



STATEMENT OF QUALIFICATIONS  
RFQ# 20-20

# On-Call Engineering Design Services for Utilities *(Sewer, Storm Drain)*



September 21, 2020



September 21, 2020

City of Hermosa Beach  
City Clerk Office  
Attn: Andrew Nguyen  
1315 Valley Drive  
Hermosa Beach, CA 90254

**REFERENCE: ON-CALL ENGINEERING DESIGN SERVICES FOR UTILITIES (SEWER, STORM DRAIN)  
(RFQ 20-02)**

Dear Mr. Nguyen:

Tetra Tech appreciates the opportunity to submit our statement of qualifications to provide On-Call Engineering Design Services for Utilities (Sewer, Storm Drain) in the City of Hermosa Beach, California. We understand that the City of Hermosa Beach is seeking a highly skilled and multifaceted consultant team to provide on-call professional civil engineering design services on an as-needed basis to support the City's vision and goals of the recently adopted General Plan, and the Capital Improvement Program.

### **FIRM INTRODUCTION**

Tetra Tech is a full-service, multidisciplinary engineering consulting firm, specializing in planning, design and construction management. Tetra Tech has served more than 5,000 different clients since 1966, successfully solving design and construction challenges through our innovative approaches to "real world" design and construction activities. Our clients include a diverse base of municipalities, public, and private sector agencies both in the U.S. and internationally. We have more than 20,000 professionals employed across 450 offices worldwide. Our firm has been ranked by *Engineering News Record* (ENR) as #4 of the Top 500 Design Firms and holds numerous #1 rankings in a variety of service areas by ENR, as well as #6 in Sanitary & Storm Sewers.

### **PROFESSIONAL QUALIFICATIONS**

***Tetra Tech can best serve the City on this important contract by providing all of the required disciplines and services in-house, allowing for efficient delivery of the City's projects.*** Our team, consisting of staff known for their technical excellence, complement the type and complexity of services requested including sewer, storm drain, stormwater, pump stations, water quality, environmental, geotechnical, surveying, community outreach, electrical, structural, and potable and recycled water. Team members have completed the planning and/or design of numerous utility projects with similar scope within Los Angeles County. In addition, our team has in-depth experience with the planning and design of projects that span all facets of civil engineering including regional stormwater capture, complete streets, active transportation, green streets, and ADA.

### **UNDERSTANDING OF SCOPE OF WORK**

As the *No. 1 ENR ranked company in Water projects*, we develop innovative solutions to further enhance project goals utilizing technical, economical,

### **Required Information:**

Listed below is Tetra Tech's authorized representative, proposed Principal-in-Charge, Mr. Jason Fussel.

Proposed Project Manager, Mr. Nate Schreiner will serve as the single point of contact throughout the course of the proposal selection process and this contract.

Mr. Fussel and Mr. Schreiner are committed to each task order's success and the overall success of the City of Hermosa Beach. They will commit all necessary resources to support this contract.

### **Authorized Representative**

Jason Fussel, PE, PLS, QSD/P,  
LEED AP, ENV SP  
Vice President  
17885 Von Karman Avenue  
Suite 500  
Irvine, CA 92614  
Jason.Fussel@tetrattech.com  
Office: (805) 542-9052  
Mobile: (805) 305-0150

### **Primary Point of Contact**

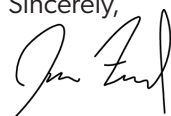
Nate Schreiner, PE, QSD  
Project Manager  
17885 Von Karman Avenue,  
Suite 500, Irvine, CA 92614  
Nate.Schreiner@tetrattech.com  
Office: (949) 809-5177  
Mobile: (949) 241-5538

and environmentally responsible methods. Our significant experience with water projects, specifically for storm drain and sewer improvements, enables best practices to be implemented with no learning curve creating the best solutions from proven approaches. The result is a team with a fresh perspective in the utilization of diverse technical disciplines to produce multi benefit solutions.

Our team of 1,000+ staff in Southern California understand the role that an on-call contract provides. We bring a proven track record of planning effectively, responding quickly, and managing efficiently a multitude of task orders concurrently for ***on-call contracts throughout the United States including 35 contracts in Southern California spanning over 20+ years.*** Our role is to be responsive to Task Order requests and to provide the technical expertise to execute the work to the City's satisfaction in a cost-effective and schedule conscious manner. We offer a committed team of highly qualified managers with extensive experience in on-call contract management. The result is a deep bench of experienced professionals ready to mobilize.

We look forward to the opportunity to discuss our experience, qualifications and approach further with the City. As a Vice President with Tetra Tech, I have the authority to negotiate a contract with the City. Should you have any questions regarding our proposal, please feel free to contact me at (805) 305-0150, or via email at Jason.Fussel@tetrattech.com, or our Project Manager Nate Schreiner at (949) 241-5538, Nate.Schreiner@tetrattech.com.

Sincerely,



Jason Fussel, PE, PLS, QSD/P, LEED AP, ENV SP  
Vice President

## Section 2: Firm Profile



### Consultant:

Tetra Tech, Inc.

### Legal Form of Company:

Tetra Tech is a publicly traded Corporation, incorporated in Delaware in 1988. No individual or firm owns an interest of 10% or greater in our corporation's stock.

### Federal Employee ID Number:

95-4148514

### Corporate Headquarters:

Tetra Tech, Inc.  
3475 East Foothill Boulevard, Suite 300  
Pasadena, CA 91107

### Years in Business:

Established in 1966, Tetra Tech has been providing consulting and engineering services for more than 54 years.

### Years Providing Relevant Experience:

Although Tetra Tech has been providing relevant engineering design services since 1966, the proposed Tetra Tech team has 20 years providing of experience providing equivalent utility design services.

### Failures or Refusals to Complete a Contract:

The proposed Tetra Tech team has no history of failures or refusals to complete a contract.

### Primary Point of Contact:

Mr. Nate Schreiner, PE, QSD  
17885 Von Karman Avenue, Suite 500, Irvine, CA 92614  
Office: (949) 809-5177, Mobile: (949) 241-5538  
Email: Nate.Schreiner@tetrattech.com

### Firm Locations:

Tetra Tech maintains more than 450 offices throughout the United States and worldwide. This contract will be managed out of the Irvine office. Listed below are additional Tetra Tech offices included on the project team that will be supporting the City of Hermosa Beach on this important contract.

#### Irvine Office

17885 Von Karman Avenue, Suite 500  
Irvine, CA 92614  
Phone (949) 809-5000, Fax: (949) 809-5006

#### Pasadena Office

3475 East Foothill Boulevard, Suite 300  
Pasadena, CA 91107  
Phone: (626) 351-4664, Fax: (626) 351-5291

#### Los Angeles Office

707 Wilshire Boulevard, 23<sup>rd</sup> Floor  
Los Angeles, CA 90017  
Phone: (213) 239-8866, Fax: (213) 239-8871

#### Diamond Bar Office

21700 E. Copley Drive, Suite 200  
Diamond Bar, CA 91765  
Phone: (909) 860-7777, Fax: (909) 860-8017

#### San Luis Obispo

711 Tank Farm Road, Suite 110  
San Luis Obispo, CA 93401  
Phone: (805) 542-9052, Fax: (805) 542-9254

#### San Dimas Office

160 E. Via Verde, Suite 240  
San Dimas, CA 91773  
Phone: (909) 305-2930, Fax: (909) 305-2959

*Tetra Tech consistently ranks among the top engineering firms annually according to the Engineering News-Record. In 2020, Tetra Tech was ranked No. 1 in the "Water" category for the 17th year in a row, and No. 4 among the "Top 500" consulting firms nationwide.*





Tetra Tech appreciates the opportunity to submit our statement of qualifications to provide On-Call Engineering Design Services for Utilities (Sewer, Storm Drain). Our team represents a combination of the country's **#1 Engineering Firm in Water related projects**, with a strong history of providing engineering, environmental, resource management, and restorative services in southern California. The Tetra Tech team represents the foremost multidisciplinary group of technical and professional staff offering the following benefits to the City of Hermosa Beach:

- *Innovative Storm Drain and Sewer Design*
- *Current relevant experience designing and constructing similar infrastructure projects, including recent, relevant project experience for the City of Hermosa Beach*
- *Local offices ready to provide services without delay*
- *Strong relationships with regulatory agencies to streamline permitting*

With the depth and resources of a large firm, complemented by our local, unified team of experienced professionals, Tetra Tech is highly regarded by its clients

## RELEVANT EXPERTISE

- 20+ years of experience on sewer and storm drain projects.
- 30+ On-Call programs currently under contract in Southern California resulting in 240+ task orders over the past 5 years.
- 2020 Engineering News-Record (ENR) Rankings. Tetra Tech has been
  - ✓ No. 1 in Water for 17 consecutive years
  - ✓ No. 6 in Sanitary & Storm Sewers
  - ✓ No. 4 in the Top 500 Design Firms

and among its peers in the sewer and storm drain design. We pledge to provide you with the required design services in a professional and cooperative manner that will enhance a high level of service to the City and all project stakeholders. The Tetra Tech team is committed to open communications, joint problem solving, partnering, and teamwork to accomplish the goals of each assignment.

## TETRA TECH SNAPSHOT

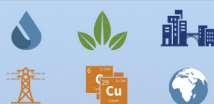
WORKED IN  
**120**  
COUNTRIES  
**7** WORLDWIDE  
CONTINENTS

Publicly traded on  
NASDAQ as



**\$3.1** billions ANNUAL  
REVENUE

WORKED ON  
**70,000**  
PROJECTS



**450** OFFICES  
WORLDWIDE

**17,000** CLIENTS

**20,000** ASSOCIATES

## ENR Rankings

[#1 Consulting/Studies](#)

[#1 Dams & Reservoirs](#)

[#1 Environmental Management](#)

[#1 Environmental Science](#)

[#1 Hydro Plants](#)

[#1 Solid Waste](#)

[#1 Water](#)

[#1 Water Treatment/Desalination](#)

[#1 Water Treatment/Supply](#)

[#1 Wind Power](#)

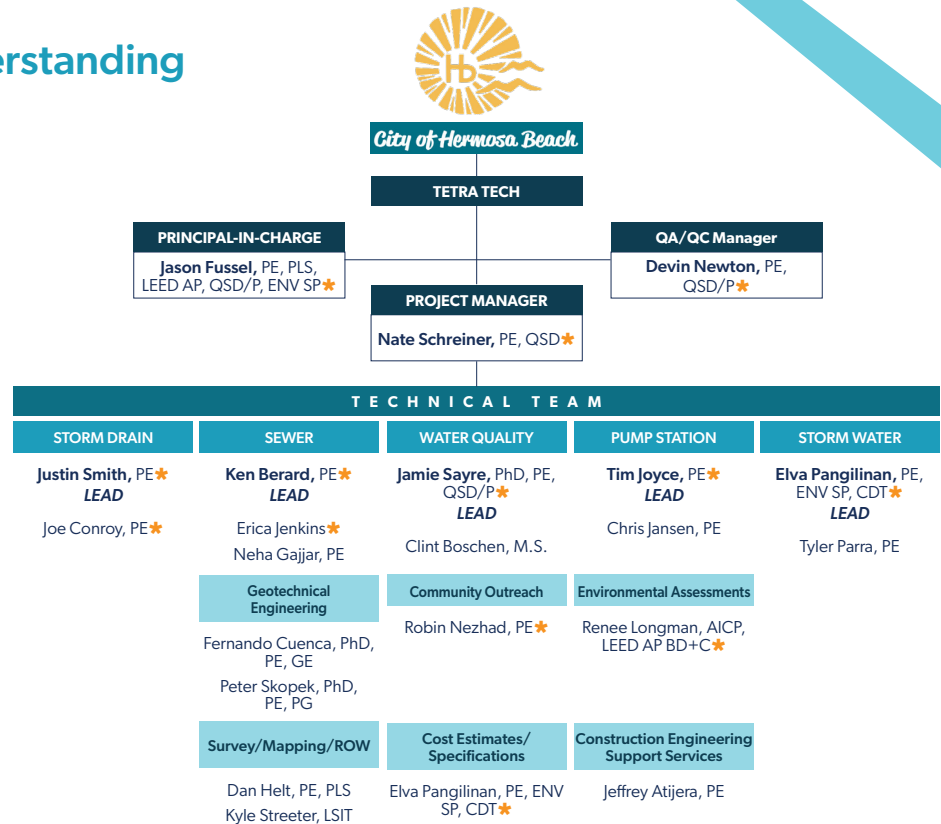




## Section 3: Project Understanding and Approach to Scope of Work

### Statement of Project Understanding

We understand that the City of Hermosa Beach is seeking a highly skilled and multifaceted consultant team to provide on-call professional civil engineering design services on an as-needed basis to support the City's vision and goals of the recently adopted General Plan, and the Capital Improvement Program. Over the duration of the contract, the City will assign task orders for projects involving the design and construction of a variety of infrastructure projects including sewer, stormwater, storm drain, pump stations, water quality, infiltration, feasibility studies, and other civil projects. Through these projects, it is anticipated that civil engineering, environmental assessments, geotechnical engineering, utility support, surveying, and community outreach services will be necessary to support the City.



★ Key Personnel - Resume Included

### Organizational Chart

As illustrated in the organization chart below, Tetra Tech has assembled our personnel based on individual strengths, technical skills, and experience working together. We tailored our team composition to fit specific scopes of work and provide benefits to the City, including:

- One Tetra Tech team, although able to meet diversity goals, our team is able to self-perform the scopes of work required.
- Providing a team that is local, experienced, and seamlessly transitions into the roles required under each on-call task order.
- Strategically use personnel who have availability, for continuity between task orders.
- Select team members with extensive on-call and sewer and storm drain experience and expertise.

### Approach to Work Program

Successful on-call service contracts require a diverse and highly talented team, made up of specific engineering and design disciplines, as well as responsible project management. No matter the task that is being requested, each project requires:

- Delivering a project within budget and on schedule
- Coordinating with appropriate agency representatives
- Implementing a Quality Assurance/Quality Control Plan to increase the excellence of the end product
- Teamwork development and meeting participation

Tetra Tech is well suited to accomplish all features of each required task. We are eager to provide the City with the professional services required for the On-Call Contract utilizing our in-house qualified staff that have worked together as a team the past several years.

