



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

SOQ No. 22-016

**Bucktown Building Resilient
Infrastructure and Communities
(BRIC) Scoping Grant**

Resolution No.: 139147

**Deadline: Tuesday, April 19, 2022
at 3:30 PM**

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

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**Collaborate.
Innovate.
Implement.**



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April 19, 2022

Jefferson Parish Government
Attention: Melissa Ovalle
Purchasing Department
General Government Building, Suite 4400
Gretna, Louisiana 70053

**Subject: Bucktown Building Resilient Infrastructure and Communities (BRIC)
Scoping Grant (Resolution No. 139147)**

Dear Ms. Ovalle:

Barowka and Bonura Engineers and Consultants, L.L.C. (BBEC) appreciates the opportunity to submit this Statement of Qualifications to provide Professional Engineering and Supplemental Services for the Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant for Jefferson Parish.

The attached qualifications statement demonstrates that the BBEC Team maintains the technical ability to address the needs of Jefferson Parish and assist them in the execution of any BRIC 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 has substantial experience developing hydrologic and hydraulic models, evaluating the results of the models to determine feasible alternatives for improvements, performing Benefit-Cost Analyses (BCA) to justify federal funding and adjusting the project scope to improve the overall BCA score, and planning the project implementation and incorporating green infrastructure into the project. We also have substantial experience in submitting similar drainage projects to FEMA for funding through its Hazard Mitigation and BRIC programs. BBEC teamed with T. Baker Smith, LLC (TBS), Desire Line, LLC (Desire Line) and Eustis Engineering, LLC (Eustis) to perform the project, all of whom have experience living and working in the Bucktown area.

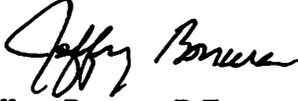
The BBEC Team has substantial specific experience working in the Bucktown area:

- BBEC performed an H&H model of the same area considered by this SOQ for Jefferson Parish to determine feasible alternatives to improve drainage in the Bucktown area.
- BBEC performed traffic studies for the subject area to determine methods to improve traffic flow; and, at the same time enhance parking, public access to facilities, and aesthetics.
- BBEC assisted the Parish in performing public outreach to the citizens and businesses in the Bucktown area associated with the Bucktown Marina Vision Plan.
- T. Baker Smith, LLC has specific project experience working on the Lake Pontchartrain shoreline in the Bucktown area.
- Desire Line, LLC has specific planning experience in Jefferson Parish, with emphasis on planning with green infrastructure, having worked on Jefferson's Code and Integrated Green Infrastructure strategy project.

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

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.

A handwritten signature in black ink, appearing to read "Jeffrey Bonura". The signature is written in a cursive style with a large initial "J" and "B".

Jeffrey Bonura, P.E.
Member

A. Project Name and Advertisement Resolution Number:

Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant (Resolution # 139147)

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 all subcontractors must submit a fully completed copy of this questionnaire, 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. T. Baker Smith, LLC 740 Phosphor Avenue, Suite B Metairie, LA 70005	Engineering Support Surveying Green Infrastructure	Yes
2. Desire Line, LLC 1348 Chickasaw Avenue Metairie, LA 70005	Public Outreach Green Infrastructure Planning	No
3. Eustis Engineering, LLC 3011 28 th Street Metairie, LA 70002	Geotechnical	Yes
4.		

J. Please specify the total number of support personnel that may assist in the completion of this Project:
296 (BBEC staff including support staff and sub-consultants available staff)

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:

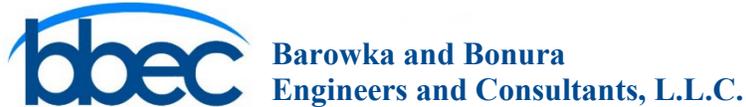
Name & Title:

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

Project Assignment:

Supervising Professional / Project Manager

Name of Firm with which associated:



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:

Jeffrey Bonura, P.E., the sole owner of the firm of Barowka and Bonura Engineers and Consultants, L.L.C. Mr. Bonura began his career in 1988 and since that time has worked as a project engineer, project manager and program manager on municipal, commercial, institutional and industrial projects.

