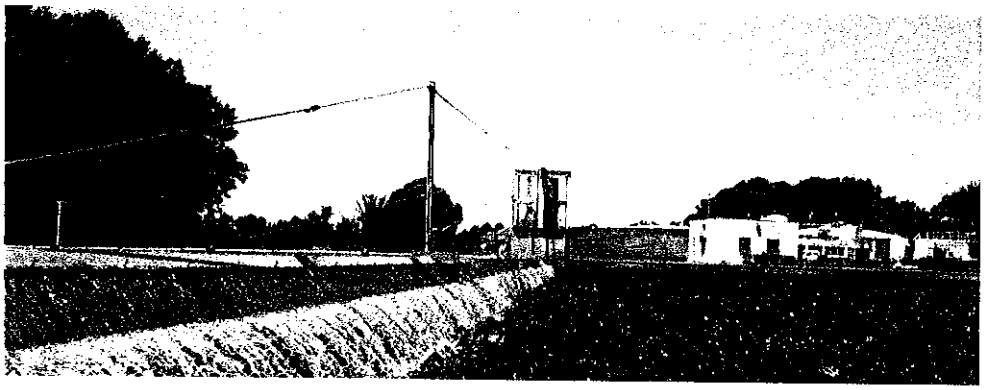
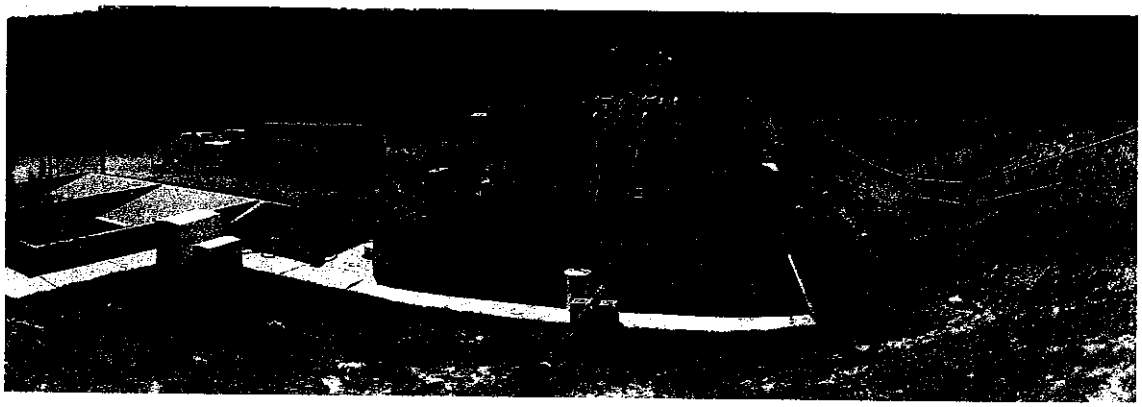


The Garver Team provides you **national expertise** with **local service and commitment**



WEBB COUNTY

Statement of Qualifications

RIO BRAVO WASTEWATER TREATMENT PLANT REHABILITATION DESIGN PROJECT

RFQ # 2017-004 | November 16, 2017

GARVER

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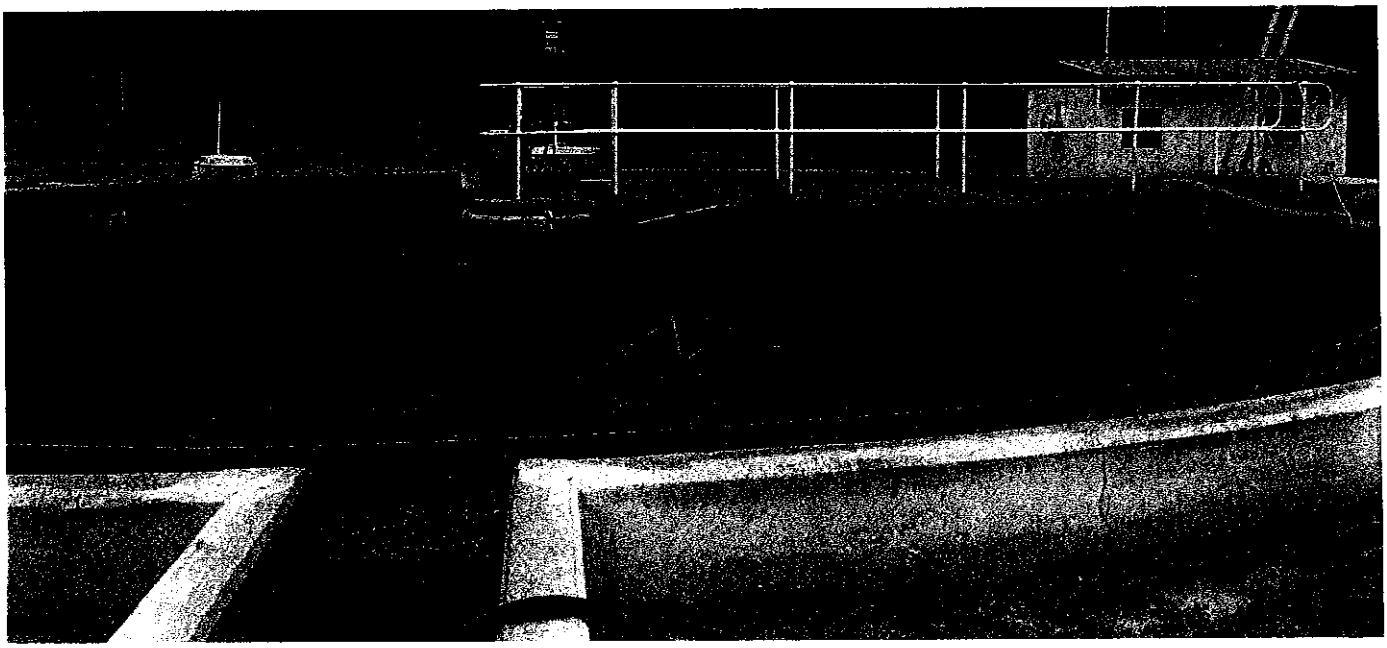

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November 16, 2017

ATTN: Juan Guerrero
Purchasing Contract Administrator
Webb County Clerk's Office
1110 Victoria Street, 2nd Floor, Suite 201
Laredo, TX 78040

1906 East Tyler Avenue
Suite D
Harlingen, TX 78550
TEL 956.734.2375
FAX 972.377.8380
www.GarverUSA.com

Re: RFQ #2017-004 Rio Bravo Wastewater Treatment Plant Rehabilitation Design Project

Dear Mr. Guerrero,

Webb County is responsible for providing critical water and wastewater services for a growing and vibrant region in the State of Texas. As a public utility, it has been proven that your Staff takes great pride in providing the best water and wastewater infrastructure services possible to your clients, the citizens. At Garver, we pride ourselves on providing the best service possible to our clients as you do for yours.

As Texans, we at Garver are most excited about the opportunity to grow our business in South Texas in support of your business. We are investing in South Texas and desire to make the area our home and play an active role in the communities we serve. We believe we are the best consultant for your infrastructure needs because Garver brings you the following value:

Our Project Manager, **Richard Correa, PE, CFM,** calls South Texas home and understands local issues and constraints. He has a proven work history with Webb County Utilities and is personally committed to the success of future Garver/Webb County projects. Our local team also includes **Sonia Zamarripa, EIT** and **Ernesto Flores, CFM,** both of which also have prior experience working directly with Webb County Utilities.

Garver brings **national experience** to Webb County. Our Team of professionals has solved similar wastewater infrastructure challenges across the country for clients large and small. We are **focused on local client service.**

Our Water Technology Team brings considerable international expertise to solve the most demanding and complex water and wastewater challenges. Our experts include **Dr. Steven Jones, PE,** an international expert in physical separation processes, **Dr. Evan Tromble, PE,** an expert in plant hydraulic modeling, **Dr. Michael Watts, PE,** an expert in disinfection processes, and **Dr. Ashley Pifer, PE,** a recognized expert in nitrification processes.

Garver's consulting expertise focuses on **optimizing operations**. Our staff includes engineers with prior operations experience like **Jeff Sober, PE,** and **Michael Graves** as well as plant operators (not engineers). Our staff understands the importance of ease of operations and maintenance, and optimization of processes to reduce energy and labor burden. We understand how processes react in the field, and design based on reality and not paper.

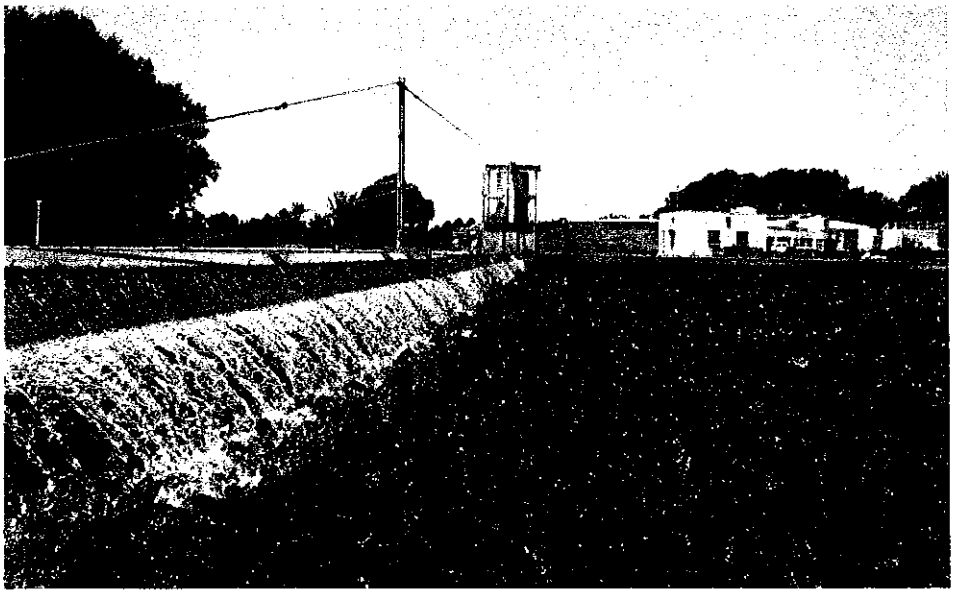
The Garver Team utilizes the best available tools, such as 3D design. We have standardized our **3D design** because it has proven to **reduce change orders** and allows for better communication of project goals to the Webb County Utilities Department as well as the County Commissioners.

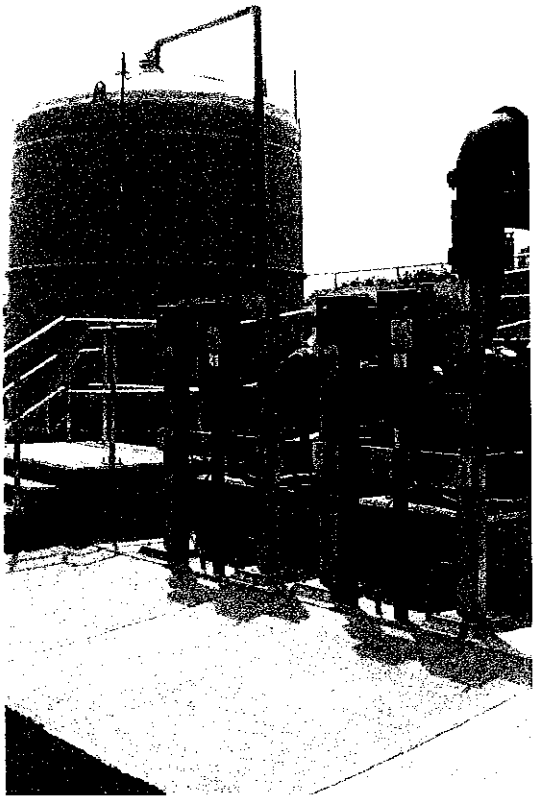
Garver is a purpose-built engineering firm that is ready to bring national expertise coupled with local client service to serve Webb County Utilities on this specific project. Please do not hesitate to contact me anytime by mobile phone at 956.793.3371 or Jeff at 214.883.6263. Thank you for your consideration.

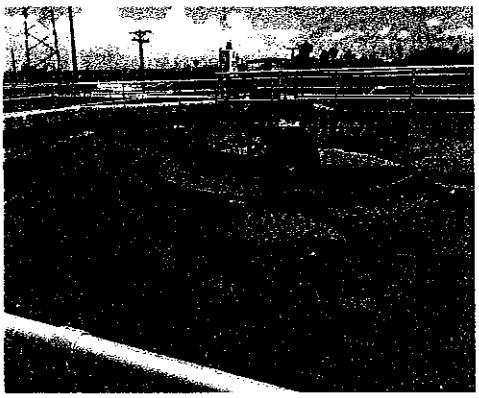
Regards,
GARVER

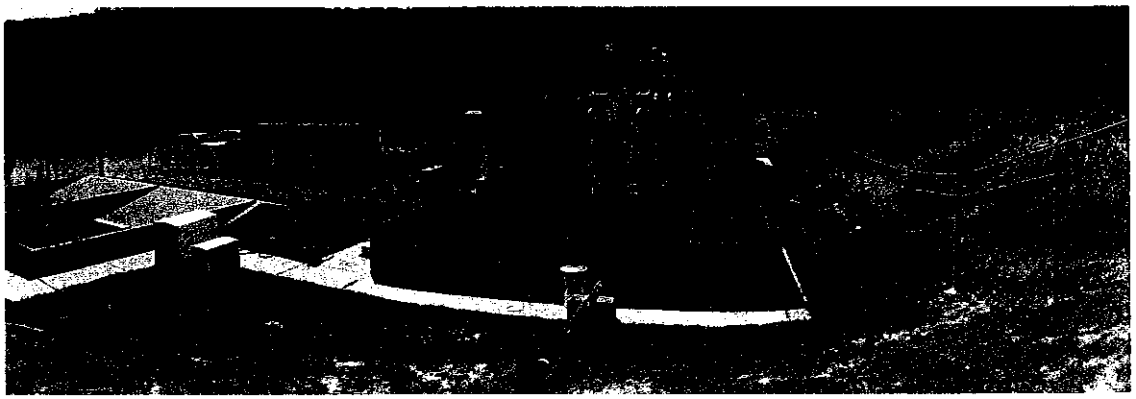
Richard Correa, PE, CFM
South Texas Water Team Leader

Jeff Sober, PE
Vice President









REQUIRED FORMS

GARVER

Public Notice

THIS FORM MUST BE INCLUDED WITH RFQ PACKAGE; PLEASE CHECK OFF EACH ITEM INCLUDED WITH RFQ PACKAGE AND SIGN BELOW TO COMFIRM SUBMITTAL OF EACH REQUIRED ITEM.

RFQ # 2017-004
"Rio Bravo Wastewater Treatment Plant Rehabilitation Design Project"

☑Public Notice

☑ Proposer Information

☑A minimum of five (5) references with whom the firm/Contractor has performed substantially similar services described in this document.

☑Conflict of Interest form (Form CIQ)

☑Certification regarding Debarment (Form H2048)

☑Certification regarding Federal lobbying (Form 2049)

☑Proof of No Delinquent Tax Owed to Webb County

Proposer Information

Proposer Information

Name of Company: Garver, LLC

Address: 1906 East Tyler Avenue, Suite D

City and State Harlingen, TX 78550

Phone: 956.734.2375

Email Address: RCorrea@GarverUSA.com

Signature of Person Authorized to Sign:

Signature

Jeff Sober, PE

Print Name

Vice President

Title

Indicate status as to "Partnership", "Corporation", "Land Owner", etc.

Limited Liability Company (LLC)

2002

(Date)

Note:
All submissions relative to these RFQ shall become the property of Webb County and are nonreturnable.

References

References:

Name of Local / State government or private company	Address	Phone	Name of Contact	Project Name when was it completed
Trinity River Authority of Texas	5300 South Collins Street Arlington, TX 76018	817.493.5103	Sherri van der Wege, PE Senior Engineer	TRA CRWS WWTP 2015 Master Plan
Trinity River Authority of Texas	1430 Malloy Bridge Circle Ferris, TX 75125	972.225.3462	Ed Mach Project Manager	TRA TMCRWS Plant Rehabilitation Improvements
City of Sulphur Springs	201 N Davis Street Sulphur Springs, TX 75482	903.439.4901	Robert Lee Director of Utilities	Sulphur Springs WWTP Improvements
City of Terrell	201 East Nash Street Terrell, TX 75160	214.948.4500	Mike Mikeska, PE Assistant City Engineer	Kings Creek WWTP Expansion
City of Celina	311 N Louisiana Celina, TX 75009	972.382.2682	Alan Fourmentin Assistant Public Works Director	Celina WWTP Improvements
City of Longview	5211 W 281 Loop South Longview, TX 75606	903.291.5225	Scott Baggett Plant Manager	Grace Creek WWTP Solids Improvements
City of Kilgore	815 N Kilgore Street Kilgore, TX 75662	903.988.4118	Clay Evers, PE City Engineer	Kilgore WWTP FY17 Improvements

Webb County will accept proposers own format on references. It must include the information being requested above.

Conflict of Interest Form

CONFLICT OF INTEREST QUESTIONNAIRE — FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY
Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

N/A

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

N/A

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

N/A

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 Signature of vendor doing business with the governmental entity — **11/16/2017** Date

Certification regarding Debarment (Form H2048)

Texas Department of Agriculture

Form H2048
January 2008

CERTIFICATION
REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION FOR COVERED CONTRACTS

PART A.

Federal Executive Orders 12549 and 12689 require the Texas Department of Agriculture (TDA) to screen each covered potential contractor to determine whether each has a right to obtain a contract in accordance with federal regulations on debarment, suspension, ineligibility, and voluntary exclusion. Each covered contractor must also screen each of its covered subcontractors.

In this certification "contractor" refers to both contractor and subcontractor; "contract" refers to both contract and subcontract.

By signing and submitting this certification the potential contractor accepts the following terms:

1. The certification herein below is a material representation of fact upon which reliance was placed when this contract was entered into. If it is later determined that the potential contractor knowingly rendered an erroneous certification, in addition to other remedies available to the federal government, the Department of Health and Human Services, United States Department of Agriculture or other federal department or agency, or the TDA may pursue available remedies, including suspension and/or debarment.
2. The potential contractor will provide immediate written notice to the person to whom this certification is submitted if at any time the potential contractor learns that the certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
3. The words "covered contract", "debarred", "suspended", "ineligible", "participant", "person", "principal", "proposal", and "voluntarily excluded", as used in this certification have meanings based upon materials in the Definitions and Coverage sections of federal rules implementing Executive Order 12549. Usage is as defined in the attachment.
4. The potential contractor agrees by submitting this certification that, should the proposed covered contract be entered into, it will not knowingly enter into any subcontract with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the Department of Health and Human Services, United States Department of Agriculture or other federal department or agency, and/or the TDA, as applicable.

Do you have or do you anticipate having subcontractors under this proposed contract?
☐ Yes

☒ No

5. The potential contractor further agrees by submitting this certification that it will include this certification titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion for Covered Contracts" without modification, in all covered subcontracts and in solicitations for all covered subcontracts.
6. A contractor may rely upon a certification of a potential subcontractor that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered contract, unless it knows that the certification is erroneous. A contractor must, at a minimum, obtain certifications from its covered subcontractors upon each subcontract's initiation and upon each renewal.
7. Nothing contained in all the foregoing will be construed to require establishment of a system of records in order to render in good faith the certification required by this certification document. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
8. Except for contracts authorized under paragraph 4 of these terms, if a contractor in a covered contract knowingly enters into a covered subcontract with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the federal government, Department of Health and Human Services, United States Department of Agriculture, or other federal department or agency, as applicable, and/or the TDA may pursue available remedies, including suspension and/or debarment.

