



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

SOQ No. 22-010

**Routine Engineering Services
for Sewer Projects**

Resolution No.: 138812

**Deadline: Friday, March 25, 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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Collaborate. Innovate. Implement.

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

March 25, 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 Sewer Projects
Resolution No. 138812**

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 Sewer projects in Jefferson Parish.

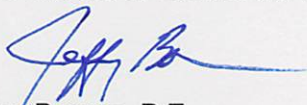
The attached qualifications statement demonstrates that BBEC maintains the technical ability to address the needs of Jefferson Parish and assist them in the execution of any Sewerage project. BBEC, an engineering consulting firm specializing in civil engineering design, construction management, grant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

BBEC' substantial experience in sewerage design and construction management, civil engineering design, and program administration in Jefferson Parish and surrounding areas in Southeast Louisiana is evidenced in the attached statement of qualifications. BBEC has completed numerous projects through construction throughout residential neighborhoods and high-traffic commercial and industrial areas. In Jefferson Parish, just a few examples where BBEC provided or is currently providing engineering services for sewerage projects include Cutty Sark and Titanic (P-12-10) Lift Station, Harvey Wastewater Treatment Plant Sluice Gates and Bar Screens, SCIP No. D3121, Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Alexis Drive (M-13-2) Lift Station Analysis, and Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade.

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 Sewer Projects (Resolution # 138812)

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.

TEC Professional Services Questionnaire

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: <u>19</u>		

TEC Professional Services Questionnaire

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. Bonura has broad experience in civil engineering resulting from his more than 30 years in the consulting engineering practice. He has substantial experience in 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.

Mr. Bonura performed engineering services on over 150 sewer lift stations and force mains for Jefferson Parish alone. In addition, Mr. Bonura has lift station design and construction administration experience in St. Charles Parish, Plaquemines Parish, St. Tammany Parish, St. Bernard Parish, Baton Rouge, Lafayette, and the City of Houston.

Mr. Bonura also has substantial experience in assisting his clients with administering federal and state grants. He has provided grant management and assistance to his clients for over \$750 million in FEMA or HUD funded

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projects. Mr. Bonura performs work plan preparation, budgeting, cost control and monitoring, team supervision, engineering design, and construction management.

Projects with detailed descriptions of work are provided below:

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

Mr. Bonura served as Supervising Engineer for the project where the BBEC staff provided engineering services for this project which involved 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. BBEC designed and managed the installation of an EPO at the E8-1 jobsite, connecting to the existing lift station piping and force main, giving BBEC familiarity at the actual site. BBEC reviewed all lift station photos, as-builts, and other information to evaluate the optimum location for the new lift stations and required appurtenances (pumps, hoses, etc.) and managed the design of the EPO modification upgrades prior to site surveys. BBEC performed site surveys to determine the needed scope of work at each site to improve the EPO conditions. BBEC generated site plans for each station, standard details, plans and specifications. BBEC performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish in response to a HUD audit of the project.

Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA, 2018

Lift Station F7-11 is a 4,041 gpm lift station with 4 8-inch 100 hp pumps and motors. The lift station had 4 dry pit pumps in two different dry pits. The pump station discharged into a short (<300 feet) force main. Mr. Bonura served as Supervising Engineer for the project where the BBEC staff evaluated the options of replacing the pumps with dry pit pumps and submersible pumps, and evaluated the options of utilizing the existing force main, extending the existing force main to discharge into a manhole several thousand feet away, and connecting the force main into a major force main manifold. The option selected, and the designs BBEC performed, were replace the dry pit pumps with submersible pumps, replace all piping and valves to raise the valves above grade, modify the wet well structures by removing the entrance tubes and replacing them with 8-foot reinforced concrete pipe sections (including designing the connection between old and new pipe sections), designing new top slabs and hatches for the two renovated dry pits and the wet well, completely cleaning and coating the wet wells for H₂S gas, and related controls. Variable frequency drive units were utilized so the pump station would run during the then existing condition with the short force main, but was capable of running when connected to the major force main manifold as planned. BBEC performed the design, negotiated a change order with a contractor to perform the work under a federally funded project, and performed the construction administration, resident inspection, and record drawing services. BBEC also assisted the Parish in successfully addressing funding agency comments regarding the procurement of the work. The construction cost was \$813,000.

Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA, 2011-2016

The project consisted of the improvements to the existing Sewer Lift Station at Cutty Sark and Titanic (P-12-10), which included the installation of a new 8-foot diameter fiberglass wet well and 8-foot diameter valve pit on pile supported foundations and installation of new pumps, piping, fittings, valves and control panel. BBEC coordinated all surveys and soil investigations, designed all improvements, prepared all plans, specifications, and contract documents, and performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish with the acquisition of the necessary servitude to house and maintain the upgraded facility. Mr. Bonura served as the supervising professional for the overall project.

Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA, 2012-2013

The project consists of the improvements to the existing Sewer Lift Station on Alexis Drive (M-13-2), which included the evaluation of various options to relocate the existing lift station from its current location and the

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detailed design and installation of a new 6-foot diameter fiberglass wet well and 6-foot diameter valve pit on pile supported foundations, new submersible 150 gpm pumps, piping, fittings, valves and control panel, including the necessary roadway repairs associated with the lift station installation and pipe laying operations. BBEC designed the improvements, prepare detailed plans and specifications, and will assist with the bidding phase and construction activities related to the civil and mechanical parts of the project. Mr. Bonura served as the supervising professional for the overall project.

Lift Station Modeling, Jefferson Parish, LA, 1993-1999

Mr. Bonura developed hydraulic models for 27 sewerage lift stations using third party hydraulic modeling software. Some of the hydraulic systems included multiple lift stations with multiple pumps. The hydraulic models were used to evaluate lift station performance at the Parish's problem stations and served as the basis for in-house upgrades. The models were developed based on the Parish's GIS, with the modeled facilities overlaid onto the GIS map so the Parish features could be seen and the drawing would be to the real world-scale. Certified pump curves, when available, were incorporated into the model to improve accuracy of the models. Lift stations modeled include:

- H9-1 Bridge City and Hwy. 90
- I9-1 Bridge City and Wiegand Drive
- K11-1 Francis Street and WB Expressway (manifolds with L11-2, pumps to Marrero WWTP)
- L11-2 Field and Eisman Street (manifolds with K11-1, pumps to Marrero WWTP)
- L13-8 Caddy and Segnette Drive
- L14-10 Pritchard Central Pump Station (manifolds with M14-3, L12-5, and others)
- M14-3 Cousins and Barataria Booster Station (manifolds with L14-10, L12-5, and others)
- N12-7 Day and Enterprise Drive
- N13-8 Woodmere South Pump station
- D7-2 Kawanee and Olympic
- D6-5A Four Bayous
- D8-2 Elmwood and 39th Street
- D8-5 Cleveland and Avron
- E6-1 Elizabeth and W. Napoleon Ave.
- E3-7 Camp Plauche Pump Station
- E6-2 Elizabeth and N. I-10 Service Road (manifolds with E7-1)
- E7-1 Kawanee and Henican/Page (manifolds with E6-2)
- E7-3 Transcontinental and Veterans
- H6-3A Canal Street and Focis Ave.
- H6-4 Focis Street and Toulouse
- H8-4 Poplar and Nursery
- G4-4 Loumar Ave. and Gruner Road
- O10-1 8th Street and Olive Ave.
- P10-2 Browning and Cranberry
- P14-8 Near Aspen Drive and Sugar Loaf Drive
- O12-1 Orbit and N. Friendship
- O13-1 Friendship Drive

Sewerage Capital Improvements Program, Jefferson Parish, LA, 1988-1997

Mr. Bonura served as Project Manager, Project Engineer, and/or Construction Manager for over twenty sewerage collection system projects which included over 150 sanitary sewers, force mains, and rehabilitation or new lift stations. The sanitary sewers ranged from 8-inches to 30-inches; the force mains ranged from 4-inches to 24-inches; and the lift stations ranged from less than 1 MGD to 18 MGD. Mr. Bonura assisted the Parish in evaluating

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and correcting special collection system problems throughout the Parish as they arose, such as repairing existing 78-inch prestressed concrete cylinder pipe and lining existing sanitary sewers to be used as force mains. Often the proposed sewer facilities were in direct conflict with existing water lines. Mr. Bonura coordinated with the Water and Sewer Department to either adjust the water or sewer facilities as necessary to the satisfaction of all parties.

