



Barowka and Bonura
Engineers and Consultants, L.L.C.

SOQ No. 22-013

**Routine Engineering Services
for Water Projects**

Resolution No.: 138809

**Deadline: Thursday, March 31, 2022
at 3:30 PM**

Barowka and Bonura Engineers and Consultants, L.L.C.
209 Canal Street
Metairie, Louisiana 70005

Jeffrey Bonura, P.E., Member
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PHONE: 504-828-0030
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Collaborate. Innovate. Implement.



**Barowka and Bonura
Engineers and Consultants, L.L.C.**

March 31, 2022

Jefferson Parish Council
c/o Ms. Eula A. Lopez, Parish Clerk
General Government Building
200 Derbigny St., Suite 6700
Gretna, Louisiana 70053

**SUBJECT: Routine Engineering Services for Water Projects
Resolution No. 138809**

Dear Ms. Lopez:

Barowka and Bonura Engineers and Consultants, L.L.C. (BBEC) appreciates the opportunity to submit this Statement of Qualifications to provide Routine Engineering Services for Water projects in Jefferson Parish.

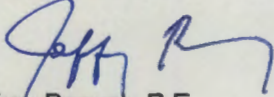
The attached qualifications statement demonstrates that BBEC maintains the technical ability to address the needs of Jefferson Parish and assist them in the execution of any Water project. BBEC, an engineering consulting firm specializing in civil engineering design, construction management, grant management and computer consulting services, is fully qualified to provide the engineering services necessary.

BBEC's staff has substantial experience with water and wastewater construction projects including specific experience with Jefferson Parish's water treatment and distribution systems, having designed and/or managed the construction of various improvement projects to both the east and west bank water treatment plants, and specific repairs and improvement to the west bank distribution system.

As noted in this Statement of Qualifications, BBEC has substantial management of projects in neighboring parishes as well. The projects include drainage, water, sewer, and roadway construction, sidewalk and driveway connections, utility relocation and coordination, levee construction and renovation, flood control analysis, and all incidental work.

Once again, we sincerely appreciate the opportunity to submit this Statement of Qualifications to Jefferson Parish, and we look forward to serving you.

Very truly yours,
BAROWKA AND BONURA ENGINEERS AND CONSULTANTS, L.L.C.


Jeffrey Bonura, P.E.
Member

A. Project Name and Advertisement Resolution Number:

Routine Engineering Services for Water Projects (Resolution # 138809)

B. Firm Name & Address:

**Barowka and Bonura Engineers and Consultants, L.L.C.
209 Canal Street, Metairie, LA 70005**

C. Name, title and contact information of Principal, as defined in Section 2-926 of the Jefferson Parish Code of Ordinances, who is a registered, licensed architect, professional engineer, or surveyor in the State of Louisiana:

**Jeffrey A. Bonura, P.E.
Member
Office: (504) 828-0030
Fax: (504) 828-8006
Email: jbonura@bbecllc.com**

D. Name and contact information of employee who is a registered and licensed architect, professional engineer, or surveyor in the State of Louisiana in the applicable discipline. A subcontractor may be substituted here only if the advertised Project requires more than one discipline.

**Kevin Forschler, P.E.
Office: (504) 828-0030
Fax: (504) 828-8006
Email: kforschler@bbecllc.com**

E. Please provide the number of employees whose primary function corresponds with each category:

<u>3</u> Administrative	<u>1</u> Estimators	<u>1</u> Specification Writers
<u>0</u> Architects (Licensed)	<u>0</u> Geologists	<u>0</u> Structural Engineers
<u>0</u> Chemical Engineers	<u>0</u> Geotechnical Engineers	<u>1</u> Graduate Engineers
<u>4</u> Civil Engineers	<u>0</u> Interior Designers	<u>1</u> Project Managers
<u>3</u> Construction Inspectors	<u>0</u> Landscape Architects	<u>1</u> Clerical
<u>0</u> Ecologists	<u>0</u> Land Surveyor	<u>3</u> Grant/Funding Specialist
<u>1</u> Electrical Engineers	<u>0</u> Mechanical Engineers	<u>0</u> Sanitary Engineers
<u>0</u> Engineer Intern	<u>0</u> Environmental Engineers	
<u>0</u> Professional Land Surveyors		<u>19</u> TOTAL

F. Is this submittal by a JOINT-VENTURE? Please check: YES ☐ NO ☒
If marked "No" skip to Section I. If marked "yes" complete Sections G-H.

G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.		
1. N/A		
2. N/A		
H. Has this JOINT-VENTURE previously worked together? Please check: N/A YES _____ NO _____		
I. List all subcontractors anticipated for this Project. Please note that <u>all subcontractors must submit a fully completed copy of this questionnaire</u>, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.		
Name & Address:	Specialty:	Worked with Firm Before (Yes or No):
1. BBEC will obtain prior approval from the Parish before utilizing a subconsultant should one be deemed necessary. Further, we will work with any sub-consultant or support consultant assigned to us for a specific project.		
2.		
3.		
J. Please specify the total number of support personnel that may assist in the completion of this Project: <div style="border-bottom: 1px solid black; display: inline-block; width: 100px;">19</div>		

K. List the professional in charge, key persons, specialists, and individual consultants anticipated for this Project and provide their relevant information below. If necessary, please attach additional documentation (i.e. resume) that demonstrates the employment history and experience of the Firm's key persons that may assist in the completion of this Project. Please attach additional pages if necessary.

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

**Jeffrey Bonura, P.E.
Member**

Project Assignment:

Supervising Professional / Project Manager

Name of Firm with which associated:



**Barowka and Bonura
Engineers and Consultants, L.L.C.**

Years' experience with this Firm:

25

Education: Degree(s)/Year/Specialization:

B.S. / 1991 / Civil Engineering

Active registration: Year first registered/discipline:

1995 / Civil

Other experience and qualifications relevant to the proposed Project:

Mr. Jeffrey Bonura, P.E. is the sole owner of the firm of Barowka and Bonura Engineers and Consultants, L.L.C. Mr. Bonura began his career in 1988 and since that time has worked as a project engineer, project manager and program manager on municipal, commercial, institutional and industrial projects. For about 10 years, Mr. Bonura worked for an international engineering firm focused on water and wastewater projects only.

His professional engineering experience includes the design, project management, and construction administration of a broad range of projects including water and wastewater treatment plant design and operation and maintenance management, landfill leachate collection and treatment, water transmission, wastewater collection, and stormwater management. He also has substantial experience in roadway and drainage planning, design, and construction management for civil and structural engineering projects.

Mr. Bonura has performed engineering services for over **\$200 million in Public Works projects including several water** treatment plant expansion and improvements projects along the Mississippi River in Southeast

Louisiana, His responsibilities include work plan preparation, budgeting, cost control, and monitoring, team supervision, engineering design, permitting and construction management.

Mr. Bonura's grant management experience includes project formulation, cost estimation, fund accounting, and pursuit of a broad range of federally funded grants.

Projects with detailed descriptions of work are provided below:

East Bank Water Treatment Plant Expansion, Jefferson Parish, LA, 1992

Mr. Bonura was Project Engineer and Construction Manager for the 17 MGD expansion to the East Bank Water Treatment Plant. Throughout the construction phase of the project, Mr. Bonura coordinated the construction and implementation of the automation system that could and would monitor and operate the complete function of the water treatment plant remotely. During the start-up phase of the project, Mr. Bonura managed the instrumentation technicians developing the various interface and interface screens to connect the PC-based software to the remote terminal units.

The project included a new raw water venturi flow meter, rapid mix basin (designed for 68 MGD), two new precipitator basins (designed for 8.5 MGD each), renovations to the ten existing sand filters to dual media filters (new capacity of 68 MGD), new high service pumping facilities and clearwell (designed for 51 MGD), and modifications to the existing high service pumping facilities to become a transfer station to storage. The entire facility received a new DCS control system, which is completely automated. The overall project increased the plant capacity from 34 MGD to 51 MGD and left the necessary piping and valves to simplify a future 17 MGD expansion by only adding two new precipitator basins and two new high service pumps. The project also left provisions for connection to a new disinfection system in anticipation of new EPA Safe Drinking Water Act regulations.

The project included constructing or renovating various buildings and structures to house the water treatment improvements. The building construction included the removal of existing masonry walls, connecting to the existing walls, roof, and foundation, and expanding the office building portion of the complex. The project also included the construction of new cmu buildings and concrete structures, and associated foundations. A test pile program was implemented for the project to determine the optimum foundation for the project structures.

West Bank Water Treatment Plant Sludge Pumping Facilities, Jefferson Parish, LA

As Project Engineer and Construction Manager for the West Bank Water Treatment Plant Sludge Pumping Facilities project, Mr. Bonura prepared plans and specifications required to completely renovate and upgrade the existing sludge pumping facilities to a capacity of 28 MGD, and to allow for the existing sludge and raw water lines to be interchangeable.

West Bank Water Distribution Improvements, Jefferson Parish, LA, 1999

Mr. Bonura was Project Engineer for Westbank Water Distribution Improvements Jefferson Parish Project. The project included a water valve and hydrant replacement project, a water line replacement feasibility study, and a new water line construction project along Nicole Blvd. Mr. Bonura prepared plans and specifications for the valve and hydrant project, and managed the project through construction, prepared the feasibility study for the submittal, and performed the preliminary engineering efforts for the Nicole Blvd. waterline but changed employment before the design was completed.

Water Master Plan, Jefferson Parish, LA

Mr. Bonura assisted the Project Engineer for this project, which included a complete analysis of the 5 water treatment plants and two separate water distribution systems for Jefferson Parish, Louisiana. Mr. Bonura assisted with developing the computer models of both distribution systems, evaluating the systems with the models, and estimating the cost and constructability of the recommended improvements for the distribution system. Mr. Bonura

also assisted with the treatment plant evaluation with regard to their current treatment process, operation and constructability.

West Bank Water Treatment Plant 5MG Ground Storage Tank, Jefferson Parish, LA, 1996

The project consisted of designing a new 5 million gallon ground storage tank for the West Bank Water Treatment Plant in Jefferson Parish, and the rehabilitation of the existing 5 million gallon ground storage tank. Mr. Bonura developed plans and specifications for the project and provided services during bidding. The project included all necessary piping and valves to connect the storage tank to the finished water system to be used as drinking water or finished water for plant use.

West Bank Water Treatment Plant Raw Water Intake Levee Crossing, Jefferson Parish, LA, 1991

Mr. Bonura designed and managed through construction the Gretna Raw Water Intake and Sludge Discharge Levee Crossing project for the West Bank Water Treatment Plant, prepared all permits, plans, and specifications required for the project and aided the Parish in securing federal funding for a portion of the work. The project consisted of a levee crossing for 36-inch, 24-inch, and 10-inch diameter pipe, a vacuum system for priming raw water intake pumps, and lining an existing raw water line with a cast-in-place pipe liner. The levee crossing consisted of installing steel sheet piles at the core of the levee, installing sleeves through the steel sheet piles for the pipe to penetrate the levee, perform the necessary earthwork on the levee per USACE standards, the installation of concrete pipe supports, and to finish the river side surface with sloped paving. All work was coordinated with an on-going sloped-paving project performed under the USACE that was occurring on both sides of the project.

During the construction phase of the project, the existing 24-inch raw water pipe was found to be severely corroded and required replacement or rehabilitation. Mr. Bonura evaluated the options, including the applicability of CIPP lining of portable water mains, and designed a CIPP system to rehabilitate the existing 24-inch pipe through a series of bends under a state highway and connecting to flanged fittings on both ends.

Chemical Feed System, Jefferson Parish, LA, 1996

Mr. Bonura served as Project Engineer, Project Manager, and Construction Manager of the chemical feed improvements project which replaced the existing dry and liquid chemical feed systems with new state-of-the-art, automated chemical feed systems for each of the six water treatment plants in Jefferson Parish, ranging from 5 MGD to 51 MGD. Mr. Bonura managed the design of the automation system that would eventually allow the chemical feed systems to automatically feed chemicals, measure chemical weights, self-calibrate chemical feed equipment, interface with other automation systems, automatically develop reports submitted to EPA and DHH. While the system was designed to run itself, it could completely be controlled remotely.

The project included chemical feed systems for liquid polymers, bimetallic phosphate, hydroflousilic acid, powdered activated carbon, liquid chlorine, and ammonia. Each of the systems sends feed rate, chemical usage, and operation status data to a supervisory control system from which each component of the feed system can be observed and operated. As Project Engineer, Mr. Bonura designed the aforementioned systems and administered the work through construction.

Eden Isles Water Main Repair, St. Tammany Parish, 07/2020-Present

Mr. Bonura is serving as Supervising Engineer for this project which consists of crossing a 400' wide waterway with a 10-inch potable water line in Slidell, Louisiana. The projects includes connecting to existing water lines on both sides of the new pipe, including valves and flushing units; and, working alongside and crossing a concrete bulkhead and high voltage power lines. BBEC's role included:

- Design directional drilling the main about 700 feet
- Coordinating with Cleco Power to locate and establish temporary power shut-downs so the work could be performed safely

- Work with a local contractor to locate the existing conflicts, including the high voltage Cleco Power lines
- Communicating with and assist in securing the required servitudes and easements from the property owners on both sides of the waterway
- Apply for and secure the required LDH, Parish, and Coastal Use Permits
- Perform services during bidding

The project is expected to cost \$350,000. The project is currently under construction.

Eden Isles Subdivision Drinking Water Systems Disinfection Improvements, St. Tammany Parish, LA, 07/2020-Present

Mr. Bonura is serving as Supervising Engineer for this project which includes upgrading the system's disinfection system and converting the disinfection process from a free chlorine system to a total chlorine system. The scope of work includes installing a new elevated chemical building, new automated chemical feed pumps and controls, storage tank, a chlorine analyzer, and sufficient SCADA for remote monitoring and limited control. The project included working with the contractor to perform value engineering to reduce the overall contract cost.

The project is expected to cost about \$300,000. The project is currently under construction and is near substantial completion.

