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Statement of Qualifications for:

Engineering Services for Various Projects and On-Call Services

Prepared for:

Municipal Association of South Carolina

LABORATORY

ENGINEERING

ASSESSMENT

REMEDIATION

AIR QUALITY

COMPLIANCE

R&C Project #2022-146

October 17, 2022

Rogers & Callcott

Engineering | Environmental | Laboratory

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October 17, 2022

Mr. Jake Broom
Chief Operating Officer
Municipal Association of South Carolina
PO Box 12109
Columbia, SC 29211

Reference: Request for Qualifications: Engineering Services for Various Projects and On-Call Services
Rogers & Callcott Project Number: 2022-146

Dear Mr. Broom and Evaluation Team:

Rogers & Callcott (R&C) greatly appreciates this opportunity to submit a statement of qualifications to provide professional engineering services to the members of the Municipal Association of South Carolina (MASC) for water and sewer system improvement projects. I believe we are a firm that is perfectly suited to assist any municipal client because of our extensive experience focused on municipal water and sewer infrastructure, our ability to respond quickly to our clients needs and constant commitment to client satisfaction.

Municipal Infrastructure Experience: Rogers & Callcott has historically focused its efforts towards supporting a wide range of municipal and industrial clients. In fact, the key personnel presented in this statement of qualifications possess over seventy (70) years of combined experience providing professional engineering experience in the municipal infrastructure sector. Those many years of experience have provided the R&C team with a unique perspective on the needs of our municipal clients. We understand that resources are far too often extremely limited and therefore must be carefully stewarded. In addition to a lack of resources, we understand that our municipal clients also have needs outside of the typical design, construction, and project management efforts, particularly in regards to public engagement and communication. From public input and notification to board and council meetings, our extensive experience allows our team to support all of our municipal clients with a complete range of services from preliminary conception to project closeout.

Small Business Enterprise: Rogers & Callcott is a South Carolina Certified Small-Business Enterprise (SBE) and I believe that benefits our municipal clients in several ways. Primarily, it represents a local connection to our municipal clients that ensures accountability. Our team is comprised entirely of local members who reside in and around the communities we serve. We can ensure that the engineers who are drafting, designing, and/or managing the project are the same engineers who are meeting with our clients and hearing directly what their needs are. We also believe our SBE designation provides a personal level of attention to detail on every aspect of the project. That level of attention to detail is crucial for water and sewer infrastructure projects, because every system and its operators are unique in their composition, operation and system needs. We strive to establish long-term relationships with all of our clients and to become a dependable, long-term resource for each client. Finally, being classified as an SBE speaks to our team's level of flexibility to serve our clients. Any member of our team, because they are located nearby, are typically available on little notice to respond to our client's needs. Whether it be for an after-hours council meeting or for an unanticipated issue during construction, we are available to respond in an efficient manner at almost any time. In conclusion, as an SBE, we pride ourselves not only on our commitment to provide efficient design and management solutions, but by supporting every need of our clients.

Areas of Interest: Rogers & Callcott would like to state our intention to submit a Statement of Qualifications and be considered for the following project subject areas as classified in the Request for Qualifications:

- Water Line Extensions
- Water Line Replacement
- Sewer Line Rehabilitation
- Sewer Line Replacement
- Sewer Line Extensions
- Wastewater Lift/Pump Stations
- Force Main Repairs/Replacement/New Facilities
- System Evaluations
- Other Water and Sewer System Improvements as Needed

As the primary author of this proposal, I am fully vested in working with all of MASC's municipal clients and would greatly appreciate the opportunity to do so. Additionally, as the Director of Engineering, I represent the company and am fully capable of binding the firm. I can also confirm that Rogers & Callcott (COA: 000075) and I (PE: 33312) are both properly licensed, registered and in good standing to perform professional engineering work by the State of South Carolina and the SC Department of Labor, Licensing and Regulation (SC LLR).

If you wish to discuss our proposal in detail or feel we may be able to support you in any other manner, please do not hesitate to contact me on my cell phone at 864-434-2116 or via email at cshivar@rcenviro.com.

Sincerely,

ROGERS & CALLCOTT

Chris Shivar, P.E.
Director of Engineering

426 Fairforest Way
Greenville, SC 29607
PO Box 5655 (29606)
https://www.rogersandcallcott.com

Email: cshivar@rcenviro.com
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Mobile: (864) 434-2116
Fax: (864) 233-9058

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1.0 EXECUTIVE SUMMARY

Rogers & Callcott is grateful for the opportunity to respond to the Municipal Association of South Carolina's (MASC) Request for Qualifications to provide professional engineering services for various water and sewer infrastructure projects. This proposal outlines our firm's corporate and staff experience, ability to perform, and willingness to undertake these assignments for MASC's various clients.

1.1 COMPANY HISTORY

James L. Rogers, P.E. founded our firm on July 5, 1969, under the company name of J. L. Rogers Engineering, Inc. In 1975, Frank Callcott, P.E. joined the firm as a partner, and the name was changed to J. L. Rogers & Callcott Engineers, Inc. Sam Avery joined the firm in 1983 as Laboratory Director and became a partner in 1987. On July 5, 2000, Sam Avery, Steve Bowen, George Maalouf and the ESOP purchased the stock owned by Jim Rogers and Frank Callcott. In 2000, the company became a financially secure employee-owned corporation. As two of the managing partners retired, the firm's senior managers were promoted and became managing partners in 2018.

As an employee-owned company, 65% of its stock is held in an Employee Stock Ownership Plan (ESOP) and the remaining 35% is owned by the managing partners. George Maalouf, P.G., is the President and has been with the firm for over 25 years. All full-time employees become ESOP members within 12 months of employment. This Employee-Ownership arrangement benefits the client with a greater commitment to customer service by our staff. The management team of Rogers & Callcott is committed to perpetuating the employee ownership philosophy of the firm for the long term. Currently, Rogers and Callcott employs sixty-one (61) total full-time employees overall and the Engineering Department consists of four (4) full-time employees and one (1) part time employee.

1.2 OFFICE LOCATIONS

Rogers & Callcott is headquartered in Greenville, SC, with a second office in Columbia, SC. Rogers & Callcott has engineers, geologists, consultants, technicians, designers, and drafters who are involved with many of our projects. In order to provide the required services in a timely manner, **projects will be served out of the closest respective office:**

Greenville Office:
426 Fairforest Way
Greenville, SC 29607

Columbia Office:
215 Stoneridge Drive
Columbia, SC 29210

2.0 FIRM EXPERIENCE AND QUALIFICATIONS

Rogers & Callcott is a multi-disciplinary civil and environmental engineering services firm with extensive experience in a wide array of municipal, industrial and commercial projects. Our combined disciplines are a major strength of our organization, but our commitment to quality work, integrity and relationships with our clients is our top priority. Shown below in greater detail is a demonstration of our capabilities and experiences that are relevant to the Municipal Association's clients.

