

SOAH DOCKET NO. 582-22-0585
TCEQ DOCKET NO. 2021-1001-MWD

APPLICATION BY
CITY OF GRANBURY,
FOR TPDES PERMIT NO.
WQ0015821001

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BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS

EXHIBIT GF-301

STEVEN E. ESMOND, P.E.
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Summary

Senior engineer with over 40 years experience in all phases of civil and environmental engineering with firms ranging from 25 to over 60,000. Market leader for ENR top 100 firms in both California and Texas, consistently meeting or exceeding bookings, revenue, and profit goals. Previous titles have included president, vice president, regional practice leader, office manager, and client service manager.

Mr. Esmond expertise is in the planning, design, and construction phase services for civil, water, wastewater, storm water, and environmental projects. Over his career he has served as the engineer-of-record for more than \$0.5 billion of constructed projects. His clients include Orange County Sanitation District; Caltrans (Headquarters; Los Angeles and Orange County); County of Orange; City of Los Angeles, California; City of San Luis Obispo, California; Inland Empire Utilities Agency; City of Dallas, Texas; City of Houston, Texas; City of Phoenix, Arizona.

Education

*M.S., Civil/Environmental Engineering,
Texas A&M University, 1974*

*B.S., Civil/Structural Engineering, Texas
A&M University, 1970*

Registration

*Professional Engineer, CA (C-62973), TX
(38830)*

Public Land Surveyor, TX (3814) (inactive)

*Wastewater Treatment Operator, CA
(Grade V), TX (Class A)*

*40-Hour Hazwoper, OSHA 1910.120
Hazardous Waste Operator Certification*

Experience

40 years

Relevant Expertise

- *Client Service Management*
- *Project Management*
- *Civil engineering design*
- *Wastewater treatment*
- *O&M assistance*
- *Environmental services*

Career History

Business Unit Manager for Southern California Region for AECOM, an ENR top 10 design and construction firm. Managed the Newport Beach Office, a design center for the Region's Water Group. Expanded top line growth, enlarged the client base, pursued and won projects in California and Hawaii, successfully positioned and won contracts for design and construction management. Mentored junior staff and provided leadership at all levels.

Served 8 years as Vice President, Municipal Services Leader, Office Manager, and Client Service Manager for Brown and Caldwell, a national water/wastewater and environmental engineering firm. Responsible for a \$17M business unit, targeted new opportunities, exceeded all sales and revenue goals. Increased Southern California staff from 54 to 85, opened a downtown Los Angeles office, started up practice groups for Water Resources, Infrastructure, and Construction Management.

Self employed for 18 years as President and founder of an engineering consulting firm in Texas. Grew from startup to a staff of 25 and two offices with annual revenue of \$3M specializing in civil design, wastewater, and environmental engineering. Founded an environmental remediation company that specialized in applications of soil vapor extraction and developed sales markets throughout the Southeastern US.

Served 2 years each as Office Manager for Malcolm Pirnie, Inc. and Law Engineering, both ENR top-100 engineering firms. Met or exceeded revenue and booked new business goals, lowered A/R, and increased the hard backlog of each firm.

Project History

Wastewater

Design and Construction Phase Services for Honouliuli Wastewater Treatment Plant Expansion and Biosolids Facilities, Honolulu, Hawaii

Project Manager. Served as Owner's Representative, leading the design team for the preliminary design and preparation of design-build package to create a make beneficial use of renewable energy sources (biosolids) available at the Honouliuli Wastewater Treatment Plant (HWWTP) by way of a Power Purchase Agreement (PPA). The facility produces thermal energy generated through gas combustion and/or heat capture through cogeneration, saving the City approximately \$180,000 per month employing digester gas as the primary fuel source. By the year 2030, the potential energy recovery from microturbine engine generators and thermal energy for the sludge heating process should be on the order of 1.4-MW.

Design and Construction Administration for Regional Plant 5 Solids Handling Facilities, Inland Empire Utilities Agency, California

Project Manager. Design services to upgrade commercial manure and food waste digestion and loadout facility in Chino, California from 300 to 710 wet tons/day. This project includes a new food waste tank farm, automated feed system, rotary press dewatering units to produce up to 28% solids, and addition of a new automated loadout by with mechanical solids handling equipment. Significant improvements were made to ventilation system and biofilter to meet AQMD requirements, enhance worker safety, and provide comfortable environment for operating staff. This project also provided process research into the kinetics of manure and food digestion process in a partnership with University of California Irvine. DNA testing was used to identify and measure the growth of acetogens and methanogens in the system, leading to optimization of operation and design.