The Meadows and Belair Subdivisions Drinking Water Systems Disinfection Improvements, St. Tammany Parish, LA, 07/2020-Present

Mr. Bonura is serving as Supervising Engineer for this project which includes upgrading the system's disinfection system and converting the disinfection process from a free chlorine system to a total chlorine system. The scope of work includes installing a new elevated chemical building, new automated chemical feed pumps and controls, storage tank, a chlorine analyzer, and sufficient SCADA for remote monitoring and limited control.

The project included working with the contractor to perform value engineering to reduce the overall contract cost.

The project is expected to cost about \$500,000. The project is currently under construction and is near substantial completion.

Acadiana Water and Sewer, Lafayette, LA, 07/14/2020-Present

Mr. Bonura is serving as Supervising Engineer for this project which includes the rehabilitation and upgrades to the existing extended aeration sewer plants for the Belleville, Garden Heights, and Markridge Subdivisions in Lafayette Parish, Louisiana. The treatment plants capacities are 32,000 GPD, 27,000 GPD, and 29,000 GPD, respectively. BBEC performed an evaluation of the existing systems, applied for and secured the necessary Parish and LDH permits, and designed the improvements to each facility.

The existing treatment plants are steel extended aeration wastewater treatment facilities. The steel structures and aeration piping and diffusers required structural repairs due to corrosion. The scope of the project includes structural steel repairs to the tanks and frame, painting of existing steel, provision of access stairs, walkways, and safety rails, new air piping, a new fine static screen with disposal bin, a new flow measurement weir, replacement of the return sludge lines, and leak repairs to the concrete sludge holding tank.

Final designs are complete; and BBEC awaits client authorization to commence the bidding and construction phased of the work. The project is estimated to cost \$2,100,000.

Emergency Water Point Repairs, St. Bernard Parish, LA

Numerous water lines and hydrants were damaged by Katrina. BBEC developed plans and specifications for a unit price contract to repair the water distribution system, handled the project through bidding, and performed

construction administration and resident inspection services through completion of the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

East Bank Water Treatment Plant Improvements, Jefferson Parish, LA, 11/2014-Present

Mr. Bonura is currently supervising the design of the 40 mgd remote high service pumping station, site paving, grading, and drainage, and yard piping.

- The remote high service pump station consists of 3 installed and the complete set up for 1 future 20-inch vertical turbine pumps mounted in a “can” installation. The controls will be connected to other plant functions so the station will be operated through the main plant’s control system. The structure will be a cast in place concrete substructure with a CMU wall superstructure.
- The paving, grading, and drainage is a two-phased project for an almost 9-acre plant site. The work includes connecting to existing and new buildings, connecting to existing pavement and utilities, and the design of parking facilities and delivery and loading facilities.
- The yard piping consists of about 2,500 feet of 36-inch to 54-inch pipe, and several thousand feet of smaller pipe, navigating the through a site congested with many conflicts. The work is being designed to connect to existing systems with automated remote controlled valves and valve boxes and by minimizing disruption to plant services.

The work also includes coordinating with other engineering disciplines (structural, geotechnical, mechanical, architectural, electrical, and instrumentation) and the project owner.

Miscellaneous Water and Sewer Point Repairs, St. Bernard Parish, LA, 2005-2007

The project consisted of the rehabilitation of the existing water distribution system and the existing sanitary sewerage collection and conveyance system; including repair or replacement of existing water and sewer main pipe, replacement of service connections, fire hydrant adjustments, sterilization of water lines, and temporary and final restoration. BBEC developed plans and specifications for a unit price contract to repair the water distribution system, handled the project through bidding, and performed construction administration and resident inspection services through completion of the project. Mr. Bonura also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**Name & Title:**

**John Housey, P.E.
Project Engineer**

Project Assignment:

Project Engineer / Project Development

Name of Firm with which associated:

**Barowka and Bonura
Engineers and Consultants, L.L.C.**

Years' experience with this Firm:

10.5

Education: Degree(s)/Year/Specialization:

**M.S. / 1965 / Structural Engineering
B.S. / 1964 / Civil Engineering**

Active registration: Year first registered/discipline:

1966 / Civil

Other experience and qualifications relevant to the proposed Project:

Mr. Housey has been working as an engineer in the public works industry for over 54 years. His experience includes bridges, buildings, roadways, and utility (water, sewer, and drainage) construction. He has substantial experience in project management, steel building detailing, bridges, barges and parts for offshore platforms. As a steel fabricator, Mr. Housey oversaw the fabrication of steel buildings, steel bridges (stationary and movable), barges, various parts of offshore platforms including girders, piling and legs, floor and wall framing, various parts of ships including bulkheads and framing members. Over the past 54 years, he has been responsible for the design of crane runways, spreader bars, lifting frames, and hydraulic jacking of heavy structures and barges.

Mr. Housey managed the construction of over \$40 million in asphaltic concrete (AC) and Portland cement concrete (PCC) roadways funded by FEMA Public Assistance Grants. He has intimate knowledge in how various site conditions affect the construction and performance of the roadways, as well as how to maintain the necessary documentation to comply with the funding federal programs.

Mr. Housey is a past Board Member and President of the Southern Association of Steel Fabrication. He served as a member on AISC committee regarding quality control. As a member and past Chairman of the ASCE/SEI Structures Committee in New Orleans for several years, he is familiar with the design of bridges, buildings and residential structures. He is familiar with fabrication specifications of API, AWS, AREA, AISC and ABS

Projects with detailed descriptions of work are provided below:

Cleary Improvements (Veterans Blvd. to West Esplanade Ave.) (Council District 5), Jefferson Parish, LA, 11/2017-Present

Mr. Housey supervised and reviewed CAD drawings of waterlines as requested by the Parish.

Coast Water Projects, St. Tammany Parish, LA., 12/2020-Present
Eden Isles Water and Meadows Water

He has designed structural requirements for the Magnolia Water Disinfection Project at Eden Isles.

H2O Water Projects, St. Tammany Parish, LA., 12/2020-Present

He has obtained various permits for Magnolia Water Company for the Disinfection Project, the Flushing Project and the Water Line Repair Project.

East Bank Water Treatment Plant Improvements, Jefferson Parish, LA, 12/2016-Present

As Project Manager, Mr. Housey supervises and coordinates drainage and process piping for both the Laboratory and the P4 Plant. He attends progress design meetings with other disciplines and field visits as required to locate existing utilities and prepares specifications and required design calculations. Design includes calculations for pressure piping flow, thrusts and supports; also drainage requirements and system design.

Access Ways & Ladders at Drainage Pump Stations; Project No. 2014-022-DR, Jefferson Parish, LA, 11/2014-Present

Mr. Housey has prepared cost estimates and designed ladders, stairs, and elevated walkways to be installed in 16 drainage pump stations to connect elevated structures or allow personnel to access the top of structures within Jefferson Parish. Design included analysis and details to retrofit new items to existing structures.

Acadiana Water and Sewer, Lafayette, LA., 01/2021-Present

Mr. Housey has designed repairs and additions to three wastewater treatment plants for Acadiana Water in Lafayette Parish.

Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals, St. Bernard Parish, LA, 01/2015-Present

The project includes increasing the capacity and improving the stability of Congressman Hebert, Creely, and Bluebird Canals, that consists of 11,600 linear feet of open canal and culverts ranging from 4-feet bottom width to 16-feet bottom width channels. Mr. Housey coordinated with St. Bernard Parish, Lake Borgne Basin Levee District, and the Louisiana Department of Transportation and Development to obtain information regarding the existing drainage plan. BBEC established the design cross sections for the channels, which included concrete u-channels, concrete box culverts, and round and arched pipe, and concrete lined trapezoidal sections, depending on the availability of land and other conditions. Mr. Housey is currently designing 2,500 linear feet of large diameter reinforced concrete pipe box culverts, and U-channels for the project.

Project Worksheet 20824 – Storm Drains, Jean Lafitte Parkway Drainage Line Repairs/Replacement, St. Bernard Parish, LA, 06/2014-11/2019

Mr. Housey prepared the damage assessment to adjacent existing roadway.

Lower 45 Evacuation Route Basin, Lafitte Tidal Protection, Lafitte Area Independent District, LA, 05/2018-Present

As Project Manager, Mr. Housey is providing design alignment and earthen levee.

Private Residential Structure Elevation Project, Statewide (HMGP Project), 10/2012-02/2014

The project included performing plan review for grant compliance and some technical aspects of the elevation of residential structures throughout south Louisiana. The project also includes performing periodic inspections of the

construction work to verify compliance with the project plans. Mr. Housey was responsible for providing professional engineering, program management, construction monitoring, observation of construction methods, code enforcement compliance, and general monitoring technical assistance services in association with construction contractors elevating and/or reconstructing residential structures for eligible construction activities through the Hazard Mitigation Grant Program (HMGP).

Repair of Venice Marina, Plaquemines Parish, LA, 2013-2015

Mr. Housey designed the Venice Marina project located in Plaquemines Parish in Venice, Louisiana. The project consisted of repairs to the damages of the Venice Marina caused by Hurricane Isaac.

Repair of Buras Marina, Plaquemines Parish, LA, 2013-2015

Mr. Housey designed the Buras Marina project located in Plaquemines Parish in Buras, Louisiana. The project consists of repairs of the damages to the Buras Marina caused by Hurricane Isaac.

Orleans Materials & Equipment Company, Inc.

As Project manager, Mr. Housey was responsible for interpreting plans and specifications, interacting with owner, engineer and contractor, resolving discrepancies, ensuring quality of construction and maintaining construction schedule. Many projects included modifications to existing structures for increased load capacity, replacement of existing structural members, connections or other requirements. Requirements for pumping stations usually included all steel requirements including columns, crane runways, bar screens and floor grating.

Sample projects completed by Mr. Housey include:

Bulkheads

- H-Piling for T-Wall at the Industrial Canal (Cajun Contractors)
- Sheet Piling for Gate at Bayou Bienvenue (Manson Construction Company)
- Sheet Piling for Louisiana Citrus at Venice, LA

Bridges

- **Sunshine Bridge**, St. James Parish, LA

Removal and replacement of concrete and steel bridge decking across the entire span of Sunshine Bridge including all field measurements required to replace steel gussets and floor beams.

- **Bayou Milhome Swing Span Bridge**, St. Martin Parish, LA

Complete new bridge structure including floor beams, grating, pivot girder, and related items.

- **Bayou Lafourche Lift Span Bridge**, Larose, LA

Complete new bridge structure including floor beams, grading, lift girders, and related items.

- **Intracoastal Waterway Bascule Bridge**

Complete steel framing including floor beams, grating trunnion support girders and related items.

Pumping Stations

- **Hero Canal Pumping Station**

All structural steel, walkway grating, bar screens, and related items.

- **Citrus Pumping Station**

All structural steel, walkway grating, bar screens, and related items.

- **Michoud Pumping Station**

All structural steel, walkway grating, bar screens, and related items.

- **Pumping Station No. 6**

All structural steel, walkway grating, bar screens, and related items.

Ingram Contractors

Mr. Housey prepared bids for fabrication and installation of offshore platforms, and supervised yard fabrication and

offshore installation of platforms in the Gulf of Mexico. He spent 6 months in Egypt as field engineer/project manager installing platforms in the Gulf of Suez.

RR176 – St. Roch Group North Group A (PMOI), City of New Orleans, LA, 10/2019-Present

As part of BBEC design team, Mr. Housey met with DPW representatives and surveyed damage to existing streets, reviewed and designed repairs to existing streets, including roadway profiles and drainage requirements.

RR177 – St. Roch Group North Group B (FRC), City of New Orleans, LA, 11/2019-Present

As part of BBEC design team, Mr. Housey met with DPW representatives and surveyed damage to existing streets, reviewed and designed repairs to existing streets, including roadway profiles and drainage requirements.

RR178 – St. Roch Group North Group C (FRC), City of New Orleans, LA, 11/2019-Present

As part of BBEC design team, Mr. Housey met with DPW representatives and surveyed damage to existing streets, reviewed and designed repairs to existing streets, including roadway profiles and drainage requirements.

Lakefront Pedestrian Path (Suburban Canal to Causeway), State Project No. H011780, JP Project No. 2015-010-RB, Jefferson Parish, LA, 05/2020-Present

Mr. Housey reviews test reports for asphalt binder with DOTD and Barriere Construction for approval, verifies all quantities with Inspector's daily reports, resolves asphalt quantities based on drawings, truck deliveries and DOTD specifications, prepares final change order to resolve actual quantities for payment, and prepares closeout documents. Mr. Housey also provided guidance and oversight to the resident inspector.

Hurricane Katrina Roadway Restoration, St. Bernard Parish, LA, 05/2011-08/2017

Mr. Housey provided Construction Administration services and Supervised Resident Inspectors for over \$102 Million in roadway repair for 436 streets. Mr. Housey developed plans and construction cost estimates as well as managed the construction of facility repairs. He reviewed contractor submittals for conformity, resolved construction issues and led field progress meetings. Mr. Housey coordinated with the Contractor, Parish, and inspectors to troubleshoot issues in the field, resolved neighbor complaints, interpreted design specs to maintain the quality and standards of the work, and ensured that the work is satisfactorily completed. Mr. Housey reviewed all test reports for conformity to specifications, performed substantial and final completion walk-throughs for acceptance, reviewed as-builts for work completed, and reviewed contractor's monthly invoices and quantities.

Woodmere Boulevard Panel Replacement, JP Project No. 2017-061-RBP, State Project No. H012884.6, Jefferson Parish, LA, 08/2019-Present

Mr. Housey reviewed the contract documents from the LADOTD and discovered inconsistencies in the plans and quantities. He laid out street where work was required, supervised CAD drawing preparation and revised required quantities. He is preparing change orders for final quantities and closeout.