2.1 ENGINEERING DESIGN EXPERIENCE

Rogers & Callcott provides expertise in all aspects of the planning, design, approval and construction of civil engineering infrastructure and development for our clients. While our services include many civil engineering areas of practice, our project team is uniquely built with a particular focus on executing municipal and industrial infrastructure projects such as:

- Drinking Water Distribution Systems
- Sanitary Sewer Collection Systems
- Pump Stations & Force Mains
- Wastewater Treatment Plants
- Industrial Pre-Treatment Applications
- Stormwater Collection & Conveyance
- Stormwater Detention & Retention
- Pipeline & Trenchless Rehabilitation
- System Modeling & Capacity Analysis
- Pipeline Condition Assessments
- Land Disturbances & Grading Plans
- Temporary Traffic Control Plans

Corporately, Rogers & Callcott has significant experience in providing technical assistance to our clients on a broad range of assignments. A brief selection of South Carolina clients which we have provided professional services for includes the following:

- City of Abbeville
- City of Greer
- City of Union
- Pickens County
- City of Travelers Rest
- City of Anderson
- City of Clemson
- Spartanburg County
- City of Greenville
- Newberry County
- City of Spartanburg
- Greenville County

2.2 PROJECT MANAGEMENT EXPERIENCE

The Rogers & Callcott project team has extensive project management experience with all types of municipal, industrial and commercial development and expansion projects. From project conception through master planning, preliminary design, permitting, detailed design, bidding, construction support, on-site construction inspections, project logistics and finally project conclusion, we are prepared to support our municipal clients throughout each milestone of every project with a personal level of attention to detail.

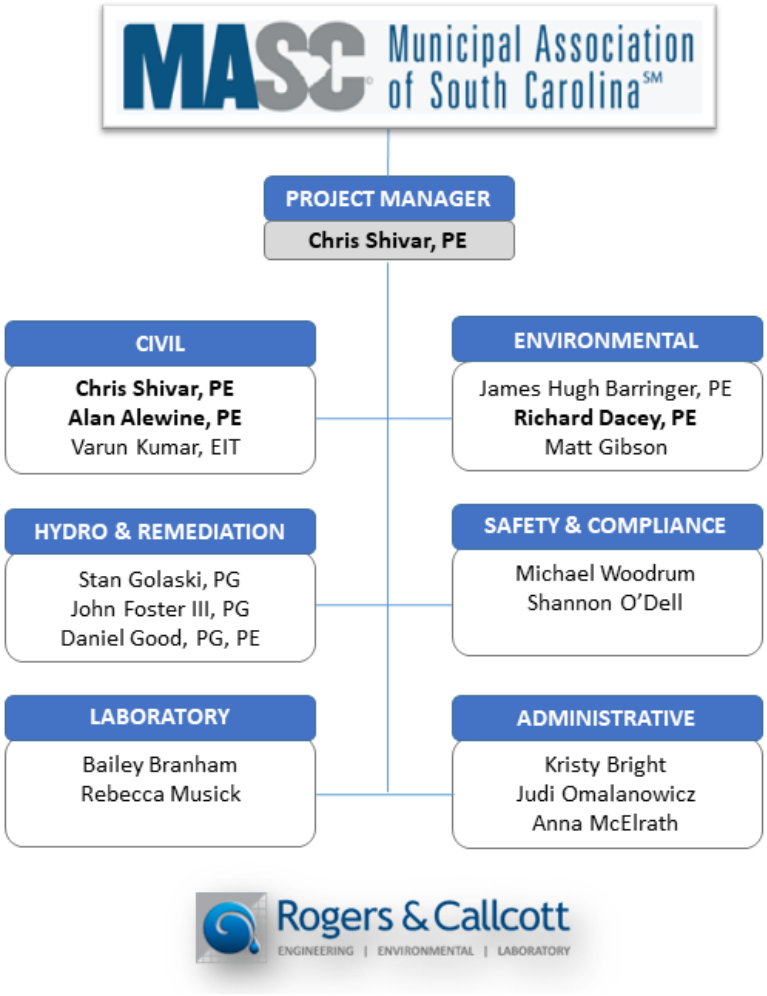
Our team is prepared to assist our municipal clients with the project management and construction administration of its proposed projects and can provide the following project management services on an as-needed basis:

- Construction Estimating
- Construction Scheduling
- Bid Preparation & Assistance
- Bid Verification
- Invoice Review
- RFI Management
- Permitting Assistance
- Value Engineering
- Asset Management Plans
- Construction Specifications
- Construction Inspections
- Land Disturbance Inspections

3.0 PROJECT TEAM AND RESOURCES

3.1 ORGANIZATIONAL STRUCTURE

Rogers & Callcott can offer our clients a wide array of services in the civil and environmental fields, but for this specific project, our **Engineering Department** will be the primary source of service. Below is our organizational staffing structure with the key project team members and proposed subconsultants in bold type.



3.2 PROJECT TEAM QUALIFICATIONS

Rogers & Callcott's team for this project will consist of the following key personnel.

Director of Engineering, Chris Shivar has been with Rogers & Callcott since August of 2021 and has over 11 years of engineering experience as a former municipal engineer. Chris has extensive experience with municipal construction management, utility operations and management, utility rehabilitation projects, capital improvement and system optimization plans, construction field inspections and logistics, contract administration, construction oversight and general project management. He has led engineering design teams and has extensive experience working with regulatory authorities such as SC DHEC & SC DOT, state grant authorities such CDBG, RIA, SRF, USDA and RTP, plan review and regulatory compliance and coordination with contractors and other field personnel.

As the **Project Manager**, he will guide the design team and other key staff personnel in the development of detailed plans, specifications, permit applications and other necessary construction documents. Chris will serve as the liaison between the Rogers & Callcott team, MASC's clients, subconsultants and any other public agencies with jurisdictional authority, such as SC DOT and SC DHEC.

Sr. Civil Engineer, Alan Alewine has been with Rogers & Callcott since 2017. He has over 30 years of experience that encompasses municipal engineering, commercial, industrial, transportation and utility assignments for public and private clients. Alan has been involved with municipal and land development projects, including master planning, technical and feasibility studies, design, and construction. He has led engineering design teams, contract administration, contract advisory, constructability review and coordination with other engineering disciplines. Alan is knowledgeable about local and state design requirements for public works projects along with permitting and approval process.