## Task Order Initiation

Upon receipt of a Task Order Request from the City, our proposed Project Manager, Mr. Nate Schreiner will:

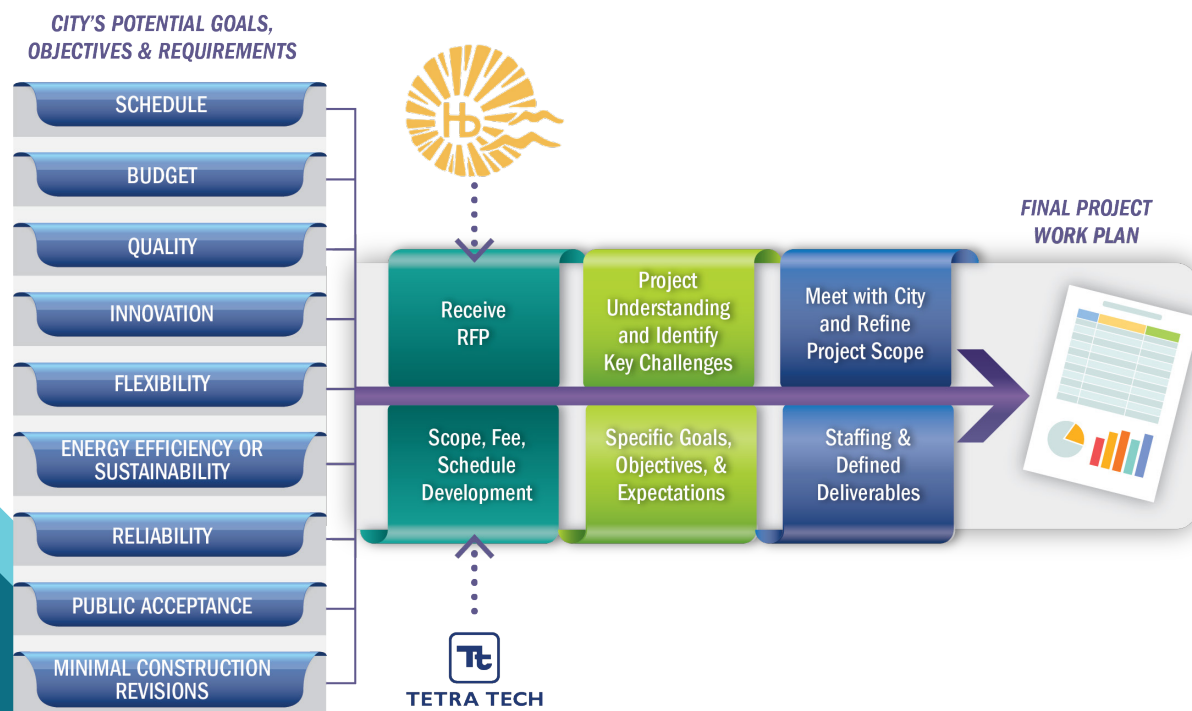
- Review the available information for the Task Order.
- Meet with the City's Project Manager and the City staff members (via teleconference or in person) to discuss the intent of the project and clarify the nature of the work.
- Meet with the Tetra Tech project team for selection of the appropriate Task Manager and technical staff resources for the particular assignment.
- Follow up meeting with the City's Project Manager to ensure expectations are well defined.
- The selected Task Order Team will assist in the preparation of the Task Order budget, goals and schedule.

**Data Research:** Tetra Tech will determine the availability of design drawings, calculations, reports, photographs, studies, etc., which are pertinent to the completion of the Task Order. These documents will be reviewed to determine their impact on the project prior to a visit to the project site.

**City Coordination:** A Manager will meet with key personnel from the City in person to discuss the proposed work. A site visit will be conducted at this time to determine actual site conditions, record pertinent measurements, and take photographic records of the project site.

**Draft Proposal:** The Project Manager will prepare a draft proposal which will define our understanding of the proposed work, our approach to completing the required work, the project team, the scope of the proposed work, schedule, and fee. Fee estimates for each Task Order will be prepared using a cost/ price modeling tool (CPM) which was developed by Tetra Tech. The CPM is a spreadsheet that itemizes each of the tasks required to complete the project, the personnel required to complete each task and the number of hours required by each person for each task. In addition to providing a tabulation of the hours required to complete each task, the CPM also reports the total number of hours required by each person and a total cost for the entire Task Order. Large Task Orders may require a comprehensive project schedule, prepared using MS Project; smaller task orders may require fewer formal schedules, which may be conveyed to the City in writing via email. The draft proposal will be reviewed by our Quality Assurance Manager, Task Manager, and select team members.

**Final Proposal and Work Plan:** Tetra Tech will discuss the draft proposal internally, make the necessary adjustments and submit our final proposal. After the fully executed agreement between the City and Tetra Tech is in place, the Project Manager will prepare a Work Plan. The Work Plan is an internal Tetra Tech document which will contain the scope of work, project team, schedule and budget for the project. The format of the Work Plan will vary with the type and size of the given task order. For small projects the Work Plan may be a short memorandum which is distributed by email





to the members of the project team. No internal kick-off meeting will be required for smaller projects. For larger projects, the Work Plan will be a comprehensive document which is distributed and discussed at an internal kick-off meeting. The kick-off meeting will include all key project team members. The input of engineers and specialists of other disciplines may be required in order to provide comprehensive solutions to some of the tasks. Tetra Tech has experienced staff in all required disciplines who will address any situation that comes up.

**Task Order Authorization:** Upon receipt of the notice to proceed from the City for a given Task Order, Tetra Tech will schedule a project kick-off meeting or teleconference, update the Quality Control Plan (as necessary), and prepare a Health and Safety Plan (if required).

**Project Execution:** The last and most important component of the management process is to perform the work. This component is dependent on the type of work required and the scope of work for each Task Order. However, to provide the City with a sense of our knowledge of project requirements for the general types of projects expected under this contract, we discuss our project understanding in the next section.

## Design Approach and Coordination with the City

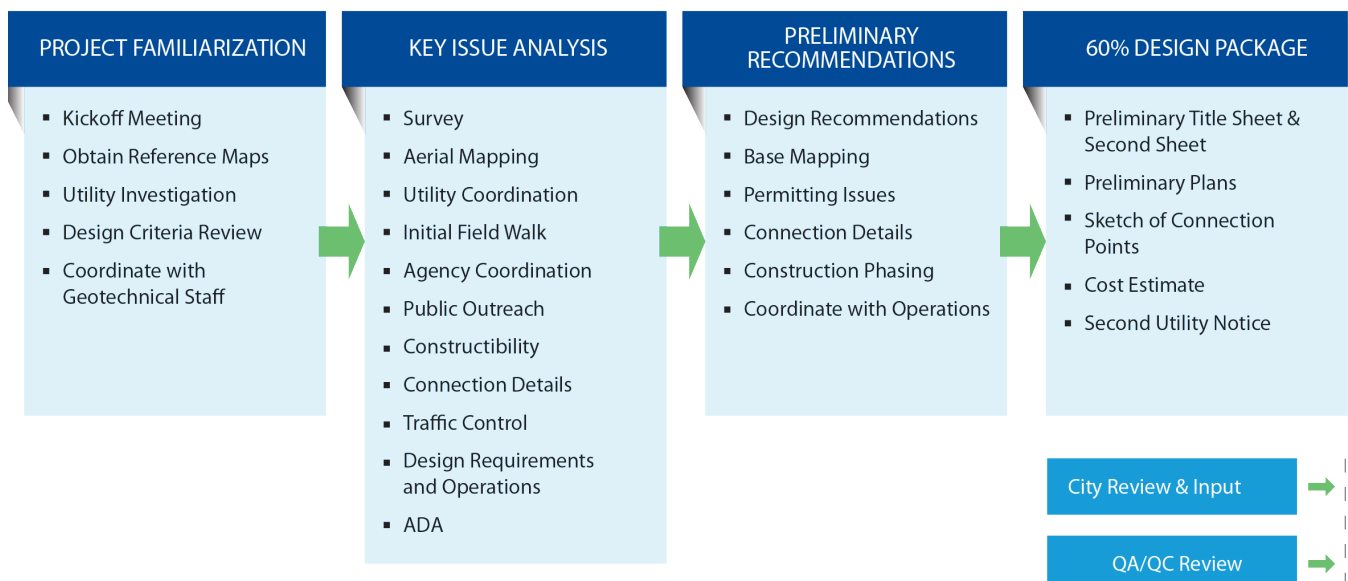
The approach that Tetra Tech uses for engineering design includes a preliminary design phase and a final design phase. Prior to commencing the preliminary design phase, Tetra Tech will lead with support from

the City a project kickoff meeting to review the project in detail, discuss the project approach, identify critical success factors, schedule, budget and obtain project specific goals from the City. During the preliminary design phase, the Tetra Tech team will work toward understanding the project and site location. The team will analyze project design issues and base their design recommendations to the City on this analysis. Lastly, the team will work with the City to set a design course that will result in a 60% design review package.

After the City completes their review of the 60% design package, Tetra Tech will initiate the final design phase. Tetra Tech will produce a 100% design package, and then a Final design package. The City will review each of these design packages, and the Tetra Tech team will work closely with the City to address comments, adjust, and ultimately produce the final, approved, design package.

Design review meetings will be held after the 60% and 100% design level completion. The 60% design review meeting will focus on confirming the project's design meeting the goals and intent that the City has for the project. The 100% design review meeting will ensure that all City comments and concerns are addressed prior to the design team finalizing the final PS&E bid package. Meetings will be attended at a location selected by the City or virtually. Tetra Tech will prepare meeting minutes for each.

### PRELIMINARY DESIGN PHASE





## Technical Approach and Methodology

Having an adequate amount and necessary type of resources are critical to the success of a project. Inadequate resources can result in project delays and/or poor execution of required tasks. Tetra Tech is ready to provide support to the City with our experience and knowledge to quickly resolve technical issues and challenges. The Tetra Tech team can provide the specialized expertise and the depth of resources necessary to meet or exceed the City's variable project requirements. The depth and breadth of our team's technical expertise is described in the following sections.

### Detailed Design

**Field Investigations:** Conducting thorough field reviews on projects is another critical component of cost-effective project management. Tetra Tech believes very strongly in walking our projects in the field throughout the base mapping and design stages of a project to insure all design issues are considered. This task can be particularly important on the City's future projects due to the variety of conditions that exist within potential project footprints. Therefore, we will conduct thorough field reviews of all projects, whenever possible, in order to obtain relevant site information.

**Sewer and Storm Drain Assessments:** The City's sanitary sewer and storm drain systems are aging and in need of extensive rehabilitation per the City's Capital Improvement Program. Aged and defective sanitary sewer and storm drainage infrastructure should be replaced as part of an ongoing investigation and rehabilitation program. This ensures structural integrity of infrastructure components to help prevent wet-weather inflow and infiltration (I/I) into the sewer collection system as well as upgrade storm drain systems to improve pipe conveyance to prevent flooding and account for more build-out conditions that were not originally accounted for. I/I is water that enters a sanitary sewer system from a rain event. Inflow can enter a sanitary sewer system through surface openings such as manhole lids and from unauthorized stormwater connections among other sources. Infiltration via rain-induced groundwater percolation can enter a system through sewer pipe defects such as cracked and broken pipe and through openings/cracks in manhole walls among other sources.

Sewer mains and storm drains need rehabilitation if they are in a deteriorated condition and/or they need additional hydraulic capacity. Our approach will be to review the available information for the pipe in question



including the data collected as part of the sewer and storm drain master plans. Based on the review and the severity of structural defects viable repairs will be proposed. The defects can be repaired through open cut construction or spot repairs.

The second analysis will include verifying the hydraulic capacity of the pipes described in the master plans. Tetra Tech will utilize the City's flow information to calculate the depth of flow, slope and velocities of the proposed conduits to determine the appropriate size. The conduit design will conform to the latest edition of the City's Standard Plans and Standard Specifications for Public Works Construction (Greenbook). For storm drain analysis, Tetra Tech will review existing available hydrologic and hydraulic information available, as well as the drainage master plan.

If the hydraulic capacity exceeds the required capacity, Tetra Tech will recommend pipe size upgrades for the conduit segments that exceed its hydraulic capacity. Based on the recommended pipe size upgrade, Tetra Tech can evaluate viable construction alternatives (pipe bursting or open cut construction) to address the improvements of the existing conduit and provide recommendations for the most cost effective repair.

**Surveying Approach:** Our cutting-edge surveyors utilize the latest in ground survey equipment to perform topographic, boundary, right-of-way, ALTA, GIS data collection and control network surveys. All survey work is performed under the supervision of a Professional Land Surveyor, licensed in California. Tetra Tech surveyors utilize a combination of GPS and Robotic Total stations to perform most traditional surveys. Additionally, technologies such as Unmanned Aerial Systems (UAS), Vehicle mounted mobile LiDAR mapping, aerial photogrammetry and LiDAR, and terrestrial LiDAR scanning and are available to supplement the City's

survey needs. These technologies, combined with traditional techniques can increase efficiency and accuracy, while reducing staff exposure to dangerous situations.

**Utility Research and Coordination:** The locations of existing utilities on a project site are critically important for facility design, any subsurface investigations, or any earthwork during construction. Tetra Tech will obtain and research all plans showing the locations and sizes of all aboveground and underground utility lines and appurtenances within the proposed project area. Research will include researching Prior Rights to clearly identify parties responsible for any relocation of conflicting utilities. Additionally, our coordination efforts will include researching whether any future utilities are proposed in the project area that may require accommodation through the improved area. When appropriate (particularly before any ground-disturbing activities on site), we will employ geophysical survey techniques, or Dig-Alert type services to physically locate any subsurface utility lines. Tetra Tech will perform a field review of all utility line locations and verify that the plotted or surveyed locations for all existing lines shown on drawings are correct.

Tetra Tech will coordinate with the utility purveyors to obtain concurrence on the relocation and/ or protection strategies. In this way, we can avoid piecemeal work or moving a utility twice. If the relocation design is to be prepared by the utility owner (e.g., SCE), we will monitor and track their design progress with the schedule. We will employ our proven methodology to notice, catalogue, plot, track, and coordinate utility impacts. Tetra Tech will develop accurate substructure and utility maps to be used by the design team to avoid utility impacts or surprises. Utilizing USA Dig Alert's website,



a comprehensive utility matrix and contact log will be developed, which Tetra Tech will use to request utility atlas information and document correspondence with each purveyor with regards to responses received and as necessary when a utility company requests to review the design plans.

**Research:** Tetra Tech will seek to obtain and review all available documents for a current or proposed project, unless directed otherwise by the City that the City has information readily available. Information of interest will include existing reports, studies, design plans, as-built plans and documents, benchmarks, and any other pertinent and available information that could be used in the design of the project.

**Community Engagement:** We are sensitive to the importance of this issue and its potential impact of the design and overall delivery of projects. As a result, we are engaging our community outreach specialist, Ms. Robin Nehzad, to lead these efforts. Ms. Nehzad is an experienced project manager specializing in the delivery of wastewater and stormwater planning and design projects for treatment, storage, and conveyance facilities. Ms. Nehzad has excellent communication skills that have offered her vast experience in client management and stakeholder coordination for some of the largest municipal clients in the nation.

Depending on the task order, Tetra Tech will develop a Stakeholder Engagement Plan (SEP) that will incorporate methods to communicate the project information, tools for effective public participation, and an approach to elicit input. The SEP will describe the proposed outreach activities, outlets and methods for providing information about how nearby residents, businesses, and stakeholders can get involved, roles of community partners, and timing for all activities.

The SEP will have digital and distance engagement strategies that respond to COVID-19 safe practices and social distance directives. These are critical tools of engagement especially in the early stages of this project.

It will be beneficial for the Tetra Tech to lead strategy sessions with the City project team to plan for the stakeholder/community meetings. During these sessions the team will confirm objectives, determine best tools for eliciting input, and finalize outreach approach to ensure a successful turn out including the role of community partners. Following strategy sessions, the outreach team will develop a stakeholder/community meeting approach and agenda.

The community meetings will be the primary method to provide updates and information about the project community members and stakeholders including



property owners, residents, business, and schools. Four stakeholder/community meetings are recommended to fully engage the community during major project milestones. The following are proposed phases when Tetra Tech proposes community meetings:

- Meeting #1 – Project Launch
- Meeting #2 – Existing Conditions and Refined Design
- Meeting #3 – Project Benefits and Impacts
- Meeting #4 – Final Draft Design

Our public outreach and early intervention and collaboration with the public will assist in identifying red flag community issues early in the project design process. In addition, efforts will be taken to design the projects in such a way to minimize disturbances to the neighboring community.

**Project Engineering Design and Analysis:** When analyzing and performing designs for capital improvement projects it is our goal to find the greatest possible public benefit. Our experience supports our ability to find creative, non-traditional solutions, if necessary, to meet project requirements. Our team will focus our design on meeting all project code, permit and regulatory requirements. We fully understand that the City has its own set of design standards.

