Civil & Environmental Consultants, Inc.

MUNICIPAL ASSOCIATION OF SOUTH CAROLINA

ENGINEERING SERVICES FOR VARIOUS PROJECTS AND ON-CALL SERVICES | ARPA FUNDING

CEC | Greenville Office
Project 326-406
October 17, 2022

October 17, 2022

Municipal Association of South Carolina RFQ
Attn: Jake Broom Chief Operating Officer
PO Box 12109
Columbia, SC 29211

Dear Mr. Broom,

Subject: Municipal Association of South Carolina RFQ
Engineering Services for Various Projects and On Call Services
CEC Project 326-406

It is our pleasure to present Civil & Environmental Consultants, Inc. (CEC) proposal for engineering services for various projects and on call services for the Municipal Association of South Carolina's prequalified engineers list. We are confident that the enclosed materials highlight our team and our capabilities to provide the best CEC has to offer to all potential cities and towns across South Carolina.

Specifically, the CEC team will bring the following:

- CEC has experienced staff to handle all faucets of municipal capital improvements including but not limited to water line extensions, water line replacement, sewer line rehabilitation, sewer line replacement, sewer line extensions, wastewater lift/pump station and/or force main repairs/replacement/new facilities, water treatment facility improvements, wastewater treatment facility improvements, system evaluation, or other water and sewer system improvements as may be needed by local governments.
- We have experience with both bidding and construction management, with many clients opting for a hands-off approach, letting CEC carry the project from bid to closeout.
- We are known for completing projects on time and under budget, often going further to get the best deal for our clients.
- We have a team of staff experienced in navigating all funding sources administered through the federal government including but not limited to IIJA, EPASRF, C-funds, CBDG funds, and grants.

Thank you for providing CEC the opportunity to present our proposal. We look forward to the next steps of the selection process.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Karuiam Booker, E.I.T.
Project Manager

George A. Genero, P.E.
Vice President

ENGINEERING SERVICES FOR VARIOUS PROJECTS AND ON-CALL SERVICES | ARPA FUNDING

CONTENTS

WHO WE ARE.

1.0 Firm Profile

The Greenville, SC office of CEC was established in 2016 with 3 employees and since that time has grown to 17 professionals. The staff in Greenville has developed a variety of relationships with private, institutional, and public sector clients. This diversity has allowed us to provide civil engineering, environmental engineering, GIS, due diligence, regulatory compliance, water resources, stormwater modeling, and ecological services. The office is diversifying even further with the addition of surveying services in 2022.

Civil & Environmental Consultants, Inc. (CEC) was established in 1989 to provide industry-focused consulting services that advance our clients' strategic business objectives, and since that, time has grown to a company of more than 1,000 professionals. CEC is recognized for providing knowledgeable, innovative design solutions and integrated expertise in the primary practice areas of civil engineering, survey, environmental engineering and sciences, ecological sciences, waste management, GIS, and water resources.

CEC provides high quality professional engineering and environmental science to private and public sector clients. Our services will be offered when properly educated managers and staff are available to meet our clients' technical requirements, time schedule, and budget. Our Core Values include safety, integrity, collaboration, personal and professional development, and service excellence. We provide our clients with personal business relationships; senior project leadership, responsiveness, client advocacy, a knowledge/understanding of our client's needs, and integrated services.

CEC's Strategic Plan Goals include the following:

Accident & Incident Free Workplace: a safe workplace for CEC employees and subcontractors that achieves safety metrics required by our clients.

Culture of Leadership Development: a continuous and sustainable supply of leaders to allow for coherent leadership transition and company growth.

2022 ENR TOP 500 DESIGN FIRMS #101 CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

2022 ENR TOP 200 ENVIRONMENTAL FIRMS #98 CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

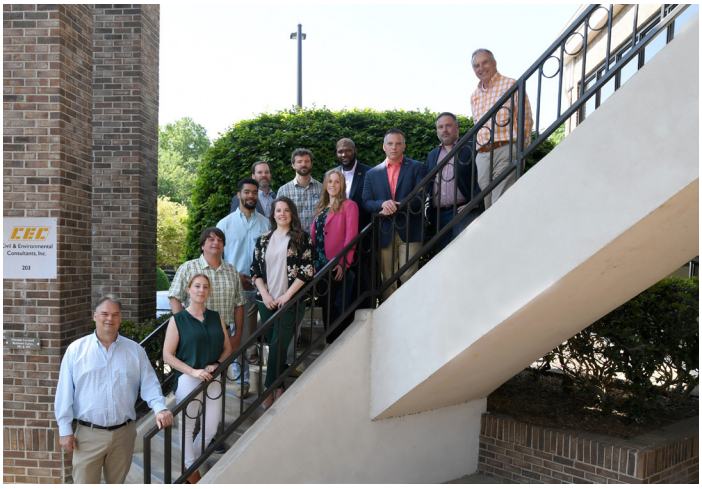
Consistently Deliver Quality Services: services performed on schedule and within budget for our clients.

Be Known for Industry and Technical Expertise: build the reputation as knowledgeable employees and experts in the industries that we serve.

Operate with a Responsible Business Culture: a business culture that is respected by clients, competitors, regulators, the community, and our employees.

CEC will provide services from the Greenville office but will draw additional support from other CEC offices as necessary to support our clients for requested services as we have done for the past 6 years.

Our staff and company have assisted a significant variety of clients in the public, private, manufacturing, and institutional markets in providing a wide array of engineering and environmental services. Our team is dedicated to serve our clients as a trusted partner and provide exceptional client service from project inception to project closeout and beyond.



WHERE WE ARE.

Athens, PA
877.389.1852

Austin, TX
512.439.0400

Boston, MA
866.312.2024

Bridgeport, WV
855.488.9539

Buffalo, NY
800.365.2324

Charlotte, NC
855.859.9932

Chicago, IL
877.963.6026

Cincinnati, OH
800.759.5614

Cleveland, OH
800.365.2324

Columbus, OH
888.598.6808

Fishers, IN
317.570.8800

Greenville, SC
855.574.4331

Houston, TX
800.365.2324

Indianapolis, IN
877.746.0749

Kansas City, KS
866.250.3679

Knoxville, TN
865.977.9997

Martinsburg, WV
800.365.2324

McAllen, TX
800.365.2324

Monroeville, PA
800.899.3610

Nashville, TN
800.763.2326

Oklahoma City, OK
405.246.9411

Philadelphia, PA
888.267.7891

Phoenix, AZ
877.231.2324

Pittsburgh, PA
800.365.2324

Sacramento, CA
760.977.8106

San Diego, CA
760.977.8106

Sevierville, TN
865.774.7771

St. Louis, MO
866.250.3679

Toledo, OH
855.274.2324

2.0 Technical Approach/Understanding

2.1 General Approach

CEC understands this Request for Qualifications is to provide engineering services for various local governments in South Carolina for the use of American Rescue Plan monies. CEC understands these funds will be primarily used for various water and sewer system improvement projects. The desired services include preliminary design, final design, permitting, project cost opinions, surveying, bidding and negotiation services, construction administration services, and construction observation services as may be needed by the local governments.