As the **Senior Civil Engineer**, he will lead the civil engineering components of the project, guide designers and provide technical oversight. He will also provide on-site construction oversight and inspections, if needed, for projects. Alan will also assume the role of Project Manager if Chris Shivar were to become unavailable at any time (e.g. vacation, sickness, etc.).

Sr. Mechanical Engineer, Richard Dacey has been with Rogers & Callcott since 2018. He has over 30 years of experience in mechanical, industrial and process engineering design and construction. Richard provides a wealth of experience with projects involving the planning, design, construction support and implementation for a wide range of water and wastewater assignments. His proficiency with a wide range of filtration and chemical treatment processes, piping and instrumentation design, system troubleshooting, and permitting experience with various state and federal agencies provides him with a unique view of water and wastewater projects. His capabilities include design of pumping systems, treatment plant installations and modifications, industrial processing and piping systems for a wide range of municipal and industrial clients.

As the **Senior Mechanical Engineer**, Richard will be responsible for mechanical design, if needed, for projects such as plant or booster pump station modifications and will also work closely to oversee incorporation of the electrical design of any projects.

For more project specific and detailed information concerning key personnel, please refer **to Appendix A - Key Personnel Resumes.**

Key Project Personnel Summary:

A summary of our key staff members' qualifications is provided below:

Personnel	Proposed Role	License	Relevant Degree(s)	Experience	Availability
Chris Shivar	Engineering Director	PE: SC	B.S. Civil Engineering	11+	65%
Alan Alewine	Sr. Civil Engineer	PE: SC	M.S. Civil Engineering B.S. Building Construction	30+	55%
Richard Dacey	Sr. Mechanical Engineer	PE: SC	B.S. Mechanical Engineering	30+	60%

Key Project Personnel References:

A personal professional reference for each key staff member is provided below:

Personnel	Reference Name	Position	Email	Phone
Chris Shivar	Andy Blondeau	City Administrator City of Clemson, SC	ablondeau@cityofclemson.org	(864) 653-2030
Alan Alewine	Joe Nichols	City Administrator City of Union, SC	jnichols@cityofunion.org	(864) 429-1702
Richard Dacey	Mark Harvey	Engineering Director Greer CPW	mark.harvey@greercpw.com	(864) 848-5500

3.3 FIRM REFERENCES

Provided below are four (4) of Rogers & Callcott's references for MASC's use in confirming our abilities:

Joe Nichols
City Administrator
City of Union
PO Box 987
Union, SC 29379
(864) 429-1702
jnichols@cityofunion.org

Angela Kirkpatrick
Community Dev. Planner
Catawba Regional COG
PO Box 450
Rock Hill, SC 29731
(803) 327-9041
akirkpatrick@catawbacog.org

Mark Harvey
Engineering Manager
Greer CPW
301 McCall Street
Greer, SC 29650
(864) 848-5500
mark.harvey@greercpw.com

Mike Clary
Deputy Administrative Officer
City of Abbeville, SC
100 Court Square
Abbeville, SC 29620
(864) 366-5017
mclary@abbevillecitysc.com

3.4 CURRENT AND ANTICIPATED WORKLOAD

Rogers & Callcott is fortunate to have multiple projects in progress, as shown below. Our present workload places us in a very favorable position to undertake this assignment. In addition to these projects, we have a number of small projects that are short in duration and primarily permit and compliance-related. We enjoy

the flexibility in scheduling that allows us to incorporate new work and respond in an expedient manner to this project.

Project Name	Anticipated Completion	Project Budget	Status
TCTC Physical Plant Building Drainage – Civil Design	10/2022	$65,000	Construction
Inman Mills Wastewater Treatment Facility	03/2023	$8,300,000	Design
Haigler-Harrisburg Waterline Replacement Project*	03/2024	$800,000	PER
Union Mill, Excelsior Mill & Monarch Mill Sewer Rehabilitation*	06/2023	$1,400,000	Design
Thompson Road Aerial Sewer Repair & Robinhood Main Extension	12/2022	$302,225	Construction
NCC Process Capacity Expansion – Civil/Site Design	11/2022	$150,000	Construction
Suez St. Parking Lot & Stormwater Detention – Civil/Site Design	12/2022	$500,000	Design
BP – Ground Beef Process Expansion – Civil/Site Design	12/2022	$1,250,000	Design
***Note: Projects currently being funded w/ RIA, SRF, CDBG funds**			

4.0 TECHNICAL PROJECT APPROACH

Rogers & Callcott has designed and managed innumerable water and infrastructure projects throughout our history. Each of those projects presented unique challenges and provided an opportunity to mold and improve our typical approach to a water or sewer project. As you will see, communication with the client and all project stakeholders throughout the project is a primary value that will drive this approach. It should be noted that this approach is often modified to meet a specific project's needs. Those needs would typically take form in a project based upon project complexity, delivery timeframe and/or need to provide space for public input or public engagement. For ease of review, each phase of a typical project is divided in sections below.

4.1 PROJECT CONCEPTION

The project conception phase is critical to the client and design team, as the foundation, pace and scope of work are defined at this point. Information provided and compiled during the conception phase will aid in anticipating or mitigating issues during construction.

Project Conception	
Task	**Task Description**
Project Kick-Off Meeting	R&C will facilitate and lead a project kick-off meeting with the Client and critical project staff to discuss project design objectives, known project constraints, delivery timelines and identify all possible sources for project information.
Preliminary Data Collection	R&C will work with the client to collect and process all available existing project data such as record drawings, as-builts, GIS data, system evaluations, reports, etc. and will initiate PUPS/811 locates for the project site.
Site Walkthrough	R&C will coordinate with the client for a project site walkthrough after locates are completed to identify as many project constraints, potential utility conflicts and gather as much local or operator information as possible.
Field Survey	In coordination with the Site Walkthrough, a detailed field survey will be conducted and will compile all available data gathered during preliminary data collection, utility locates, local information and observations made dure site walkthrough to develop as accurate and inclusive pre-design survey, as possible.

4.2 PRELIMINARY DESIGN

Preliminary design is a critical project stage, as the primary scope of work is defined, project constraints are evaluated and alternatives are presented to the client for review.

Preliminary Design Phase	
Task	**Task Description**
Conceptual Design (25%)	A conceptual design will be developed by the R&C engineering team, with proposed alternatives, if applicable. Opinions of Probable Cost and estimated project delivery timelines will be developed for the conceptual and alternative designs for presentation to the client.