- Sewerage Capital Improvements Program - Lift Station Contract 5511
- Sewerage Capital Improvements Program - Lift station Contract 5512
- Sewerage Capital Improvements Program - Lift station Contract 5553
- Sewerage Capital Improvements Program - Lift station Contract 5554
- Sewerage Capital Improvements Program - Force Main Contract 5555
- Sewerage Capital Improvements Program - Lift station Contract 5556
- Sewerage Capital Improvements Program - Lift station Contract 5559
- Sewerage Capital Improvements Program - Lift station Contract 5560
- Sewerage Capital Improvements Program – Force Main and Gravity Sewer Contract 5561
- Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562

Sewerage Capital Improvements Program - Lift Station Contract 5511, Jefferson Parish, LA, 1993-1999

Contract 5511 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 8 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. A unique aspect of the construction of Contract 5511 is that the deep excavations for the new lift stations utilized a slurry wall cofferdam installed by Halliburton. The cofferdam method was a creative method to support the excavation walls without the vibrations caused by the installation of steel sheets. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5512, Jefferson Parish, LA, 1993-1999

Contract 5512 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 3 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5553, Jefferson Parish, LA, 1993-1999

Contract 5553 consisted of the rehabilitation of 9 existing lift stations. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5554, Jefferson Parish, LA, 1993-1999

Contract 5554 consisted of the rehabilitation of 11 existing lift stations and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program – Force Main Contract 5555, Jefferson Parish, LA, 1993-1999

Contract 5555 consisted of the construction of sewer force mains for 7 different lift stations in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura performed final plan review of the plans for constructability and performed services during bidding. Mr. Bonura served as construction coordinator on the project, responsible for

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reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way.

Sewerage Capital Improvements Program - Lift station Contract 5556, Jefferson Parish, LA, 1993-1999

Contract 5556 consisted of the rehabilitation of 1 existing lift station and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5559, Jefferson Parish, LA, 1993-1999

Contract 5559 consisted of the rehabilitation of 8 existing lift stations and the construction of 3 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5560, Jefferson Parish, LA, 1993-1999

Contract 5560 consisted of the construction of 2 new sewer lift stations and the rehabilitation of 12 existing lift stations. Mr. Bonura designed all improvements, performed services during bidding, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program – Force Main and Gravity Sewer Contract 5561, Jefferson Parish, LA, 1993-1999

Contract 5561 consisted of the construction of sewer force mains for 4 lift stations and about 850 linear feet of gravity sewer in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura designed the plans, coordinated with all utilities, and performed services during bidding. The plans included the necessary roadway repairs associated with the pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way.

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Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562, Jefferson Parish, LA, 1993-1999

Contract 5562 consisted of the construction of two new sewer lift stations and the force main for one of the lift stations. Mr. Bonura designed the improvements, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sanitary Landfill Solid Waste Permit Application, Jefferson Parish, LA, 2019

BBEC worked as a subconsultant to another firm to develop a complete solid waste permit renewal for the Jefferson Parish Sanitary Landfill. BBEC's role in developing the permit application included:

- Ownership of property verification
- Site plan development, including verification of facilities, contours, soil borings and conditions, groundwater monitoring wells and conditions
- Verification of environmentally sensitive sites within the facility
- Verification of environmentally sensitive sites surrounding the facility
- Leachate collection system
- Technical review of the completed permit application

Mr. Bonura performed the reviewed the existing leachate collection system and geotechnical information to develop the leachate and geotechnical components of the permit application. Further, Mr. Bonura oversaw the balance of the work as supervising professional over the whole project.

Sanitary Landfill Stormwater Detention, Jefferson Parish, LA

As part of the landfill permitting process, the requirement for the site was to contain the 25-year storm. Mr. Bonura developed the initial stormwater management plans to address the requirement. To put the landfill project out for bid, Mr. Bonura designed the actual facilities and site improvements to maintain compliance with the 25-year storm requirement. Mr. Bonura designed a complete drainage system for the 88 acre Phase III expansion site, which included the construction of ditches, canals, bridges, culverts, and outfall structures, Mr. Bonura performed the hydraulic modeling to determine the runoff for the site, performed the hydraulic modeling analysis to determine the ditch and canal cross sections, with the existing tight elevation constraints, performed a cost analysis study to determine the most cost effective method for the canal crossings, compared precast box culverts, poured in place box culverts, ConSpan sections, precast (Waskey) bridge sections, and poured in place bridge sections. Mr. Bonura determined (with concurrence of the contractor on the site) that the poured in place bridge section was the most cost-effective method, determined the culvert sizes and prepared final construction drawings and specifications for the entire project. The drainage portion of the project cost about \$3,000,000.

Sanitary Landfill Phase III Expansion, Jefferson Parish, LA, 1998

Mr. Bonura designed the leachate collection and transmission system which included 24 submersible collection pumps, miles of collection and transmission pipe, and a transmission pumping station. Mr. Bonura determined stormwater runoff for the site and designed a drainage system for the 88-acre site, which included a system of canal, stormwater detention pond, and roadway crossings.

Operation and Maintenance Management, Jefferson Parish, LA, 1997

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As Project Manager for the O&M Management project for the Department of Sewerage, Mr. Bonura prepared standard operating procedures for all treatment phases in three wastewater treatment plants, provided troubleshooting for process problems encountered by the plant personnel and recommended capital improvements to rectify the problems, reviewed all standard operating procedures and developed construction details necessary to remedy the identified operation and maintenance problems.

Wastewater Treatment Plant No. 3 Odor Control Facilities, City of Kenner, LA, 2005-2006

The project consisted of the design and construction management of installation of odor control facilities to capture and treat odor emitted from the Kenner Wastewater Treatment Plant #3. BBEC performed the design and resident inspection services.

Harvey Wastewater Treatment Plant Sluice Gates and Bar Screens, Jefferson Parish, LA, 2012-2018

The project consists of the rehabilitation of the bar screens and sluice gates at the Harvey Wastewater Treatment Plant, including the removal and replacement of the bar screens, access hatches for the bar screens, existing sluice gates, and the force main gate valve, cleaning and painting of interior (grit) piping, rehabilitation of the existing motor control center, and providing electric and manual actuators for the gates and an electric actuator for the gate valve. The replaced slide gates include (6) 4'x9' gates, (1) 2'x5' gate, and (1) 5'x5' gate. The (6) 4'x9' are electrically actuated. In addition to the replacement of gates, the project also includes the rehabilitation of (4) 14'x4' gates with new actuators and gearboxes.

Mr. Bonura developed the automation system for the operation of the bar screens that measured the headloss across the screen so the screens would automatically rake themselves clean. The system was also designed with automation such as in the event of a control system failure the screens would automatically run so that flow was maintained.

The project included building renovations including replacing doors, windows, ventilations, electrical lighting and fixtures, roof sections, and roof hatches. BBEC performed the design, bidding, construction administration, and resident inspection services for the project. Mr. Bonura also assisted the Parish in securing a Community Development Block Grant to fund the construction of the work and addressed all grant requirements in its plans and specifications. Mr. Bonura served as the supervising professional for the overall project.

Operation & Maintenance Management/Sludge Disposal Alternatives, Jefferson Parish, LA, 1997

Mr. Bonura served as Project Manager for the O&M Management and Sludge Disposal project for the Jefferson Parish Department of Sewerage. The project included preparing standard operating procedures for all treatment phases in three wastewater treatment plants. Where process problems were encountered by the plant personnel, the problems either resolved in the operation of the system and / or recommendations were made for operation and maintenance and capital improvements. The project also included a study to determine the best method of disposing the Parish's sludge. Landfill disposal, incineration, and pelletizing, and the various methods of treatment and dewatering associated with the disposal methods, were included in the project.

Infiltration/Inflow Rehabilitation Program, City of Kenner, LA, 1996

Mr. Bonura developed an inflow/infiltration rehabilitation program based on review of television inspection testing and smoke testing reports to correct the I/I problems identified by the City's 201 Facilities Plan, prepared plans and specifications for the necessary rehabilitation and managed the project through construction to its completion. The rehabilitation project included pipe lining with cured-in-place pipe liner, manhole rehabilitation, and point repairs on sewer pipe. Pipe bursting was considered as an option during the design plan of the project but was determined not cost effective due to the quantity of house connections in the pipes being rehabilitated.

Infiltration/Inflow Rehabilitation Program, Jefferson Parish, LA, 1991

As Construction Manager of the Parish's annual sewer collection system rehabilitation contract, with approximate

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costs being \$2 million per year. Mr. Bonura worked with the client staff developing a complete internal system of inspection, documentation, and rehabilitation of the Parish's sewerage collection system. The program included the design and management of sewer point repairs, the CIPP lining of sewer gravity mains, force mains, and residential lateral lines, chemical gravity of existing joints, pipe bursting, and sewerage flow control to allow for the work to be performed. The project also included coordinating the work with the area residents with respects providing public notice of the project so residents were not surprised by the smoke testing around their homes.

Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA, 06/2014-01/2015

Jefferson Parish was experiencing sewerage overflows due to wet weather in the Tolmas Drive area. Mr. Bonura evaluated the operation of the area's sewer system, that included 4 lift stations with associated force mains and gravity systems. The scope of the evaluation was to determine how to alleviate the surcharge condition of the G7-5 gravity system. The evaluation simulated modifying the pumping arrangements of stations G8-2 and G7-5 and performing an analysis of the capacity of the G7-5 gravity system. Station G7-3 appeared to operate correctly and the evaluation did not attempt to alter the existing conditions of that station.

