse initiatives.

> **For the past seven years, Hoch Consulting has provided exceptional service to the City at an affordable rate related to the management and beneficial use of the Mission Groundwater Basin.**
>
> **Lindsay Leahy, Water Utilities Director, City of Oceanside**

TAB E

Scope of Work

SCOPE OF WORK

Provide an explanation of tasks associated with the project, including how you propose to complete each task.

PROJECT UNDERSTANDING

The City of Fort Bragg is undertaking a critical infrastructure planning project to assess the feasibility of using recycled water for various reuse applications, aimed at enhancing the resilience and reliability of its water system. In recent years, local water supplies from Waterfall Gulch, Newman Gulch, and the Noyo River have been severely impacted by drought, increasing the City's reliance on the Noyo River. In 2021, this led to the declaration of a Stage 4 emergency water crisis due to critically low water levels. The City of Fort Bragg Recycled Water Feasibility Project (Project) will focus on identifying and prioritizing the most viable alternatives, providing a strategic plan for implementing cost-effective treatment technologies that comply with current regulations.

Hoch has direct experience with the prescriptive funding requirements for meeting Reclamation's Standards.

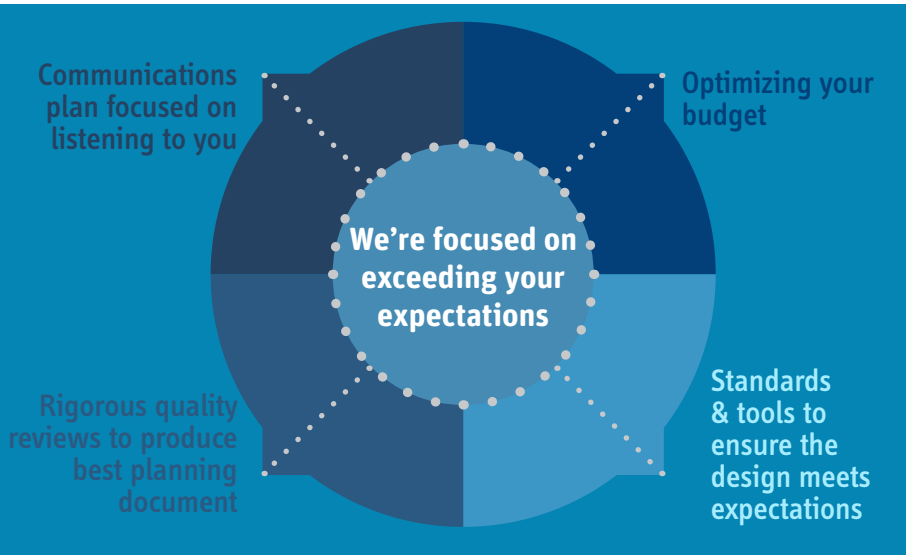
Hoch will follow Reclamations WTR 11-01 guidance document for developing the Feasibility Report and provide any necessary Crosswalk Documentation to meet WRFP grant requirements ensuring that the City qualifies for both state and federal grants for construction.

Fort Bragg, with a population of approximately 7,000 residents, is classified as a Severely Disadvantaged Community (SDAC). The City has received grant funding from the State Water Resources Control Board through the Water Recycling Funding Program Planning (WRFP) Grant to conduct this Project. The resulting work product must include all program elements outlined in Agreement No. D2305010.

Fort Bragg WTF

Key project elements include assessing customer demands, available sources of recycled water, cost estimates and project feasibility, system hydraulics and capacity, pollution control alternatives, potential environmental impacts (both beneficial and adverse), pipeline locations, and the feasibility of serving customers. The Agreement specifies several milestones, including a mid-course meeting with a target date of January 31, 2025, and a Final Project Report Submittal and Work Completion Date of of May 31, 2025.

Hoch's Advantage: Collaborative Approach Maximizes Value. We listen to and collaborate with our clients. To fully understand your vision for success on this project requires a "meeting of the minds." We rely on your operations staff to provide day-to-day working knowledge of the systems and we know, having used this approach on many successful projects that this valuable perspective results in creative ideas and technically solid solutions.



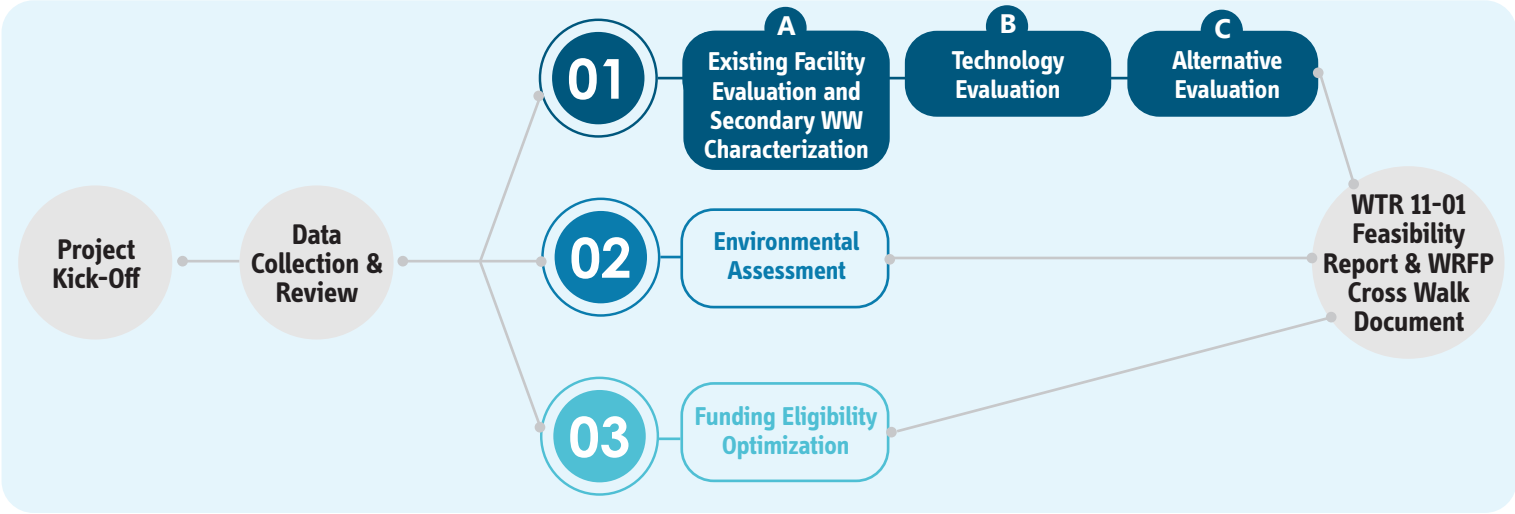
TECHNICAL APPROACH:

Hoch has assembled an industry leading team of experts to deliver a comprehensive plan for implementing a recycled water Feasibility Report for the City of Fort Bragg. Our approach includes three core strategies to successfully meet project goals:

01 Existing Facility Evaluation and Secondary WW Characterization, Technology Evaluation, and Alternative Evaluation

02 Environmental Assessment

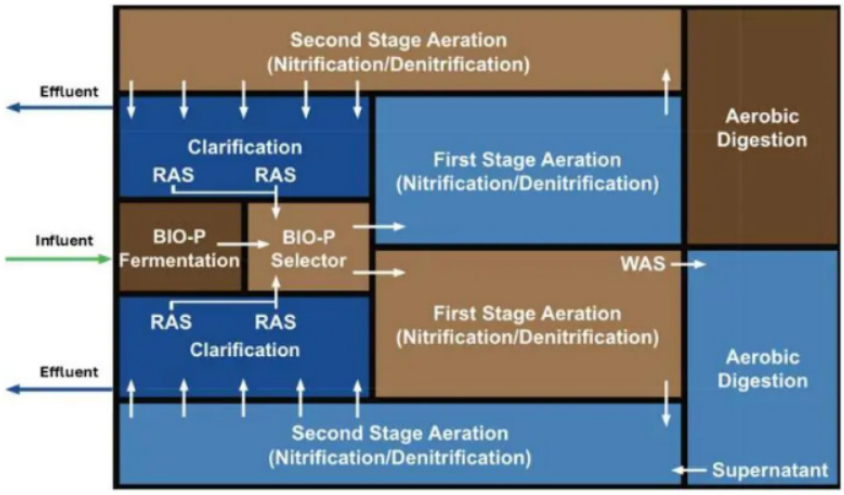
03 Funding Eligibility Optimization



01 A. Existing Facility Evaluation and Secondary WW Characterization

Hoch and our teaming partner, Trussell Technologies, will conduct a wastewater characterization study to inform decision-making surrounding reuse planning. Wastewater characterization for secondary treatment is pivotal for recycled water planning as it allows an understanding of influent pollutants, optimizing treatment methods, and complying with environmental regulations. By identifying pollutants and optimizing the secondary treatment, for example, for nutrient removal, effective tertiary and advanced water treatment can be planned to ensure regulatory compliance with recycled water policies, minimizing environmental impacts, protecting public health, and promoting resource recovery in wastewater management. Trussell will review the secondary wastewater quality from the City's existing Aeromod biological treatment process.