Preliminary Design Phase	
Task	**Task Description**
Funding & Financing Identification	If applicable to the project, R&C will assist the client with identification of potential funding and/or financial partnerships that would be available to provide project assistance.
Preliminary Engineering Report (PER) & Environmental Review Report	If necessary for funding support, a PER and/or Environmental Review Report will be developed during this period for submission to applicable review authorities for review and approval.
Client Input & Review Meeting	After completion of the conceptual design, a client input and review meeting will be facilitated by R&C to gather input from the Client on the conceptual design, project alternatives and preliminary construction estimates and delivery timeframes. If applicable, a design alternative will be selected
Public Input Meeting	If necessary or desired, R&C will be available to support the client with public meetings for the purpose of presenting the project for public information, engaging public support and/or comments of the overall project and conceptual design.

4.3 DETAILED DESIGN

The detailed design phase's success is based upon the information provided during project conception and the decisions made during preliminary design. Here, critical decisions are made on providing an ideal design, mitigating project constraints, and ensuring that all client and stakeholder values and concerns are integrated into project design.

Detailed Design Phase	
Task	**Task Description**
Detailed Design (75%)	After completion of the preliminary design and input meetings, all comments will be compiled into the detailed design and a preliminary construction cost estimate and project schedule will be developed.
Client Review Meeting	R&C will lead and facilitate a client review meeting to gather input on the detailed design, preliminary construction estimates, estimated delivery time frame.
Coordination Meeting (Other Stakeholders)	R&C will contact and facilitate correspondence with other project stakeholders, such as utilities and regulatory authorities to gather input and develop plans for mitigating stakeholder concerns prior to final design.
Funding & Financing Application	Any applications necessary for funding assistance or partnerships will be submitted to the client for final review and approval, prior to submission to the applicable agency along with the detailed design and supporting documentation.
Permit Application Review & Submission	Any necessary permit applications for project construction, including and application for a Permit to Construction (PTC) will be submitted to the client for final review and approval, prior to submission to the corresponding regulatory agency with the detailed design, reports and supporting documentation.

4.4 FINAL DESIGN

The final design phase is the culmination of the design phase, where design details have been finalized, construction sequencing has been determined and final cost estimates are developed.

Final Design Task	Task Description
Final Design (100%)	After intake of final comments from the client, permitting agencies and other project stake holders the final design will be completed by the R&C team, including final construction cost estimates and project schedule.
Bidding Phase Preparation	Preliminary bidding documents including standard contract documents, construction specifications, and, if applicable, special conditions of the selected financial support partner will be compiled along with the final design package for client review.
Client Review Meeting	R&C will lead a facilitate a client review input meeting for the client to review final plans, specifications, cost estimates and project schedules for final review and approval prior to project release for bidding.

4.5 BIDDING PHASE

The critical portion of the bidding phase will involve contractor engagement and communication. Ensuring that contractors have a clear vision of the scope of work and project constraints is critical to ensure an efficient construction process. It also critical in this phase of the project to understand and value contractor input on the project design. This information can provide valuable insight into an efficient active construction phase.

Bidding Phase Task	Task Description
Bid Advertisement	After client approval, R&C will support the client in official publishing of the Invitation for Bids by providing draft documents for publishing, support with distribution of the invitation and will assist in engagement of contractors and/or bid solicitation.
Pre-Bid Meeting(s)	R&C will lead and facilitate pre-bid meetings to present the project to interested contractors and respond to contractor inquiries and maintain an active plan holders list.
Bidding Addenda	If necessary, R&C will develop responses to contractor inquiries during the bidding period and distribute those responses accordingly.
Bid Opening	R&C will assist the client with the reception and reading of the sealed construction bids at the bid opening.
Bid Review & Recommendation	All bides will be reviewed for accuracy and responsiveness by R&C staff and, if applicable, perform reference verification of the bidders. After the review is completed, a letter of recommendation will be developed and provided to the client for bid award.
Board/Council Meeting	If requested, R&C staff will present the results of the bidding process to applicable client board or councils and on behalf of the client, request approval for award.

4.6 PRECONSTRUCTION PHASE

The value of the pre-construction phase is to establish lines of communication and expectations for the project including special considerations of adjacent or affected property owners, working hours and site-specific issues.

Preconstruction Phase	
Task	**Task Description**
Notice of Award	R&C will develop a Notice of Award to the selected contractor after approval from the client and will coordinate with the selected contractor for the completion of subsequent bond and contract documents.
Pre-Construction Meeting	A pre-construction meeting will be held with the selected contractor and sub-contractors to establish contact information between the client, contractors, other project stakeholders to establish a mobilization timeframe and discuss any remaining project constraints.
Shop-Drawing & Submittal Review	The selected contractor will submit all applicable shop-drawings, cut-sheets and submittals for R&C and client review and approval.
Pre-Construction Site Condition Documentation	R&C will conduct a pre-construction condition inspection to document the project area and record site conditions, including pavements, sidewalks, adjacent properties, etc. prior to contractor mobilization. This inspection and supporting documents will be provided to the client for retention.
Public Notification Meeting	If desired and/or necessary, R&C will lead and facilitate a public notification meeting to present the project to affected, adjacent or interested public with mobilization and projected completion dates and to distribute relevant contact information in the event of a stakeholder concern during construction.

4.7 CONSTRUCTION PHASE

During construction, the key value will be communication between the contractor, design team and project stakeholders. Construction projects, particularly with underground infrastructure, can be unpredictable and therefore communication is critical to keep all parties involved informed throughout the project.

Construction Phase	
Task	**Task Description**
On-Site Pre-Construction Meeting	In concurrence with contractor mobilization, R&C will be on site to conduct a pre-construction meeting with the contractor, sub-contractors, client and other project stakeholders to review project schedule and project specific issues, such as project sequencing, traffic control, laydown areas, working areas and hours, etc.
Routine Site Inspections	During construction, R&C will be available at a rate requested by the client to conduct routine on-site inspections for general workmanship, provide technical guidance and expertise and to verify and manage project progress.
Pay Application/Invoice Review Management	R&C will be available to review all pay apps and verify construction progress, quantities and budget management and will submit for client review and approval.
Request for Information (RFI) Management	Throughout the project, R&C will accept, manage, and develop timely responses to all RFI's on the behalf of the client.

Construction Phase	
Task	**Task Description**
Routine Progress Meeting Updates	R&C will routinely lead and facilitate project progress meetings, typically monthly, to provide all stakeholders a review of the work completed in the previous period and anticipated schedule for the remainder of the project. It will also provide updates to the overall budget and schedule. R&C will also provide weekly progress update emails, if desired, typically via e-mail to the client and stakeholders.

4.8 PROJECT CLOSEOUT

Project closeout will be critical to ensure that the intended design was implemented and that all affected parties, including the client and other stakeholders, interests are restored or mitigated to a pre-construction condition.