Mr. Bonura developed and calibrated a hydraulic model of the sewer system, which was utilized to simulate corrective measures to eliminate the overflow problems. The modeled conditions were as follows:

Scenario 1 – Existing System (to establish a base for the model)

Scenario 2 – G8-2 and G7-5 pump stations in series

Scenario 3 – G8-2 and G7-5 pump stations in parallel

Scenario 4 – G8-2 and G7-5 stations modified (no additional force main)

Scenario 5 – G8-2 and G7-5 stations modified and pumps in series

Mr. Bonura made recommendations for improvements, prepared preliminary designs including the selection of replacement pumps where necessary and prepared a detailed construction cost estimate of various alternatives for improvements. The recommendation consisted of two options for repairs: (1) a minimum cost improvements option by changing pump impellers only but did not get the lift stations exactly to their individual design capacities; and (2) a \$117,000 cost option including new pumps and the installation of 882 linear feet of 6-inch diameter force main. Jefferson Parish was to research its funding construct one of the recommended improvements with its in-house crews and corrected the overflow problems.

Jefferson Parish received an EPA grant to fund the design of the recommended improvements and hired BBEC, again, to design the improvements. The design of the improvements to the existing sewer lift station G8-2 includes converting the existing station to a submersible type station utilizing the existing wet well and installing a new valve pit. The project required all new mechanical and electrical equipment, the removal and replacement of the wet well top to include new hatches, and the installation of a new pile supported valve pit. Mr. Bonura served as the supervising professional over the design of the project.

H-3-3 Ochsner Hospital Lift Station Upgrades, SCIP No. D55113, Jefferson Parish, LA, 07/2020-10/2020 – 06/23/2021

Mr. Bonura served as Supervising Professional for the Construction Inspection Services provided for the construction of the project for the Lift Station H-3-3 on the east bank of Jefferson Parish located in front of Ochsner Hospital within the R/W of Jefferson Highway just to the West of Brent House Hotel. The existing condition of the station was that it was operating at 480v 3PH being provided by Entergy and was a self-priming station with two 25 hp pumps and two joined wet wells. The station received gravity and FM flow from the Ochsner campus only. The capacity of the existing station was 1000 GPM with a design head of 36.0 feet. The station discharged to LS H4-2 via a 12" diameter FM approximately 4000' in length. This FM is manifold with station H4-2B prior to reaching H4-5.

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The scope included replacement with a submersible lift station configuration. The existing wet wells were salvaged, repaired, coated and re-used and retained the 480v service. The station required bypassing during construction. The capacity of the station was increased to 3000 gpm as requested by Ochsner. BBEC's inspection of the project included observation of the work, including field checks of materials and installed equipment to protect Owner against defects and deficiencies of the work, reviewing of schedules, attending conferences and meetings, complying with site safety programs, serving as Engineer's liaison, providing clarifications and interpretations for RFI's, considering and evaluating Contractor suggestions for modifications, reviewing work completed by the Contractor, observing, recording, and reporting inspections, tests, and system start-ups, maintaining records, supplying periodic reports, reviewing Contractor applications for payment, verifying work was completed in accordance with contract documents, and verifying completion of punch list.

Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA, 2015

Mr. Bonura served as the Supervising Engineer for the Braithwaite portion of the project which consisted of repairs of the damages to the lift station and package plant caused by Hurricane Isaac. He managed all design for the repairs, bidding services, and construction/project management for the project. The repairs included new control panels, new fencing, earthwork for the plant foundation, concrete walkway repairs, new piping, new wiring and framing, and resetting and securing the plant to the foundation.

Mr. Bonura also served as Supervising Engineer for the Dalcour portion of the project which consisted of repairs of the damages to the lift stations caused by Hurricane Isaac. He managed all design for the repairs, bidding services, and construction/project management for the project. The project consisted of replacing the control panels and electrical work at the stations.

Wastewater Treatment Plants, Baton Rouge, LA

Mr. Bonura prepared site layout designs for the Phase I expansions for the North, South and Central Wastewater Treatment Plant expansion projects, and performed the hydraulic analysis of the effluent pumping stations for each of the three projects.

Wastewater Improvement Program, St. Charles Parish, LA

As Project Engineer on the lift station and force main portion of the project, Mr. Bonura provided design and drafting oversight, for the preliminary design report preparation, and oversight of sub-consultants. Mr. Bonura completed the project through the preliminary design report submittal before changing employment. The project included the construction of six new sewer pumping stations and about 200,000 linear feet of sewer force main ranging from 6 inch to 24-inch diameter pipe, including modeling of the system, work along DOTD rights-of-way, consideration of various methods of construction, but allowing for the installation of isolation valves for pipeline maintenance.

Emergency Pump-Out, St. Bernard Parish, LA, 2005

Mr. Bonura served as Project Manager of 85 Emergency Pump-Outs (EPO). Project included the installation of EPO's in various locations in St. Bernard Parish, hydro testing of force mains, temporary and final restoration. Mr. Bonura distributed shop drawings, reviewed daily inspection reports, reviewed test reports, checked quantities, and completed all correspondence.

Wastewater Program, Houston, TX, 1997

Mr. Bonura served as Project Engineer for the Market Street (29.75 MGD), Scott Street (15.3 MGD), Velasco (13.0 MGD) and Fairway Area (12.3 MGD) lift station and force main projects. Mr. Bonura performed all phases of the project, including the project functional description, selection of alternatives, alternative analysis, preliminary design, and final design phases. Mr. Bonura presented each phase of each of the projects to a technical review board consisting of City personnel and third party technical consultants (a value engineering board) for approval to

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proceed to final design and construction; all projects have been successfully completed through construction.

A brief description of the lift stations designed is as follows:

- **Fairway Lift Station (12.3 MGD)** – The Fairway Lift Station was constructed as a submersible lift station containing (4) 10-inch submersible pumps for wet weather flows, and (2) 6-inch submersible pumps for dry weather flows. Valves and appurtenances were constructed on a slab at grade. The circular concrete lift station was about 25-feet deep. The lift station discharged into a new 24-inch force main approximately 2,800 feet in length.
- **Scott Street Lift Station (15.3 MGD)** – The Scott Street Lift Station was constructed as a wet pit / dry pit lift station containing (4) 3,090 gpm pumps for wet weather flows, and (3) 677 gpm pumps for dry weather flows. The circular concrete lift station was about 50-feet deep. A wall in the circular structure separated the wet pit from the dry pit. The dry pit side had two levels – the pumps sat on the bottom slab while the motors and controls were located on the second level. The dry weather pumps discharged into a new 10-inch force main; the wet weather pumps discharged into a new 24-inch force main. Both force mains were about 5,400 feet long.
- **Market Street Lift Station (29.75 MGD)** – The Market Street Lift Station was constructed as a wet pit / dry pit lift station containing (4) 3,631 gpm pumps for wet weather flows, and (3) 2966 gpm pumps for dry weather flows. The circular concrete lift station was about 50-feet deep. A wall in the circular structure separated the wet pit from the dry pit. The dry pit side had two levels – the pumps sat on the bottom slab while the motors and controls were located on the second level. The dry weather pumps discharged into an existing 24-inch force main; the wet weather pumps discharged into a new 30-inch force main. The sewer system was designed such that the downstream lift station could handle the dry weather flows so the existing force main was utilized for dry weather flows. The new 30-inch force main was about 5,700 linear feet and discharged further downstream.

Emergency Sewer Pump Out, St. Bernard Parish, LA, 2005

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed plans and specifications for a unit price contract to install emergency pump quick connections to every lift station that could not be pumped upstream via temporary hoses so that emergency trailer mounted pumps could be utilized to move sewer downstream to subsequent lift stations and sewer treatment plant, 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. The total project cost was \$2.8 million.

Emergency Sewer Vacuum, St. Bernard Parish, LA, 2005

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed plans and specifications for a unit price contract to vacuum sanitary sewerage out of the gravity system and dispose it into the operating sewer treatment plants as a temporary measure to keep the sewers down while emergency pump-outs and pumps were procured, obtained, and/or constructed, 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.

Emergency Sewer Pump Rental, St. Bernard Parish, LA, 2005

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed bid documents for a unit price contract to provide trailer mounted rental pumps to maintain the sewer levels in the Parish's collection sewer collection system while various lift stations and sewer treatment plants were repaired. BBEC 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.

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Emergency Sewer Force Main Repair, St. Bernard Parish, LA, 2005

Several sewer force mains were damaged by Katrina. BBEC developed plans and a specification for a unit price contract to repair the sewer force mains, handled the project through bidding, and continues to perform construction administration and resident inspection services for the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA, 2002

The scope of the evaluation was to determine if connecting the Bourg (2,640 gpm design capacity) and Bank (1,240 gpm design capacity) Sewer Lift Stations into an existing 18-inch diameter sewer force main would be possible. The existing 18-inch force main served four other lift stations, and there was concern that connecting the Bourg and Bank Lift Stations would decrease the other lift station's capacities so that they would not be able to handle their respective wastewater flows.