Wastewater Master Plan, City of San Luis Obispo, California

Project Manager. Identified treatment facility improvements at the City's Water Reclamation Facility, and prepared the 20-year update of the City's wastewater master plan, to be implemented over the to be used as a guide for future plant upgrades. Evaluated cost estimates for a variety of process alternatives, capital costs, O&M costs, and life cycle costs.

CMOM Program, Orange County Sanitary District, California

Project Manager. Led a technical team to provide expert assistance and program level support to Orange County Sanitation District for creating a Sewer System Management Plan (SSMP). This was the first of its kind in California which was the genesis of a statewide program that was adopted throughout California, based on Federal CMOM regulations. Program elements included developing an inter-agency spill response program between OCSD, County of Orange and satellite sewer agencies; SOPs for collection agency O&M activities; electronic emergency response plans; FOG feasibility study; an electronic gravity sewer condition assessment tool; sewer exfiltration study (which led to an invention, with patent rights

held jointly by UCI and OCSD); and other related programs. This multi-year project involved close coordination with District staff and satellite sewer agencies who have utilized the deliverables for their own compliance efforts and system practices.

Wastewater Treatment Plant Fats, Oils, and Grease (FOG) Impact Study, Orange County Sanitation District, California

Project Manager. This study evaluated selected prime candidate disposal options for FOG generated in the sewer service area, and assessed in-plant impacts of the disposal options. Options included four different sub-alternatives for anaerobic digestion, recycling at a grease rendering facility, recycling as bio-duel, and landfill disposal. The four sub-alternatives included various modifications of FOG receiving, thickening and digestion, as well as a dedicated FOG digester. The regional implications of the FOG impact study resulted in submission of the final report to the Regional Water Quality Control Board on behalf of OCSD and its 24 member sewer agencies. The work was also published as the cover story in the July 2004 issue of WE&T (Water Environment & Technology) magazine.

Engine Cooling Modifications, South Orange County Wastewater Agency, California

Project Manager. Corrective measures to optimize the operation and reduce power costs of three existing 400-KW Waukesha lean-burn engines fueled by waste anaerobic digester gas. This project also included modification of the cooling systems to correct excessive engine block cavitation. The new facilities have dramatically improved overall engine performance, enabling the Authority to save \$300,000 per year in annual O&M costs.

69th Street Wastewater Treatment Plant, City of Houston, Texas

Project Engineer. Lead Process and Civil Design Engineer for the largest wastewater treatment plan in Texas, the 200 mgd City of Houston 69th Street Wastewater Treatment Plant, a pure oxygen two-stage activated sludge with effluent filtration and disinfection. Designed 144-inch trunk sewer and 400 mgd influent lift station. Met regularly with the client, conducted progress meetings, and co-supervised the design team of 40 engineering professionals.

Alameda Sims Wastewater Treatment Plant and Sludge Processing Facilities, City of Houston, Texas

Project Manager. Designed a 42 mgd, \$150M expansion to City of Houston's Alameda Sims Wastewater Treatment Plant and Sludge Processing Facilities. The expansion included a lift station, primary clarifiers, fine bubble aeration, and effluent filtration.

Northwest Wastewater Treatment Plant, City of Houston, Texas

Project Manager. Served as Project Manager for the design of an expansion of the City of Houston's Northwest Wastewater Treatment Plant, retrofitting from coarse bubble to fine bubble aeration, adding flow equalization basins, and a new odor control facility.

Village Creek Wastewater Treatment Plant, City of Fort Worth, Texas

Project Manager. Served as Project Manager for the construction phase of the City of Fort Worth's Village Creek Wastewater Treatment Plant odor control facility.

City of College Station's Carters Creek Wastewater Treatment Plant, College Station, Texas

Project Manager. Designed a 10.0 mgd chlorination/dechlorination facility for the City of College Station's Carters Creek Wastewater Treatment Plant.

Duck Creek Wastewater Treatment Plant and Rowlett Creek Wastewater Treatment Plant, City of Garland, Texas

Project Engineer. Served as lead design engineer for headworks improvements and sludge piping at the City of Garland's Duck Creek Wastewater Treatment Plant. Provided on-call operating assistance for the City's Rowlett Creek Wastewater Treatment Plant.

Derrington Wastewater Treatment Plant, City of Odessa, Texas

Project Engineer. Planned and designed a new 5.2 mgd Derrington Wastewater Treatment Plant and a major expansion to the existing 10 mgd South Dixie Wastewater Treatment Plant consisting of flow equalizations, secondary disinfections, sludge thickening, and sludge digestion facilities. Planned and designed the City of Odessa's \$20 million wastewater treatment and trunk sewer expansion program including design of a plant expansion, new influent lift station, and three major trunk line and interceptor projects.