**Reports:** Tetra Tech has a broad range of experience preparing feasibility, evaluation and analysis, and conceptual studies for various municipalities. Tetra

Tech's reports will be prepared in accordance with the City standards and submitted with adequate time for review and approval by the City staff. Almost every project we complete begins with a detailed preliminary design and/or conceptual design report. Our team is well versed in preparing all manner of reports, and is experienced with implementing the recommendations provided in these types of reports, even when prepared by other agencies or design professionals. Tetra Tech has also participated in the preparation of numerous technical reports and studies on pilot testing, alternative analysis, and storm drain and sewer master plans.

**Plans:** Our construction drawings production includes extensive internal quality control for all design elements, including adherence to the City standards. We always ensure that proper coordination of plans and specifications are completed before each submittal. The project team is experienced and knowledgeable with the codes and design criteria that will govern both the conceptual and final design plans for a project.

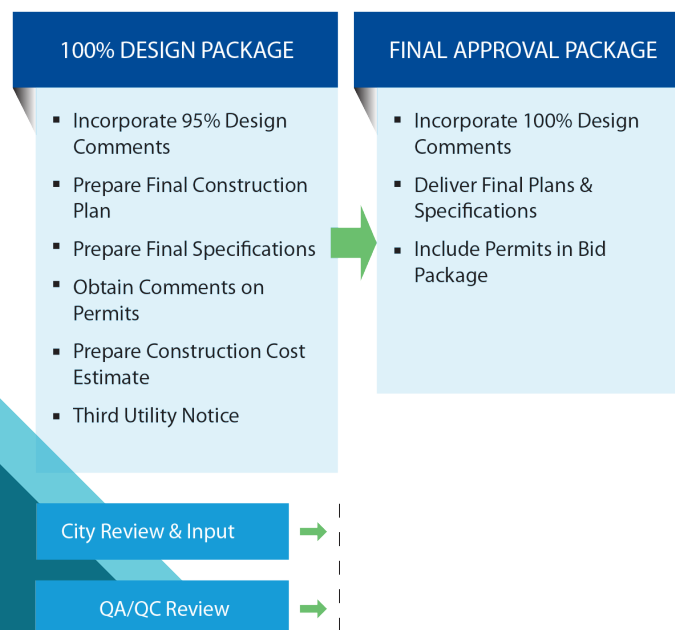
We are well versed in the design manuals and requirements established by the City, Caltrans, American Public Works Association (APWA), the County of Los Angeles, the Regional Water Quality Control Board (RWQCB), AASHTO, Manual on Uniform Traffic Control Devices (MUTCD), California Building Code (CBC), and the Standard Specifications for Public Works Construction (SSPWC).

**Specifications:** Technical specifications will include the City's boilerplate general conditions and requirements of the construction, detailed requirements for the work to be performed, and requirements for the materials to be used in construction.

Tetra Tech will make certain that specifications conform to the requirements set forth by the City, Caltrans, the Standard Specifications for Public Works Construction (Green Book), and any other applicable general conditions.

**Cost Estimates:** Accurate and well-defined cost estimates are critical to the success of every project to ensure that each element of the project is well defined, properly funded throughout the construction phase, and that proper contingencies have been applied to account for unanticipated changes in design and scope during the construction phase. Our design staff and construction cost estimators specialize in providing accurate construction cost estimates from the initial programming phase through the detailed design and construction phases. We understand the importance of preparing accurate life-cycle cost estimates for various alternatives. In preparing the

## FINAL DESIGN PHASE



cost estimates, we consider the local market conditions, prevailing wage rates, construction equipment rates, site accessibility, and any associated risk factors that might impact the project budget.

Our team will prepare quantities and estimates per City standards, utilizing RS Means cost estimating data base and software, recent City and County wide bid data, and our own current pricing data base to validate unit costs. A parametric cost estimate, will be prepared at the pre-design phase to validate project programming. During the detailed design phase, we will prepare a cost estimate (60% design submission) which will include much greater detail, take offs, and pay item descriptions, which will then be updated at 100% design, and updated again at final design. Contingencies will be applied at industry standard levels for each of the various cost classes.

#### Permitting and Agency

**Approval:** Tetra Tech has significant permitting and agency approval experience that will benefit the City. Where applicable, Tetra Tech will coordinate with Authorities having jurisdiction (AHJ) to assist the City in procuring job-specific permits and authorizations. Tetra Tech will prepare Storm Water Pollution Prevention Plans (SWPPP), prepare and submit encroachment permit applications to Caltrans, coordinate permit approval with Los Angeles County Flood Control District (LACFCD). It is assumed the City will pay all permit fees.

#### Stormwater Pollution Prevention Plans (SWPPP):

Tetra Tech's Qualified SWPPP Developer (QSD) can prepare a SWPPP for all construction activities. SWPPPs will be prepared to meet the requirements of the State's General Permit for Stormwater Discharges Associated with Construction Activities; 2012-0006-DWQ and will follow the California Stormwater Quality Association's template. We are also available to provide support from our Qualified SWPPP Practitioners (QSPs) to implement the SWPPP during the construction phase of the project. It is assumed the City will be responsible for the filing of the Notice of Intent (NOI), Notice of Termination (NOT), and data input into the Stormwater Multi Application Reporting & Tracking System (SMARTS). It is assumed that all registration fees will be paid by the City.

**Caltrans:** For projects on State Highways, Tetra Tech will assist the City with the completion of the necessary

reporting forms as required by Caltrans. Tetra Tech understands the regulatory framework and relationships from similar assignments which have required coordination with Federal, State, and Local Agencies representatives, as well as a thorough knowledge of associate regulations and guidelines related to legal requirements, environmental compliance, permitting and local codes and ordinances.

**Regulatory Agencies:** Tetra Tech is familiar and has successfully completed projects within areas under jurisdiction of the US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW) 1602, and Los Angeles County Sanitation District. Projects that would involve work within these areas may require a 404 permit from the USACE or a 401 Water Quality Certification.

#### Environmental Permitting:

Tetra Tech can assist the City of Hermosa Beach with every step of the environmental planning process. Our knowledge of the regulatory environment in California and more specifically the City of Hermosa Beach, allows us to identify

stakeholders early in the process so that an expedited consultation to identify resource-specific issues occurs. Early and frequent communication with jurisdictional agencies is key to a streamlined environmental review process.

We begin the environmental process with a thorough review off all proposed project actions and develop a detailed project description. Based on the project description, we will identify potential issues and constraints; agencies that will require consultation; anticipated permits; anticipated type of California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) document; and develop a proposed schedule. We then identify key technical staff to best meet the project's needs.

**CEQA Compliance (General):** Tetra Tech will assist the City of Hermosa Beach in determining if a proposed project (action) is exempt from CEQA review either by statute or pursuant to a categorical exemption. If desired, Tetra Tech will also prepare a Notice of Exemption (NOE) and file it with the State Clearinghouse and County Clerk.

**Tetra Tech has significant permitting and agency approval experience that will benefit the City**



If not exempt, then an Initial Study (IS) will be prepared. Initial Studies are prepared based on CEQA Guidelines using the Appendix G IS Checklist form, and considers all phases of project planning, implementation, and operation. The IS provides a brief description of the project, the environmental setting, identifies potential environmental effects, and proposes mitigations for potential significant environmental impacts or effects. The IS will contain a complete list of references and people contacted during preparation of the environmental document.

- Aesthetics
- Agriculture & Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology & Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Land Use & Planning
- Energy
- Wildfire
- Utilities & Service Systems
- Mineral Resources
- Noise
- Population & Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural
- Mandatory Findings of Significance

Reports prepared for the project site will be reviewed, such as Phase I and II Environmental Site Assessments (ESAs), technical studies, feasibility studies, inventory surveys, planning documents, previous CEQA/NEPA documents including the PLAN Hermosa Environmental Impact Report (EIR), and Geographical Information Systems (GIS) data. The information collected at this stage will be reviewed for completeness, accuracy, relevance, and historical context. Where data is incomplete, data collection in the field may be necessary or additional technical studies may be recommended. The IS environmental analysis will include reviewing potential impacts on:

Potential impacts will be described for each resource area using both qualitative and quantitative data. The IS will provide decision makers the information needed to decide whether a negative declaration (ND), mitigated negative declaration (MND), or EIR should be prepared. A ND will be prepared when the IS has indicated there are no potentially significant impacts resulting from the proposed project and no mitigation measures are required. An MND will be prepared when the IS has identified potentially significant impacts resulting from

the proposed project, which can be mitigated to less than significant. An EIR will be prepared when the IS has identified one or more potentially significant impacts on the environment.

**NEPA:** When there is a federal nexus and NEPA is required, Tetra Tech will follow the implementing procedures of the applicable federal agency.

## Bid and Award Phase

**Bid Phase Support:** If needed during the bid phase, Tetra Tech will provide bid support services to the City. Tetra Tech will attend pre-bid meetings, respond to requests for information (RFI's), prepare addendum as required to modify bid documents, assist in the review of bids, bid qualifications, and proposed contract language exceptions during the construction contractor selection process. At the conclusion of the process, Tetra Tech will provide the City with our recommendation for award.

**Pre-Bid Meeting Attendance:** Members of our team will attend city-led pre-bid meetings at the City's designated location and, as applicable, attend/lead a job walk of the project site to assist the City in providing general and detailed project background and answer questions raised by potential bidders that are in attendance.

### Assist with RFIs Addendum and Technical Related

**Issues:** Bidder related questions and RFIs that arise during the bid phase will be submitted to the City and forwarded to the Tetra Tech team. Our team will prepare answers to these questions and other RFIs for distribution by the City. As necessary, Tetra Tech will prepare addendum to modify the existing bid documents, construction drawings and specifications for distribution to bidders by the City.

## Construction Engineering Support Services

If needed, during construction, Tetra Tech will provide engineering services including review of RFIs (Request for Information), shop drawing review, material certifications, review of contractor substitutions, schedule reviews and assistance with change orders. Tetra Tech's team of engineers understand the importance of services during construction and is committed to providing timely and accurate review of all submittals. We pride ourselves in being able to solve complex field issues quickly and find cost-effective solutions to keep the project moving ahead without delays and cost overruns.

### Submittals for Project Design by Contractor

**Personnel:** Our team will review project design submittals provided by the contractor. They will be reviewed for conformance with the contract documents. Substitutions will be carefully reviewed to determine if they are equal to the specified materials. We will also review any substitution to see if it changes any other part of the existing design. Our analysis will include our opinion of the benefit to the City of the proposed substitution and validity of any proposed cost savings. We will keep in mind the overall desires of the City operations staff in our analysis.

**Review of Technical Submittals:** Our project team will review contractor technical submittals including, but not limited to, shop drawings, material certifications, material samples and schedules, as requested by the City. Shop drawings will be reviewed for general conformance with the plans and specifications. Each submittal or shop drawing will be reviewed and returned to the City, stamped with our shop drawing stamp and marked accordingly.

Our team of construction management personnel are qualified professionals who can effectively manage the technical complexities of today's construction projects. Our construction management philosophy is to keep the project on schedule and on budget through communication and project controls.

**As-Built Records:** Upon completion of a construction contract, Tetra Tech will prepare record drawings by updating the original project plan sheets showing changes that occurred during bidding and construction. Record drawings will be prepared by transferring the updates from red marked plans received from the City. The record drawings will be completed in the project AutoCAD files. "Record Drawing" cells will be included on each plan sheet and updates will be clouded to provide distinction from the original design.

### Innovative and Creative Approaches

New technologies and state of the science practices are constantly being developed and introduced to the sewer and storm drain field. Relationships with academia, similar municipalities, and proprietary vendors provide continued learning and knowledge of the most recent practices being implemented throughout the state and nation. We pride ourselves in staying informed of the state of the science and share our experiences with others through publication and conferences to further those relationships. The Bolivar Park project is considered the first "smart regional stormwater BMP" and went on to win the 2016 Environmental Business

Journal Award for Innovative Technology and the CASQA Outstanding Stormwater BMP Implementation Project of the Year in 2019.

Combining our experience developing standard details for sewer and stormwater related projects, optimal design configurations, and full plans and specifications with our intimate knowledge of the policies and procedures of the City, our team is poised to provide cutting-edge, state of the science solutions to meet the City's project needs.

### Additional Services

In addition to the above services, the proposed Tetra Tech team also has in-depth experience with projects similar to those identified in the City's capital improvement program. The additional services the proposed Tetra Tech team can provide include:

- Regional Stormwater Capture/Infiltration/Reuse
- Green Streets
- Active Transportation
- Complete Streets
- Accessibility
- Potable and Recycled Water Distribution
- Structural
- Electrical



## Section 4: Project Management Plan



Tetra Tech's project management procedures are designed to keep each project on schedule and within budget. Specifically, all Tetra Tech projects, regardless of size, are managed utilizing our in-house Project Management Guidelines & Policies Manual that sets forth the following project schedule/cost control methods:

**Project/Cost Control:** For project development, Tetra Tech will use a Project Management/Control System which we have used successfully on numerous municipal projects. The core of this system is a monthly Project Management Report.

**Critical Path Method (CPM) Schedules:** Tetra Tech will approach the development of a detailed work plan very seriously. The project team will meet at project initiation to collectively determine the smaller work tasks required to complete the major work activities as established in the Scope of Services. A sequencing plan of these smaller work tasks, using precedence format, will be developed which in turn will determine the overall schedule. The series of work tasks and resulting schedule will be diagrammatically exhibited as a Critical Path Method (CPM) flow chart. This flow chart, which highlights the critical path, will be used to base our determination of the intermediate project milestones.

It is critical that this part of the project management system be flexible and able to accommodate scheduling adjustments that may occur. Our system requires the Project Manager re-plan the project, as necessary, to reflect an accurate and up-to-date schedule. When re-planning, the Project Manager will assess:

- *Work completed;*
- *Work remaining;*
- *Effort required to complete remaining work and when that effort is needed;*
- *Calendar days needed to complete the remaining work.*



### Communications Approach

Our approach to this contract includes a "teamwork and partnering" approach with the City. We are hired for our resources, expertise, independent thought, technical background, and problem-solving abilities. Therefore, we understand that it is imperative to work closely with your staff to ensure successful completion of the City's projects.

The Tetra Tech team's goal is to keep the City's staff informed from day one of each project. Communication tools include the formal progress reports, meeting agendas and minutes, e-mail and informal give-and-take approach starting with our Project Manager and extending to every member of the Tetra Tech project team. Our Project Manager will be responsible for all day-to-day communications. However, at the project outset, a chain of command and communication methods will be set-up and agreed upon.

We are proposing to use e-mail to keep you aware of the status of each project. Every other week, we will prepare an e-mail update containing the following:

- *Summary of work performed during the previous two weeks and the proposed work for the upcoming two weeks;*



- *Status of the action items from the latest meeting or e-mail action items;*
- *Schedule of upcoming events/ meetings/ deliveries; and*
- *Summary of any outstanding issues.*

In addition, each month we will submit our invoices as well as prepare a project status report containing the following: summary of permit status/schedule; description of key issues/concerns which have surfaced along with proposed options and solutions; and a project status summary report showing current schedule, budget and earned value analysis tracking system. Methods will be set-up and agreed upon.

## Quality Assurance/Quality Control Approach

Tetra Tech's Quality Assurance (QA)/Quality Control (QC) program and procedures grow from a business culture in which they are part of every component of program and project work. This is the result of two conditions: 1) a clear and unequivocal emphasis on proactive quality management from its corporate leadership; and 2) the use of proven project-specific quality planning, assurance, and control techniques. We recently updated our Quality Control Manual to incorporate new ideas, techniques, and procedures further solidifying our commitment to Quality Control for our project teams. It is important to our firm, that our staff have the state-of-the-practice guidelines available as Quality Management is a priority on every project.