Project Closeout	
Task	**Task Description**
Punch-List Development	After substantial completion of the project, R&C will develop a list of deficiencies for the contractor to remediate prior to project close-out.
Final System Testing & Certification	R&C will be on-site and assist with all final system testing and certification.
Record Drawings	A set of record drawings will be developed by the R&C team in part of system certification and client records.
Submission for Permit to Operate (PTO)	All testing records, record drawings and system certifications will be compiled for submission to applicable regulatory and permitting authorities for a Permit to Operate (PTO).
Submission for Project Closeout	After a permit to operate is obtained and the punch-list has been satisfied, R&C will prepare all necessary applications and supporting documents in preparation for project closeout. All files will be provided in draft to the client for review and approval prior to submission.

5.0 WATER AND SEWER REFERENCE PROJECTS

Three (3) municipal infrastructure projects to demonstrate Rogers & Callcott's experience with civil and infrastructure projects are provided for your review below.

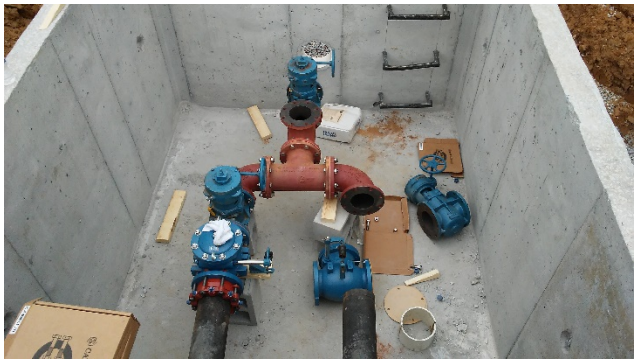
West Main & Evans Sewer Improvements

Client: City of Union, SC
Location: Union, SC
Project Contact: Joe Nichols, City Administrator
Contact Email: jnichols@cityofunion.org
Contact Phone: (864) 429-1702
Project Duration: 2019 – 2022
Construction Costs: $700,000
Engineering Fees: $140,000
Project Team Members: Chris Shivar, Project Manager; Alan Alewine, Sr. Civil Engineer

Scope of Work: This project consisted of replacing or rehabilitating approximately 4,600 LF of vitrified-clay pipe gravity sewer mains and twenty (20) sanitary sewer manholes for the City of Union. The key project design goal was to replace a century-old sanitary sewer gravity system that served a low-to-moderate income residential area that was failing to provide consistent collection service. The system had become susceptible to blockages resulting in sanitary sewer overflows (SSO's) and significant inflow and infiltration (I&I) issues that were contributing to significant peak flows at the City of Union (Tosch's Creek) wastewater treatment facility. This project utilized a number of rehabilitation methods including, cast-in-place piping (CIPP), pneumatic pipe bursting, manhole resurfacing and sealing (spray lining) and more common rehabilitation methods such as open-cut and direct manhole replacement to meet project budget and timeframe restrictions.

Services Provided: Preliminary Design & Engineering Reporting; Grant Assistance Application & Funding Coordination; Detailed Engineering Design; Permitting Assistance; Bidding Assistance & Contract Administration; Invoice & Pay Application Review; Construction Oversight and On-Site Inspection Services.

Sudduth Farms Pump Station



Client: Greer Commission of Public Works (CPW)
Location: Greer, SC
Project Contact: Mark Harvey, Engineering Manager
Contact Email: mark.harvey@greercpw.com
Contact Phone: (864) 848-5500
Project Duration: 2018-2019
Construction Costs: $550,000
Engineering Fees: $98,000
Project Team Members: Alan Alewine, Sr. Civil Engineer; Richard Dacey, Sr. Mechanical Engineer

Scope of Work: This project consisted of designing and overseeing the construction and implementation of a publicly owned and operated sanitary sewer lift station and associated force main to serve a rapidly growing single-family residential area of Greer, SC for the Greer Commission of Public Works. The project presented several challenges, mostly related to delivery timeline, as several nearby residences required service from this lift station for acquisition of certificates of occupancy. Multiple construction installation methods were utilized as the associated force main was installed via a combination of traditional installation methods, such as open-cut trenching, and trenchless methods, such as encased jack and boring to accommodate project delivery timeframe and simultaneously minimize traffic impacts and encroachments within state-owned (SC DOT) right-of-ways.

Services Provided: Preliminary Design & Engineering Reporting; Topographical Field Surveying; Detailed Engineering Design; Utility Coordination & Project Management; Permitting Assistance; Bidding Assistance & Contract Administration; Construction Oversight and On-Site Inspection Services.

Project Approach & Unique Challenges: In addition to the short delivery timeframe as mentioned above, this project also required extensive project management and coordination for successful completion. This project required coordination with several public agencies, such as SC DHEC, SC DOT and the Greer Commission of Public Works in addition to a private developer to install utilities within an already densely populated and developing right-of-way. In addition, during the bidding process the scope of work was divided into multiple individual bids, as the number of qualified and responsive contractors was limited. To mitigate the circumstances, the project scope was divided into smaller, more specific tasks which allowed for greater contractor engagement during the bidding process, but required significantly more project coordination. This project also required intensive time commitment by the Rogers & Callcott Engineering team for existing utility conflict coordination, regulatory and owner agency communication and on-site construction inspections in order to provide rapid construction issue mitigation.

Monarch Mill Village Sewer System Improvements

Client: City of Union, SC
Location: Union, SC
Project Contact: Joe Nichols, City Administrator
Contact Email: jnichols@cityofunion.org
Contact Phone: (864) 429-1702
Project Duration: 2018 - 2020
Construction Costs: $950,000
Engineering Fees: $105,000
Project Team Members: Alan Alewine, Sr. Civil Engineer

Scope of Work: This project consisted of replacing or rehabilitating approximately 3,000 LF of vitrified-clay pipe gravity sewer mains for the City of Union in the Monarch Mill Village area. Similar to other sewer rehabilitation projects for the City of Union, the key project design goal was to replace a century-old sanitary sewer gravity system that served a low-to-moderate income residential area that was failing to provide consistent collection service through a Community Development Block Grant (CDBG). The sanitary sewer system was consistently constructed on 'back-easements' or on the rear off small square footage lots, often located in close proximity to residential homes making it extremely difficult to maintain and/or replace the collection system. In part of replacing the failing sanitary sewer system, mains were relocated to existing public right-of-ways and services were relocated to the new mains, providing a more maintainable sewer system for the City of Union.

Services Provided: Preliminary Design & Engineering Reporting; Grant Assistance Application & Funding Coordination; Detailed Engineering Design; Permitting Assistance; Bidding Assistance & Contract Administration; Invoice & Pay Application Review; Construction Oversight and On-Site Inspection Services.