91st Avenue Wastewater Treatment Plant, City of Phoenix, Arizona

Project Engineer. Conducted an energy optimization study for the City of Phoenix 150 mgd design capacity 91st Avenue Wastewater Treatment Plant. Developed an orderly plan to optimize the utilization of 19 existing process aeration blowers and developed a methodology and schedule to most economically retire and replace the older aeration equipment.

Wastewater Treatment Plant Design, City of Needville, Texas

Project Manager. Planned, permitted, assisted in obtaining funding, designed, and provided construction administration services for a 1.2 mgd WWTP for the City of Needville, Texas. The extended aeration plant with aerobic digestion and UV disinfection, provided additional capacity and higher level of effluent quality to replace an outdated treatment facility.

Industrial Wastewater Treatment

Designed modifications and/or upgrades for a variety of existing industrial wastewater treatment plants in order to achieve compliance with EPA Categorical Pretreatment Program requirements and/or waste discharge permit requirements. Industries included:

- Royal Seating, a metal furniture manufacturing plant,
- Dura-Tech Industries, a pipe coating plant,

- D&R Specialties, an anodizing and electroplating facility,
- Miller Brewing/Fort Worth, Texas, a commercial brewery,
- Mount Vernon Mills, a textile plant,
- Tyler Refrigeration, a refrigerator manufacturing company,
- Frito-Lay, a food manufacturing plant,
- Thomas & Betts, an electrical equipment manufacturer,
- Blue Bell Creamery, a commercial dairy and ice cream plant, and
- Envirostar, reclaiming silver from photographic film.

ISK Biotech, Houston, Texas

Design Engineer. Performed a treatability study for ISK Biotech, a major Houston Ship Channel industry. Developed a cost-effective wastewater treatment program for a 1.4 mgd wastewater treatment plant containing listed hazardous waste streams.

Fire Training Field Master Plan and Design

Design Engineer. Prepared a master plan and environmental impact study for the City of League City, Texas and prepared design drawings and specifications for this regional fire training field located on the Texas Gulf Coast. The facility was completed in 2000 and is used by numerous organizations. Training activities include a car fire project, fire extinguisher project, structure fire building, industrial pit project, draft pit, five-story drill tower, confined space facility and a classroom building. Designed this facility to handle a variety of fuels including Tek-Flame, propane, and Excelsior (synthetic hay), and its own internal water treatment and recycling system.

Fire Fighting Water Treatment and Recycling

Design Engineer. Design engineer for wastewater treatment facilities at Texas A&M University's Brayton Fire Training Field (BFTF). In 1989, performed wastewater master plan including raw wastewater sampling and characterization, storm runoff from the overspray areas, wet chemistry treatability study for firefighting wastewater, analysis of existing treatment facilities and hydraulic profile, process analysis and process design for full-scale two-phase wastewater treatment facility. Completed design drawings and specifications for the first phase, which was constructed in 1994. The facility, designed for 2,000 gpm, met discharge permit limitations until it was pushed to 10,000 gpm. Prepared the SPCC Plan for BFTF and its subsequent update.

Storm Water

Caltrans Statewide Storm Water Characterization and BMP Retrofit Program

Task Order Manager. Coordinated teams of professionals and field technicians to install, operate and maintain automatic storm water sampling equipment for Caltrans. The Caltrans projects included the Statewide Storm Water Characterization Program and Best Management Practice (BMP)

Retrofit Pilot Project. BMPs include biofiltration strips and swales, drain inlet inserts, extended detention basins, sand filters, multi-chambered treatment trains and continuous deflective separation (CDS) units. Managed the teams' sample collection activities during storm events and performed the data validation and reporting for Caltrans' LSRD Project. Managed field activities that included storm tracking and coordination of team mobilization to sites to collect first flush grab and composite storm water samples, and collection of manual and automatic grab and composite storm water samples, and maintenance between storm events.

Design, Operation and Maintenance of Storm Water Retrofit Pilot BMPs (Caltrans Districts 7, Los Angeles County, California)

Principal In Charge. Oversaw the design of 10 BMPs in District 7 under the Caltrans Retrofit project. After construction, was responsible to Caltrans for ongoing monitoring and maintenance of these sites. Subsequently, the project team managed the maintenance and operation of a total of 16 sites in Los Angeles and San Diego. The treatment sites included technologies such as media filters, multi-chambered treatment trains, continuous deflecting separation units, and a wet basin. Operations and maintenance activities were conducted following a guidance manual called the Maintenance Indicator Document (MID). Provided input for the MID to improve operations and maintenance of the BMP sites.