Mr. Bonura developed a computer hydraulic model for the 18-inch sewer force main and all lift stations pumping into it (existing and proposed), evaluated five different alternatives, and included wet and dry weather conditions in each of the five alternatives. As part of the model evaluation, Mr. Bonura prepared preliminary designs for improvements and simulated the recommended improvements with the model to ensure that the recommendations were feasible, including constructing a complete booster station, trimming impellers and/or changing pump speed at several locations, and replacing pumps and motors at several locations. Mr. Bonura concluded with three feasible options for consideration.

Ashton Plantation Lift Station Analysis, St. Charles Parish, LA, 2002

Mr. Bonura determined the most effective method of connecting new subdivision lift stations into existing sewer force main already serving six other lift stations, developed a hydraulic model of the affected sewer system and then prepared preliminary designs and cost estimates of the various working alternatives.

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.

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

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project worksheet and preparing requests for reimbursement for the Parish.



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:	
Name & Title:	
	Kevin Forschler, P.E. Project Engineer
Project Assignment:	
	Project Engineer
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:	
<p>Mr. Forschler is currently working on projects for Jefferson Parish, the City of New Orleans, St. Bernard Parish, St. Charles Parish, Lafayette and St. Tammany Parish. The projects he is working on involve water and wastewater treatment, bike path design, roadway restoration, drainage modeling and design, and design of a structure to prevent shoreline erosion.</p> <p>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.</p> <p>Projects with detailed descriptions of work are provided below:</p> <p>Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 05/2015-Present</p> <p>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.</p>	

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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.

Sanitary Landfill 2019 Solid Waste Permit Application, Jefferson Parish, LA, 01/2018-01/2020

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

Canebrake Utilities, Lamar County, MS, 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.

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.

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.

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 Avenue Drainage Improvements, Public Works Project No. 2019-022-DR, 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

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vertical and horizontal alignment to avoid conflicts with existing utilities. He also designed the vertical profile for the proposed roadway repairs.

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 (A/E Project No. 20-1708), Jefferson Parish, LA, 05/2018-05/2021

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.


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.

TEC Professional Services Questionnaire

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:
<p>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.</p> <p>Projects with detailed descriptions of work are provided below:</p> <p>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</p> <p>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.</p>

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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., EI/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.

TEC Professional Services Questionnaire

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:
<p>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.</p> <p>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.</p> <p>Projects with detailed descriptions of work are provided below:</p> <p>Acadiana Water and Sewer, Lafayette, LA, 12/2020-Present Bellville Wastewater Treatment, Garden Height & Mark Ridge Wastewater Treatment Plants</p> <p>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.</p>

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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.

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.

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.

Delon Hampton & Associates, Atlanta Georgia, 04/2004-09/2006

Mr. Kamboj served as Senior Project Manager for the design of intake structures for Clear Creek & Tanyard C.S.O. projects, design of 6.5 mile, four lanes of US-1 /US-4 in Toombs County GA. He performed project management and design of UV treatment upgrade for Big Creek Waste Plant for Fulton County.

N-Y Associates Consulting Engineers, Metairie, 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

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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, 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.

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.


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.

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

TEC Professional Services Questionnaire

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:	
<p>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.</p> <p>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.</p> <p>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.</p> <p>Projects with detailed descriptions of work are provided below:</p>	

TEC Professional Services Questionnaire

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.

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.

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.

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).

TEC Professional Services Questionnaire

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, grating, 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.

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.

TEC Professional Services Questionnaire

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:

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.

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.

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

TEC Professional Services Questionnaire

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.

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

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

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.

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

TEC Professional Services Questionnaire

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.

TEC Professional Services Questionnaire

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>GIS Department., 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>Digital Flood Insurance Rate Map, Jefferson Parish, LA</p> <p>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.</p>

TEC Professional Services Questionnaire

East Bank Water Treatment Plant Improvements, Jefferson Parish, LA

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.

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.

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.

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.

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.

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, geoprocesed 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.

TEC Professional Services Questionnaire

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.

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.

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.

Engineering Services for the Four-Year Road Maintenance Program (Project No. P 160302), St. Charles Parish, LA, 04/2016-12/2019

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.

TEC Professional Services Questionnaire

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

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.

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.



TEC Professional Services Questionnaire

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.

PROJECT NO. 1

**Project Name,
Location and Owner's
contact information:**

Nature of Firm's Responsibility:

**Cutty Sark and Titanic
(P-12-10) Lift Station,
Jefferson Parish, LA**

**Jefferson Parish
Government
Brett Todd, Director
Department of
Sewerage
1221 Elmwood Park
Blvd., Suite 803
Jefferson, LA 70123
BTodd@jeffparish.net
(504) 736-6661**

Applicable Experience

- Project Evaluation
- Project Design
- Drafting of Technical Plans
- Development of Technical Specifications
- Construction Administration

and contract documents, assisted the Parish with the bidding phase, and managed all construction activity, including the review of shop drawings and working drawings. BBEC also assisted the Parish with the acquisition of the necessary servitude to house and maintain the upgraded facility. This project is complete and closed out.

The project consisted of the improvements to the existing Sewer Lift Station at Cutty Sark and Titanic (P-12-10), which included the installation of a new 8-foot diameter fiberglass wet well and 8-foot diameter valve pit on pile supported foundations and installation of new pumps, piping, fittings, valves and control panel. BBEC coordinated all surveys and soil investigations, designed all improvements, prepared all plans, specifications,



**Completion Date
(Actual or estimated):**

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

November 2016 (actual)

\$613.000

\$613.000


TEC Professional Services Questionnaire

PROJECT NO. 2		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Harvey Wastewater Treatment Plant Sluice Gates and Bar Screens, SCIP No. D3121, Harvey Wastewater Treatment Plant Grit Chamber, SCIP No. D3121A, Jefferson Parish, LA</p> <p>Jefferson Parish Government Brett Todd, Director Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 BTodd@jeffparish.net (504) 736-6661</p>	<div style="display: flex;"> <div style="background-color: #0056b3; color: white; padding: 10px; width: 30%; margin-right: 10px;"> <p style="text-align: center; margin: 0;">Applicable Experience</p> <ul style="list-style-type: none"> Project Evaluation Project Design Drafting of Technical Plans Development of Technical Specifications Construction Administration </div> <div style="flex-grow: 1;"> <p>The project consisted of the rehabilitation of the bar screens and sluice gates at the Harvey Wastewater Treatment Plant, including the removal and replacement of the bar screens, access hatches for the bar screens, existing sluice gates, and the force main gate valve, cleaning and painting of interior (grit) piping, rehabilitation of the existing motor control center, and providing electric and manual actuators for the gates and an electric actuator for the gate valve. The replaced slide gates include (6) 4'x9' gates, (1) 2'x5' gate, and (1) 5'x5' gate. The (6) 4'x9' are electrically actuated. In addition to the replacement of gates, the project also included the rehabilitation of (4) 14'x4' gates with new actuators and gearboxes.</p> <p>An automation system was developed for the operation of the bar screens that measured the headloss across the screen so the screens would automatically rake themselves clean. The system was also designed with automation such as in the event of a control system failure the screens would automatically run so that flow was maintained.</p> <p>The project included building renovations including replacing doors, windows, ventilations, electrical lighting and fixtures, roof sections, and roof hatches. BBEC designed all improvements, prepared all plans, specifications, and contract documents and performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish in securing a Community Development Block Grant to fund the construction of the work and addressed all grant requirements in its plans and specifications. The project is complete and closed out.</p> </div> </div>	
<p>Completion Date (Actual or estimated):</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
April 2020 (actual)	\$3.603.156.19	3.603.156.19