Mr. Bonura's experience related to drainage includes design of drain piping, box culverts, structures, pump stations, ditches and canal, detention systems, and managing the cleaning of debris from the systems. Mr. Bonura's experience includes developing hydrologic and hydraulic models for stormwater systems and developing drainage plans for improvements based on the analysis. Mr. Bonura's hydrologic and hydraulic modeling includes utilizing SWMM v.5, Autodesk Storm and Sanitary Analysis, Intergraph Storm and Sanitary SelectCAD, Haestad StormCAD, HEC-1, HEC-2, HEC-RAS, HEC-HMS, and Mr. Bonura has written his own hydraulic modeling software when third party software was not available for the task.

Mr. Bonura's experience with developing drainage plans includes planning for city or parish-wide improvements of

TEC Professional Services Questionnaire

drainage pump stations, sewerage collection systems, and water treatment and distribution systems. Mr. Bonura also has experience with developing funding sources, local and federal, for major public works type programs.

Relevant projects Mr. Bonura has worked on over the years include:

Lake Avenue and Carrollton Avenue (Bucktown Area) Drainage Study, Jefferson Parish, LA, 04/2003-07/2005

Project included an extensive drainage and traffic control study on Lake and Carrollton Avenues in the Bucktown area of Jefferson Parish, Louisiana. The model limits extended from the Parish-line canal to Chickasaw Avenue, and from Veterans Memorial Boulevard to Lake Pontchartrain. Hydraulic modeling of the entire area was performed, and drainage improvements were recommended in conjunction with the findings of the traffic study. Mr. Bonura performed the hydraulic model, coordinated with the traffic engineer and designed the proposed drainage improvements.

Avondale/Bridge City Drainage Evaluation (Area between the Mississippi River and the Union Pacific Railroad, from Huey P. Long Bridge to Avondale Garden Road), Jefferson Parish, LA, 04/2021-Present

Mr. Bonura is serving as Supervising Engineer for this project where BBEC developed the topographical survey scope for the project and manages the surveyor for the Parish. BBEC is developing a hydraulic and hydrologic model using SWMM v.5 of the Project Area between the Mississippi River and the Union Pacific Railroad, from the Huey P. Long Bridge to Avondale Garden Road; and, developing various alternatives for improvements with cost estimates for the alternatives. BBEC will provide alternatives and associated cost estimates for improvements, including alternate channels to drain the Host Facility and rail yard area, alternatives to drain the Training Facility, potential locations for storage as an alternative to transmission, and alternatives to drain the Bridge City residential area.

Bissonet Plaza Drainage Master Plan (A/E Project No. 20-1708), Jefferson Parish, LA, 05/2018-05/2021

Mr. Bonura served as the Supervising Engineer for this project where BBEC developed a hydrologic and hydraulic (H & H) model of a 180 acre residential (zoned R1) area in Jefferson Parish, Louisiana, said area bounded by Power Boulevard, Kawanee Avenue, West Esplanade Avenue, and the Elmwood Canal. BBEC developed a limited scope of services for the necessary topographical survey; provided oversight and reviewed the final topographic survey; developed the H & H model using third party software; coordinated the model with the Parish's own parish-wide H & H model; and provided the running model to others for evaluation of improvements.

Waggaman Drainage Master Plan (Project No. 2011-03-DR), Jefferson Parish, LA, 02/2013-01/2016

Mr. Bonura served as Supervising Engineer to perform 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. BBEC used the Storm Water Management Model (SWMM) to evaluate the existing subsurface drainage capacities for each subdivision and to examine if the existing system was able handle a 10-year design storm. BBEC 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.

Harvard Avenue Drainage Study (Master Plan of area bounded by Veterans, I-10, Transcontinental, and Clearview), Project No. 99-046-046-DR and 99-046A-DR, Jefferson Parish, LA, 04/2000-06/2006

Mr. Bonura designed approximately 6,000 linear feet of 24-inch to 72-inch drainpipe in Jefferson Parish, Louisiana. BBEC used Intergraph's Storm and Sanitary SelectCAD modeling software to determine the surface runoff and the pipe sizes. Data from the existing Parish's GIS was used to develop the surface terrain for the basis of the model.

TEC Professional Services Questionnaire

The project requires that the various drain lines be installed within 50-foot Parish rights-of-way in commercial and residential areas, existing utilities throughout the length of the project are maintained, and the site is restored, including roadways, to its before construction condition. The project also required three separate jack-and-bores, from 30-inches to 72-inches in diameter, across a three-lane roadway to discharge into a canal. The estimated construction cost is \$2,430,000.