Storm Water Pumping Station, City of Houston, Texas

Project Manager. Served as project manager for design of the City of Houston's first natural gas engine driven storm water pumping station. Located at the Eldridge Road and I-10 interchange and constructed in 1989, this facility became the first of many such pumping stations in Houston, and set the standard for toll roads throughout Harris County.

Storm Water Master Plan, Texas A&M University, Texas

Principal-in-Charge. Supervised the preparation of the Main Campus Storm water Master Plan for Texas A&M University using HEC-RAS to compute water surface profiles to size three regional detention basins and lower the BFE. As a follow-on to the study, prepared construction drawings and specifications for a segment of Bee Creek between the President's Home and Kyle Field. Improvements included a regional detention facility, new outlet structure at Bee Creek, and streambed stabilization.

Drainage and Erosion Control Improvements, Elkins Lake, Texas

Project Manager. Designed \$3 million worth of drainage and erosion control improvements, providing construction phase administration services and inspection during construction.

Water Supply

Water System Control Valve Project, City of Manhattan Beach, California

Project Manager. Managed the design of improvements to the City's water distribution system to provide blending of the City's well water with up to 9.0 mgd of potable water, supplied by Metropolitan Water District (MWD)

of Southern California. Designed hydraulic and control modifications, including a new MWD turnout to fill the City's existing Peck Avenue Reservoir and Block 35 Reservoir. Changes were made to the Block 35 pumping plant to allow the City the option of using its existing elevated storage tank, or to permanently remove the elevated storage tank from service. New control valves and flow meters were added, and the City's pumping station control system was updated systems to provide flexibility needed to maintain system pressures with or without the elevated storage tank, while supplying variable quantities of well water and/or MWD water to the system.

Water System Master Plan, City of Bryan, Texas

Program Director. Directed the preparation of the City's Water System Master Plan, serving a population of 65,000. The study consisted of a hydraulic network analysis of the City's water distribution system, population and demand forecasting, and recommendations for water distribution system improvements through the year 2010 including water mains, ground storage and elevated storage.

Lake June Pump Station, Dallas Water Utility, Texas

Construction Manager. Served as Construction Manager for the construction phase of a 250 mgd expansion to the City's raw water pumping station.

Water Supply Improvements, Elkins Lake Municipal Water District, Huntsville, Texas

Design Engineer. Developed municipal water supply improvements for Elkins Lake MUD, a rapidly growing utility district in the north Houston area. Projects involved hydraulic modeling of water distribution system and recommendations for water main extensions, and prepared preliminary design report for iron and manganese removal treatment facility.

Fire Main Pressure Control Valves, Brayton Fire Training Field (BFTF)

Design / Build. Designed and installed pressure control valves on the main supply header at BFTF. In 1995, replaced a cumbersome and maintenance-intensive instrument air control system with simpler and more sophisticated control valves manufactured by Inbal, driven by internal fluidics. Services included evaluating and sizing the new control valves, determining the required pressure settings at maximum and minimum demand, supervising the installation and taking responsibility for the completed facility.

Municipal Utility Operation

Founded a private contract operations company in 1985. Contracted with public and private utility agencies to provide daily operation of water distribution and collection systems, public water supply wells, and municipal wastewater treatment plants. Managed an operating staff responsible for the day-to-day operation of up to seven wastewater treatment plants and two public water supply utilities. Responsible for

meeting operating permits, quality control testing, operator training, and minor plant maintenance.

Transportation

Roadway Extension, Spring Creek Parkway, Dallas County, Texas

Principal-in-Charge. Mr. Esmond is pre-certified by TxDOT in 16 categories of civil, hydraulic, and structural design and has completed roadway design and drainage projects requiring the application of engineering fundamentals and sound decision-making through implementation of AutoCAD, HEC-RAS, MicroStation, GEOPAK, and other engineering software. Directed a project involving the extension of Spring Creek Parkway in Dallas County, Texas, reviewed by TxDOT, completing PS&E for a major bridge crossing a creek, designing bridge abutment, piers, MSE walls, roadway, and easement documents.

Bus Stop and Utility Relocation Design, George Bush Drive, College Station, Texas

Project Engineer. Designed the completion of Olsen Boulevard, a bus stop, and utility relocations for George Bush Drive, the major thoroughfare serving the George Bush Presidential Library in College Station, Texas.