Read Blvd. East Group C, Capital Improvement Program, Project No. 2016-RR146 (PW No. 21032), City of New Orleans, LA, 03/2017-Present

As Project Manager, Mr. Housey has designed requirements to remove damage to existing streets and replace with new concrete streets and proper drainage profiles. He also is providing Contract Administration on this project. This involves overseeing the resident inspector and reviewing inspection reports, approval of construction materials, conducting bi-weekly progress meeting, approving construction invoices and keeping the client informed of construction progress, issues and other items. The CCTV Inspection of the existing drainage lines revealed the need for multiple repairs to existing drainage lines. This has required evaluation of method of repair and associated costs.

Engineering Services for the Four-Year Road Maintenance Program (2019 Task Order), St. Charles Parish, LA

Mr. Housey was project engineer for the construction of asphalt patches and mill/overlay on 12 streets in the

Parish. The work consisted of 20,000 square yards of mill and overlay work, 1200 tons of full depth asphalt pavement patching, and related traffic control and connections to existing driveways. Mr. Housey was responsible for all construction administration and resident inspection activities, including project start-up, coordination with Parish and testing lab, shop drawing reviews, contractor pay estimates, change orders, complaint and conflict resolution, acceptance, and contract closeout. Mr. Housey also provided guidance and oversight to the resident inspector.

Engineering Services for the Four-Year Road Maintenance Program, St. Charles Parish, LA, 01/2019-09/2020

Mr. Housey was project engineer for the construction of asphalt patches and mill/overlay on 12 streets in the Parish. The work consisted of 20,000 square yards of mill and overlay work, 1200 tons of full depth asphalt pavement patching, and related traffic control and connections to existing driveways. Mr. Housey was responsible for all construction administration and resident inspection activities, including project start-up, coordination with Parish and testing lab, shop drawing reviews, contractor pay estimates, change orders, complaint and conflict resolution, acceptance, and contract closeout. Mr. Housey also provided guidance and oversight to the resident inspector.

Task Order	# of Streets	Mill Overlay	Full Depth Asphalt Pavement Patching
2019	12	20,000	1,200
2018	19	18,000	900
Total	31	38,000	2,100

Mid-City Street Improvements, New Orleans, LA, 11/2012-11/2016

Mr. Housey reviewed and updated drawings based on client comments. He oversaw the revising of the CAD drawings to ensure conformance with project requirements. He maintained the tracking system of various bid items at each location with updates and totals as needed.

Gentilly Woods Street Improvements, New Orleans, LA, 01/2013-07/2016

Mr. Housey reviewed and updated drawings based on client comments. He oversaw the revising of the CAD drawings to ensure conformance with project requirements. He maintained the tracking system of various bid items at each location with updates and totals as needed.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**Name & Title:**

**Madan Kamboj, P.E.
Project Engineer**

Project Assignment:

Project Engineer / Project Development

Name of Firm with which associated:

**Barowka and Bonura
Engineers and Consultants, L.L.C.**

Years' experience with this Firm:

1.5

Education: Degree(s)/Year/Specialization:

**M.S. / 1978 / Civil Engineering: Structures/Soil Mechanics
B.S. / 1967 / Civil Engineering**

Active registration: Year first registered/discipline:

1977 / Civil - Environmental

Other experience and qualifications relevant to the proposed Project:

Mr. Kamboj has more than 41 years of experience performing project design, construction administration, and project monitoring for general civil projects including water and sewer treatment plants, drainage, utilities, streets, highways and bridges, buildings, multi-story parking garages; airport taxiways, traffic separation facilities, bike paths, and overhead pedestrian walkways at high traffic intersections.

Mr. Kamboj has successfully attended a course in "Highway Capacity Manual" at New York Polytechnical. He led a team of Engineers and Cost Estimators for conducting line and grade studies for North South Expressway in Northern Louisiana which eventually became Interstate 49. This project includes Hydraulic Design of culverts, pavement type analysis, intersection geometry and cost estimates for each projected alignment analysis. Mr. Kamboj designed twelve (12) miles of US-61 four lane highway in Wilkinson County, Mississippi for MDOT. He evaluated geometrical design, profile and grades, intersection layout, culvert analysis and cost estimation for construction. Mr. Kamboj designed city streets for C.J. Peete including geometry, pavement, design, intersection improvements, redesigning utilities (e.g. water, sewer, gas) and drainage improvements. The cost of street improvements was \$24M.

Projects with detailed descriptions of work are provided below:

Gloria Drive Pump Station, Project No. 20-2022A, Lafitte Area Independent Levee District Drainage, Town of Jean Lafitte, LA., 02/2021 – Present

Mr. Kamboj is providing Structural and Foundation design of Gloria Drive Pumping Station and approximately 70

Ft. long Steel Sheet Pile wall supported by ASTM D25 Timber Piles. The Pump Station design incorporates designing foundations supported by 14"X 14" PPC Piles, Concrete Base Level, Middle Level and Roof Slabs, Concrete Enclosure Walls & Structural Supports for Pump Station Screens. The present Generator Structure will be enlarged and strengthened to accommodate new electrical equipment.

CN Railroad Culverts in Ormond, Project No. P200801, Ordinance No. 20-9-5, St. Charles Parish, LA, 10/2020-Present

Mr. Kamboj is preparing drainage improvements by the Jack & Bore method of multiple culvert sites to improve frequent flooding in Luling, St. Charles Parish. Multiple culverts employing Jacking Method are to be rammed under the road embankment by using 72", 60" and 48" metal pipes. The ditches on inlet and outlet shall be improved by providing Conspan Culvert Bridges and these ditches shall be provided with G.C.C.M. lining to improve flow of rain discharge. The project cost is \$6.2M.

Acadiana Water and Sewer, Lafayette, LA, 12/2020-Present

Bellville Wastewater Treatment, Garden Height & Mark Ridge Wastewater Treatment Plants Mr. Kamboj is completing the design of Bar Screens and support structures, removal and upgrades for existing air valves and diffusers and replacement of rusted pipe hangers & other pipe supports.

Westbank Mississippi River Bike Trail, Around Avondale Shipyard, (2017-059-RBP), Jefferson Parish, LA, 12/2020-Present

Mr. Kamboj is designing a 2.3 milelong bike path along River Road and finishing on the top of Mississippi River Levee. The bike path is designed to provide separated path to the pedestrians and shall provide safety by separating bike and pedestrian traffic. The project cost is \$350,000.

RR176 – St. Roch Group North Group A (PMOI), City of New Orleans, LA, 10/2019-Present

Mr. Kamboj is currently performing design services for FEMA-eligible street repairs in the area south of I-610, north of the Florida Ave. canal, east of N. Broad St., and west of Elysian Fields Ave. The scope of work for each street varies and includes the following types of work: replacement of sidewalks and driveways, incidental road repairs determined by FEMA, and full replacement of roadway section and subsurface sewer, water, and/or drainage. He is also assisting with the design of roadways receiving full pavement replacement and subsurface utility relocations/improvements and creating plans for the construction of the proposed work. The project contains 39 streets with a cost estimate of \$6,054,030.68.

RR177 – St. Roch Group North Group B (FRC), City of New Orleans, LA, 10/2019-Present

Mr. Kamboj is currently performing design services for FEMA-eligible street repairs in the area south of I-610, north of the Florida Ave. canal, east of Elysian Fields Ave., and west of St. Roch Ave. The scope of work for each street varies and includes the following types of work: replacement of sidewalks and driveways, incidental road repairs determined by FEMA, and full replacement of roadway section and subsurface sewer, water, and/or drainage. He is also assisting with the design of the roadways receiving full pavement replacement and subsurface utility relocations/improvements and creating plans for the construction of the proposed work. The project contains 33 streets with a cost estimate of \$6,161,483.33.

RR178 – St. Roch Group North Group C (FRC), City of New Orleans, LA, 10/2019-Present

Mr. Kamboj is currently performing design services for FEMA-eligible street repairs in the south of I-610, north of the Florida Ave. canal, east of St Roch Ave., and west of the Peoples Ave. canal. The scope of work for each street varies and includes the following types of work: replacement of sidewalks and driveways, incidental road repairs determined by FEMA, and full replacement of roadway section and subsurface sewer, water, and/or drainage. He is also assisting with the design of the roadways receiving full pavement replacement and subsurface utility relocations/improvements and creating plans for the construction of the proposed work. The project contains 48 streets with a cost estimate of \$5,485,357.95.

I.M.S. Engineers, New Orleans, LA, 05/2018-03/2020

Mr. Kamboj provided quality control over IMS Projects in Houston, Texas, New Orleans, & Memphis Tennessee. The Projects included Byram Clinton Overpass 55x144X55 Post Tensioned Box, City of Memphis Parking Garage Rehabilitation \$ 8.5 Million Const. Cost. NWEPP Water Treatment Plant, Humble TX. He also mentored younger engineers, interns and he reviewed project calculations and drawings on this captioned project.

Julien Engineering & Consulting, New Orleans, LA, 09/2006-08/2013

Mr. Kamboj served as Senior Project Manager for the design & construction management of the C.J. Peete Housing Project \$183 Million - 460 Units, Imperial, Tchoupitoulas & Ogden Multi-Family development, Total 150 units each. Walnut Square development in E. New Orleans, LA., 220 Units. Dillard University, Stern & Rosenwald Hall Improvements.

RM Clayout Facility, Atlanta, Georgia, 04/2004-09/2006

While employed with Delon Hampton Associates, Mr. Kamboj was responsible for construction supervision of RM Clayout Facility. RM Clayton Wastewater Treatment Plant is designed to pump 100 million gallons per day to new CSO plant. Two submersible dewatering pumps with a capacity of 4.3 MGD keep the groundwater that may infiltrate the plant.

Clear Creek CSO Treatment Facility, Atlanta, Georgia, 04/2004-09/2006

While employed with Delon Hampton Associates, Mr. Kamboj was in charge of the structural design group. The Clear Creek CSO Treatment serves as one of the largest combined sewershed of the City's seven (7) CSO facilities and includes the downtown business district and midtown areas. Dry weather flow 40 MGD is routed to the Peachtree Intercept which then takes the flow to RM Clayton WRC for treatment. Wet weather flow is routed to Clear Creek CSO facility for treatment before being discharged to open channel that leads to Clear Creek.

Florida Avenue Bridge Extension, New Orleans, LA, 04/2003-10/2004

Mr. Kamboj served as Project Manager/Senior Civil Engineer for the following: Planned E.I.S. documents for \$135 million, Florida Avenue bridge crossing over Inter-Coastal Waterway, in New Orleans LA. The main span for the crossing is 450 ft with side spans of 275 ft. each, the clearance over the channel is 156 ft. vertical and 350 ft. horizontal. Multi-directional interchanges at Alvar Street/ Poland Ave., Caffin Avenue and Tupelo Streets. The roadway continues into St Bernard Parish and ties at-grade to Paris Road (LA 47).

His responsibilities included line and grade studies, public input for E.I.S. document, plan profile of various alternates, cost estimation, utility relocations, right-of-way studies, traffic, noise impacts, and maritime traffic studies for movable and fixed span bridge structures.

B & E Jackson Engineers, Atlanta, GA., 06/2001-11/2003

Mr. Kamboj performed planning and preliminary design for rerouting I-285 with twin tunnel structures under proposed New Runway V and related Taxiway 10-28 at Hartsfield Airport. He also performed planning and preliminary design for I-285 from Riverdale Road (GA 139) to Lake Mirror Road, detailed construction sequence, traffic detours, and construction estimation. Project Const Cost: \$ 160 million. Consolidated Rental Car facility planning, preliminary design for people movers, parking garages and maintenance facilities for all rental carriers at Hartsfield airport. Concourse E planning and preliminary design for land side at-grade and elevated access at the airport, improvements to Airport Blvd. Roadways, ramps and retaining wall structures, geometry and profiles, drainage and utility relocations. Project Const. Cost: \$ 182 million.

Burk Klienpeter Inc. Consulting Engineers, City of New Orleans, LA, 09/1999-09/2000 & 04/1994-06/1996

Mr. Kamboj's work included the design of sewer and water treatment projects including clarifiers, contact chambers, secondary treatment chambers, sludge digesters, silting basins for New Orleans Sewer and Water Board and Jefferson and St. Bernard Parishes. He also completed the design of industrial building for cargo containers at Chalmette Storage complex at Old Kaiser Plant site and designed and supervised over engineering-

interns, technicians and cad operators for I-10 and I-610 multi-directional Interchange for LA DOT. The design involved column and pile bent substructures, prestressed girders, steel plate girders, roadway slabs, approach slabs and retaining walls. Project Const. Cost: \$ 32 million.

Volkert Consulting Engineer, Metairie LA, 1990-1994

Mr. Kamboj designed US 61 12 miles of four lane highway in Wilkinson County for MDOT, designed geometry, plan & profile, drainage culverts with HY-8, drainage ditches and construction sequencing.

Mr. Kamboj designed 6500 ft long, 75 wide Taxiway at New Orleans International Airport in Kenner LA, this Taxiway was surcharged with 13 ft high fill to reduce after construction settlement. The cross Taxiways leading to East West Runway had 8 ft of Polystyrene under the pavement to reduce differential settlement at the intersections to the East West Runway.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**Name & Title:**

**Kevin Forschler, P.E.
Project Engineer**

Project Assignment:

Project Engineer / Model Development

Name of Firm with which associated:

**Barowka and Bonura
Engineers and Consultants, L.L.C.**

Years' experience with this Firm:

7

Education: Degree(s)/Year/Specialization:

B.S. / 2014 / Civil

Active registration: Year first registered/discipline:

2020 / Civil

Other experience and qualifications relevant to the proposed Project:

Mr. Forschler is currently working on projects for Jefferson Parish, the City of New Orleans, St. Bernard Parish, and St. Tammany Parish. The projects he is working on involve water and wastewater treatment, roadway restoration, drainage modeling and design, off-system bridges, walkway design, and lift station design.

Mr. Forschler's experience evaluating the hydraulics of water distribution and wastewater systems and utilizing hydraulic information to design pump stations for both types of systems. Mr. Forschler has also used information from hydraulic evaluations of water distribution systems to determine the optimal location for automatic units that flush water lines and provide relevant chemical readings of the water in the system. Projects completed in multiple Parishes include design, evaluation, and construction management on water treatment and distribution projects as well as permitting for the facilities.