PART B. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION FOR COVERED CONTRACTS

Indicate in the appropriate box which statement applies to the covered potential contractor:

☒ The potential contractor certifies, by submission of this certification, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded form participation in this contract by any federal department or agency or by the State of Texas.

☐ The potential contractor is unable to certify to one or more of the terms in this certification. In this instance, the potential contractor must attach an explanation for each of the above terms to which he is unable to make certification. Attach the explanation(s) to this certification.

Name of Contractor	Vendor ID No. or Social Security No.	Program No.
Garver, LLC	01-0733400	RFQ #2017-004

Signature of Authorized Representative

11/16/2017
Date

Jeff Sober, PE, Vice President
Printed/Typed Name and Title of Authorized Representative

Certification regarding Federal Lobbying (Form H2049)

Texas Department of Agriculture

Form H2049
January 2008

CERTIFICATION REGARDING FEDERAL LOBBYING
(Certification for Contracts, Grants, Loans, and Cooperative Agreements)

PART A. PREAMBLE

Federal legislation, Section 319 of Public Law 101-121 generally prohibits entities from using federally appropriated funds to lobby the executive or legislative branches of the federal government. Section 319 specifically requires disclosure of certain lobbying activities. A federal government-wide rule, "New Restrictions on Lobbying", published in the Federal Register, February 26, 1990, requires certification and disclosure in specific instances.

PART B. CERTIFICATION

This certification applies only to the instant federal action for which the certification is being obtained and is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $100,000 for each such failure.

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, or the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with these federally funded contract, subcontract, subgrant, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions. (If needed, contact the Texas Department of Agriculture to obtain a copy of Standard Form-LLL.)

Form H2049
Page 2/01-2008

3. The undersigned shall require that the language of this certification be included in the award documents for all covered subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all covered subrecipients will certify and disclose accordingly.

Do you have or do you anticipate having covered subawards under this transaction?
☐ Yes
☒ No

Name of Contractor/Potential Contractor	**Vendor ID No. or Social Security No.**	**Program No.**
Garver, LLC	01-0733400	RFQ #2017-004

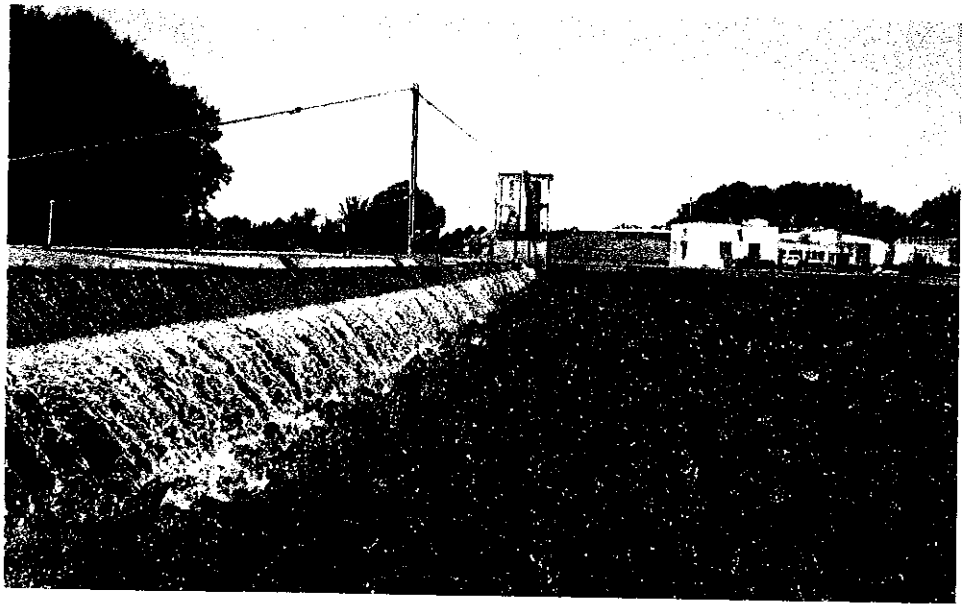
Name of Authorized Representative	**Title**
Jeff Sober, PE	Vice President

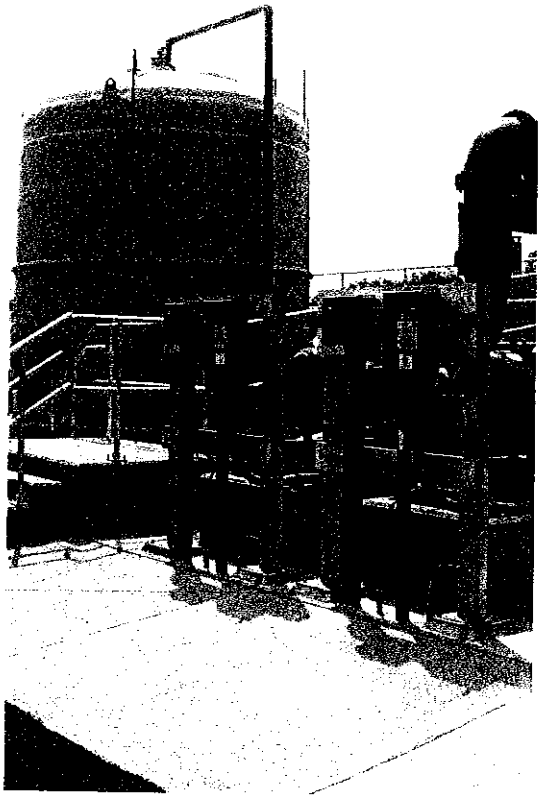
Signature – Authorized Representative

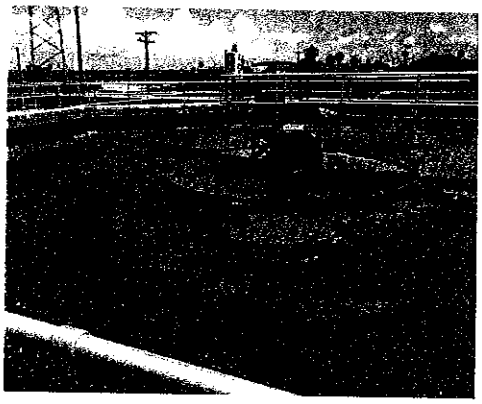
11/16/2017
Date

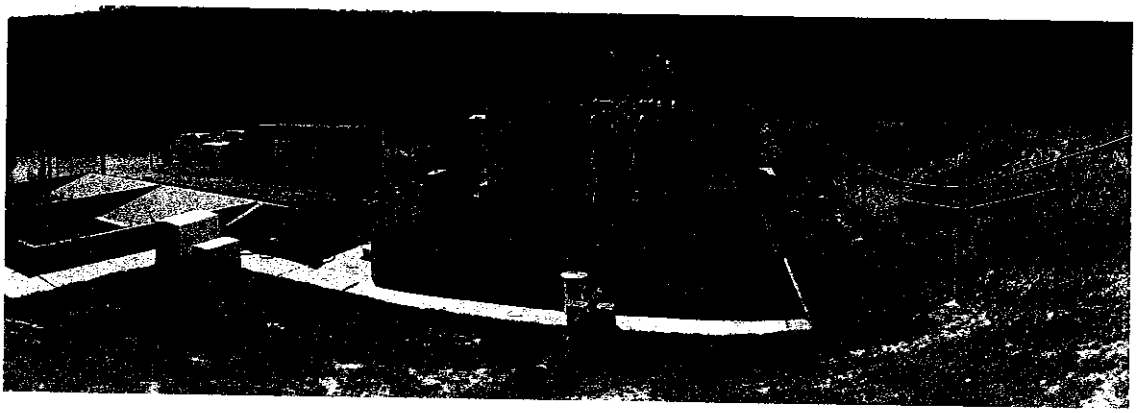
Proof of No Delinquent Tax Owed to Webb County

Garver has no delinquent taxes that are owed to Webb County.



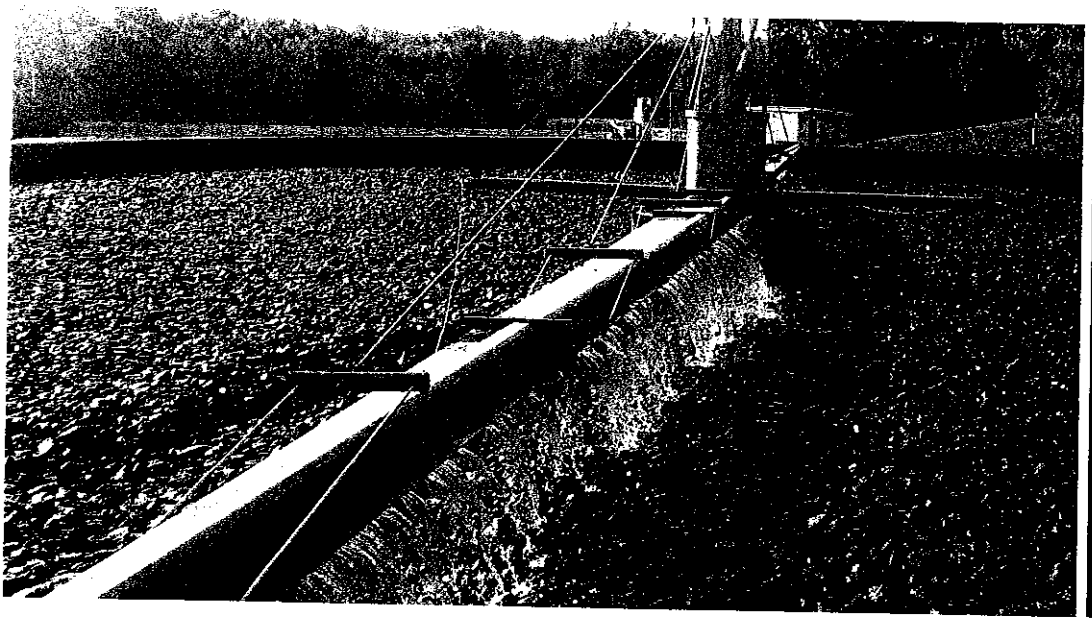






APPLICABLE KNOWLEDGE

GARVER



Garver conducted site assessments for all components of the City of Kilgore's water and wastewater treatment plants and is developing full replacement opinion of probable construction costs (OPCCs) for all high-scoring assets.

Applicable Knowledge

Garver has extensive knowledge of wastewater systems and process engineering, planning, design, and construction.

GARVER IS THE RIGHT TEAM FOR THE JOB

In May of 2017, Garver made the decision to expand its Texas operation by establishing a presence in South Texas. Located in Harlingen, TX, Garver's South Texas operation aims at providing national-level water and wastewater engineering expertise with local, South Texas customer service. Garver then took this endeavor a step further by hiring local, familiar-face engineering talent to lead the South Texas operation as opposed to transplanting out-of-town talent.

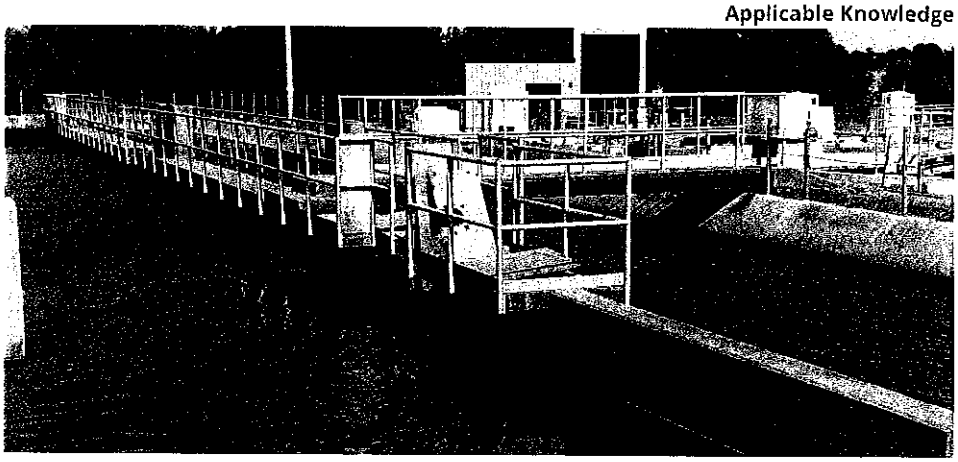
Typically, a South Texas municipality will solicit services from engineering firms and there are two prototypical response types: 1) the local firm that has the familiar faces but lacks subject matter experts and 2) the large, "high-horsepower" firms that can provide any and all expertise necessary but lack familiar personnel and/or a South Texas presence. It is unfortunate that this is the case but the question that needs to be asked is, why should South Texas municipalities have to choose between one or the other? Not only is it Garver's belief that South Texas municipalities deserve better, it is now Garver's mission to deliver both; trusted, familiar personnel that provide local customer service backed by recognized, national expertise.

The Garver South Texas Team is comprised of **Richard Correa, PE, CFM,** who will be Garver's Project Manager for your project and will serve as Webb County's boots-on-the-ground, primary contact. Richard has extensive experience with Webb County Utilities and possesses an intimate knowledge of its water and wastewater infrastructure and the issues that exist. Rounding out the Garver South Texas Team are **Sonia Zamarripa, EIT,** and **Ernesto Flores, CFM.** Sonia and Ernesto have extensive experience with Webb County Utilities and its staff. Both will be assisting Richard from Garver's Harlingen office.

Backing the South Texas Team is a group of nationally-experienced professionals comprised of engineers, scientists and operators. Simply put, Garver is purpose-built for this type of project and successfully executing this evaluation is not only what we do, it's what we love to do.

The organizational chart presented in this document highlights the staff that Garver brings to the table and illustrate each member's respective field of expertise. It should be noted that every individual shown on the organizational chart is not only a current, full-time Garver employee, but each member shown also served as a key team member in the previous experience example projects listed in this document. Accordingly, Garver will not employ any subconsultants on this project as all necessary technical resources reside in-house. This provides additional value and security to Webb County as there will only be one contract in existence for the execution of this project; by and only between Webb County and Garver.

Garver provided Improvements for the City of Celina's WWTP. These included rehabilitation of existing fine screening and configuration of headworks for future fine screen, integration of future grit removal facilities, and more.



WASTEWATER SYSTEM EXPERIENCE

The Garver Water Team has extensive experience in executing multi-disciplined projects nationwide. From conception to operation, Garver takes pride in helping you develop the best alternative for your wastewater needs.

Whether the best solution is a custom-engineered innovative technology or the integration of a conventional pre-engineered system, the Garver Water Team endeavors first to fully understand your needs and objectives.

Our Team provides comprehensive, in-house services to successfully implement and optimize your facilities. Our engineers work in close coordination with your local, state, and federal officials as required for public support, permitting, and regulatory compliance.

As wastewater treatment and effluent requirements become more stringent, Garver provides clients with clear direction and economical solutions. We help our clients make the greatest use of available infrastructure, design custom solutions to meet the established objectives, and ultimately convert effluent into a viable product and potential source of revenue. ***In addition to providing Webb County with a wealth of wastewater system experience, Garver holds another distinct advantage over the competition: key Garver staff visited the Rio Bravo Wastewater Treatment Plant in July of this year. As a result, we already understand the specific needs of the facility as well as Webb County's goals for the plant.***

WASTEWATER PROCESS MODELING CAPABILITIES

The wastewater treatment industry has traditionally placed a high reliance on empirical methods and rule of-thumb criteria. This practice has had some undesirable impacts on both the design and operations fields. In design, it has encouraged a "one-size-fits-all" philosophy that fails to address the significant differences that can exist between different wastewater treatment plants. Designers often attempt to compensate for this through the use of safety factors; however, because of the lack of a rational basis, systems typically end up being either under-designed or over-designed. The empirical approach is clearly outdated in today's climate, where there is increased pressure to optimize treatment plant operations. The solution lies in moving away from rules-of-thumb and embracing a more scientific approach: one that looks inside the conceptual "black box" at the fundamental principles governing process operation. Garver embraces a design approach that utilizes a science-based methodology for process evaluation, with calibrated simulation models as a cornerstone of that approach. These process models allow us to look inside the "black box" to understand the mechanics of the different interactions occurring inside the particular plant process, thereby unlocking the potential for solutions that might not be obvious. Through modeling comparisons of our precise design criteria to an agency's regulatory design requirements, our Team has successfully negotiated exemptions to regulatory requirements, optimized the process and sharply streamlined both capital and operational costs.

The use of wastewater process simulation models for facility design, rerating, planning, and troubleshooting has become standard practice. Properly used, models provide insight into the peculiarities of an existing or planned facility and save time. However, like any computer-based simulation, the output is only as good as the input. No one should make decisions on the basis of computer model results that are presented as "take 'em or leave 'em."

Regardless of the particular process model used, a model must have a clear purpose, and that purpose should be to solve a particular problem. A clear purpose is the single most important ingredient for successful process modeling evaluations.

The following checklist provides assistance to decision makers who are potential model users. It outlines some of the key questions that should be asked to evaluate the validity of a model and its appropriateness as a tool for solving a specific problem:

- ✓ What is the problem at hand? What is the problem addressed by the model?
- ✓ What is the boundary of the model? What portion of the overall system has to be modeled?
- ✓ What is the time horizon relevant to the problem? Does the model include any factors that may change significantly over the time horizon?
- ✓ Does the model account for the limitations and errors in acquiring information that plague decision makers in the real world?
- ✓ Does the model take non-economic behavior (organizational realities, non-economic motives, political factors, cognitive limitations) into account?

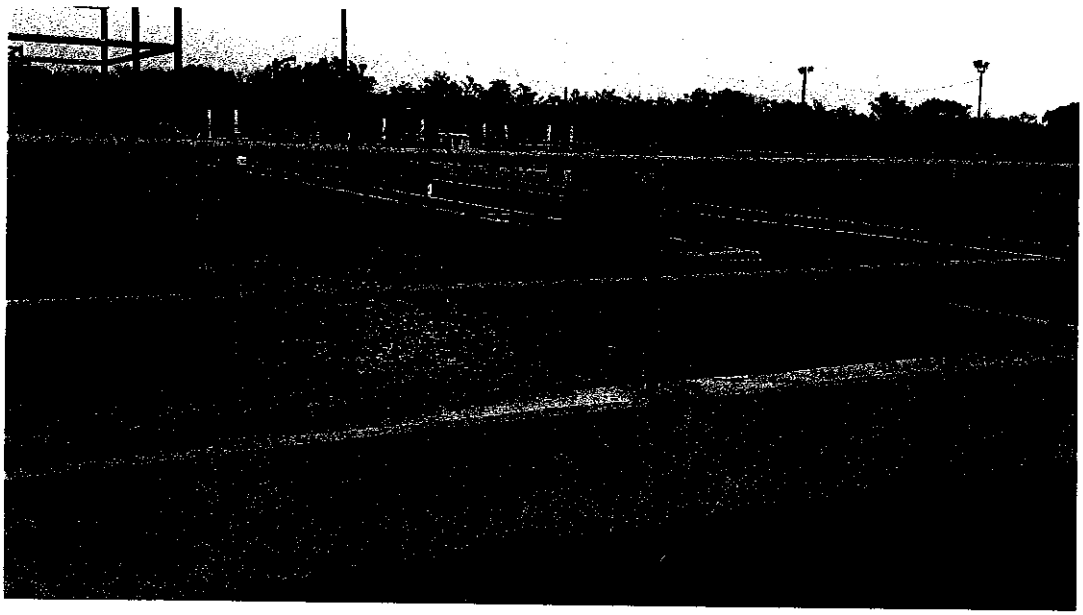
APPLICABLE MODELING EXPERIENCE

Garver evaluated the **City of Sulphur Springs WWTP,** which faced an immediate need for nitrification capacity with consideration given to future effluent phosphorus limits. Utilizing Hydromantis' GPS-X biological modeling software, Garver investigated an array of treatment alternatives to recover the value of existing tankage that could be retrofitted for a new positive future. Biological modeling developed cost-efficient schemes to reutilize existing facilities to achieve the immediate nitrification goals which maintained the City's budget while delivering process flexibilities and control that will serve the City well in meeting future permit limits.