Trussell Technologies is an industry leader in developing secondary wastewater characterization standards and studies and has pioneered study development in California. The study will determine the effectiveness of upstream processes in removing and inactivating pathogens, which helps select appropriate treatment components for this phase of the work and for future expanded phases. As a consultant to the City of Oceanside, their work in this area was recognized by the Obama White House Administration in the "Commitments to Action on Building a Sustainable Water Future." Trussell's familiarity in leading this type of study will be pivotal in guiding this project to success.



Existing Aeromod Biological Treatment Process

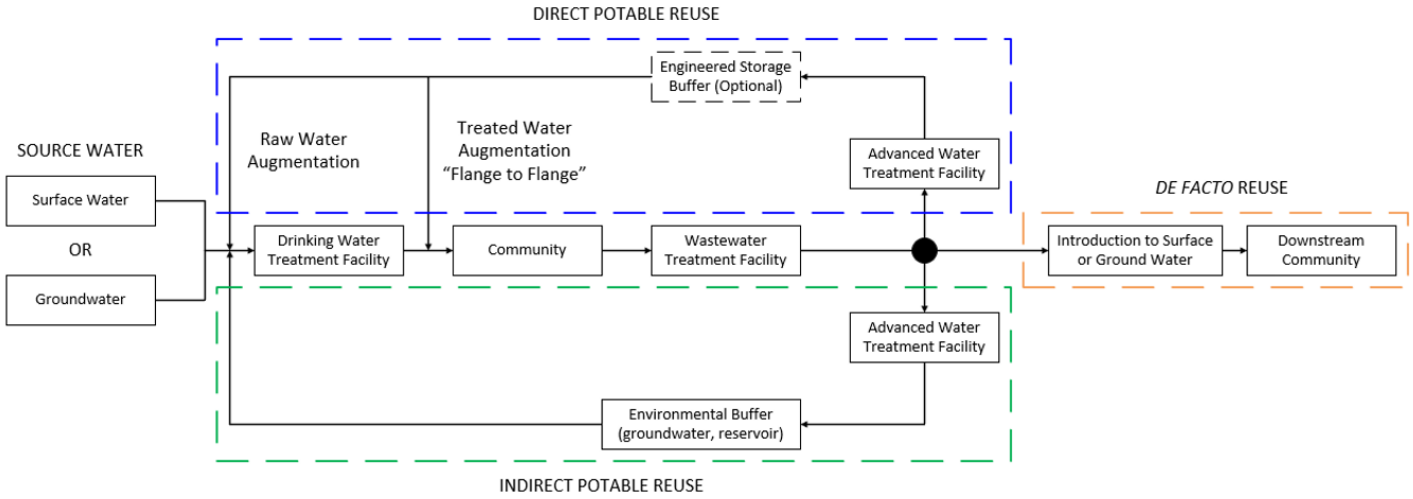
01 B. Technology Evaluation

Following secondary treatment characterization, Hoch and its partner will evaluate technology alternatives for tertiary treatment, including filtration and disinfection per Title 22 Recycled Water regulations and indirect potable and direct potable options. Selecting appropriate treatment technologies is crucial for the City to establish a sustainable future for its customers. Each technology has specific advantages, limitations, and applicability based on effluent quality requirements, treatment objectives, site conditions, operational considerations, and cost. Our Project Team possesses extensive experience in designing, operating, and optimizing Title 22 Recycled Water facilities statewide, covering biological treatment, filtration technologies, and disinfection as well as processes involved with IPR and DPR treatment. Our operational expertise allows us to consider essential evaluation criteria beyond costs, such as process operability, maintenance ease, operator safety, and overall robustness. Our goal is to conduct comprehensive evaluations to ensure the City adopts the most suitable technical solutions for a resilient water reuse project, paving the way for future water reuse initiatives. The evaluation will include, but is not limited to the following process treatment alternatives:

Technology Selection

TECHNOLOGY SELECTION AND TREATMENT TRAIN ALTERNATIVE EVALUATION

Selecting the right Reuse approach involves a through understanding of available treatment technologies for Recycled Water, Indirect Potable Reuse, or Direct Potable Reuse.

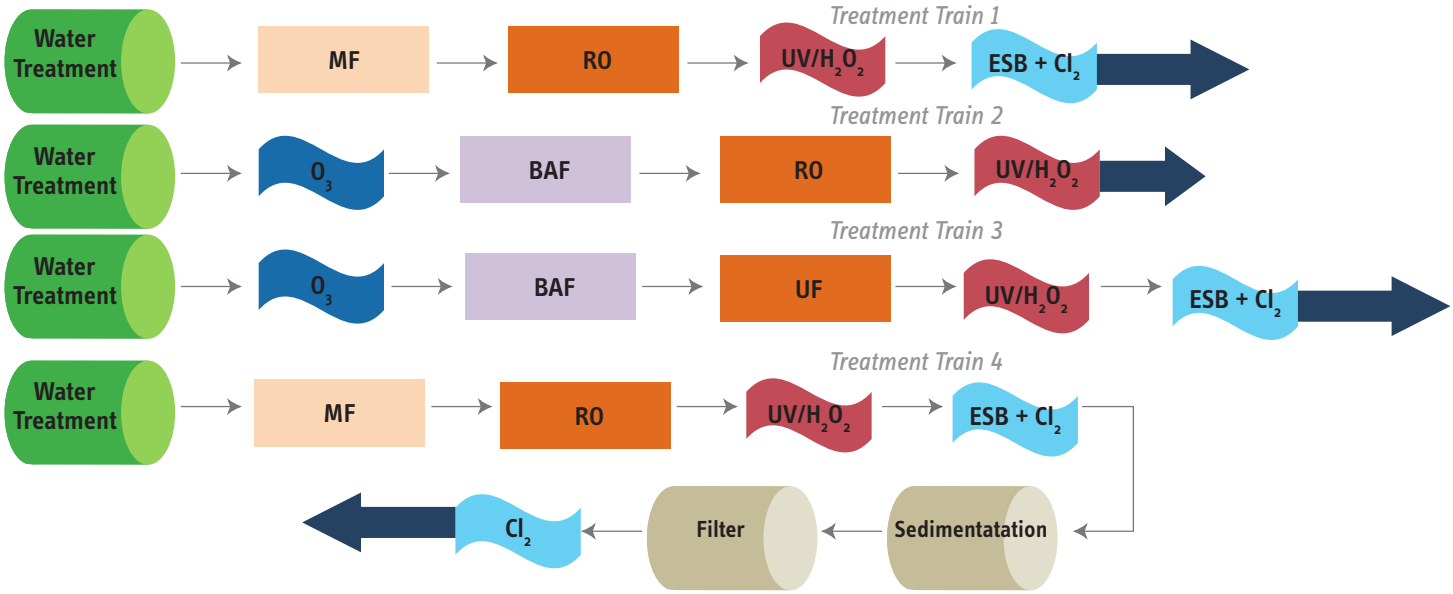


Available Reuse Options

The selected approach will dictate the level of treatment required as shown in this figure.

Reuse Type	Pathogen	Required Log Reduction
Indirect Potable Reuse (IPR)	Enteric Viruses	12 log
Indirect Potable Reuse (IPR)	Giardia Cysts	10 log
Indirect Potable Reuse (IPR)	Cryptosporidium Oocysts	10 log
Direct Potable Reuse (DPR)	Enteric Viruses	20 log
Direct Potable Reuse (DPR)	Giardia Cysts	14 log
Direct Potable Reuse (DPR)	Cryptosporidium Oocysts	15 log

Various treatment technologies may be applied to meet the required virus, Giardia, and Cryptosporidium removal requirements. Trussell will evaluate various treatment trains for recycled water, indirect potable reuse and direct potable reuse. Unit process for each treatment technology will be developed with the advantages and disadvantages of each process clearly defined.