### Project-Specific Applications of QA/QC

**Techniques:** A project-specific QA/QC effort must ensure that expectations for controlling costs, schedule, and quality of work are met.

**Cost:** Controlling project cost starts with good planning and management. Tetra Tech's cost control and reporting system starts during project planning with work breakdown structures (WBS) for establishing budgets. The WBS then is

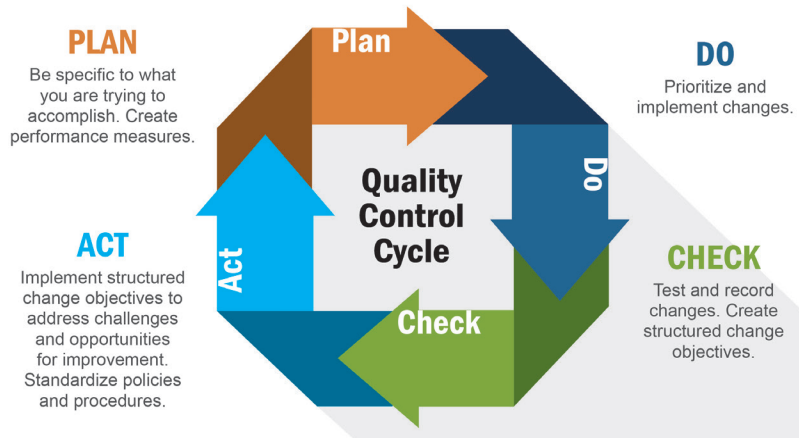
used to accumulate and report costs internally and to the client. Finally, an earned value management approach to assessing costs and technical completion is used to monitor budget compliance and to identify and address unanticipated costs early in the project.

**Schedule:** Managing a project schedule efficiently starts with a detailed baseline schedule established during project planning. The schedule follows the WBS and reports the progress of cost and schedule as planned. Deviations from the schedule are highlighted during monthly reporting; changes threatening its adherence are discussed with the client and corrective action is agreed upon, if necessary.

**Technical Services and Reports:** QA techniques start during the planning phase, including defining the performance standards with the client (specifications, guidance, SOPs, testing methods, etc.) and identifying specific QA techniques to be used (storyboards, interim deliverables, review sessions, and value engineering reviews). Before a technical deliverable is released, a QC review is conducted. It involves the following: 1) an editorial review to ensure clarity and readability; 2) a technical review to ensure recommendations are supported by facts; and 3) a final quality review to ensure all agreed upon performance standards were met and the QC reviews were completed appropriately.

**Continuous Improvement:** Our project teams are Tetra Tech's frontline for ensuring excellent quality performance. They apply these QA/QC actions to all current projects and apply lessons learned to all future

### Improving Quality Control with the Plan-Do-Check-Act (PDCA) Model







# Section 5: Experience and Qualifications

## Summary of Relevant Projects

Our team's success has been built on local knowledge, technical expertise, quality design, fiduciary duty, and development of practical solutions that meet industry standards for sound engineering practices. The representative project descriptions provided below serve as a sampling of projects that validate the depth of our team's local expertise in sewer and storm drain design.

TETRA TECH RELEVANT PROJECT EXPERIENCE												
	SEWER	STORMWATER	STORM DRAIN	PUMP STATIONS	WATER QUALITY	INFILTRATION	FEASIBILITY STUDY	PLANS, SPECIFICATIONS, & ESTIMATE (PS&E)	PERMITTING	ENVIRONMENTAL ASSESSMENT	TOPOGRAPHIC SURVEY	CONSTRUCTION SUPPORT
Hermosa Beach Greenbelt Infiltration, <i>City of Hermosa Beach</i>		■	■	■	■	■	■		■	■	■	
Naples Island Seawall, <i>City of Long Beach</i>		■	■	■	■			■	■		■	■
Mayfair Park Stormwater and Runoff Capture, <i>City of Lakewood</i>	■	■	■	■	■		■	■	■	■	■	■
Vandenberg Landfill Storm Drain, <i>Vandenberg Air Force Base, 30 CES/CEANQ</i>		■	■				■	■			■	
Merced Avenue Greenway, <i>City of South El Monte</i>		■	■		■	■	■	■	■	■	■	
Patton Basin Drainage Outlet Repair, <i>City of San Bernardino</i>		■	■		■		■	■	■		■	■
Vermont Avenue Stormwater and Green Streets, <i>City of Los Angeles</i>		■	■		■	■	■	■	■	■	■	■
Caruthers Park Stormwater Capture, <i>City of Bellflower</i>		■	■	■	■	■	■	■	■	■	■	■
Carriage Crest Stormwater Capture, <i>Los Angeles County Sanitation District</i>	■	■	■	■	■		■	■	■	■	■	■
Bolivar Park Stormwater and Runoff Capture, <i>City of Lakewood</i>		■	■	■	■		■	■	■	■	■	■
Albion Riverside Park Project, <i>City of Los Angeles</i>	■	■	■	■	■		■	■	■	■	■	■
Culver Boulevard Stormwater Infiltration and Corridor Realignment, <i>City of Culver City</i>		■	■		■	■	■	■	■	■	■	■
Municipal Sewer System Improvements, <i>City of Hawthorne</i>	■						■	■				
Sewer Improvements Project, <i>City of Long Beach Water Department</i>	■							■	■		■	■
Sanitary Sewer, Collection System Analysis and Rehabilitation Program, <i>City of Compton</i>	■							■			■	■
Trenchless Sewer System Repairs, <i>City of Norwalk</i>	■						■	■			■	■

# Hermosa Beach Greenbelt Infiltration

Hermosa Beach, CA

## REFERENCE

City of Hermosa Beach  
Department of Public  
Works  
Doug Krauss  
Phone: 310.750.3603  
dkrauss@hermosabch.  
org

## DURATION/VALUE

Started: 2017  
Completed: Ongoing  
Contract Value: \$710,839

## PERSONNEL INVOLVED

Jason Fussel, Project  
Manager  
Timothy Joyce, Pump  
Station Design  
Elva Pangilinan, Civil  
Nate Schreiner, Civil  
Jeff Atijera, Civil  
Chris Jansen, Civil  
Dan Helt, Survey

Tetra Tech was contracted by the City of Hermosa Beach to design a new regional BMP facility to divert water from a major flood control storm drain and convey it to an underground infiltration system. This project protects and improves Santa Monica Bay water quality by diverting and infiltrating storm water that contains TMDL pollutants fecal indicator bacteria, sediment-borne DDT and PCBs, and trash, as well as typical pollutants in urban runoff (metals and nutrients). The proposed tributary area to be mitigated by this project is 2,914 acres including runoff from all cities in the Beach Cities Watershed Management Group. Additional project benefits include reducing downstream flooding, preserving the existing use of the linear greenbelt as a running path, restoring native coastal dune habitat, and supporting loads associated with municipal vehicles for parkland maintenance. This project is funded in part by the State Water Resource Control Board's (SWRCB) Proposition 1.



# Naples Island Seawall Repair Phase 2

Long Beach, CA

## REFERENCE

City of Long Beach  
Department of Public  
Works  
Mouhsen Habib  
Project Manager  
Phone: 562.570.5754  
Mouhsen.Habib@  
longbeach.gov

## DURATION/VALUE

Started: 2016  
Completed: Ongoing  
Contract Value: \$217,888

## PERSONNEL INVOLVED

Jason Fussel, Senior Civil  
Engineer  
Nate Schreiner, Senior  
Civil Engineer  
Chris Jansen, Civil  
Elva Pangilinan, Civil  
Tyler Parra, Civil

Tetra Tech provided studies and design services for the Naples Island Seawall Repair – Phase 2. The construction activities include the installation of 2,148 linear feet of new steel sheet-pile seawall on the water sides of the existing vertical seawalls at The Colonnade, the south side and eastern end of Treasure Island, and the western end of the Naples Peninsula. Additional scope includes new sidewalks, guardrails, drainage improvements, lighting, seven ADA-accessible view areas with public benches, and replacement of existing private boating facilities (access stairways, platforms and dock guide piles). Approximately 42 palms will be removed and replaced.

Tetra Tech provided initial studies to support the design including topographic mapping and hydrologic and hydraulic modeling. During design, Tetra Tech acquired all permits required for construction. With the project now in construction, Tetra Tech is providing construction support services.





# Mayfair Park Stormwater and Runoff Capture

Lakewood, CA

## REFERENCE

City of Lakewood  
Department of Public  
Works  
Lisa Rapp, PE  
Phone: 562.866.9771  
LRapp@lakewoodcity.org

## DURATION/VALUE

Started: 2015  
Completed: 2017 (Design),  
Ongoing (Construction)  
Contract Value: \$1.25 M

## PERSONNEL INVOLVED

Jason Fussel, Design Lead  
Project Engineer  
Timothy Joyce, Pump  
Station Design  
Elva Pangilinan, Civil  
Nate Schreiner, Civil  
Justin Smith, Civil  
Jeff Atijera, Civil  
Chris Jansen, Civil  
Dan Helt, Survey

Tetra Tech was contracted by the City of Lakewood to evaluate and design a Caltrans funded Stormwater and Runoff Capture Project at Mayfair Park in Lakewood. Tetra Tech provided a Project Engineering Study Report (PESR) that included all necessary site investigation, hydrology and hydraulic, water quality data and analyses and geotechnical investigation for deep infiltration to provide a recommendation for treatment train selection and implementation.

The Mayfair Park project consists of an air-inflated rubber dam diversion system to redirect all urban runoff and stormwater runoff from the Del Amo Channel through a pre-treatment system to remove trash, debris, and sediment. A pump station and drainage pipeline will convey the water into a large, buried multi-chambered storage/infiltration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas, discharge to the sanitary sewer and additional filtration for discharge back to the channel. The system will monitor the weather conditions and the facility through a secured cloud-based system.

The goal of the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies. As one of the first cities to receive stormwater funding to support Caltrans with stormwater compliance units, the success of this project will be a model for other agencies to follow.





# Vandenberg Landfill Storm Drain

Lompoc, CA

## REFERENCE

Vandenberg Air Force  
Base  
30 CES/CEANQ  
Garry Sanchez  
Phone: 805.606.7541  
Garry.sanchez@  
vandenberg.af.mil

## DURATION/VALUE

Started: 2011  
Completed: 2012  
Contract Value: \$39,158

## PERSONNEL INVOLVED

Jason Fussel, Senior Civil  
Engineer  
Dan Helt, Civil

As part of the FY11 Clean Water Act & Water Program Support for Vandenberg Air Force Base, Tetra Tech provided a portion of the detailed design plans, specifications and hydraulic calculations for the undergrounding and redirection of stormwater inflows at the base's landfill. The plans were prepared in accordance with the U.S. Army Corps of Engineers design requirements and the specifications were developed in CSI format.

The main goal of the project was to capture inflow, prevent erosion caused by the stormwater that flowed into the base's landfill, and prevent infiltration of stormwater into the existing landfill area that was to be capped and closed. A topographic survey and extensive onsite reconnaissance were performed. In addition, the channelization conceptual plan prepared as part of the landfill closure was carefully considered. The design originally included an open top concrete channel and placement of fill material through the steepest portions of the existing site drainage. Tetra Tech redesigned the channel to route stormwater underground and moved the alignment of the improvement away from the steepest and most erodible sections of the existing landfill drainage. The final design included 5 manholes and 700 feet of storm drain. The channel connected each of the nearby points of inflow to capture the maximum amount of surface water before it entered the landfill area. Modeling using the USEPA's SMWW program was performed to model the hydrology of the 100-year storm and analyze the peak flow to size the proposed storm drain.



# Merced Avenue Greenway

South El Monte, CA

## REFERENCE

Council for Watershed  
Health for the City of  
South El Monte  
Eileen Alduenda  
Phone: 213.229.9959  
eileen@watershedhealth.  
org

## DURATION/VALUE

Started: 2018  
Completed: 2020  
Contract Value: \$422,000

## PERSONNEL INVOLVED

Jason Fussel, Project  
Manager  
Elva Pangilinan, Civil  
Joe Conroy, Civil  
Dan Helt, Survey

Tetra Tech provided concept planning and detailed design services for a multi-benefit stormwater runoff management and street retrofit project. Improvements to the 1.1-mile section of Merced Avenue included the reconfiguration of existing traffic lanes to accommodate water quality improvements and LID/BMP infrastructure retrofits, native revegetation, and planned active transportation components to increase pedestrian safety and mobility throughout the corridor. The primary goal of the project was to manage stormwater runoff at its source in order to meet regulatory compliance by improving water quality and enhancing watershed health. A key component of this project was to demonstrate how stormwater BMP's can be incorporated into existing residential and industrial infrastructure. Upon completion, the project will serve as a model for future LID/BMP retrofit techniques and development throughout Los Angeles County. Additional project benefits will include creating new safe bike and pedestrian connections, reducing the urban heat island effect and its carbon footprint, enhancing public health and beautifying the neighborhood.

Water Quality LID/BMP's included curbside bioretention facilities to reduce pollutant loads, and permeable pavers and below-grade infiltration galleries to promote groundwater recharge. Active transportation components included elevated Class IV Cycle Tracks, ADA compliant curb extensions and ramps, improved crosswalks, and improved pedestrian linkages. The project implemented strategies aimed at reducing urban heat island effect by replacing impervious surfaces with planting areas and permeable pavements, increase tree canopy, and possibly add high albedo hardscape surface coatings to discourage heat absorption and retention.

To reach a consensus with the residents, Tetra Tech and other members of the project team prepared a comprehensive Outreach Community Engagement Plan and participated in community outreach meetings to encourage full and early community/stakeholder participation in the project.





# Sanitary Sewer, Collection System Analysis and Rehabilitation Program

Compton, CA

## REFERENCE

City of Compton  
Public Works Department  
Dante Segundo, PE  
Phone: 310-605-5505  
dsegundo@comptoncity.org

## DURATION/VALUE

Started: 2002  
Completed: 2004  
Contract Value: \$1.5 M

## PERSONNEL INVOLVED

Ken Berard, Project Engineer  
Erica Jenkins, Design Engineer

The City of Compton received grant funding, and due to delays at the City, was in danger of exceeding the grant funding schedule and losing the funding. In 2002, Tetra Tech prepared construction plans, specifications, and estimates on an accelerated schedule for rehabilitation of approximately 14,000 linear feet of 6 to 8-inch sewer mains including replacement of 4,000 linear feet of 8 and 15-inch sewer main. Tetra Tech met the aggressive design schedule allowing the project to be put to bid in time to utilize the grant funding.

In 2003, Tetra Tech prepared the construction plans, specifications, and estimates for rehabilitation of approximately 20,000 linear feet of 6 to 8-inch sewer mains. The work included removal and replacement of existing sewer mains, point repair of existing sewer mains, reconnection of existing sewer laterals and, in some instances, the removal and replacement of existing manholes or relining of existing sewer manholes.

The projects were located in various sections of the City, including busy commercial districts and residential neighborhoods. All rehabilitation work was completed within the City's schedule and no interruptions to service occurred.