Garver most recently engaged the Hydromantis' GPS-X software to evaluate several biological nutrient removal process treatment schemes for a **Confidential West Texas Industry Client.** The primary goal for the this modeling project was to evaluate the feasibility of upgrading the WWTPs to remove nitrate and phosphorus for reuse opportunities. Using information collected from the City, both the physical and operational properties of each unit process were put into the model. The model output was compared to the historical laboratory data and calibration adjustments were made as necessary to simulate historical performance. Preliminary modeling documented that one of the existing plants could be cost effectively re-configured to achieve the desired effluent limits while the second plant would require more extensive process modifications.

The **City of Longview's Grace Creek WWTP** had historically experienced low pH levels within its influent wastewater. During a previous project, a lime feed facility had been constructed and commissioned to add alkalinity and provide pH adjustment as to maintain the pH above the permit limit. However, the facility experienced difficulties in maintaining an appropriate buffering capacity and as a result, the plant discharge was frequently below the discharge limit. Utilizing data provided by Plant staff and GPS-X, Garver developed a process model to analyze the existing treatment process and to evaluate four alternatives to increase the effluent pH. Process modeling identified insufficient alkalinity in the aeration basins as the primary cause of the pH excursion and recommended a new lime dose and feeding strategy or an operational change to incorporate a BNR process to promote denitrification which provides alkalinity recovery as remedies to the low effluent pH.

Garver is designing improvements to address immediate plant rehabilitation and major maintenance needs at TRA's Ten Mile Creek Regional Wastewater System. As part of the overall effort, Garver developed qualitative and quantitative evaluation criteria and performed priority ranking of each project element based on a scoring matrix.



Garver's cutting-edge biological design of the Sulphur Springs WWTP will save millions in capital cost and double the existing treatment plant capacity.

Project Approach

Garver has developed a custom solution, tailored to Webb County's needs at the Rio Bravo WWTP.

Kick-Off Meeting | **Historical Data Review** | **Flow/load Projections** | **Field Investigation & Existing System Assessment** | **Operator Interview** | **Alternatives Evaluation** | **Conceptual Workshop**

Garver has visited the Rio Bravo WWTP and our Team members have discussed, at-length, the operational and design issues at the facility with Operations Staff. Accordingly, Garver has developed a project approach that is custom-tailored for this project so that Webb County's goals for the facility are realized.

Garver proposes to conduct an evaluation of Webb County's 1.5 MGD (permitted capacity) WWTP in Rio Bravo, TX to identify mechanical and process deficiencies. Garver also proposes to provide Webb County with a Technical Memorandum that will outline recommendations to improve operations and the treatment process throughout the plant.

TCEQ regulations will be utilized for determining the treatment capacity of each process. Expansion or construction of new processes will be considered for any process not capable of meeting the projected necessary design flow over a 20-year planning horizon. Special considerations will be made for current and future flow demands and treatment optimization. Garver anticipates executing the following tasks for this project:

TASK 1: KICK-OFF MEETING

Garver will coordinate with Webb County to schedule a conference call for a Kick-Off Meeting. This Kick-Off Meeting will serve as an opportunity for Garver and Webb County to discuss the project scope, project objectives, and schedule. The meeting will also address WWTP-specific issues and goals prior to the site visits.

TASK 2: HISTORICAL DATA REVIEW

Garver will collect from Webb County and review relevant information including:

- As-built drawings of each facility
- Previous applicable studies and reports
- Process data and daily monitoring reports for a three year period
- Equipment maintenance records and Operations and Maintenance (O&M) manuals

TASK 3: FLOW/LOAD PROJECTIONS

This task will evaluate existing flow rates and compare to existing sewer service population within the WWTP's current service area. TWDB population projections will be used to determine population planning numbers for build out. Full build-out of the service area will be evaluated and

compared to the design capacity of the facility. The existing wastewater should be characterized so that the wastewater quality parameters can be utilized in projecting future loading rates for processes. This is anticipated to include four weeks of samples, with four sample locations (Raw, SBR Effluent, Chlorine Contact Effluent, and any return flow capture possible), with the analysis of each sample including BOD, Soluble BOD, TSS, NH3, Total Phosphorous, and Soluble Phosphorous. Using the sampling analysis data and the flow projections, Garver will develop loading projections for the planning horizon. These loading projections will determine the actual needed capacity of the facility. Garver will deliver a Technical Memorandum documenting the findings of the flow and load projections. Deliverable will be PDF documents sent electronically.

TASK 4: FIELD INVESTIGATION AND EXISTING SYSTEM ASSESSMENT

Garver will evaluate the existing wastewater treatment facilities at the WWTP site, including existing liquid process treatment units, solids handling, and hydraulic capacity. The assessments will be based on at-grade visual observations and record drawings of the existing processes. The assessments will determine feasibility of existing tankage to be reused and make visual observation of a structures ability to continue service over the planning horizon. The deliverable for this task will be a chapter in the overall alternatives evaluation.

TASK 5: OPERATOR INTERVIEWS

Garver will conduct operator interviews will all plant operators, mechanics and maintenance staff that are responsible for the WWTP. Interview findings will serve as a basis for operational and infrastructure improvements recommendations. Garver will utilize this knowledge to understand current limitations of the facility, major maintenance challenges that need rehabilitation, current process challenges, and other pertinent facility information. The findings of this task will be delivered as a chapter in the overall alternatives evaluation.

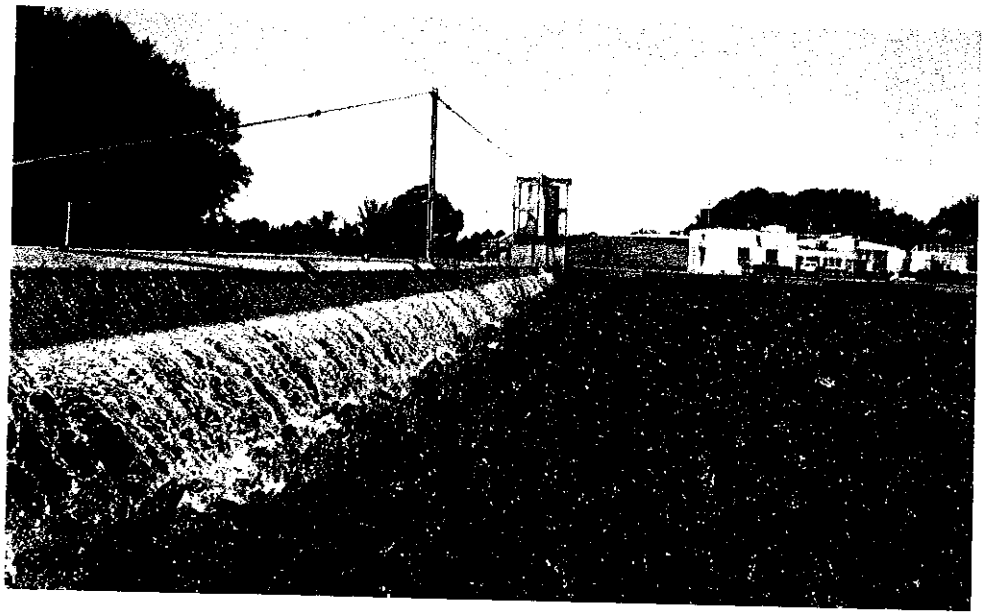
TASK 6: ALTERNATIVES EVALUATION

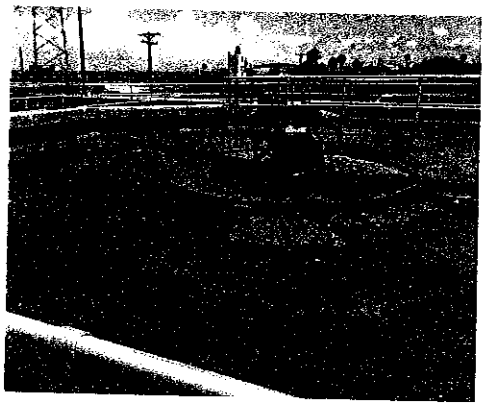
Garver will conduct a conceptual evaluation of one biological process alternative to optimize the WWTP's performance. Detailed evaluation will include development of design parameters (e.g., equipment sizing criteria), assessment of rehabilitation requirements for integration of the alternative to the existing treatment system, evaluation of hydraulic impacts, site layouts and evaluation of phasing of the proposed process alternatives. Strengths and limitations of the alternative will be identified. Work under this task will consider the requirements for the various engineering disciplines that will be involved in the design of facilities (i.e., civil, electrical, instrumentation, mechanical, structural, etc.). An estimate of probable construction cost will be developed for the alternative.

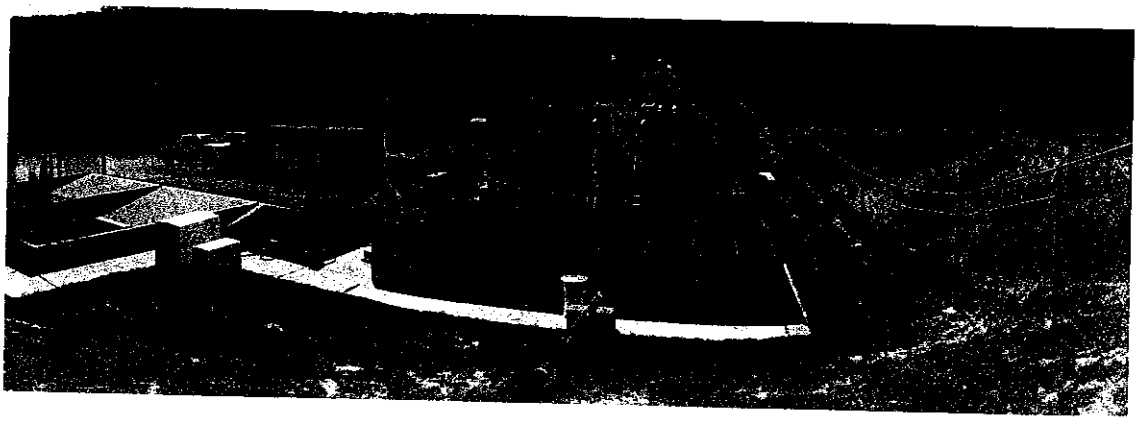
TASK 7: CONCEPTUAL WORKSHOP

Garver will conduct a webinar based Conceptual Workshop with Webb County to present the results of the alternative evaluation and establish the approach and expectations for design and implementation of the project. Webb County comments will be documented and incorporated into the draft Technical Memorandum.

Garver prepared environmental clearance documents for a Categorical Exclusion (CE) from the TWDB. Garver prepared an Engineering Report that identified innovative technology to be implemented as well as repurposing existing infrastructure at Sulphur Springs to reduce the overall capital cost of the project.







APPLICABLE EXPERIENCE

GARVER

Applicable Experience

162 MGD

CRWS WWTP 2015 MASTER PLAN

TRINITY RIVER AUTHORITY OF TEXAS
Dallas, Texas

Garver provided master planning and modeling on the 162 MGD Central Regional Wastewater System (CRWS) facility. This project included a complete hydraulic and process model utilizing SIMBA.

The Garver Team evaluated process changes to meet the future needs. These evaluations included analyzing peracetic acid and low pressure UV for alternative disinfection, evaluating the potential for reuse of the effluent, evaluating harvesting and recovery of phosphorus through the biosolids side stream, and post aerobic digestion for nitrogen removal.

One of the biggest challenges CRWS was having was the continued failure of the 275 long chain, flight and clarifiers. Garver evaluated multiple rehabilitation options including replacement with circular, high rate clarifiers, goulds style, circular within rectangular basins, filters, and multiple mechanisms replacements. The project also included piloting Aqua Disk filters for multiple applications and a CIP plan for continued replacement of the existing tertiary sand filters.

Garver conducted a condition assessment of the major components of the facility. This condition assessment looked for critical condition items and equipment. Site assessments were performed by electrical, structural, and process engineers. The identified improvements were reviewed with TRA to record and update any recommended changes. Once improvements have been identified Garver will calculate the projected end of useful life and develop a priority ranking list for necessary improvements. Also as a part of this project Garver is converting and updating TRA's Vulnerability Self-Assessment Tool (VSAT).

PROCESSES EVALUATED

- Influent pumping
- Screening
- Grit removal
- Primary clarifiers
- Aeration basins
- Final clarifiers
- Tertiary filters
- Chlorine disinfection
- Site civil improvements

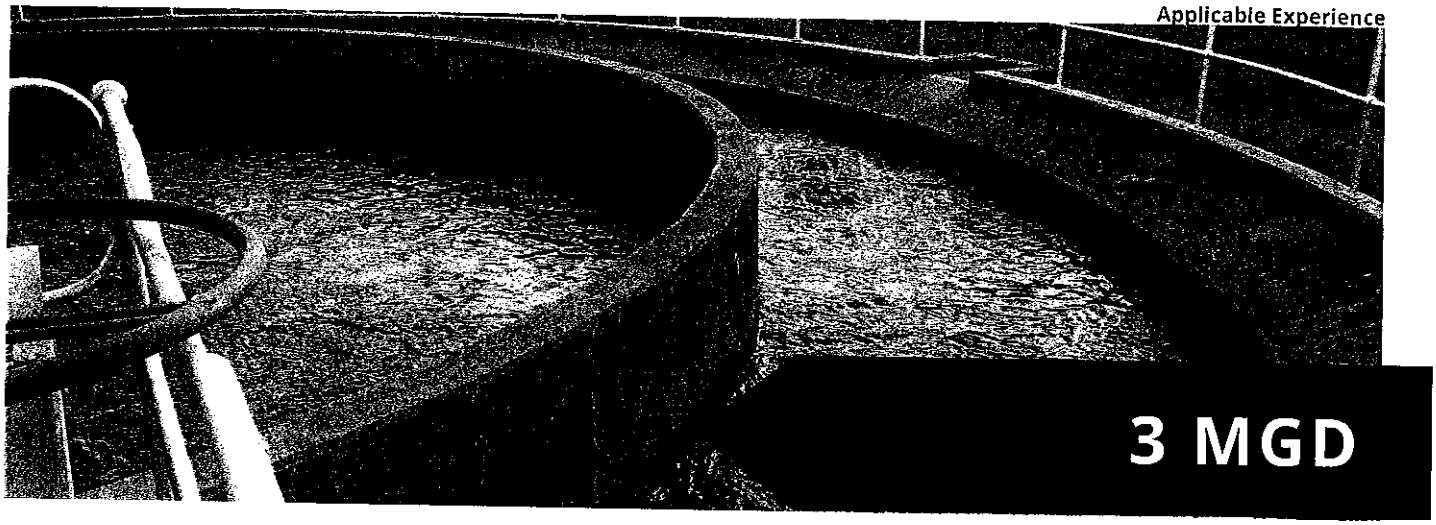
CLIENT CONTACT
Sherri van der Wege, PE
Senior Engineer, Planning & Development
817.493.5103
PO Box 240
Arlington, TX 76004

PROCESS MODELING SOFTWARE
BioWin & SUMO

TEAM MEMBER ROLES

- Steve Jones, PhD, PE (Principal-in-Charge)
- John Cutright, PE (Process Engineer)
- Ashley Pifer, PhD, PE (Process Engineer)
- Michael Watts, PhD, PE (Disinfection & Reuse Technician)
- Evan Tromble, PhD, PE (Hydraulic Modeler)
- Jeff Sober, PE (Project Manager)
- Rusty Tate, PE (Project Engineer)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)
- Sonia Zamarripa, EIT (Project Engineer)
- Michael Graves (Operations Specialist)
- Greg Swoboda, PE (QA/QC)
- Ernie Flores, CFM (Civil Designer)

SUBCONSULTANTS USED
Per underutilized business participation requirements, subconsultants were used.



WWTP IMPROVEMENTS & CONDITION ASSESSMENT

CITY OF KILGORE
Kilgore, Texas

Garver is providing professional engineering services for the implementation of planned improvements at the Kilgore Wastewater Treatment Plant (WWTP). The project is necessary to replace equipment due to condition and provide peak flow capacity. Detailed design for improvement to Kilgore's WWTP improvements include rehabilitation of a primary clarifier, trickling filter, bio-oxidation tower and aeration piping.

Garver conducted site assessments for all components of the wastewater treatment plant. The project began with an inventory of all components, and establishment of an asset hierarchy and tagging system. Each component was then assessed in the field by process, structural, and electrical teams. The findings were recorded into Garver's standard facility assessment forms. Following the field assessments, Garver implemented the findings into the WERF SIMPLE tool, and assigned rankings based on consequence of failure and condition of the processes. Once scored, the assets were then ranked based on their overall condition score. Lastly, Garver is developing full replacement opinion of probable construction costs (OPCCs) for all high-scoring assets.