Summary of Various DPR Treatment Trains and Available Unit Processes

Trussell Technologies is THE industry leading experts for evaluation of Direct and Indirect Potable Reuse Treatment Technologies.

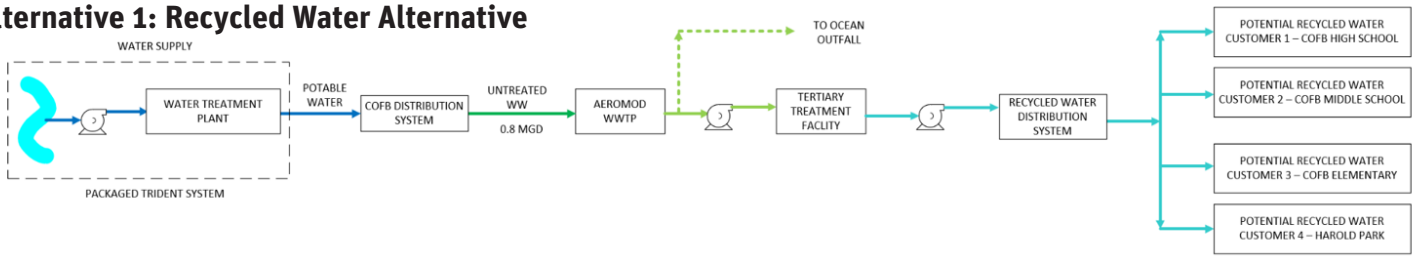
C. Site Planning Alternative Evaluation

Hoch will use the information developed in the technology evaluation to establish up to three site alternatives, including preliminary site layouts, planning criteria, and cost estimates. Additionally, Hoch will include an evaluation of the required planning alternatives, including a no-project alternative. Each site alternative will be incorporated into the feasibility report as described below.

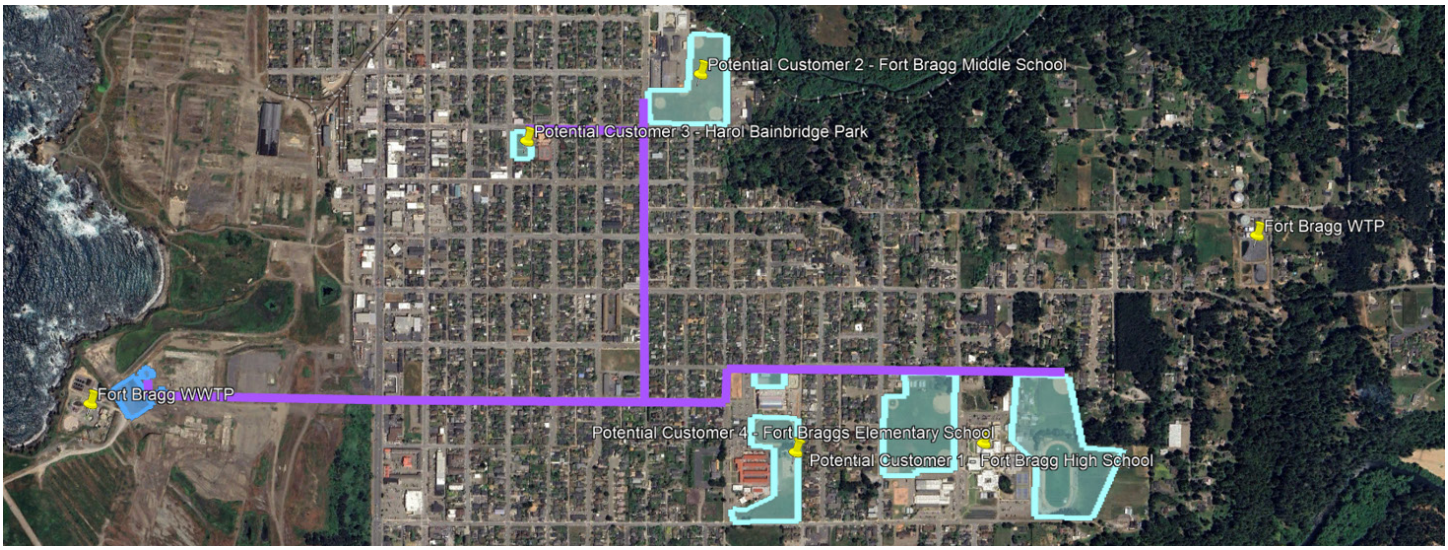
01 C. Alternative Evaluation

Hoch will use the information developed in the technology evaluation to establish up to three alternatives, including a Recycled Water Alternative, Indirect Potable Reuse Alternative, and Direct Potable Reuse Alternative. The Alternative evaluation will include preliminary site layouts, planning criteria, and cost estimates. Hoch will include an evaluation of the required planning alternatives, including a no-project alternative. Each site alternative will be incorporated into the feasibility report.

Alternative 1: Recycled Water Alternative



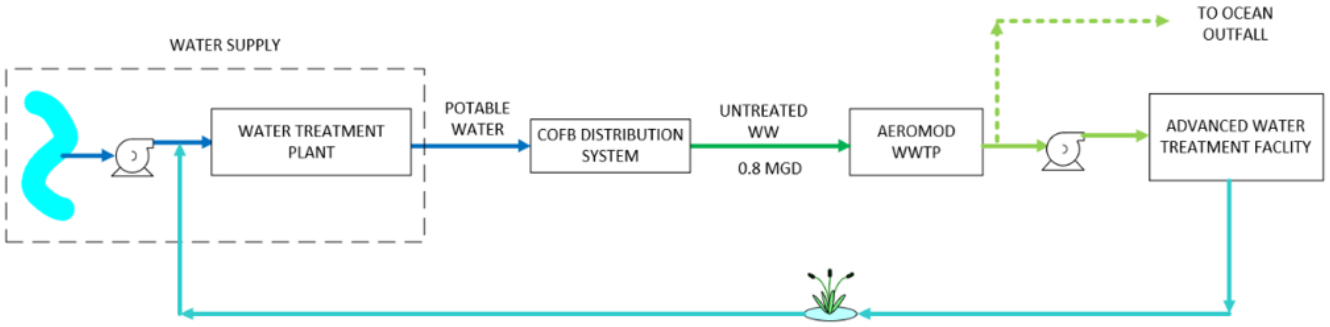
Alternative 1 will focus on identifying the planning requirements for implementing a recycled water (purple pipe) program including identifying potential customers and the necessary capital improvements to delivery Title 22 recycled water. Treatment Alternatives for filtration and disinfection will be evaluated in the technology evaluation process and planning decisions and estimates will be based on the preferred treatment technology. The process flow diagram and site layout figures below show a conceptual recycled water system for the City of Fort Bragg.



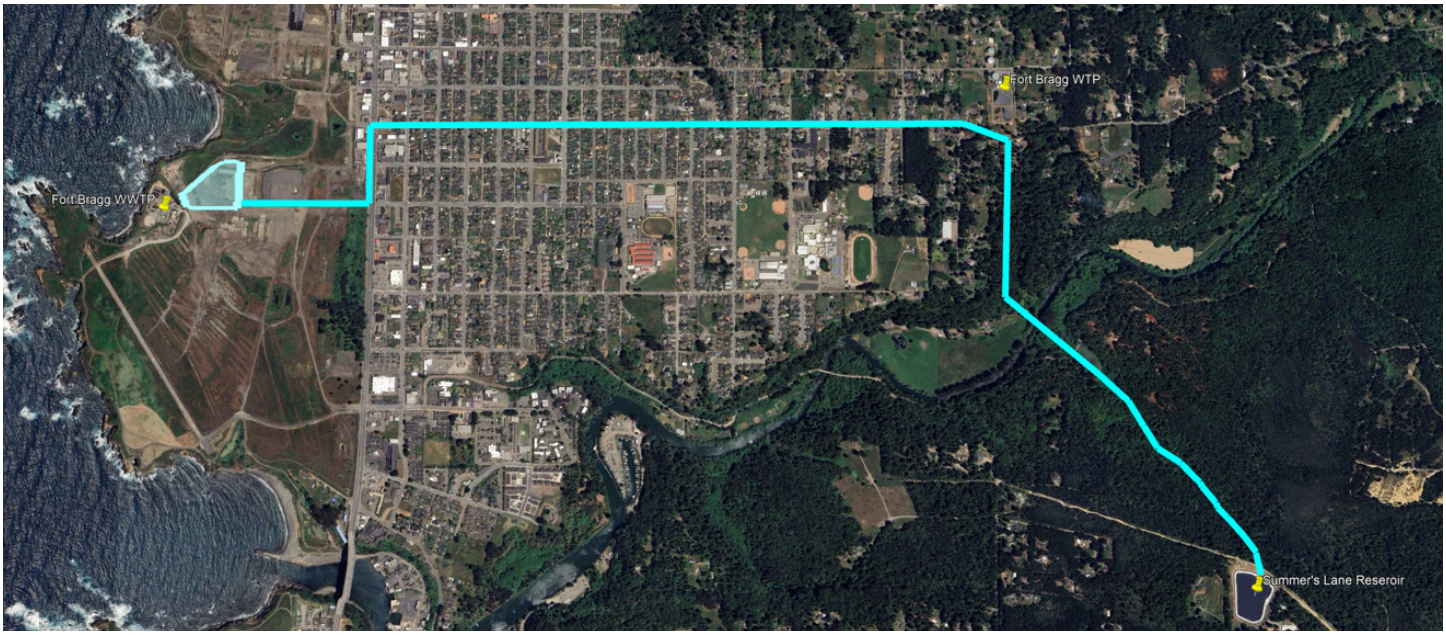
Potential recycled water customers and distribution pipeline.

