November 8, 2021

Mr. Rick Dever
Crestline Sanitation District
24516 Lake Dr
Crestline, CA 92325

**Subject:** **Proposal for Engineering Services During Construction for the Huston Creek WWTP Dewatering Building and Primary Clarifier Project**

Dear Mr. Dever:

We appreciate the opportunity to submit our engineering services proposal to the Crestline Sanitation District (District) for the subject project and look forward to working to complete this project under budget and within schedule. We will work proactively with the project team to stay on top of issues and quickly resolve them to keep the project on-track and avoid costly delays. Having completed similar projects in the past, we understand the potential project issues that may arise and will use our past experiences to manage and resolve them quickly and efficiently. Attached please find an overview of our team, relevant project experience, anticipated scope of work, and estimated fee for our services.

## Personnel

The personnel proposed for this project have a proven track record of successfully managing similar projects, with the primary individuals currently completing wastewater treatment plant projects. Mr. Phil Giori, P.E. will be responsible for managing the construction process.

We have also included the four subconsultants which provided services during the design phase of the project:

- Electrical – Gerry Green Engineering (Formerly MPA)
- Structural – Beyaz & Patel
- Architectural – MBN
- HVAC & Plumbing – IDS

## Similar Project Experience

Dudek has recently provided successful engineering support services on a number of similar wastewater treatment projects, including:

- Water Reclamation Facility No. 7 Biosolids Upgrade Project – Coachella Valley Water District
- Woods Valley Ranch Wastewater Treatment Plant Expansion – Valley Center Municipal Water District
- San Elijo Water Reclamation Facility Headworks Upgrade - San Elijo Joint Powers Authority
- Santa Maria Water Reclamation Facility Clarifiers 3 & 4 – Ramona Municipal Water District

## Scope of Work

We have included a copy of our proposed scope of work we plan on for implementing for this project. The scope can be tailored to meet the District's goals as required.

## Estimated Budget

We have based our budget on a 16-month construction schedule, which is still being developed. If the construction duration changes, we will modify our budget accordingly.

Our team is highly qualified and possesses specialized experience to manage this project within budget and on time, completing it without litigation or claims. We view ourselves as an extension of the District's staff and will work together with all parties, particularly with the plant operators, throughout the project. Our proactive management style will address issues head-on and get answers so the project is not delayed.

We look forward to working with the project team. Please call give us a call if you have any questions.

Sincerely,

Phil Giori, P.E.
Project Manager

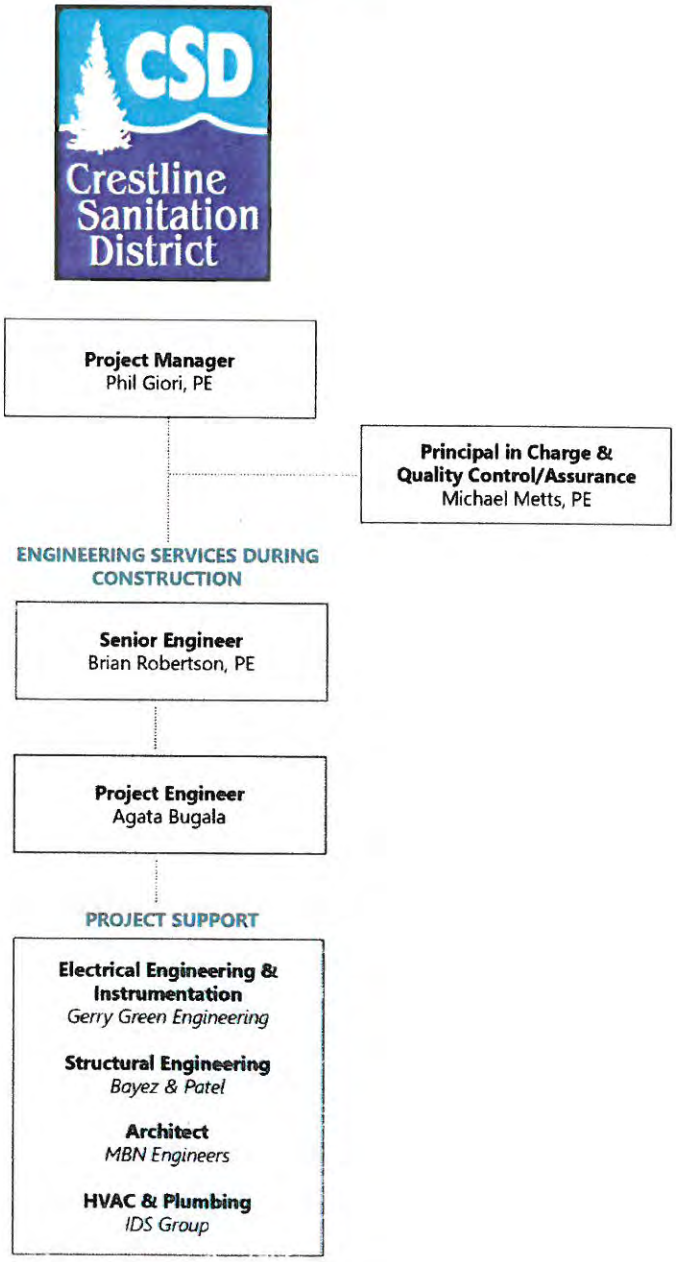
Bob Ohlund, PE
Vice President

*Att.: Fee Estimate*

# 1 Proposed Team and Organization

The Dudek team is highlighted in Figure 1. Short bios for project management staff follow the organizational chart. Full resumes for all team members are provided in Attachment A.

*Figure 1. Organizational Chart*



## 1.1 Key Team Member Bios

### Project Manager

**Phil Giori, PE**

Phil Giori is a civil engineer specializing in water and wastewater treatment facilities, with additional experience with collection systems, pipelines, wells, and other facilities. Mr. Giori is an industry leader in improving planning and design mechanisms to construct more reliable facilities with integrated risk-based operations and maintenance support. Mr. Giori's experience in planning, design, and construction provide him with unique insight and knowledge, which he employs to drive projects toward successful completion. Mr. Giori served as the design project manager and engineer of responsible charge.

### Senior Engineer

**Brian Robertson, PE**

Brian Robertson has 14 years' engineering experience in planning and design of water, wastewater, and stormwater treatment and infrastructure projects. Mr. Robertson has developed a reputation for delivering high-quality work on time and within budget. He has extensive experience in water, wastewater and drainage conveyance systems for cities and districts throughout Southern California. Mr. Robertson has developed an excellent rapport for seamless coordination with team members, various utilities, and essential governmental agencies. He brings a high level of professionalism while delivering project design packages and engineering support services.

### Project Engineer

**Agata Bugala**

Agata Bugala is a treatment engineer with more than 2 years' professional experience as a water/wastewater engineering specializing in the design and evaluation of wastewater treatment systems, including planning and process engineering. Ms. Bugala is highly organized and diligent in tracking RFI's, submittals, and change orders and will ensure all information and correspondence is properly documented and responded to.