Cleary Avenue Roadway and Drainage Improvements, Jefferson Parish, LA, 01/1998-06/2005 & 11/2017-Present

The construction project included reconstruction of approximately 4000 feet of concrete roadway, redesign of existing drainage system and general improvements to existing infrastructure on Cleary Avenue from Veterans Boulevard to West Esplanade Avenue. The project area modeled included Cleary Avenue from Veterans Boulevard to West Esplanade Avenue, including neighbor streets connecting to Cleary's drainage trunk line. Mr. Bonura performed the modeling, design, evaluation (drainage under roadway), and plans and specifications. The project is complete through construction.

LA-45 Evacuation Route Basin Drainage Improvements, Lafitte Area Independent District, LA, 02/2020-Present

Mr. Bonura is serving as Supervising Engineer for BBEC, performing as sub-consultant, for the development H&H models for the LA-45 Evacuation Route Basin, both for existing conditions and to reflect the proposed Lafitte Tidal protection project. The analysis identified internal drainage problems resulting from the completion of the Tidal Protection project and established pipe, ditch, canal, and LADOTD roadway culvert sizes. BBEC also modeled discharge pump station and determined the capacity for each of the three pump stations. BBEC also provided Drainage Maps and Conceptual Storm Sewer Routing Plans to show ditches and storm sewer locations, and sized required, and identify any potential problem areas, plans and profiles, required right-of-way and construction access, and any impacts to existing properties.

Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals (Hazard Mitigation Grant Program (HMGP), St. Bernard Parish, LA, 01/2015-Present

Mr. Bonura serves as the supervising professional and project engineer on the hydraulic and hydrologic model phase of the entire project and the design of the Congressman Hebert Canal replacement portion of the project. The project includes increasing the capacity and improves the stability of Congressman Hebert, Creely, and Bluebird Canals, that consists of 11,600 linear feet of open canal and culverts ranging from 4-foot bottom width to 16-foot bottom width channels. Mr. Bonura 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 performed a hydrologic and hydraulic analysis of the existing system to evaluate the entire area for the 5-year, 10-year, and 25-year storms. 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.

Cypress Park Subdivision Drainage Evaluation, St. Tammany Parish, LA, 11/2016-12/2017

Mr. Bonura served as the supervising professional and project engineer on the hydraulic and hydrologic study of the Erindale Heights and Cypress Park Subdivisions (about 450 acres of single-family residential property). The study consisted of developing a computer model of the hydrology and drainage system consisting of natural channels, open ditches, closed conduits, and culverts. BBEC evaluated the 5, 10, 25, 50, and 100-year storms, and developed several alternatives for addressing the flooding concerns. BBEC provided pros and cons, permitting concerns, and construction cost estimates related to the alternatives. The alternatives considered included elevation adjustments to open channels, increased closed conduit usage and size of existing closed conduits, levees, and pump stations.

TEC Professional Services Questionnaire

HMGP Elevation of Coast Guard Road, Phase I (Project No. 1603x-075-0010), Plaquemines Parish, LA (Funding Source: FEMA Hazard Mitigation Grant Program), 09/2013-06/2016

Mr. Bonura worked with Plaquemines Parish Government to design the two-foot elevation and stabilization of Coast Guard Road. As Supervising Engineer, he oversaw the design of the upgrades to the existing drainage system, a Hydrologic and Hydraulic (H & H) Study to identify the existing drainage system, the need for upgrades, and to assess the reduction of flooding due to contemplated improvements to Coast Guard Road. He performed calculations, modeling, and analysis to assess the hydraulic capacity of the existing drainage system and provided recommendations for improvements that will increase system capacity and reduce the risk of flooding. As part of the H&H evaluation, Mr. Bonura included an analysis of Mississippi River elevations data to identify periods when the improvements would be inundated by the river effects, and what depths would be encountered. Mr. Bonura oversaw the surveying and environmental review process.