6.0 FEDERAL AND STATE FUNDING EXPERIENCE

Rogers & Callcott's history working with municipal clients has provided our firm with an extensive list of projects that were fully or partially funded through public grant and loan assistance programs.

6.1 FUNDING ASSISTANCE PROGRAMS

Rogers & Callcott's team has directly coordinated, managed, or participated in projects with funding support or assistance of the following entities over the last decade.

Funding Support Entities
South Carolina State Revolving Fund (SRF)
South Carolina Department of Commerce – Community Development Block Grant (CDGB)
South Carolina Rural Infrastructure Authority (SC RIA)
United States Department of Agriculture (USDA)
Environmental Protection Agency Grants (EPA)
Economic Development Administration Grants (EDA)

6.2 TIME AND BUDGET REQUIREMENTS

Provided below for your review is a list of recently completed projects that demonstrate our ability to meet time and budget requirements.

Project Name	Proposed Completion	Final Completion	Proposed Budget	Final Budget
Robinhood Circle & Thompson Road Aerial Sewer	08/2022	*Ongoing	$302,225	$302,225*
IVC Industrial Pretreatment Facility – Zn Removal	01/2022	02/2022	$1,655,813	$1,655,813
W. Main & Evans Sewer Improvements	11/2021	01/2022	$698,918	$698,918
Monarch Mill Village Sewer Improvements – Ph III	09/2020	09/2020	$938,567	$948,567
Sudduth Farms Pump Station & Force Main	06/2020	06/2020	$344,000	$346,898
Tosch's Creek WWTP N. Clarifier Rehabilitation	08/2019	08/2019	$2,159,475	$2,159,475
Randall Street Water & Sewer Improvements	11/2018	11/2018	$424,388	$457,031
Hammett Bridge Pump Station & Force Main	11/2018	11/2018	$303,722	$303,722
Union Co. Stadium Water & Sewer Improvements	10/2018	10/2018	$102,925	$92,181
Munro Pump Station Rehabilitation	07/2018	07/2018	$156,826	$156,826

APPENDIX A
KEY PERSONNEL RESUME

Rogers & Callcott
ENGINEERING | ENVIRONMENTAL | LABORATORY

Chris Shivar, P.E.
Director of Engineering

Professional Profile

- Focused experience providing civil engineering services for all aspects of municipal and industrial infrastructure including drinking water distribution, sanitary sewer collection and conveyance, stormwater management, collection and conveyance, traffic and transportation management and safety improvements, alternative transportation and pedestrian safety improvements.
- Advanced technical expertise on civil and environmental engineering projects pertaining to linear municipal utility replacement and rehabilitation, pump stations, water and wastewater treatment plants and stormwater management and detention facilities.

Education

B.S. Civil Engineering, Clemson University

Licensure

Registered Professional Engineer

South Carolina PE 32212

Total Years of Experience: 10+

- Direct experience and expertise with the development, management and implementation of capital improvement and asset management plans for drinking water distribution, sanitary sewer and stormwater collection and conveyance, roadway management and replacement and pedestrian and alternative transportation projects.
- Hands-on experience leading and managing municipal engineering, planning, field services and inspection teams in the areas of drinking water distribution, sanitary sewer and stormwater collection and conveyance, land development and roadway management and improvements. Also experienced in developing drinking water, sanitary sewer and stormwater conveyance modelling.
- Solid project management and technical capabilities with conceptual and master planning, preliminary and detailed design, alternative analysis and value engineering. Also well versed construction and contract administration including bidding preparation, bid verification, permitting, construction coordination and logistics and construction and field inspection.
- Knowledgeable and well versed in permitting compliance and assistance and program management with local, state and federal regulatory authorities. Also experienced with funding procurement and compliance with funding assistance agencies for municipal infrastructure management, expansion and replacement projects.

Project Experience

Haigler-Harrisburg Drinking Water Main Replacement Project, Abbeville, SC (ongoing)

Project Manager for the rehabilitation and replacement of approximately 4,000 LF of deteriorating drinking water distribution mains via open-cut method that were problematic to low flow rates, fluctuating pressures and prone to main breaks. Provided funding procurement assistance acquisition to the City of Abbeville through the Drinking water State Revolving Fund for the project.

Union Mill & Chamber Town Sewer System Rehabilitation, Union, SC (ongoing)

Project Manager for the rehabilitation of approximately 2,120 ft. of deteriorating 8” gravity sanitary sewer using Cured-In-Place Pipe (CIPP) method, installing 564 ft of new 8” gravity sewer with 5 new precast concrete manholes, and rehabilitating 13 manholes. Project involved CCTV inspections of all sewers in the area to identify sections requiring point repairs. Provided assistance to the City of Union with the application for South Carolina Rural Infrastructure Authority (RIA) to obtain funding for the project.

W Main St/Evans St Area Sewer System Rehabilitation, Union, SC

Project Manager for the rehabilitation of approximately 4,000 ft. of deteriorating 8” gravity sanitary sewer using Cured-In-Place Pipe (CIPP) method, pipe bursting 600 ft of existing 6” VCP lines to install 8” HDPE lines, and replacing portions

of the sewer which did not meet the current SC DHEC regulations to meet present-day standards in the W Main St & Evans St area. Project involved CCTV inspections of all sewers in the area to identify sections requiring point repairs. Provided assistance to the City of Union with the application for Community Development Block Grant (CDBG) to obtain funding for the project. The work included project management, planning, assisting grant application, preliminary and detail design, permitting, bidding, construction administration, and construction inspections.

Cochran Road Interceptor Project, Clemson, SC

Project Manager (City Engineer) and design engineer for the extension of an existing sanitary sewer force main. The work consisted of 4,364 LF of 12" DIP force main, 625 LF of 18" DIP gravity sewer mains and associated pre-cast manholes and approximately 1,800 SY of asphalt pavement repair. The project involved installation of the ductile-iron pipe within municipal right-of-ways to relocate the discharge point of the force main closer to the wastewater treatment plant and to divert the loading on an existing gravity system main that was nearing the end of its service life.

Creekview Drinking Water Replacement Project

Project Manager (City Engineer) and design engineer for the rehabilitation of approximately 2,500 LF of drinking water distribution mains in a residential neighborhood via-open cut that was prone to main breaks and service disruptions. The project involved installation of a combination of 6" CL350 DIP and 2" CL315 PVC drinking water distribution mains and associated appurtenances, installation of fire hydrants to meet SC DHEC state drinking water standards, on-site construction inspections during construction.