### Subconsultants

Our Dudek team is supported by our same subconsultant team which performed the project design. Our subconsultant teams share the same project staff as the design for familiarity and consistency to make sure that submittal reviews, responses to contract questions, and review of change order requests are completed in a timely and responsible manner. Our engineering subconsultant team consists of:

- Gerry Green Engineering (Formerly MPA): Electrical Engineering & Instrumentation
- Bayaz & Patel: Structural Engineering
- MBN: Architect
- IDS: HVAC & Plumbing

# 2 Similar Experience - Engineering Support During Construction

## WRP No. 7 Biosolids Upgrade

**Client:** Coachella Valley Water District
**Client Reference:** Armando Rodriquez, 760.391.9600, arodriquez@cvwd.org

The Coachella Valley Water District contracted with Dudek to provide professional engineering services involving replacement of wastewater solids handling facilities at its Water Reclamation Plant No. 7 (WRP 7). With the recent construction of new headworks at WRP 7, the lack of redundancy and diminishing reliability of the 20-plus-year-old plant sludge thickening and dewatering had become critical. Before construction, operational staff could bypass excess solids to an adjacent aerated lagoon system.

With that option eliminated by the new construction, solids processing was solely dependent on a single gravity belt thickener and belt filter press system. This project replaced these solids handling facilities with consideration for future expansion (as the WRP expands from its current 5-million-gallon-per-day (MGD) capacity to its ultimate 22.6-MGD capacity) and to expedite the provision of necessary redundant solids handling equipment.

Dudek's engineering team conducted a comprehensive comparative analysis of competing dewatering technologies, including site visits to observe relevant installations and assist in selecting the appropriate equipment for pre-procurement. Dudek coordinated pilot testing of candidate dewatering technologies to verify performance, specifically on the WRP 7 thickened solids. Dudek's engineering design services will include a new solids handling facility, complete with sludge holding tank, odor control, new truck scales, polymer storage and feed pumps, and solids thickening/dewatering and conveyance facilities.

Dudek also provided engineering design services during construction assisting the District with pre-construction activities, submittal review, RFIs, record drawings, and project closeout.

## Woods Valley Ranch WRF Expansion

**Client:** Valley Center Municipal Water District
**Client Reference:** Fernando Carrillo, 760.749.1600, fcarrillo@vcmwd.org

The Valley Center Municipal Water District contracted with Dudek to provide professional engineering services for its Woods Valley Ranch Water Reclamation Facility (WRF) Phase 2 Expansion and Charlan Road Seasonal Storage Facility Project(s). The Projects are the result of and support the phased development of the South Village Wastewater Service Area within the District. The

WRF expansion will triple the capacity of the existing facilities to 0.2 million gallons per day (MGD) and will be an integral part of its ultimate expansion estimated to be 0.45 MGD.

The Phase 2 Expansion also introduced a new wastewater treatment process (Aero-Mod and Cloth Disk Filters) as well as adding 48 acre-feet (AF) of seasonal storage capacity for recycled water. The Projects had a very tight schedule for completion to comply with California stipulations involving a Clean Water State Revolving Fund (SRF) loan.

Dudek also provided engineering design services during construction assisting the District with pre-construction activities, submittal review, RFIs, record drawings, and project closeout.

## San Elijo WRF Headworks Upgrade

**Client:** San Elijo Joint Powers Authority
**Client Reference:** Chris Trees, 760.753.6203 x70, treesc@sejpa.org

The Headworks at the San Elijo Water Reclamation Facility is over 50 years old with multiple deficiencies including insufficient peak wet weather hydraulic capacity and an absence of backup equipment. Dudek was contracted by the SEJPA for the preliminary and final design of the headworks upgrade. The project consists of constructing new Headworks screenings channels with higher hydraulic capacity just north of existing Headworks; the existing Headworks channels will remain in operation during construction to reduce bypassing costs. New screenings equipment with full redundancy will be installed and the existing concrete channels will rehabilitated and reused for overflow and bypass purposes. New odor control covers for the equipment and channels will be installed and the existing odor control system will be balanced and optimized to eliminate odors. The project will provide a reliable headworks for the SEJPA with backup equipment, the capability to handle future peak wet weather flows, and improved odor control while minimizing construction costs and risk.

Dudek also provided engineering design services during construction assisting the JPA with pre-construction activities, submittal review, RFIs, record drawings, and project closeout.

## Santa Maria Wastewater Treatment Plant Clarifiers 3 and 4

**Client:** Ramona Municipal Water District
**Client Reference:** Joe Cortez, 760.788.2277, jcortez@rmwd.org

Dudek contracted with the District to design improvements to the one-million-gallon-per-day plant including addition of a 2-45-foot diameter secondary clarifiers, flow splitter box

modification, and recirculating aquaculture system and scum pumping changes. The scope of work included detailed design development of yard piping, mechanical systems, and construction phasing allowing uninterrupted plant operation.

Dudek also provided engineering design services during construction assisting the District with pre-construction activities, submittal review, RFIs, record drawings, and project closeout.

# 3 Scope of Work

## Engineering Services During Construction

## Pre-Construction Activities

### Pre-Construction Meeting

Dudek will participate in a Pre-construction Meeting, which will be attended by District staff, Dudek, the Contractor, subcontractors, and vendors. The meeting will be scheduled and presided over by the District. The District will prepare the meeting agenda and minutes.

## (Office-Based) Engineering Services During Construction

### Review Submittals

The Construction Manager and District will receive all submittals from the Contractor. The Construction Manager will forward the relevant information to the Dudek engineering team for review, as applicable. Dudek will review and provide comments to the shop drawings and other data which the contractor is required to submit for conformance with the information given in the Contract Documents.

Dudek anticipates (and has budgeted for) 120 submittals and has allotted 5 hours per submittal for review and comment. Dudek assumes each submittal will require at least two separate reviews before acceptance. The District has the opportunity to review submittals at its discretion after Dudek has completed review and prior to returning submittals to the Contractor. Submittals include all equipment, start-up plans and O&M manuals. Mechanical equipment submittals with control panels will be coordinated with Moraes Pham & Associates. Dudek maintains a submittal log showing the status of each submittal received.

Dudek returns the submittal review comments to the Construction Manager within fourteen (14) days. This review time allows the District to meet the contractual requirements of 21-days for review. This allows the District sufficient time to incorporate all comments into a combined review comment set that the CM will return to the Contractor.

### Review Contractor's Requests for Information (RFI's)

The Construction Manager and District will receive all RFI's from the Contractor. The Construction Manager will forward Contractor's RFI's to the engineering team for review. Dudek assumes (and has budgeted) for 100 RFI's and has allotted 4 hours per RFI for research and resolution. Dudek shall return written responses to the Construction Manager and District to be forwarded to the Contractor clarifying the requirements of the Contract Documents. Dudek generates necessary sketches for the clarification which may be created as CAD or hand

sketches. Dudek occasionally expedites the review of time sensitive RFI's. Dudek maintains an RFI log showing the status of each RFI received.