Mr. Forschler has experience working with Jefferson Parish and other municipalities, coordinating with other entities such as the levee districts, LADOTD, and railway companies to resolve conflicts and ensure that proposed designs meet the entities' guidelines.

Projects with detailed descriptions of work are provided below:

H2O Water Projects, St. Tammany Parish, LA, 09/2020-Present

The scope of work for this project is the installation of automatic flushing units to flush the water mains in four subdivisions in St. Tammany Parish in order to ensure good water quality. Mr. Forschler accompanied an operator

who has experience working with automatic flushers on site visits to all four subdivisions to determine the locations that the flushing units should be installed. He then developed a plan set for the installation of the flushing units and is currently negotiating with bidders throughout the procurement process because this is a private sector project.

Canebrake Utilities, 03/2021-Present

Mr. Forschler developed initial evaluations of the existing sewer facilities and the existing water distribution system for the client. He used information from the current owner of the system and information determined during a site visit in order to provide a report on the condition of the existing systems. He also looked into the current permit status for each of the wastewater treatment facilities in order to determine if the operator had any issues meeting the state and federal requirements for the operation of the existing facilities.

Acadiana Water and Sewer, Lafayette, LA., 02/2021-Present

Mr. Forschler went on site visits to the existing wastewater treatment plants in Garden Heights, Belleville, and Mark Ridge in order to take measurements of the different sections of the treatment facilities. He also located damaged areas of each facility that would need to be replaced during construction.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 05/2015-05/2019

Mr. Forschler worked on the EPO Installation Initiative Project. The project contained 192 lift stations that needed EPO installations and 76 lift stations that had EPOs that were undersized or needed relocation. Through this project, new EPOs were installed at all 192 lift stations and EPO modifications were made at the other 76 lift stations. Mr. Forschler assisted with the review of lift stations and gathering site information prior to site surveys. Mr. Forschler performed all site surveys to document existing conditions and developed site sketches of the stations. Mr. Forschler performed construction administration, reviewed all lift station photos and updated As-Builts and worked with the contractor and client to make sure that the EPOs were installed correctly at each site. Mr. Forschler visited every site where installations of the new or modified EPOs were completed to make sure that the installations met the specifications provided to the contractor.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation Jefferson Parish, LA, 05/2015-05/2019

Mr. Forschler assisted with the rehabilitation of two undersized lift stations. He evaluated the hydraulics of the lift stations and used that information to select pumps that would adequately handle the capacity of the stations. He determined whether the proposed pumps would fit within the wet wells for the lift stations. For the station that upgraded to a three wet well system, he selected pumps with motors that operate using a variable frequency drive.

Hurricane Katrina Damage Roadway Restoration, East Law Damage Assessment, St. Bernard Parish, LA, 07/2015-05/2018

BBEC was hired by SBP to assess the roadway and subsurface damages caused by a private operator, Mr. Forschler reviewed sewer and drain line videos for damages, prepared the evaluation report and cost estimate to repair damages.

Craig Ave. Drainage Improvements, Jefferson Parish, LA, 05/2020-Present

Mr. Forschler assisted with the development of plans for the addition of new drain line on this road. The project contains the area of Craig Ave. from Kawanee Ave. to Gillen St. The scope of the project includes the installation of a new trunk line, connecting the lateral drain lines to the new trunk line, and the removal and replacement of existing concrete roadway. Mr. Forschler helped in the design of the proposed drain line, determining the correct vertical and horizontal alignment to avoid conflicts with existing utilities. He also designed the vertical profile for the proposed roadway repairs.

Project Worksheet 20824 – Storm Drains, Jean Lafitte Parkway Drainage Line Repairs/Replacement, St.

Bernard Parish, LA, 06/2014-11/2019

Mr. Forschler estimated the cost of the replacement of drain lines along Jean Lafitte Parkway from Judge Perez Dr. to the outfall at Hermitage Dr. The scope of work for the project included the removal and replacement of drain lines; removal and replacement of roadway pavement section, sidewalks, and driveways; and the improvement of the outfall at Hermitage Dr.

Waggaman Hydraulic Study, Jefferson Parish, LA, 02/2013-01/2016

Mr. Forschler performed a hydrologic study for three separate residential subdivisions in Waggaman, Louisiana, Waggaman, South Kenner, and Manor Lane. The Waggaman subdivision is bounded by River Road to the north, Live Oak Boulevard to the south, Saul's Canal to the west, and Dandelion Ditch to the east. South Kenner subdivision is bounded by River Road to the north, North Railroad Canal to the south, Saul's Canal to the east, and another subdivision to the west. The Manor Lane subdivision is bounded by River Road to the north, North Railroad Canal to the south, Latigue Road Ditch to the west, and Modern Farms Road Ditch to the east. Mr. Forschler utilized the Storm Water Management Model (SWMM) to evaluate the existing subsurface drainage capacities for each subdivision and to examine if the existing system can handle a 10-year design storm. He developed a hydrologic and hydraulic model for each area and recommended subsurface improvements based on the SWMM model to handle a 10-year design storm.

Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352)), Jefferson Parish, LA, 01/2017-06/2020

Mr. Forschler provided Asset Inventory Assessments of Parish and Municipal structures for evaluation of risk vulnerabilities and mitigation opportunities in preparation of an updated multi-jurisdictional hazard mitigation plan.

Widening / Stabilization of Congressman Hebert, Creely, and Bluebirds Canals, St. Bernard Parish, LA, 01/2015-Present

Mr. Forschler used Autodesk Storm and Sanitary Analysis software to create accurate drainage models of the project area for both pre-mitigation and post-mitigation conditions. The drainage model provides analyses of the area's interior canal system for a 10-year, 50-year and 100-year storm event. The results of the model were then compared to the existing house slab elevation data provided by St. Bernard Parish for each of the storms in order to determine the impact that the improvements have on flooding of the properties in the project area.

Bissonet Plaza Master Drainage Plan, Jefferson Parish, LA, 05/2018-Present

Mr. Forschler met with Jefferson Parish personnel to identify and discuss flood prone streets within the study area. He worked with a CAD technician to develop a map highlighting these flood prone areas and utilized Jefferson Parish GIS and Autodesk Storm and Sanitary Analysis software to create an accurate drainage model of the project area. The drainage model provided analysis of the area's interior drainage system for a 10-year storm event.

Braithwaite to White Ditch Levee Improvements (Public Works Project No. 09-01-04A, 09-01-04D), Plaquemines Parish, LA

Mr. Forschler completed QAQC for some of the work performed by the contractor on this project. The project consisted of clearing and grubbing, earthen levee degrading to +2', Installation of high strength geotextile fabric, install of levee embankment at a 1 on 3 slope to a +12.5', Steel sheet pile driving, and construction of an aggregate roadway to access the project.

FEMA Hazard Mitigation Assistance Consultant (Project No. 2130-02035), Project Management for 2013 FMA Grant Funding, City of New Orleans, LA, 01/2017-Present

Mr. Forschler visited 11 sites to gather information about the history of the buildings. Using this information, he developed a scope of work for the installation of permanent generators and automatic transfer switches at each site. He then created cost estimates outlining the budget for the installation of the permanent generators and automatic transfer switches. He also provided specifications for generators and automatic transfer switches that

were suitable for each site

Preparation and submittal of an application for renewal of the Solid Waste Permit for Jefferson Parish Landfill, Jefferson Parish, LA

Mr. Forschler assisted with preparing the Landfill Permit Renewal Application by gathering needed documentation to be included in the new application.

RR176 – St. Roch Group North Group A (PMOI), City of New Orleans, LA, 10/2019-Present

Mr. Forschler accompanied a representative of New Orleans DPW and assessed the damage along the streets contained in this project. The project area consists of the streets in the area south of I-610, north of the Florida Ave. canal, east of N. Broad St., and west of Elysian Fields Ave. The scope of work for each street is either replacement of sidewalks and driveways, incidental road repairs determined by FEMA, or full replacement of roadway section and subsurface sewer, water, and/or drainage. Mr. Forschler used DOTD's HYDRWIN software to design all drainage improvements in the project area. He is also designing the roadways receiving full pavement replacement and subsurface utility relocations/improvements and creating plans for the construction of the proposed work. Mr. Forschler made sure that the plans for sewer and water line replacements addressed all SWBNO comments and that design followed the SWBNO guidelines.

RR177 – St. Roch Group North Group B (FRC), City of New Orleans, LA, 10/2019-Present

Mr. Forschler accompanied a representative of New Orleans DPW and assessed the damage along the streets contained in this project. The project area consists of the streets in the area south of I-610, north of the Florida Ave. canal, east of Elysian Fields Ave., and west of St. Roch Ave. The scope of work for each street is either replacement of sidewalks and driveways, incidental road repairs determined by FEMA, or full replacement of roadway section and subsurface sewer, water, and/or drainage. Mr. Forschler used DOTD's HYDRWIN software to design all drainage improvements in the project area. He is also designing the roadways receiving full pavement replacement and subsurface utility relocations/improvements and creating plans for the construction of the proposed work. Mr. Forschler made sure that the plans for sewer and water line replacements addressed all SWBNO comments and that design followed the SWBNO guidelines.

RR178 – St. Roch Group North Group C (FRC), City of New Orleans, LA, 10/2019-Present

Mr. Forschler accompanied a representative of New Orleans DPW and assessed the damage along the streets contained in this project. The project area consists of the streets in the area south of I-610, north of the Florida Ave. canal, east of St Roch Ave., and west of the Peoples Ave. canal. The scope of work for each street is either replacement of sidewalks and driveways, incidental road repairs determined by FEMA, or full replacement of roadway section and subsurface sewer, water, and/or drainage. Mr. Forschler used DOTD's HYDRWIN software to design all drainage improvements in the project area. He is also designing the roadways receiving full pavement replacement and subsurface utility relocations/improvements and creating plans for the construction of the proposed work. Mr. Forschler made sure that the plans for sewer and water line replacements addressed all SWBNO comments and that design followed the SWBNO guidelines.

Engineering Services for the Four-Year Road Maintenance Program (Project No. P160302), St. Charles Parish, LA, 04/2016-12/2019

Mr. Forschler made site visits to each street in St. Charles Parish included in the Road Maintenance Program and gathered relevant information on the current condition of each street. The information was then used to determine which streets required repair and what the scope of work for each street repair should be for the project.

Hurricane Katrina Damage Roadway Restoration, St. Bernard Parish, LA, 06/2015-08/2017

Mr. Forschler accompanied BBEC and St. Bernard Parish (SBP) representatives during the supplemental walkthroughs, taking pictures of any of the damages and issues that SBP requested to be addressed. He also used the elevation surveys provided by Barriere Construction Co., L.L.C. to determine if drainage could be improved on the streets that had issues with standing water post construction. Mr. Forschler reviewed as-builts for

each road for closeout to check for discrepancies between the as-builts provided by the contractor and our own

Ames Boulevard Roadway Improvements (DOTD No. H.011797), Jefferson Parish, LA, 11/2015-Present

Mr. Forschler assessed the damage along Ames Blvd. and created plans for the rehabilitation of this damage. The project contains the area of Ames Blvd. from the Westbank Expressway to Happy St. The repairs to be made include milling the existing asphalt overlaying the existing concrete roadway, replacing any damaged concrete panels, overlaying the concrete roadway, replacing any damaged sections of curb and gutter, and removing and replacing any damaged drive aprons and sidewalks. Mr. Forschler is responsible for visiting Ames to document where repairs need to be made along the roadway. Mr. Forschler addressed all comments that DOTD provided in order to ensure that all DOTD guidelines were met and reviewed the bid tabulation from DOTD to check for any errors.

Comprehensive Pedestrian and Bicycle Master Plan, St. Charles Parish, LA, 02/2017-01/2019

Mr. Forschler provided cost estimates for the construction of the proposed bike paths in the bike path study.

Mid-City Street Improvements, City of New Orleans, LA, 11/2012-Present

Mr. Forschler reviewed plans to ensure that our drawings meet the City of New Orleans Standards.

Westbank Mississippi River Bike Trail, Around Avondale Shipyard, (2017-059-RBP), Jefferson Parish, LA, 05/2018-Present

Mr. Forschler is developing plans and specifications for the construction of a bike path around the Avondale Shipyard area. The project contains the area of River Rd. from east of Avondale shipyard to LA 18 and the stretch of LA-18 up until the existing bike path access ramp west of the shipyard. The project includes the installation of a bike path on top of the levee, restriping existing shoulder to be repurposed as a bike path, widening the road to allow for bike travel, and addition of subsurface drainage in areas indicated by Jefferson Parish. Mr. Forschler is also currently developing the necessary details to cross active railroads at 3 locations and working with the railroad company and LDOTD to obtain construction permits.

Cleary Improvements (Veterans Blvd. to West Esplanade Ave.) (Council District 5) Jefferson Parish, LA, Public Works No. 2017-014-RBP, 11/2017-Present

Mr. Forschler assisted with developing plans for the rehabilitation of this road and verified that the proposed vertical profiles allowed for positive drainage along the road. The project contains the area of Cleary Ave. from Veterans Blvd. to W. Esplanade Ave. The repairs to be made include removing and replacing the existing concrete roadway, adding improvements to the subsurface drainage system, and relocating any utilities that were conflicts.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**Name & Title:**

**John Sparks
Construction Services**

Project Assignment:

Design / Construction Management

Name of Firm with which associated:

**Barowka and Bonura
Engineers and Consultants, L.L.C.**

Years' experience with this Firm:

.5

Education: Degree(s)/Year/Specialization:

**M.S. / 1998 / Civil Engineering
B.S. / 1994 / Civil Engineering**

Active registration: Year first registered/discipline:**Other experience and qualifications relevant to the proposed Project:**

Mr. Sparks has more than 23 years of experience specifically with sewerage collection and treatment systems. His experience includes various methods of trenchless technology and excavation construction, lift stations, mechanical treatment, and pond treatment. Mr. Sparks has experience with the construction of Potable water wells, construction of Elevated storage tanks, rehabilitation of elevated storage tanks, construction of sludge drying beds for potable water treatment, construction of potable water clearwells up to 1-million-gallon capacity, construction of steel pile foundations for 250,000-to-1,000,000-gallon structures, potable water distribution systems and transmission mains and the rehabilitation of steel and concrete clearwells.