BRIEF DESCRIPTION	Build recycled water infrastructure to deliver Title 22 compliant water to 4 potential customers. • Fort Bragg High School • Fort Bragg Middle School • Fort Bragg Elementary School • Local Parks
IMPROVEMENTS	• New Tertiary Treatment Filters ($$) • New Tertiary Treatment Disinfection System ($) • New Recycled Water Storage Tank + Pump Station ($$$) • New Recycled Water Distribution System ($$)
ADVANTAGES	• The estimated annual water usage for irrigating a 17-hectare grass parcel in Fort Bragg, California, is approximately 41,057,226 gallons per year • Fort Bragg has a population of ~7,000 people with an average daily water production of 0.9 MGD or 328.5 MG annually. • Providing Recycled water to four customers would reduce reliance on the local water supply by ~10-12%.
DISADVANTAGES	• Limited amount of customers • Need to develop large capital improvements to support recycled water system • Still susceptible to drought
RELATIVE COSTS	$$$$$$$$

Alternative 2: Indirect Potable Alternative



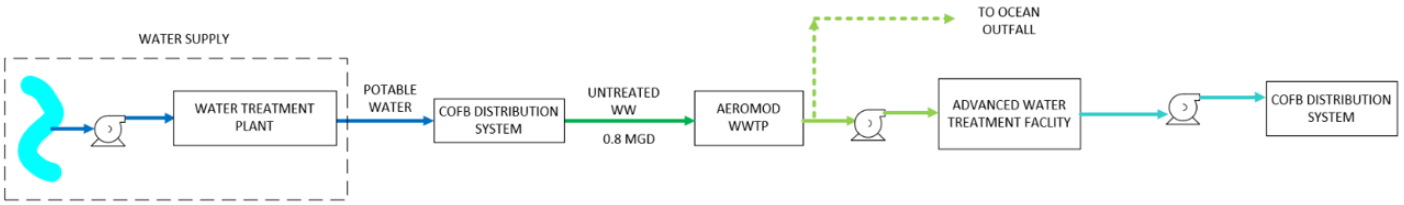
Alternative 2 will focus on a preferred IPR treatment train and the necessary planning and capital improvements. A conceptual layout using Summer's Lane Reservoir as an environmental buffer is shown below, with water then being treated by the City's WTP before going to the distribution. A big benefit of this approach is that the City can augment it's supply during drought conditions by diverting flows from an AWPF to the City's reservoir. The table below summarizes the proposed Alternative 2 approach.



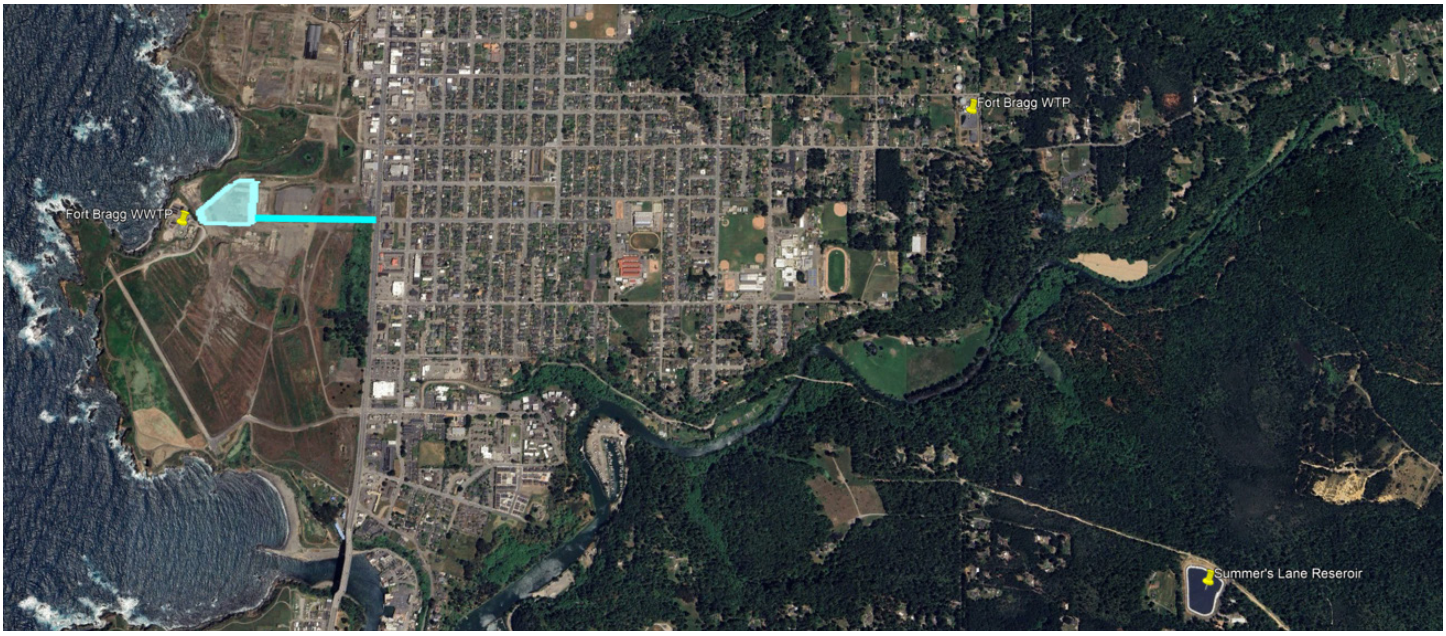
Conceptual pipeline alignment for Alternative 2: IPR

BRIEF DESCRIPTION	Development of Advanced Water Treatment Facility for IPR
IMPROVEMENTS	• Advanced Water Treatment Facility (Treatment Train to be determined in technology evaluation stage of project) ($$$) • Ozone > BAF > MF/RO > UV-AOP > Distribution • Pump Station ($$) • Distribution System Connection ($)
ADVANTAGES	• Can have a lower capital costs than IPR to go directly to distribution system • High Water Quality • Protects against drought by augmenting water supply
DISADVANTAGES	• Challenge to find operations staff who meet certification requirements
RELATIVE COSTS	• $$$$$

Alternative 3: Direct Potable Reuse Alternative



Alternative 3 will evaluate the feasibility of the preferred DPR treatment train and a direct connection to the City's distribution system. The advantage of this alternative is that it has the potential to be implemented at a lower cost than Recycled water or IPR, provide an extremely high water quality, and protects against droughts. A summary of the Alternative 3 approach is provided in the Figures and Table below.



Alternative 3: DPR facilities map

BRIEF DESCRIPTION	• Development of Advanced Water Treatment Facility for DPR
IMPROVEMENTS	• Advanced Water Treatment Facility ($$$) • Pump Station ($) • Pipeline to Transport Water to Environmental Buffer ($$$)
ADVANTAGES	• Utilizes existing water infrastructure including water treatment plant and distribution piping • High Water Quality
DISADVANTAGES	• Challenge to find operations staff who meet certification requirements • Additional advanced treatment requirements versus IPR • Additional regulatory requirements including validation studies, regulatory documents, monitoring, and operator staffing and certification
RELATIVE COSTS	$$$$$$$

FEASIBILITY REPORT

Hoch will develop a comprehensive Feasibility Report using the Bureau of Reclamation WTR 11-01 guidance. Hoch's Water Resources team has the experience to guide the technical decisions and planning documents into Reclamation's prescriptive funding requirements. The team is fully capable of creating the necessary Crosswalk documentation to meet the WRFP Planning Grant requirements.