### Review Proposed Contract Modifications and Change Orders

If the Contract Documents require modification due to changed conditions or District requested changes, the Contractor will prepare preliminary change order documents and forward them to the Construction Manager and District for review. The Construction Manager will forward these to the engineering team for review of the proposed change. The Contractor shall include cost estimates for the changes in the preliminary change order documents when submitted. Dudek informs the District and Construction Manager to make revisions, if required to the proposal. Dudek retains design calculations and other design backup documents for the project files. For budgeting purposes, Dudek assumes up to 15 change orders will be processed.

Dudek advises the District whether to issue the change order documents in a formal Field Order or Contract Amendment to the Contractor. Any Contract Document that requires changes shall be identified with date of change and reference to the RFI number that started the process. This number is shown on the document. Dudek maintains a change order log showing the status of each change order received.

### Issue Field Orders (Revisions to Plans and Specifications)

Dudek assumes issuance of up to 10 field orders (not to exceed $10,000 each). Dudek maintains a log showing the status of each field order.

### Record Drawings

Dudek inspects the field markup set maintained by the Contractor at the 50 and 100 percent completion points of construction. Dudek prepares record drawings from the Contract's As-Built set for all drawings. Dudek submits an electronic PDF copy of the record drawings to the District, one full size set, three half-size sets, and CAD files for the District's records.

### Project Closeout and Final Inspection

Close-out tasks include completion of punch list work by the Contractor, final inspection, completion of record drawings and electronic data. Dudek submits a final invoice at the completion of the project. Dudek's Project Manager attends the final inspection job walk with the Contractor and District staff. Dudek makes recommendations on the completion of work following the job walk.

Dudek assumes 32 hours to assist in verification of final operation. Final acceptance requires all components of the facility to be fully operational, and work in unison including necessary testing, start-up and jurisdictional transfer of all portions of the Project from its construction phase to District operational phase. Dudek visually checks and inspects to its satisfaction all components, equipment, and facilities have been properly installed and are operating for each component of the project.

## Contract Administration

Dudek's Project Manager will coordinate the work of the project team including the subconsultants. Dudek will communicate with the District's representative on a regular basis via email, phone and in-person at the site when required. Dudek has assumed that eight in-person site visits will be required for the duration of construction.

Dudek prepares and submits monthly invoices to the District. The invoices document the resource hours and billing rate for each classification of person that works on the project. The invoice also lists the contract budget, total invoiced to date, current billing period invoicing and budget amount remaining. A Progress Report is submitted with each invoice. The report describes the nature of the work performed for the month. The report uses the following headings:

- Work completed in the past month
- Planned activities for the next month
- Requested client actions
- Planned deliverables

# 4 Estimated Budget

The estimated budget and fee for Engineering Services During Construction is included in Attachment B. The estimate of services assumes a 16-month (350 working days) construction schedule. Time will be billed time-and-materials based on actual time spent on the project. We appreciate the opportunity to provide this proposal for your consideration. If you have any questions, please do not hesitate to contact me (pgiori@dudek.com; 760.479.4173).

# Attachment A
## Resumes

# Phil Giori, PE

## Project Manager

Phil Giori *(FILL JOR-ee; he/him)* is a civil engineer and project manager with 7 years' experience, specializing in water and wastewater treatment facilities, collection systems, pipelines, wells, pump stations, and other related facilities. Mr. Giori is an industry leader, improving the planning and design of mechanisms to construct the most reliable facilities with integrated risk-based operations and maintenance (O&M) support. Mr. Giori's experience in planning, design, and construction provide him with unique insight and knowledge, which he employs to drive projects toward successful completion.

Phil Giori

***Education***

*San Diego State University*
*BS, Civil Engineering, 2014*

***Certifications***

*Professional Civil Engineer, CA No. 87516*

***Professional Awards***

*California Water Environment Association, Outstanding Young Professional of the Year, 2017*

## Project Experience

### Treatment

**Huston Creek WWTP Dewatering Building and Primary Clarifier, Crestline Sanitation District, Crestline, California.** Project manager for the design of a new two-story biosolids dewatering building and primary clarifier for Crestline Sanitation District's 0.7 MGD Huston Creek WWTP. Project includes new structures, process equipment, pumps, channels, and electrical systems, a new emergency generator, and more. Mr. Giori also managed the preparation of a funding application for the State Revolving Fund and successfully secured $9 million in low-interest financing for the project. Project topography requires careful structural design and retaining wall construction to support new facilities, in addition to challenging maintenance of plant operation during construction.

**Separate Industrial Water Reclamation Facility, City of Gonzales, California.** Project manager for the design of a new separate industrial wastewater collection system and WRF to convey and treat over 1 million gallons per day (MGD) of vegetable processing wastewater. The City of Gonzales is faced with a need to expand treatment capacity and protect their existing domestic plant from contaminants in the industrial wastewater, which affect their biological treatment process. The City of Gonzales elected to proceed with a new separate facility. Mr. Giori is currently the Project Manager and responsible for delivering the complete project, including engineering design, obtaining funding from the State Revolving Fund, California Environmental Quality Act (CEQA), groundwater infiltration testing, and obtaining necessary regulatory approvals.

**Santa Maria WWTP Headworks Upgrade, Ramona Municipal Water District, Ramona, California.** Project manager for the design of a new headworks facility at the Santa Maria WWTP. The plant's existing influent lift station and downstream processes have been affected by rags and grit due to a lack of headworks screening and grit removal for the plant. Project includes relocation of influent truck sewer, new headworks structure with influent screw pumps, mechanical screenings equipment, grit removal, and new emergency generator. Various project challenges include construction phasing, large equipment and structures, utility relocation, and connections to existing facilities.

**Woods Valley Ranch WRF Master Plan Update, Valley Center Municipal Water District, Valley Center, California.** Senior engineer in the preparation of the Woods Valley Ranch water reclamation facility (WRF) Master Plan Update which investigated Phase III expansion capacity and ability to accommodate additional planned development by assessing design criteria against current equivalent dwelling unit flow and loads. Project allows the Valley Center Municipal Water District to better understand and accommodate new development within their sphere of influence.

**Compliance Work Plan Support, City of Gonzales, California.** Project manager in the preparation of a compliance work plan in response to notice of violation report from the local Regional Water Quality Control Board. The City of Gonzales' wastewater treatment plant (WWTP) was not in compliance and the Regional Board required a detailed plan addressing the plant's process and infrastructure deficiencies to bring the plant back into compliance. The compliance work plan developed a plan to address aeration system deficiencies, industrial pretreatment program, need for treatment pond lining, and sludge removal/remediation in the treatment ponds.

**Long-Term Wastewater Management Plan, City of Gonzales, California.** Project manager and lead engineer for the preparation of a Long-Term Wastewater Management Plan which evaluated the City of Gonzales' wastewater collection and treatment facilities to plan for growth and treatment expansion. The report was tailored and formatted to provide information to the Regional Board to approve the plan and facilitate permit updates.