Map Modernization Project (DFIRM) (Contract No. EMT-2005-CA-0110), St. Bernard Parish, LA, 03/2005-12/2008

Mr. Bonura oversaw and assisted FEMA to develop St. Bernard Parish's flood insurance rate maps as part of FEMA's map modernization program. Mr. Bonura prepared the project scoping document for St. Bernard Parish and received FEMA approval in accordance with FEMA document Guidance for Scoping Flood Mapping Projects. Mr. Bonura incorporated the Parish's hydraulic features into the GIS. Mr. Bonura performed the necessary hydraulic and hydrologic studies and analyses necessary for the implementation of the map modernization project by using USCAE's hydraulic and hydrologic modeling software HEC-RAS and HEC-HMS. Mr. Bonura incorporated the results of the hydrologic and hydraulic studies GIS to develop the necessary flood plains. Mr. Bonura prepared a Base Map for the project (streets, ditches, benchmarks, etc.) from St. Bernard Parish's existing GIS, modifying the format to FEMA standards. Mr. Bonura has submitted all hydraulic and hydrologic and survey work for independent QA/QC and is currently developing DFIRM base maps. All work associated with the development of the DFIRMs were in strict compliance with the National Flood Insurance Program.

Bayou Gauche Drainage Analysis, St. Charles Parish, LA, 01/2003-12/2005

Mr. Bonura served as Design Engineer for the project which included updating the Parish's existing hydraulic and hydrologic computer models with current developments for the Sunset Drainage District watershed in St. Charles Parish. The Parish's existing HEC -1 and HEC-2 hydraulic models were evaluated and revised to include infrastructure improvements throughout the drainage district. The existing models were converted to HEC-RAS and HEC-HMS for use in this study and future evaluations. Model runs were performed to verify the need for drainage pump station improvements in the area and determine the improved capacity of the pump station.

Guichard Canal Area Drainage Evaluation, St. Bernard Parish, LA, 03/2004-04/2005

The project consisted of evaluating the ability of an existing drainage system in St. Bernard Parish, Louisiana to handle the 10-year storm for a 200-drainage basin in a residential area primarily consisting of open ditches and miscellaneous culverts with multiple outfalls into the Guichard Canal. The area is bounded by the Guichard Canal on the west, Paris Road on the east, Judge Perez Drive on the south, and Patricia Street on the north. The area also contained two drainage pump stations that were designed to drain the subsurface system, while the main volume of flow during the rain events utilized roadside ditches and some subsurface drain lines. Mr. Bonura supervised the development of a drainage layer in the Parish's GIS, supervised the surveying of elevations of the drainage features, developed a hydrologic and hydraulic model for the area, modeled the area and determined all deficient drain lines. Mr. Bonura made recommendations for the necessary improvements to cover the 10-year storm.

Craig Avenue Drainage Improvements, Public Works Project No. 2019-022-DR, Jefferson Parish, LA, 01/2020-Present

Mr. Bonura is currently serving as the Supervising Engineer for this project. The scope of work includes the design and construction administration services for the design of upgrades to subsurface drainage on Craig Avenue

TEC Professional Services Questionnaire

between Kawanee Avenue and West Esplanade Avenue. The project involves installing a large diameter drain line within 20 feet of residential structures and connecting this new drain line to the existing trunk line that runs along the opposite side of the road and to the existing catch basins on the cross streets of Craig Avenue. BBEC is overseeing the Surveying and Geotechnical Engineering services.

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

Mr. Bonura is the supervising professional over the project, providing day to day input for the implementation of the project. BBEC is currently working on detailed plans and specifications for the construction of the 2.5-mile bike path, part of which is on the top of the Mississippi River levee and the balance of which is on the shoulders of two state highways. A key component to BBEC's designs on the levee section is to maintain the integrity of the levee and while constructing the base and asphalt bike path section with a limited width of top of levee. For the state highway portion of the project, part of the project has asphalt shoulders in place, therefore only pavement markings and signage are required. In other locations, roadway widening and required subsurface drainage is necessary to install the bicycle travel lanes. BBEC developed a hydraulic and hydrologic model to drain a 220-acre area. BBEC designed the drainage for the area, which includes a series of canals with 48-inch and double 48-inch culverts. BBEC is currently coordinating its work with the LDOTD, the West Jefferson Levee District, the USACE through the levee district, and Union Pacific Railroad to obtain the necessary permits to perform the project. BBEC is also working with Jefferson Parish to determine the required right-of-way (ROW) so it could be acquired from the adjacent property owner(s). Once the design is complete, BBEC will perform bidding services, construction administration services, and resident inspection services for the construction project.