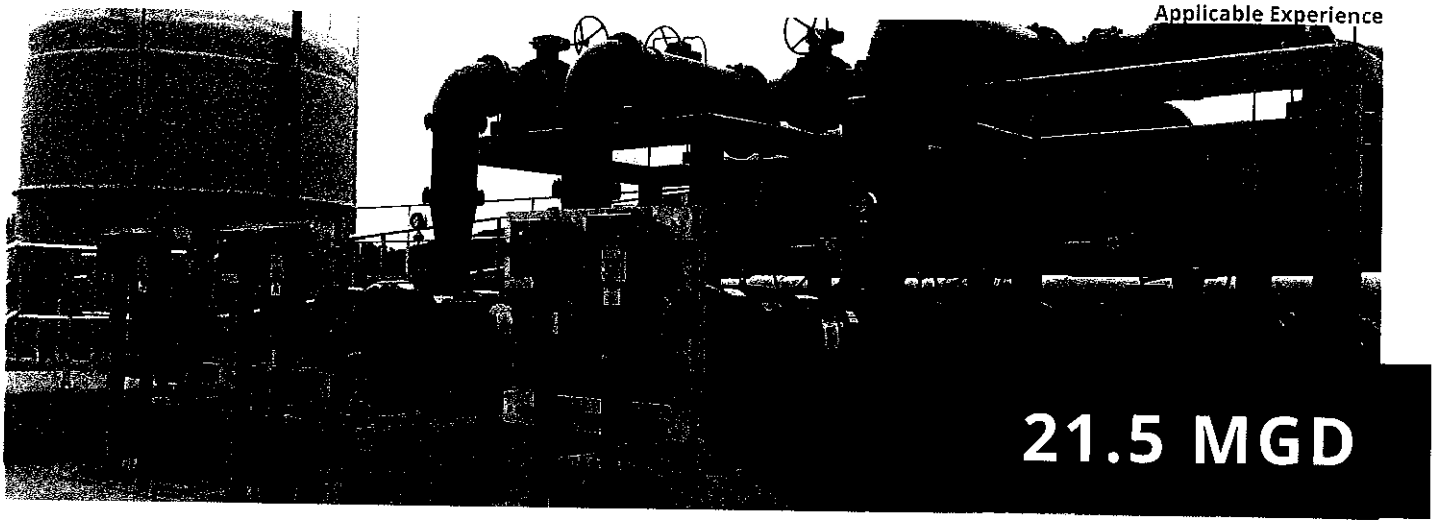
PROCESSES EVALUATED
- Influent pumping
- Screening
- Primary clarifiers
- Aeration basins
- Final clarifier
- Chlorine disinfection
- Site civil improvements

CLIENT CONTACT
Clay Evers, PE
City Engineer
903.988.4118
815 N Kilgore St
Kilgore, TX 75662

PROCESS MODELING SOFTWARE
GPS-X & WERF SIMPLE

TEAM MEMBER ROLES
- John Cutright, PE (Technical Advisor)
- Ashley Pifer, PhD, PE (Process Engineer)
- Jeff Sober, PE (Project Manager)
- Rusty Tate, PE (Process Assessment)
- Scott Zotti, PE (Lead Electrical Engineer)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)
- Ernie Flores, CFM (Civil Designer)

SUBCONSULTANTS USED
None



GRACE CREEK WWTP SOLIDS IMPROVEMENTS

CITY OF LONGVIEW
Longview, Texas

Garver provided design phase services for solids improvements at the Grace Creek WWTP, including upgrades to WAS and primary sludge pumping, maceration improvements, removal of two existing gravity thickeners from service and replacing them with mechanical thickeners, and a life-cycle cost evaluation of mechanical thickening technologies including gravity belt thickeners, rotary drum thickeners, screw thickeners, and centrifuges. Garver created a priority list for improvements based on condition and found innovative solutions to use existing building mechanical.

Much of the Plant's effluent is re-used at a local electrical plant for cooling water. A separate effluent pump station and purple pipe network serves this reuse water. We included a process model in our solids improvements to verify that changes in the process would not adversely affect the liquids stream or the reuse. Garver identified potential changes in the solids sidestream to confirm that reuse regulations would still be met.

Other improvements included replacement of gas safety equipment; replacing pumps, valves, and hot water pipelines; and building mechanical. Garver updated existing anaerobic digesters with hydraulic mixing and pumped-heat exchangers from the current gas injection mixing/heating. One of the secondary digesters was converted to a primary to provide 50 percent more digestion volume. We also evaluated high-strength waste co-digestion of grease trap waste to improve gas production for the co-gen unit. Garver replaced boiler piping, gas safety equipment, and automation.

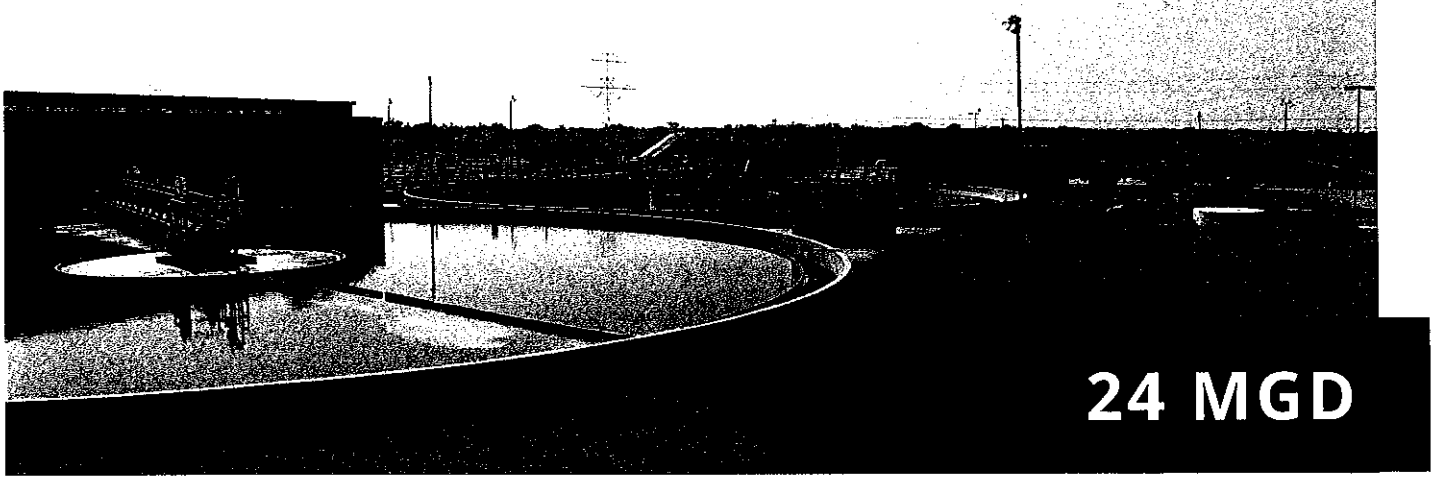
PROCESSES EVALUATED
- Influent pumping
- Primary clarifiers
- Aeration basins
- Final clarifiers
- Trickling filters
- Chlorine disinfection
- Site civil improvements
- Thickeners
- Anaerobic digesters
- Dewatering
- Solids handling

CLIENT CONTACT
Scott Baggett
Plant Manager
903.291.5225
5211 W 281 Loop South
Longview, TX 75606

PROCESS MODELING SOFTWARE
GPS-X

TEAM MEMBER ROLES
- Steve Jones, PhD, PE (Principal in Charge)
- John Cutright, PE (Process Engineer)
- Ashley Pifer, PhD, PE (Process Engineer)
- Jeff Sober, PE (Project Manager)
- Rusty Tate, PE (Project Engineer)
- Scott Zotti, PE (Lead Electrical Engineer)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)

SUBCONSULTANTS USED
None



TMCRWS PLANT REHABILITATION IMPROVEMENTS

TRINITY RIVER AUTHORITY OF TEXAS
Ferris, Texas

Garver provided engineering services to address immediate plant rehabilitation and major maintenance needs at TRA's Ten Mile Creek Regional Wastewater System. The overall project included development of a preliminary design report, final design, and construction advertisement services for improvements to replace pumps and valves at Raw Wastewater Pump Station No. 2 to obtain a firm pumping capacity of 60 MGD; decommission Raw Wastewater Pump Station No. 1; replace pumps, valves and piping within Return Activated Sludge Pump Station No. 2; perform civil and structural repairs to alleviate groundwater infiltration of digester building; increase pumping capacity; repair, relocate and extend the plant water piping system to maintain adequate pressures for plant operation; replace plant drain valves at primary and final clarifiers, aeration basins and thickeners; and repair leaks at Chlorine Contact Basin No. 5.

Two key project elements included hydraulic modeling. Garver reviewed the existing plant water model, including capacities of existing reclaimed water pumps, sizing and routing of existing lines and demands of existing processes to assure that improvements to the plant water loop were optimized. Design focused on minimizing losses in the piping system in order to maintain pressure at critical applications, including providing additional pressure to the dewatering facility. Suggested routing was carefully examined to minimize conflicts with roads and existing utilities. By conducting this modeling it was determined that a previously recommended pressure tank would not be required, reducing capital cost of the project while achieving facility goals.

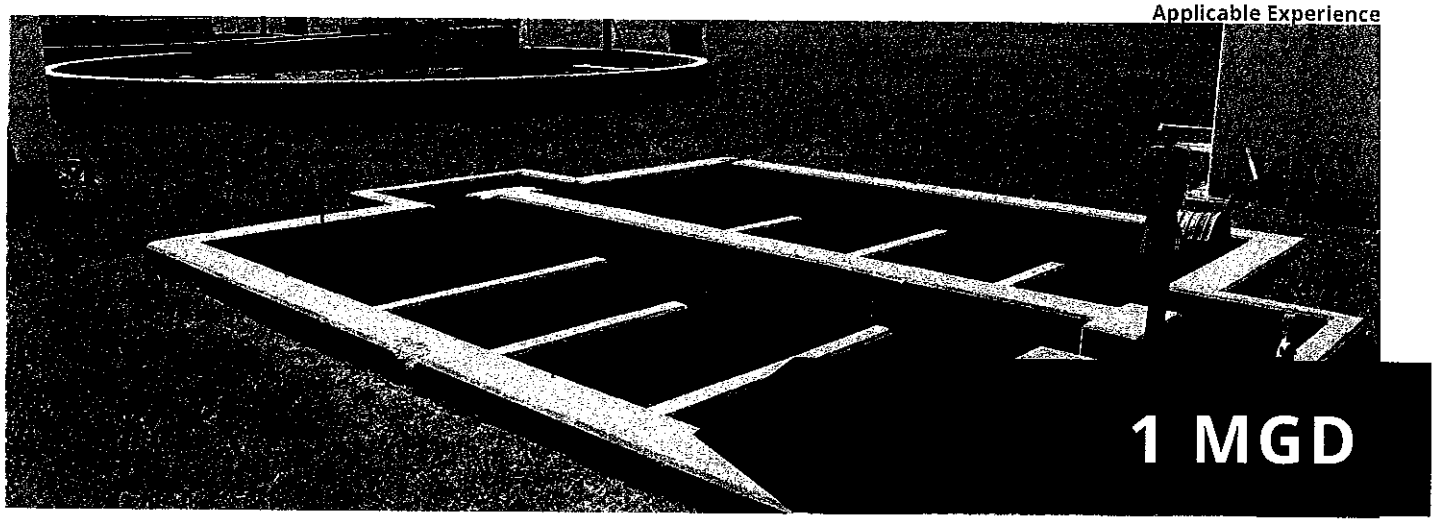
PROCESSES EVALUATED
- Influent pumping
- Primary clarifiers
- Aeration basins
- Final clarifier
- Chlorine disinfection
- Filters
- Site civil improvements
- Digesters

CLIENT CONTACT
Ed Mach
Project Manager
972.225.3462
1430 Malloy Bridge Circle
Ferris, TX 75125

PROCESS MODELING SOFTWARE
GPS-X & Water GEMS

TEAM MEMBER ROLES
- John Cutright, PE (Design Team Manager)
- Evan Tromble, PhD, PE (Hydraulic Modeler)
- Jeff Sober, PE (Project Manager)
- Rusty Tate, PE (Process Assessment)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)
- Ernie Flores, CFM (Civil Designer)

SUBCONSULTANTS USED
Per underutilized business participation requirements, subconsultants were used.



WWTP IMPROVEMENTS

CITY OF CELINA

Celina, Texas

Garver is responsible for developing contract documents for the modification and refurbishment of existing facilities as well as the construction of new facilities to meet the targeted capacity and treatment criteria for baseline improvements to the existing WWTP. The improvements are necessary to achieve compliance with regulatory requirements of the existing NPDES permit. The planned improvements will expand the WWTP to 0.75 MGD, while incorporating design elements for a future expansion to 0.95 MGD.

Improvements included rehabilitation of existing fine screening and configuration of headworks for future fine screen, integration of future grit removal facilities, upgrades to the interconnecting piping between the proposed headworks, the existing influent pump station and existing flow equalization basin, upgrade of the existing influent pump station, conversion of existing sequencing batch reactors to activated sludge aeration basins while integrating with additional aeration basin volume, new fine bubble diffusion aeration system with controls in all aeration basins, new air distribution piping from blower facility to aeration basins, new blower facility and RAS/WAS pumping facility, upgrades to disinfection facilities (chlorination/dechlorination) and chlorine contact basins, upgrades to plant water system including plant water pumping and distribution, new electrical service design with new plant wide electrical distribution systems for the new or renovated treatment units, SCADA system upgrades and improvements for additional monitoring associated with the new treatment units, and demolition of existing facilities as necessary for new improvements.

PROCESSES EVALUATED

- Influent pumping
- Screening
- SBRs
- Chlorine disinfection
- Site civil improvements

CLIENT CONTACT

Alan Fourmentin
Assistant Public Works Director
972.382.2682
311 N Louisiana
Celina, TX 75009

PROCESS MODELING SOFTWARE

GPS-X

TEAM MEMBER ROLES

- John Cutright, PE (Process Engineer)
- Ashley Pifer, PhD, PE (Process Engineer)
- Evan Tromble, PhD, PE (Hydraulic Modeler)
- Jeff Sober, PE (Project Manager)
- Rusty Tate, PE (Project Engineer)
- Scott Zotti, PE (Lead Electrical Engineer)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)
- Greg Swoboda, PE (QA/QC)

SUBCONSULTANTS USED

None

KINGS CREEK WWTP EXPANSION

CITY OF TERRELL

Terrell, Texas

Garver evaluated four alternatives to address the scope of refurbishment, replacement, and additional treatment capacity. The alternatives were conceived for their ability to reliably meet the present treatment requirements for the permitted flow of 4.5 MGD and to address the requirements for the 20-year planning period. This includes the ability to meet existing effluent permit requirements for BOD, TSS, and Ammonia removal. These alternatives are:

1. Provide Trickling Filter Plant Expansion
2. Construct Parallel Activated Sludge Train
3. Construct Nitrification Basins
4. Existing Facility Optimization

All alternatives share an extensive list of baseline improvements that affect a majority of the existing facilities. The recommended alternative is a joining of Alternative 4 with its chemical enhancement package with Alternative 2 with a recommended treatment train using activated sludge that will operate in parallel with the existing 2 Stage Trickling Filter treatment. This achieves additional biological treatment capacity through the trickling filter system by enhancing primary treatment effectiveness thus providing for more flow to be directed to the trickling filters. A complement of new facilities add chemical handling, rapid mix/flocculation facilities, added primary clarifier, new aeration basins, added blower capacity, a new secondary clarifiers in addition to capacity increases for influent pumping, flow equalization, and disinfection. Capital availability required a multi-phase approach with initial Phase 1 improvements addressing crucial rehabilitation issues and Phase 2 and Phase 3 improvements delivering the remaining capital expansions.

PROCESSES EVALUATED

- Influent pumping
- Screening
- Trickling filters
- Clarifiers
- Chlorine disinfection
- Site civil improvements
- Anaerobic digesters
- Belt filter press

CLIENT CONTACT

Mike Mikeska, PE
Assistant City Engineer
972.551.6607
201 East Nash St
Terrell, TX 75160

PROCESS MODELING SOFTWARE

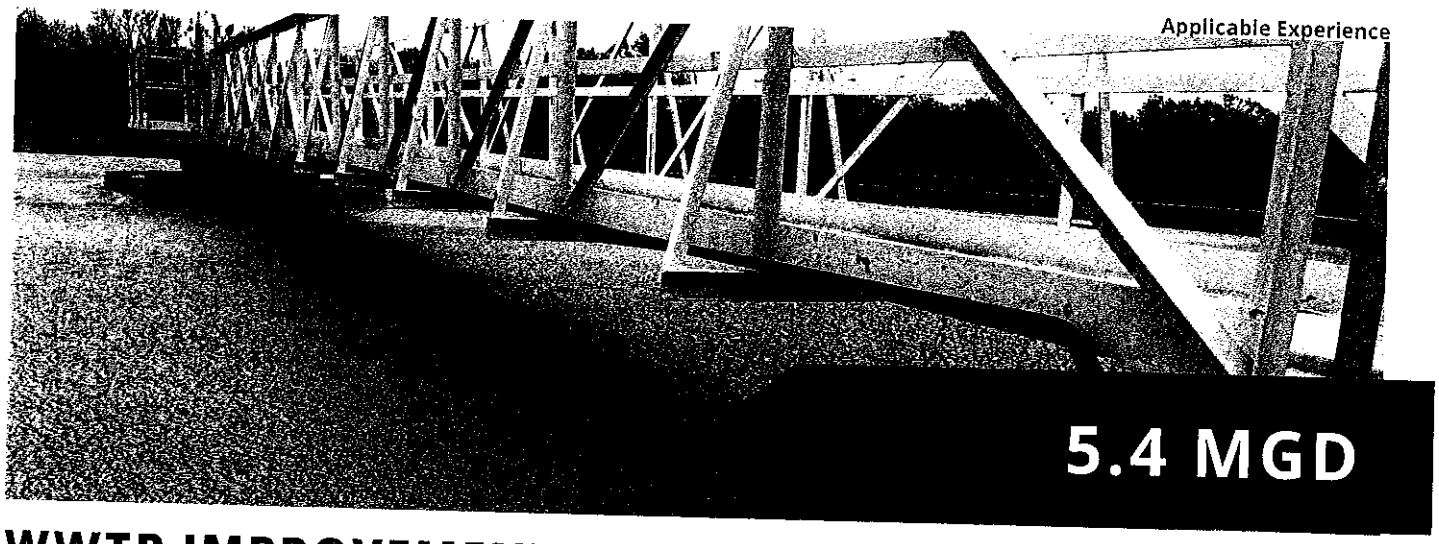
GPS-X

TEAM MEMBER ROLES

- John Cutright, PE (Process Engineer)
- Michael Watts, PhD, PE (Disinfection & Reuse Technician)
- Jeff Sober, PE (Project Manager)
- Rusty Tate, PE (Project Engineer)
- Scott Zotti, PE (Lead Electrical Engineer)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)

SUBCONSULTANTS USED

None



WWTP IMPROVEMENTS

CITY OF SULPHUR SPRINGS
Sulphur Springs, Texas

Garver completed design phase services and is currently administering construction management and observation for WWTP capital improvements. The improvements generally include the following:

- New primary clarifier flow splitter structure
- Upgrade and expansion of the activated sludge system
- New fine bubble diffusion aeration system
- New primary effluent and mixed liquor piping
- New secondary clarifiers with MLSS splitter structure
- SCADA system upgrades
- New blower facility
- New electrical building
- New electrical service design with a new plant wide electrical distribution systems
- New secondary pumping facility
- Rerouting of primary sludge and WAS to existing gravity thickeners
- New standby power generator

Garver prepared all environmental clearance documents to obtain a Categorical Exclusion (CE) from the TWDB. In addition, Garver prepared a TCEQ approved Engineering Report that identified innovative technology to be implemented as well as repurposing existing infrastructure at Sulphur Springs to reduce the overall capital cost of the project.

Garver provided funding assistance, environmental services, and conceptual and final design for the WWTP improvements at Sulphur Springs WWTP. Garver is currently providing full time on-site representation and observation for this three year construction project.