**Western Riverside County Wastewater Authority Condition Assessment Phases 1 and 2, Western Riverside County Regional Wastewater Authority, Riverside, California.** Project manager and lead engineer for the preparation of a condition assessment of mechanical and electrical equipment assets from the 1998 construction of the Western Riverside County Wastewater Authority wastewater treatment plant (Phase 1) and mechanical and electrical assets from the 2016 expansion (Phase 2). Data collection, analyses, O&M workshops, and field inspections were performed and custom methodology developed to assign a condition rating and estimated remaining useful life of each asset. In total, over 200 mechanical and electrical assets were inspected and assessed.

**Arlington Desalter Condition Assessment, Western Municipal Water District, Riverside, California.** Project manager and lead engineer for the preparation of a condition assessment of mechanical and electrical equipment assets of the Arlington Desalter groundwater treatment plant. Data collection, analyses, O&M workshops, and field inspections were performed and custom methodology developed to assign a condition rating and estimated remaining useful life of each asset. In total, over 90 mechanical and electrical assets were inspected and assessed.

**4S Ranch WRF Digester Support and Oxidation Ditch Optimization, Olivenhain Municipal Water District, Encinitas, California.** Served as project manager and lead engineer for engineering and operational support services at the 4S Ranch WRF to support ongoing efforts to optimize the oxidation ditch biological treatment process and digester performance. The Olivenhain Municipal Water District faced process upset conditions after transitioning from aerobic to facultative digestion and turned to Dudek for process support. The Dudek team performed a microscopic examination of the activated sludge, and analyzed water quality, operational data, process control data. Following examination and analysis, the Dudek team developed interim operational recommendations to improve biological and digester performance, reduce sulfide off-gassing during dewatering, and maintain plant operations during upset conditions. Currently, Dudek is assisting the Olivenhain Municipal Water District in implementing process instrumentation and control improvements to optimize the oxidation ditch performance in an effort to reduce operating costs while producing higher quality treated effluent.

**Headworks Design, San Elijo Joint Powers Authority, Cardiff, California.** Served as project engineer for the design of a Headworks upgrade at the San Elijo WRF. Mr. Giori performed hydraulic calculations, condition assessments, field measurements, and designed the chemical feed system, which included sodium hypochlorite and sodium hydroxide storage and pumping systems, as well as odor control ventilation.

# Brian Robertson, PE, QSD

## Senior Engineer

Brian Robertson (BRY-in RAH-bert-sun; he/him) has 14 years' project engineering experience in planning and design of infrastructure projects. Mr. Robertson has developed a reputation for delivering high-quality work on time and within budget. He has extensive experience in sewer, water, and drainage conveyance systems for cities and districts throughout Southern California and has received recognition for his work preparing detailed analysis, reports, drawings, specifications, and cost estimates. Mr. Robertson has developed an excellent rapport for seamless coordination with team members, various utilities, and essential governmental agencies. He brings a high level of professionalism while delivering project design packages with other services, including development review and staff augmentation.

Brian Robertson

***Education***

*Cal Poly State University, San Luis Obispo*
*BS, Civil Engineering, 2006*

***Certifications***

*California PE C77990*
*Certified QSD*

## Project Experience

**Huston Creek WWTP Dewatering Building and Primary Clarifier, Crestline Sanitation District, Crestline, California.** Project engineer for the design of a new 2-story biosolids dewatering building and primary clarifier for Crestline Sanitation District's 1.0 MGD Huston Creek WWTP. Project includes new structures, process equipment, pumps, channels, and electrical systems, a new emergency generator, and more. Project topography requires careful structural design and retaining wall construction to support new facilities.

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**Santa Maria WWTP Headworks Upgrade, Ramona Municipal Water District, Ramona, California.** Project engineer for the design of a new headworks facility at the Santa Maria WWTP. The plant's existing influent lift station and downstream processes have been affected by rags and grit due to a lack of headworks screening and grit removal for the plant. Project includes relocation of influent truck sewer, new headworks structure with influent screw pumps, mechanical screenings equipment, grit removal, and new emergency generator. Various project challenges include construction phasing, large equipment and structures, utility relocation, and connections to existing facilities.

**Farmersville Wastewater Treatment Plant Design, City of Farmersville, California.** Project Engineer for a new wastewater treatment plant, including the following elements: headworks, mixing chamber, aeration basins, clarifiers, holding tanks, return activated sludge pump station, digester tanks, and a solids handling building. Responsibilities included the design and preparation of drawings for the influent pump station, yard piping, and other conveyance design elements.

**Edinger Pump Station Rehabilitation Study, Orange County Sanitation District, Huntington Beach, California.** Project Engineer responsible for assessment and development of planning studies to determine feasible options for the rehabilitation, replacement, relocation, or abandonment of the Edinger Pump Station. Project elements included assessment of geotechnical, structural, hydraulic, and mechanical conditions. Multiple alternative pump station sites and configurations were developed and evaluated extensively with engineering and operations staff.

**Highbury Pump Station Rehabilitation, Bureau of Engineering, Wastewater Conveyance Engineering Division, Los Angeles, California.** Project Engineer for the rehabilitation design of the existing pump station. Tasks included utility research, site design, pump system hydraulics, evaluation of new pumping and equipment options, preparation of the preliminary design report, workshop presentations, and preparation of the Plans, Specifications, and Estimates (PS&E) package.

**Final Effluent Sampler and Building Area Upgrades (J-110), Orange County Sanitation District, Huntington Beach, California.** Project Engineer for a new final effluent water quality sampler facility; improvements to the ocean outfall system; and other miscellaneous mechanical, electrical, and instrumentation improvements for Plant No. 2. Responsibilities included development of a work plan to implement inspection of the 120-inch Short Ocean Outfall and other associated large diameter yard piping. Coordinated with subconsultants and operations staff, evaluated sampling and metering equipment options, evaluated pipeline rehabilitation alternatives, prepared civil site design, and prepared the preliminary design report, and PS&E.

**Sewer Condition Improvement Project, City of Stanton, California.** Project Engineer currently leading the preparation of contract documents for the City's Capital Improvement Program, including improvement of approximately 2,400 feet of sewer at nine different locations. Project elements include CCTV inspection; utility research; geotechnical investigation; coordination/permitting with adjacent cities, California Department of Transportation (Caltrans), and Orange County Sanitation District; and feasibility analysis of alternative improvements, such as realignment, removal and replacement, and various trenchless methods.

**On-Call Engineering and Staff Augmentation, San Gabriel Valley Water Company, Fontana, California.** Project Engineer that served as staff augmentation to support the agency's operations. Services typically involved preparation and review of PS&E for various water production wells, treatment wells, pump stations, reservoirs, distribution systems, and treatment facilities.

**Dover Drive Trunk Sewer Relief (5-63), Orange County Sanitation District, Newport Beach and Costa Mesa, California.** Project Engineer for the sewer design to upsize 7,200 linear feet of 15- to 18-inch vitrified clay pipe (VCP) with 24-inch VCP and 50 new manholes. The project involved preparation of extensive spill prevention plans and a dewatering plan to minimize impacts. Tasks included evaluation and condition assessments of the 52-year-old Dover Drive Trunk Sewer, evaluation of hydraulic and structural deficiencies, preparation of final design documents, and construction support services.