Hoch has the best available team to implement technical strategies for the prescriptive Feasibility Study process.

BUREAU OF RECLAMATION

"Aaron Gress provided complex technical solutions in managing the only second pass agricultural drainage treatment facility in the United States. His contributions ranged from complex calculations to directing multi-step optimization efforts. He was always willing to be the facilities' hands on leader to direct project success. **I would consider Aaron a great asset to any team looking for a dedicated individual who seeks creative and practical solutions to water treatment challenges.**"

Miguel Arias-Paic
United States Bureau of Reclamation, Technical Practice Lead

02 Environmental Assessment

- Hoch and our subconsultant Helix Environmental, will determine all necessary permits, including recycled water permits needed to implement a Recycled Water Project, Indirect Potable Reuse Project or a Potable Reuse Project. .
- HELIX will identify potential impacts from the proposed project, including energy requirements, GHG emissions and potential reductions in treated water discharges to the Pacific Ocean and summarize the results into an Environmental Assessment Summary TM.
- Helix will identify environmental opportunities and constraints and the necessary analysis to ensure compliance with the California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) and propose mitigations where there are potential impacts on local ecosystems.
- Make recommendations for the next steps regarding the recommended treatment approach.

03 Funding Eligibility Optimization

Hoch will develop a crosswalk document to meet the requirements of WRFP Funding Agreement D2305010. Our work will take a detailed and systematic approach to ensure that different sets of standards, guidelines, and requirements are effectively aligned and compared to that developed as part of the Bureau's WTR 11-01 guidance. Hoch will conduct a thorough analysis of the existing documents and frameworks that need to be cross-referenced, identifying key elements within each document and mapping these elements in a matrix table. A task to evaluate recycled water market assurances, a section not required per WTR 11-01, will be developed to satisfy WRFP needs. The benefits of a crosswalk document are manifold; it saves time and resources by providing a ready reference that reduces the need for repeated analysis or interpretation of documents and it also ensures that the city is qualified to apply for grant construction funding programs through both the WRFP and the Bureau of Reclamation.

SCOPE OF WORK

TASK 1 – DATA COLLECTION AND REVIEW:

TASK 1.1 DATA COLLECTION & REVIEW:

Hoch wil review existing data on the City's water and wastewater systems, including WWTP operations, water demands, and wastewater generation and will conduct a detailed review of current wastewater treatment processes, effluent quality, and existing infrastructure. Hoch will review studies, reports, data, and other information regarding the City and the proposed Project. We propose to use historical and existing information to develop a Feasibility Study; however, we will also identify any potential critical knowledge gaps and make recommendations for additional investigations if warranted.

As additional data gaps are identified, site visits can be conducted to collect required information for proposed treatment integration. Hoch will prepare and maintain a list of supplemental data needed for the project, submit the list to the City, and coordinate the data collection and evaluation.

TASK 2 - RECYCLED WATER MARKET ASSESSMENT:

TASK 2. 1 – IDENTIFY POTENTIAL RECYCLED WATER CUSTOMERS

Hoch will analyze current water use within the City and assess the potential market for recycled water, identifying opportunities for potable reuse and non-potable applications for up to four (4) potential users.

Estimate recycled water demand, considering both current and projected future needs based on City growth patterns.

This task assumes the most recent Urban Water Management Plan is available.

TASK 2.2 – MARKET ASSESSMENT

Hoch will meet with CoFB staff to discuss and explore options for assuring use of recycled water by end users, as required by the Water Recycling Funding Program Guidelines. Hoch will present the potential benefits, drawbacks, and anticipated implementation timelines of executing either a mandatory use ordinance in partnership with the local customers, developing a recycled water user contract or forming a special assessment district.

Once a pathway has been determined, Hoch will draft the appropriate documents (either a mandatory use ordinance or a recycled water user contract template) for the City's implementation.

Findings from Task 2 will be incorporated into the Cross Walk Document.

TASK 3 - ALTERNATIVE TREATMENT TECHNOLOGIES:

Hoch and it's teaming partner Trussell Technologies will identify and evaluate various advanced treatment technologies that can meet potable water standards and will assess the feasibility of integrating these technologies with the existing wastewater treatment plant infrastructure. The following subtasks include:

TASK 3.1 SECONDARY WASTEWATER TREATMENT CHARACTERIZATION TM

The performance of the biological treatment process is the most impactful consideration for optimizing capital cost, operations and maintenance (O&M) costs, ease of operations, and effluent quality for any type of recycled water, IPR or DPR project. In this task, Hoch's process subconsultant, Trussell, will characterize the current performance of the secondary treatment process at CoFB's Wastewater Treatment Plant (WWTP). In the first month immediately following notice-to-proceed (NTP), Trussell will work with WWTP operations staff to gather pertinent information to the design, operation, and performance of the WWTP. Requests for information will include, but are not limited to, as-built drawings, process equipment information (e.g., blowers), two years of daily process and lab data (e.g., BOD, TKN, ammonia, nitrate, SRT, MLSS, MLVSS, SVI, DO, etc.), and diurnal trends from SCADA (e.g, flows). The project team will utilize this data, to perform an evaluation of the secondary treatment process. The main goal of this evaluation is to assess whether the biological process is robust enough to reliably feed a high-quality secondary effluent to a tertiary treatment system or advanced water purification facility. A well-performing biological process is vital to ensure that recycled water or potable reuse regulations are met downstream. Recommendations will be provided for any potential process optimizations that are identified which may include simple operational target revisions (e.g., DO, SRT, etc.) and/or identification of infrastructure modifications (e.g., blowers, process analyzers, basin modifications, etc.) in order to optimize the performance of the WRF.). The evaluation will also include projected capital and O&M costs associated with any proposed process modifications.

Trussell will summarize all data, analyses, recommendations, and costs in a draft Secondary Wastewater Treatment Characterization TM. Following a workshop (included under Task 10 and City review of the draft TM, a final Secondary Wastewater Treatment Characterization TM will be developed and submitted.

TASK 3.2 – TREATMENT TECHNOLOGY EVALUATION

In this task, Hoch's process subconsultant Trussell will evaluate various technologies for recycled water, IPR, and

DPR to meet current regulations. Trussell will present and compare the various treatment train options for each alternative, including considerations such as capital cost, operations cost and challenges, maintenance cost and challenges, treatment efficacy, and layout considerations.

- Technologies Evaluated for Recycled Water Include:
    - Cloth Filters
    - Granular Media Filters
    - Membrane Filters
    - Ozone
    - UV
    - Chlorine
- Technologies Evaluated for Advanced Water Purification Facilities (IPR and DPR) Include:
    - Ozone
    - Biologically Activated Carbon Filters
    - Ultrafiltration Membranes
    - Reverse Osmosis Membranes
    - UV-AOP
    - Environmental Storage Buffer
    - Engineered Storage Buffer
    - Chlorine

Additionally, the evaluation will include an investigation specific to the reverse osmosis (RO) process. By optimizing RO recovery, CoFB can maximize the production of high-quality purified effluent produced from its available wastewater sources while also minimizing the flow of RO concentrate that must be discharged. As part of the RO treatment technology evaluation, the following will be conducted to better understand the potential for high-recovery RO implementation:

- Site-specific sampling of inorganic constituents (e.g., aluminum, silica) at the WWTP to provide information on RO scaling potential.
- RO modeling with the site-specific sampling data to identify the maximum feasible recovery that can be sustained.
- Evaluation of different high recovery RO technologies such as closed-circuit RO (CCRO), flow-reversal RO (FRRO), and conventional 3-stage RO.

Trussell will summarize the unit process evaluations in a draft Treatment Technology Evaluation TM. Following a workshop (included under Task 10) and City review of the draft TM, a final Treatment Train for each recycled water option to be evaluated in the Feasibility Evaluation TM will be developed and submitted.