CEC begins all projects with a focus on listening to client's needs before diving into the work. Our approach for working with the Municipal Association of South Carolina will be no different. Prior to beginning any technical work, CEC project team members will sit down with City staff and listen to the concerns and needs that you already have in mind. Once CEC has a better understanding of the scope of work and the type of services that will be required to perform the work, CEC will confer internally to determine the most appropriate personnel to perform the work, computer software needed, and estimated timeframe for completing the work. CEC is prepared to support any City with the development of engineering reports, plans, specifications and bid documents, construction administration activities and other engineering services that may be required during the program timeframe.

Water Services

CEC provides integrated planning, design, permitting, and construction oversight with a tailored approach that addresses the unique and diverse goals of CEC's municipal clients. CEC has the expertise to handle projects related but not limited to the following areas as it relates to water/wastewater facilities:

- Water Line Extension
- Water Line Replacement
- Sewer Line Rehabilitation
- Sewer Line Replacement
- Sewer Line Extensions
- Wastewater Lift/Pump Station and/or Force Main
- Repairs/Replacement/New Facilities
- Water Treatment Facility Improvements
- Wastewater Treatment Facility Improvements, system evaluation
- Municipal Drinking Water Treatment
- Larger Surface Water and Groundwater Plants

- Membrane Systems
- Treated Water Storage and Pumping
- Distribution Analysis
- Ground Storage Tanks
- SCADA Systems
- Rate Studies
- Safe Yield Studies
- Watermain Design
- Industrial Process Water Design
- other water and sewer system improvements as may be needed by the local government

Municipal Water Distribution and Treatment

CEC has completed a variety of distribution system upgrades and expansions as well as treatment projects for municipal clients, including:

- Water Line Replacements
- Water Line Extensions
- Water Booster Stations
- Water Treatment including iron and manganese removal
- Water Treatment including turbidity removal
- Water Treatment including TOC reduction

Municipal Wastewater Management and Treatment

CEC has completed a broad range of wastewater management, collection and treatment projects for municipal clients, including:

- Wastewater Collection System, Pump Station and Force Main Design and Engineering
- Wastewater Treatment, Retention and Discharge
- Surveying
- Nutrient Removal
- Wetlands Management and Surface Water Resource Engineering
- Water Quality Management
- Process Treatment Assessment
- Construction Phase Services
- Geotechnical Engineering
- Solid and Hazardous Waste Management

Municipal wastewater is often complex, and successful treatment systems often involve more than one technology or approach. CEC assists clients with determining appropriate technologies by conducting bench-scale and pilot-scale tests in our laboratories or on site.

Distribution Analysis

CEC hydraulically analyzes existing and proposed transmission mains and local lines for water distribution systems.

Elevated and Ground Storage Tanks

CEC designs elevated water storage tanks and standpipes to provide water ready for delivery without pumping.

Pump Stations

CEC designs pump stations which are used to boost area pressures and to separate pressure zones hydraulically.

Groundwater Supply

Experienced hydrogeologists locate, test, and develop well fields. CEC also prepares associated wellhead protection and contingency plans.

Raw Water

CEC has experience designing raw water pump stations and intake structures for surface water sources including:

- Bar Racks and Traveling Screens
- Pumps (Vertical Turbine and Horizontal Split-Case)
- Anti-Vortex Devices
- Hydropneumatic Systems and Surge Relief Valves
- Cone and Gate Valves

2.2 Additional Capabilities

CEC's services include survey, initial/feasibility studies, hydraulic modeling and assimilative capacity studies, inflow and infiltration studies, capital improvement project cost assessment, design and construction oversight, MS4 compliance reporting, operations monitoring for NPDES permits, and complete design and construction documents.
CEC offers a broad range of services for municipal clients, including:

- Storm and Sanitary Collection Systems, Pump Stations and Force Mains
- Civil Engineering and Site Development
- Culvert and Bridge Replacements
- CSO/SSO Compliance Issues
- Stormwater Engineering
- Floodplain Management
- Hydraulic and Hydrologic Modeling
- Construction Phase Services
- Geotechnical Engineering
- Stormwater Management
- Solid and Hazardous Waste Management
- Surveying and Utility Location
- Inflow/Infiltration Investigations and Reduction
- MS4 Compliance
- NPDES Permitting and Compliance

Municipal Stormwater Management

CEC offers a comprehensive scope of stormwater management consulting services, including flood routing, hydrologic and hydraulic analysis, stormwater detention, water quality treatment Best Management Practices (BMPs) and FEMA flood insurance rate map revisions. Our utilization of state-of-the-practice computer software enables CEC to analyze alternative stormwater detention measures and methodologies to satisfy site-specific regulatory requirements. We have successfully solved difficult stormwater management problems using both surface and underground detention measures. CEC has implemented stormwater detention measures for singular sites and for watersheds of greater than 8,000 acres. CEC has experience with stormwater retrofits. We have also designed sustainable stormwater management measures to support project Leadership in Energy and Environmental Design (LEED) certification.

Site Grading Analyses

CEC is experienced in the preparation of site grading plans producing balanced earthwork conditions. We have developed and evaluated grading plans for sites involving as little as a few thousand cubic yards to over several million cubic yards of earthmoving. Our site grading services consider other pertinent aspects of site development, such as slope stability, drainage, and stormwater management.

Erosion Prevention and Sediment Control

CEC staff members have extensive hydrologic and hydraulic design experience and a proven track record of successfully obtaining local, state, and federal erosion and sedimentation control permits and National Pollutant Discharge Elimination System (NPDES) permits for discharges of stormwater from construction and industrial activities. Our objective is to integrate erosion and sedimentation control with post development stormwater management to reduce overall site construction costs.

Utility Design

CEC staff members design sanitary sewer collection and conveyance systems, sewage pumping, and on-site treatment facilities, and water distribution systems for domestic and fire protection needs. We also prepare state and federal permits for water and wastewater system construction. Our staff has also demonstrated the ability to effectively coordinate and negotiate with electric, natural gas, telephone, and cable television utility companies to provide service to new site developments.

Preparation of Construction Documents

CEC prepares complete construction plans and specifications for site development projects. CEC has developed a reputation for producing quality construction documents that are “buildable” and within reasonable construction budgets. CEC can prepare site development construction specifications in CSI, Master Format, or other desired formats. We utilize AutoCAD Civil 3D as well as other CAD software applications to meet our client’s needs.

Grant Funding Capabilities

CEC monitors federal/regional/state/foundation grant sources to confirm that requirements remain consistent across grant cycles, and we note any changes to funding programs over time (in relation to the impact on the relative competitiveness of each public funding need). We anticipate that new funding opportunities will arise, and we bring these opportunities to our clients’ notice on a consistent basis. CEC’s grant writers know how to weave the story. We make connections between resource needs and how projects can best address, protect and conserve through implementation. We assist clients with narrative building, identification of public outreach touchpoints and monitoring availability.