# Agata Bugala, EIT

## Treatment Engineer

Agata Bugala (*Ah-GATA Boo-GA-LA; she/her)* is a treatment engineer with more than 2 years' professional experience as a water/wastewater engineer specializing in the design of wastewater treatment systems, including planning and process engineering.

Her technical skills include drawing preparation in AutoCAD, report and proposal preparation, aeration process modeling and energy optimization in BioWin, and bench-scale and pilot-scale studies.

Agata Bugala

### Education

*The City College of New York*
*BE, Environmental Engineering, 2018*

### Certifications

*OSHA 40-Hour HAZWOPER, CA No. 2006011334365*
*EIT - Pending*

### Professional Affiliations

*California Water Environment Association YP, Vice President*

*Santa Ana River Basin Section, Director*

*Water Environment Association, Active Member*

## Relevant Previous Experience

**Confidential Food and Beverage Facility, Wastewater Treatment Feasibility Study, California.** Assisted with evaluation, design (process flow diagrams (PFDs) and site layouts), preparation of life cycle cost estimates, and recommendation of wastewater treatment systems to reduce surcharge fees. Evaluated liquid and solid treatment components such as sequencing batch reactor, upflow anaerobic sludge blanket (UASB), anaerobic membrane bioreactor (AnMBR), dissolved air floatation (DAF), centrifuge, screw press, and belt filter press. Project completed in 2020.

**Wastewater Treatment Feasibility Study, Manufacturing Wastewater Facility, Ohio.** Assisted in improving performance of an existing dewatering system for high total dissolved solids (TDS) and high pH. Evaluated the feasibility of various solid and liquid separation treatment alternatives. Assisted in performing process calculations, preliminary construction and annual operations and maintenance costs of equalization, and evaluating filtration, dewatering, and pH adjustment systems. Project completed in 2020.

**Wastewater Treatment Feasibility Study, Confidential Food and Beverage Facility, Virginia.** Assisted with the evaluation of treatment alternatives and preliminary design to improve an on-site wastewater treatment system and reduce incoming high organic loading rates generated from a dairy production line. Drafted PFDs and site layouts for DAF) system and UASB system. Prepared sections of the final technical memorandum. Project completed in 2020.

**Impacts of Wastewater Recharge on the Aquifer Water Quality, Riverside County, California.** Used Gaussian dispersion models and QGIS to evaluate impacts of golf course irrigation on TDS and nitrate groundwater basins (Banning and Cabazon) in order to comply with California Title 22 requirements. Project completed in 2020.

**Wastewater Treatment Plant Capacity and Condition Assessment, Riverside County, California.** Performed full-scale field condition and capacity assessment of the existing equipment of major unit operation processes—i.e., pumps—and pipes throughout the wastewater treatment plant (WWTP) using a portable ultrasonic flow meter. Evaluated and prepared a report describing short-term and long-term WWTP upgrades, maintenance, and replacement components. Project completed in 2019.

**Nitrogen Removal Feasibility Study, Riverside County, California.** Assisted with the design and evaluation of the wastewater treatment systems for nitrogen removal to achieve California Title 22 requirements. Performed cost analysis for the secondary treatment including trickling filters, conventional activated sludge, MBR, moving bed biofilm reactor, and integrated fixed-film activated sludge. Project completed in 2020.

**Food and Beverage Wastewater Facility Evaluation, East Coast, United States.** Assisted with evaluating the existing system to identify key performance parameters of the WWTP and recommend potential ways to increase operation efficiency while reducing electrical costs of the facility, including power costs associated with pumps, blower motors, and water reuse. Project completed in 2019.

**Plant Optimization, Water-Energy-Food Nexus Project, Germany and New York.** Assessed the feasibility of implementing demand response strategies and integrating on-site renewable energy sources as an alternative to grid-supplied electricity for the operation of WWTP in Germany and New York. Modeled and optimized energy consumption at the Hàldenmühle Water Resource Recovery Facility, Stuttgart, Germany. Project completed in 2018.

**Aeration System Optimization, Newtown Creek Water Resource Recovery Facility, New York.** Led a team of four students to model and optimize aeration and design side-stream de-ammonification to improve plant operating cost efficiency and reduce effluent nitrogen loading rates. Project completed in 2018.

**Co-digestion Evaluation, Newtown Creek Water Resource Recovery Facility, New York.** Evaluated how including additional solid-waste streams impacted digester egg performance. Performed biomethane potential tests to evaluate production rates. Project completed in 2018.

**Glycerol Addition, Hunts Point Water Resource Recovery Facility, New York.** Analyzed, monitored, and collected wastewater samples for measuring total inorganic nitrogen to assess the glycerol addition needs in a step-feed process for denitrification. Project completed in 2017.

**Sample Collection and Analysis, Water Quality Engineering Analysis, New York.** Collected and analyzed samples for ongoing research projects with the New York City Department of Environmental Protection, including pilot-scale nitrification-denitrification, bench-scale aerobic granulation, and combined sewer overflow disinfection. Operated and maintained LACHAT QuickChem 8500 and HACH spectrophotometers for total inorganic nitrogen and ion chromatography analysis. Project completed in 2018.

## Presentations

Lawrence Vulis, Agata Bugala, Alexander Fenichell, Krish Ramalingam, and Naresh Devinini. "Celebrating the Past While Moving Forward." Opening Session, 90th New York Water Environment Association Annual Meeting, New York, February 5, 2018.

Ursula Eicker, Juergen Schumacher, Luigi Varriale, Vincenzo Costa, Agata Bugala, Valentina Rappa, Farzane Bashiri, Reiner Braun, and Alfred Helble. "Analysis of the Water-Energy Nexus in a Regional District." 13th Conference on Sustainable Development of Energy, Water, and Environment Systems, Palermo, Italy, September 30 – October 4, 2018.