Tiger Boulevard Force Main Replacement Project, Clemson, SC

Project Manager (Assistant City Engineer) and design engineer for the construction and installation of a new DIP sanitary sewer force main. The project included installation of approximately 3,300 LF of 10" & 12" DIP force main and 120 LF of 8" DIP gravity sewer main through two separate SC DOT rights-of-ways and a Norfolk Southern right-of-way via a combination of jack and bore and open-cut methods.

Fabrica Waterline Replacement Project, Clemson, SC

Project Manager (Assistant City Engineer) and design engineer for the construction and installation of 3,590 LF of 6" and 2" drinking water distribution mains in a residential area. The project involved replacing existing water mains, installation of fire hydrants to meet DHEC standards and service line replacements to remove and aging and rapidly deteriorating asbestos-cement water mains that were prone to main breaks and service disruptions.

SRF Drinking Water & Clean Water Project, Clemson, SC

Project Manager (Assistant City Engineer) and design engineer for the installation and construction of approximately 15,000 LF of drinking water distribution mains and 10,000 LF of gravity sanitary sewer collection mains. The project involved replacing deteriorating drinking water distribution mains and sanitary systems in multiple locations simultaneously throughout residential developments. In addition, construction administration, on-site field inspections and land-disturbance inspections were provided for a project that was funded through DHEC's State Revolving Fund program.

College Avenue Infrastructure Improvement Project, Clemson, SC

Project Manager (Assistant City Engineer) and design engineer for the installation and construction of 1,000 LF of large diameter (30"-48") stormwater culverts, 1,200 LF of gravity sanitary sewer mains and 750 LF of drinking water distribution mains in a dense, high-traffic urban environment. The project included the jack and bore of large diameter 30" over long distances to maintain traffic flow during construction, installation of drinking water distribution mains and sanitary sewer gravity main improvements to accommodate high density development in a historic and densely developed urban area.

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Alan Alewine, PE
Senior Civil Engineer

Professional Profile

- Broad-based experience providing civil engineering design and field services for: municipal engineering, commercial, industrial, transportation and utility assignments for public and private clients. Background includes feasibility studies, designs for infrastructure rehabilitation and new construction pertaining to grading and drainage, water, sewer, stormwater management and roadworks.
- Advanced technical expertise on civil and environmental engineering projects pertaining to pump stations, water and wastewater treatment plants, and stormwater facilities which allows Alan to develop solutions to project challenges exceeding client's expectations, including budgetary savings on complex assignments.
- Solid project management and technical capabilities with preliminary and detailed design, bidding preparation, and contract administration for municipal and private clients. His experience includes: streets and roadways, storm and sanitary sewers, watermains, lot and site grading for linear project and site plans. Alan has been involved in various phases of projects including: master planning, design and construction. Through experience he has gained an understanding of site limitations and municipal requirements in designing projects.
- Knowledgeable with local and state design requirements for public works projects along with permitting and approval process for private developments and municipal engineering. Experienced with funding, loans and grants for public work projects in economically disadvantaged areas.

Education

B.S. Civil Engineering, University of South Alabama

B.S. Building Construction, Auburn University

Licensure

Registered Professional Engineer

South Carolina PE 20196

Total Years of Experience: 30+

Project Experience

Union Mill & Chamber Town Sewer System Rehabilitation, Union, SC

Senior Engineer for the rehabilitation of approximately 2,120 ft. of deteriorating 8" gravity sanitary sewer using Cured-In-Place Pipe (CIPP) method, installing 564 ft of new 8" gravity sewer with 5 new precast concrete manholes, and rehabilitating 13 manholes. Project involved CCTV inspections of all sewers in the area to identify sections requiring point repairs. Provided assistance to the City of Union with the application for South Carolina Rural Infrastructure Authority (RIA) to obtain funding for the project.

W Main St/Evans St Area Sewer System Rehabilitation, Union, SC

Senior Engineer for the rehabilitation of approximately 4,000 ft. of deteriorating 8" gravity sanitary sewer using Cured-In-Place Pipe (CIPP) method, pipe bursting 600 ft of existing 6" VCP lines to install 8" HDPE lines, and replacing portions of the sewer which did not meet the current SC DHEC regulations to meet present-day standards in the W Main St & Evans St area. Project involved CCTV inspections of all sewers in the area to identify sections requiring point repairs. Provided assistance to the City of Union with the application for Community Development Block Grant (CDBG) to obtain funding for the project. The work included project management, planning, assisting grant application, preliminary and detail design, permitting, bidding, construction administration, and construction inspections.

Sudduth Farms Pump Station & Force Main, Greer, SC

Senior Engineer for design and installation of a new sewer pump station along with 1,160 ft of 6" DIP force main and 2,568 ft of 8" HDPE force main estimated to serve 266 acres of single-family homes, town homes and commercial spaces. The force main installation was completed using open-trench method, jack and bore method and directional

drilling method. Project work involved conducting pump sizing calculations for required flow and head, and providing detailed pump station layout drawings with plans and profiles for the force main. The scope of services included planning, permitting, bidding, construction administration and construction inspections.

Monarch Mill Village Phase III Sewer Improvements, Union, SC

Senior Engineer for the project to replace 3,000 ft. of aged 8" gravity sanitary sewer and abandonment of existing sewer conveyance system in the Monarch Mill Village area. Design concentrated on routing sewers within the road allowance, but where cost-prohibitive, new lines were installed in-situ using pipe bursting method. Costs were reduced by strategically placing new sewers in locations to replace two existing sewer lines. Provided assistance to the City of Union with the application for Community Development Block Grant (CDBG) to obtain funding for the project. The work included project management, planning, assisting grant application, preliminary and detail design, permitting, bidding, construction administration, and construction inspections.

Taylors Wastewater Treatment Plant Closure Phase II, Taylors, SC

Project Manager for the second phase of the closure of the wastewater treatment facility owned and operated by ReWa. The project involved the demolition of clarifiers, pump station, polymer and chlorine buildings, drying beds, chlorine contact tanks, post-aeration basins, and underground water, sewer, and other miscellaneous pipes. The work included preparation of engineering drawings, weekly construction inspections, project management and coordination with contractors and clients, and obtaining permitting approvals from SC DHEC and Greenville County.

Union County Stadium Water and Sewer Improvements, Union, SC

Senior Engineer for the installation of approximately 120 LF of 6" DIP water line with a fire hydrant and 190 LF of 8" PVC gravity sanitary sewer in and around the Union County Stadium property. Design concentrated on sizing sewers and waterline to meet peak flow conditions from the stadium. Provided assistance to the City of Union with obtaining water and wastewater construction permit, stormwater permit, system certification, and final approval to operate from DHEC. The work included project management, planning, preliminary and detail design, permitting, bidding, construction administration, and construction inspections.