Manson Ditch and Lower Kraak Outfall System Improvements, Jefferson Parish, LA, 06/2004-09/2008

Mr. Bonura served as Supervising Engineer for the project which the scope of the work was to provide full engineering services, including evaluation of alternatives, preliminary design, final design, bidding, construction administration, resident inspection, and as-built drawing services, for the improvements to the Manson Ditch outfall into the West Metairie Avenue Canal. All design work is complete, and the project is on hold pending funding. The project consists of hydraulic modeling of drainage structures, design of drainage systems composed of cast-in-place concrete structures and pipe systems, connection to existing culverts, transition to existing canal banks, utility relocations, roadway and other site restoration, traffic maintenance and signal design, pavement striping, and all incidental work. Currently two large diameter drain lines (60-inch and 72-inch diameter) discharge into the West Metairie Canal culvert crossing under Cleary Avenue. The purpose of the project is to remove the connection and discharge the two drain lines directly into the canal, requiring an outfall structure. The outfall structure is designed to accept the two drain lines, connect to the existing two 96-inch diameter culverts, and be able to transition to a future 16-foot wide u-channel. Temporary bank stabilization is required until the future u-channel project is completed. Traffic flow on the two major arterial streets always had to be maintained throughout construction of the project.

Ames Boulevard Roadside Drainage Improvements, Jefferson Parish, LA, 01/2004-12/2005

Mr. Bonura performed runoff calculations and designed drainage improvements for a two-mile segment of Ames Boulevard on the West Bank of Jefferson Parish. Mr. Bonura prepared construction drawings for the project in less than three weeks utilizing the Parish's standard details, and the Parish's GIS maps for plan sheets, and coordinated the work with the Parish, private utilities, and the annual contractor constructing the project. The total project cost is about \$800,000.

West Napoleon Avenue Improvements, Cleary Avenue to Severn Avenue, (LA DOTD Project No. 742-07-0088), Jefferson Parish, LA, 02/2003-08/2005

Mr. Bonura performed design and construction administration services on this \$13 million TIMED roadway and drainage project, which consisted of about 3,800 LFT. of four-lane concrete roadway divided by a new 30-foot wide concrete u-channel. Mr. Bonura coordinated with the private utility companies to relocate (or work around) natural

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gas pipelines and power and communication lines, overhead and buried, and coordinated construction and connection to public utilities (water and sewer) as well. Mr. Bonura reviewed and made recommendations regarding substitute materials and construction methods and monitored the contractors' accelerated operations that reduced the construction contract time from two and a half years to one and a half years.

Labarre Road Back-to-Back U-Turn Intersection Improvements (West Esplanade Avenue/North Labarre Road), Jefferson Parish, LA, 2004

Mr. Bonura served as the Supervising Engineer where the project consisted of the construction of a new cast-in-place concrete bridge and the installation of a 36-inch diameter water line canal crossing. BBEC provided construction management and resident inspection. The construction cost was \$1,200,000.

Sanitary Landfill Stormwater Detention, Jefferson Parish, LA, 1998

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.

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

Mr. Bonura is serving as Supervising Engineer for this project which includes performing engineering services related to improving the drainage systems crossing Canadian National (CN) Railroad System on the east bank of St. Charles Parish. The project includes the drainage facilities crossing and/or adjacent to the CN railroad at Ducayet Drive, Ormond Oaks Drive, Destrehan Drive, Longview Drive, Longwood Drive, and S. Destrehan Avenue. The project includes the installation of (6) 60-inch culverts, (2) 54-inch culverts, and (1) 48-inch culvert crossing the railroad at various locations. The project also includes the installation of 60-inch drainpipe, cast-in-place concrete box culverts, u-channels, and other drainage structures. BBEC is performing design, construction management, and permitting of the project. BBEC is also coordinating with and managing the surveying, and geotechnical engineering services.

Gloria Drive Pump Station, Project No. 20-2022A, Lafitte Area Independent Levee District Drainage, Town of Jean Lafitte, LA, 05/2020-Present

Mr. Bonura is serving as Supervising Engineer for this project for Design Engineering Services for the Gloria Drive Pump Station Improvement Project which consists of expanding the existing pump station by doubling its capacity from 45 cfs to 90 cfs. The existing pump station has one pump on a pile supported structure, adjacent to an existing levee. The existing pump discharge pipe runs through the levee, discharging on the other side. On the pump station side, the levee is supported by a timber bulkhead, part of which has deteriorated over time. When constructed, the levee project provided for a second pipe penetration in anticipation of this project. The pump station has an existing stand-by generator, which was appropriately sized for the single pump. The proposed scope of the 45 cfs expansion includes:

- Installing a new 45 cfs pump in line with the second discharge pipe provided by the levee project
- Constructing a new reinforced concrete pump station structure for both pumps, with bar screens (mechanical if funding allows) at the entrance. The new structure will replace the deteriorating timber

TEC Professional Services Questionnaire

bulkhead, as well.