TASK 3.3 – RECYCLED WATER, IPR, AND DPR FEASIBILITY EVALUATION TM

Hoch's and it's teaming partner, Trussell, will perform a feasibility evaluation of the selected treatment trains for:

- Alternative 1 - Recycled Water;
- Alternative 2 - Indirect Potable Reuse; and
- Alternative 3 - Direct Potable Reuse

The evaluation will develop conceptual layouts for each alternative. The evaluation will build upon the work conducted during the treatment technology evaluation to develop conceptual layouts for each alternative, including conveyance infrastructure such as pump stations, storage tanks, and distribution piping. The TM will incorporate a high-level environmental assessment, market analysis, and regulatory evaluation, along with additional criteria, to help guide discussion about each option. The TM will include high level costs for each alternative and a Level/Class 5 cost estimate developed under Task 7 for the preferred alternative. The feasibility study will also consider other barriers to implementation such as regulatory requirements, environmental buffer considerations, RO brine discharge considerations, and pipeline alignment challenges.

Hoch and Trussell will summarize the findings of the evaluations in a draft Recycled water, IPR & DPR Feasibility TM. Following the City's review of the draft TM, a final Recycled Water, IPR & DPR Feasibility TM will be developed and submitted.

TASK 3 DELIVERABLES

- Secondary WW Characterization TM
- Treatment Technology Evaluation TM
- Recycled Water, IPR & DPR Feasibility TM

TASK 4 - HYDRAULIC AND SYSTEM ANALYSIS:

Hoch will review the City's existing hydraulic model for the sewer system and develop recommendations for impacts related to recycled water, IPR and DRP.

Hoch will review the existing hydraulic conditions and develop a Hydraulic Grade map to help the City make informed decisions related to each alternative. The analysis will include identifying pipeline locations and necessary infrastructure modifications to support the delivery of recycled water, IPR and DPR.

TASK 4 DELIVERABLES

- Hydraulic System Map

TASK 5 - REGULATORY REVIEW:

TASK 5.1 – REGULATORY/PERMITTING REVIEW

Helix environmental will assist Hoch with incorporation

of potential environmental constraints as part of the Feasibility Report, HELIX will prepare a high-level environmental summary that will identify relevant regulatory requirements, including water quality standards, permitting processes, and any applicable environmental regulations (e.g., CEQA). HELIX will provide Hoch and the City with recommendations regarding next steps in the environmental compliance process, including:

- Identification of anticipated future environmental studies necessary to support the CEQA compliance document or environmental permit applications, if applicable. These could include jurisdictional delineation(s) of waters of the U.S./waters of the State, focused surveys for rare plants or protected wildlife species, and/or design of greenhouse gas emissions mitigation.
- Whether the potential for significant impacts has been identified at the initial screening level that indicates that the preparation of an Environmental Impact Report (EIR) would be necessary, or whether a Mitigated Negative Declaration (MND) may be appropriate.
- Anticipated permit requirements associated with effects to waters of the U.S./waters of the State, such as a Clean Water Act Section 404 Permit, Clean Water Act Section 401 Water Quality Certification, and California Fish and Game Code Section 1602 Streambed Alteration Agreement.
- The anticipated timeline and cost for CEQA compliance, additional studies, and permit preparation and process.
- These recommendations will be presented in letter format, revised once based on comments from Hoch and the City.
- This task includes time for general project team and City coordination via email, conference calls, or other video conferencing media. No in-person meetings are included but can be provided at an additional cost.
- The results of HELIX's assessment and recommendations will be incorporated into the Environmental Assessment Summary Technical Memorandum to be prepared as described in Task 8 below.

TASK 5.2 – AGENCY COORDINATION

Hoch will work with the City to engage with regulatory agencies, including the State Water Resources Control Board and local authorities, to identify potential challenges and solutions for compliance.

Hoch will develop figures, summaries, and coordinate meetings as necessary to help the City.

TASK 6 - PUBLIC AND STAKEHOLDER ENGAGEMENT:

TASK 6.1 – STAKE HOLDER COORDINATION

Hoch will implement a comprehensive stakeholder coordination program to engage with local agencies, community groups, and the public throughout the project duration. Our approach begins with a detailed stakeholder analysis to identify key stakeholders, assess their knowledge levels, understand specific concerns, and determine preferred communication channels. This systematic analysis will inform the development of a strategic communication plan designed to build awareness, trust, and support for the proposed water reuse project. The plan will outline specific outreach methods, messaging frameworks, and engagement timelines tailored to each stakeholder group's needs and interests.

To ensure effective communication across diverse audiences, Hoch will develop and distribute a variety of informational materials including newsletters, fact sheets, infographics, and digital content that clearly explain the project's purpose, benefits, and impacts. These materials will address critical topics such as water quality standards, treatment processes, safety protocols, environmental benefits, and cost considerations. Special attention will be given to creating materials that effectively communicate technical aspects of Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR) in accessible, easy-to-understand language. The team will utilize multiple communication channels including direct mailings, email updates, social media platforms, and the project website to maximize reach and accessibility of project information.

Throughout the project, Hoch will maintain active engagement with regulatory agencies, local officials, community leaders, and environmental groups through targeted meetings, workshops, and regular project updates. A dedicated stakeholder feedback system will be established to collect, track, and respond to community input and concerns in a timely manner. This coordinated approach ensures transparent communication while building trust and understanding among all stakeholders. The team will regularly assess the effectiveness of communication strategies through surveys and stakeholder feedback, adjusting approaches as needed to maintain meaningful dialogue and support for the project. This comprehensive stakeholder coordination effort will create a foundation of informed understanding and acceptance of water reuse by proactively addressing misconceptions, highlighting project benefits, and maintaining open lines of communication throughout the project lifecycle.

TASK 6.2 – PUBLIC MEETINGS

Hoch will plan, coordinate, and facilitate two comprehensive public meetings strategically scheduled during key project phases to maximize stakeholder engagement and gather

meaningful community feedback. The first meeting will be conducted early in the project phase to present current water supply challenges and future demand projections, introduce the concept of water reuse and its role in sustainable water management, and explain IPR and DPR treatment processes and safety protocols. This initial meeting will also share case studies of successful implementations in other communities and gather initial community concerns and preferences. The second meeting will be held after preliminary alternatives analysis to present detailed project alternatives and their respective impacts, review water quality standards and regulatory requirements, discuss cost implications and potential funding mechanisms, and address concerns raised during the first meeting.

For each meeting, the meetings will feature informative display boards and handouts that explain technical concepts in accessible language, complemented by themed information stations staffed by subject matter experts. The meetings will cover critical aspects including treatment technology and water quality, environmental impacts and benefits, infrastructure requirements, cost and rate implications, and construction impacts and timeline. To ensure comprehensive feedback collection, multiple input mechanisms will be implemented, including comment cards, electronic polling, and dedicated verbal comment periods. Following each meeting, our team will compile and analyze all public feedback, incorporating relevant input into project development, provide response summaries to key concerns, and update stakeholder communication materials based on common questions. All meeting materials will be posted on the project website for those unable to attend, and Hoch will maintain ongoing dialogue through established communication channels to ensure continuous community engagement throughout the project duration.

TASK 7 - COST ANALYSIS:

Hoch will develop a Level/Class 5 cost estimate for each alternative, creating a preliminary estimate to assess project feasibility and guide early decision-making. This estimate will include broad approximations of capital, operating, and maintenance costs, with an accuracy range typically between -30% and +50%. Key activities include defining the project's general scope and gathering preliminary data, including anticipated treatment processes, distribution infrastructure, and potential permitting requirements. The final deliverable will document all assumptions, methodologies, and sources used, providing decision-makers with a high-level financial overview and a basis for determining potential funding and resource allocation.

Estimates will include costs for capital expenditures, operation, and maintenance of the selected recycled water treatment alternatives. The cost estimates will allow the City to compare implementing recycled water against other water supply alternatives. Hoch will not develop costs for additional supply alternatives.

TASK 8 - ENVIRONMENTAL ASSESSMENT:

Hoch's subconsultant, HELIX, will identify potential project impacts from implementation of the proposed project, including energy requirements/standards, greenhouse gas emissions, and potential reductions in treated water discharges to the ocean and provide a qualitative summary of anticipated impacts that may result from the project that would warrant more detailed analysis once the project description is fully complete for CEQA analysis. HELIX will evaluate potential impacts on the environment, including local ecosystems, and identify design features, permits, and/or mitigation measures to reduce potentially significant impacts where applicable.

The results of the assessment will be incorporated into an Environmental Assessment Summary Technical Memorandum for Hoch and City review, and HELIX will revise based on one round of Hoch and City comments.