Projects with detailed descriptions of work are provided below:

Continuing Sewer Assessment Program, City of Vicksburg, MS 2/2016 – 11/2020

Evaluation Program -- Years One through Four

Street Repairs Program – Years One through Three

Mr. Sparks was the Project Manager for the sanitary sewer evaluation and repair projects for the City. The evaluation projects consisted of smoke testing, inspection of sewer lines and manholes. Provided deliverables of evaluation and analysis of observations made during the inspection phases. Deliverables also included the GIS positioning of assets and observations/defects. Evaluation projects consisted of the annual assessment of approximately 150,000 linear feet of sanitary sewer and 500 manholes. Repair projects consisted of new installations of sewer lines and manholes, replacement of existing sewer lines by excavation, rehabilitation of

existing sewer lines by Cured-In-Place Pipe (CIPP) and Pipebursting. Mr. Sparks was responsible for the design and routing of all bypass pumping and traffic control. Repair projects had an annual construction value of approximately 1.5 million.

Judge Perez Sewer Rehabilitation, St. Bernard Parish, LA 2019

Mr. Sparks served as project manager for the rehabilitation of a 24-36" interceptor along Judge Perez from Paris Road to Valero refinery. Project included incoming line repairs by pipe bursting and rehabilitation of lateral services. Project included the boring and installation of 2,000 linear feet of 20-inch diameter HDPE force main. Permitting was obtained due to the vicinity of a high pressure/capacity natural gas line. Mr. Sparks also designed the capacities and layouts of all bypass pumping for maintenance of sanitary sewer flows and the design and installation of temporary traffic control for 24-hour lane closures on Judge Perez.

Sanitary Sewer CIPP Rehabilitation, Various Locations, Daphne Utilities, Daphne, AL 2017-2020

Mr. Sparks served as the project manager for the construction of rehabilitation of 8-24" diameter sanitary sewer lines for the authority under a three-year contract. Mr. Sparks was responsible for the design and routing of all bypass pumping and temporary traffic control. This included the design and installation of a high head bypass system with 24" diameter HDPE discharge piping with multiple permit-required road crossing by open cut excavation.

A2/A4 Basins—Downtown Sewer Rehabilitation, Emerald Coast Utilities Authority, Pensacola, FL, 2008-2009

Mr. Sparks served as project manager for the rehabilitation of over 100,000 linear feet of 8-36" sanitary sewer lines. The project also included the design and installation of road crossings by directional drilling/boring. Mr. Sparks was responsible for all Permit-required Temporary Traffic Control needed for intersection and lane closures on FLDOT State Highways. Mr. Sparks was responsible for the design and routing of all bypass pumping required. Also, responsible for all required City permits and coordination between involved entities during all construction activities.

PREVIOUS EMPLOYMENT

Suncoast Infrastructure Inc., Project Manager, Florence, MS, 01/2005-04/2021

Mr. Sparks provided project management of CIPP and sewer construction projects and evaluated and analyzed sewer collection and treatment systems. He managed wetout facility, and materials inventory and improved efficiencies and capabilities of manufacturing.

Lampkin Construction Co., Inc., Vice President/Project Manager, Vicksburg, MS, 09/2002-12/2004

Mr. Sparks performed construction management of heavy construction projects, including USACE, USGS, FHWA design build projects, bank stabilization, lake dam rehabilitation, and road building. He managed inventory and certifications of rock yards.

Neel Schaffer, Inc., E/PE Project Engineer, Jackson, MS, 06/1998-09/2002

Mr. Sparks performed design and construction administration services for water and sewer projects, lift station, WWTP rehabilitation projects and hydraulic analysis of water systems.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:**Name & Title:**

Pete Foret
Computer Aided Drafting

Project Assignment:

Drafting / CAD

Name of Firm with which associated:

Barowka and Bonura
Engineers and Consultants, L.L.C.

Years' experience with this Firm:

1.5

Education: Degree(s)/Year/Specialization:

**B.S. / 1995 / Business Administration with a Computer Science Option
and Management Minor**

Active registration: Year first registered/discipline:**Other experience and qualifications relevant to the proposed Project:**

Mr. Foret is a multi-discipline AutoCAD drafter and designer with experience in the Civil, Structural, Architectural, Electrical and GIS/Mapping fields. He has a combined 31 years of experience generating alignments, plan and profile sheets, cross sections, contour maps, structural and architectural plans and details and electrical one-line diagrams. He has been the drafting coordinator for multiple firms and has been responsible for developing drafting standards for a consistent and quality drawing set.

Projects with detailed descriptions of work are provided below:

East Bank Water Treatment Plant Improvements, Jefferson Parish, LA., 07/2020-Present

Mr. Foret was responsible for plan preparation following established project standards. Plans included a site layout for the routing of new chemical feed lines over an existing survey and avoiding existing utilities. Drawings also included details necessary for the proper routing and installation of the new feed lines.

H2O Water Projects, St. Tammany Parish, LA, 09/2020-Present

Mr. Foret did some minor markups and checked for drafting standards/consistency.

Acadiana Water and Sewer, Lafayette, LA, 08/2020-Present

Mr. Foret created figures for the Engineer reports for the water and wastewater systems for Belleville, Garden Heights, Mark Ridge and Village Quest subdivisions. He drafted the site plan and profile for the Belleville water system. He also generated the site plans, mechanical plans and structural plans for the repairs and improvements to the Belleville, Garden Heights and Mark Ridge wastewater treatment plants.

Southwood Ridge, Tangipahoa Parish, LA, 08/2020-Present

Mr. Foret created figures for Engineer's report.

Artesian, St. Tammany Parish, LA, 08/2020-Present

Mr. Foret created figures for Engineer's report.

Coast Water Projects, St. Tammany Parish, LA, 07/2020-Present

Mr. Foret created the site plans and demolition plans as well as the plans, sections, structural foundation details and typical details for the proposed chemical feed buildings and the details for the chemical feed system itself at the Eden Isles, Meadows and Belair disinfection sites. He coordinated with our electrical sub for the drafting of the electrical one line and riser diagrams as well as his equipment layouts on the site plans for the three sites. Mr. Foret drafted the plan/profile sheet and cross sections for the proposed new waterline crossing the marina bay as well as the standard details for the Eden Isles Water Main Repair.

Gloria Drive Pump Station, Project No. 20-2022A, Lafitte Area Independent Levee District Drainage, Town of Jean Lafitte, LA, 02/2021-Present

Mr. Foret set up the survey and generated a preliminary site plan for a drainage pump station.

CN Railroad Culverts in Ormond, Project No. P200801, Ordinance No. 20-9-5, St. Charles Parish, LA, 10/2020-Present

Mr. Foret set up the survey reference file with a baseline supplied by the railroad and created site plans for 6 proposed construction sites including a plan/profile sheet for a new 425' long 60" drainpipe connecting two sites. He also generated multiple cross sections through the 6 construction sites as well as other details.

Craig Avenue Drainage Improvements, Public Works Project No. 2019-022-DR, Jefferson Parish, LA, 10/2020-Present

Mr. Foret updated the plan/profile sheets with a new proposed roadway gradeline.

Ames Boulevard Rehabilitation, West Bank Expressway to Happy Street, (Public Works Project No. 2013-033-RB) (DOTD No. H.011797), Jefferson Parish, LA, 07/2020-Present

Mr. Foret was involved with the 98% and 100% Final submittal of roadway design plans to the LADOTD. This involved updating the project border on all sheets to the current LADOTD border while maintaining LADOTD standards. The drawing set included a standard LADOTD title sheet as well as plan sheets, typical sections, cross sections, core boring sheets, LADOTD and Jefferson parish special detail sheets and associated summary and quantities table sheets.

RR176 – St. Roch Group North Group A (PMOI), City of New Orleans, LA., 07/2020-Present

Mr. Foret generated the 100% submittal drawings on this project. This drawing submittal contained plan and profile sheets that included proposed centerline and gutter line profiles as well as existing centerline, gutter line, sidewalk, right of way and utilities grades and profiles in the project area. Mr. Foret was also responsible for ensuring that the drawing set conformed to City of New Orleans Department of Public Works drawing standards.

RR177 – St. Roch Group North Group B (FRC), City of New Orleans, LA., 07/2020-Present

Mr. Foret generated the 90% submittal drawings on this project. This drawing submittal contained plan and profile sheets that included proposed centerline and gutter line profiles as well as existing centerline, gutter line, sidewalk, right of way and utilities grades and profiles in the project area. He also generated cross sections based on project guidelines. Mr. Foret was also responsible for ensuring that the drawing set conformed to City of New Orleans Department of Public Works drawing standards.

RR178 – St. Roch Group North Group C (FRC), City of New Orleans, LA., 07/2020-Present

Mr. Foret generated the 90% submittal drawings on this project. This drawing submittal contained plan and profile sheets that included proposed centerline and gutter line profiles as well as existing centerline, gutter line, sidewalk, right of way and utilities grades and profiles in the project area. He also generated cross sections based on project guidelines. Mr. Foret was also responsible for ensuring that the drawing set conformed to City of New Orleans Department of Public Works drawing standards.

PREVIOUS EMPLOYMENT

Perrin & Carter Inc., Metairie, LA, 08/2005-03/2020

Mr. Foret was involved in the design/drafting of multi-discipline civil, structural and architectural projects. While there, he worked on the design of roadway and bridge projects for the LADOTD and canal improvement projects for the Corps of Engineers. Over the years, Mr. Foret was involved in many different projects including civil site layout and parking lot design for commercial projects like the Trader Joe's shopping center and the In & Out Car Wash; both located on Veterans Boulevard and requiring Commercial Parkway Zone overlay compliance. Due to his prior experience, he was named project lead over the car wash project, where he coordinated the work load between engineers of different disciplines and the drafters. Projects also involved working closely with engineers and architects for the assembly of drawing packages for commercial buildings, schools, fire stations, gyms, parks, bridges and various other projects.

Stolt Offshore., New Orleans, LA, 03/2005-07/2005

Mr. Foret's job duties at Stolt Offshore involved the drafting of shop fabrication drawings for concrete barges used primarily in the oil and gas industry, using AutoCAD LT 2004, from sketches provided by the offsite design engineer. He was expected to learn the ACI standards to ensure design standards were met. Mr. Foret would also inspect the work done by their fabricators in the yard to ensure these design standards were carried out according to the drawings. While there, he was asked to standardize their drawing system to ensure a clear and unified look to their fabricators.

N-Y Associates, Metairie, LA, 12/2002-12/2004

Mr. Foret was hired by N-Y Associates to work on a study for the East-West corridor for the LADOTD. This project involved the widening of Airline Highway and the relocation of necessary utilities for an overhead expressway, as well as, a possible lightrail system between New Orleans and Baton Rouge. He then became the project lead for another LADOTD study to replace the Florida Avenue bridge over the Industrial Canal. This project involved generating multiple proposed alignments for DOTD review. As the project lead, he was responsible for coordinating the drafting between multiple engineers, technicians and drafters.

While at N-Y, Mr. Foret also worked on various other projects, including LADOTD plan/profile roadway projects, street resurfacing projects for the City of New Orleans, a new street grid through the Guste housing redevelopment and all necessary plan/profile sheets, a study to replace the outdated Causeway overpass over Airline Highway and various other street and drainage improvement and pump station projects.

General Electric, Harahan, LA, 11/1995-11/2002

At GE, Mr. Foret provided design/drafting services for their marine automation and propulsion systems using AutoCAD 13 and upgrading to AutoCAD 2000. This often involved updating engineering databases and using this data to generate one-line electrical diagrams of their PLC based automation systems. He would also be responsible for working with their fabrication shop to inspect the electrical equipment and cabinets to ensure that they met design criteria.


While at GE, Mr. Foret became their sole drafter and assumed the role of drafting coordinator, often coordinating work over various jobs, simultaneously, from multiple engineers. He also performed other job duties, such as, revising technical manuals to ensure their description of operation matched the design drawings. Mr. Foret became involved with the procurement, inventory and shipping/receiving of the materials used in the fabrication of their equipment. He was often called upon to organize engineering data and drawings for the engineers and various other duties, as needed.

Texaco, Inc., New Orleans, LA, 05/1990-11/1994

Mr. Foret's job duties at Texaco included the drafting of geologic structures and civil/GIS mapping using Microstation. This involved scanning large scale maps and inserting the raster image into the design file in order to digitize the data for digital manipulation.

While at Texaco, he became the systems administrator of their 40 Unix Workstation, Microstation based drafting department and provided systems support and maintenance. This involved routine maintenance, software updates, hardware repairs and upgrades, as well as, end user support and training. He would often develop drafting standards, as well as, organize existing drafting standards for user documentation which often led to his writing small applications to automate menial drafting duties. Because of his efforts, he was asked to support their onshore hand drafting department with additional Microstation training as they transitioned to computer drafting.