- Repairing or replacing the timber bulkhead wall not addressed by the pump station structure.
- Installing a new generator structure and generator sized to run both pumps and incidental equipment.
- Extending the new pump discharge pipe as required and providing for scour protection at the outfall.
- Building the project in phases to utilize the existing pump during construction or providing temporary pumping during construction.

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

Mr. Bonura assisted the Parish in securing funding; and managed as supervising professional the Design, bidding, and construction services for repairs. The project included the complete replacement of about 4,200 linear feet of 72-inch to 96-inch drainpipe, with drainage structures and smaller lateral lines to collect stormwater from existing roadway catch basins. The project also included the replacement of roadway intersections where the drain line crosses streets. The project bid was \$3.9 million. BBEC performed all design, bidding, and is performing the construction services for the project. In addition to the normal design services, Mr. Bonura obtained a Coastal Use Permit determination, and USACE wetlands permit determination, and a SLFPA-E (regional levee district) permit for the project.

Reggio Canal Flood and Erosion Protection, St. Bernard Parish, LA, 2006

The project consisted of structural design of the steel sheet pile bulkhead wall and tieback systems, design of drainage systems, connection and coordination with a levee project adjacent to the proposed bulkhead, maintenance dredging of the existing canal, utility relocations, roadway and other site restoration, traffic maintenance, and all incidental work. Mr. Bonura performed all phases of the project, including design of bulkhead and drainage system, construction supervision throughout the project and coordination with local and state agencies for disposal of spoil.

Primrose Box Culverts, St. Charles Parish, LA, 03/2004-10/2004

Mr. Bonura provided design and construction related services for the three 24-foot clear span box culverts and related road/drive restoration.

Boutte Drainage Improvements, St. Charles Parish, LA, 09/2002-05/2004

Mr. Bonura performed all engineering tasks for the project consisting of about 1,500 linear feet of 24-inch drainage pipe along US Highway 90 in Boutte. Included is provision of additional catch basins and manholes, traffic maintenance, roadway restoration, and re-grading of existing channels. TR-55 (computer model) was used to determine the watershed's runoff. Hydraulic calculations were performed by hand. The estimated construction cost is \$274,000.

Drainage User Fee Study, Jefferson Parish, LA, 2005

Mr. Bonura served as a project engineer supervising data collection and performed statistical analysis of the collected data and drafted various sections of the final report. The project scope was to develop a parish-wide drainage utility user fee for Jefferson Parish. The project consisted of collecting sufficient data to develop a comparison of previous to impervious land for the various land uses in the Parish. The project utilized the Parish's then current drainage master plan cost projections as a cost basis, and then used the data collected and analyzed as a basis for cost allocation to the residents, businesses, and other property owners in Jefferson Parish. The report served as the basis for the proposed drainage user fee that was put out for a vote of the public.

Drainage Pump Station Evaluation, St. Bernard Parish, LA, 2005

Evaluation of condition and hydraulic capacity of the Parish's 18 existing pump stations, perform preliminary design services, identify alternatives for improvements. The evaluation considered the hydraulic performance of the pumps, the conditions of the incoming channel, automation/control capabilities, and projected flows. Mr.

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Bonura developed a master plan document to prioritize the improvements and developed cost estimate for the improvements.

District 4 Drainage Outfall Improvements Evaluation, Jefferson Parish, LA, 08/2014-08/2017

Mr. Bonura was project engineer and the supervising professional on the project. The project consisted of identifying all drainage outfalls in Jefferson Parish Council District 4 and developing preliminary plans and cost estimates for options to replace the existing outfalls with improved structures, considering aesthetics, maintenance, and hydraulic performance.

Canal Monumentation Program, Jefferson Parish, LA, 01/2004-12/2005

Mr. Bonura worked with the Parish's Drainage Department to develop and implement a canal monumentation project for the entire Parish. The project included stationing the canals with vertical and horizontal monuments strategically located, locating right of way and servitude information, researching existing data and projects for data relevant to the project such as current or past projects, subdivision plats, the Parish's GIS, and other information available for the implementation of the project.