PROCESSES EVALUATED
- Influent pumping
- Screening
- Primary clarifiers
- Aeration basins
- Final clarifier
- Chlorine disinfection
- Site civil improvements

CLIENT CONTACT
Robert Lee
Director of Utilities
903.885.7541
201 N Davis St
Sulphur Springs, TX 75482

PROCESS MODELING SOFTWARE
GPS-X

TEAM MEMBER ROLES
- Steve Jones, PhD, PE (Principal in Charge)
- John Cutright, PE (Process Engineer)
- Ashley Pifer, PhD, PE (Process Engineer)
- Michael Watts, PhD, PE (Disinfection & Reuse Technician)
- Jeff Sober, PE (Project Leader)
- Rusty Tate, PE (Project Engineer)
- Scott Zotti, PE (Lead Electrical Engineer)
- Jonathan White, PE (Electrical Engineer)
- Kipp Martin, PE, SE (Structural Engineer)

SUBCONSULTANTS USED
None

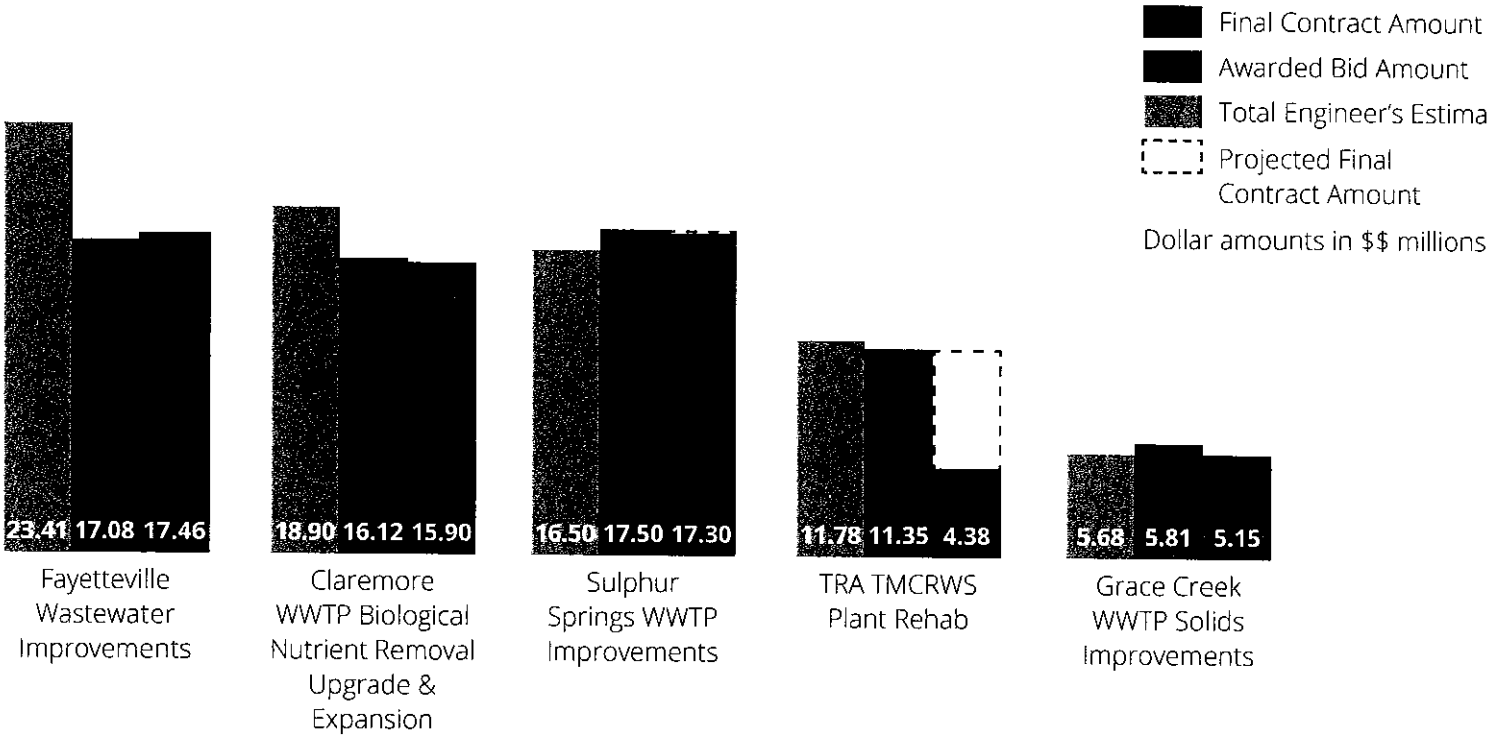
HISTORY OF STAYING WITHIN BUDGET

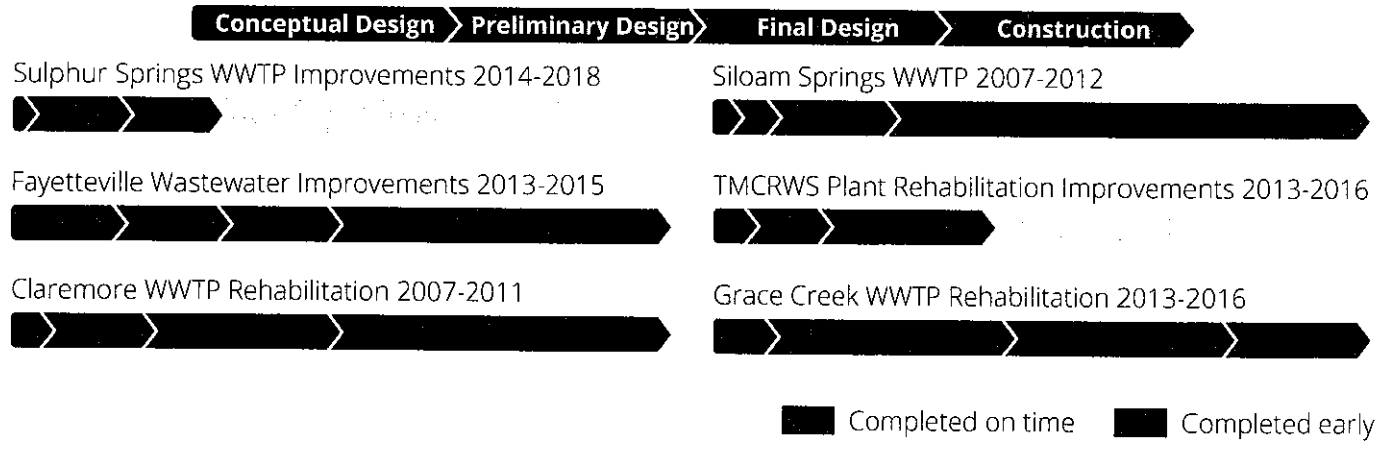
Garver has successfully completed 85 water and wastewater projects over the past five years, including water and sewer line, storage tank, pump station, wastewater treatment plant and water treatment plant projects.

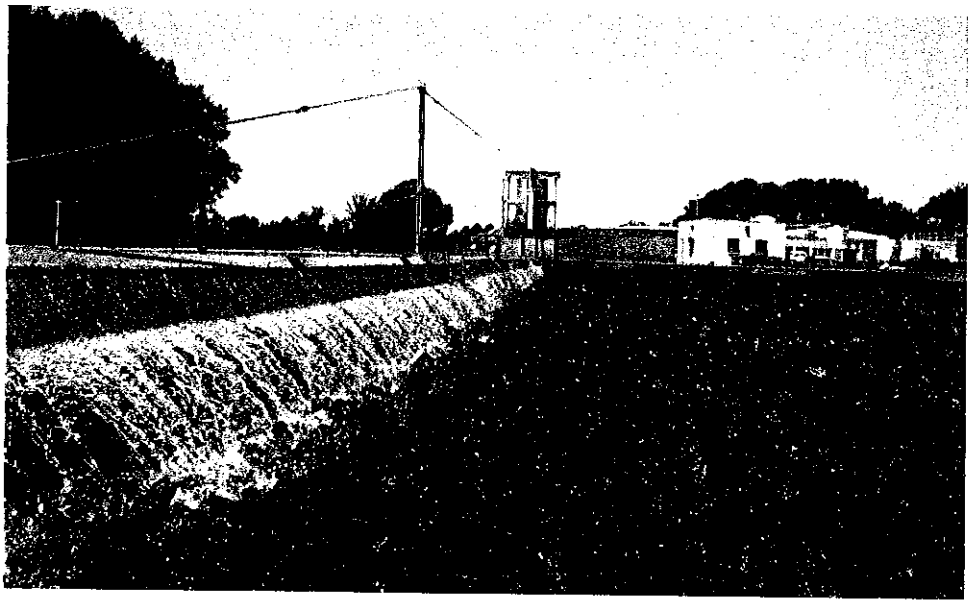
The best evidence for Garver's ability to estimate costs and bid within budget is past performance. For the Water and Wastewater Construction Projects completed in the last five years, our change orders totaled less than 1% percent. A brief outline of projects that demonstrate our ability to meet our cost estimates is provided below.

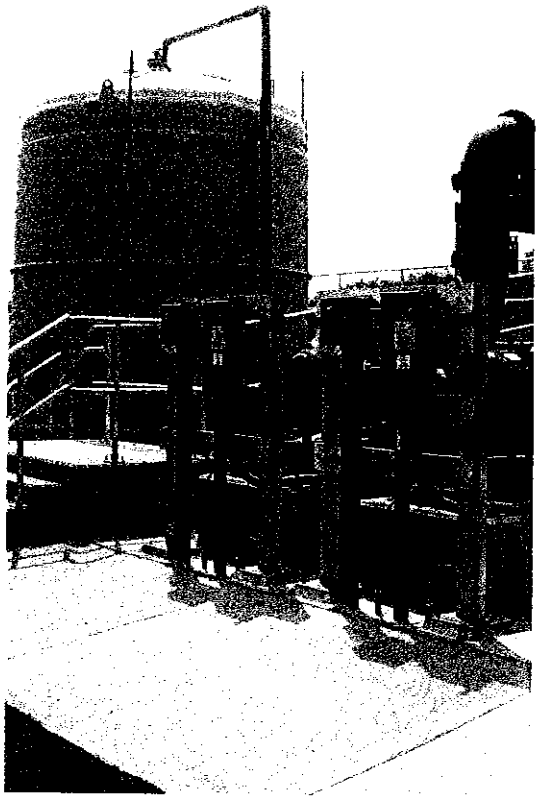
HISTORY OF MEETING DEADLINES

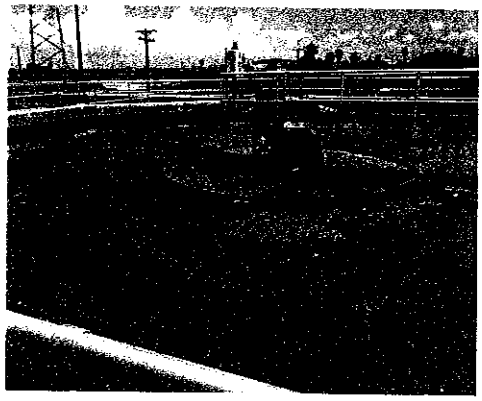
Garver has an outstanding reputation for attention to performance schedules and budgets. Our record of successfully completing projects on time is due to realistic project scheduling and our ability to foresee and mitigate obstacles during design and construction. The majority of our work comes from repeat clients, which attests to the quality of our product and its timely completion within performance schedules.

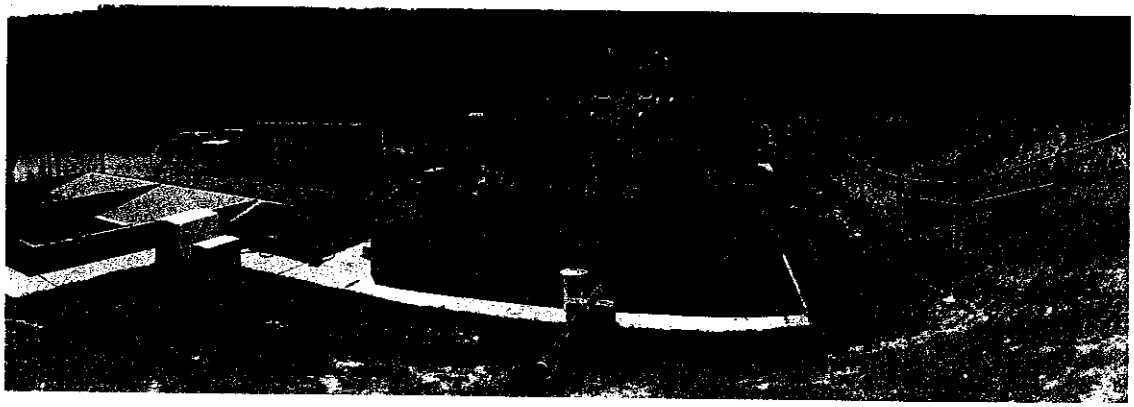












PROPOSED TEAM QUALIFICATIONS & EXPERIENCE

GARVER

Proposed Team Qualifications & Experience

Garver provides comprehensive, in-house services to successfully implement and optimize your facilities.

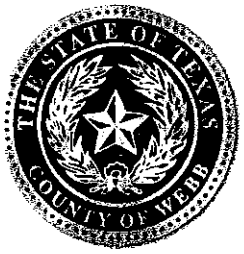
ORGANIZATIONAL CHART

As previously-stated, Garver is purpose-built for this type of project, involving comprehensive wastewater treatment plant (WWTP) evaluation and improvements recommendations. This section contains detailed resumes for each of our proposed team members, reinforcing individual qualifications and experience.

Our Team will have the backing of a national company, allowing for workload balancing with wastewater engineers and staff in our other offices to keep your project on time and within budget.

The projects detailed in the previous section demonstrated:

- ✓ The extensive teaming experience that our proposed team members for Webb County's project have had on previous successful projects.
- ✓ The expertise of our hydraulic and process modelers, Evan Tromble, PhD, and Rusty Tate, PE.
- ✓ The benefits of having a dedicated Water Technology Team (WTT).
- ✓ Garver's ability to successfully execute your project without the employment of subconsultants or outside team members.



QA/QC
Steve Jones, PhD, PE

PROJECT MANAGER
Richard Correa, PE, CFM

TECHNICAL ADVISOR
John Cutright, PE

WATER TECHNOLOGY TEAM

Ashley Pifer, PhD, PE | **NITRIFICATION**

Steve Jones, PhD, PE | **PHYSICAL SEPARATION**

Michael Watts, PhD, PE | **REUSE EXPERT**

Evan Tromble, PhD, PE | **HYDRAULICS/MODELING**

WASTEWATER TREATMENT PROCESS DESIGN

Jeff Sober, PE | **LEAD PROCESS ENGINEER**

Rusty Tate, PE | **PROCESS MODELER**

John Cutright, PE

Robert Warden, PE

Discipline Support Design

- **Electrical, Instrumentation & Controls**
  Scott Zotti, PE
  Jonathan White, PE
- **Structural**
  Kipp Martin, PE, SE
- **Civil**
  Sonia Zamarripa, EIT
- **Operations Specialist**
  Michael Graves
- **Environmental**
  Ryan Mountain, PWS
- **Construction Administration**
  Greg Swoboda, PE
- **Civil/Process Design**
  Ernesto Flores, CFM

Richard Correa, PE, CFM

PROJECT MANAGER

Richard Correa is a project manager with 11 years of experience in the water and wastewater industry in South Texas and the Rio Grande Valley. Richard's expertise lies in the planning, design, and management of a variety of civil engineering projects including storage, transmission, distribution, and treatment of municipal water systems; the collection and treatment of wastewater systems; stormwater management; drainage; and brackish and seawater desalination. His project experience includes hydrologic and hydraulic engineering, analysis, and design. He is knowledgeable in a variety of computer programs, including EPANET, HEC-RAS, and HEC-HMS.

EDUCATION

Master of Engineering in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, #111343

TX CFM, #No. 2568-14N

AFFILIATIONS

Water Environment Federation (WEF)

- **Webb County WTP Operation Services | Webb County, TX**
  Project engineer. The project included an evaluation of the water treatment plants, recommendations, preliminary design, bid, and construction phase services for plant repairs and augmentation of plant operations to make sure operations were in compliance with all relevant regulations and could be transferred back to the County.

- **LMWD Work Order 2 WTP2 Sludge Drying Beds | Port Isabel, TX**
  Project manager. Responsible for overseeing professional engineering, surveying and construction management services for the addition of two sludge drying beds at Water Plant No. 2 in Laguna Vista, TX.

- **LMWD WWTP Improvements | Port Isabel, TX**
  Project manager. The project includes study phase services and value engineering review of a direct potable reuse (DPR) study to verify and assess previously evaluated process train options, consider alternatives, further develop opinions of probably cost, assess the overall feasibility of DPR as an option for augmenting the LMWSC public water supply portfolio, and make further recommendations. Garver is assisting with the revision of permitting of concentrate discharge from its WTP2 location to its Port Isabel WWTP and investigating low pressure membrane alternatives (NF specifically) to determine applicability in achieving DPR goals. WWTPs.

- **Gilpin Engineering Company Manadas Creek WWTP | Laredo, TX**
  Project engineer. The project involved a preliminary engineering study for the Manadas Creek WWTP. The recommendations of this report are currently under design. The project includes the construction of two 24-inch gravity sewer lines, an odor control facility, headworks with average rated flow of 9.5 MGD and 24.04 MGD peak flow, construction of two 130-foot diameter clarifiers for 24.04 MGD 2-hour peak flow rate capacity, installation of an ultraviolet disinfection system with a peak flow capacity of 24.04 MGD, electrical service with a backup generator and a control building, construction of an on-site lift station capable of an average flow of 9.5 MGD and a peak flow of 24.04 MGD.

Steve Jones, PhD, PE

QA/QC & WATER TECHNOLOGY TEAM (PHYSICAL SEPARATION)

Dr. Steve Jones has 33 years of experience in water resource development and the design and implementation of water and wastewater utilities infrastructure. He serves as a senior project manager on Garver's Water Team and provides process design quality control on projects involving conventional and advanced water and wastewater treatment facilities, including chemical, physical, and biological systems. He specializes in the piloting, evaluation, modeling, design, construction, and startup of water and wastewater treatment processes including oxidation, softening, coagulation/flocculation, filtration, absorption, membrane separation, biological nutrient removal, disinfection, solids thickening, digestion, and dewatering. He also has expertise in the study and development of surface and groundwater resources, water distribution and wastewater collection network piping, pumping, conveyance, and storage facilities. Steve has managed over 56 expansion and rehabilitation projects at plants ranging from 0.5 to 380 MGD.

EDUCATION

PhD in Civil & Chemical Engineering

Master of Science in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, #88357

AFFILIATIONS

American Water Works Association (AWWA)

American Membrane Technology Association (AMTA)

American Society of Civil Engineers (ASCE)

International Desalination Association (IDA)

NSF Membrane Applied Science & Technology (MAST)

- **TRA CRWS 2015 Master Plan | Dallas, TX**
  Principal in charge for this project that includes master planning and modeling of TRA's 162 MGD CRWS Plant. The models will be used to predict changes necessary at the facility to meet the following potential project drivers: condition, regulatory, operations benefit, energy efficiency, capacity, and others. The project also includes evaluation of converting the existing primary clarifiers into dual clarifiers or circular clarifiers, conducting condition assessments, evaluating on site physical security, and evaluating space management on site.

- **Grace Creek WWTP AS/Tertiary Treatment | Longview, TX**
  Senior process consultant and QA/QC.

- **Claremore WWTP Improvements | Claremore, OK**
  Senior project manager responsible for preliminary engineering, design, construction support, and operations startup assistance to expand the City of Claremore's Wastewater Treatment Plant. Included evaluation and upgrade to expand the plant capacity from 2.2 MGD to 3.5 MGD.

- **Norman WWTP Phase II Improvements | Norman, OK**
  Principal in charge responsible for WWTP improvements for the City of Norman. This project will expand the plant capacity from 12 MGD to 17 MGD and include upgrades and expansion to both liquid and solids trains as well as a new filtration process, new disinfection process, and new reuse infrastructure.

- **Fort Sill WWTP UV Disinfection | Fort Sill, OK**
  Principal in charge responsible for all engineering services required for implementation of a new 4.3 MGD UV disinfection process to replace a chlorination/de-chlorination process.