Finally, Mr. Foret was promoted to the IT department, where he provided telecommunications and network support for their 1,000 user, PC based Ethernet network throughout the building. This involved diagnosing connectivity issues by checking the networked routers and utilizing network sniffers to determine the cause. He was also used during the building rewiring project to punch down Cat5 Ethernet cables from the wall port to the 110 blocks located in the communications closet on each floor, following the network design, and verifying network connectivity through the trunk cables to the centrally located routers in the server room.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	
Rayburn Clipper GIS	
Project Assignment:	
GIS / Mapping / Data Collection	
Name of Firm with which associated:	
 Barowka and Bonura Engineers and Consultants, L.L.C.	
Years' experience with this Firm:	
15	
Education: Degree(s)/Year/Specialization:	
B.S. / 2006 / Computer Information Systems A.S. / 2000 / Computer Aided Drafting	
Active registration: Year first registered/discipline:	
Other experience and qualifications relevant to the proposed Project:	
<p>Mr. Clipper is a Geographic Information Systems Analyst with 20 years of experience in GIS project architecture, systems engineering and management, and 10 years designing, supporting, and maintaining enterprise and solutions architectures in a variety of public and private projects; he also has 20 years of experience using AutoCAD in association with his GIS projects.</p> <p>Projects with detailed descriptions of work are provided below:</p> <p>Jefferson Parish GIS Dept., Jefferson Parish, LA, 2019-Present</p> <p>Mr. Clipper Maintains the Parish's GIS infrastructure. The enterprise architecture includes ArcGIS Enterprise Portal, ArcGIS GeoEvent Server, ArcGIS Image Server, ArcGIS Datastore, and several ArcGIS Servers. Mr. Clipper has created several applications for the enterprise including a Damage assessment application for parish inspectors to survey damages after hurricanes. The recent pandemics called for the creation of a covid-19 dashboard to track cases and hospitalizations in the parish. Parish administration required several sites for economic development and analysis which Mr. Clipper designed.</p> <p>East Bank Water Treatment Plant Improvements, Jefferson Parish, LA</p> <p>This project is a multi-discipline capital project to upgrade the water treatment facility in the Parish. Mr. Clipper is using all his advanced knowledge of GIS, CAD and 3D modeling to create piping networks for the project upgrades.</p>	

Widening/Stabilization of Congressman Hebert, Creely, and Bluebird Canals, St. Bernard Parish, LA

Mr. Clipper created flood inundation models to assist with capital drainage projects. Models built for the project were used to forecast the water depths for 1 year, 5 year, 50 year, 100 year, and 500 year flood events.

Waggaman Area Drainage Study, Jefferson Parish, LA

Mr. Clipper created hydraulic models based on the engineer specifications to determine 10 year storm flooding

Cypress Park Subdivision Drainage Evaluation Jefferson Parish, LA

Mr. Clipper created hydraulic models based on the engineer specifications to determine 10, 25, 50, and 100 year storms flood inundation.

Bissonet Plaza Master Drainage Plan, (A/E Project No. 20-1708), Jefferson Parish, LA

Mr. Clipper created maps to illustrate the locations of drainage lines and inlets, and he created project maps to show affected drainage areas.

I-12 to Bush Corridor Study, Bush, LA

LADOTD Project No. 700-52-0124 (TIMED)

Mr. Clipper provided Environmental Site Assessment, extensive cultural resources survey and wetlands delineations, and hydrological modeling, along with numerous other analyses.

GIS Project, St. Tammany Parish, LA, 1999-2003

Mr. Clipper inaugurated the GIS Project; collected ground control points with sub-meter precision GPS receiver for aerial image orthorectification. He identified parish assets from aerial imagery, geoprocessed initial features for base map layer creation, created 3-D terrain models from analysis of Imagery and Digital Elevation Models. Mr. Clipper provided re-mapping of facilities on a land base into different co-ordinate systems. He developed digital land base maps inclusive of Planimetric, topographic and cadastral features maps from mosaiced aerial imagery.

GIS Project, St. Charles Parish, LA, 2003-2006

Mr. Clipper designed GIS for St. Charles Parish Government, collected field information on parish assets to incorporate them in to the GIS Aerial imagery rectification and mosiacing, and provided Base map creation. Mr. Clipper created 3-D terrain models from elevation data collected from sub-meter GPS precision units, developed first, highly accurate, zoning map based on parish code and CAD drawings, created first land use map for zoning department, and created shapefiles for project base map.

Merlin Oil Company, Smith, MS

Mr. Clipper created parcel base map for Mineral Lease Ownership map in Smith County Mississippi and collected ground control points for geoprocessing of parcel ownership information.

Private Property Slab Removal Program, St. Bernard Parish, LA

Mr. Clipper provided GIS support for this project by creating property location maps showing identified property and surrounding area for identification purposes and for inclusion in property documentation using ESRI ArcGIS Server. He created property maps with new FEMA DFIRM information to provide the parish with information on which properties were in flood zones.

Village Square Site Clearance, Phase I, Phase II and Phase III, St. Bernard Parish, LA

Mr. Clipper created several site maps of the sub-division noting areas to be included or excluded from the project during the proposal phase. He calculated areas of work based on lot size and ROW using aerial imagery and the volume of concrete to be removed from the areas of work. Static and dynamic maps were created using ESRI ArcMap.

Louisiana Land Trust, Statewide, LA

Mr. Clipper created ESRI ArcGIS Server web-based mapping of LLT properties for tracking property status and

provided analysis of properties in flood zones by given spec from LDEQ. Complete design of n-tier architecture. Demonstrated proximity and contiguous properties through a specially designed proxy parcel layer in the absence of a real parcel layer in ESRI ArcMap.

GRS & Associates

Mr. Clipper designed ESRI ArcGIS Server web map for tracking sales and development of Village Square subdivision and created lists of addresses for use in Lawsuits relating to Murphy Oil Co. by geocoding owners based on spill zones.

Digital Flood Insurance Rate Map, Jefferson Parish, LA

Mr. Clipper created features and layers for the creation of DFIRM maps in Geomedia 5. He geoprocessed digital elevation models used in the determination of flood zones and provided support for Jefferson parish officials accessing data.

GIS Projects, St. Bernard Parish, LA

Mr. Clipper provides the parish with GIS support with daily need and custom request. He supports St. Bernard's 911 systems by providing telco's with addressing requests. Mr. Clipper designed the first Evacuation Registration application in the State of Louisiana based on state requirements which surpassed the states own software by providing a failure free registration environment during the Hurricane Gustav evacuation. During the summer when the river levels reached record highs throughout the state, Mr. Clipper created ESRI ArcGIS Server maps for the projects showing the area of construction exclusion based on the army corps of engineers' guild lines that state no construction or excavation work could take place within a certain distance from the levees.

GIS Projects, Jefferson Parish, LA

Mr. Clipper created mobile application with ESRI ArcGIS Mobile mapping screens for location based field work and code enforcement that synchronized map date to ArcSDE server via ArcGIS Server over HTTP.

MRGO Closure

Mr. Clipper designed figures and base maps for engineering support and created Triangulated irregular network (Tin) datasets for 3D surface model of the MRGO channel bottom for closure location review by project engineer in ArcMap and ArcGLOBE.

GIS Project, St. Charles Parish, LA

Mr. Clipper was responsible for drawing maps, diagrams, and profiles, using cross-sections and surveys, to represent elevations, topographical contours, subsurface formations and structures. Mr. Clipper would correlate, interpret, and modify data obtained from topographical surveys, well logs, and geophysical prospecting reports, and he prepared subdivision plats for integration into the GIS. Mr. Clipper used AutoCAD to digitize features on aerial images.

CERVIS Web-top, Jefferson Parish, LA

Mr. Clipper migrated visual basic 6 application to ASP.net web application. He provided support to senior developer through database web-based Development Reports, ASP.NET, Crystal Report and HTML Database client-base Development: Geomedia and ODBC connections against Oracle9i for Code Enforcement Department for Jefferson Parish.

FEMA Hazard Mitigation Assistance Consultant (Project No. 2130-02035), Project Management for 2013 FMA Grant Funding, City of New Orleans, LA, 08/2017- Present

Mr. Clipper created flood inundation models to identify homes impacted during flood events. Models built for the project were used to forecast the water depths for 1 year, 5 year, 50 year, 100 year, and 500 year flood events.

Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352), Jefferson Parish, LA

Mr. Clipper created and identified areas in the Parish that were not developed and could be certified for FEMA's

undeveloped land use for rainwater drainage. He developed a new parish map to calculate the total are of parish land to be used by the parish for all FEMA certifications. Mr. Clipper reviewed previous Mitigation Plans, identified areas of the plan to be updated. He also mapped critical facilities and developed inundation models to forecast the water depths for 1 year, 5 year, 50 year, 100 year, and 500 year flood events.

Project Management 2014 Hazard Mitigation Grant Funding, Jefferson Parish, LA, 04/2015-04/2019

As Senior DBA, Mr. Clipper created database server for the project database, managed imports and exports of data, and linked instances of Oracle database to allow cross instance queries.

Engineering Services for the Four-Year Road Maintenance Program (Project No. P 160302), St. Charles Parish, LA

Mr. Clipper provided mapping of street assessments and field surveys. He used collected field data to create areas for priority analysis and equitable capital fund distribution by district. The maps were used to show current costs analysis and future maintenance costs.

Comprehensive Pedestrian and Bicycle Master Plan, St. Charles Parish, LA

Mr. Clipper created a proposal for St. Charles parish council with an adoptable ordinance for the creation of a complete streets program. Using GIS data from CENSUS he modeled area where sidewalks for pedestrians and trails for cyclists were needed. He also mapped empirical crash data showing fatalities and injuries creating hot spots for targeted project development.

I-85 Extension and Corridor Study, Montgomery, AL

ALDOT Project No.NCPD-PE02 (910)

I-85 Extension from I-59/I-20 near the Mississippi State Line NE of Cuba to I-65 near Montgomery. Mr. Clipper was a GIS consultant to Volkert and associates, in the use of CorridorTrak software. He developed a highly accurate parcel map with land owner information for use in land acquisition and created map of ecologically sensitive areas which includes mapping of WMA and other wetlands.

Cleary Improvements (Veterans Blvd. to West Esplanade Ave.) (Council District 5), Jefferson Parish, LA

Mr. Clipper updated drainage project drawings and created Plan and Profiles for proposed drainage for the project.

Mid-City Street Improvements (Project No. 2012-FEMA-4G-1), City of New Orleans, LA

Mr. Clipper created drawings for street repairs under massive capital project in Orleans parish to repair streets and he created maps to identify areas of damage during assessment phase.

Gentilly Woods Street Improvements (Project No. 2012-FEMA-2F1-1), City of New Orleans, LA

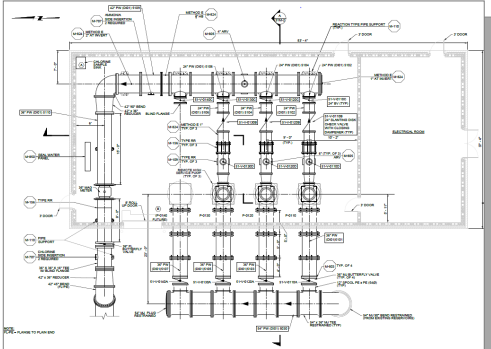
Mr. Clipper created drawings for street repairs under massive capital project in Orleans parish to repair streets and he created maps to identify areas of damage during assessment phase.

Roadway Restoration, Orleans Parish, LA


Mr. Clipper implemented road design based on project engineer's design plan. He created drawings for waterline repairs, and provided corrections to existing drawings, and imported additional survey information, and provided by surveyors, into drawing set.

Viola Road Widening, St. Tammany Parish, LA


Mr. Clipper implemented road design based on project engineer's design plan. He created drawings for drainage analysis, calculated elevations for new drainage systems using guidelines provided by engineering staff, performed corrections to existing drawings, and imported additional survey information, and provided by surveyors, into drawing set.

<p>L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.</p>		
<p align="center">PROJECT NO. 1</p>		
<p>Project Name, Location and Owner's contact information:</p>	<p>Nature of Firm's Responsibility:</p>	
<p>East Bank Water Treatment Plant Improvements, Jefferson Parish, LA</p> <p>Jefferson Parish Government Mark Drewes, P.E., Director Department of Public Works 1221 Elmwood Pk. Blvd., Suite 904 Jefferson, LA 70123 MDrewes@jeffparish.net (504) 736-6783</p>	<div style="display: flex;"> <div style="flex: 1;"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications </div> <div style="flex: 2;"> <p>BBEC is currently designing the 40 mgd remote high service pumping station, site paving, grading, and drainage, and yard piping.</p> <ul style="list-style-type: none"> • The remote high service pump station consists of 3 installed and the complete set up for 1 future 20-inch vertical turbine pumps mounted in a "can" installation. The controls will be connected to other plant functions so the station will be operated through the main plant's control system. The structure will be a cast in place concrete substructure with a CMU wall superstructure. <p>• The paving, grading, and drainage is a two-phased project for an almost 9-acre plant site. The work includes connecting to existing and new buildings, connecting to existing pavement and utilities, and the design of parking facilities and delivery and loading facilities.</p> <p>• The yard piping consists of about 2,500 feet of 36-inch to 54-inch pipe, and several thousand feet of smaller pipe, navigating through a site congested with many conflicts. The work is being designed to connect to existing systems with automated remote-controlled valves and valve boxes and by minimizing disruption to plant services.</p> <p>The work also includes coordinating with other engineering disciplines (structural, geotechnical, mechanical, architectural, electrical, and instrumentation) and the project owner.</p> </div> </div> <div style="text-align: right;">  </div>	
<p>Completion Date (Actual or estimated):</p>	<p align="center">Estimated Cost:</p>	
	<p align="center">Entire Project:</p>	<p align="center">Work for which Firm was Responsible:</p>
<p>2022 (estimated)</p>	<p>\$7,000,000 (BBEC Portion)</p>	<p>\$7,000,000 (BBEC Portion)</p>

PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Eden Isles Subdivision Drinking Water Systems Disinfection Improvements, St. Tammany Parish, LA</p> <p>Central States Water Resources, Inc. Jacob O. Freeman, P.E., Director, Engineering 500 Northwest Plaza Drive, Suite 500 St. Ann, MO 63074 jfreeman@cswrgroup.com (314) 380-8598</p>	<p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration <p>The project included working with the contractor to perform value engineering to reduce the overall contract cost.</p> <p>The project is expected to cost about \$300,000. The project is currently under construction and is near substantial completion.</p>	<p>The project includes upgrading the system's disinfection system and converting the disinfection process from a free chlorine system to a total chlorine system. The scope of work includes installing a new elevated chemical building, new automated chemical feed pumps and controls, storage tank, a chlorine analyzer, and sufficient SCADA for remote monitoring and limited control.</p> 
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2022 (estimated)	\$346,585	\$346,585