TASK 8 DELIVERABLES:

- Environmental Assessment Summary TM

TASK 9 - DRAFT AND FINAL REPORTS:

TASK 9.1 – FEASIBILITY REPORT

Hoch will use the information developed in the previous task to complete a USBR Title XVI Feasibility Report. The Report will be developed using Reclamations WTR 11-01 formatting guidelines. At a minimum, the feasibility study will cover the following information:

- Introductory Information
- Statement of Problems & Needs
- Water Recycling Opportunities
- Description of Alternatives
- Economic Analysis
- Selection of the Proposed Recycle Project
- Environmental Considerations and Potential Effects
- Legal and Institutional Requirements
- Financial Capability of Sponsor
- Research Needs

Hoch will present findings at a mid-course meeting by January 31, 2025 and will incorporate feedback and submit the Final Project Report by October 15, 2025. Our schedule assumes an amendment to Agreement D2305010, extending the critical due date of May 31, 2025 to October 15, 2025. Should the granting agency

not approve an extension, Hoch will work with the city to revise the project schedule to the original critical due date of 5/31/2025.

TASK 9.2 – CROSS WALK DOCUMENTATION PREPARATION

Hoch will conduct a crosswalk between the Bureau of Reclamation's Title XVI Feasibility Study and the SWRCB's Water Recycling Funding Planning Study. The State Board allows for this budget conserving approach to meeting the study contents outlined in Agreement No D2305010. Hoch will compare and analyze the content of both documents to identify similarities, differences and areas of overlap and will create a mapping or alignment table that outlines the corresponding sections or topics in both documents, serving as a guide for the crosswalk analysis. Hoch will draft a report which will serve as the WRFP Planning Document, incorporating the alignment table, integrating shared data and information between the documents and develop sections to cover gaps between both documents.

Most of the technical details prescribed in WTR 11-01 are duplicative of requirements in the WRFP guidance documents with a few exceptions. We anticipate that the WRFP requirement to characterize wastewater and facilities will necessitate additional research and analysis above and beyond that detailed in the Bureau of Reclamation Feasibility Report. Our proposed approach to characterizing secondary wastewater, is proposed under Task 3, and will meet the intent of the WRFP guidelines. We also anticipate a gap associated with recycled water market assurances as it is not a requirement of WTR 11-01 and will be incorporated into the WRFP Crosswalk documentation for submittal to the Board.

TASK 9 DELIVERABLES:

- One Draft Feasibility Report
- One Final Feasibility Report with comments from the Draft Report incorporated
- Crosswalk Comparison of WRFP Planning Study and Title 16 Feasibility Study
- Mandatory Use Ordinance or Recycled Water User Contract Template

TASK 9 ASSUMPTIONS:

- Crosswalk documentation will be prepared after the development of the Bureau Feasibility Report.
- Our cost proposal assumes either implementation of the mandatory use ordinance or development of a user contract.

TASK 10 PROJECT MANAGEMENT:

TASK 10.1 INVOICE STATUS REPORTS

Hoch will prepare monthly invoices, including expenditures by task, hours worked by project personnel, and other direct expenses with the associated backup documentation. Monthly status reports will accompany each invoice and include comparisons of monthly expenditures and cumulative charges to budget by Task, including cost-to-complete, earned value, cash flow, and certified firm participation. Under this task, we will provide overall leadership and team strategic guidance aligned with the City's objectives and coordinate, monitor, and control the project resources to meet the technical, communication, and contractual obligations required for developing and implementing the project scope.

TASK 10.2 MANAGEMENT, COORDINATION AND MEETINGS

Hoch's Project Manager (PM) will manage and coordinate the technical and scope issues of the overall project. Progress meetings will be conducted as appropriate. Hoch will also coordinate with the City to communicate the status of the project.

Kick-Off Meeting – We will host an initial meeting to discuss the application schedule, identify team member roles and responsibilities, and review data requests. Most critically, we will clarify the project's scope of work, budget, schedule. We will also engage in a strategic discussion regarding how to effectively address and align with the funding program's scoring criteria and vet a technical narrative that best responds to the funding opportunity's evaluation criteria.

Schedule Development – Hoch will develop a detailed schedule with key milestones and check-ins (driven by the submittal deadline) that builds in time for the City to review, provide input, and issue final approvals and signatures prior to submittal.

Meetings and Workshops – Hoch will coordinate regular progress meetings with the City's PM as necessary and will assume two progress meetings a month. Workshops will be held at the key project milestones including the Secondary Wastewater Characterization, the Alternative Evaluation and the Feasibility Study workshop.

TASK ASSUMPTIONS:

- Kick-off meeting will be held in person by Hoch's Project Manager and Deputy Project Manager.
- Additional workshops and regular meetings will be virtual.
- Hoch assumes up to 14 regular progress meetings attended by Hoch's Project Manager and the City's Project Manager.

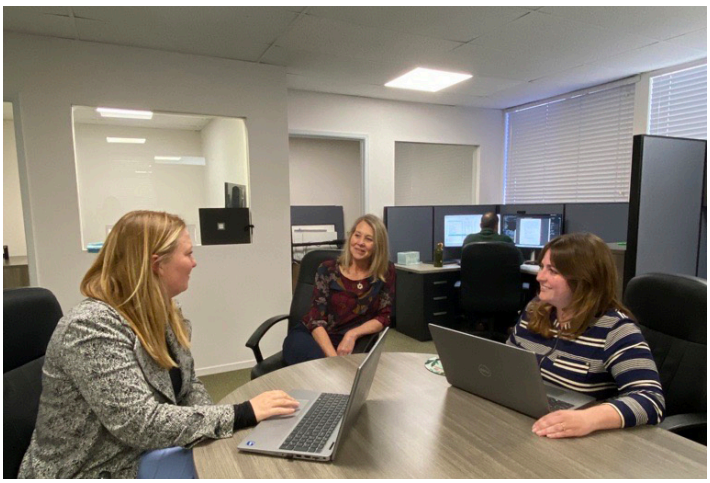
- Three, two-hour workshops will be held, and attended by Hoch Project Manager, Deputy Project Manager, and subcontractors.
- City Staff will provide the following:
  - Necessary information on the facilities and respond to additional requests for information.
  - Site access for site visits, with an operator familiar with facility as required.

TASK 11 – GRANT ADMINISTRATION (OPTIONAL)

Hoch proposes to administer the Water Recycling Funding Program award with the State Water Resources Control Board. A well-administered grant ensures that the grantee remains in good standing with funding agencies - a pivotal factor often considered in determining future awards. Hoch has a successful track record of post-award compliance activities. When providing post-award support, our first priority is to ensure the project is implemented in compliance with the terms of the grant agreement, which ensures that all stipulated funds are received as anticipated. Tasks performed include contract amendments, progress reporting, invoicing, financial reporting, auditing, final report writing, and project close out activities. We also review the agreement for all legislative and regulatory requirements and work with appropriate staff to ensure compliance as the project is implemented. The following list outlines our efforts:

Establish a comprehensive administrative schedule, including dates for which deliverables, reports, invoices, and other key submittals must be prepared and submitted to the granting agency.

- Develop a convenient process with the client for requesting and receiving source documentation required to complete reporting and invoicing activities.
- Implement stringent internal quality control protocols and establish protocol for client review, approval, signature (as needed) and submittal of deliverables.



- Access and utilize current official forms, as required by granting agency.
- Establish a master tracking workbook as the primary tool to comprehensively track grant budget, expenditures, project schedule, and deliverables.
- Provide guidance to clients on eligible costs and opportunities to fully utilize grant funds.
- Coordinate with granting agency, client staff, and funding agency to correct any issues that might arise related to reports or invoices.
- Work with granting agency and client to amend grants in a timely manner, as needed.
- Participate in teleconferences and meetings with client, partners, and granting agency related to grant administration, as needed.
- Prepare project closeout and post-project reports that are responsive to granting agency requirements.
- Utilize the preferred method of delivery to submit reports and deliverables to the granting agency.
- Develop a file-share system with the client to systematically upload and download all project documentation throughout the life of the grant. Hoch typically utilizes a file-sharing platform such as SharePoint or DropBox.

Hoch will provide ongoing tracking and accounting of all eligible grant expenses through a master tracking workbook in order to account for required local match and cumulative draw requests. Hoch will also prepare and submit invoice backup documentation packets to the funding agency, as needed.

TASK 11 DELIVERABLES:

WRFP: Draft project report, mid-course meeting, Division Form 260 and 261, final project report with reimbursement requests for electronic payout.

> **"Big thank you to you and your team for helping put together such an excellent application package. We were the only San Diego County applicant to win an award this round! Look forward to working together again. Thank you again for all of your help."**
>
> Jennifer Bryant, **Helix Water District**

Hoch's Funding team helped Helix Water District win $10.3M for the Phase 4-Urban Community Drought Relief Program Awards.