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA</p> <p>Jefferson Parish Government Brett Todd, Director Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 BTodd@jeffparish.net (504) 736-6661</p>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <div style="background-color: #0056b3; color: white; padding: 5px; margin-bottom: 10px;"><u>Applicable Experience</u></div> <ul style="list-style-type: none"> Project Evaluation Project Design Drafting of Technical Plans Development of Technical Specifications Construction Administration </div> <div style="width: 50%;"> <p>The project contained 192 lift stations that need EPO installations and 76 lift stations that have 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. BBEC managed the installation of an EPO at the E8-1 jobsite, connecting to the existing lift station piping and force main, giving us familiarity at the actual site. BBEC reviewed all lift station photos, as-builts, and other information to evaluate the optimum location for the new lift stations and required appurtenances (pumps, hoses, etc.) and designed the EPO modification upgrades prior to site surveys. BBEC performed site surveys to determine the needed scope of work at each site to improve the EPO conditions. BBEC generated site plans for each station, standard details, plans and specifications. BBEC performed bidding, construction administration, and resident inspection services. BBEC also assisted the Parish in response to a HUD audit of the project.</p> <p>Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA</p> <p>Lift Station F7-11 is a 4,041 gpm lift station with 4 8-inch 100 hp pumps and motors. The lift station had 4 dry pit pumps in two different dry pits. The pump station discharged into a short (<300 feet) force main. BBEC evaluated the options of replacing the pumps with dry pit pumps and submersible pumps, and evaluated the options of utilizing the existing force main, extending the existing force main to discharge into a manhole several thousand feet away, and connecting the force main into a major force main manifold. The option selected, and the designs BBEC performed, were replace the dry pit pumps with submersible pumps, replace all piping and valves to raise the valves above grade, modify the wet well structures by removing the entrance tubes and replacing them with 8-foot reinforced concrete pipe sections (including designing the connection between old and new pipe sections), designing new top slabs and hatches for the two renovated dry pits and the wet well, completely cleaning and coating the wet wells for H2S gas, and related controls. Variable frequency drive units were utilized so the pump station would run during the then existing condition with the short force main, but was capable of running when connected to the major force main manifold as planned. BBEC performed the design, negotiated a change order with a contractor to perform the work under a federally funded project, and performed the construction administration, resident inspection, and record drawing services. BBEC also assisted the Parish in successfully addressing funding agency comments regarding the procurement of the work. The construction cost was \$813,000.</p> </div> </div>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Mav 2024 (estimate)	\$5.001.573	\$5.001.573

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PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA</p> <p>Jefferson Parish Government Brett Todd, Director Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 BTodd@jeffparish.net (504) 736-6661</p>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="background-color: #0056b3; color: white; padding: 5px; margin-bottom: 10px;"><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> <div style="width: 50%;"> <p>The project consisted of the improvements to the existing Sewer Lift Station on Alexis Drive (M-13-2), which included the evaluation of various options to relocate the existing lift station from its current location and the detailed design and installation of a new 6-foot diameter fiberglass wet well and 6-foot diameter valve pit on pile supported foundations, new submersible 150 gpm pumps, piping, fittings, valves and control panel, including the necessary roadway repairs associated with the lift station installation and pipe laying operations. BBEC designed the improvements, prepared detailed plans and specifications, and administered the project through the bidding phase and construction activities. The project is complete and closed out.</p> </div> </div> <div style="text-align: right; margin-top: 20px;">  </div>	
<p>Completion Date (Actual or estimated):</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2013 (actual)	\$710,000	\$710,000

TEC Professional Services Questionnaire

PROJECT NO. 5

**Project Name,
Location and Owner's
contact information:**

Nature of Firm's Responsibility:

**Lift Station Modeling,
Jefferson Parish, LA**

**Jefferson Parish
Government
Brett Todd, Director
Department of
Sewerage
1221 Elmwood Park
Blvd., Suite 803
Jefferson, LA 70123
BTodd@jeffparish.net
(504) 736-6661**

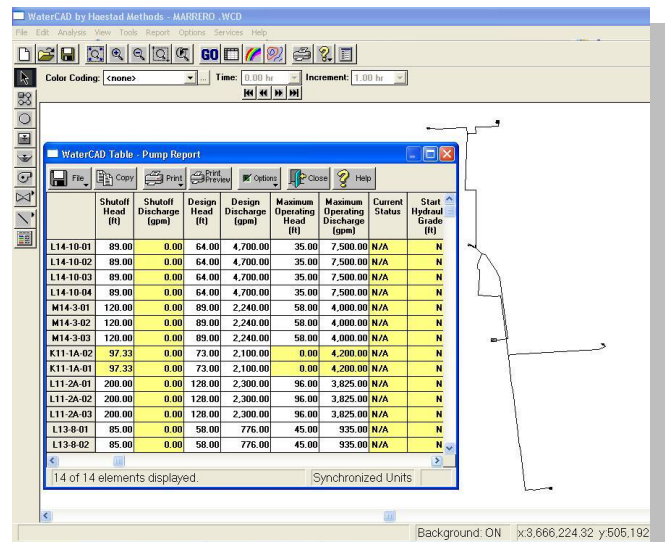
Applicable Experience

- Project Evaluation

BBEC developed hydraulic models for 27 sewerage lift stations using third party hydraulic modeling software. Some of the hydraulic systems included multiple lift stations with multiple pumps. The hydraulic models were used to evaluate lift station

performance at the Parish's problem stations and served as the basis for in-house upgrades. The models were develop based on the Parish's GIS, with the modeled facilities overlaid onto the GIS map so the Parish features could be seen and the drawing would be to the real world-scale. Certified pump curves, when available, we incorporated into the model to improve accuracy of the models. Lift stations modeled include:

- H9-1 Bridge City and Hwy. 90
- I9-1 Bridge City and Wiegand Drive
- K11-1 Francis Street and WB Expressway (manifolds with L11-2, pumps to Marrero WWTP)
- L11-2 Field and Eisman Street (manifolds with K11-1, pumps to Marrero WWTP)
- L13-8 Caddy and Segnette Drive
- L14-10 Pritchard Central Pump Station (manifolds with M14-3, L12-5, and others)
- M14-3 Cousins and Barataria Booster Station (manifolds with L14-10, L12-5, and others)
- N12-7 Day and Enterprise Drive
- N13-8 Woodmere South Pump station
- D7-2 Kawanee and Olympic
- D6-5A Four Bayous
- D8-2 Elmwood and 39th Street
- D8-5 Cleveland and Avron
- E6-1 Elizabeth and W. Napoleon Ave.
- E3-7 Camp Plauche Pump Station
- E6-2 Elizabeth and N. I-10 Service Road (manifolds with E7-1)
- E7-1 Kawanee and Henican/Page (manifolds with E6-2)
- E7-3 Transcontinental and Veterans



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- H6-3A Canal Street and Focis Ave.
- H6-4 Focis Street and Toulouse
- H8-4 Poplar and Nursery
- G4-4 Loumar Ave. and Gruner Road
- O10-1 8th Street and Olive Ave.
- P10-2 Browning and Cranberry
- P14-8 Near Aspen Drive and Sugar Loaf Drive
- O12-1 Orbit and N. Friendship
- O13-1 Friendship Drive



Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1997 (actual)	\$30.000	\$30.000

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PROJECT NO. 6

**Project Name,
Location and Owner's
contact information:**

Nature of Firm's Responsibility:

**Tolmas Drive Sewer
System Alternative
Analysis Study and
Improvements at Lift
Station G8-2, Tolmas &
W. Esplanade,
Jefferson Parish, LA**

**Jefferson Parish
Government
Brett Todd, Director
Department of
Sewerage
1221 Elmwood Park
Blvd., Suite 803
Jefferson, LA 70123
BTodd@jeffparish.net
(504) 736-6661**

Applicable Experience

- Project Evaluation
- Project Design
- Drafting of Technical Plans
- Development of Technical Specifications

Jefferson Parish was experiencing sewerage overflows due to wet weather in the Tolmas Drive area. BBEC evaluated the operation of the area's sewer system, that included 4 lift stations with associated force mains and gravity systems. The scope of the evaluation was to determine how to alleviate the surcharge condition of the G7-5 gravity system. The evaluation simulated modifying the pumping arrangements of stations G8-2 and G7-5

and performing an analysis of the capacity of the G7-5 gravity system. Station G7-3 appeared to operate correctly and the evaluation did not attempt to alter the existing conditions of that station.

BBEC developed and calibrated a hydraulic model of the sewer system, which was utilized to simulate corrective measures to eliminate the overflow problems. The modeled conditions were as follows:

- Scenario 1 – Existing System (to establish a base for the model)
- Scenario 2 – G8-2 and G7-5 pump stations in series
- Scenario 3 – G8-2 and G7-5 pump stations in parallel
- Scenario 4 – G8-2 and G7-5 stations modified (no additional force main)
- Scenario 5 – G8-2 and G7-5 stations modified and pumps in series

BBEC made recommendations for improvements, prepared preliminary designs including the selection of replacement pumps where necessary, and prepared a detailed construction cost estimate of various alternatives for improvements. The recommendation consisted of two options for repairs: (1) a minimum cost improvements option by changing pump impellers only but did not get the lift stations exactly to their individual design capacities; and (2) a \$117,000 cost option including new pumps and the installation of 882 linear feet of 6-inch diameter force main. Jefferson Parish was to research its funding construct one of the recommended improvements with its in-house crews and corrected the overflow problems.



Jefferson Parish received an EPA grant through the Lake Pontchartrain Basin Foundation to fund the design of the recommended improvements and hired BBEC to design the improvements. BBEC performed surveying, preliminary, and final design for the project. The project was constructed in-house by the Parish. The design of the improvements to the existing sewer lift station G8-2 includes converting the existing station to a submersible type station utilizing the existing wet well and

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installing a new valve pit. The project will require all new mechanical and electrical equipment, the removal and replacement of the wet well top to include new hatches, and the installation of a new pile supported valve pit.



Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2019 (actual)	\$735,334.82	\$40,500 (fee)

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PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift Stations No.9 and No. 9A, Plaquemines Parish, LA</p> <p>Plaquemines Parish Government Ken Dugas, Parish Engineer Department of Engineering and Public Works 333 F. Edward Hebert Blvd., Bldg. 500 Belle Chasse, LA 70037 kdugas@ppgov.net (504) 297-5343</p>	<div style="display: flex;"> <div style="background-color: #0056b3; color: white; padding: 10px; width: 30%; margin-right: 10px;"> <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> <div style="flex-grow: 1;"> <p>The Braithwaite portion of the project consisted of repairs of the damages to the lift station and package plant caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The repairs included new control panels, new fencing, earthwork for the plant foundation, concrete walkway repairs, new piping, new wiring and framing, and resetting and securing the plant to the foundation.</p> <p>The Dalcour portion of the project consisted of repairs of the damages to the lift stations caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The project consisted of replacing the control panels and electrical work at the stations.</p> </div> </div>	
<p>Completion Date (Actual or estimated):</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2015 (actual)	\$292.000	\$292.000

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PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA</p> <p>St. Charles Parish Government 15045 River Road Hahnville, LA 70057 Darrin Duhe, Chief Operating Officer (985) 793-5102</p>	<div style="display: flex; align-items: flex-start;"> <div style="background-color: #0056b3; color: white; padding: 10px; margin-right: 10px; width: 25%;"> <p style="margin: 0;"><u>Applicable Experience</u></p> <ul style="list-style-type: none"> Project Evaluation </div> <div style="flex-grow: 1;"> <p>The project involved determining if connecting the Bourg (2,640 gpm design capacity) and Bank (1,240 gpm design capacity) Sewer Lift Stations into an existing 18-inch diameter sewer force main would be possible. The existing 18-inch force main served four other lift stations, and there was concern that connecting the Bourg and Bank Lift Stations would decrease the other lift station's capacities so that they would not be able to handle their respective wastewater flows.</p> <p>BBEC developed a computer hydraulic model for the 18-inch sewer force main and all lift stations pumping into it (existing and proposed). BBEC evaluated five different alternatives and included wet and dry weather conditions in each of the five alternatives. As part of the model evaluation, BBEC performed preliminary designs for improvements and simulated the recommended improvements with the model to ensure that the recommendations were feasible. The simulated improvements included constructing a complete booster station, trimming impellers and/or changing pump speed at several locations, and replacing pumps and motors at several locations. BBEC concluded with three options for consideration.</p> </div> </div>	
<p>Completion Date (Actual or estimated):</p>	<p>Estimated Cost:</p>	
	<p>Entire Project:</p>	<p>Work for which Firm was Responsible:</p>
<p>2002 (actual)</p>	<p>\$20.000 (fee)</p>	<p>\$20.000 (fee)</p>

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PROJECT NO. 9		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Acadiana Water and Sewer, Lafayette, LA</p> <p>Jacob O. Freeman, P.E., Director Central States Water Resources, Inc. 500 Northwest Plaza Drive, Suite 500 St. Ann, MO 63074 jfreeman@cswrgroup.com (314) 380-8598</p>	<div style="display: flex;"> <div style="background-color: #0056b3; color: white; padding: 10px; width: 30%; margin-right: 10px;"> <p style="margin: 0;"><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> <div style="flex-grow: 1;"> <p>The project 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.</p> <p>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.</p> <p>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.</p> </div> </div>	
<p>Completion Date (Actual or estimated):</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2022 (estimate)	\$2,100,000	\$2,100,000

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PROJECT NO. 10

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:
<p>Sewerage Capital Improvements Program - Lift station Contract 5559, Jefferson Parish, LA</p> <p>Jefferson Parish Government Brett Todd, Director Department of Sewerage 1221 Elmwood Park Blvd., Suite 803 Jefferson, LA 70123 BTodd@jeffparish.net (504) 736-6661</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 • Construction Administration </div> <div style="flex: 2;"> <p>Contract 5559 consisted of the rehabilitation of 8 existing lift stations and the construction of 3 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction. Lift stations constructed / rehabilitated under Contract 5559 were:</p> <ul style="list-style-type: none"> • Lift Station D4-2B was the installation of a new wet well and valve pit housing two submersible 605 gpm pumps, with related piping, fittings, and controls. An emergency pump out was installed inside the valve pit. • Lift Station F5-2B was the installation of a new wet well and valve pit housing two submersible 1,070 gpm pumps, with related piping, fittings, and controls. An emergency pump out was installed inside the valve pit. • Lift Station D5-4 was the rehabilitation of an existing 637 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit. • Lift Station E5-7 was the rehabilitation of an existing 1,250 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit. • Lift Station F5-11 was the rehabilitation of an existing 145 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit. • Lift Station F7-8 was the rehabilitation of an existing 293 gpm duplex lift station by </div> </div>

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	<p>making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit.</p> <ul style="list-style-type: none"> • Lift Station C5-1 was the rehabilitation of an existing 509 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit. • Lift Station D4-6 was the rehabilitation of an existing 623 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit. • Lift Station G6-7 was the rehabilitation of an existing 130 gpm duplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed inside the valve pit. • Lift Station G8-1 was the rehabilitation of an existing 2,335 gpm triplex lift station by making the necessary repairs as needed, including replacing pumps, valves, piping, making repairs all leaks in the walls, cleaning and painting the entire station, and replacing the controls, sump pump, ventilation blower and piping, and cathodic protection. An emergency pump out was installed on the existing force main. • Lift Station D5-1A was the installation of a new wet well and valve pit housing two submersible 842 gpm pumps, with related piping, fittings, and controls. An emergency pump out was installed inside the valve pit 	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
1993 (actual)	\$1,700,000	\$1,700,000

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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.		
 <div style="display: inline-block; vertical-align: middle; margin-left: 20px;"> <p style="font-size: 1.2em; margin: 0;">Barowka and Bonura</p> <p style="font-size: 1.2em; margin: 0;">Engineers and Consultants, L.L.C.</p> </div>		
<p>Barowka and Bonura Engineers and Consultants, L.L.C. (BBEC) is an engineering consulting firm specializing in civil engineering design, construction management, and computer consulting services. BBEC is experienced in water and wastewater treatment plant design, operation, and maintenance management, landfill leachate collection and treatment, water transmission, sewerage collection, road and bridge design, program management, and stormwater management planning. Our experience includes managing the various public works projects through construction and ensuring that a quality project is completed on time, within budget, while minimizing disruption to the surrounding public. We also have substantial experience working with federal agencies in maximizing grant funding and assisting our clients in complying with grant requirements and securing grant reimbursements. Our computer consulting services includes the design, implementation, and maintenance of geographic information systems and related databases, personal computer (PC) network design construction, and maintenance, and PC software application development.</p>		

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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 Supervising Professional, 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 (wastewater) construction projects that included all aspects of construction. Between 1988 and 1996, Mr. Bonura designed and managed the construction of over 150 sanitary sewers, force mains, and sewer lift stations on the east bank of Jefferson Parish. Mr. Bonura's experience with the design and construction of sewer lift stations is evidenced in his resume.

In addition to Mr. Bonura, BBEC proposes to utilize Mr. Kevin Forschler, P.E. to assist him with the project. His experience includes lift station design and wastewater treatment. He designed 2 lift stations and part of 1 wastewater treatment plant renovation project in Jefferson Parish and administered the projects through construction. He has also assisted with the design of the installation of over 150 emergency pump outs at scattered locations throughout Jefferson Parish. Mr. Forschler's experience is evidenced in his resume.

As noted in the resume section, Mr. Madan Kamboj, P.E. and Mr. Johnny Housey, P.E. both have the needed experience and can perform the structural design.

What follow are brief summaries of our key staff in addition to Mr. Bonura:

- **Mr. Kevin Forschler, P.E.**, (7 years of experience) has been designing and administering the construction of typical public works projects (sewer, drainage, and roadway); including the design of several roadway, drainage, bike paths, and pump stations.
- **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. John Housey, 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, roadway, and utility (water, sewer, and drainage) construction.
- **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,

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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, sewerage 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 system 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.

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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:

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 about \$100 million in Jefferson Parish Department of Public Works construction projects. This includes 150 sewer lift stations and force mains in Jefferson Parish, along with serving as the Supervising Engineer for sewer projects in St. Charles parish, St. Bernard Parish, Plaquemines Parish, Baton Rouge and Lafayette.