# Municipal Sewer System Improvements

Hawthorne, CA

## REFERENCE

City of Hawthorne  
Arnold Shadbeh, PE  
Phone: 310-349-2985  
ashadbeh@cityofhawthorne.org

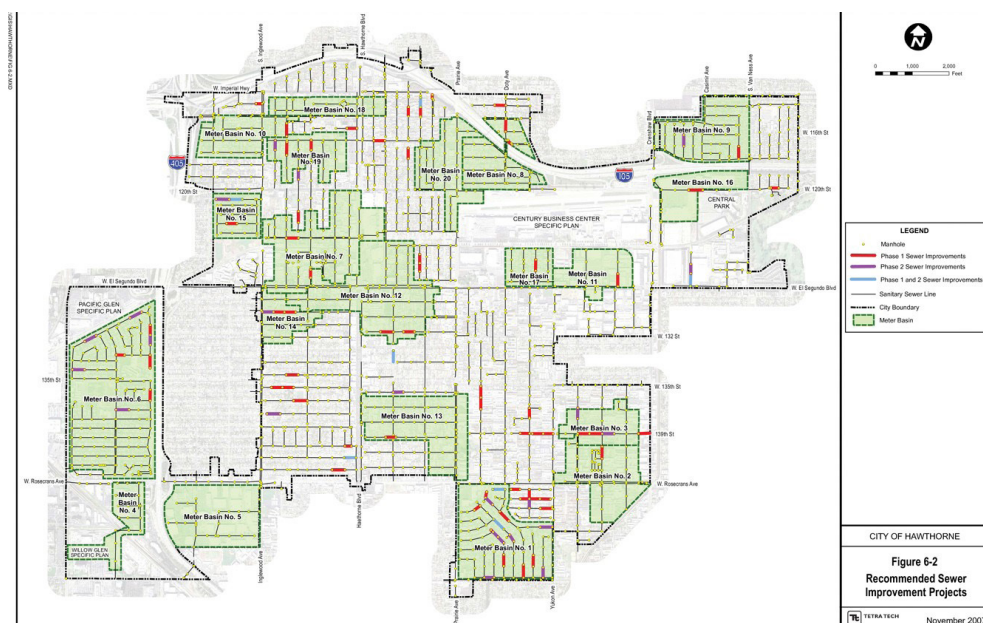
## DURATION/VALUE

Started: 2009  
Completed: 2020  
Contract Value: \$500,000

## PERSONNEL INVOLVED

Steve Ellis, Project Manager  
Erica Jenkins, Design Engineer  
Adrian Lees, Design Engineer

Tetra Tech completed the City of Hawthorne Sewer Master Plan in 2009. The master plan recommended a number of pipeline/manhole replacement and rehabilitation improvements with varying priorities. Tetra Tech completed the design of five phases of improvement projects over the course of the last twelve years with the latest phase occurring in 2020. The improvement projects included traditional open trench construction to upsize existing pipes thus providing additional hydraulic capacity; point repairs to address issues associated with existing pipe sags and offset joints; inversion lining of existing services to extend their useful life; and manhole rehabilitation to extend their useful life. Over this period of time, Tetra Tech has also provided hydraulic and other analyses to account for minor changes in flows and verify the original recommendations. In addition, Tetra Tech has provided technical training in the use of the hydraulic software, H2O Sewer Map.



# Sewer Improvement Projects

Long Beach, CA

## REFERENCE

Long Beach Water  
Department  
Garry Sanchez  
Wendy Chen  
Phone: 562.570.2324  
wendy.chen@lbwater.org

## DURATION/VALUE

Started: 2012  
Completed: 2012  
Contract Value: Varies

## PERSONNEL INVOLVED

Erica Jenkins, Design  
Engineer

Tetra Tech completed four sewer projects in 2012 as part of Long Beach Water Department Capital Improvement Projects for that fiscal year.

### **Sunrise Boulevard Sewer Improvement Project, Long Beach Water**

**Department, Long Beach, CA.** 2012. Preparation of plans, specifications and cost estimate for the construction of 1,100 linear feet of 8-inch sewer main. This project consisted of the construction of manholes and the reconnection of existing sewer laterals.

### **47th Street Sewer Replacement Project, Long Beach Water Department, Long Beach, CA.**

2012. Project Preparation of plans, specifications and cost estimate for the construction of 600 linear feet of 8-inch sewer main. This project consisted of removing an existing sewer pipeline and manholes and constructing the new sewer pipeline in the same alignment. Construction included manholes and the reconnection of existing sewer laterals.

### **Orange Avenue; Del Amo Boulevard; Walnut Avenue Sewer Upgrade Project, Long Beach Water Department, Long Beach, CA.**

2012. Prepared plans, specifications and cost estimate for the construction of 3,500 linear feet of 12/15-inch sewer main and 900 linear feet of rehabilitation of 12-inch VCP. In addition to the construction of sewer pipe, this project was unique in that four (4) sewer siphons were constructed to go under an existing LACFD Channel and 12'x9' RCB (3 locations). Due to the location of this project, extensive permitting with four (4) agencies (Los Angeles Flood Control District, Union Pacific Railroad, City of Long Beach, and Orange County Sanitation District) was required prior to the start of any construction activity.

### **15th Street Sewer Replacement Project, Long Beach Water Department, Long Beach, CA.**

2012. Project Prepared plans, specifications and cost estimate for the construction of 800 linear feet of 8-inch sewer main. This project consisted of the construction of drop manholes and the reconnection of existing sewer laterals.



## References

Tetra Tech has gained the confidence of its clients and regulatory agencies by consistently meeting their expectations and performance goals. Numerous references will attest to this statement and the projects we have successfully completed. We encourage you to contact our references provided in the table below to get a firsthand account of the level of service and expertise our team provides.

CLIENT CONTACT	PROJECT	DESCRIPTION OF SERVICES
City of Lakewood Public Works Department 5050 Clark Avenue Lakewood, CA 90712 Ms. Lisa Rapp, PE (562) 866-9771 LRapp@lakewoodcity.org	Mayfair Park and Bolivar Park Stormwater Capture Projects	Tetra Tech was responsible for evaluating potential site locations and providing design and construction services for two stormwater runoff and capture projects in the City of Lakewood.
Culver City 9770 Culver Boulevard Culver City, CA 90232 Mr. Mate Gaspar (310) 253-5600 mate.gaspar@culvercity.org	Culver Boulevard Stormwater Infiltration and Retention Project, Culver Boulevard Realignment Project	Tetra Tech prepared the design, outreach, and construction support for two stormwater diversion and roadway realignment project.
City of Hawthorne 4455 W. 126th Street, Hawthorne, CA 90250 Mr. Akbar Farokhi (310) 349-2983 AFarokhi@cityofhawthorne.org	Municipal Sewer System Improvements	Three (3) Phases of Sewer Improvements: sewer master plan in 2009, followed by first, second, and third phases of design. Phase 3 improvements include sewer lining, point repairs, and manhole rehabilitations, for approximately 28,000' of pipe.





## Experience and Qualifications of Key Personnel

Tetra Tech offers the City of Hermosa Beach leading industry experts that are able to mobilize at a moment's notice. We have established a dedicated, qualified and experienced team of professionals that will provide the City with the technical and managerial qualifications, specialized expertise and professional resources required to successfully complete your project needs as they arise.

Our project team includes engineering experts in multiple professional disciplines, with the right experience necessary to ensure successful completion of the City's projects in a timely and professional manner. The individuals depicted in our Organizational Chart included in Section 3 Project Understanding and Approach to Scope of Work, are available and we commit their time and effort necessary to successfully complete each project.

## Assignment of Key Personnel

Tetra Tech understands that the replacement of key personnel will not be permitted without prior consultation with and approval by the City. Tetra Tech confirms that any proposed substitutions of key personnel will be as qualified as the original, and at the same or lower cost for engineering types of consultant contracts.

The table below provides an overview of our key personnel's roles and availability. **As needed, the percent availability can be ramped up to provide additional support for any given task.** Brief resumes for key personnel are included in the following pages.



## Availability of Key Personnel

NAME	ROLE	YEARS EXP.	AVAILABILITY
Jason Fussel, PE, PLS, QSD/P, LEED AP, ENV SP	Principal-in-Charge	17	10%
Nate Schreiner, PE, QSD	Project Manager	14	>60%
Devin Newton, PE, QSD/P	QA/QC Manager	18	20%
Justin Smith, PE	Storm Drain Design Lead	8	>60%
Joe Conroy, PE	Storm Drain Design	11	>60%
Ken Berard, PE	Sewer Design Lead	34	>20%
Erica Jenkins	Sewer Design	26	>30%
Neha Gajjar, PE	Sewer Design	28	>30%
Jamie Sayre, PhD, PE, QSD/P	Water Quality Lead	12	>30%
Clint Boschen, MS	Water Quality Specialist	23	>20%
Tim Joyce, PE	Pump Station Design Lead	25	>30%
Elva Pangilinan, PE, ENV SP, CDT	Stormwater Lead, Cost Estimates/Specifications	13	>60%
Fernando Cuenca, PhD, PE, GE	Senior Geotechnical Engineer	11	>30%
Renee Longman, AIP, LEED AP BD+C	Senior Environmental Planner	18	>30%

# Jason Fussel, PE, PLS, QSD/P, LEED AP, ENV SP

## PRINCIPAL-IN-CHARGE

Mr. Fussel's civil engineering experience totals nearly two decades with the majority of it being focused on water projects, including the design of sewer transmission systems, water distribution systems, and storm drain improvements. His professional strengths and key areas of expertise include project management, civil engineering design, preparation of specifications, cost estimating, stormwater analysis and studies, and construction support services. Mr. Fussel's extensive and relevant experience in the water quality and Best Management Practice (BMP) arena includes successful implementation of sustainable design practices for a vast array of improvement projects. His significant involvement in Low Impact Development (LID) and Stormwater Pollution Prevention and reduction projects in Southern California provide the foundation for his continued leadership in the industry. To date Mr. Fussel has been the design lead for the design and implementation of over \$100 million in construction cost.

## EXPERIENCE

**Hermosa Beach Greenfield Infiltration, City of Hermosa Beach, Hermosa Beach, CA.** Project Manager. Mr. Fussel managed the design of a new regional BMP facility to divert water from a major flood control storm drain and convey it to an underground infiltration system. This project protects and improves Santa Monica Bay water quality by diverting and infiltrating storm water that contains TMDL pollutants fecal indicator bacteria, sediment-borne DDT and PCBs, and trash, as well as typical pollutants in urban runoff (metals and nutrients). The tributary area to be mitigated by this project is 2,914 acres including runoff from all cities in the Beach Cities Watershed Management Group. Project benefits include reducing downstream flooding, preserving the existing use of the linear greenbelt as a running path, restoring native coastal dune habitat, and supporting loads associated with municipal vehicles for parkland maintenance. Mr. Fussel supported the City through the public outreach process to develop a project that is sensitive the community's needs.

**Mayfair Park Stormwater and Runoff Capture, City of Lakewood, Lakewood, CA.** Engineering Design Lead and Engineer of Record. Mr. Fussel is responsible for feasibility, conceptual and detailed design services to prepare final plans, specifications and estimates. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of

## EDUCATION

BS, Civil Engineering, California Polytechnic State University, San Luis Obispo, 2003

## REGISTRATIONS

Registered Professional Engineer, California No. 70879

Registered Professional Engineer, Hawaii No. 15600

Registered Professional Land Surveyor, California No. 9006

Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP), No. 20231

Envision™ Sustainability Professional

LEED® Accredited Professional

## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

California Land Surveyors Association

## YEARS WITH TETRA TECH

17

## YEARS OF EXPERIENCE

17

the project is to not only help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, but also provide additional benefits, such as revitalized park infrastructure and augmentation of local water supplies.

**Vandenberg Landfill Storm Drain, Vandenberg Air Force Base, US Army Corps of Engineers, Lompoc, CA.** Engineer of Record and Surveyor.

Mr. Fussel was responsible for detailed design plans, specifications and hydraulic calculations for the undergrounding and redirection of a portion of stormwater inflows at the base's landfill. The intent of the project was to capture inflow and prevent erosion of the soil layer above disposed waste caused by the stormwater that flowed into the base's landfill. Additionally, the project improvements were designed to prevent infiltration of stormwater into the existing landfill area that was to be capped and closed. Mr. Fussel performed a topographic survey and extensive onsite reconnaissance in order to verify the conceptual plan prepared as part of the landfill closure. The design team redesigned the project to route stormwater underground and moved the alignment of improvement away from the steepest and most erodible sections of the existing landfill drainage. The final design included five manholes and 700 feet of storm drain. The storm drain connected each of the nearby points of inflow to capture the maximum amount of surface water before it entered the landfill area. The United States Environmental Protection Agency's (USEPA) Stormwater Management Model (SWMM) program was used to model the hydrology of the 100-year storm and analyze the peak flow to size the proposed storm drain.

**Merced Avenue Greenway, Council for Watershed Health, South El Monte, CA.**

Project Manager. Mr. Fussel oversaw planning and design services for a stormwater retrofit project along the Merced Avenue corridor. The scope of services included assessing existing conditions on Merced Avenue, consulting with agencies on regulations for planning and design,

evaluating pre-design monitoring data and analyzing urban heat island mitigation strategies, providing a preliminary design report, presenting at community design workshops and meetings in collaboration with various stakeholders to create designs for the retrofit. Tetra Tech also be provided final permitting, construction drawings, cost estimates, and a bid package. The goal of the project is to manage stormwater runoff at its source to meet regulatory compliance by improving water quality and enhancing watershed health. Additional benefits include reducing the urban heat island effect and its carbon footprint, creating new safe bike and pedestrian connections, enhancing public health and beautifying the neighborhood. In addition, the project includes active transportation programming and incorporates a community-based approach that provides opportunities for watershed education and neighborhood involvement in designing the project.

**Caruthers Park Stormwater and Urban Runoff Capture Project, City of Bellflower, Bellflower, CA.** Design Lead.

Mr. Fussel oversaw the pre-design and design services for this Caltrans funded stormwater capture project. Tetra Tech provided a Project Engineering Study Report that included all necessary analyses to provide a recommendation for regional stormwater capture treatment and implementation. The analysis identified the existing site hydrology, water quality, and hydraulics to determine an optimal combination of the inflow rate, storage volume, and outflow. The Caruthers Park Project consisted of a gravity diversion from two separate Los Angeles County Flood Control District storm drain lines. The diverted flows pass through a pretreatment system to remove trash, debris, and sediment. The runoff is then passed into a large buried multi-chambered storage/infiltration facility that will be treated and used to irrigate the park. Flows in excess of the required irrigation demands will pass into the infiltration gallery to be exfiltrated through the soil to eventually combine with the ground water. This project helps the City comply with their bacteria and metals TMDL, while providing additional benefits of potable water offset and park revitalization.



# Nate Schreiner, PE, QSD

## PROJECT MANAGER

Mr. Schreiner is a civil engineering project manager at Tetra Tech's office in Irvine, California specializing in drainage. He manages domestic projects on behalf of government clients, applying a successful 14-year history of project management, civil engineering design, hydrologic and hydraulic modeling, condition assessments of a variety of infrastructure, and cost estimating. He most recently served as project manager for numerous on-call contracts with various public agencies in the Southern California area including the City of Los Angeles, Orange County Public Works (OCPW), and Los Angeles County Department of Public Works (LACDPW). He has performed hydrologic and hydraulic analyses of various types of drainages including culverts, channels, rivers, and alluvial fans. Previously he was involved in projects involving USACE Periodic Inspections of levees, FEMA levee certification, and master drainage plans. He has inspected around 300 miles of levee in various states and is well versed with USACE facilities. He has been involved in all phases of the project life-cycle including site investigations, preliminary design, PS&E, QA/QC, and construction support. As a Qualified SWPPP Developer (QSD), Mr. Schreiner has experience with providing Stormwater Pollution Prevention Plans (SWPPP) for construction activities.