John Cutright, PE

TECHNICAL ADVISOR & WASTEWATER TREATMENT PROCESS DESIGN

John Cutright is a senior project manager and the Water Design Center process group leader. John has 30 years of engineering and project management experience with water and wastewater projects, including all aspects of operations, profit and loss, budgeting and forecasting, project finance, contract administration, risk management, and strategic alliances. From a technical standpoint, he has been involved in a wide variety of water and wastewater treatment facilities, water distribution and conveyance systems, drainage, and wastewater collection systems. John has procured client construction and operation permits for projects in Texas, Mississippi, Arizona, California, Virginia, and Maryland. John has managed over 91 wastewater treatment plant improvement projects, over 20 of which have converted conventional plants to advanced nutrient removal while maximizing reuse of the plants' assets.

EDUCATION

Master of Science in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, # 92323

AFFILIATIONS

American Water Works Association (AWWA)

Water Environment Federation (WEF)

- **Design and Rehabilitation of New Broadway WWTP | Corpus Christi, TX**
  Senior process engineer responsible for managing design and providing construction management services for $52-million replacement plant. Performed benefit analysis for cost effective plant location. Led public relations program gaining neighborhood and commercial acceptance of locating facilities on existing WWTP's site in lieu of prior study's recommendation. Completed a risk based condition assessment of the entire facility.

- **Grace Creek WWTP Solids Improvement | Longview, TX**
  Technical advisor and process engineer responsible for serving as the process technical reviewer for the upgrade and expansion of the plant's solids thickening facilities, anaerobic digestion facilities, and incorporation of a co-digestion facility.

- **Terrell Kings Creek WWTP Improvements | Terrell, TX**
  Technical advisor and process engineer. The capital improvements included modification and refurbishment of existing facilities, as well as construction of new facilities to meet the targeted capacity and treatment criteria for baseline improvements to the Kings Creek WWTP. The primary goal of this project was to make process improvements to achieve full capacity of 4.5 million gallons per day (MGD) at the existing facility. This included the ability to meet existing effluent permit requirements for BOD, TSS, and ammonia removal.

- **TRA TMCRWS Plant Rehabilitation Improvements | Ferris, TX**
  Design team manager for this project where Garver designed improvements to address immediate plant rehabilitation and major maintenance needs at TRA's Ten Mile Creek Regional Wastewater System.

Ashley Pifer, PhD, PE

WATER TECHNOLOGY TEAM (NITRIFICATION)

Dr. Ashley Pifer is a member of Garver's Water Technology Team with eight years of experience. Ashley's responsibilities include process evaluation and design for drinking water and wastewater treatment facilities, and applied research. Her project experience includes hydraulic modeling, treatability studies, and technology evaluations (e.g., alternative disinfection, tertiary filtration), and design of chemical feed and storage and solids handling facilities. She also assists drinking water utilities with treatment plant and distribution system monitoring plans to improve system-wide water quality and maintain regulatory compliance.

- **Sherman Water Distribution System Nitrification Action Plan | Sherman, TX**
  Technical specialist responsible for reviewing the City of Sherman's existing Revised Total Coliform Rule (RTCR) Sample Siting Plan, developing of a Nitrification Action Plan, and assisting with updates to the City's distribution system model for use in their water quality management plans.

- **Celina Water & Wastewater System Modeling | Celina, TX**
  Technical specialist responsible for reviewing the existing Revised Total Coliform Rule (RTCR) Sample Siting Plan, and developing a Nitrification Action Plan to help prevent and/or respond to nitrification events in their drinking water distribution system.

- **Celina WWTP Improvements | Celina, TX**
  Water engineer responsible for development of a hydraulic model and preliminary and detailed design for the expansion of the Celina WWTP. Improvements included new influent pumps, activated sludge basins, secondary clarifiers, chlorine contact basins, effluent flow measurement facilities, and solids pumping stations.

- **TRA CRWS 2015 Master Plan | Dallas, TX**
  Process engineer responsible for evaluating existing disinfection equipment. The project included master planning and modeling of TRA's 162 MGD CRWS Plant. Garver conducted an evaluation of converting the existing primary clarifiers into dual clarifiers or circular clarifiers, condition assessments, an evaluation of on site physical security, and space management on site.

- **TRA CRWS Solids Management Improvements Phase III | Dallas, TX**
  Process engineer for solids management improvements at Trinity River Authority's (TRA) Central Regional Wastewater System (CRWS). Responsibilities included hydraulic modeling, design of a gravity belt thickener facility including new and relocated equipment, design of a cake storage facility, and coordination of cake pump operation with new thermal hydrolysis reactors.

EDUCATION

PhD in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, #120866

Nationwide NCEES, #63431

AFFILIATIONS

American Chemical Society (ACS)

American Water Works Association (AWWA)

Water Environment Federation (WEF)

Water Environmental Association of Texas (WEAT)

Michael Watts, PhD, PE

WATER TECHNOLOGY TEAM (REUSE EXPERT)

Dr. Michael Watts is a senior process engineer, and the Disinfection and Oxidation Technology Leader at Garver with 14 years of experience. This experience includes water quality analysis, water reclamation, and publication of peer-reviewed water research. Dr. Watts has developed and implemented bench-and pilot-scale treatment evaluations, and assisted utilities with compliance with water quality and water reuse regulations.

- **TRA CRWS 2015 Master Plan | Dallas, TX**
  Disinfection and reuse technologist responsible for developing planning criteria for future disinfection and reuse water treatment at the Central Regional Wastewater System. Evaluated alternative disinfection technologies, UV and PAA, to meet future discharge and reuse permit requirements.
- **Fort Sill Wastewater Reuse for WWTP Operations | Fort Sill, OK**
  Evaluated disinfection operations at Ft. Sill WWTP in support of permit application for water reuse.
- **TRA TMCRWS VSAT & Alternative Disinfection | Ferris, TX**
  Disinfection technologist responsible for developing planning criteria for future disinfection at the Ten Mile Creek Regional Wastewater Facility. Evaluated alternative disinfection technologies, UV, Ozone and PAA, to meet future discharge permit requirements.
- **TRA CRWS UV Pilot | Dallas, TX**
  Environmental/process engineer for this project to perform a pilot test for the conversion of the 162 MGD Central Regional Wastewater System (CRWS) facility's chlorination/dechlorination systems to a UV disinfection model. Garver planned and carried out a two-phase pilot test to calculate the effectiveness of available UV treatment technologies. Provided quality control and training for the pilot testing plans.
- **Helena WWTP Design Improvements | Helena, AL**
  Process engineer responsible for assisting in design of new chemical phosphorus removal, tertiary filtration, and UV disinfection facilities to meet new nutrient and pathogen discharge limits. This project consisted of improvements that will allow the Helena WWTP to reliably meet newly promulgated, stringent discharge requirements of 0.2 mg/L total phosphorus.
- **Decatur WWTP Disinfection Improvements | Decatur, AL**
  Disinfection technologist responsible for designing laboratory-testing study to quantitatively assess disinfection options for both bacterial and viral indicator organisms. Performed Computational Fluid Dynamics (CFD) analysis of existing chlorine contact basins to assess their hydraulic capacity and mixing performance.

EDUCATION

PhD in Environmental Engineering

Master of Science in Civil & Environmental Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, #118398

AFFILIATIONS

American Water Works Association (AWWA)

International Ozone Association (IOA)

International Ultraviolet Association (IUA)

Water Environment Federation (WEF)

Water Environmental Association of Texas (WEAT)

Water Reuse Association (WRA)

Evan Tromble, PhD, PE

WATER TECHNOLOGY TEAM (HYDRAULICS/MODELING)

Dr. Evan Tromble is a Water Technology Hydraulics Leader on our Water Team with 13 years of experience. Evan specializes in hydraulic modeling and master planning. His responsibilities involve water supply, distribution system, and collection system master planning, as well as hydraulic modeling of water distribution systems, water transmission lines, sewer collection systems, force mains, treatment plants, and natural channels. Evan has hands-on experience with software for a wide range of applications, including distribution system modeling (Bentley WaterGEMS, Innovyze InfoWater), collection system modeling (Bentley WaterGEMS, Innovyze InfoSewer), hydraulic transient modeling (Bentley HAMMER, Innovyze InfoSurge), computational fluid dynamics (Autodesk CFD Motion), groundwater modeling (MODFLOW), open channel hydraulics modeling (HEC-RAS), distributed hydrologic modeling (Vflo), and coastal hydrodynamics (ADCIRC).

- **Colleyville Water & Wastewater Master Plan | Colleyville, TX**
  Hydraulic modeler responsible for utilizing the City's GIS information, collecting data during the field survey, and creating and calibrating hydraulic models of the City's wastewater collection systems. These models were used to identify deficiencies based on existing and future load conditions and to support conceptual design of improvements.

- **Fort Stockton Pump Station | Fort Stockton, TX**
  Project engineer responsible for the hydraulic modeling of system improvements for a new booster pump station to convey water to the plant location. He also served as the main point of contact for the client.

- **Celina Water & Wastewater System Modeling | Celina, TX**
  Lead hydraulic modeler responsible for development of updated water and wastewater system models using Bentley WaterGEMS and SewerGEMS.

- **TRA CRWS 2015 Master Plan | Dallas, TX**
  Hydraulic modeler for this project that includes master planning and modeling on TRA's 162 MGD Central Regional Wastewater System facility. This master plan will include a significant modeling effort, as the Garver Team will conduct process modeling using BioWIN and another commercially available software as reference check. The first ever plant hydraulic model will be produced using INFOWORKS. These models will be used to predict changes necessary at the facility to meet the following potential project drivers: condition, regulatory, operations benefit, energy efficiency, capacity, and others.

EDUCATION

PhD in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, # 121119

AFFILIATIONS

American Water Works Association (AWWA)

American Society of Civil Engineers (ASCE)

National Council of Examiners for Engineering and Surveying (NCEES)

Jeff Sober, PE

WASTEWATER TREATMENT PROCESS DESIGN (LEAD PROCESS ENGINEER)

Jeff Sober is a vice president and Water Team leader with 16 years of experience in the Texas water and wastewater industry. Jeff has extensive experience in wastewater treatment process design, master planning, condition assessments, solids digestion, solids handling, and water and wastewater treatment plant operations. His project responsibilities have also involved operations optimization consulting, permitting and planning for water and wastewater treatment systems, and energy studies.

Jeff has managed 25 WWTP plant improvement and expansion projects at plants ranging from 0.2 MGD up to 162 MGD. His approach to managing improvement projects is to identify innovative, time-saving solutions to reduce the cost of the project, He has successfully reduced scope and cost on over a dozen similar improvements projects.

- **Sulphur Springs WWTP Improvements | Sulphur Springs, TX**
  Project manager for this project that includes improvements to the City of Sulphur Springs WWTP. Jeff provided assistance with looking at funding options for these improvements including CWSRF funds. He also helped in developing the conceptual design and evaluated field investigations.

- **TRA CRWS WWTP 2015 Master Plan | Dallas, TX**
  Project manager for this project that includes master planning and modeling of TRA's 162 MGD CRWS Plant. The models will be used to predict changes necessary at the facility to meet the following potential project drivers: condition, regulatory, operations benefit, energy efficiency, capacity, and others. The project also includes evaluation of converting the existing primary clarifiers into dual clarifiers or circular clarifiers, conducting condition assessments, evaluating on site physical security, and evaluating space management on site.

- **Grace Creek WWTP Solids Rehabilitation | Longview, TX**
  Project manager and process engineer for a pH evaluation. Garver will analyze pH profile data, as provided by the owner, for the plant's liquid stream. Garver will identify additional sampling programs and data collection strategies that will be required for completing a pH profile evaluation. Garver will prepare process modeling for the owner's liquid process to identify adjustments to process control and process stream schemes to accomplish pH maintenance, alkalinity maintenance, and alkalinity recovery. Alternatives evaluated will include: Model the chemical feed of alkalinity in the process scheme and identify the benefits to the process; Model capabilities for maintaining appropriate pH; Model a scheme for alkalinity recovery in the biological process.

EDUCATION

Master of Engineering in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, #103772

AFFILIATIONS

Water Environmental Association of Texas (WEAT) - President

American Water Works Association (AWWA)

Robert Warden, PE

WASTEWATER TREATMENT PROCESS DESIGN

Robert Warden is a senior project manager with 15 years of experience in the water and wastewater industry. His experience includes wastewater treatment process design, master planning, condition assessments, nutrient removal, liquid stream treatment, solids handling, and water and wastewater treatment plant operations. His project responsibilities have also involved aeration basin design, alternative treatment evaluations, development of cost estimates and review of contractor submittals.

- **Laguna Madre WWTP Improvements | Laredo, TX**
  Senior project engineer. The project includes study phase services and value engineering review of a direct potable reuse (DPR) study to verify and assess previously evaluated process train options, consider alternatives, further develop opinions of probably cost, assess the overall feasibility of DPR as an option for augmenting the LMWSC public water supply portfolio, and make further recommendations. Provided value engineering reviews of designs in progress, process and hydraulic evaluation of existing wastewater treatment plants, developed proposed improvements and cost estimates.

- **TRA CRWS WWTP 2015 Master Plan | Dallas, TX**
  Project engineer during the master plan process the Garver Team evaluated process changes to meet the needs of the future. These evaluations include analyzing peracetic acid and low pressure UV for alternative disinfection. Developed concept approach and criteria for conversation of existing railcar delivered chlorine gas disinfection system to a bulk canister storage building, enclosed and scrubbed for safety as an intermediate step towards UV disinfection to capture the remaining value of gaseous chlorine handling infrastructure. Evaluated cost and technical considerations for multiple configurations of the facility, including repurposing of existing facilities.

- **Houston Lift Station Rehabilitation & Repair | Houston, TX**
  Project engineer. The project consists of providing professional engineering services for the evaluation and recommendation of improvements for the subject lift stations. This project is for the rehabilitation of six existing sanitary sewer lift stations with capacities up to 15 MGD. The preliminary engineering includes a condition assessment of the structural, mechanical, electrical, instrumentation and flow/hydraulic capacity of these wastewater lift stations. The rehabilitation design will be based on the preliminary conditional assessment and may include wet well recoating and replacement of critical mechanical/electrical components.

- **Enid Alternate Water Supply Phase 2 - Water Treatment Plant | Enid, OK**
  Project engineer. Garver is serving as program manager and lead designer for a multi-phased, $450 million program to deliver raw water from the Kaw Reservoir to the City of Enid. The project involves a new intake structure in the Kaw Reservoir and approximately 70 miles of raw water conveyance including 36-inch piping and booster pumps along the alignment. A terminal storage reservoir is also being designed in Enid along with a 24 MGD advanced water treatment plant, and an optimized delivery system for proper blending with local groundwater in the distribution system. Provided 30% design of treatment chemical storage and delivery facilities, value engineering, and design report updates.

EDUCATION

Master of Science in Environmental Engineering

Bachelor of Science in Civil Engineering

Bachelor of Science in Natural Resources - Forestry

REGISTRATIONS

OK PE, #23669

NCEES #38814

AFFILIATIONS

Water Environmental Federation (WEF)

American Water Works Association (AWWA)

American Society of Civil Engineers (ASCE)

Rusty Tate, PE

WASTEWATER TREATMENT PROCESS DESIGN (PROCESS MODELER)

Rusty Tate is a project manager on our Water Team with 10 years of experience. Rusty's responsibilities include process planning and design, evaluation of water and wastewater treatment plants, equipment selection, and flow projections. His water project experience includes disinfection by-product pilot testing, drainage studies, and other hydraulic and hydrologic studies. Rusty is also proficient in many computer applications for hydrologic and hydraulic modeling such as EPA-SWMM, Bentley PondPack, and Bentley CivilStorm. His wastewater project experience includes membrane pilot testing, wastewater treatment capacity and operations evaluations, biological process design and modeling, clarification, and solids handling. He has been involved in over 15 wastewater treatment plant projects with roles ranging from conceptual design to construction administration.

- **Kilgore WWTP Improvements | Kilgore, TX**
  Process improvements. Garver conducted site assessments for all components of the water and wastewater treatment plants. The project began with an inventory of all components, and establishment of an asset hierarchy and tagging system. Each component was then assessed in the field by process, structural, and electrical teams. The findings were recorded into Garver's standard facility assessment forms.

- **Spring Branch WWTP Anaerobic Digester & Aeration Improvements | Huntsville, AL**
  Project engineer responsible for design and coordination of solids handling upgrades. Major process components included new gravity thickener mechanisms and selection of new thickened sludge pumps, digester mixing system, and septage receiving facility.

- **Bentonville WWTP Operations Audit | Bentonville, AR**
  Project engineer responsible for assisting with operational audit and process optimization. Included on-site interviews with operators, maintenance staff, and laboratory staff; a site visit to assess the condition of the equipment currently in use; and process modeling.

- **Locust Grove WWTP improvements | Locust Grove, OK**
  Project engineer and co-author of engineering report responsible for documenting conceptual design of improvements necessary to bring existing facility into compliance. Evaluated the continued use of the SBR process, extended aeration, and aerated lagoons. During design phase, lead process engineer responsible for detailed design. Design responsibilities included SBR equipment evaluation and selection, process equipment layouts for headworks and blower facility as well as specifications and process mechanical drawings.

EDUCATION

Master of Science in Environmental Engineering

Bachelor of Science in Biological Engineering

REGISTRATIONS

AR PE, #15432

AR Grade IV Water Treatment Operator, #08445T4

AR Grade IV Water Distribution Operator, # 08445D4

AR Class II Wastewater Treatment Operator, #010414

AFFILIATIONS

American Water Works Association (AWWA)

Water Environment Federation (WEF)

Scott Zotti, PE

ELECTRICAL, INSTRUMENTATION & CONTROLS

Scott Zotti is the Water Design Center manager for Garver. He has 25 years of professional experience in all facets of engineering design and construction. Scott's responsibilities include resource allocation, electrical design, project management, and technical advice. His experience includes water and wastewater facilities, conventional and advanced water and wastewater treatment systems, design, construction, and startup of water and wastewater treatment systems, including conveyance, distribution, and collection. His specific project experience includes design and construction management services for water and wastewater treatment plants, disinfection systems, water and wastewater collection system and treatment facilities improvements, water booster pump stations, and sewer lift stations.

EDUCATION

Bachelor of Science in Electrical Engineering

REGISTRATIONS

TX PE, # 112592

Nationwide NCEES, #41193

AFFILIATIONS

American Water Works Association (AWWA)

Water Environment Federation (WEF)

- **UTRWD Infrastructure Condition Assessment | Lewisville, TX**
  Lead electrical engineer responsible for conducting a full-scale assessment of the existing raw water pump station and sewer lift station. The assessments included an electrical, structural, process performance evaluation, and field assessment of existing components. The assessments also included developing an asset inventory comprising all assets within the facility. Each asset was assigned a unique name based on an asset naming convention to help readily identify assets. The assessments also included conducting staff interviews, field inspections, and documenting condition of each asset.

- **Sulphur Springs WWTP Improvements | Sulphur Springs, TX**
  Lead electrical engineer for this project for the preliminary design for planned capital improvements. Responsible for new electrical building, new electrical service design with a new plant wide electrical distribution systems, SCADA system upgrades, and a new standby power generator. This projected included significant electrical improvements to the electrical distribution for the treatment facility. A new standby power generator was included in the design to provide a reliable source of power in the event of a power outage.