## Awards

- Agata Bugala, Connor Bruns, Uziel Crescenzi, Kelsey McDonough, Krishnamurthy Ramalingam, Erica Schmitz, and Lawrence Vulis. 5th Annual Campus RainWorks Challenge Winners. Water Environment Federation Technical Exhibition and Conference, Chicago, October 2, 2017.
- Environmental Protection Agency Campus RainWorks Design National Challenge, First Place for Best Stormwater Management Design
- New York Water Environment Association Student Chapter Service Award for excellent contributions affecting the environmental field
- New York Water Environment Association Scholarship for outstanding school achievements
- New York Water Environment Association Student Chapter Leadership Award for excellent service

**Joe Moraes, PE (#E11023)**

**Electrical Engineer**

Mr. Moraes is a California registered electrical engineer specialized in the design of electrical and controls systems for water and wastewater facilities, such as reservoirs, pumping stations, sanitary lift stations, PRV stations, wells, and treatment plants. In the past five years he has designed over 200 such projects for 43 southern California municipal end users. With his wealth of experience and continuous design activity, Mr. Moraes maintains proficiency in state of the art solutions to complex designs involving pumping systems, generators, variable frequency drives, PLC's, telemetry, and SCADA systems. Relevant recent project experience includes the following:

### Eastern Municipal Water District

- SCADA (Arc Flash)
- North Trumble Road Storage Ponds
- Goetz 15MG Reservoir and Pipeline
- Commonwealth and Warren Road Pump Stations Upgrades
- HSJ IRRP Phase 1 Raw Water Recharge Basins
- Orange and Ellis Tanks
- Menifee Tanks

### Orange County Water District

- Five Coves and Lincoln Basin
- Miraloma Recharge Basin Project

### City of San Diego

- Numerous Pressure Reducing Vaults
- Otay Water Treatment Plant – Raw Water Pump Station Upgrades (2003)
- Scripps Poway Parkway Pump Station
- Princess Park Pump Station
- Point Loma Reservoir Rehabilitation
- Point Loma Reservoir Rehabilitation
- Citywide Fluoridation Project
- Canyonside Pump Station

### City of Anaheim

- Parkview Pump Station
- Linda Vista Reservoir and Pump Station

### City of Corona

- WWTP 1 and 2 Headworks Upgrades
- WWTP 2 Tertiary Treatment Addition
- WWTP 1 Oxidation Project

City of Carlsbad
- Pacific Coast Highway Pump Station
- Poinsettia Sewer Lift Station
- Cannon Road Sewer Lift Station
- El Fuerte Sewer Lift Station
- Foxes Landing Sewer Lift Station Electrical Upgrade
- Home Plant Sewer Lift Station Rehabilitation
- Terramar Sewer Lift Station Upgrade

Santa Margarita Water District
- Upper Chiquita Reservoir and Pump Station
- Zone B Domestic and Reclaimed Reservoirs
- Zone B Pump Station

City of San Clemente
- Well No. 8

South Coast Water District
- Dana Point Recycled Water
- Lift Stations #13 and #14
- Reach 7 PRS

City of Oceanside
- Peacock Hills PRS
- Wells 10 and 11

Vallecitos Water District
- Meadowlark Water Reclamation Facility Expansion 2 MGD to 5 MGD
- Questhaven Lift Station #3
- North Twin Oaks Reservoir
- High Point Booster Pump Station

Leucadia County Water District
- Leucadia Lift Station Electrical Upgrade
- Avocado & Diana SLS Upgrades
- Saxony Pump Station Upgrades

City of Poway
- Highland Ranch SLS Upgrade

Elsinore Valley Municipal Water District
- Mc Vicar Lift Station Upgrade
- Alberhill 1601 and 1801 Pump Stations and Reservoirs
- Wildomar Pump Station

Olivenhain Municipal Water District
- Midpoint Lift Station
- Via Ambiente Lift Station

# Subhash Patel

**Managing Structural Engineer**

Beyaz & Patel

## Education

MS, Structural Engineering, University of California, Berkeley, 1972

BE, Civil Engineering, University of Baroda, India, 1970

## Registrations

Structural Engineer, California, No. S4233

Civil Engineer, California, No. C53540

Professional Engineer (Civil, Structural), Washington, No. 49115

## Affiliations

Structural Engineers Association of San Diego

American Society of Civil Engineers

Mr. Patel has more than 35 years of professional experience in the structural engineering and construction management of water, wastewater, recycled, and advanced water facilities, including headworks, primary clarifiers, sludge dewatering facilities, secondary clarifiers, digesters, pumping stations, sludge drying beds, storage reservoirs, and tertiary treatment structures, buildings, piping, and appurtenances. He has extensive experience in design/build projects and is often requested to lend his expertise in structural and earthquake engineering for value engineering studies. He manages project teams ensuring adequate resources to complete project assignments in accordance with schedules and budgets; reviews deliverables for quality and completeness; and serves as liaison between project teams and client.

## Professional Record

Tertiary Sewage and Sludge Treatment Plant, US Navy Marine Corps Base, Camp Pendleton, California. Principal structural engineer for major structures of this design/build 5 MGD tertiary sewage and sludge treatment plant. Provided structural services for the influent pump station, which consists of a below grade reinforced concrete structure, measuring about 28 feet by 32 feet in plan with a dividing wall separating the wet well from the dry area. The influent pump station also includes a concrete masonry unit building over the dry area with its concrete block bearing walls founded on the concrete walls below. Also provided structural design for the sewage lift station, operations and solids handling building and control room building.

Primary Treatment Rehabilitation and Refurbishment, Reclamation Plant No. 2, Orange County Sanitation District, Huntington Beach, California. Principal structural engineer for rehabilitation and refurbishment of the following facilities: (a) replacement of the north and south scrubber complexes; (b) replacement of the 14 circular primary clarifier domed covers with flat covers; (c) inspection of the primary clarifiers' influent and effluent piping; (d) rehabilitation, recoating and modification of the metal work inside the 14 circular primary clarifiers; (e) repair and rehabilitation of the concrete for the 14 circular primary clarifiers; (f) sludge piping repairs; (g) upgrades to the scum systems in the 14 circular clarifiers; (h) evaluation of and improvements to the primary clarifiers polymer system; (i) sludge pump stations improvements; and (j) improvements to the distribution structures.

Inland Empire Utility Agency Reclamation Plant-1 Dewatering Facilities Expansion, Inland Empire Utilities Agency, Ontario, California. Principal structural engineer providing the structural design for a 44 mgd wastewater treatment plant that provides primary and secondary treatment and sludge digestion and dewatering. Processes include screening, grit removal, flow equalization, primary clarification, activated sludge (enhanced for maximum nitrogen removal), secondary clarification, and sludge thickening, digestion and dewatering. The dewatered sludge is hauled by truck and composted off site. Digester gas is used for power cogeneration. Secondary effluent is discharged to the tertiary facility.

Terminal Island Wastewater Treatment Plant Sludge Dewatering Building, City of Los Angeles, Department of Public Works, Los Angeles, California. Principal structural engineer providing a seismic assessment of all major structures of the treatment facility, including centrifuge building, sludge dewatering building, four egg-shaped prestressed concrete digesters on pile foundations, digester access tower on pile foundations, engine generator building, blender and thickener tanks, utility corridors, high pressure and low pressure gas holders, compressor building, administration building, pumping plant, headworks building and grit chamber, chlorination building, primary sedimentation tanks, final sedimentation tanks, and aeration tanks.

Simi Valley Water Quality Control Plant - Phase I Expansion, Sludge Dewatering Building, Simi Valley County Sanitation District, Simi Valley, California. Principal structural engineer providing the structural design, drawings and specifications, and construction support services for phased construction of this water quality control plant from 9.1 mgd to 17 mgd. Major components of the expansion project included two 69-foot-diameter by 44-foot-high digesters with flat concrete roof, headworks, grit chambers, primary sedimentation tanks, rotating biological contactors, chlorine contact tanks, sludge dewatering building, blower building, sludge storage facility, flow equalization basins, pump stations, 1,600-square-foot storage building and 10,000-square-foot operations building, major expansion to the existing administration and maintenance buildings, structural investigation, and modifications to existing structures.