For Jefferson Parish sewerage projects completed by BBEC inclusive of Alexis Drive Lift Station, Cutty Sark and Titanic Lift Station, Design Capacity and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, and Harvey Wastewater Treatment Plant Sluice Gates and Bar Screens, we offer the following references:

- **Brett Todd, Director of Sewerage Department • Jefferson Parish •** 1221 Elmwood Park Blvd., Suite 803, Jefferson, LA. 70123 • 504-736-6661
- **Michelle Gonzales, CFM Director of Ecosystem and Coastal Management • Jefferson Parish •** 1221 Elmwood Park Blvd., Suite 310, Jefferson, LA. 70123 • 504-736-6653
- **Mark Drewes, Director of Public Works • Jefferson Parish •** 1221 Elmwood Park Blvd., Suite 904, Jefferson, LA. 70123 • 504-736-6783
- **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 sewerage 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:

- Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA
- Harvey Wastewater Treatment Plant Sluice Gates and Bar Screens, SCIP No. D3121, Harvey Wastewater Treatment Plant Grit Chamber, SCIP No. D3121A, Jefferson Parish, LA
- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA
- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA
- Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA
- Lift Station Modeling, Jefferson Parish, LA
- Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA
- Repair of the Braithwaite Lift Station and Braithwaite Package Plant, and Repair of Dalcour Sewer Lift

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Stations No.9 and No. 9A, Plaquemines Parish, LA

- Bourg and Bank Lift Station Alternative Analysis, St. Charles Parish, LA
- Acadiana Water and Sewer, Lafayette, LA
- Sewer Capital Improvements Program Contract 5559 (3 new stations and 8 rehabilitated stations)

Additional Relevant Project Listing (not in section L):

Sewerage Capital Improvements Program, Jefferson Parish, LA, 1988-1997

Mr. Bonura served as Project Manager, Project Engineer, and/or Construction Manager for over twenty sewerage collection system projects which included over 150 sanitary sewers, force mains, and rehabilitation or new lift stations. The sanitary sewers ranged from 8-inches to 30-inches; the force mains ranged from 4-inches to 24-inches; and the lift stations ranged from less than 1 MGD to 18 MGD. Mr. Bonura assisted the Parish in evaluating and correcting special collection system problems throughout the Parish as they arose, such as repairing existing 78-inch prestressed concrete cylinder pipe and lining existing sanitary sewers to be used as force mains. Often the proposed sewer facilities were in direct conflict with existing water lines. Mr. Bonura coordinated with the Water and Sewer Department to either adjust the water or sewer facilities as necessary to the satisfaction of all parties. Projects implemented by Mr. Bonura include:

- Sewer Capital Improvements Program Contract 5511 (4 new stations and 8 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5512 (4 new stations and 3 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5553 (9 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5554 (1 new stations and 11 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5555 (force mains for 7 lift stations)
- Sewer Capital Improvements Program Contract 5556 (1 new stations and 1 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5560 (2 new stations and 12 rehabilitated stations)
- Sewer Capital Improvements Program Contract 5562 (2 new stations and force main for 1 lift station)

Capital Improvements Program - Lift Station Contract 5511, Jefferson Parish, LA, 1988-1997

Contract 5511 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 8 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. A unique aspect of the construction of Contract 5511 is that the deep excavations for the new lift stations utilized a slurry wall cofferdam installed by Halliburton. The cofferdam method was a creative method to support the excavation walls without the vibrations caused by the installation of steel sheets. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5512, Jefferson Parish, LA, 1988-1997

Contract 5512 consisted of the construction of 4 new sewer lift stations and the rehabilitation of 3 existing lift stations. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5553, Jefferson Parish, LA, 1988-1997

Contract 5553 consisted of the rehabilitation of 9 existing lift stations. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Emergency pump out were installed where the force main discharge location was such that access via bypass pumping was not feasible.

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Sewerage Capital Improvements Program - Lift station Contract 5554, Jefferson Parish, LA, 1988-1997

Contract 5554 consisted of the rehabilitation of 11 existing lift stations and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Emergency pump out were installed where the force main discharge location was such that access via bypass pumping was not feasible.

Sewerage Capital Improvements Program – Force Main Contract 5555, Jefferson Parish, LA, 1988-1997

Contract 5555 consisted of the construction of sewer force mains for 7 different lift stations in scattered locations on the Eastbank of Jefferson Parish. Mr. Bonura performed final plan review of the plans for constructability and performed services during bidding. Mr. Bonura served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pipe, valves, and other product submittals. Mr. Bonura addressed various field issues raised during the course of construction. Mr. Bonura was also responsible to obtain permits from LDOTD and the railroad company to perform work within their respective rights-of-way.

Sewerage Capital Improvements Program - Lift station Contract 5556, Jefferson Parish, LA, 1988-1997

Contract 5556 consisted of the rehabilitation of 1 existing lift station and the construction of 1 new sewer lift station. Mr. Bonura designed the improvements as an engineering intern, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift station Contract 5560, Jefferson Parish, LA, 1988-1997

Contract 5560 consisted of the construction of 2 new sewer lift stations and the rehabilitation of 12 existing lift stations. Mr. Bonura designed all improvements, performed services during bidding, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562, Jefferson Parish, LA, 1988-1997

Contract 5562 consisted of the construction of two new sewer lift stations and the force main for one of the lift stations. Mr. Bonura designed the improvements, performed bidding services, and served as construction coordinator on the project, responsible for reviewing shop drawing and working drawings, including excavation and dewatering plans, traffic detour plans, and pumps and other product submittals. The plans included the necessary roadway repairs associated with the lift station installation and pipe laying operations in accordance with the Parish's standard details. The plan sets included all restoration details, details to address conflicts with utilities, and traffic control and detour plans as necessary. Mr. Bonura addressed various field issues raised during the course of construction.

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Flow Monitoring and Modeling of the Wastewater Collection System, Kenner, LA Delineation of Sub-basins to be modeled

BBEC identified all facilities to be incorporated into a system-wide model including manholes, major gravity sewers (comprising 25 to 30% of the system) force mains and pump stations, based upon maps of the existing sewer system. BBEC provided a delineation of subbasins within the wastewater collection system to be utilized in the model. At a minimum subbasins will be split by the wastewater treatment plants they service, however as many as 15 to 20 additional subbasins shall be defined based upon primary and secondary pump stations available. The model sub-basin delineation defined the points of flow input for the hydraulic model. During the delineation process BBEC established recommended locations for flow monitoring equipment for review.

BBEC gathered current pump capacity data for model input.

BBEC identified any areas, in an undeveloped area of the City, anticipated for development by the year 2025 including anticipated level of development, based upon information provided by the owner

Lift Station Capacity Verification

BBEC performed a field assessment for thirty (30) stations, and testing program of all modeled lift stations. Where possible, information on recently upgraded stations was obtained from as-built plans, equipment operation, and maintenance manuals or other sources where appropriate. The field assessment determined the actual pumping capacity of key pump stations in the system and assessed the general condition of key pump stations to determine potential interim recommendations for capacity or condition improvements.

To assess the condition of each pump station BBEC completed standard forms to identify and inventory the layout, type and condition of the structures and equipment with particular attention paid to safety issues and maintenance that could impact pump performance or result in SSOs.

BBEC established in-situ head-discharge relationship for each pumping unit operating both independently and in combination with other pumps. The procedure utilized for each pump test was established by BBEC. Flow was estimated by timing the rate of change of water level in the wet well, if on-site flow measurement was not available Tests were performed over an appropriate range of wet well levels to allow head-discharge curves to be developed. These curves will were utilized to produce a composite head-discharge curve for the pump station.

BBEC coordinated surveying services necessary to determine elevations of wet wells and discharges.

Determination of Sub-Basin Land Use

The then current and future land use and dwelling units by subbasin were quantified by BBEC to serve as the basis for distributing monitored wastewater flows and computing future flows. City of Kenner census data and water consumption data, where available, was applied to help characterize base wastewater flows from each of the modeled subbasins. Aerial photography, as available from Jefferson Parish, was utilized to confirm the number and location of dwelling units where possible. Wastewater flows for major industrial dischargers were obtained from the pretreatment program records as available. BBEC provided an estimate of current and future wastewater flows during dry weather conditions for all subbasins identified for model development.

H-3-3 Ochsner Hospital Lift Station Upgrades, SCIP No. D55113, Jefferson Parish, LA, 07/2020-10/2020

BBEC provided Construction Inspection Services for Lift Station H-3-3 on the east bank of Jefferson Parish located in front of Ochsner Hospital within the R/W of Jefferson Highway just to the West of Brent House Hotel. The existing condition of the station was that it was operating at 480v 3PH being provided by Entergy and was a self-priming station with two 25 hp pumps and two joined wet wells. The station received gravity and FM flow from the Ochsner campus only. The capacity of the existing station was 1000 GPM with a design

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head of 36.0 feet. The station discharged to LS H4-2 via a 12" diameter FM approximately 4000' in length. This FM is manifold with station H4-2B prior to reaching H4-5.

The scope included replacement with a submersible lift station configuration. The existing wet wells were salvaged, repaired, coated and re-used and retained the 480v service. The station required bypassing during construction. The capacity of the station was increased to 3000 gpm as requested by Ochsner. BBEC's inspection of the project included observation of the work, including field checks of materials and installed equipment to protect Owner against defects and deficiencies of the work, reviewing of schedules, attending conferences and meetings, complying with site safety programs, serving as Engineer's liaison, providing clarifications and interpretations for RFI's, considering and evaluating Contractor suggestions for modifications, reviewing work completed by the Contractor, observing, recording, and reporting inspections, tests, and system start-ups, maintaining records, supplying periodic reports, reviewing Contractor applications for payment, verifying work was completed in accordance with contract documents, and verifying completion of punch list.