## EXPERIENCE

**Naples Seawall Repair Phase 2, City of Long Beach, Long Beach, CA.** Senior Civil Engineer. Mr. Schreiner served as the senior civil engineer providing construction design support related to the pump stations, drainage, and grading for the Naples Island Seawall Repair Phase 2 project. Mr. Schreiner also led the obtaining of the stormwater connection permit from the Los Angeles County Department of Public Works (LACDPW). The construction activities included the installation of 2,148 linear feet of new steel sheet-pile seawall on the water sides of the existing vertical seawalls at The Colonnade, the south side and eastern end of Treasure Island, and the western end of the Naples Peninsula. Additional scope included new sidewalks, guardrails, drainage improvements, lighting, seven ADA-accessible view areas with public benches, and replacement of existing private boating facilities (access stairways, platforms and dock guide piles).

**Silver Lake Reservoir Stormwater Capture Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA.** Project Manager. Managing the pre-design phase of the project to construct stormwater infrastructure to capture stormwater from a 170-acre watershed and divert it to the Silver Lake and Ivanhoe reservoirs in Los Angeles, CA. To offset the potable water demand associated with maintaining historic water levels in the reservoirs, stormwater from the local watershed was proposed to be redirected into the Reservoirs. Various types, sizes, and locations of stormwater infrastructure and BMPs were evaluated and selected to assist the City in meeting their stormwater capture goals. Mr. Schreiner guided the project engineer in the hydrologic and hydraulic modeling and reviewed all project submittals. Mr. Schreiner also coordinated with the City's Street and Stormwater Division project manager and staff at a pre-design review meeting.

## EDUCATION

BS, Environmental Engineering,  
California Polytechnic State University,  
San Luis Obispo, 2006

## REGISTRATIONS

Registered Professional Civil Engineer  
California No. 74974

Qualified SWPPP Developer (QSD),  
Certificate No. C74974

## YEARS WITH TETRA TECH

12

## YEARS OF EXPERIENCE

14

### **Caruthers Park Stormwater and Urban Runoff Capture Project, Bellflower, CA.**

Senior Civil Engineer. Mr. Schreiner is serving as a senior civil engineer during the bidding and award and construction phases of this large-scale stormwater project to capture, infiltrate and reuse urban runoff collected from County drainage facilities adjacent to the park. The project was planned as part of the Los Cerritos Channel (LCC) watershed and the Lower San Gabriel River (LSGR) Watershed Management Programs (WMPs). Caruthers Park was identified as a potential high priority site for a regional stormwater capture project for non-stormwater runoff as well as first-flush runoff from wet weather events. The project components include site improvements, a diversion structure to divert water from the flood control channel, a pretreatment structure to remove trash and debris from the runoff, an underground structure to infiltrate and store the water that will be treated for landscape irrigation use, and piping systems. Mr. Schreiner was instrumental in obtaining the California Department of Fish and Wildlife (CDFW) 1602 Notification of Lake or Streambed Alteration permit, Regional Water Quality Control Board Los Angeles Regional Clean Water Act Section 401 Water Quality Certification, and the US Army Corps of Engineers, Los Angeles District Section 404 Permit. Mr. Schreiner is also responsible for overseeing the project engineer and their review of RFIs, submittals, construction schedules, and change orders.

### **Vermont Avenue Stormwater Capture and Green Street Phase 2, City of Los Angeles Bureau of Engineering, Los Angeles, CA.**

Project Engineer. Mr. Schreiner served as the project engineer for the design phase of the project to construct green street stormwater infrastructure for a 5-acre watershed located in the vicinity of Vermont and Gage Avenues in Los Angeles, CA. Various types, sizes, and locations of BMPs were evaluated and selected to assist the City in meeting their stormwater goals. Mr. Schreiner served as project engineer for the design of the drainage and stormwater treatment system at one location along the project street corridor. Mr. Schreiner researched the City design guidance, designed the drainage system and required grading, and guided and reviewed the design engineer's drafting in Autodesk's Civil 3D.

### **Soboba Hydrology and Hydraulic Analysis for Flood Hazard Mitigation, Soboba Band of Luiseno Indians, Soboba Department of Public Works, Hemet, CA.**

Mr. Schreiner served as project engineer and performed the numerous hydrologic analysis of the various watersheds throughout the Soboba Band of Luiseno Indians reservation with the aid of the Advanced Engineering Software (AES) computer program. The drainage areas typically drain from the mountains down to the main road that leads through the reservation, where culverts were used to drain the runoff under the roadway. Many of the existing culverts are undersized and needed replacement. Mr. Schreiner also performed hydraulics of existing culverts using the FHWA Culvert Analysis Program, HY-8.

### **SWPPP for the Biogas Conditioning System at the Joint Water Pollution Control Plant, Carson, CA.**

Project Manager. Mr. Schreiner serves as the project manager to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for this project. The project includes converting an empty paved lot into a methane gas fuel facility. The property was developed by County Sanitation District No. 2 of Los Angeles County. Mr. Schreiner is responsible for guiding the design engineer in the production of the SWPPP and is responsible for reviewing the report once it was complete. During construction, Mr. Schreiner trains the contractor how to perform weekly inspections. As project manager, he is responsible for overseeing project schedule, staffing needs, budget control, quality control, etc. and ensuring they were met. In addition, the Tetra Tech team is tasked with performing pre- and post-storm inspections, quarterly inspections, and annual reporting.

# Devin Newton, PE, QSD/P

## QA/QC MANAGER

Mr. Newton is a California Licensed Civil Engineer with 18 years of civil engineering design and consulting experience. Mr. Newton is highly skilled in infrastructure design and is able to provide timely, cost-effective design solutions for his clients. He possesses current experience with modern stormwater management and Low Impact Development (LID) practices including hydraulic and hydrologic design of bio-treatment and flood control systems. He is knowledgeable in all phases of the Land Development entitlement process from conceptual planning to construction. Mr. Newton has extensive experience in the design of ADA compliant facilities, property title research, grading design, erosion control, and land surveying.

## EXPERIENCE

### **Willow Springs Wetland, Mia Lehrer & Associates for the City of Long Beach, Long Beach, CA.**

Project Engineer. Mr. Newton was responsible for providing design services to prepare final plans, specifications and estimates for the Willow Springs Park, a 48-acre property owned by the City of Long Beach. The project goal was to restore approximately one acre of wetland and ten acres of upland habitat on the 12-acre subarea of Willow Springs Park, to restore and enhance natural wetlands and to respond to the existing, altered site hydrology and drainage patterns. Tetra Tech designed infiltration basins and vegetated swales to divert, treat, and infiltrate stormwater and dry weather flows. Hydrologic and hydraulic calculations were performed to evaluate project impacts to the existing storm drain system which drains 262 acres of urban land through the project site. Onsite stormwater routing helped to improve flood storage capacity. Improvements to an existing regional flood control detention basin facilitated the creation of a constructed spring for educational opportunities and increased wetland habitat.

### **Final Engineering Services for Margarita Tract 2428, Midland Pacific Homes, San Luis Obispo, CA.**

Design Engineer. Mr. Newton was responsible for providing engineering support services and quality control review of construction documents for this 180-lot residential development within the City of San Luis Obispo. The improvement plans for Tract 2428 included the design of roads, sewer, water, and storm drain facilities. Hydrology/hydraulic studies were performed to support the on-site improvements. AutoCAD Civil 3D's Hydraflow Hydrographs was used to determine on- and off-site runoff flow rates and Hydraflow Storm Sewers was used to analyze the storm drain network. 100-year water surface elevations were determined for the existing drainage courses using HEC-RAS to verify that pads are set well above the flood elevation. Survey services provided involved the preparation of the final map, and will include setting monuments and property corners throughout the project area.

**Huasna Tract 3045, Coastal Community Builders, Arroyo Grande, CA.** Project Engineer. Mr. Newton was responsible for providing engineering construction support services, quality control review, and construction staking oversight for this 12-lot residential hillside development within the City of Arroyo Grande. The improvement plans for Tract 3045 included the horizontal and vertical layout of roads and infrastructure including storm drain and sewer. A hydrologic/hydraulic study was performed to verify that the site conveyed and captured the 50-year flood storm, as well as treats and infiltrates the 85th percentile storm event. Stormwater treatment and infiltration was accomplished with the design of two infiltration basins. Survey services included the preparation of the final map, property corner monument setting, and construction staking.

## TETRA TECH

### EDUCATION

California Polytechnic State University,  
San Luis Obispo, 1996-2000

### REGISTRATIONS

Registered Professional Civil Engineer  
California No. 72952

Qualified SWPPP Developer (QSD)  
and Qualified SWPPP Practitioner  
(QSP) No. 01054

### YEARS WITH TETRA TECH

6

### YEARS OF EXPERIENCE

18



# Justin Smith, PE

## STORM DRAIN DESIGN LEAD

Mr. Smith brings extensive knowledge in civil engineering from his involvement in a variety of municipal projects of varying size and funding. His design experience includes parking lot and roadway geometrics, pedestrian accessibility improvements, bike trails, parks, construction and post-construction stormwater BMPs, storm drain improvements including hydrologic and hydraulic design, overall utility plans, structural design, and grading activities varying from mass grading to final precise grading plans. His other experience includes cost estimating, preparing specifications, providing construction/post-construction support, performing utility research, and coordinating with the project team and outside agencies. Mr. Smith is currently working with the City on the Lincoln Avenue Pedestrian Pathway and First Street Pedestrian Improvements Projects.

### EDUCATION

BS, Civil Engineering, University of Irvine, 2013

### REGISTRATIONS

Professional Engineer, California, No. 85736

### YEARS WITH TETRA TECH

8

### YEARS OF EXPERIENCE

8

## EXPERIENCE

**First Street Pedestrian Improvements, City of Santa Ana, Santa Ana, CA.** Project Engineer. Responsible for the preparation of the PS&E along with the Water Quality Management Plan for this active transportation project. The project involves the widening of the existing sidewalks by three feet by reducing the width of the vehicle travel lanes along a 1.2-mile portion of First Street between Flower Street and Standard Avenue. Improvements include reconstructing ADA curb ramps, reconstructing hardscape (curb & gutter, bus stop pads, asphalt pavement, and driveway approaches), creating bulb-outs at intersections, restriping travel lanes, installing high visibility marked crosswalks, relocating and/or adjusting existing utility features to grade, relocating street furniture, modifying existing pedestrian push buttons, installing new traffic signal detector loops, installing a new traffic signal at the intersection with Lacy Street, retrofitting and/or reconstructing drainage structures, and installing stormwater Best Management Practices (BMPs).

**Lincoln Avenue Pedestrian Pathway, City of Santa Ana, Santa Ana, CA.** Project Engineer. Responsible for the preparation of the plans, specifications, and estimates (PS&E) for this active transportation project. Services included permitting through the Southern California Regional Rail Authority (Metrolink). The project is funded in part by ATP state grant funds. The pedestrian pathway will run parallel with Lincoln Avenue west of the existing railroad tracks. The improvements will commence at the intersection of Lincoln Avenue and Park Lane, continue north between the back of the residential properties and the railroad tracks, and end at the existing Santiago Trail, under the railroad bridge that crosses Santiago Creek. The improvements include a 12-foot pathway and railroad-approved safety fencing, drought tolerant landscaping, pedestrian lighting, and signage to identify the pathway.

**Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA.** Design Engineer. The project consisted of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline conveys the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir is treated and used to irrigate the park's landscaped areas. The system monitors the weather conditions and the facility through a secured cloud-based system. The underground storage system is 4.5 million gallons (13.8 ac-ft). The goal of the project was not only to help the City comply with the metals Total Maximum Daily Loads (TMDLs), as presented in the Los Cerritos Channel Watershed Management Program, provides benefits such as revitalized park infrastructure and augmentation of local water supply.

# Joe Conroy, PE

## STORM DRAIN DESIGN LEAD

Mr. Conroy has been involved in a wide variety of civil engineering design projects including storm drain design, roadway design, traffic management and analysis, and GIS mapping. His storm drain design work includes hydrology and hydraulic analysis, horizontal and vertical alignments, bio filtration design, low impact development (LID), cost estimating, and utility coordination. His storm drain design projects, mostly located in southern California, have ranged in scale from small LID project on residential streets to large drainage outlets in flood control drainage basins to complex stormwater capture projects in urban parks.

### EXPERIENCE

**Santa Monica Clean Beaches Initiative, City of Santa Monica, Santa Monica, CA.** Engineering Design Support during Construction. Mr. Conroy is responsible for the design support during construction of the site improvements, diversion structure, pretreatment, underground storage reservoirs, and piping systems. The project objective is to improve Santa Monica Beach water quality by increasing the diversion capacity at the Santa Monica Pier and Pico-Kenter storm drain outfalls. The 85th percentile storm event volume would be treated and diverted from the Pier watershed to the Santa Monica Urban Runoff Recycling Facility (SMURRF) or the sanitary sewer. The project proposes storm drain diversion and runoff storage systems at two separate storm drain outfalls, routed to two subsurface storage areas.

### **Albion Riverside Park Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA.**

Construction Manager. Mr. Conroy was responsible for overseeing the design services during construction for the Albion Riverside Park Project. The project, located adjacent to the Los Angeles River, involves transforming a six-acre site, previously used for dairy warehousing and distribution, into a riverfront park and recreational facility that will benefit nearby disadvantaged low income neighborhoods. In addition, the City is using the redeveloped property to increase the current capacity for managing stormwater runoff. This important water quality project is part of the City's overall efforts through the Proposition O Bond Program to improve water quality and reduce pollutant loads that are currently being conveyed to the rivers, lakes, and oceans.

### **Carlsbad Desalination Project, Poseidon Resources Corporation, Carlsbad, CA.**

Design Engineer. Mr. Conroy was responsible for providing support for grading of the Pipeline Interconnect Facilities Site. 52,000 linear feet of conveyance pipeline which serves the product water from the planned 50 mgd desalination plant in the City of Carlsbad. Pipeline diameter is 54-inch welded steel pipeline operating at a maximum pressure of 500 psi. Tetra Tech provided design services on the \$150 million Design-Build conveyance pipeline and flow regulatory facility. The pipeline is traverses through the cities of Carlsbad, San Marcos, Vista and Oceanside. In addition, there are four bridge crossings, Caltrans right-of-way crossing, railroad crossing, and several bore and jack crossings located throughout the project.

**Patton Drainage Outlet Repair, City of San Bernardino, San Bernardino, CA.** Project Manager and Engineering Design. Mr. Conroy was responsible for hydrology and hydraulic calculations, site plans, development of 48-inch drainage pipe and outlet plan and profile. Tetra Tech is provided engineer design services and support during construction including site investigation, data collection, hydrology and hydraulic analysis to repair the badly damaged drainage system caused by years of excessive discharges in combination with surface runoff which led to the undermining of 48-inch RCP and collapse of the outlet system and concrete chute off of Victoria Boulevard.

### EDUCATION

BS, Civil Engineering, Northeastern University, 2009

### REGISTRATIONS

Registered Professional Engineer, California, No. 82944

### YEARS WITH TETRA TECH

8

### YEARS OF EXPERIENCE

11

# Ken Berard, PE

## SEWER DESIGN LEAD

Mr. Berard has extensive experience in many facets of water/wastewater engineering. Mr. Berard has performed numerous studies ranging from complete water master plans to efficiency studies. His design experience includes preparing bid documents for sewers, reservoirs, pump stations, wells, pipelines, chlorination facilities, and pressure reducing facilities. Mr. Berard also has extensive experience in hydraulic modeling. He has used and is familiar with more than six software packages in addition to open channel flow software. Rounding out Mr. Berard's experience is work he has done in inspection, construction administration, shop drawing review, and plan checking.