Toschs Creek WWTP Clarifier Rehabilitation, Union, SC

Senior Civil Engineer for the rehabilitation of the north clarifier at Toschs Creek WWTP located in Union, SC. This rehabilitation work included removing and replacing the old equipment components with the new ones, surface preparation, cleaning, sandblasting, painting, and other related work. The project also involved preparing engineering drawings, specifications, contract documents, bidding assistance, project management, construction administration and oversight, and coordinating with vendors, clients, and contractors.

IVC Wastewater Treatment System Upgrade for Zinc Removal, Greenville, SC

Senior Environmental Engineer for investigation of the facility and its existing 0.1 MGD pretreatment system for the sources of zinc and evaluating available treatment alternatives, selecting, designing, bidding, and installing the most favorable treatment system. Detailed design of the pretreatment system upgrade included installing a new 1,280 sq.ft prefabricated metal building, 40,000-gal stainless steel bolted equalization tank, sump w/ pumps, chemical precipitation system, and modifications to the existing sludge dewatering process. The existing biological pretreatment system at the facility was operated using the existing control panel, and the new chemical precipitation system was equipped with a control panel. To avoid any complications arising as a result of controlling the two (2) systems separately, the decision to integrate the controls of all the existing and the new equipment into one (1) control system was taken. This was accomplished by converting the existing SBR control panel into a remote I/O panel with a new HMI screen. The work included project management, planning, laboratory analysis, bench-scale testing, preliminary and detailed design, bidding, coordinating with clients and vendors, permitting, and construction administration.

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Richard Dacey, PE
Senior Mechanical Engineer

Professional Profile

Education

B.S. Mechanical Engineering, University of South Carolina

Licensure

Registered Professional Engineer

South Carolina PE 14643

Total Years of Experience: 30+

- Technical, managerial, and financial expertise on process, mechanical, and environmental assignments, with an emphasis on design, regulatory, contractual, construction support, and commissioning on a wide variety of wastewater equipment, processes, and projects.
- Industries served are treatment plants, chemical, pulp & paper, automotive, pharmaceuticals, pet food, beer, biomass, ethanol, power, textiles, rubber, fiberglass, wood, gypsum board, plastics, fibers, and film.
- Strong technical and construction background allows him to perform and manage all mechanical aspects in process related mechanical systems for either new or retrofit installations. Experienced at delivering results while minimizing operational impacts at existing plants during construction.
- Responsible for leading various multidisciplinary teams on a variety of assignments. His strong technical background allows him to perform and manage routine and complex designs, drawing creation, specification writing, quantity take off with cost estimations, approval processes along with understanding design standards.
- The majority of his projects were taken from inception through design and permitting, through construction support, and ending with start-up and plant start up.

Project Experience

Ethox Chemicals Wastewater Pretreatment System Expansion, Greenville, SC

Lead Engineer for wastewater pre-treatment system improvement study. The plant discharged 46,000 GPD of process & domestic wastewater and stormwater to the ReWa sewer through their pre-treatment facility. This project separates the stormwater from the process and domestic wastewater and directs only the process and domestic wastewater through the pre-treatment facility. It allows an increase from 46,000 GPD to 65,000 GPD of wastewater to the ReWa sewer. Three options were considered in the study: Expand the existing biological system, new ultrafiltration front-end system, and new ultrafiltration back-end system. The expanded biological system was recommended in the study report. Currently awaiting funding to proceed to detail design.

BP Chemicals, Wando, SC

Lead Engineer on design of a dewatering system for digested sludge from the manufacturing process. The system consisted of a building to accommodate a plate a frame filter press with pumps and ancillary equipment. Wastewater from treatment ponds was pumped to the filter press building to remove digested sludge. The sludge from the filter press was hauled off by truck and sold to fuel kilns. The effluent was pumped back to the treatment ponds. Developed P&IDs, general arrangement drawings, pump selection and calculations, relief valve calculations and specification sheets, and equipment specifications for tanks, agitators, pumps, filter press, lime system, and screener. Prepared permit documentation and assisted in construction, check out, and start-up.

IVC Wastewater Treatment System Upgrade for Zinc Removal, Greenville, SC

Senior Process Engineer for investigation of the facility and its existing 0.1 MGD pretreatment system for the sources of zinc and evaluating available treatment alternatives, selecting, designing, bidding, and installing the most favorable treatment system. Detailed design of the pretreatment system upgrade included installing a new 1,280 sq.ft

prefabricated metal building, 40,000-gal stainless steel bolted equalization tank, sump w/ pumps, chemical precipitation system, and modifications to the existing sludge dewatering process. The existing biological pretreatment system at the facility was operated using the existing control panel, and the new chemical precipitation system was equipped with a control panel. To avoid any complications arising as a result of controlling the two (2) systems separately, the decision to integrate the controls of all the existing and the new equipment into one (1) control system was taken. This was accomplished by converting the existing SBR control panel into a remote I/O panel with a new HMI screen. The work included project management, planning, laboratory analysis, bench-scale testing, preliminary and detailed design, bidding, coordinating with clients and vendors, permitting, and construction administration.

Sudduth Farms Pump Station & Force Main, Greer, SC

Mechanical Engineer for design and installation of a new sewer pump station along with 1,160 ft of 6" DIP force main and 2,568 ft of 8" HDPE force main estimated to serve 266 acres of single-family homes, town homes and commercial spaces. The force main installation was completed using open-trench method, jack and bore method and directional drilling method. Project work involved conducting pump sizing calculations for required flow and head, and providing detailed pump station layout drawings with plans and profiles for the force main. The scope of services included planning, permitting, bidding, construction administration and construction inspections.

Mogul Non-Wovens, Gray Court, SC

Project manager & lead engineer on domestic and process waste treatment for a capacity expansion. Designed a pH treatment system for the process wastewater prior to discharging to the public sewer. Added domestic waste discharge from new building to the public sewer. Prepared permit applications and bidding and construction packages.

US Engine Valve, Westminster, SC

Project manager & lead engineer on a study to remove free & emulsified oils/grease from process wastewater off a metal grinding process. Reviewed lab test results on samples taken. Developed options with order-of-magnitude costs. Wrote a study report.

Robert Bosch, Anderson, SC

Project manager & lead engineer of a study of a plate & frame filter press process that removed solids from a ceramic grinding process waste line, to improve levels of COD, BOD, and TSS discharged from the plant. Prepared option drawings and order-of-magnitude cost estimates for each option along with a study report.

Oriented Strand Board Manufacturer, VA

Design and implementation of environmental upgrade project for an oriented strand board mill. This consisted of a dryer RTO and waste water centrifuge.