Headworks Facility, San Elijo Water Pollution Control Facility, San Elijo Joint Powers Authority, Carlsbad, California. Principal structural engineer providing structural design and construction support services for the 5 mgd water pollution control facility including headworks, primary sedimentation basins, flow canalization basins, aeration basins, clarifiers, chlorination contact tanks, flow equalization pump station, sludge thickeners, digesters, dewatering facility, and operations and maintenance buildings.

Hyperion Wastewater Treatment Plant Sludge Combustion Facilities, City of Los Angeles, Department of Public Works, Los Angeles, California. Principal structural engineer providing input during a six 40-hour value engineering study of the centrifuge facilities, sludge combustion facilities, energy recovery building, cogeneration facilities, storage building, truck service facilities, and digester modernization.

South Bay International Wastewater Treatment Plant, International Boundary and Water Commission, San Diego, California. Principal structural engineer responsible for the design of reinforced concrete, structural steel, masonry and wood structures for the 100 MGD wastewater treatment facility including odor control facility, headworks, primary sedimentation basin, advanced primary chlorination facility, unstabilized sludge storage tanks, administration building, maintenance building, remote dechlorination building, personnel building, switchgear building, truck loading building, and blower building.

Oxnard Wastewater Treatment Plant - Phase I Expansion Activated Sludge Area, City of Oxnard, Oxnard, California. Principal structural engineer providing the structural design, drawings and specifications, and construction support services for major expansion of the Oxnard Wastewater Treatment Plant from 3.6 mgd to 20 mgd. Areas of the plant affected by the expansion included solids processing area, pretreatment area, activated sludge area, secondary treatment area, flow equalization basins area, and miscellaneous structures.

Grit Dewatering/Odor Control Facility, County Sanitation Districts of Los Angeles County, Los Angeles, California. Principal structural engineer for modification of the existing grit chambers and new grit dewatering/odor control facility. Also designed new screening facilities, new tunnels and shops as part of wastewater treatment plant expansion.

Metropolitan Biosolids Center, City of San Diego, San Diego, California. Principal structural engineer providing structural engineering services for the replacement of chillers and three existing primary water pumps with four new pumps. The project includes the modification/expansion of the existing chilled water system enclosure walls to accommodate the new equipment and all necessary piping, mechanical, electrical, instrumentation and controls as required by the cooling water system chillers upgrades and extending the existing concrete pad (6'wide X 55'long X 1' thick) and a new sidewalk (5' wide X 78' long).

Primary and Secondary Clarifiers, Greater Eureka Wastewater Treatment Plant, City of Eureka, Eureka, California. Principal structural engineer structural design, drawings and specifications, and construction support services for the administration and maintenance building, grit removal tanks, primary clarifiers, trickling filters, secondary clarifiers, digesters, chlorination building, chlorine contact tank and pump stations, including miscellaneous structures within the facilities.

Main Wastewater Treatment Plant Upgrade of Sludge Dewatering Building, East Bay Municipal Utility District, Oakland, California. Principal structural engineer providing a seismic rehabilitation of an existing sludge dewatering building containing centrifuges for East Bay Municipal Utility District.

**MINH NGUYEN**, AIA, LEED AP, NFPA

PRESIDENT

Education

University of California, Berkeley, Bachelor of Architecture, 1987

Professional Registration

Registered Architect California

USGBC; LEED Accredited Professional

NFPA; National Fire Protection Agency

Professional Affiliations

National Fire Protection Association

US Green Building Council

Asian Business Association

American Institute of Architects

EDWAC committee (ADA)

Minh Nguyen's belief of providing hands-on and high level of service continues to bring him recognition among his peers and clients. His involvement in all facets from contract to design and construction provide continuity and ensure the client needs are satisfied.

Mr. Nguyen's extensive experience in all phases of project development, from programming through construction, assures careful and deliberate execution of projects. He also has extensive experience in working with a broad range of public regulatory agencies, including the City of San Diego Water District, State Fire Marshal, County Health Department and the Southwest Division of the Naval Facilities Engineering Command.

Recent Relevant Project Experience

Padre Dam Administration Building, Santee, CA

Miramar Clearwells Buildings, San Diego, CA

Metropolitan Biosolids Center Renovation, San Diego, CA

La Jolla Pump Station, La Jolla, CA

EM Water District Maintenance Building, Temecula and Moreno Valley, CA

## Eric Glatzl, PE, LEED AP

*Senior Mechanical Engineer*

**20 Years of Experience**
**<1Years with IDS Group** (since 3/2018)

Since 1998, Eric has been involved with design projects in various capacities from technical lead to project leadership. He is passionate about patient / staff comfort needs and delivering the best level of services. Eric's 20 years of design and project management experience, along with licensure in multiple states, enables him to guide a project team to seek solutions that are practical, forward thinking, and holistic. His experience includes a variety of project types from major new construction to major renovation

**Education**

- Bachelor of Science in Mechanical Engineering, Manhattan College, NY, 1998

**Professional Credentials**

- Professional Mechanical Engineer: California (#M34549)
- Professional Engineer: New York
- Professional Mechanical Engineer: Arizona
- Professional Mechanical Engineer: Nevada
- LEED Accredited Professional

**Professional Affiliations**

- American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
- American Society for Healthcare Engineering (ASHE)
- US Green Building Council (USGBC)
- Building Owners and Managers Association (BOMA)
- Urban Land Institute (ULI)

**Selected Project Experience**

**University**

- UCSD, MEP Assessment (240,000 sq. ft.), North Torrey Pines Court, San Diego, CA
- UCSD, MEP Assessment (200,000 sq. ft.), Confidential Site, San Diego, CA
- USD Tennis Center (2,000 sq. ft), San Diego CA
- San Diego State University, Office of Financial Aid and Educational Opportunity, San Diego, CA

**Healthcare**

- UCLA Ronald Reagan Medical Center: Hybrid OR. Performed feasibility study to renovate existing OR space for eventual conversion to Hybrid OR space. Study

involved extensive As-Built survey work, equipment selections, and calculations to determine where to install new air handling unit, where to route new ductwork, and how much airflow required for new Hybrid OR space.

- Kaiser Permanente, Carson, CA: Renovation of existing MOB space and new Ambulatory Services Center buildout including six (6) new OR's and new Sterile Processing Department.
- St. Joseph's Mission Hospital: Relocation of an Acute Rehab Department, partial demolition of an existing single story medical building and construction of new, four-story Hospital Bed Building with operating rooms and all supporting spaces and departments.
- Cedars-Sinai Medical Center, 7 SW Floor Renovation, Los Angeles, CA: Renovation of existing patient room floors including build out of new airborne infectious isolation rooms. Effort involved acquiring an Alternate Method of Compliance (AMOC) with OSHPD for infection room exhaust termination.
- Mount Miguel Covenant Village, Skilled Nursing Facility, Spring Valley, CA: Air handling unit replacement project for OSHPD-3 skilled nursing facility.
- Ensign Southbay Post-Acute Care Emergency Generator, Chula Vista, CA: Mechanical ventilation design for new, stand-alone emergency generator building for OSHPD-1 hospital.
- Shriner's for Children Medical Center, Pasadena, CA: New 30-story, 70,000 SF Children's clinic with 4 state-of-the-art Operating Rooms, patient rooms, and exam rooms.