CEC has assisted clients in the successful application to state water quality programs, such as:

- Community Block Development Grants (CBDG)
  - + Regular Road
  - + Disaster Funding
  - + Imminent Threat
- USDA Rural Development
- State Revolving Fund (SRF)
- American Recover and Reinvestment Act (ARRA)
- Economic Development Administration (EDA)
- Section 319(h) for Nonpoint Source Pollution

Large Scale Federal Programs

CEC team members are experienced in many different funding options including Community Development Block Grants (CDBG), US Department of Agriculture Rural Development (USDA RD), U.S. Economic Development Administration (EDA), and several other federal and local funding options. CEC helps our clients find available funding options and advises our clients on which funding option is best for them. Once a funding option is selected, CEC meets with funding agency to get their input on our client’s project before preparing the application.

Feasibility Studies

CEC prepares sketch site plans and feasibility studies to assist in the preparation of preliminary budgets and financing, as well as evaluating overall development potential. Our feasibility studies include review of local zoning and land development ordinances, state and federal regulations, site access and roadway patterns, geotechnical issues, floodplain issues, topographic constraints, existing and proposed infrastructure review, stormwater management issues, preservation of natural site features such as existing vegetation and water courses, and review of wetlands and other environmental considerations. CEC staff members have completed site development feasibility studies for commercial, retail, industrial, institutional, and residential development sites of less than five acres to over several hundred acres.

3.0 Work Management Plan/Experience of Proposed Personnel

CEC's offers a full spectrum of Municipal Engineering Services, as required by this Request for Qualifications (RFQ). CEC has experts that specialize in municipal utility services, civil design, survey, utility construction, grant writing, water resources, stormwater management, and MS4 compliance issues as well as ecological services, civil and environmental engineering, and surveying. CEC anticipates utilizing the skillsets of key individuals from the Greenville office for this scope of work with support from our Charlotte, NC office. While CEC is proposing to perform all work associated with this contract locally to South Carolina, CEC can pull from a wealth of resources available and additional support provided by our other offices throughout the company. Our team is dedicated to serve our clients as a trusted partner and provide exceptional client service from project inception to project closeout and beyond.

3.1 Work Management Plan

CEC Greenville will serve as the primary contact and scheduler for all work. Our Greenville civil team will sit down with each prospective municipality to define a scope of work. This planning will include survey of existing network and fatal flaw analysis of the system with municipal staff most familiar. Through this collaboration, CEC will build a package of recommendations to upgrade/improve the continuity and quality of service. CEC understands the necessity of water and wastewater and will craft a plan to reduce the impact of disruptive services for rate paying participants. CEC will then work with the core proposed design team to produce construction drawings to be implemented upon cities approval.

3.2 GIS Experience and Asset Management Expertise

CEC's team has a dedicated group of certified GIS, technology and spatial analysis professionals with extensive experience using GIS and related technology to resolve client needs, organize and manage data, integrate data from multiple sources and stakeholders, perform data analysis and identify workflow improvement opportunities. CEC field and office staff interact seamlessly to assure survey data is checked for accuracy and delivered to the project team in a timely fashion. In each effort, CEC will establish a custom data dictionary in coordination with the City to ensure the desired information is collected. CEC's server is backed-up nightly to protect against data loss or corruption.

The key to any asset management is regular updating and maintenance of the database. CEC has extensive experience and expertise in this area.

CEC understands the importance of the continual process of Asset Inventory and Management (AIM). An inventory is an existing conditions snapshot in time of data collection in the field. In order to develop a "living" and "evolving" inventory, the proper AIM process should be implemented and maintained over time. How the inventory is maintained is defined during the first step of the AIM process and is preferably decided upon by stakeholders prior to conducting the inventory.

The following illustrates the cyclical AIM process:
Following the inventory process, the database will be reviewed for quality and consistency. Once reviewed, the database will be provided in the necessary electronic format for further sorting and prioritization, which will expedite asset management. Following completion of the management of assets and prioritization using developed database tools, it is important to refine the inventory protocol and perform necessary upgrades to the geodatabase and GIS interface to improve the process based upon lessons learned.

Maintenance of the data is critical and is ongoing throughout the AIM cycle. CEC will coordinate with the City to develop a recommended maintenance plan incorporating the appropriate GIS software and database servers to manage the data. Regardless of the software/hardware used to store and manage the data, it is imperative that a hierarchy of geodatabase users be defined and granted appropriate access to consume or update the database. Development of the geodatabase in a secured location is equally as important. Whether the geodatabase be stored in the cloud or on a local server, CEC has extensive experience with development of geodatabases providing reliable, secure, and appropriate access for our clients.

3.3 Staff Availability

CEC regularly reviews workload by office and by discipline through a series of regularly scheduled meetings. Practice meetings are held to review workload, schedule manpower and anticipate project demands and staffing needs. CEC regularly monitors our workload and backlog against staff availability and coordinates personnel, as necessary, to meet client and project requirements and has the ability to augment staff from our 25 office locations and over 1,000 personnel. CEC is confident that we have the expertise, variety and availability of staff to meet the Municipal Association of South Carolina needs for this RFQ. Table 1 illustrates our key staff availability by role and firm. For this RFQ Karuiam Booker will serve as the primary point of contact (liaison) to allow a consistent connection for each municipality. Mr. Booker will then coordinate with the core team below to ensure a quality package is delivered.

Table 1. Staff Capacity by Role

Team Members	Role	Years of Experience	Firm	Availability %
Karuiam Booker, EIT	Municipal Capital Improvements | Civil	10	CEC(Gville)	60%
George Genero, PE	Civil Practice Lead I Civil Design	24	CEC(Gville)	10%
Nathan Bivins, PE	Water | Wastewater Design	18	CEC(Char)	10%
George Tyrian, PE	Water | Wastewater Design	41	CEC(Char)	10%
Ivan Cooper, PE	Water | Wastewater Design	50	CEC(Char)	10%

3.4 Team Leaders

Karuiam Booker, E.I.T.
Municipal Capital Improvements

Councilman Karuiam Booker has more than 10 years of broad-based public sector and project management experience. Mr. Booker serves on Greer City Council District 2. Mr. Booker also acted as Assistant District Asset Manager to carry out plans prescribed by EDM 8 and EDM 42 for guardrail, roadway, culvert, and MSE walls inspections for Greenville, Pickens, Oconee, and Spartanburg Counties. Served as District 3 contact and aided as expert witness in legal proceedings involving SCDOT. Participated in a 12 Month Civil Engineering District Three Training Program to become familiar with Construction, ITS, Traffic, and Maintenance to network and gain understanding of SCDOT processes and procedures. Acted as project manager on complex road and bridge construction projects such as Salter Road/I-85 interstate widening and bridge construction, Roper Mountain/Garlington Rd Roadway widening, along with various other upstate projects. Supervised a staff of technicians to ensure proper inspection in compliance with plans, specifications, standard drawings, and construction manual. Also, performed in the areas of Roadway Design, Hydraulic Design, and Environmental and Construction Permits.

Worked with Zanmi Lasante under direct supervision of Clemson Engineers for Developing Countries (CEDC) to design and implement a fully sustainable municipal waste management system for the village of Cange, Haiti using innovative design techniques. Traveled to Cange, Haiti for 3 weeks to coordinate the groundwork for implementation and presented final plan to CEDC stakeholders for approval in funding. Also, was involved in a creative inquiry research project lead by Dr. Firat Testik. This project grant ($500k) funded by the National Science Foundation was intended to monitor rainfall intensity to improve upon current equations of estimating precipitation rates. Performed as an undergraduate research assistant in which to build a scaled prototype into a full scale working high speed imaging processing model.