Roadway Reconstruction Design, Trinity Mills Drive, Dallas County, Texas

Principal-in-Charge. Completed the design for the reconstruction of a two-mile section of Trinity Mills Drive in Dallas County, Texas, reviewed by TxDOT. Prepared PS&E for roadway reconstruction alignment and grade, including utility relocations and easement documents, and performed H&H design.

Soil Stockpile Optimization Study, Dallas/Fort Worth Airport, Texas

Project Manager. Surveyed DFW Airport's existing stockpiles, quantified the various soil types, oversaw geotechnical testing of stockpiled soil, and evaluated soils for use in planned Airport CDP Projects.

Street and Infrastructure Project, City of College Station, Texas

Project Manager. Contracted with the City of College Station, Texas to provide engineering services for the rehabilitation and design of streets and utility lines in the largest subdivision in the City and one of the oldest areas of town, well known for its expansive clay subgrade. Designed a select stabilized black base as an alternate to the City's standard two-inch HMA on crushed limestone flexible base, resulting in a superior pavement section at no additional cost to the City. Prepared and sealed all PS&E for plan profile streets and cross sections. Responsible for construction management, materials testing, and supervision of full time inspector.

Ratilff Stadium, Odessa, Texas

Project Engineer. Served as project civil engineer for the design of a 20,000 seat football stadium to serve all of the high schools in Odessa, Texas. Constructed on bedrock, the project utilized crushed excavation from the playing field to be used as compacted fill for the lower half of the

stadium. Artificial turf playing field and oval running track were designed to meet high school sports standards.

Environmental Services

Soil Vapor Extraction Projects

Co-Founder. Mr. Esmond co-founded Vapor-Tek USA, Inc. in 1993, an environmental remediation leasing company involved in the applications of soil vapor extraction technology. Developed sales markets throughout the southeastern US and Texas and successfully remediated a number of underground storage tank (UST) sites in several states.

Industrial Solid Waste Projects

Mr. Esmond managed several projects involving hazardous and industrial solid waste abatement and disposal. Assisted a wide variety of industrial manufacturing companies in complying with State and Federal regulatory requirements.

Remediation of contaminated soils at Brayton Fire Training Field

Design Engineer. Designed and provided construction phase support including full time inspection for the remediation of contaminated soils underneath an old fire prop. Tested soils during excavation, classifying them and overseeing the placement on the Land Farm, Spoil Site, and compaction of clean backfill, respectively. Designed the Land Farm and the Spoil Site, prepared technical information package in support of environmental regulatory agency permits, and assisted TEEX in winning regulatory agency approval for permits for both facilities.

Air Quality and permitting at BFTF

Design Engineer. Designed an air quality testing system for the products of combustion, and tested the burn pits at BFTF for a wide array of hazardous air pollutants (HAPs). Quantified the emission rates of each HAP and used the information as source terms for a three-dimensional air dispersion model to calculate ambient conditions downwind of BFTF. Repeated this study for Tekflame and for gasoline and diesel mixtures of Tekflame.

Waste Injection Well for IWM, Inc.

Engineer of Record. Served as engineer of record from 1991 to 1996 for IWM, Inc., a commercial waste disposal company located in West Texas. Using SWIFT-III computer code, performed 3-D modeling of hazardous waste injection plume and pressure buildup in support of the permit application for a Class 1 commercial hazardous waste injection well in West Texas. Prepared the permit application and won approval from EPA Region 6 for the no-migration petition, a demonstration of the extent of underground waste movement for 10,000 years. Prepared State permit applications for the UIC permit, surface treatment facilities, and air permits, and won approval for permits from Texas Air Control Board and Texas Water Commission for RCRA surface treatment facilities associated with the injection well. The surface facility was designed to comply with the latest SOCMA standards. Mr. Esmond represented IWM at public hearings

and presented the project to private groups including civic groups, meetings with surrounding landowners, a nearby water district, and local and state government officials. Prepared P&IDs, mechanical drawings, site civil drawings, and specifications for the surface treatment facilities.

Waste Injection Well for Wastewater, Inc.

Engineer of Record. Served as engineer of record from 1993 to 1998 for Waste Water, Inc., a waste disposal company located in Central Texas. Prepared renewal application for the UIC permit for an existing Class 1 commercial hazardous waste injection well including all supporting documentation including an update to the cone of influence map. Provided field supervision for the MIT (mechanical integrity test). Testified at contested case hearings in support of the Interim Status application, and represented the project at public hearings. Prepared P&IDs and mechanical drawings for the updated surface treatment facilities to comply with SOCMA emission standards.

Professional Memberships

Water Environment Federation
American Society of Civil Engineers

Publications

Author of 30 technical publications and 5 patents in the fields of civil engineering, wastewater, and environmental engineering.