- **TRA DCRWS Plant Building & Electrical Improvements | Roanoke, TX**
  Electrical QA/QC for this project that includes improvements at the Denton Creek CRWS plant including updates and expansion to the Maintenance Building for adequate work space and facilities, provide a UPS for the UV disinfection facilities, and provide separate power feeds for multiple lift stations to reduce the risk of all stations losing power at the same time.

- **Addison Kellway Lift Station | Addison, TX**
  Electrical engineer responsible for performing a visual condition assessment and assessment of Supervisory Control and Data Acquisition (SCADA) system. This condition assessment covered all visible elements, including emergency generator, switchgear, motor control center, electrical panels, instrumentation, control, monitoring, and alarming systems.

Jonathan White, PE

ELECTRICAL, INSTRUMENTATION & CONTROLS

Jonathan White is a project manager on our Water Team with 10 years of engineering experience in the water, wastewater, and manufacturing industries. Jonathan's primary responsibilities include project management and technical design of electrical power distribution and controls systems. His experience includes specification and design of motor starting equipment, motor control centers, medium-voltage substations, low voltage power distribution, generating systems for standby power, and PLC and HMI control systems. Jonathan also has expertise in power systems modeling including arc flash, short circuit, and protective device coordination studies. As a project manager, Jonathan provides leadership as part of a multi-disciplined engineering team to execute and deliver complete design packages for complex and challenging projects.

EDUCATION

Master of Business Administration

Bachelor of Science in Electrical Engineering

REGISTRATIONS

TX PE, #65448

AFFILIATIONS

National Council of Examiners for Engineering & Surveying (NCEES)

- **Terrell Kings Creek WWTP Improvements | Terrell, TX**
  Electrical engineer responsible for performing a complete electrical evaluation of the Kings Creek Wastewater Treatment Plant as part of conceptual design services for a plant expansion. Conducted on-site investigation of electrical power distribution systems, standby generating systems, and SCADA systems to determine condition, available capacity, and compliance with safety standards. Safety evaluation included recommendations for arc flash hazard risk mitigation, NFPA 820 hazardous area mitigation, and working clearance improvements. Coordinated power reliability data with the servicing utility to determine the need for additional on-site standby power generation per the Texas Commission on Environmental Quality (TCEQ) requirements. Performed conceptual generator and transfer switch sizing and design for a whole-plant standby generating system connected at the plant service entrance.

- **Sulphur Springs WWTP Improvements | Sulphur Springs, TX**
  Electrical engineer working as part of a multi-disciplined team for design of capital improvements to the wastewater treatment plant. Developed plans and specifications for a new plant electrical service and associated electrical building. Designed and specified a new 600kW standby diesel generating system to provide backup power to critical facility loads per TCEQ requirements. Designed upgrades to the existing outdated controls system through the use of a new fiber network connecting local PLC control panels to a central SCADA system with new HMI graphic screens.

- **Norman WWTP Energy Improvements | Norman, OK**
  Electrical engineer responsible for design of four new 350HP variable frequency drives for an aeration blower system upgrade. Upgrade includes replacement of existing 4160V switchgear, transformer, and starters with new 480V equipment. Drive installation is designed to reduce plant energy consumption by reducing blower speed during times of reduced dissolved oxygen demand. Responsibilities for this project also include design and specification of control and telemetry upgrades to 16 wastewater lift stations for remote control and monitoring from the main wastewater plant location.

Kipp Martin, PE, SE

STRUCTURAL

Kipp Martin is a structural engineer on Garver's Water Team with 30 years of experience in planning, designing, and constructing water and wastewater treatment plants, pump stations, and reservoirs. Kipp has successfully worked with fish screens, fish ladders, and dam and river hydraulic structure modifications. Kipp also has extensive experience in project budgeting, drawing layout, and CAD drafting. Kipp is skilled at working on projects for remote offices and locations and is familiar with finite element analysis software, and structural design software. Kipp's skills include general structural design, project structural budgeting, project management, concrete hydraulic structures, concrete design, steel design, masonry design, and seismic analysis.

EDUCATION

Master of Science in Civil Engineering

Bachelor of Science in Civil Engineering

REGISTRATIONS

TX PE, #113605

OR SE, #16276

AFFILIATIONS

American Society of Civil Engineers (ASCE)

- **UTRWD Infrastructure Condition Assessment | Lewisville, TX**
  Structural engineer responsible for visiting two pump stations to conduct a condition assessment by visually inspecting all accessible areas of each pump station. This included review of building elements such as roofs, floors, walls, pipe support, valve vaults, and dry pump pits. Responsibilities also included completing condition assessment forms, taking pictures, and writing a condition assessment memo for each pump station.

- **Grace Creek WWTP Solids Improvement | Longview, TX**
  Lead structural engineer responsible for design of foundations for thickener and electrical buildings, updating foundation plans and providing QA/QC on plant structural improvements.

- **Kilgore WWTP and WTP Condition Assessment | Kilgore, TX**
  Structural engineer responsible for site visits at the water treatment plant and wastewater treatment plant to conduct a condition assessment of all of the major structures. The condition assessment included filling out prepared forms that allowed the assessment to be entered into a Simple Tools database for the client to track repairs and improvements.

- **Sulphur Springs WWTP Improvements | Sulphur Springs, TX**
  Structural engineer for this project to provide preliminary and final design for planned capital improvements at the Sulphur Springs Wastewater Treatment Plant. Responsible for the structural design of the headworks and RAS/WAS pump station, several splitter boxes, and the new blower facility. Supervised the design of the final clarifiers and new aeration basins, as well as repair work to the existing aeration basins.

Sonia Zamarripa, EIT

CIVIL

Sonia Zamarripa is a project engineer on Garver's Water Team who focuses on water quality and nitrate reduction. Her experience includes creating, assembling, and/or reviewing contract documents, fee proposals, engineering reports and correspondence; managing and maintaining client and contractor relationships; analyzing water treatment residual management options for water treatment plants; calculating time of concentration and flow rates for subdivisions with drainage issues; completing construction inspections for channel drainage improvements; wastewater treatment plant permit applications; and completing CT study, monitoring plan, nitrification action plan, and total coliform sample site plan for TCEQ approval.

Colorado Acres RO Phase I | Webb County, TX
Project engineer. Sonia reviewed and submitted the engineering plans and created the engineering report required for approval to begin construction. The engineering report addressed TCEQ regulations for water storage tanks and other drinking water requirements. This project was approved for construction.

High Service Pumps | Webb County, TX
Project engineer. Engineering plans were submitted to the TCEQ plan review team to replace some of the high service pumps with larger capacity pumps at the Rio Bravo Surface Water Treatment Plant. A description for current and projected demand based on future population growth was included to comply with TCEQ requirements for pump capacity per connection. Sonia coordinated efforts with TCEQ personnel to provide compliance and facilitate prompt approval to begin improvements. This project was approved for construction.

WTP UV | Webb County, TX
Project engineer. A UV system was added to the treatment process at Webb County- Rio Bravo Surface Water Treatment Plant to attain credit for the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) BIN 2 Log Removal or inactivation requirements for Cryptosporidium. Promptly after the UV system construction was completed, the regulatory approval of construction was sought for compliance notification and customer peace of mind. Sonia provided assistance to Webb County in attaining the TCEQ requirements as proof of construction completion. With coordination between client, consultants, and TCEQ, Sonia submitted a completion letter addressing the requirements for the UV system. Approval of construction was granted from TCEQ after the submittal of this completion letter.

LAS Project | Webb County, TX
Project engineer. This project involved a switch from anhydrous ammonia to liquid ammonia sulfate at the Rio Bravo Surface Water Treatment Plant. Webb County was experiencing issues such as leaks with the old system and the proposed solution to upgrade the chemical feed system with a different chemical was utilized. Sonia provided review for the engineering plans and created an engineering report to be submitted with the plan review submittal form. The engineering report included sizing calculations for feed pumps and storage tanks to provide safety and capacity compliance with TCEQ regulations. This project was approved for construction.

EDUCATION

Master of Science in Biological & Agricultural Engineering

Bachelor of Science in Biological & Agricultural Engineering

REGISTRATIONS

TX EIT, # 53064

Michael Graves

OPERATIONS SPECIALIST

Michael Graves serves as Garver's Central Region Water Director and Firm-wide Treatment Plant Operations Specialist. Michael's experience includes planning, study, design, construction, permitting, and optimization of numerous water and wastewater treatment, distribution, and collection system projects. Michael's 24 years of experience encompass a broad range of both water and wastewater treatment systems. Michael specializes in all aspects of wastewater processes, with an emphasis on activated sludge, clarification, filtration, disinfection, pumping, and water reuse.

EDUCATION

Bachelor of Science in Environmental Engineering

REGISTRATIONS

TX Class A Water Operator, #WO0032791

TX Class A Wastewater Operator, #WW0048326

AFFILIATIONS

American Water Works Association (AWWA)

Water Environment Federation (WEF)

Water Environmental Association of Texas (WEAT)

- **TRA CRWS 2015 Master Plan | Dallas, TX**
  Operations specialist. The Garver Team evaluated process changes to meet the needs of the future. These evaluations included analyzing peracetic acid and low pressure UV for alternative disinfection, evaluating the potential for reuse of the effluent, evaluating harvesting and recovery of phosphorus through the biosolids side stream, and evaluation of post aerobic digestion for nitrogen removal.

- **Claremore WWTP Improvements | Claremore, OK**
  Project manager/operations specialist responsible for upgrading and expanding the wastewater treatment plant to 3.5 MGD. Assisted with preparing the engineering report and environmental information document. Assisted with preparing a preliminary design report and plans and specifications for review and approval by the Oklahoma Department of Environmental Quality. Specific process design included influent wastewater pumping with VFD controls, headworks screening, grit removal, primary clarification, trickling filter biological process, activated sludge biological process, secondary clarification, sludge pumping with VFD control, aerobic digestion, and solids thickening/dewatering. Also developing O&M Manual.

- **Bentonville WWTP Operations Audit | Bentonville, AR**
  Operations specialist responsible for review and evaluation of treatment plant operations and maintenance. Evaluated day-to-day plant operations by working with plant staff during the day and night shift to gain an understanding of the routine functions of the plant operators. Conducted interviews with key laboratory and maintenance staff to assess the management and routine functions of those support divisions. Upon completion of the evaluation and interviews, reported findings in the following areas: existing operations knowledge, knowledge transfer to other staff, process control program, preventative maintenance, emergency maintenance, and safety.

- **Fort Sill WWTP Reuse | Fort Sill, OK**
  Project manager responsible for water reuse upgrades to a 4.3 MGD wastewater treatment plant. Responsible for preparation of the engineering report, preliminary design report, plans and specifications for review and approval by the Oklahoma Department of Environmental Quality. Specific tasks include wastewater pumping, flow measurement, chlorine feed, pipeline plan and profile, and cooling tower plumbing. Major project elements of the effluent reuse pump station include new submersible pumps with VFD controls, chlorine disinfection, geothermal heating loops, and building electrical and HVAC systems.

Ryan Mountain, PWS

ENVIRONMENTAL

Ryan Mountain is our environmental special studies lead and senior environmental scientist with 17 years of experience. Primary responsibilities include managing special environmental studies provided to our water, aviation, transportation, facilities, federal, and construction teams. This includes overseeing and conducting Phase I environmental site assessments; Section 404 permitting; wetland and stream delineations; detailed wetland and stream mitigation planning and specifications; authoring and co-authoring NEPA documents; performing biological evaluations, habitat assessments, and functional value assessments; and preparing spill prevention and stormwater plans.

EDUCATION

Bachelor of Science in Fisheries & Wildlife Management

REGISTRATIONS

Nationwide PWS, #2745

MS MDOT Stormwater Pollution Prevention #12420

AFFILIATIONS

Society of Wetland Scientists (SWS)

- **Stewart Creek North Interceptor | Frisco, TX**
  Environmental scientist responsible for producing a detailed wetland delineation for the project site of approximately 18,000 linear feet and developing a report of the findings. The report documented several wetland and stream crossings and was submitted to the US Army Corps of Engineers requesting a jurisdictional determination. Garver coordinated with the USACE regarding the issuance of a Nationwide Permit. Due to potential contamination in the area, Garver also completed a Phase 1 Environmental Site Assessment (ESA) and served as the prime consultant coordinating with a subconsultant for the completion of a Phase II ESA and additional sampling at the USACE's request.

- **Celina WWTP Phase I Environmental Site Assessment | Celina, TX**
  Environmental scientist responsible for conducting an environmental database review, which includes coordination of interviews with the property owner or site manager and local officials, conducting site investigation and historical research and compilation of a Phase I ESA report of findings and recommendations. The purpose of the assessment is to confirm/determine impact of wastewater conveyance processes in conjunction with the demolition of a decommissioned WWTP.

- **SSAR WWTP Design | Siloam Springs, AR**
  Environmental scientist responsible for completing the Environmental Impact Document and coordinating with the City of Siloam Springs and various state and federal agencies, including the U.S. Army Corps of Engineers, State Historic Preservation Office, and U.S. Fish and Wildlife Service.

- **Bentonville New Transmission Line | Bentonville, AR**
  Environmental scientist responsible for route selection, wetland delineation, hazardous waste screening, and overall environmental review. GPS mapping of wetland and stream boundaries, habitat evaluations, and plant identifications were also conducted. Section 404 Nationwide Permit authorization was coordinated and obtained through the USACE.

- **Fort Sill LETRA Lagoons Expansion | Fort Sill, OK**
  Environmental specialist for this design-build project to expand the Fort Sill LETRA Lagoons by adding a third cell and converting the lagoon system into total retention. Developed the Environmental Assessment for the project.

Greg Swoboda, PE

CONSTRUCTION ADMINISTRATION

Greg Swoboda is a senior project manager with over 25 years of experience in the planning, design, project and construction management of wastewater and water treatment, pumping, collection, storage, transmission and distribution facilities. He works closely with client staff to make sure that the planning, design and construction improvements meet the operational and maintenance as well as the regulatory and financial requirements of the project. His experience includes work at a number of facilities in Laredo, TX.

Zacate Creek WWTP Improvements | Laredo, TX
Project manager for preliminary engineering, design and construction phase services for the improvements to the 14 MGD Zacate Creek WWTP. This project included modifications and rehabilitation to clarifiers, biofilter, grit chambers and lift station. The project also included odor control improvements as well as the replacement of 1,000 feet of 42-inch collector line. Coordination for maintaining plant operations including temporary bypass pumping during construction was critical to the success of the project.

SAWS Dos Rios WRC Digester Mixing & System Enhancements, Phase II | San Antonio, TX
Project manager for the rehabilitation/improvement work for three existing anaerobic digesters and a sludge holding tank for Phase II of the digester rehabilitation at the 125 MGD Dos Rios WRC. The work includes replacing the existing digester mixing system with a pumped nozzle mixing system. It also includes upgrading the electrical components associated with the three digesters, structurally repairing the pre-stressed concrete digester/sludge holding tank's dome liner and foundation and replacing the existing waste gas flare system. The scheduling of the construction was critical to the project in order to maintain operation of the existing digesters and waste gas flares.

South Laredo WWTP | Laredo, TX
Project manager for the preliminary engineering, design and construction phase services for the expansion to the South Laredo WWTP. The facility was nearing treatment capacity and it was evaluated and determined to provide an interim capacity increase of 1.5 MGD from 6 to 7.5 MGD. The initial interim expansion of 1.5 MGD included additional clarification and blower/aeration improvements.

South Laredo WWTP | Laredo, TX
Project manager for the evaluation of the existing treatment system and the conversion of the plant from an oxidation ditch system to a conventional activated sludge process. The plant expansion included 12 MGD for the liquid phase and 30 MGD of solids handling facilities. The plant expansion included the re-purposing of existing infrastructure to minimize project cost and therefore required integration of the expanded plant with existing facilities. The project included expansion of all facilities including chemical feed systems. The project included submitting and obtaining a TCEQ discharge permit for the increased plant capacity.

EDUCATION
Bachelor of Science in Civil Engineering

REGISTRATIONS
TX PE, #76706

AFFILIATIONS
American Water Works Association (AWWA)

Water Environment Federation (WEF)

Ernesto Flores, CFM

CIVIL/PROCESS DESIGN

Ernesto Flores is a senior designer and the Texas Production Team Manager within the Texas Water Group, with 10 years of experience in the water and wastewater industry in South Texas and the Rio Grande Valley. Ernesto's responsibilities include managing the CAD Team, coordination and scheduling of CAD assignments, designer and drafting water/wastewater infrastructure. Ernesto's experience includes a variety of civil engineering projects including transmission, distribution, and treatment of municipal water systems; the collection and treatment of wastewater systems; stormwater management; drainage; platting; surveying; and transportation. He is proficient in AutoCAD Civil3D.

REGISTRATIONS

TX CFM, #No. 2564-14N

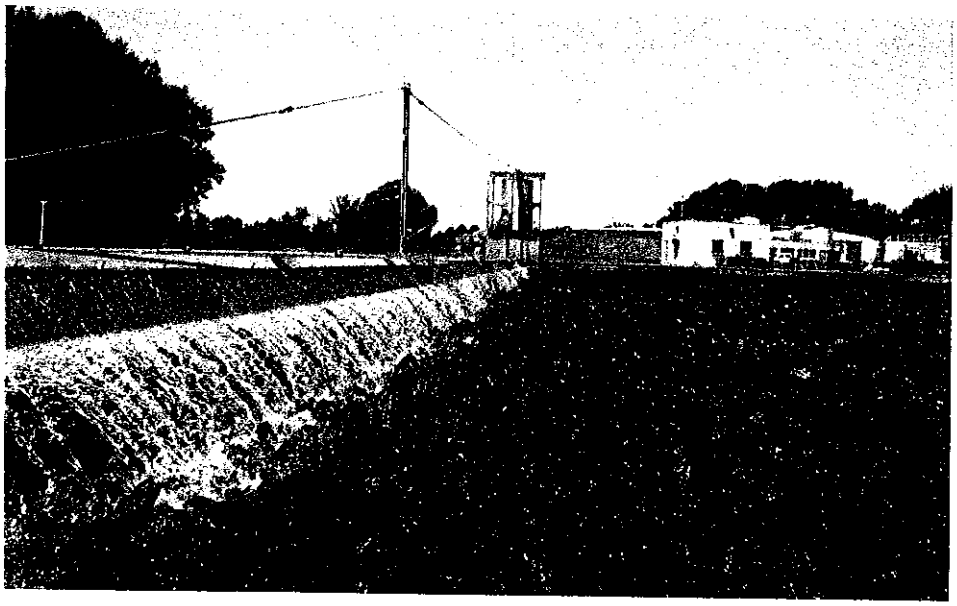
- **LMWD WWTP Improvements | Port Isabel, TX**
  Civil designer. The project includes study phase services and value engineering review of a direct potable reuse (DPR) study to verify and assess previously evaluated process train options, consider alternatives, further develop opinions of probably cost, assess the overall feasibility of DPR as an option for augmenting the LMWSC public water supply portfolio, and make further recommendations. Garver is assisting with the revision of permitting of concentrate discharge from its WTP2 location to its Port Isabel WWTP and investigating low pressure membrane alternatives (NF specifically) to determine applicability in achieving DPR goals.