George Genero, P.E.
Civil Design

Mr. Genero, Principal with CEC, has more than 24 years of experience of broad-based civil site development and project management experience. His civil site design experience includes educational facilities, commercial, industrial, economic development projects, municipal, retail and public works projects for both the public and private sector clients. He has served as the primary point of contact for numerous large, multi-disciplinary land development projects, leading a team of managers, staff, and sub-consultants to design, permit, and construct projects with challenging development objectives and complex site constraints. Mr. Genero's areas of technical expertise include site development feasibility studies, site layout and land planning, stormwater management and water quality design, site grading, erosion and sediment control design, utility design, regulatory permitting, cost estimating, QA/QC procedures, and construction management. Mr. Genero's construction management expertise include project estimating including material take offs and bidding, project scheduling, selection of subcontractors, contract administration, construction permits/ utilities, payment applications, change orders, purchase orders, RFIs, material submittals, specifications, billings and receipts, shop drawings; cost reporting and project information logs, subcontractor field management, punch list and project closeout.

Nathan Bivins, P.E.
Water/Wastewater Design

Mr. Bivins has more than 18 years of experience in civil and environmental engineering. He has experience includes planning, design, permitting, construction, certification, and operation of solid waste management systems. In addition, Mr. Bivins also has experience with stormwater management, hydrologic and hydraulic analysis and modeling, sediment and erosion control, water and wastewater collection and treatment systems, and environmental compliance. Mr. Bivins has provided comprehensive services for solid waste facilities including siting, planning, permitting, and detailed design of MSW and C&D landfills, transfer stations, convenience centers, recycling facilities, compost sites, tire storage and recycling areas and other solid waste facilities. Mr. Bivins is also experienced in leachate collection systems, analysis and design of alternate liner systems, gas extraction and remediation systems, stormwater and sediment and erosion control, air permitting and analysis, and landfill gas-to-energy systems.

George Tyrian, P.E.
Water/Wastewater Design

Mr. Tyrian has over 41 years of environmental consulting experience, specializing in industrial pollution control. His responsibilities include project management, preliminary and detailed design, construction management and regulatory compliance. Mr. Tyrian functions as a technical resource for detailed design, equipment specification, construction services, process safety management, underground storage tank fueling systems, construction management and environmental compliance. Hazardous waste management experience includes site assessment and remediation, as well as permitting and design of underground storage tank systems.

Mr. Tyrian is involved in preparation and implementation of Stormwater Pollution Prevention Plans for various industries, including dairy, pulp and paper, steel fabrication, textiles, compressed gas manufacturing, and carbon dioxide production facilities. States involved include California, Virginia, North Carolina, South Carolina, Louisiana, Texas, and Georgia.
Mr. Tyrian conducted Phase I environmental audits and environmental compliance audits for over 25 facilities, including steel fabricators, non-destructive testing facilities, heat treating facilities, foundries, plastic piping manufacturers, natural gas separators, compressor gas manufacturers, and dairy industries.
He has conducted temperature modeling of wastewater treatment systems for various industries to determine winter operating problems and modifications. Industries modeled included pulp and paper and grain processing industries.
Mr. Tyrian has been responsible for operator training and O&M manual preparation for varied projects including operation of soil and groundwater remediation systems, pH neutralization systems, wastewater treatment plants, and stormwater inspection and sampling.
Mr. Tyrian is experienced with SARA (both Tier II and Form R) reporting for a variety of industries, principally for dairy industries and steel fabricators (some for over 15 years) including EPA review of reports and EPA inspections.

Ivan Cooper, P.E.
Water/Wastewater Design

Mr. Cooper performed technology evaluations and evaluated and designed over 100 leachate, industrial, and municipal wastewater treatment plants. He is chair of SWANA's Leachate Management Committee, and is the managing editor of the upcoming PFAS reference document, "Issues in Landfill Leachate and the Solid Waste Industry" for SWANA. He serves on the Water Environment Federation's Industrial Waste Committee. He received the 2017 Roy F. Weston Award – for contributions in solid waste technology and management, and the 2019 Distinguished Individual Achievement Award from the Solid Waste Association of North America. The US State Department selected Mr. Cooper as a distinguished scholar to represent the United States for consultation programs in solid waste and wastewater issues for the Palestinian West Bank Territories and Morocco. Mr. Cooper is a frequent presenter of wastewater and leachate treatment issues for SWANA, EREF, Environmental Business Council, WEF, and other organizations. He speaks about leachate treatment alternatives, UV interference at POTWs from leachate, ammonia reduction technologies for leachate pretreatment and direct discharge, PFAS conventional and innovative leachate treatment technologies, impacts to leachate from condensate in aggressive gas well withdrawal, impacts to leachate from ash disposal, and unconventional drilling waste disposal in landfills. He has published and presented over 100 times on water and wastewater issues at conferences throughout the world.

3.5 Timely Completion of the Projects – QAP

CEC professionals pride themselves on providing superior service to all of our clients. CEC understands that providing superior service means completing high quality work in a timely and cost effective manner. In order to insure this happens, CEC maintains a Quality Assurance Program (QAP) that addresses the various aspects of its professional, technical and support activities. It is the objective of this program to maintain the quality of all company activities, particularly service to clients. This program is subject to continuing review, and modifications are made as required to reflect changes in company organization or operation, or to clarify or improve the program. All of our offices follow a company-wide set of quality standards that focus on document and drawing preparation, work procedure and equipment use, employee and project safety, project management and records as well as communications and client confidentiality. These quality standards are reviewed and revised by a multi-office team of experienced professionals, on a regular basis. This multi office team is tasked with understanding and improving our internal standards while looking to our clients and project services to track and implement new and changing trends and standards. Our goal and objective is a consistent delivery of quality services driven by our people, focused on our clients. CEC maintains a QA/QC program with approvals noted by an internal sign-off procedure. Proposals, reports, drawings, specifications and project communication letters have two signatures. The review and signature process is outlined in the QAP, with senior managers in the firm who have technical expertise responsible for review and signoff on deliverables. It is CEC's policy for senior managers to hand sign all reports, letters and other documents issued by CEC to indicate completed review and approval.

3.6 Key Personnel Resumes

Abbreviated resumes for the key personnel identified in the organizational chart above have been included on the following pages additional information can be made available upon request.

Karuiam V. Booker, E.I.T.

Project Manager I

9 YEARS OF EXPERIENCE

EDUCATION

B.S., Civil Engineering, Clemson University, 2014

EXPERTISE

Government Asset Management of Infrastructure

Governmental Processes to apply for C-Funds/CBDG Funds/other tax dollars

SCDOT Construction Inspection

Utility Coordination and Determining Prior Rights

REGISTRATIONS

Engineer in Training
- SC 19897

CERTIFICATIONS

ACI Concrete Field Testing Technician - Grade 1, American Concrete Institute

Asphalt Roadway Technician, SCDOT

Nuclear Gauge Hazmat Certification, SCDOT

Earthwork, Drainage & Base Inspector, SCDOT

Level 1 and 2 Concrete Field Technician, SCDOT

Councilman Karuiam Booker has more than 9 years of broad-based public sector and project management experience.