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

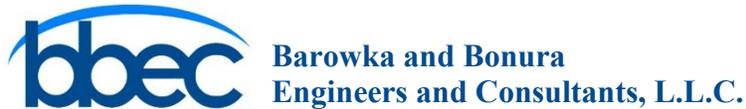
Name & Title:

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

Project Assignment:

Project Engineer / Model Development

Name of Firm with which associated:



Years' experience with this Firm:

7

Education: Degree(s)/Year/Specialization:

B.S. / 2014 / Civil

Active registration: Year first registered/discipline:

2020 / Civil

Other experience and qualifications relevant to the proposed Project:

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

Mr. Forschler has utilized Autodesk Storm and Sanitary Analysis and SWMM modeling programs to develop drainage models for multiple areas in Jefferson Parish, including certain sections of Waggaman and the Bissonet Plaza neighborhood. He is currently working on a drainage model for the Avondale and Bride City area using SWMM V.5 in order to determine possible drainage improvements in the area. In addition to drainage modeling, Mr. Forschler also has experience using the HYDRWIN application to design drainage systems for roadways.

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.

Relevant projects Mr. Forschler has worked on over the years include:

Bissonet Plaza Drainage Master 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

TEC Professional Services Questionnaire

project area. The drainage model provided analysis of the area's interior drainage system for a 10-year storm event. **Mr. Forschler ran the Parish's existing East Bank drainage model in SWMM to determine the discharge water surface elevation of the project.**

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. **Mr. Forschler ran the Parish's existing West Bank drainage model in SWMM to determine the discharge water surface elevation of the project.**

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.

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

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

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

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

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.

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

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

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were suitable for each site.

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

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

Ames Boulevard Rehabilitation, West Bank Expressway to Happy Street, (Public Works Project No. 2013-033-RB) (DOTD No. H.011797), Jefferson Parish, LA, 11/2015-Present

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

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

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

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

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

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

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

TEC Professional Services Questionnaire

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

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



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

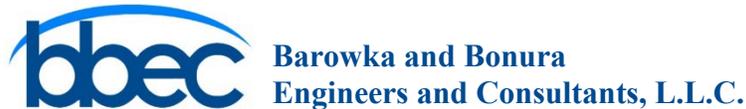
Name & Title:

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

Project Assignment:

Project Engineer / Project Development

Name of Firm with which associated:



Years' experience with this Firm:

10.5

Education: Degree(s)/Year/Specialization:

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

Active registration: Year first registered/discipline:

1966 / Civil

Other experience and qualifications relevant to the proposed Project:

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

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

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

Relevant projects Mr. Housey has worked on over the years include:

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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-foot bottom width to 16-foot 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.

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).

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.

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.

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

Mr. Housey provided Construction Administration services and Supervised Resident Inspectors for over \$40 Million in roadway repair for 436 streets. Mr. Housey developed plans and construction cost estimates as well as managed the construction of facility repairs. He reviewed contractor submittals for conformity, resolved construction issues and led field progress meetings. Mr. Housey was BBEC's on-site engineer for BBEC's (18) project \$100 million street and drainage repair program. Mr. Housey coordinated with the Contractor, Parish, and inspectors to troubleshoot issues in the field, resolved neighbor complaints, interpreted design specs to maintain the quality and standards of the work, and ensured that the work is satisfactorily completed. Mr. Housey reviewed all test reports for conformity to specifications, performed substantial and final completion walk-throughs for acceptance, reviewed as-builts for work completed, and reviewed contractor's monthly invoices and quantities. The project lasted 11 years and consisted of up to 18 construction inspectors at one time.

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

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- 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.



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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

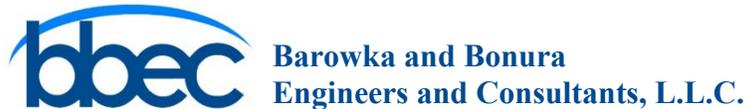
Name & Title:

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

Project Assignment:

Project Engineer / Project Development

Name of Firm with which associated:



Years' experience with this Firm:

1.5

Education: Degree(s)/Year/Specialization:

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

Active registration: Year first registered/discipline:

1977 / Civil - Environmental

Other experience and qualifications relevant to the proposed Project:

Mr. Kamboj has more than 41 years of experience performing project design, construction administration, and project monitoring for general civil projects including 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. 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.