**Public Agency**

- San Diego International Airport – Terminal 2 West & East Expansion, San Diego, CA
  - 400,000 SF expansion of existing Terminal 2 West including ten (10) new gates.
  - Terminal 2 East expansion project including new passenger hold rooms and dining facilities.

**Hospitality**

- Hilton Del Mar Hotel Co-generation, Del Mar, CA: New 220 kW co-generation plant to produce domestic hot water and electricity for hotel.
- Westin Hotel LAX Chiller Replacement and Central Plant Upgrade, Los Angeles, CA: Demolition of existing 1,200 Ton central chiller plant and design of new, 800 Ton, primary-secondary distribution chiller plant including free cooling, plate and frame, heat exchanger for condenser water loop.
- Doubletree Hotel, San Diego, CA: Conversion of 240 T constant volume chilled water plant to a variable primary flow chilled water plant. Work included complete chiller replacement and design of new primary-standby variable flow pumping, VFD's, minimum flow bypass at central plant, replacement of all three way control valves with two way, PIC valves, and installation of completely new BMS including front end

for central plant manager. Worked closely with controls contractor during commissioning to ensure that all modes of central plant operation (occupied, unoccupied, nights, weekends) where operating properly.

**Industrial**

- Hunter Industries Chiller Replacement and Central Plant Upgrade, San Marcos, CA: 400 Ton chiller replacement project and central plant and BMS controls upgrade for manufacturing facility.

or...

- Hunter Industries Chiller Replacement and Central Plant Upgrade, San Marcos, CA: Conversion of 400 T constant volume chilled water plant to a variable primary flow chilled water plant. Work included complete chiller replacement and design of new primary-standby variable flow pumping, VFD's, minimum flow bypass at central plant, replacement of all three way control valves with two way, PIC valves, and installation of completely new BMS including front end for central plant manager. Worked closely with controls contractor during commissioning to ensure that all modes of central plant operation (occupied, unoccupied, nights, weekends) where operating properly.

**Commercial**

- The Wall Street Building HVAC Upgrade, La Jolla, CA: Conversion of a 120 T constant volume chilled water plant to a variable primary flow chilled water plant. Work included complete chiller replacement and design of new primary-standby variable flow pumping, VFD's, minimum flow bypass at central plant, replacement of all three way control valves with two way, PIC valves, and installation of completely new BMS including front end for central plant manager. Worked closely with controls contractor during commissioning to ensure that all modes of central plant operation (occupied, unoccupied, nights, weekends) where operating properly.

**Professional Experience | Employment History**

- IDS Group, Inc. – Associate Principal, (2018– present)
- EXP – Healthcare Group Lead, (2016 – 2017)
- Glatzl Engineering, President, (2013 – 2016)
- Randall Lamb, Senior Associate, (2010 – 2012)
- Syska Hennessey Group, Project Manager (2008 – 2010)
- Lilker Associates, Associate (2005 – 2008)
- AECOM, Mechanical Engineer (2002 – 2005)
- WASA Architects & Engineers, Mechanical Engineer (1998 – 2002)

# Attachment B
## Fee Estimate

**Crestline Sanitation District**

Huston Creek WWTP Dewatering Building and Primary Clarifier - Engineering Services During Construction

DUDEK FEE ESTIMATE

November 2021

| | Project Team Role: | Project Manager | Senior Engineer | Project Engineer | CAD Designer | Admin | | | Structural Engineering | Electrical Engineering | Architect Engineering | HVAC & Plumbing | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Team Member: | P. Glori | B. Robertson | A. Bugala | N. Hunter | M. Kinney | TOTAL DUDEK HOURS | DUDEK LABOR COSTS | Bayaz & Patel | Gerry Green Engineering | MBN | IDS | TOTAL HOURS | OTHER DIRECT | | TOTAL FEE |
| | Billable Rate : | $245 | $235 | $180 | $185 | $135 | | | Fee | Fee | Fee | Fee | | | | |
| **Task 1** | **Engineering Services During Construction** | | | | | | | | | | | | | | | |
| 1.1 | Respond to 100 RFIs | 80 | 200 | 80 | 40 | | 400 | $ 88,400 | $13,000 | $8,000 | $6,000 | $3,500 | 400 | | $ | 118,900 |
| 1.2 | Respond to 120 Submittals | 40 | 380 | 180 | | | 600 | $ 131,500 | $27,000 | $15,000 | $10,000 | $5,000 | 600 | | $ | 188,500 |
| 1.3 | Review proposed contract modifications and change orders (up to 15) | 15 | 30 | | 40 | | 85 | $ 18,125 | | | | | 85 | | $ | 18,125 |
| 1.4 | Issue up to 10 Field Orders | 5 | 10 | | | | 15 | $ 3,575 | | | | | 15 | | $ | 3,575 |
| 1.5 | Prepare Record Drawings | 2 | 32 | 16 | 60 | | 110 | $ 21,990 | $5,500 | $2,500 | $1,500 | $1,500 | 110 | | $ | 32,990 |
| 1.6 | Project Closeout and Final Inspection | 16 | 16 | | | | 32 | $ 7,680 | $1,200 | $1,000 | $2,000 | $750 | 32 | | $ | 12,630 |
| | **Subtotal Task 1** | **158** | **668** | **276** | **140** | | **1242** | **$ 271,270** | **$ 46,700** | **$ 26,500** | **$ 19,500** | **$ 10,750** | **1242** | **$ -** | **$** | **374,720** |
| **Task 2** | **Contract Administration and Meetings** | | | | | | | | | | | | | | | |
| 2.1 | Project Management, Invoices, Monthly Progress Reports | 40 | | | | 24 | 64 | $ 13,040 | | | | | 64 | | $ | 13,040 |
| 2.2 | In-Person meetings / site visits (8 total for one engineer) | | 64 | | | | 64 | $ 15,040 | | | | | 64 | $ 2,000 | $ | 17,040 |
| 2.3 | Coordination with District for Maint. Of Plant Operation, Bypassing, shutdowns. | 8 | 40 | | | | 48 | $ 11,360 | | | | | 48 | | $ | 11,360 |
| | **Subtotal Task 2** | **48** | **104** | | | **24** | **176** | **$ 39,440** | **$ -** | **$ -** | **$ -** | **$ -** | **176** | **$ 2,000** | **$** | **41,440** |
| | Total Hours and Fee | 206 | 772 | 276 | 140 | 24 | 1418 | $ 310,710 | $ 46,700 | $ 26,500 | $ 19,500 | $ 10,750 | 1418 | $ 2,000 | $ | 416,160 |