Serves on Greer City Council District 2. Acted as Assistant District Asset Manager to carry out plans prescribed by EDM 8 and EDM 42 for guardrail, roadway, culvert, and MSE walls inspections for Greenville, Pickens, Oconee, and Spartanburg Counties. Served as District 3 contact and aided as expert witness in legal proceedings involving SCDOT. Participated in a 12 Month Civil Engineering District Three Training Program to become familiar with Construction, ITS, Traffic, and Maintenance to network and gain understanding of SCDOT processes and procedures. Acted as project manager on complex road and bridge construction projects such as Salter Road/I-85 interstate widening and bridge construction, Roper Mountain/Garlington Rd Roadway widening, along with various other upstate projects. Supervised a staff of technicians to ensure proper inspection in compliance with plans, specifications, standard drawings, and construction manual. Also, performed in the areas of Roadway Design, Hydraulic Design, and Environmental and Construction Permits.

Worked with Zanmi Lasante under direct supervision of Clemson Engineers for Developing Countries (CEDC) to design and implement a fully sustainable municipal waste management system for the village of Cange, Haiti using innovative design techniques. Traveled to Cange, Haiti for 2 weeks to coordinate the ground work for implementation and presented final plan to CEDC stakeholders for approval in funding. Also, was involved in a creative inquiry research project lead by Dr. Firat Testik. This project grant ($500k) funded by the National Science Foundation was intended to monitor rainfall intensity to improve upon current equations of estimating precipitation rates. Performed as an undergraduate research assistant in which to build a scaled prototype into a full scale working high speed imaging processing model.

PROJECT EXPERIENCE

Government Local
Greer City Council District 2, City of Greer, Greer, SC*
Role: Councilman

Public Sector
Assistant District Inspection Engineer, SCDOT, Greenville, Pickens, Spartanburg, Oconee Counties*
Role: Asset Manager

Salters Rd/I-85 Bridge Replacement and Interstate Widening, SCDOT, Greenville, SC*
Role: Project Manager

District 3 Act 98 Bridge Replacement Package, SCDOT, Greenville, Pickens, Spartanburg, Oconee Counties*
Role: Project Manager

Roper Mountain/Garlington Road Roadway Widening, SCDOT, Greenville, SC*
Role: Project Manager

District 3 Rumble Strip Contract, SCDOT, Greenville, Pickens, Spartanburg, Oconee Counties*
Role: Project Manager
** Work performed prior to joining CEC*

Nathan T. Bivins, P.E.
Project Manager III

18 YEARS OF EXPERIENCE

EDUCATION

B.S., Environmental Engineering, North Carolina State University, 2004

REGISTRATIONS

Professional Engineer
- NC 039114
- AL 36238-E
- SC 34280

CERTIFICATIONS

10-hour Construction Safety, Occupational Safety & Health Administration

Licensed Engineer with an NCEES Record, NCEES

Mr. Bivins has more than 16 years of experience in civil and environmental engineering. He has experience includes planning, design, permitting, construction, certification, and operation of solid waste management systems. In addition, Mr. Bivins also has experience with stormwater management, hydrologic and hydraulic analysis and modeling, sediment and erosion control, water and wastewater collection and treatment systems, and environmental compliance. Mr. Bivins has provided comprehensive services for solid waste facilities including siting, planning, permitting, and detailed design of MSW and C&D landfills, transfer stations, convenience centers, recycling facilities, compost sites, tire storage and recycling areas and other solid waste facilities. Mr. Bivins is also experienced in leachate collection systems, analysis and design of alternate liner systems, gas extraction and remediation systems, stormwater and sediment and erosion control, air permitting and analysis, and landfill gas-to-energy systems.

PROJECT EXPERIENCE

Air Permit, Spartanburg County, SC
Title V permitting for Wellford site.

Windsor Erosion and Sediment Control Plan Project, Kannapolis Real Estate, Kannapolis, NC
This project included preparation of a flood study and an Erosion and Sediment Control Plan for the proposed sub-division. Project also included design and construction of bridge in accordance with flood study parameters.

Erosion and Sediment Control Plan, South Wake Landfill, Wake County, NC
Developed Erosion and Sediment Control Plan and Stormwater Management Plan for the South Wake LF including permitting, design, and plan preparation.

O&M Manual Update,, Blacksburg VPI Sanitary Authority, Blacksburg, VA
Project included updating the existing Operation and Maintenance Manual to include new equipment, operational changes, and As-built drawings.

Wastewater Treatment Facility,, City of Covington, VA
Various work supporting the wastewater treatment facility including updating the O&M manual, sludge permitting, and a plant upgrade project.

Sewer and Water Utilities, Town of Harrisburg, NC
Developed sewer and water utility maps by digitizing sewer records to GIS format and making corrections to the existing as-built system records.

Wastewater Treatment Facility, City of Norton, KS
Design and plan preparation for two 0.375 MGD wastewater treatment facility utilizing grit and screening facility, counter current aerators, and ultraviolet disinfection.

Wastewater Pump Station Design, Rockingham County, VA
Performed design, document preparation, and support for the construction of new pump stations and modifying existing pump stations.
** Work performed prior to joining CEC*

George P. Tyrian, P.E.
Project Manager III

41 YEARS OF EXPERIENCE

EDUCATION

B.S., Chemical Engineering, University of Rochester, 1981

REGISTRATIONS

Professional Engineer

- GA 22310
- IA 15701
- NC 16421
- OH 58104
- FL 72144
- SC 30164
- VA 0402051097

Mr. Tyrian has over 30 years of environmental consulting experience, specializing in industrial pollution control. His responsibilities include project management, preliminary and detailed design, construction management and regulatory compliance. Mr. Tyrian functions as a technical resource for detailed design, equipment specification, construction services, process safety management, underground storage tank fueling systems, construction management and environmental compliance. Hazardous waste management experience includes site assessment and remediation, as well as permitting and design of underground storage tank systems.

Mr. Tyrian is involved in preparation and implementation of Stormwater Pollution Prevention Plans for various industries, including dairy, pulp and paper, steel fabrication, textiles, compressed gas manufacturing, and carbon dioxide production facilities. States involved include California, Virginia, North Carolina, South Carolina, Louisiana, Texas, and Georgia. Mr. Tyrian conducted Phase I environmental audits and environmental compliance audits for over 25 facilities, including steel fabricators, non-destructive testing facilities, heat treating facilities, foundries, plastic piping manufacturers, natural gas separators, compressor gas manufacturers, and dairy industries.He has conducted temperature modeling of wastewater treatment systems for various industries to determine winter operating problems and modifications. Industries modeled included pulp and paper and grain processing industries. Mr. Tyrian has been responsible for operator training and O&M manual preparation for varied projects including operation of soil and groundwater remediation systems, pH neutralization systems, wastewater treatment plants, and stormwater inspection and sampling. Mr. Tyrian is experienced with SARA (both Tier II and Form R) reporting for a variety of industries, principally for dairy industries and steel fabricators (some for over 15 years) including EPA review of reports and EPA inspections.

PROJECT EXPERIENCE

Municipal Wastewater Treatment

Lower Muddy Creek, Winston-Salem, NC*
Project Manager providing detailed design and construction observation of 10,000 gal outdoor storage and feed facility for 50% sodium hydroxide for municipal WWTP.