PROJECT NO. 3

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Eden Isles Water Main Repair, St. Tammany Parish, LA</p> <p>Central States Water Resources, Inc. Jacob O. Freeman, P.E., Director, Engineering 500 Northwest Plaza Drive, Suite 500 St. Ann, MO 63074 jfreeman@cswrgroup.com (314) 380-8598</p>	<p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration 	<p>The project consists of crossing a 400' wide waterway with a 10-inch potable water line in Slidell, Louisiana. The projects includes connecting to existing water lines on both sides of the new pipe, including valves and flushing units; and, working alongside and crossing a concrete bulkhead and high voltage power lines. BBEC's role included:</p> <ul style="list-style-type: none"> • Design directional drilling the main about 700 feet • Coordinating with Cleco Power to locate and establish temporary power shut-downs so the work could be performed safely • Work with a local contractor to locate the existing conflicts, including the high voltage Cleco Power lines • Communicating with and assist in securing the required servitudes and easements from the property owners on both sides of the waterway • Apply for and secure the required LDH, Parish, and Coastal Use Permits • Perform services during bidding • The project is expected to cost \$350,000. The project is currently under construction. 
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2022 (estimated)	\$396,585	\$396,585

PROJECT NO. 4

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>The Meadows and Belair Subdivisions Drinking Water Systems Disinfection Improvements, St. Tammany Parish, LA</p> <p>Central States Water Resources, Inc. Jacob O. Freeman, P.E., Director, Engineering 500 Northwest Plaza Drive, Suite 500 St. Ann, MO 63074 jfreeman@cswrgroup.com (314) 380-8598</p>	<div data-bbox="440 436 854 747"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration </div> <p>The project includes upgrading the system's disinfection system and converting the disinfection process from a free chlorine system to a total chlorine system. The scope of work includes installing a new elevated chemical building, new automated chemical feed pumps and controls, storage tank, a chlorine analyzer, and sufficient SCADA for remote monitoring and limited control.</p> <p>The project included working with the contractor to perform value engineering to reduce the overall contract cost.</p> <p>The project is expected to cost about \$500,000. The project is currently under construction and is near substantial completion.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2022 (estimated)	\$546.585	\$546.585

PROJECT NO. 5

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>East Bank Water Treatment Plant Expansion, Jefferson Parish, LA</p> <p>Jefferson Parish Government Sal Maffei, Jr Department of Water 1221 Elmwood Park Blvd., Suite 909 Jefferson, LA 70123 SMaffei@jeffparish.net (504) 736-6060</p>	<p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration 	<p>Mr. Bonura was Project Engineer and Construction Manager for the 17 MGD expansion to the East Bank Water Treatment Plant. The project included a new raw water venturi flow meter, rapid mix basin (designed for 68 MGD), two new precipitator basins (designed for 8.5 MGD each), renovations to the ten existing sand filters to dual media filters (new capacity of 68 MGD), new high service pumping facilities and clearwell (designed for 51 MGD), and modifications to the existing high service pumping facilities to become a transfer station to storage. The entire facility received a new DCS control system, which is completely automated. The overall project increased the plant capacity from 34 MGD to 51 MGD and left the necessary piping and valves to simplify a future 17 MGD expansion by only adding two new precipitator basins and two new high service pumps. The project also left provisions for connection to a new disinfection system in anticipation of new EPA Safe Drinking Water Act regulations.</p> <p>At project startup, the DCS control system operated independently as designed. The project owner had some PC interface developed, but not specifically to operate the new water plant system. Mr. Bonura managed the development of the necessary interface screens to adequately run every function of the water plant, and BBEC's SCADA technicians made sure the screens interfaced with the DCS control system, and operated the plant, remotely.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1992 (actual)	\$10,300,000	\$10,300,000

PROJECT NO. 6

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>West Bank Water Distribution System Improvements, Jefferson Parish, LA</p> <p>Jefferson Parish Government Sal Maffei, Jr Department of Water 1221 Elmwood Park Blvd., Suite 909 Jefferson, LA 70123 SMaffei@jeffparish.net (504) 736-6060</p>	<p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications 	<p>Mr. Bonura served as Project Engineer for West Bank Distribution Improvements Jefferson Parish Project. The project included a water value and hydrant replacement project, a water line replacement feasibility study, and a new water line construction project along Nicole Blvd. Mr. Bonura prepared plans and specifications for the valve and hydrant project and managed the project through construction. Mr. Bonura prepared the feasibility study and prepared the preliminary engineering design for the Nicole Blvd. waterline but changed employment before the design was completed.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1999 (actual)	\$ 2,000,000	\$2,000,000

PROJECT NO. 7

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Chemical Feed System, Jefferson Parish, LA</p> <p>Jefferson Parish Government Sal Maffei, Jr Department of Water 1221 Elmwood Park Blvd., Suite 909 Jefferson, LA 70123 SMaffei@jeffparish.net (504) 736-6060</p>	<div data-bbox="446 436 844 745"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration </div>	<p>Mr. Bonura served as Project Engineer, Project Manager, and Construction Manager of the chemical feed improvements project which replaced the existing dry and liquid chemical feed systems with new state-of-the-art, automated chemical feed systems for each of the six water treatment plants in Jefferson Parish, ranging from 5 MGD to 51 MGD. The project included chemical feed systems for liquid polymers, bimetallic phosphate, hydroflousilic acid, powdered activated carbon, liquid chlorine, and ammonia. Each of the systems sends feed rate, chemical usage, and operation status data to a supervisory control system from which each component of the feed system can be observed and operated. As Project Engineer, Mr. Bonura designed the aforementioned systems and administered the work through construction.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1996 (actual)	\$4.400.000	\$4.400.000

PROJECT NO. 8

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>West Bank Water Treatment Plant Raw Water Intake Levee Crossing, Jefferson Parish, LA</p> <p>Jefferson Parish Government Sal Maffei, Jr Department of Water 1221 Elmwood Park Blvd., Suite 909 Jefferson, LA 70123 SMaffei@jeffparish.net (504) 736-6060</p>	<div data-bbox="441 445 857 751"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration </div>	<p>Mr. Bonura designed and managed through construction the Gretna Raw Water Intake and Sludge Discharge Levee Crossing project for the West Bank Water Treatment Plant, prepared all permits, plans, and specifications required for the project and aided the Parish in securing federal funding for a portion of the work. The project consisted of a levee crossing for 36-inch, 24-inch, and 10-inch diameter pipe, a vacuum system for priming raw water intake pumps, and lining an existing raw water line with a cast-in-place pipe liner. The levee crossing consisted of installing steel sheet piles at the core of the levee, installing sleeves through the steel sheet piles for the pipe to penetrate the levee, perform the necessary earthwork on the levee per USACE standards, the installation of concrete pipe supports, and to finish the river side surface with sloped paving. All work was coordinated with an on-going sloped-paving project performed under the USACE that was occurring on both sides of the project.</p> <p>During the construction phase of the project, the existing 24-inch raw water pipe was found to be severely corroded and required replacement or rehabilitation. Mr. Bonura evaluated the options, including the applicability of CIPP lining of portable water mains, and designed a CIPP system to rehabilitate the existing 24-inch pipe through a series of bends under a state highway and connecting to flanged fittings on both ends.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1991 (actual)	\$840.000	\$840.000

PROJECT NO. 9

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>West Bank Water Treatment Plant 5MG Ground Storage Tank, Jefferson Parish, LA</p> <p>Jefferson Parish Government Sal Maffei, Jr Department of Water 1221 Elmwood Park Blvd., Suite 909 Jefferson, LA 70123 SMaffei@jeffparish.net (504) 736-6060</p>	<div data-bbox="440 441 857 724"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications </div>	<p>The project consisted of designing a new 5 million gallon ground storage tank for the West Bank Water Treatment Plant in Jefferson Parish, and the rehabilitation of the existing 5 million gallon ground storage tank. Mr. Bonura developed plans and specifications for the project and provided services during bidding. The project included all necessary piping and valves to connect the storage tank to the finished water system to be used as drinking water or finished water for plant use.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1996 (actual)	\$3.000.000	\$3.000.000

PROJECT NO. 10

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Emergency Water Line and Valve Repair/Replacement Project, St. Bernard Parish, LA</p> <p>St. Bernard Parish Donald R. Bourgeois, Capital Projects Manager Department of Public Works 1125 E. St Bernard Hwy. Chalmette, LA 70043 dbourgeois@sbsp.net (504) 278-4250</p>	<div data-bbox="451 441 850 737"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Project Evaluation • Project Design • Drafting of Technical Plans • Development of Technical Specifications • Construction Administration </div>	<p>Numerous water lines and hydrants were damaged by Katrina. BBEC developed plans and specifications for a unit price contract to repair the water distribution system, handled the project through bidding, and performed construction administration and resident inspection services through completion of the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2006 (actual)	\$1.800.000	\$1.800.000

M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.

Parties:		Status/Result of Case:
Plaintiff:	Defendant:	
1. N/A	N/A	BBEC's firm nor its staff has had any litigation with Jefferson Parish.
2.		
3.		
4.		

N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.



**Barowka and Bonura
Engineers and Consultants, L.L.C.**

Barowka and Bonura Engineers and Consultants, L.L.C. is an engineering consulting firm specializing in civil engineering design, construction management, and computer consulting services. BBEC's Project Team has substantial experience in all aspects of public works projects. Our staff has specific experience working with water treatment and distribution systems, with emphasis added regarding Jefferson Parish's water treatment and distribution systems. We performed engineering services related to:

- The raw water and sludge transfer systems at the West Bank Water Treatment Plant
- Rehabilitation of existing and construction of a new ground storage tank at the West Bank Water Treatment Plant
- Chemical storage, transfer, and feed of the chemical feed systems for both the East and West Bank Water Treatment Plants
- Rehabilitation of the filters and precipitators, construction of new rapid mix basin, precipitators, and

high service pump station, and the installation of the yard piping connecting new to old facilities for the 17 mgd expansion to the East Bank Water Treatment Plant

- The construction of over 4,000 linear feet of water main along Nicole Boulevard on the West Bank
- The replacement of water transmission valves and fire hydrants parish-wide
- Addressing conflicts with water mains and service lines when working on other roadway and utility projects.

Our project experience also includes the necessary environmental permitting and property acquisition necessary to get any project done.

MINIMUM QUALIFICATIONS:

- One Principal who is a professional engineer who shall be registered as such in Louisiana.
This requirement is met by: Jeffrey Bonura, P.E.
- A professional in charge of the project who is a professional engineer who shall be registered as such in Louisiana with a minimum of five (5) years-experience in the disciplines involved.
This requirement is met by: Jeffrey Bonura, P.E.
- One employee who is a professional engineer registered as such in Louisiana in the field or fields of expertise required for the project:
This requirement is met by: John J. Housey, Jr., P.E., Madan Kamboj, P.E., and Kevin Forschler, P.E.

1. PROFESSIONAL TRAINING AND EXPERIENCE IN RELATION TO THE TYPE OF WORK REQUIRED FOR THE ROUTINE ENGINEERING SERVICES:

BBEC's proposed project engineer/project manager, Mr. Jeffrey Bonura, P.E. has experience in performing and managing design, bidding, construction (including inspector training and oversight), and as-built drawing phases of over \$200 million in Public Works (water and wastewater) construction projects that included all aspects of construction. Mr. Bonura has specific experience with Jefferson Parish's water treatment and distribution systems, having designed and/or managed the construction of various improvement projects to both the east and west bank water treatment plants, and specific repairs and improvement to the west bank distribution system.

In addition to our specific engineering and disaster related expertise, BBEC has extensive knowledge of the Geographic Information Systems (GIS). Drawings and data developed from the GIS showing site topography could be used to develop site plans for construction, traffic detour plans, preliminary cost estimates, project presentations, tracking operations, and many other uses. We have used these services to prepare detailed zone maps for streets, drain lines, sewer systems, and canals. We have also prepared progress reports of construction services by showing street-by-street progress of crews through a zone, and we published the information on the web daily for some of our clients.

Our training and experience are directly embedded in our staff. What follows are a list of key individuals, in addition to Mr. Bonura, anticipated for the project, with brief summaries. Complete resumes are provided elsewhere in this SOQ.

- **Mr. John J. Housey, Jr, P.E.,** (54 years of experience), has been working as an engineer in the public works industry for over 54 years. His experience includes bridges, buildings, roadways, and utility (water, sewer, and drainage) construction. Mr. Housey is currently the Project Manager for the BBEC

portion of the East Bank Water Treatment Plant Improvements Project in Jefferson Parish.

- **Mr. Madan Kamboj, P.E.** (41 years of experience) has been performing project design, construction administration, and project monitoring for general civil projects including drainage, utilities, streets, highways and bridges, buildings, water and sewer treatment plants, multi-story parking garages; airport taxiways, traffic separation facilities, bike paths, and overhead pedestrian walkways at high traffic intersections.
- **Mr. Kevin Forschler, P.E.**, (7 years of experience) has experience evaluating the hydraulics of water distribution and wastewater systems and utilizing hydraulic information to design pump stations for both types of system. Mr. Forschler has also used information from hydraulic evaluations of water distribution systems to determine the optimal location for automatic units that flush water lines and provide relevant chemical readings of the water in the system. Projects completed in multiple Parishes include design, evaluation, and construction management on water treatment and distribution projects as well as permitting for the facilities.
- **Mr. John Sparks**, (23 years of experience), has a Master of Science degree in Civil Engineering with emphasis on Wastewater Processes and Water and Sewer Systems Design. He has over 23 years of experience designing and rehabilitating sewer systems in the Southeastern states.
- **Mr. Pete Foret** (31 years of experience), is a multi-discipline AutoCAD drafter and designer with experience in the Civil, Structural, Architectural, Electrical and GIS/Mapping fields. He has a combined 31 years of experience generating alignments, plan and profile sheets, cross sections, contour maps, structural and architectural plans and details and electrical one-line diagrams. He has been the drafting coordinator for multiple firms and has been responsible for developing drafting standards for a consistent and quality drawing set.
- **Mr. Rayburn Clipper** (25 years of experience) is a Geographic Information Systems Analyst with 20 years of experience in GIS project architecture, systems engineering and management, and 10 years designing, supporting, and maintaining enterprise and solutions architectures in a variety of public and private projects. He also has 20 years of experience using AutoCAD in association with his GIS projects. Mr. Clipper's many years of experience includes his GIS work on the Bissonet Plaza Master Drainage Plan, Waggaman Area Drainage Study, and Digital Flood Insurance Rate Map projects for Jefferson Parish as evidenced in his resume. He is also currently maintaining Jefferson Parish's GIS infrastructure.