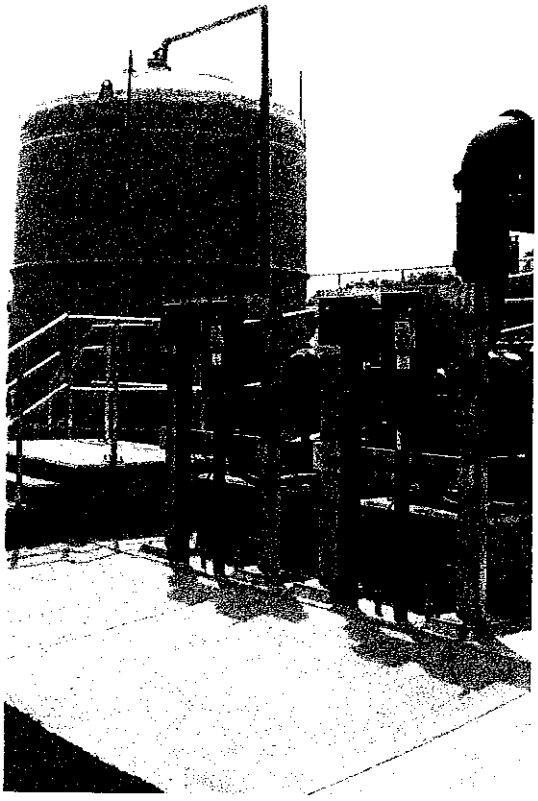
- **TRA CRWS WWTP 2015 Master Plan | Dallas, TX**
  Designer responsible for aiding the project engineer in creating exhibits for the Master Plan. Also, coordinated the CAD work for subcontractors that were assigned exhibits for this project.

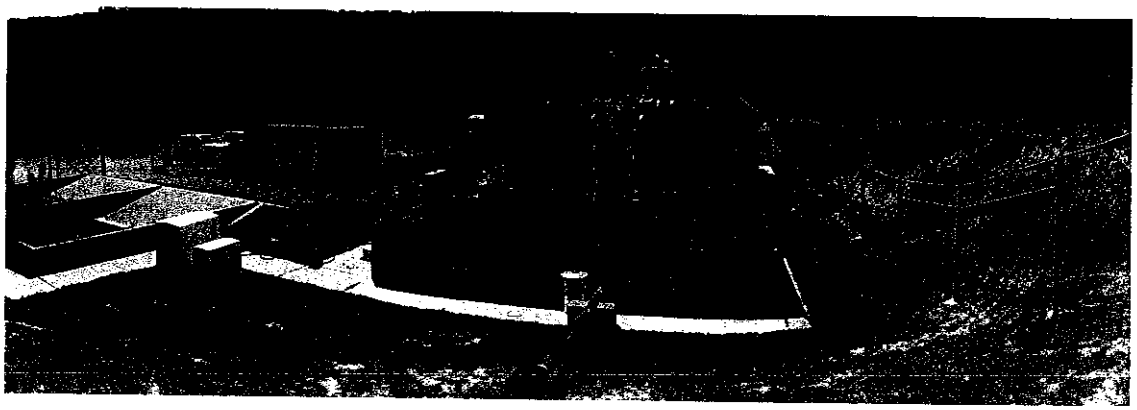
- **TRA TMCRWS Plant Rehabilitation Improvements Construction Administration | Ferris, TX**
  Designer responsible for layout and design updates to washdown station. The major maintenance and rehabilitation project included improvements to almost every process train at the plant.

- **WO #9 Celina Booster Pump Stations | Celina, TX**
  Civil designer. The project includes the replacement and installation of new pumping and chemical feed improvements at two pump station locations for the City.

- **Kilgore WWTP Improvements | Kilgore, TX**
  Civil designer for detailed design for improvement to Kilgore's Wastewater Treatment Plant. Improvements include rehabilitation of a primary clarifier, trickling filter, bio-oxidation tower and aeration piping.

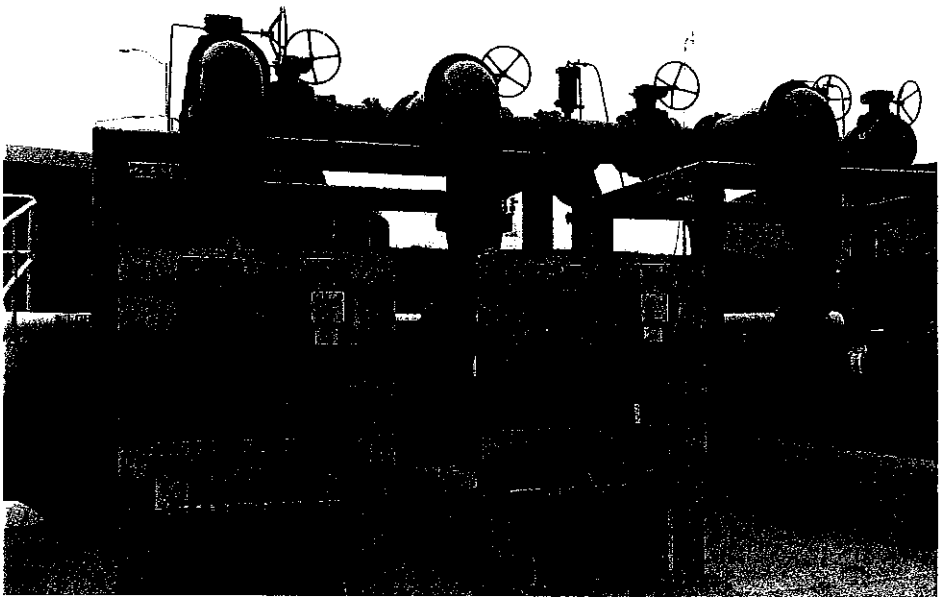






EXPERIENCE WITH TCEQ

GARVER



Garver provided design phase services for solids improvements at the Grace Creek WWTP, including upgrades to WAS and primary sludge pumping, maceration improvements, removal of two existing gravity thickeners from service and replacing them with mechanical thickeners, and a life-cycle cost evaluation of mechanical thickening technologies.

Experience with TCEQ

Garver has extensive experience in technical and plan reviews as well as permitting.

TECHNICAL & PLAN REVIEW TEAM EXPERIENCE

Garver has an excellent track record with receiving TCEQ approval of construction plans and specifications. We achieve swift plan approval by engaging TCEQ staff early in the project life-cycle, and we identify and pursue variance requests where "outside the box" thinking will benefit you.

- A recent example of this process was for the **City of Sulphur Springs'** WWTP Improvements project. Early in the project, Garver submitted a 30% plan set and Preliminary Design Report (PDR) to TCEQ for review. TCEQ reviewed these plan sets with no comments while detailed design progressed. During detailed design, we identified and submitted a variance request to TCEQ for the use of anoxic selector zones within the aeration basins. The selector zones would save the Owner significant electrical costs, and prepare the facility for future biological nutrient removal. Due to the variance request, TCEQ selected the project for a full review of plans, calculations, and specifications. We were able to refer TCEQ to the previously submitted PDR for documentation of the biological calculations to support the variance request. The variance request, along with the construction plans and specifications, were quickly approved by TCEQ for construction without delay.

- In recent years, the **City of Athens** has faced challenges due to formation of regulated disinfection byproducts (DBPs) in the Athens Water Treatment Plant (WTP). Garver evaluated the coagulation/sedimentation at the Athens WTP through jar testing, and developed recommendations for coagulant selection and upgraded in-plant monitoring to optimize the coagulant dose for DBP precursor removal. Garver also identified specific changes to the WTP's disinfection process that would minimize DBP formation while maintaining adequate disinfection. As part of this ongoing project, Garver conducted CT studies for the recommended disinfection improvements, updated the City's water quality monitoring plan, water treatment plant and distribution system operations manual, and cross connection control plan.

PERMITTING

Garver has worked on more than 36 projects that required permitting application and coordination with the Texas Commission on Environmental Quality (TCEQ). Below are just a few recent examples of projects on which Garver assisted with TCEQ permitting application and requirements:

- Garver provided a process model and review of the **Bay City** Wastewater Treatment Plant (WWTP). The goal was to determine actual process capacity of the existing facility and if any capacity related upgrades were necessary. This includes the ability to meet future effluent permit requirements for BOD, TSS, and ammonia removal. Garver collected and analyzed historical data, conducted load projections/sampling and evaluations, prepared and ran a GPS-X model for the facility and conducted a TCEQ sizing check. The evaluation demonstrated that the WWTP has adequate capacity through 2075 which defers significant capital investments.

- The **City of Sherman** owns and operates multiple groundwater wells and a surface water treatment plant. The City's distribution system is subdivided into a chlorinated system for the groundwater and a chloraminated system for the surface water. In order to comply with recent TCEQ requirements, the City contracted with Garver to develop a Nitrification Action Plan and update the City's existing Revised Total Coliform Rule (RTCR) sample siting plan.

- Garver prepared and submitted the application for a discharge permit renewal on behalf of the **City of Sulphur Springs** for the City's WWTP. Following receipt of the draft permit, Garver coordinated revisions to the draft which included the removal of proposed Whole Effluent Toxicity (WET) biomonitoring requirements. TCEQ accepted the proposed revisions and removed the biomonitoring requirement from the final permit. The final permit was received in September 2016, and Garver is currently assisting the City with an evaluation of their Technically Based Local Limits, pursuant to the final permit requirements.

- The TSMP defines groundwater and surface water sample sites for TCEQ Total Coliform Rule. **Kingsland Water Supply Corporation (KWSC)** operates a Public Water System, which is composed of a groundwater pressure plane and two surface water pressure planes. The groundwater and surface water pressure planes are operated separately; however, the groundwater system has an emergency interconnect to the surface water system. The intent of this trigger source monitoring plan is to differentiate between Total Coliform Rule (TCR) sampling sites that are supplied with surface water and those supplied only with groundwater, allowing KWSC to sample targeted areas of the PWS, thereby saving money and time in the event of a total coliform positive sample.

- Garver conducted design of the constructed water line using survey information in order to prepare construction plans and specifications for the **City of Caddo Mills** for submittal to the Texas Commission of Environmental Quality (TCEQ), Texas Department of Transportation (TxDOT), and appropriate railroad for permitting purposes. Construction plans included plan and profile sheets, construction details and estimated quantities. Garver also provided construction administration for the project, and coordinated shutdown of the existing line with startup of the new line and associated services.

LOCAL TECHNICAL & PLAN REVIEW TEAM EXPERIENCE

Our Team includes **Sonia Zamarripa, EIT,** who has worked on multiple projects in Webb County that involved TCEQ technical and plan review. These include the Liquid Ammonia and Sulfate (LAS) Improvement Project, High Service Pumps project, the Colorado Acres RO Phase I project, and the UV System project. These projects are described in detail below:

- **LAS Improvement Project (Webb County).** This project involved a switch from anhydrous ammonia to liquid ammonia sulfate at the Rio Bravo Surface Water Treatment Plant. Webb County was experiencing issues such as leaks with the old system and the proposed solution to upgrade the chemical feed system with a different chemical was utilized. Sonia provided review for the engineering plans and created an engineering report to be submitted with the plan review submittal form. The engineering report included sizing calculations for feed pumps and storage tanks to provide safety and capacity compliance with TCEQ regulations.

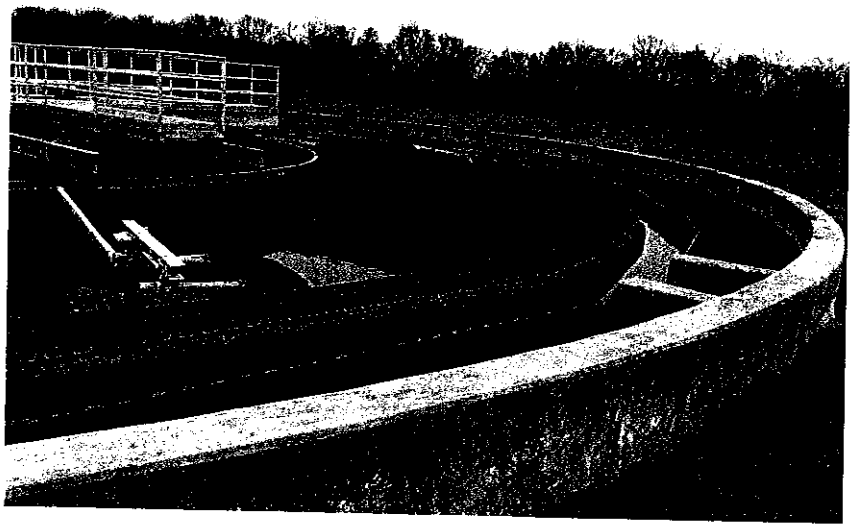
- **High Service Pumps (Webb County).** Engineering plans were submitted to the TCEQ plan review team to replace some of the high service pumps with larger capacity pumps at the Rio Bravo Surface Water Treatment Plant. A description for current and projected demand based on future population growth was included to comply with TCEQ requirements for pump capacity per connection. Sonia coordinated efforts with TCEQ personnel to provide compliance and facilitate prompt approval to begin improvements.

- **Colorado Acres RO Phase I (Webb County).** The project included engineering plans to improve the dispensing station with concrete driveway improvements, the ability to measure water dispensing volumes, and a ground storage tank. The existing system required trucks to continuously haul water to the dispensing station. The proposed improvements would minimize the need to continuously transport drinking water to these customers. Sonia reviewed and submitted the engineering plans and created the engineering report required for approval to begin construction. The engineering report addressed TCEQ regulations for water storage tanks and other drinking water requirements.

- **UV System (Webb County).** The project involved adding a UV system to the treatment process at Webb County's Rio Bravo Surface Water Treatment Plant to attain credit for the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) BIN 2 Log Removal or inactivation requirements for Cryptosporidium. Promptly after the UV system construction was completed, the regulatory approval of construction was sought for compliance notification and customer peace of mind. Sonia provided assistance to Webb County in attaining the TCEQ requirements as proof of construction completion. These requirements included bounding formulas, tables for log-inactivation numbers, 15-minute operating data, and a completed SWMOR-Alt spreadsheet. With coordination between client, consultants, and TCEQ, Sonia submitted a completion letter addressing the requirements for the UV system. Approval of construction was granted from TCEQ after the submittal of this completion letter.

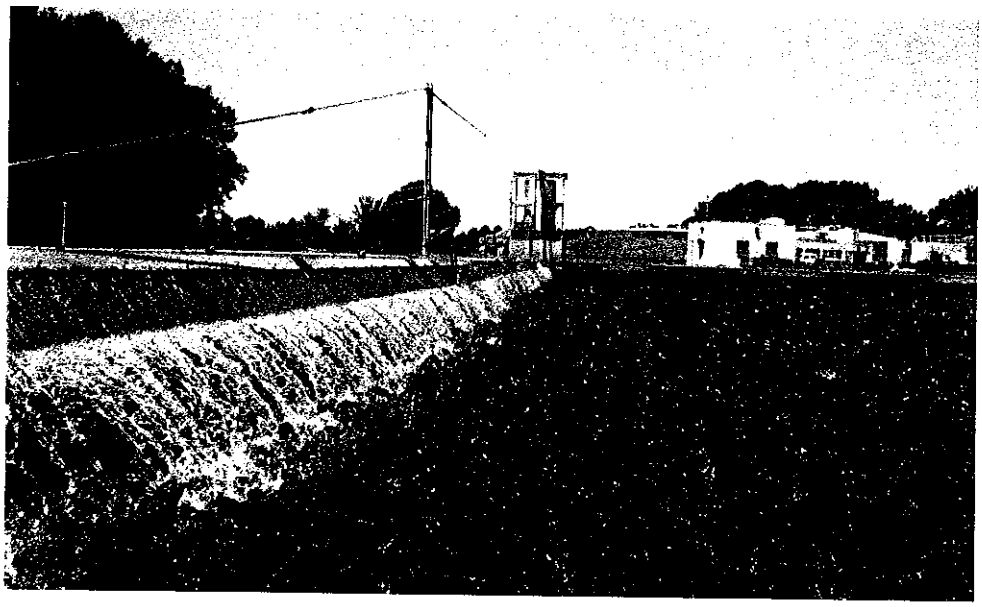
LOCAL PERMITTING TEAM EXPERIENCE

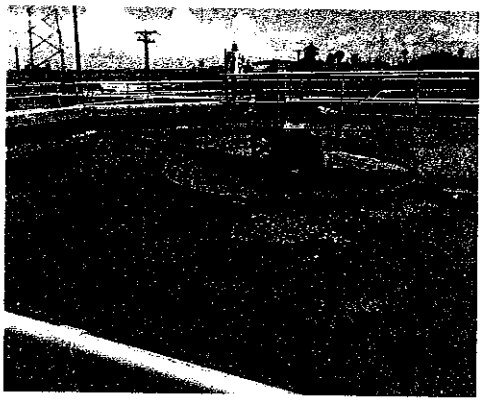
Sonia Zamarripa, EIT, was part of the team that prepared and submitted TCEQ permit renewal applications for three wastewater treatment plants in **Laredo, Texas**. The project included applications for the South WWTP, North WWTP, and Penitas WWTP that had to be submitted promptly prior to the expiration of the existing permits. Sonia led the effort on the permit renewal application for Penitas WWTP and also provided local support for the submittal of the South and North WWTP applications. This included preparing the Penitas WWTP administrative report and technical report for the application with contact and address information, review of buffer zone requirements, site visits for effluent disposal site descriptions, monthly operating report analysis, review of exhibits that demonstrated general locations, flow diagrams and discharge routes, and coordination of TCEQ payment submittal, newspaper publishing, and public application copy distribution. The Penitas WWTP Permit application was approved by TCEQ.



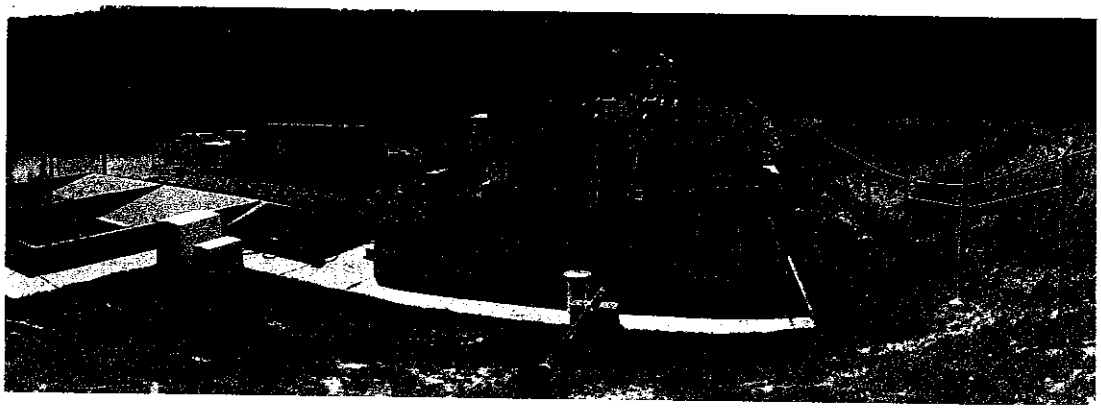
Condition assessment of the City of Terrell's Kings Creek WWTP identified an immediate scope of rehabilitation for the existing facilities. Garver completed a conceptual phase evaluation of alternative treatment infrastructures to formulate a schedule of improvements to achieve current and future permit requirements. The recommended concepts were configured for ease of expansion to address future nutrient discharge restrictions through the Year 2035.

Webb County Rio Bravo Wastewater Treatment Plant Rehabilitation Design Project





THE STATE OF TEXAS
COUNTY OF WEBB



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