Confidential Client, Port Charlotte, FL*
Project Engineer for wastewater treatment plant upgrade characterization, detailed design and construction observation for an oxidation ditch with nitrification and denitrification. Upgrade included addition of two floating low speed 100 HP aerators, process chlorination system for filament control, and improved ORP and DO monitoring for municipal WWTP.

Confidential Client, FL*
Preliminary design of denitrifying oxidation ditch alternatives to increase ditch aeration for municipality. Alternatives considered included mechanical aeration, rotor aeration and diffused aeration, then completed final design, construction observation, operator training and O&M manual for mechanical aeration alternative.

Risk Management/Process Safety Management/ISO 14000

Southern Resin, Thomasville, NC
Risk Management Plan and Process Hazard Analysis preparation and submittal for vinyl acetate monomer process, acetone - formaldehyde process and updated original program for urea-formaldehyde process.

Velda Farms, Miami, Fl*
Update of Process Safety Management for existing ammonia refrigeration system for dairy. Risk Management Plan submittals also completed for two sister facilities.

** Work performed prior to joining CEC*

Ivan A. Cooper, P.E.
Principal

51 YEARS OF EXPERIENCE

EDUCATION

B.S., Civil Engineering, Union College, 1971

M.S., Environmental Engineering, Northwestern University, 1975

REGISTRATIONS

Professional Engineer

- NC 16562
- SC 13489
- GA PE024813
- FL 46243
- NJ 24GE03810100
- CO PE-15944
- MI 23914
- WI 15069
- PA PE062629
- MO 2003009211
- TX 91505
- WV 15537
- TN 104599
- MD 17427
- VI 1397-E
- VT 6475
- WA 57096
- VA 402060746
- OH PE 85690
- KY 38043

CERTIFICATIONS

Board Certified Environmental Engineer, American Academy of Environmental Engineers

Mr. Cooper performed technology evaluations and evaluated and designed over 100 leachate, industrial, and municipal wastewater treatment plants. He is chair of SWANA's Leachate Management Committee, and is the managing editor of the upcoming PFAS reference document, "Issues in Landfill Leachate and the Solid Waste Industry" for SWANA. He serves on the Water Environment Federation's Industrial Waste Committee. He received the 2017 Roy F. Weston Award – for contributions in solid waste technology and management, and the 2019 Distinguished Individual Achievement Award from the Solid Waste Association of North America. The US State Department selected Mr. Cooper as a distinguished scholar to represent the United States for consultation programs in solid waste and wastewater issues for the Palestinian West Bank Territories and Morocco. Mr. Cooper is a frequent presenter of wastewater and leachate treatment issues for SWANA, EREF, Environmental Business Council, WEF, and other organizations. He speaks about leachate treatment alternatives, UV interference at POTWs from leachate, ammonia reduction technologies for leachate pretreatment and direct discharge, PFAS conventional and innovative leachate treatment technologies, impacts to leachate from condensate in aggressive gas well withdrawal, impacts to leachate from ash disposal, and unconventional drilling waste disposal in landfills. He has published and presented over 100 times on water and wastewater issues at conferences throughout the world.

PROJECT EXPERIENCE

Municipal Water and Wastewater Treatment

Diesel Fuel Storage Facility Upgrades, Charlotte Mecklenburg Utilities, Charlotte Mecklenburg Utilities, Charlotte, NC*
Design and construction management of diesel fuel storage facilities for standby power at Charlotte Mecklenburg Water facilities, including Vest Plant, Franklin Plant, Lee S. Dukes North Plant, and various water pump stations.

Groundater Identification and Site Closure , City of Charlotte, Charlotte, NC
Preparation of alternatives to close and petroleum contaminated site at the City of Charlotte Water - Tyvola Collection Facility to either parcel a site for subdivision and deed restriction or continue treatment to eliminate groundwater contamination to below detection levels.

Laboratory Facility Upgrade Planning, Charlotte Mecklenburg Utilities, Charlotte Water, Charlotte, NC*
Planned and designed laboratory upgrades for laboratory facilities for Charlotte Mecklenburg Utilities Franklin Water Treatment Plant, including coordination of architectural, mechanical, and electrical disciplines. Asbestos Removal planning from facility in connection with upgrade.

Marshville Wastewater Management Evaluation, Town of Marshville, NC, Marshville NC
The project assessed options to manage a portion or all of their wastewater through treatment and discharge. CEC also identified alternatives to increase flow to Anson County to provide additional capacity to serve new residential and industrial development. A detailed evaluation of seven treatment technologies pointed to the lowest cost was an in lagoon treatment system to provide BOD removal as well as simultaneous nitrification and denitrification followed by effluent filtration for discharge to a high quality stream.

Utilities Inc. Litigation Support, Utilities Inc., Winston-Salem, NC*
Investigated sludge discharges at a Winston-Salem wastewater treatment plant that resulted in growths of sludge worms in the receiving stream. Assisted in NOV negotiation and fine reduction with NCDENR.

Utilities, Inc. Wastewater Treatment Systems Design, Utilities, Inc., Northbrook, IL*
Designed over a dozen small municipal wastewater treatment facilities, ranging from 20,000 GPD to over 1 MGD.

** Work performed prior to joining CEC*

4.0 Experience of the Firm

4.1 Project Experience

CEC has a diverse background of relevant experience. A summary of select project experience is provided in this section.

325-572 Charleston WW BIM, Charleston Water System Environmental Resources, Charleston, SC
Client Contact
PROJECT HIGHLIGHTS
+LiDAR survey of existing WWTP

315-976 Trivium East Development Sewers, City of Hickory, NC
Client Contact: Shawn Pennell, spennell@hickorync.gov
PROJECT HIGHLIGHTS
+Design Survey
+Utility Coordination
+Plat Mapping
+Ecological Services
+Civil Design Services
+Permitting Services
+Bidding Services
+Construction Administration

311-882 Union WWTP Pretreatment – Leachate, City of Union, SC
Client Contact: Joe Nichols, cityadministrator@cityofunion.org
PROJECT HIGHLIGHTS
+WWTP Pretreatment Analysis
+Leachate Effluent Goals
+Cost Opinions
+Technical Memo
+Additional WWTP Investigation

311-755 Richland County SC SW Engineering, County of Richland, SC
Client Contact: John Ansell, ansell.john@richlandcountysc.gov
PROJECT HIGHLIGHTS
+Multi Year Waste Capacity Analysis
+Multi Year Groundwater Monitoring
+Gas Well Monitoring

307-383 Marshville Forest Drive Extension Water & Sewer, Town of Marshville, NC
Client Contact: Frank Deese, manager@marshville.org
PROJECT HIGHLIGHTS
+Preliminary Sewer Feasibility Design
+Preliminary Water Feasibility Design

305-002 Marshville Wastewater Options, Town of Marshville, NC
Client Contact: Frank Deese, manager@marshville.org
PROJECT HIGHLIGHTS
+WWTP Short Term Assessment
+WWTP Long Term Assessment
+Cost Opinions
+WWTP Phasing Plan