Infiltration-Inflow Rehabilitation Program, City of Kenner, LA

The City's 201 Facilities Plan identified several areas requiring rehabilitation. BBEC developed an inflow/infiltration rehabilitation program to correct the I/I problems. BBEC prepared plans and specifications for the necessary rehabilitation and managed the project through construction to its completion. The fee for this project was \$72,000.

Infiltration-Interflow Rehabilitation Program, Jefferson Parish, LA

BBEC served as construction manager of the Parish's annual sewer collection system rehabilitation contract for two years; working with the client staff developing a complete internal system of inspection, documentation and rehabilitation of the Parish's sewerage collection system. BBEC is currently working with the Parish to utilize its existing Geographic Information System to aid in locating and tracking potential sewerage overflow problems.

Rillieux Elementary School, Jefferson Parish, LA

BBEC designed and administered through construction a small sewer collection system and lift station for a local elementary school. The project included connection to existing service lines, installation of new gravity pipe, abandonment in place of the existing collection system, and installation of a new grinder pumping station and control system.

Wastewater Treatment Plant No. 3 Odor Control Facilities, City of Kenner, LA, 03/2005-06-2006

The project consisted of the design and construction management of installation of odor control facilities to capture and treat odor emitted from the Kenner Wastewater Treatment Plant #3.

Wastewater Treatment Plants, Baton Rouge, LA

BBEC prepared site layout designs for the Phase I expansions for the North, South and Central Wastewater Treatment Plant expansion projects. BBEC also performed the hydraulic analysis of the effluent pumping stations for each of 3 projects.

Ashton Plantation Lift Station Analysis, St. Charles Parish, LA, 2002

BBEC determined most effective method of connecting new subdivision lift stations into existing sewer force main already serving six other lift stations. BBEC provided hydraulic modeling of the affected sewer system and then preliminary designs and cost estimating of various working alternatives.

Repair of Myrtle Grove Sewer Pumping Stations No. 281 through No. 289, Plaquemines Parish, LA, 2015

The project consisted of repairs of the damages to the lift stations caused by Hurricane Isaac. BBEC

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performed all design for the repairs, bidding services, and construction/project management for the project. The project consists of replacing the control panels, wiring, and conduit, earthwork at each station, replacing an abutment wall at one station, and a sewer point repair at one station.

Repair of Ironton Oxidation Pond and Ironton Lift Station No. 25, Plaquemines Parish, LA, 2015

The project consisted of repairs of the damages to the pond and lift station caused by Hurricane Isaac. BBEC performed all design for the repairs, bidding services, and construction/project management for the project. The repairs included levee repairs, cell blockage cleanout, removal of storm generated silt and debris, new pumps, and new control panels.

Emergency Sewer Force Main Repair, St. Bernard Parish, LA, 2005-2007

Several sewer force mains were damaged by Katrina. BBEC developed plans and a specification for a unit price contract to repair the sewer force mains, handled the project through bidding, and performed construction administration and resident inspection services for the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.

Emergency Sewer Pump-Out, St. Bernard Parish, LA, 2005-2007

BBEC developed plans and specifications, bid, and administered the construction of two construction contracts to install a total of 78 emergency pump outs onto existing lift stations to allow for temporary pumps to utilize the existing force mains. BBEC developed the necessary details and pay items for the work to be performed on a unit price basis and provided the necessary field staff to work with the contractor and owner to determine a suitable location for the EPO. Once the EPO was installed and tested, BBEC also tested the force main to determine if the force main had any leaks due to damages by Hurricane Katrina. BBEC managed the construction contract through completion and acceptance, worked with FEMA to develop the grants for the work, and assisted the owner in closing out the grant with FEMA.

Emergency Sewer Pump Rental, St. Bernard Parish, LA, 2005-2007

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed bid documents for a unit price contract to provide trailer mounted rental pumps to maintain the sewer levels in the Parish's sewer collection system while various lift stations and sewer treatment plants were repaired. BBEC 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.

Sewer Pump Stations EPOs, East of Jacob Drive (Project 05-823), St. Bernard Parish, LA, 2005-2006

BBEC developed plans and specifications, bid, and administered the construction of contracts to install a total of 44 emergency pump outs onto existing lift stations to allow for temporary pumps to utilize the existing force mains. BBEC developed the necessary details and pay items for the work to be performed on a unit price basis and provide the necessary field staff to work with the contractor and owner to determine a suitable location for the EPO. Once the EPO was installed and tested, BBEC also tested the force main to determine if the force main had any leaks due to damages by Hurricane Katrina. BBEC managed the construction contract through completion and acceptance, worked with FEMA to develop the grants for the work, and assisted the owner in closing out the grant with FEMA.

Sewer Pump Stations EPOs, West of Jacob Drive (Project 05-822), St. Bernard Parish, LA, 2005-2006

BBEC developed plans and specifications, bid, and administered the construction of contracts to install a total of 34 emergency pump outs onto existing lift stations to allow for temporary pumps to utilize the existing force mains. BBEC developed the necessary details and pay items for the work to be performed on a unit price basis and provide the necessary field staff to work with the contractor and owner to determine a suitable location for the EPO. Once the EPO was installed and tested, BBEC also tested the force main to determine if

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the force main had any leaks due to damages by Hurricane Katrina. BBEC managed the construction contract through completion and acceptance, worked with FEMA to develop the grants for the work, and assisted the owner in closing out the grant with FEMA.

Emergency Pump-Out, St. Bernard Parish, LA, 2005

BBEC served as Project Management and supervised the construction of 85 Emergency Pump-Outs (EPO). Project included the installation of EPO's in various locations in St. Bernard Parish, hydro testing of force mains and temporary and final restoration. BBEC distributed shop drawings, reviewed daily inspection reports, reviewed test reports, checked quantities, and completed all correspondence.

Emergency Sewer Vacuum, St. Bernard Parish, LA, 2005

Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard Parish, BBEC developed plans and specifications for a unit price contract to vacuum sanitary sewerage out of the gravity system and dispose it into the operating sewer treatment plants as a temporary measure to keep the sewers down while emergency pump-outs and pumps were procured, obtained, and/or constructed, 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:

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 \$5,000,000 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.

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:

- Alexis Drive (M-13-2) Lift Station Analysis, Jefferson Parish, LA, 2012-2013
- Cutty Sark and Titanic (P-12-10) Lift Station, Jefferson Parish, LA, 12/2011-11/2016
- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Jefferson Parish, LA, 05/2015-05-2019
- Design, Capacity, and Installation of Emergency Pump Outs (EPO) and Related Incidentals, Sewer Lift Station F7-11 Rehabilitation, Jefferson Parish, LA
- H-3-3 Ochsner Hospital Lift Station Upgrades, SCIP No. D55113, Jefferson Parish, LA, 07/2020-10/2020

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- Tolmas Drive Sewer System Alternative Analysis Study and Improvements at Lift Station G8-2, Tolmas & W. Esplanade, Jefferson Parish, LA, 01/2014-05/2019
- Harvey Wastewater Treatment Plant Sluice Gates and Bar Screens, SCIP No. D3121, Harvey Wastewater Treatment Plant Grit Chamber, SCIP No. D3121A, Jefferson Parish, LA, 11/2012-04/2020
- Wastewater Treatment Plant No. 3 Odor Control Facilities, City of Kenner, LA, 03/2005-06-2006
- Infiltration/Inflow Rehabilitation Program, City of Kenner, LA, 1996
- Infiltration/Inflow Rehabilitation Program, Jefferson Parish, LA, 1991
- Lift Station Modeling, Jefferson Parish, LA, 1999
- Flow Modeling & Monitoring of Wastewater Collection System, CDM PN: 6360-43053-RT Model (2.13)), City of Kenner, LA
- Sewerage Capital Improvements Program, Jefferson Parish, LA, 1988-1997
 - Jefferson Parish Sewerage Capital Improvements Program - Lift Station Contract 5511
 - Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5512
 - Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5553
 - Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5554
 - Jefferson Parish Sewerage Capital Improvements Program – Force Main Contract 5555
 - Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5556
 - Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5559
 - Jefferson Parish Sewerage Capital Improvements Program - Lift station Contract 5560
 - Jefferson Parish Sewerage Capital Improvements Program – Force Main and Gravity Sewer Contract 5561
 - Jefferson Parish Sewerage Capital Improvements Program - Lift Station and Force Main Contract 5562
- Operation & Maintenance Management/Sludge Disposal Alternatives, Jefferson Parish, LA, 1997

BBEC performed many other engineering projects for Jefferson Parish unrelated to sewerage; 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: Jeff Bonura Print Name: Jeffrey Bonura, P.E.

Title: Member Date: March 25, 2022