## EXPERIENCE

### **Trenchless Sewer System Repairs, City of Norwalk, Norwalk, CA.**

Project Manager for the design of the repair for 12 sewer segments totaling 5,800 linear feet of 8-inch pipe. Preliminary Design Report evaluated traditional cut and cover replacement, pipe bursting, slip lining, cured-in-place pipe, cut and cover spot repairs, mechanical spot repairs, and cured-in-place spot repairs. Design was completed for cured-in-place pipe, cut and cover spot repairs, and mechanical spot repairs. Projects were located in areas varying from a highly congested State Highway to residential easements with sheds, walls, and other superstructure encroaching the easements.

### **Santa Ana River Interceptor Relocation Project, Orange County Flood Control District, Santa Ana, CA.**

Project Manager for preliminary and final design services for relocation of 19,500 linear feet segment of 54-inch trunk interceptor, 6,000 linear feet of 15- and 18-inch sewer mains, flow metering station and the decommissioning of the existing trunk interceptor segment. The project included the installation of two separate siphons below the Santa Ana River using microtunneling construction method while complying with multiple environmental and permitting constraints.

**Phase II Sewer Rehabilitation/ Replacement, City of Compton, Compton, CA.** Project Engineer for the design of over 20,000 feet of 6- and 8-inch sewer rehabilitation and over 4,000 feet of 8- and 15-inch sewer replacement.

**Archibald Trunk Relief Sewer, Inland Empire Utilities Agency, Ontario, CA.** Design Engineer for 6,000 linear feet of trunk sewer mains, ranging in size from 30- to 54-inch in diameter, in the City of Ontario. The work included several junction structures and extensive traffic control, as well as permitting.

**City of Fontana, Fontana, CA.** Design of two inverted sanitary sewer siphons for an existing industrial waste line.

**City of Pico Rivera, Pico Rivera, CA.** Design all of three phases of 5,000 feet of 12- to 18-inch sewer pipe.

### **Water & Sewer Feasibility Study, Islamic Community Center of Loma Linda, County of San Bernardino CA.**

Project Manager for study that evaluated several alternatives for water and sewer service for a proposed development. The study considered hydraulics, specific alignments and their impediments (channel crossing, freeway crossing, et al), geotechnical, permitting, and costs.

## EDUCATION

BS, Civil Engineering, California State Polytechnic University, Pomona, 1986

## REGISTRATIONS

Professional Civil Engineer, California, No. 45499, 1992

## PROFESSIONAL AFFILIATIONS

American Water Works Association

Inland County Water Association

## YEARS WITH TETRA TECH

34

## YEARS OF EXPERIENCE

34



# Erica Jenkins

## SEWER DESIGN

Ms. Jenkins has more than 26 years of experience and has been responsible for the preparation of water/sewer/reclaimed water pipeline projects, and project design reports for various water and sewer facilities. She has been responsible for completing the design, bidding, and construction management of over 50 miles of water/reclaimed water/sewer mains throughout Southern California.

## EXPERIENCE

### Priority Sewer Improvement Projects 52 & 53, City of Garden Grove, CA.

Design Engineer. The role of Tetra Tech was to provide civil engineering and surveying design services to projects 52 and 53 for the City of Garden Grove. The Lampson Avenue project runs from Beach Boulevard to Dale Street. The Nutwood Street project runs from Garden Grove Boulevard to Stanford Avenue.

**Hawthorne Sewer Master Plan Update and Sewer Rehabilitation, City of Hawthorne, CA.** Design Engineer for the continuing sewer management program for the City of Hawthorne. Tetra Tech is performing the third phase of work including CCTV and manhole inspection, updating the sewer master plan, hydraulic model and capital improvement program. In addition, the project consists of preparing plans and specifications for the next phase of the sewer rehabilitation program including sewer lining, point repairs and manhole rehabilitation for approximately 28,000 feet of pipe.

**Orange Avenue/Del Amo Boulevard/Walnut Avenue Sewer Upgrade Project, Long Beach Water Department, Long Beach, CA.** Design Engineer for the preparation of plans, specifications and cost estimate for the construction of 3,500 linear feet of 12/15-inch sewer main and 900 linear feet of rehabilitation of 12-inch VCP. In addition to the construction of sewer pipe, this project was unique in that four sewer siphons were to be constructed in order to go under an existing LACFD Channel and 12'x9' RCB (three locations). Due to the location of this project, extensive permitting with four agencies (Los Angeles Flood Control District, Union Pacific Railroad, City of Long Beach, and Orange County Sanitation District) was required prior to the start of any construction activity.

**15th Street Sewer Replacement Project, Long Beach Water Department, Long Beach, CA.** Design Engineer for the preparation of plans, specifications and cost estimate for the construction of 800 linear feet of 8-inch sewer main. This project consisted of the construction of drop manholes and the reconnection of existing sewer laterals.

**Beach Boulevard Sewer Siphon Replacement Project, City of Buena Park, CA.** Design Engineer for the preparation of plans, specifications and cost estimates for the construction of two new 8-inch gravity sewer mains on the east and west side of Beach Boulevard. This project included the abandonment of a two sewer siphons under an existing Orange County Flood Control District Channel and the reconnection of many sewer laterals.

**Sewer Rehabilitation, Phase I, City of Hawthorne, Hawthorne, CA.** Project involved preparation of plans, specifications and cost estimates for re-lining sewer lines, rehabilitating manholes and replacing pipe segments to improve hydraulics in the manholes and replacing pipe segments to improve hydraulics in the system. First phase of the project included 2,100 linear feet of sewer lining, 111 manhole repairs and 3,400 linear feet of sewer pipe replacement.

## EDUCATION

BS, Civil Engineering, California State University, Fullerton, 1996

## REGISTRATIONS

Engineer-in-Training, California, No. EX102020

## YEARS WITH TETRA TECH

25

## YEARS OF EXPERIENCE

26

# Neha Gajjar, PE

## SEWER DESIGN

Ms. Gajjar has 28 years of experience providing project management, planning, and design of water transmission, distribution, and storage facilities projects. She has significant experience preparing plans and specifications for water/sewer mains, storm drains, pipelines, and has an intimate understanding of these requirements for many municipalities. Her responsibilities as engineering lead include establishing design parameters, planning activities to meet client needs and project schedules, and managing required appropriate technical resources required for each project.

## EXPERIENCE

**La Salina Wastewater Treatment Plant Decommissioning, City of Oceanside, CA.** Assistant Project Manager responsible for preparing plans and specifications for the decommissioning of the existing WWTP after the incoming flows are diverted via a new lift station to the San Luis Rey Water Reclamation Facility. Design considerations included asbestos/lead/hazardous materials abatement, removal of existing wastewater from various facilities, demolition of the aboveground facilities and piping up to five feet below grade, and rough grading for future site usage.

**CIP 17-416 Sewer Improvements Project, City of Hermosa Beach, Hermosa Beach, CA.** Project Manager to evaluate and design sewer system improvements of four distinct areas: Area 1- Highland; Area 2-Harper Avenue; Area 3-Hermosa Avenue; and Area 4-24th Street. The evaluation included about 2,700 lineal feet of sewer lining; 9,200 lineal feet of sewer replacement and 39 manholes to be rehabilitated. Once the assessment was complete, the design plans included segments of the areas that were to be removed/replaced, have point repairs, be relined with cured-in-placed liner, or have root removals.

**Siphon Replacement at Cedar Avenue and 52nd Street Project, Long Beach Water Department, Long Beach, CA.** Project Manager to evaluate and size the siphon replacement at the intersection of Cedar Avenue and 52nd Street. The existing 12-inch siphon was installed by LACFCD and is currently damaged. She evaluated the flow monitoring performing by a subconsultant and determined the optimal size, which was a dual 8-inch siphon. Prepared plans, technical specifications and a cost estimate for this design. The project included integral slide gates within the manhole channel to allow diversion of sewage flows from one siphon to the other to provide enough access for maintenance.

**Peck and Chestnut Street Sanitary Sewer Replacement Project, Elsinore Valley Municipal Water District, Lake Elsinore, CA.** Project Manager. Prepared plans and specifications to replace approximately 2,500 lineal feet of 6-inch sewer main with 8-inch. An additional 1,000 lineal feet of existing 6-inch sewer will be re-lined since there are issues with construction access in the 10-foot alleys east of Main Street. One pipe segment is on a private residence where we propose pipe bursting to mitigate impacts to the owner's garage and property.

**Sanitary Sewer Improvements Cerritos Avenue, City of Anaheim, Anaheim, CA.** Project Manager for the design of approximately 2,700 lineal feet of 24-inch and 1,200 lineal feet of 6 12-inch sewer pipeline. The project scope involved a comprehensive system analysis to evaluate alternative alignments from anticipated sewer flows from Disneyland's improvement plans. The proposed alignment was in the same alignment as the existing 18-inch diameter sewer main, but a new 24-inch diameter VCP sewer was installed at a lower elevation and still met the downstream trunk sewer elevations for gravity flow.

## EDUCATION

BS, Civil Engineering, University of California at Berkeley, 1991

## REGISTRATIONS

Professional Engineer, California, No. 55574, 1996

## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

Society of Women Engineers

## YEARS WITH TETRA TECH

2

## YEARS OF EXPERIENCE

28

# Jamie Sayre, PhD, PE, QSD/P

## WATER QUALITY DESIGN LEAD

Ms. Sayre is an hydrology/hydraulics engineer who specializes in urban watershed management and stormwater remediation. Her experience encompasses more than 11 years of work and research in TMDLs and water quality projects. For her doctoral dissertation, she investigated the total maximum daily loads (TMDL) for hydrophobic organic contaminants and performed a cost benefit analysis for reducing stormwater runoff and contamination in the Los Angeles region. Her experience includes conducting water/field sampling, data collection and analysis, laboratory analyses, and experiments to establish TMDLs and baseline conditions for organic contaminants in Ballona Creek and Marina del Rey Harbor polyethylene devices (PEDs) and solid-phase microextraction (SPME). As project engineer for several TMDL special studies and stormwater projects in Los Angeles, Ms. Sayre led the technical development of the projects, authored technical reports, performed quality assurance/quality control reviews, and conducted data analyses. Jaime has managed and led teams to provide public and private sector clients with quality products.

## EXPERIENCE

**Carson Water Capture Project at Carriage Crest Park, Phase I and II, Sanitation Districts of Los Angeles County.** Project Manager. This project consists of the design and construction of a storm drain diversion structure, 11-acre-foot underground storage facility, and pump station to the sewer and return flow to the storm drain. The project is intended to address the City of Carson's water quality actions stated under the Dominguez Channel Watershed Management Area Group's Enhanced Watershed Management Program. Ms. Sayre is leading the project development team and coordinating these efforts with the County Sanitation Districts, LACFCD, and the City Project Team.

**AB 466 Upper Los Angeles River and Tributaries Revitalization Plan, Mountains Recreation Conservation Authority, Los Angeles, CA.** Project Manager. Ms. Sayre is leading the watershed planning effort to identify and prioritize opportunities for revitalization in urban, underserved communities, including development of baseline hydrologic and hydraulic conditions. She is responsible for the coordination and facilitation of community outreach and engagement. She has developed educational presentations, project technical detail presentations and clear messaging for the project. Facilitated portions of eight community meetings attended by more than 400 residents of the watershed to provide technical details, answer community questions, and gather input for use in project design.

**AB 530 Lower Los Angeles River Revitalization Plan, Vernon to Long Beach, CA.** Project Manager. This project consisted of the development of a visionary, community-based revitalization plan for the 19-miles of the Los Angeles River. Ms. Sayre was responsible for the daily management activities, client coordination, preparing technical documentation for the Working Group and committees in order to assess the multiple facets of the revitalization plan and the implementation of a robust Community Engagement Program. She led the development, coordination, and facilitation of the 2-phase community engagement process, which included hosting an LA River Movie Night – through which, Working Group and community members were invited to have dinner and watch a movie in the LA River.

## EDUCATION

PhD., Environmental Engineering,  
University of Southern California

MS, Civil Engineering, West Virginia  
University

BS, Civil Engineering, West Virginia  
University

## REGISTRATIONS

Professional Civil Engineer, California,  
80240, 2012

Qualified SWPPP Developer/  
Practitioner 24236, California

## PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

California Stormwater Quality  
Association

## YEARS WITH TETRA TECH

3

## YEARS OF EXPERIENCE

12



# Tim Joyce, PE

## PUMP STATION DESIGN LEAD

Mr. Joyce has more than 25 years of experience in planning, conceptual design, final design, and construction management of municipal, environmental, and civil engineering projects. Throughout his career, he has been directly involved in the management, design and construction of pipelines, collection systems, and stormwater treatment systems. He has designed stormwater conveyance and treatment facilities for flow rates ranging from 0.1 cfs up to 175 cfs.

### EXPERIENCE

**Lakewood Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA.** Design Lead. Responsible for overall pump station design. Tetra Tech was contracted by the City of Lakewood to evaluate two potential site locations for the development of the Lakewood Stormwater and Runoff Capture Project: Mayfair Park site and the Bolivar Park site. Tetra Tech provided a Project Engineering Study Report (PESR) that represents 10% design completion level and describes the evaluation of the two sites with all site investigation, hydrology and hydraulic, and water quality data and analyses to provide a recommendation for site selection. The project components will include a diversion structure to divert water from one of the major flood control channels, a pretreatment structure to remove debris from the runoff, an underground structure to infiltrate or capture the water that will be treated for landscape irrigation use, and a rehabilitated park surface with new picnic areas.

**Carriage Crest Stormwater and Runoff Capture Project, Sanitation Districts of Los Angeles County, Carson, CA.** Senior Engineer. Mr. Joyce was responsible for preparing the plans, specifications and estimates, for the pump station design. Carriage Crest Park was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.

**Temescal Canyon Park Stormwater BMP Project, City of Los Angeles, Bureau of Engineering, Los Angeles, CA.** Project Manager. Project Manager for a project to assist the City in compliance with the Santa Monica Bay Beaches Bacteria TMDL near Temescal Canyon Road. The engineering services for the project included concept development, preliminary design, detailed design, construction support, hydrologic analyses for the performance of the facility, site surveying, support of CEQA activities, environmental services, archaeological services, geotechnical explorations, permitting (Coastal, City Building and Safety, Caltrans, and Los Angeles County), and community outreach. Components of the BMP are a 22 million gallons per day (mgd) storm drain diversion structure; a hydrodynamic separator; a 1.25 million gallon detention tank; a 3 mgd pump station; new park playground equipment; new park restrooms; 500 feet of new 36-inch storm drain pipe; 1,000 feet of new 16-inch force main; and rehabilitation of 3,000 feet of existing 16-inch force main that discharges into the sanitary sewer for treatment at the Hyperion Wastewater Treatment Plant.

### EDUCATION

BS, Civil Engineering, University of Connecticut

### REGISTRATIONS

Professional Engineer, California, No. 51596, 1993

### PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

### YEARS WITH TETRA TECH

3

### YEARS OF EXPERIENCE

25

# Elva Pangilinan, PE, ENV SP, CDT

## STORMWATER DESIGN LEAD, COST ESTIMATES/SPECIFICATIONS

Ms. Pangilinan has been a member of the Tetra Tech team for 13 years and has extensive and relevant experience in designing and preparing improvement plans for both municipal and federal projects. She is also experienced with performing various hydrology studies and preparing reports. She has gained knowledge in Best Management Practices (BMP) and Low Impact Development (LID) implementation through her involvement in several important Proposition "O" projects for the City of Los Angeles and various stormwater capture projects throughout Southern California. Additionally, Ms. Pangilinan is a Construction Documents Technology (CDT) Certified Professional, as well as a certified Envision™ Sustainability Professional.