196-317 Interstate Foam Sewer Extension City of Conover, NC
Client Contact: Donald Duncan, donald.duncan@conovernc.gov
PROJECT HIGHLIGHTS
+Sewer Extension Design
+Permitting
+Survey/Easement Mapping
+Construction Administration

195-371 Harman, Sewer Collection & Treatment, Town of Harman, WV
Client Contact: Jerry Jeter, (304)227-4715
PROJECT HIGHLIGHTS
+Survey
+Preliminary Wastewater Engineering
+Wastewater Treatment Plant Design
+WWTP CQA
+Collection Systems CQA
+Project Administration

171-287 Park 1764 Offsite Sewer Improvements, City of Hickory, NC
Client Contact: Kevin Greer, kgreer@hickorync.gov
PROJECT HIGHLIGHTS
+Hydraulic Modeling
+Stream Delineation
+Design and Permitting
+Wave Sewer Extension Design
+Wave Sewer Construction Administration

5.0 Familiarity with Federal Funding Requirements

5.1 Example Grant Experience

CEC's team has a history of supporting municipal clients with grant applications and fulfilling grant requirements. CEC has experience with Community Block Development Grants (CBDG), C-funds, USDA Rural Development (USDA RD), State Revolving Funds (SRF), Infrastructure Investment and Jobs Act (IIJA), and American Recover and Reinvestment Act (ARRA). A selection of most recent projects with Federal Funding is provided in Table 2. CEC has the knowledge and expertise on how to translate these dollars locally in South Carolina to each municipality.

Table 2. Federal Funding Projects

Year	Client	Funding Agency	Funding	Type of Project	Status
2022	Seneca, SC	Oconee CTC	$545,000	CMRB Reclamation Project	Preliminary Design
2022	Mason, TN	TDEC CWSRF	$540,000	Wastewater Planning & Design	Preliminary Request
2022	Mason, TN	TDEC DWSRF	$315,000	Water System Planning & Design (Asset Management Imprvmts)	Preliminary Request
2022	Clifton, TN	TDEC - CDBG	$270,000	Riverfront Park Improvements	Application Submitted
2022	Wartburg, TN	TDEC - CDBG	$615,000	Sidewalk Improvements	Application Submitted
2021	Mason, TN	TDEC – CDBG	$430,000	Water System Expansion	Funded, Awaiting Release of Funds
2021	Walden's Ridge U. D., Signal Mtn, TN	USDA Rural Dev.	$6,000,000	Water Booster Station and Transmission Main	Design Complete, TDEC Approved
2021	Vanleer, TN	TDEC – CDBG	$500,000	Downtown Water Line Replace	To Be Constructed by Force Account
2020	Ashland City, TN	USDA Rural Dev	$3,000,000	Sewer System Evaluation & Rehabilitation	Under Construction
2020	Ashland City, TN	USDA Rural Dev	$21,000,000	2.0 MGD WWTP	Design Complete, TDEC Approved, Bidding in Fall 2022
2020	No. Stewart U. D., Stewart Co., TN	USDA Rural Dev	$2,400,000	1 Water Treatment Plant Impvts, 2 Water Line Replacement, 3 Booster Pump Station Repl.	Design Complete, TDEC Approved, Bidding Fall 2022
2020	2nd So. Cheatham U. D., Cheatham Co., TN	USDA Rural Dev	$4,400,000	43,000 LF Water Line Replacement	Design Complete, TDEC Approved, Bidding Fall 2022
2020	Cunningham U. D., Clarksville, TN	USDA Rural Dev	$10,500,000	62,000 LF Water Line Looping	Design +/- 75% Complete

5.2 American Rescue Plan Act (ARPA) Understanding

COVID-19 has created a significant economic fallout for state, local, territorial, and tribal governments that have been at the forefront of responding to the public health needs created by the pandemic. Many government entities put projects, such as improving critical infrastructure, on hold while dealing with unprecedented economic strain.

On May 10, 2021, the U.S. Department of the Treasury announced the launch of the Coronavirus State and Local Fiscal Recovery Funds, established by the American Rescue Plan (ARP) Act of 2021. The ARP provides $350 billion in funding for eligible governments. The money must be allocated by the end of 2024 and spent by the end of 2026, so it's vital for public entities to determine now how to allocate the funding.

The Government Finance Officers Association (GFOA) has prepared some guiding principles for public entities to consider. Among them is an explanation of how applying funds to critical infrastructure is a particularly good use of ARP funds. It stands to reason: Critical infrastructure generally involves non-recurring expenditures that strategically target important, long-term assets for improvements that will last for years to come. However, entities should consider any ongoing operating costs that might be associated with such a project while also taking into account any potential alterations to policies and compliance requirements.

For example, local governments should be aware of state-level efforts, especially regarding infrastructure, potential enhancements of state funding resources, and existing or new state law requirements. Communicating with other governments in the region and community will also be important during this process. With many entities receiving ARP funds, it is vital to understand how others plan to use the funds and how their plans could lead to collaboration and enhanced projects.

The ARP provides significant flexibility for governments to meet local needs, including delivering resources that recipients can invest in building, maintaining or upgrading their water, sewer, and broadband infrastructure.

One way state and local governments can use ARP funds is for "necessary investments in water, sewer, or broadband infrastructure." For water infrastructure projects in particular, eligible expenditures are those that align with Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) eligibility. The ARPA created the Coronavirus State and Local Fiscal Recovery Fund (SLFRF) program to deliver state, territories, municipalities, counties and Tribal governments the necessary aid.

5.3 EPA State Revolving Fund (EPASRF)

The U.S. Environmental Protection Agency (EPA) recently announced $1.9 billion in grant funding to the State Revolving Funds (SRF) to accelerate progress on water infrastructure projects. Combined with historic investments through the Bipartisan Infrastructure Law, this funding will help communities upgrade water infrastructure to provide safe drinking water, protect vital water resources, and create thousands of new jobs in communities across the country, EPA announced in a release under the Clean Water and Drinking Water State Revolving Fund programs, EPA provides funding to all 50 states and Puerto Rico to capitalize SRF loan programs. For the base programs, the states and Puerto Rico contribute an additional 20 percent to match the federal grants. The 51 SRF programs function like infrastructure banks by providing low-interest loans to eligible recipients for drinking water and clean water infrastructure projects. As the loan principal and interest are repaid over time, it allows the state's Drinking Water SRF or Clean Water SRF to be recycled or "revolve." As money is returned to the state's revolving loan fund, the state makes new loans to other eligible recipients. These funds can also be combined with BIL funding and EPA's WIFIA loans to create a powerful, innovative financing solution for major infrastructure projects.

The Formula-based non-competitive grant program recognized five critical need areas and six additional priority areas of interest as follows:

Critical Need Areas:

- Compliance
- Water loss reductions
- Infiltration and inflow reductions
- Asset management planning, and
- Modernization of infrastructure

Priority Areas of Interest:

- Water reuse, green infrastructure and stormwater management
- Consolidation/Regionalization
- Managing risk and building resilience
- Planning for lead service line replacement, and
- Expanding service to underserved communities.