TAB F

Budget and Schedule of Charges

TAB F

BUDGET AND SCHEDULE OF CHARGES

Provide a "Not to Exceed" amount and a list of Personnel Rates, Equipment Charges,Travel Reimbursement Costs, and Job Descriptions for Personnel. Please be aware that prevailing wage rates apply to preconstruction work, such as inspection and land surveying, for public works projects.

Please find our budget and schedule of charges at the end of this document.

TAB G

Work Schedule

WORK SCHEDULE

Provide a schedule for completion of work.

The schedule for completion of the work is below. If awarded, Hoch will provide a detailed schedule of work in Microsoft Project. Our schedule assumes a completion date of October 15, 2025, and assumes an amendment to Grant Agreement No. D2305010, extending the critical due date from 5/31/2025 to 10/15/2025. Should the granting agency not approve an extension, Hoch will work with the city to revise the project schedule to the original critical due date of 5/31/2025.

	2024		2025									
TASK	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT
Proposal												
Contracting												
Task 1 - **Project Kick-Off**												
Task 1.3 - **Data Collection & Review**												
Task 2- **Recycled Water Market Assessment**												
Task 3.1 - **Secondary WW Characterization and TM**												
Task 3.2 - **Recycled Water Treatment Tech Evaluation and TM**												
Task 3.3-**Recycled Water, IPR and DPR Feasibility Evaluation and TM**												
Task 4 - **Hydraulic and System Analysis**												
Task 5 - **Regulatory Review**												
Task 6 - **Public and Stakeholder Engagement**												
Task 7 - **Cost Analysis**												
Task 8 - **Environmental Assessment**												
Task 9 - **Draft and Final Reports**												
Task 10 - **Grant Administration (Optional)**												

TAB H

Insurance

The individual or firm receiving the contract shall procure and maintain for the durationof the contract, insurance against claims for injuries to persons or damages to propertythat may arise from or in connection with the performance of the work hereunder by theConsultant, his agents, representatives, employees or subcontracts as set forth in Section 5.0 of Exhibit A which is attached hereto and incorporated by reference herein. Anyrequests for reduction in the insurance amount shall be included in the proposal. The costof such insurance shall be included in the consultant's proposal.

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/6/2024

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 Champion Risk & Insurance Services, L.P. 12264 El Camino Real, Ste 350 San Diego CA 92130	**CONTACT NAME:** **PHONE (A/C, No, Ext):** 858-369-7900 **FAX (A/C, No):** 800-829-0807 **E-MAIL ADDRESS:** certsonly@championrisk.com
INSURED HOCHCON-01 Hoch Consulting APC 804 Pier View Way, Suite 100 Oceanside CA 92054	**INSURER(S) AFFORDING COVERAGE** / **NAIC #** **INSURER A :** Continental Casualty Company — 20443 **INSURER B :** Hartford Property and Casualty — 34690 **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 1147344066 **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	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC OTHER:	Y	Y	B6074671505	4/28/2024	4/28/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 2,000,000 $ 1,000,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000 $
A	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY	Y		7014679091	4/28/2024	4/28/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
A	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** CLAIMS-MADE DED X RETENTION $ 10,000			6074671519	4/28/2024	4/28/2025	EACH OCCURRENCE AGGREGATE $	$ 3,000,000 $ 3,000,000 $
B	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N / A **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below			72 WEC AX7JFD	4/28/2024	4/28/2025	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
A	Professional Liability			MCH288376343	4/28/2024	4/28/2025	Each Claim Aggregate limit	3,000,000 3,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Proof of Insurance

CANCELLATION 30 days except 10 for non payment

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

TAB I

Consultant Agreement

CONSULTANT AGREEMENT

The City's standard consultant services agreement is attached as Exhibit A. Please identify if your firm would have any issues with the provisions of the City's standard consulting services agreement. All requests for amendments to language in the agreement must be included in the proposal.

Hoch Consulting has no issues with the City's Standard Consulting Agreement.

COMMUNITY INVOLVEMENT

Hoch's vision is "to provide value to our clients, our community, and our employees." We take this statement to heart and have adopted an official giveback policy that includes all full-time and part-time employees to participate in a paid volunteer day or activity each year. Hoch employees record upcoming volunteer opportunities and usually agree to participate in the same giveback day activity. Those employees who cannot or choose not to participate in the group giveback day activity can utilize this time to join in another volunteer opportunity.

Past activities have included blood donations, charity drives in partnership with Water for People, participation in Habitat for Humanity construction activities, and civic cleanups to remove polluting litter and debris from the community in partnership with "I Love a Clean San Diego." We typically involve ourselves in the communities where we work. If provided with the opportunity to contract with the City of Fort Bragg, Hoch intends to offer City-based volunteer opportunities to our staff. We can coordinate our community involvement with the City staff liaison for the contract if desired.

FEE PROPOSAL FOR

RECYCLED WATER FEASIBILITY STUDY

11/15/2024 | 2:00 PM

HOCH CONSULTING

FEE PROPOSAL

City of Fort Bragg
Recycled Water Feasablity Evaluation

Hoch Consulting

Classification	Total Hours by Task	Hoch Consulting Labor												Subconsultant Efforts											Direct Costs	Total Fees
		Project Manager (Director of Water Resources)	President/Principal Engineer (Quality Mgmt)	Deputy Project Manager (Principal Engineer)	Associate Engineer	Staff Engineer	Senior Project Designer	Principal Water Resources Specialist	Sr. Water Resource Specialist	Sr. Water Resource Specialist	Water Resource Specalist	Staff Water Resource Spec	Total Hoch Consulting Labor	Trussell Technologies	Helix Environmental	SUB 3	Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Total Subconsultant by Task	Subconsultant Markup	Total Subconsultant Effort	Travel, Reproduction & Postage	Total
		CD	AH	AG	OM	LB	RR	KBR	JG	SD	SS	ED														
Rate ($/hr)		$240.00	$245.00	$235.00	$165.00	$165.00	$165.00	$235.00	$190.00	$190.00	$170.00	$135.00											5.00%			
Base Proposal																										
Task 1 - Data Collection	38	6	0	4	12	0	0	0	8	0	8	0	$ 7,240.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,240.00
Task 2 - Recycled Water Market Assessment	54	6	0	0	0	0	0	0	18	30	0	0	$ 10,560.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,560.00
Task 3 - Alternative Treatment Technologies	312	16	0	40	40	24	40	0	12	60	80	0	$ 57,680.00	$ 160,680.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 160,680.00	$ 8,034.00	$ 168,714.00	$ -	$ 226,394.00
Task 4 - Hydraulic and System Analysis	60	0	0	16	24	0	20	0	0	0	0	0	$ 11,020.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,020.00
Task 5 - Regulatory Review	44	16	0	0	0	0	0	8	8	0	12	20	$ 11,980.00	$ -	$ 10,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000.00	$ 500.00	$ 10,500.00	$ -	$ 22,480.00
Task 6 - Public and Stakeholder Engagement	128	32	0	16	0	0	0	0	0	40	40	0	$ 25,840.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,000.00	$ 29,840.00
Task 7 - Cost Analsyis	68	4	4	12	0	48	0	0	0	0	0	0	$ 12,680.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,680.00
Task 8 - Environmental Assessment	22	6	0	0	0	0	0	0	16	0	0	30	$ 8,530.00	$ -	$ 25,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000.00	$ 1,250.00	$ 26,250.00	$ -	$ 34,780.00
Task 9 - Draft and Final Reports	385	40	4	40	40	20	32	0	133	0	76	0	$ 73,350.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000.00	$ 75,350.00
Task 10 - Project Management	56	16	0	24	4	0	0	4	4	0	4	0	$ 12,520.00	$ 22,160.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22,160.00	$ 1,108.00	$ 23,268.00	$ -	$ 35,788.00
Task 11 - Grant Administration (optional)																										
Task 12: Contingency (optional)													$ 33,000.00													$33,000
Total Optional Tasks	1167	142	8	152	120	92	92	12	199	130	220	50	$ 231,400.00	$ 182,840.00	$ 35,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 217,840.00	$ 10,892.00	$ 228,732.00	$ 6,000.00	$ 466,132.00
																									Total Base Proposal =	$ 466,132.00
																									Total Base Proposal + Contingency	$ 499,132.00

*If requested, Hoch will develop a fee estimate for Task 11 - Grant Adminstration
**Assumes two site visits