## EXPERIENCE

### Mayfair Park Stormwater and Runoff Capture Project, City of Lakewood, Lakewood, CA.

Design Engineer. Responsible for preparation of final plans, specifications, and estimates and for design of the site improvements, storm drain system, and irrigation system to ensure the project meets regulatory requirements. Tetra Tech provided feasibility, conceptual and detailed design services to prepare final plans, specifications and estimates. Tetra Tech was contracted to evaluate the potential site location and develop this stormwater runoff and capture project. The project consists of an air-inflated rubber dam diversion system to re-direct all urban runoff and stormwater runoff from the Clark Channel through a pre-treatment system to remove trash, debris, and sediment. A drainage pipeline will convey the water into a large, buried multi-chambered storage and filtration facility. The stormwater collected in the underground reservoir will be treated and used to irrigate the park's landscaped areas. The system will monitor the weather conditions and the facility through a secured cloud based cloud-based system. The underground storage system is 4.5 million gallons (13.8 ac-ft).

**Vandenberg Landfill Channel, Vandenberg Air Force Base, Lompoc, CA.** Design Engineer. Responsible for construction staking to define the limits of the disposal area. The intent of the project was to capture inflow and prevent erosion caused by the stormwater that flowed into the base's landfill. Additionally, the project improvements were designed to prevent infiltration of stormwater into the existing landfill area that was to be capped and closed. Tetra Tech designed the project to route stormwater underground and moved the alignment of improvement away from the steepest and most erodible sections of the existing landfill drainage. The final design included five manholes and 700-feet of storm drain. The storm drain connected each of the nearby points of inflow to capture the maximum amount of surface water before it entered the landfill area. Modeling using the USEPA's Storm Water Management Model (SWMM) program was performed to model the hydrology of the 100-year storm and analyze the peak flow to size the proposed storm drain.

### Carson Stormwater and Runoff Capture Project – Carriage Crest Park, City of Carson, Carson, CA.

Civil Engineer. Responsible for utility research and review of the preliminary design report. Carriage Crest Park was identified in the Enhanced Watershed Management Program (EWMP) as a high-priority site for a regional stormwater capture project due to its proximity to two large storm drains with a total drainage area exceeding 1,100 acres. The project components include a diversion structure to divert water from an existing storm drain system, a pretreatment structure to remove debris from the runoff, an underground structure to capture and store the stormwater prior to being discharged back into the existing storm drain system, and a rehabilitated park surface. Design objectives are to eliminate dry-weather flow from the adjacent channel and to maximize wet-weather pollutant capture.

## EDUCATION

BS, Civil Engineering, California Polytechnic State University, San Luis Obispo, 2007

## REGISTRATIONS

Registered Professional Engineer, California, No. 81113, 2013

Construction Documents Technology (CDT) Certified, 2018

Envision™ Sustainability Professional, 2014

## YEARS WITH TETRA TECH

13

## YEARS OF EXPERIENCE

13

# Robin Nezhad, PE

## COMMUNITY OUTREACH

Ms. Nezhad is an experienced project, program and client manager specializing in the delivery of recycled water, water, wastewater and stormwater planning and design projects for treatment, storage, and conveyance facilities. As a project manager, she is accustomed to coordinating complex issues with multi-disciplinary teams. Ms. Nezhad has excellent communication skills that have offered her vast experience in client management and stakeholder coordination for some of the largest municipal clients in the nation. Having managed the wastewater on-call for the City of Los Angeles, Los Angeles Sanitation District, (LASAN) and Bureau of Engineering she is very familiar with working with LASAN departments and is familiar with processes and procedures. Ms. Nezhad has been committed to providing cost-effective, state-of-the-art engineering solutions with an emphasis on stakeholder and community involvement.

## EXPERIENCE

**On-Call Wastewater Engineering Services, City of Los Angeles, Department of Public Works, Bureau of Engineering, CA.** Program Manager. Ms. Nezhad oversaw delivery of this on-call contract that includes providing wastewater and environmental engineering support to the City of Los Angeles. Services provided in this five-year contract included program management, project management, planning, design and construction management services of pumping plants, conveyance systems, treatment facilities, and wastewater facilities. Task orders included:

- TOS 5 CADD Support Services
- TOS 30 Sewer Engineering Support Services
- TOS 37 Terminal Way Pumping Plant Rehabilitation
- Machado Lake Rehabilitation Project

**Current On-Call Wastewater Engineering Services, City of Los Angeles Department of Public Works, Bureau of Sanitation, Los Angeles, CA.** Program Manager. Ms. Nezhad oversaw this on-call contract for as-needed engineering support services. Responsibilities included serving as individual task order manager, contract advisor, mobilizing additional resources and technical support when needed. Work scope included scientific and technical studies, wastewater facilities planning, stormwater and water quality planning, public outreach and education, financial analysis, regulatory compliance, structural and hydraulic condition assessment, sewer capacity and rehabilitation plan, and solid resources. Key task orders included:

- TOS S2A, SN2B, SN2C Sewer Planning Support Services
- TOS S38 Difficult Access Reaches Sewer Planning
- TOS S43 CCTV Inspection Services
- TOS-S54 Collection System Arc Flash Study
- TOS-S80 Development and Implementation of Collaborative Workspace for Executive Level Reporting
- TOS-SN17 One Water LA Plan Phase 2 Special Studies for Stormwater and Water Reclamation

## EDUCATION

BE, Civil Engineering, Environmental Emphasis, Vanderbilt University, 2001

## REGISTRATIONS

Registered Professional Engineer, California, No.C-83600, 2014

Professional Civil Engineer, Tennessee, No. 110013, 2006

## YEARS WITH TETRA TECH

3

## YEARS OF EXPERIENCE

19



# Renee Longman, AICP, LEED AP BD+C

## ENVIRONMENTAL ASSESSMENTS

Ms. Longman is an environmental planner with 18 years' experience in the preparation and management of CEQA/NEPA technical documents, permitting, and coordination with government and regulatory agencies. She has worked on a variety of projects including infrastructure improvements, stormwater BMP, energy (solar, wind, oil & gas and power plants), transportation (rail, roads and bridges), educational (K-12 and higher education), industrial, and public works. Ms. Longman has experience in permitting complex and often controversial projects. As a planner, she works with public agencies in the identification of existing land use conditions, analyzing a proposed project for compatibility with existing land uses, and assessing the consistency of a proposed project with relevant planning policies and regulations. Ms. Longman also has experience in preparing Application for Certification (AFC), due diligence analysis, land use permitting, aesthetics studies for environmental documents, zoning compliance, and design review.

## EXPERIENCE

### Hazel Street Improvement Project Categorical Exemption, La Habra, CA.

Ms. Longman helped author a Categorical Exemption for the Hazel Street Improvement project. The proposed project consisted of the alteration of Hazel Street from La Habra Boulevard to First Avenue for southbound one-way operation, and included landscaping, landscaped concrete islands, irrigation, intersection treatment, angled parking, signing, striping, and other work as necessary.

**Highline Water Pipeline Repair Project IS/MND, Montecito, CA.** Ms. Longman was the CEQA Project Manager for the Highline Water Pipeline Repair Project IS/MND. The proposed project involved the permanent repair in three locations of a 14-inch steel potable water transmission main (highline) servicing the community of Montecito and would replace temporary emergency repairs currently in place. The permanent repairs were needed to ensure no disruption in water service for firefighting and domestic water users within the District.

**Culver Boulevard Realignment and Stormwater Treatment Project IS/MND, Culver CA.** Ms. Longman was the CEQA project manager of an IS/MND. The Culver Boulevard realignment portion of the project is the continuation of the widening of Culver Boulevard that was completed by Caltrans as part of the 405 Freeway widening in 2009. The proposed project would improve the efficiency of traffic flow and provide for a safer and more aesthetically pleasing street. The project also includes a stormwater treatment component. The City proposed to incorporate structural storm water Best Management Practices (BMPs) as part of the proposed project. The Culver Boulevard Stormwater Treatment component would include an underground storage reservoir beneath the landscaped median and portions of the roadway.

## EDUCATION

MS, Urban and Regional Planning, California State Polytechnic University, Pomona, 2005

BA Geography, San Francisco State University, 2001

AA, Geography, Santa Barbara City College, 1999

## REGISTRATIONS

Certified Planner, American Institute of Certified Planners (AICP)

LEED accredited professional for new building and construction (LEED-AP BD+C)

## YEARS WITH TETRA TECH

5

## YEARS OF EXPERIENCE

18

# Section 6:

## Required Forms

RFQ 20-02

City of Hermosa Beach



### 6.3 Required Forms

#### 6.3.1 Certification of Proposal

RFQ #: 20-02

The undersigned hereby submits its proposal and agrees to be bound by the terms and conditions of this Request for Proposal (RFQ).

1. Proposer declares and warrants that no elected or appointed official, officer or employee of the City has been or shall be compensated, directly or indirectly, in connection with this proposal or any work connected with this proposal. Should any agreement be approved in connection with this Request for Proposal, Proposer declares and warrants that no elected or appointed official, officer or employee of the City, during the term of his/her service with the City shall have any direct interest in that agreement, or obtain any present, anticipated or future material benefit arising therefrom.
2. By submitting the response to this request, Proposer agrees, if selected to furnish services to the City in accordance with this RFQ.
3. Proposer has carefully reviewed its proposal and understands and agrees that the City is not responsible for any errors or omissions on the part of the Proposer and that the Proposer is responsible for them.
4. It is understood and agreed that the City reserves the right to accept or reject any or all proposals and to waive any informality or irregularity in any proposal received by the City.
5. The proposal response includes all of the commentary, figures and data required by the Request for Proposal
6. The proposal shall be valid for 90 days from the date of submittal.
7. Proposer acknowledges that the City may issue addendums related to this RFQ and that the proposer has reviewed the following addendums which have been issued:

Addendum: \_\_\_\_\_

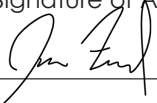
Addendum: \_\_\_\_\_

Addendum: \_\_\_\_\_

Addendum: \_\_\_\_\_

8. Proposer further acknowledges the provisions of any addendums issued have been incorporated into their proposal.

Signature of Authorized Representative:



Printed Name and Title:

Jason Fussel, Vice President

RFQ 20-02

City of Hermosa Beach

6.3.2 Non-Collusion AffidavitRFQ #: 20-02

The undersigned declares states and certifies that:

1. This proposal is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation.
2. This proposal is genuine and not collusive or sham.
3. I have not directly or indirectly induced or solicited any other Proposer to put in a false or sham proposal and I have not directly or indirectly colluded, conspired, connived, or agreed with any other Proposer or anyone else to put in a sham proposal or to refrain from submitting to this RFQ.
4. I have not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price or to fix any overhead, profit or cost element of the proposal price or to secure any advantage against the City of Hermosa Beach or of anyone interested in the proposed contract.
5. All statements contained in the Proposal and related documents are true.
6. I have not directly or indirectly submitted the proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, RFQ depository, or to any member or agent thereof, to effectuate a collusive or sham proposal.
7. I have not entered into any arrangement or agreement with any City of Hermosa Beach public officer in connection with this proposal.
8. I understand collusive bidding is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards.

Signature of Authorized Representative:

A handwritten signature in black ink, appearing to read 'Jason Fussel', written over a horizontal line.

Printed Name and Title:

Jason Fussel, Vice President



**RFQ 20-02**

**City of Hermosa Beach**



6.3.3 Compliance with Insurance Requirements

**RFQ #:** 20-02

The selected consultant will be expected to comply with the City's insurance requirements contained within this RFQ.

The undersigned declares states and certifies that:

1. Proposer agrees, acknowledges and is fully aware of the insurance requirements as specified in the Request for Proposal.
2. If selected, proposer agrees to accept all conditions and requirements as contained therein.

Signature of Authorized Representative:

A handwritten signature in black ink, appearing to read 'Jason Fussel', written over a horizontal line.

Printed Name and Title:

Jason Fussel, Vice President

RFQ 20-02

City of Hermosa Beach



6.3.4 Acknowledgement of Professional Services Agreement

RFQ #: 20-02

The selected consultant will be expected to comply with and sign the City's Professional Services Agreement. Proposers should identify and/or indicate any exceptions to the Sample Professional Services Agreement included in Section 6.2. The City Attorney or their designee retains the discretion to accept or reject proposed exceptions or modifications to the City's Professional Services Agreement.

1. Proposer agrees, acknowledges and is fully aware of the conditions specified in the City's Sample Professional Services Agreement.
2. Proposer agrees to accept all conditions and requirements as contained therein with exceptions noted as follows:

See attached.

---

---

---

---

---

---

Signature of Authorized Representative:

Printed Name and Title:

Jason Fussel, Vice President

## Tetra Tech Contract Exceptions

### **Revise Section 12 (note—reference correct section):**

**INDEMNIFICATION.** CONSULTANT shall indemnify, ~~defend with counsel approved by CITY,~~ and hold harmless CITY, its officers, officials, employees and volunteers from and against all liability, loss, damage, expense, and cost (including without limitation reasonable attorneys fees, expert fees and all other costs ~~and fees of litigation~~) of every nature caused by ~~arising out of or in connection with~~ CONSULTANT's negligent acts, errors, or omissions in its performance of work hereunder ~~or its failure to comply with any of its obligations contained in this AGREEMENT, regardless of CITY'S passive negligence,~~ but excepting to the extent such loss or damage which is caused by the ~~sole active~~ negligence or willful misconduct of the CITY. ~~Should CITY in its sole discretion find CONSULTANT'S legal counsel unacceptable, then CONSULTANT shall reimburse the CITY its costs of defense, including without limitation reasonable attorneys fees, expert fees and all other costs and fees of litigation.~~ The CONSULTANT shall promptly pay any final judgment rendered against the CITY (and its officers, officials, employees and volunteers) covered by this indemnity obligation. It is expressly understood and agreed that the foregoing provisions are intended to be as broad and inclusive as is permitted by the law of the State of California and will survive termination of this Agreement.

### **Delete Section 25**

~~**TIME IS OF ESSENCE.** Time is of the essence to comply with dates and schedules to be provided.~~

### **Add:**

**Limitation of Liability.** In recognition of the relative risks and benefits of the project to both the Client and Consultant, the risks have been allocated such that the Client agrees, to the fullest extent permitted by law, to limit the liability of Consultant and its subconsultants to the Client and to all construction contractors and subcontractors on the project for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, so that the total aggregate liability of Consultant and its subconsultants to all those named shall not exceed \$50,000 or the amount of Consultant's total fee paid by the Client for services under this Agreement, whichever is the greater. Such claims and causes include, but are not limited to negligence, professional errors or omissions, strict liability, breach of contract or warranty.

**Dispute Resolution.** The Client and Consultant agree that they shall diligently pursue resolution of all disagreements within 45 days of either party's written notice using a mutually acceptable form of mediated dispute resolution prior to exercising their rights under law. Consultant shall continue to perform services for the Project and the Client shall pay for such services during the dispute resolution process unless the Client issues a written notice to suspend work. Causes of action between the parties to this Agreement shall be deemed to have accrued and the applicable statutes of repose and/or limitation shall commence not later than the date of substantial completion.

**Standard of Care.** Services provided by Consultant under this Agreement will be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances. Consultant makes no other warranty or guaranty, either express or implied. Consultant will not be liable for the cost of any omission that adds value to the Project.

**Suspension of Work.** The Client may suspend services performed by Consultant with cause upon fourteen (14) days written notice. Consultant shall submit an invoice for services performed up to the effective date of the work suspension and the Client shall pay Consultant all outstanding invoices within fourteen (14) days. If the work suspension exceeds thirty (30) days from the effective work suspension date, Consultant shall be entitled to renegotiate the Project schedule and the compensation terms for the Project





TETRA TECH