5.4 Infrastructure Investment and Jobs Act (IIJA)

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Bill (H.R. 3684), is a United States federal statute enacted by the 117th United States Congress and signed into law by President Joe Biden on November 15, 2021. The act was initially a $547–715 billion infrastructure package that included provisions related to federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials and rail programs of the Department of Transportation. After congressional negotiations, it was amended and renamed to the Infrastructure.

Investment and Jobs Act to include funding for broadband access, clean water and electric grid renewal in addition to the transportation and road proposals of the original House bill. This amended version included approximately $1.2 trillion in spending, with $550 billion being newly authorized spending on top of what Congress was planning to authorize regularly. CEC has a staff of experts that can navigate IIJA regulations and requirements.

5.5 Initial Steps

CEC recommends initiating the steps as outlined in EPA's "Best Practices in Collaborative Planning" if not already done so by the Municipal Association of South Carolina. These steps begin with data gathering, communication and outreach, and review of the Infrastructure Investment Plan. The City should aim for establishing a project list with associated costs, funding alignments and potential, municipal partners. These steps are helpful and can aid in determining whether the project will be best suited via funding from the EPASRF provided directly to the City and/or IIJA funding. The City should review their water, sewer and stormwater systems. If multiple areas of improvement are identified, the City should work to prioritize projects to address compliance issues and meet the minimum expectations for asset management plans first.

CEC further recommends that meetings should be held with collaborative partners, noting that EPASRF will prioritize funding to collaborative projects with regional solutions. The ultimate first goal is to develop a list of projects that address drinking water, water or wastewater compliance issues, critical infrastructure needs, replacement of aging and failing infrastructure, or chronic stormwater concerns to present to EPASRF in the City's proposal for non-competitive grant funding and/or for direct funding. Each project should include an estimated cost to complete the project from cradle to grave including planning, design, construction and construction oversight. Consideration of the project timeline will be of utmost importance as ARP funds must be allocated by December 31, 2024 and expended by December 31, 2026.

The ultimate first goal is to develop a list of projects that address drinking water, water or wastewater compliance issues, critical infrastructure needs, replacement of aging and failing infrastructure, or chronic stormwater concerns.

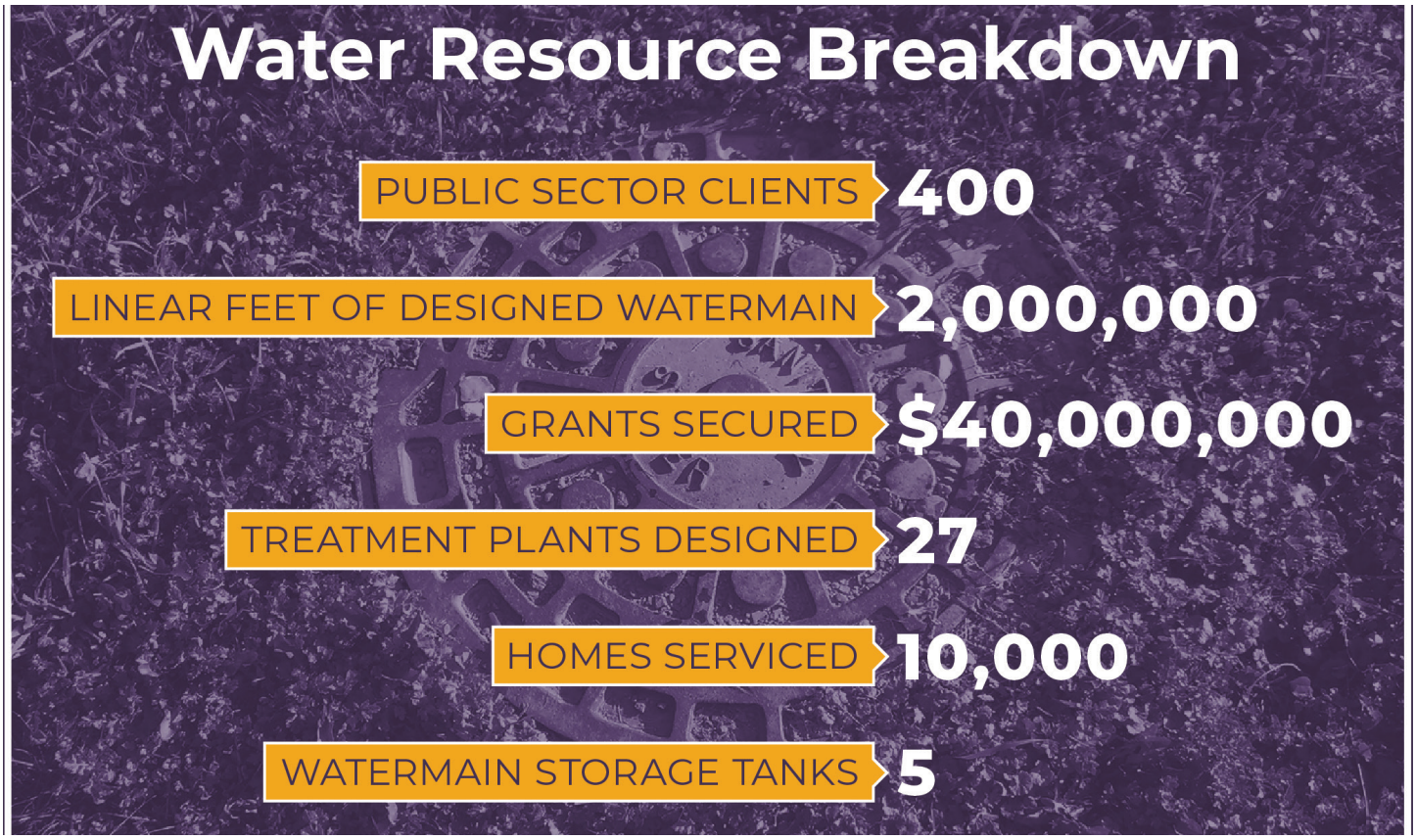
Proposals must emphasize how the project will contribute and/or address the critical need or priority area; establish an anticipated return on investment; estimate the number of people to which the project will provide a benefit; availability of funding and capacity of the municipality to complete the project; and a timeline for project execution and completion. Project timelines should pay careful attention to any associated permits and the typical timeframe under which these applications can be processed and issued by the governing regulatory agency(ies).

5.6 Documentation and Reporting

As with any grant funding opportunity, grant funds require rigorous documentation and reporting. The U.S. Department of the Treasury has issued a Compliance and Reporting Guidance document for EPASRF which includes general guidance and reporting requirements including annual Project and Expenditures (P&E) Reports. CEC anticipates that all grants awarded will require a similar documentation and reporting requirement for those projects funded via non-competitive grants.

5.7 Closing Statement

The ARPA, EPA State Revolving Fund, and IIJA provides a unique opportunity for state and local governments to make strategic investments in long-lived assets, rebuild reserves to enhance financial stability, and cover temporary operating shortfalls until economic conditions and operations normalize. Additional information continues to be released from the U.S. Department of Treasury and the State of South Carolina. The U.S. Department of Treasury reserves the right to audit the usage of ARP funds; therefore, it is of utmost importance to adhere to the published guidelines and document expenditures appropriately throughout the project period. CEC is ready to assist the Municipal Association of South Carolina and cities with this exciting effort and appreciates the opportunity to submit this response to the RFQ.



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