2. CAPACITY FOR TIMELY COMPLETION OF NEWLY ASSIGNED WORK, CONSIDERING THE FACTORS OR TYPE OF ROUTINE ENGINEERING TASK, CURRENT UNFINISHED WORKLOAD, AND PERSON OR FIRM'S AVAILABLE PROFESSIONAL AND SUPPORT PERSONNEL:

BBEC has substantial experience in working on many public works projects, water and otherwise, in Jefferson Parish and surrounding areas. We have worked as a company for the Parish for 23 years, and Mr. Bonura worked an additional 10 years on Parish projects before that. Our experience includes performing engineering consulting and funding assistance to Jefferson Parish and the surrounding parishes.

Our wealth of experience with public works type projects in Jefferson Parish allows us to provide the Parish with the necessary knowledge of keeping the Project on schedule and within budget, adhering to the standards set forth by the Parish. BBEC can begin work immediately and devote the necessary manpower to continue with the work through completion within any reasonable schedule required by the Parish. BBEC has never failed to meet or exceed our clients' expectations on any of our projects.

Regarding our specific workload, we have recently submitted 90% plans for about \$23M in Public Works projects in a neighboring parish, freeing up sufficient personnel to work on any project assigned. Also, we just hired Mr. John Sparks (Masters in Civil Engineering with emphasis on Wastewater Design) with over 20 years

of experience working with sewer systems who is available, as needed. As such, we continuously complete projects and win new work and manage our projects accordingly to finish every project timely.

Mr. Bonura will manage the project through completion, making sure that all requirements of the project are met. BBEC has sufficient licensed and experienced engineers, junior engineers, technicians, and GIS and drafting support to effectively perform work with its existing staff and meet any schedules reasonably set by the Parish.

3. LOCATION OF PRINCIPAL OFFICE WHERE WORK WILL BE PERFORMED:

BBEC's main office is located at 209 Canal Street in Metairie which is where our part of the work will be performed.

4. ADVERSARIAL LEGAL PROCEEDINGS BETWEEN THE PARISH AND THE PERSON OR FIRM PERFORMING PROFESSIONAL SERVICES, IN WHICH THE PARISH PREVAILED, OR ANY ONGOING PROCEEDINGS BETWEEN PARISH AND THE PERSON OR FIRM:

BBEC's firm nor staff has had any litigation with Jefferson Parish.

5. PRIOR SUCCESSFUL COMPLETION OF THE PROJECTS OF THE TYPE AND NATURE OF THE ENGINEERING SERVICES, AS DEFINED, FOR WHICH FORM HAS PROVIDED VERIFIABLE REFERENCES:

As noted throughout this Professional Services Questionnaire, BBEC and its staff members have an excellent history of service to Jefferson Parish, its Departments, and its citizens. Our projects range from the smallest \$5,000 fee project to our largest \$45,000,000 fee project. Project descriptions are included in this qualifications submittal to substantiate our experience in previous contracts. We invite further scrutiny of our track record with the Parish through discussion with any of the Departments noted elsewhere in this document. BBEC has not been faulted with any time delays, cost overruns, and / or design inadequacies.

For Jefferson Parish water projects completed by BBEC inclusive of East Bank Water Treatment Plant Improvements, East Bank Water Treatment Plant Expansion, West Bank Water Distribution System Improvements, and Chemical Feed System, we offer the following:

- **Mark Drewes, Director of Public Works • Jefferson Parish • 1221 Elmwood Park Blvd., Suite 904, Jefferson, LA. 70123 • 504-736-6783**
- **Michelle Gonzales, CFM Director of Ecosystem and Coastal Management • Jefferson Parish • 1221 Elmwood Park Blvd., Suite 310, Jefferson, LA. 70123 • 504-736-6653**
- **Jeb Tate, Director of Electronic Information Systems • Jefferson Parish • 1221 Elmwood Park Blvd., Suite 700, Jefferson, LA. 70123 • 504-736-6720**

For recent projects we have performed that have similar water project development aspects for other clients, we offer the following references:

- **Ken Dugas, Parish Engineer • Plaquemines Parish • 333 F. Edward Hebert Blvd., Bldg 500, Belle Chasse, LA 70037 • 504-297-5343**
- **Donald Bourgeois, Jr., Capital Projects Supervisor • St. Bernard Parish • 1125 E. St. Bernard Hwy, Chalmette, LA. 70043 • 504-278-4250**
- **Darrin Duhe, Chief Operating Officer • St. Charles Parish • 15045 River Road, Hahnville, LA 70057 • 985-783-5102**

To simplify the submittal, the following projects for BBEC are listed in section L:

- East Bank Water Treatment Plant Improvements, Jefferson Parish, LA
- Eden Isles Subdivision Drinking Water Systems Disinfection Improvements, St. Tammany Parish, LA
- Eden Isles Water Main Repair, St. Tammany Parish, LA
- The Meadows and Belair Subdivisions Drinking Water Systems Disinfection Improvements, St. Tammany Parish, LA
- East Bank Water Treatment Plant Expansion, Jefferson Parish, LA
- West Bank Water Distribution System Improvements, Jefferson Parish, LA
- Chemical Feed System, Jefferson Parish, LA
- West Bank Water Treatment Plant Raw Water Intake Levee Crossing, Jefferson Parish, LA
- West Bank Water Treatment Plant 5MG Ground Storage Tank, Jefferson Parish, LA
- Emergency Water Line and Valve Repair/Replacement Project, St. Bernard Parish, LA

Additional Relevant Project Listing (not in section L):

Water Treatment Plants Instrumentation and Controls Maintenance and Upgrades, Jefferson Parish, LA, 2009

For over 3 years, BBEC assisted the Department of Water set up and maintain its instrumentation system in both the East and West Bank Water Treatment Plants, including helping the Parish transfer controls from its older Bristol Babcock distributed control system (DCS) controllers to newer Siemens controllers. BBEC's duties included modifying panel ladder logic to adjust control schemes as desired by the Water Department, maintaining communications between the DCS controllers and the relays and sensors at the equipment, and communications between the DCS controllers and the LookOut software run computers in the control room and Parish-wide network.

During that period, BBEC also assisted the Parish by converting all of its SCADA software to Lookout v6.0 and v6.1. The following was included in the process:

- Installed new versions onto various department computers.
- Implemented the necessary computer network connections between the water treatment plants and other Parish buildings such as the main administration (Yenni) building.
- Converted all existing operation screens to work in the new software environment.
- Troubleshoot I/O and memory problems with the RTUs during the conversion.
- Created new control schema and screens to update the SCADA system to then current operations.
- Identified, troubleshoot, and repaired all non-working control schemes, including wiring and sensors and transmitters so that the instrumentation and control system work as desired by the department.
- Calibrated the control system to match actual measured values plant flow, chemical feed rates, etc.
- Adjusted automatic level control set points.
- Worked side by side with plant operators and managers during control system startup to ensure all systems worked properly.

BBEC also assisted in installing and setting up Lookout software for many of the Parish's end users in the Water and other Departments.

Cleary Improvements (Veterans Blvd. to West Esplanade Ave.) (Council District 5), Public -Works No. 2017-014-RBP, Jefferson Parish, LA, 11/2017-Present

The project consists of the reconstruction of Cleary Avenue between Veterans Boulevard and West

Esplanade Avenue and includes drainage improvements.

As part of the roadway and drainage improvement project, BBEC performed the engineering services to design and construct 7 water line roadway crossings varying in size from 8-inch to 12-inch water mains. The roadway crossings included connecting to existing water mains with valves, tees, and other fittings as required.

Under a prior contract, BBEC developed a hydrologic and hydraulic model for the project area and the surrounding neighborhoods that drain into the project area; evaluated the design conditions and made recommendations for drainage improvements for the area.

The improvements include removing and replacing approximately 4,000 linear feet of four-lane concrete street (2 travel lanes, 2 parking lanes) with curbs; removing and replacing adjoining concrete sidewalks, drives, and ADA ramps; installation of new sub-surface drainage; installation of new outfall pipe crossing W. Esplanade Avenue and discharging into W. Esplanade Avenue Canal; installation of new outfall pipe crossing Veterans Blvd. and discharging into Veterans Blvd. Canal (Canal No. 3); the replacement of all water mains crossing Cleary Avenue and West Esplanade Avenue in the project area; and coordination with private utilities for their respective utility relocations.

The scope of work also includes traffic phasing, allowing the contractor to work on one lane at a time. When working on the parking lanes, the 2-way traffic is maintained. When working in the travel lanes, only 1-way traffic is allowed.

BBEC is currently providing Construction Administration and Construction Inspection Services including but not limited to:

- Preparing formal contract documents for the execution of the construction contract
- Observing and inspecting the materials and construction procedures at the site of the work as it progresses
- Establishing construction monuments, project baseline, and benchmark's as necessary
- Coordinating with owners of utilities for relocation of their facilities to clear the site for construction
- Requiring and reviewing tests of materials necessary for the project
- Determining contract pay quantities, including necessary materials checking
- Verifying and approving contractor's pay estimates
- Preparing progress reports, as requested
- Preparing detailed drawings as necessary to supplement the construction drawings
- Reviewing shop drawings and samples for conformance with the design and for compliance with the result required in the contract documents
- Performing final inspection and making a recommendation for acceptance
- Verifying and approving Testing Laboratory pay estimates
- Preparing all necessary documentation required for construction change orders
- Preparing written recommendation for all required changes to plans and specifications during construction
- Attending council meetings and other meetings as necessary to discuss issues associated with the project

Miscellaneous Water and Sewer Point Repairs, St. Bernard Parish, LA, 2005-2007

The project consisted of the rehabilitation of the existing water distribution system and the existing sanitary sewerage collection and conveyance system; including repair or replacement of existing water and sewer main pipe, replacement of service connections, fire hydrant adjustments, sterilization of water lines, and

temporary and final restoration. BBEC developed plans and specifications for a unit price contract to repair the water distribution system, handled the project through bidding, and performed construction administration and resident inspection services through completion of the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

6. SIZE OF FIRM, CONSIDERING NUMBER OF PROFESSIONAL AND SUPPORT PERSONNEL REQUIRED TO PERFORM THE TYPE OF ENGINEERING TASKS:

The firm's staff consists of 19 professional, technical, and clerical personnel capable of handling all project and administrative tasks; all of which are available to work on the project. Mr. Bonura will manage the project through completion, making sure that all requirements of the project are met. BBEC has sufficient licensed and experienced engineers, junior engineers, technicians, and GIS and drafting support to effectively perform work with its existing staff and meet any schedules reasonably set by the Parish.

7. PAST PERFORMANCE BY PERSON OR FIRM ON PARISH CONTRACTS:

Our proposed Supervising Engineer, Mr. Jeffrey Bonura, P.E, has vast experience related to water projects including design and construction administration of raw water intake pumping and piping systems, chemical feed systems, flow metering, sedimentation basins, filtration systems, disinfection, taste and odor control systems, finished water pumping and distribution, waste sludge pumping and discharge systems, and work on or crossing the Mississippi River Levee associated with the aforementioned utilities. Mr. Bonura's experience includes managing the multimillion-dollar multidisciplinary water treatment facility improvement project from inception to completion, including start-up and debugging of SCADA operations. He performed several water projects for Jefferson Parish, inclusive of but not limited to East Bank Water Treatment Plant Improvements, West Bank Water Treatment Plant Raw Water Intake Levee Crossing, Chemical Feed System, and the East Bank Water Treatment Plant Expansion. Mr. Bonura worked for 10 years for an international engineering firm specializing in water and wastewater treatment systems.

BBEC's staff has performed and managed design, bidding, construction (including inspector training and oversight), and as-built drawing phases of about \$50 million in Jefferson Parish Department of Public Works construction projects that included all aspects of construction similar to those in the project sought. BBEC's reputation for performance in Jefferson Parish second to none.

Our GIS staff has been working within the Parish's GIS for over 20 years, including developing the floodplain maps for the Parish's flood insurance rate map update in 2008. Our GIS staff did the same mapping for our FIRM update project for St. Bernard Parish

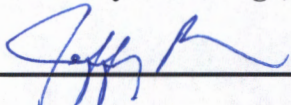
Previous relevant projects completed by BBEC staff specifically for Jefferson Parish include:

- East Bank Water Treatment Plant Improvements, Jefferson Parish, LA
- East Bank Water Treatment Plant Expansion, Jefferson Parish, LA
- West Bank Water Distribution System Improvements, Jefferson Parish, LA
- Chemical Feed System, Jefferson Parish, LA
- Water Master Plan
- West Bank Water Treatment Plant Raw Water Intake Levee Crossing, Jefferson Parish, LA
- West Bank Water Treatment Plant 5MG Ground Storage Tank, Jefferson Parish, LA
- West Bank Water Treatment Plant Sludge Pumping Facilities, Jefferson Parish, LA

BBEC performed many other engineering projects for Jefferson Parish unrelated to water; therefore, they are not listed.

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O. To the best of my knowledge, the foregoing is an accurate statement of facts.

Signature:  _____ Print Name: Jeffrey Bonura, P.E.

Title: Member Date: March 31, 2022