Relevant projects Mr. Kamboj has worked on over the years include:

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

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designing foundations supported by 14"X 14" PPC Piles, Concrete Base Level, Middle Level and Roof Slabs, Concrete Enclosure Walls & Structural Supports for Pump Station Screens. The present Generator Structure will be enlarged and strengthened to accommodate new electrical equipment.

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

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

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.

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

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

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

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

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.

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

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

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

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

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

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



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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

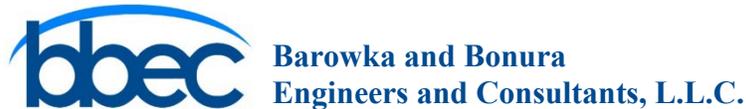
Name & Title:

**John Sparks
Project Engineer**

Project Assignment:

Quality Assurance / Quality Control

Name of Firm with which associated:



Years' experience with this Firm:

.5

Education: Degree(s)/Year/Specialization:

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

Active registration: Year first registered/discipline:

Other experience and qualifications relevant to the proposed Project:

Mr. Sparks has more than 23 years of experience specifically with sewerage collection and treatment systems. His experience includes various methods of trenchless technology and excavation construction, lift stations, mechanical treatment, and pond treatment.

Projects with detailed descriptions of work are provided below:

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

Evaluation Program -- Years One through Four

Street Repairs Program – Years One through Three

Mr. Sparks was the Project Manager for the sanitary sewer evaluation and repair projects for the City. The evaluation projects consisted of smoke testing, inspection of sewer lines and manholes. Provided deliverables of evaluation and analysis of observations made during the inspection phases. Deliverables also included the GIS positioning of assets and observations/defects. Evaluation projects consisted of the annual assessment of approximately 150,000 linear feet of sanitary sewer and 500 manholes. Repair projects consisted of new installations of sewer lines and manholes, replacement of existing sewer lines by excavation, rehabilitation of existing sewer lines by Cured-In-Place Pipe (CIPP) and Pipebursting. Mr. Sparks was responsible for the design and routing of all bypass pumping and traffic control. Repair projects had an annual construction value of approximately 1.5 million.

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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

Name & Title:
Craig Comeaux Certified Floodplain Manager
Project Assignment:
Benefit-Cost Analysis / BRIC Application Assistance
Name of Firm with which associated:
 Barowka and Bonura Engineers and Consultants, L.L.C.
Years' experience with this Firm:
19
Education: Degree(s)/Year/Specialization:
M.A. / In Progress / Public Policy and Administration B.S. / 1996 / Mathematics
Active registration: Year first registered/discipline:
Other experience and qualifications relevant to the proposed Project:
<p>Craig Comeaux joined Barowka and Bonura Engineers and Consultants, L.L.C., in 2000. Since that time, Mr. Comeaux has successfully managed or been significantly involved in nearly 100 federal recovery projects in a program management capacity throughout South Louisiana. These projects involve FEMA Public Assistance Grants, FEMA Hazard Mitigation Grants, and U.S. Department of Housing and Urban Development Community Development Block Grants. Mr. Comeaux worked extensively in coordination with FEMA, GOHSEP, Office of Community Development, and local Parish groups to manage over \$750 million in project funds, including oversight of project inspection.</p> <p>In addition to program management, Mr. Comeaux has experience in grant management which includes project formulation, cost estimation, fund accounting, and closeout of a broad range of public assistance and hazard mitigation grants. Mr. Comeaux has experience as an educator and school administrator which includes conducting professional development and community outreach opportunities for employees, parents, students, and other constituent groups.</p> <p>Relevant projects Mr. Comeaux has worked on over the years include:</p>
Technical Assistance for Floodplain Management, Community Rating System, and Hazard Mitigation Related Services, (Project No. 0352), Jefferson Parish, LA, 12/2016-06/2020
Mr. Comeaux managed the 2016 Technical Assistance services contract with the Jefferson Parish Department of Floodplain Management and Hazard Mitigation. He worked with local officials to assist with Education and Outreach projects, activities to assist with meeting CRS points, edits and updates to flood maps, analysis of NFIP

TEC Professional Services Questionnaire

policies, and the planning process for the Parish’s multi-jurisdictional Hazard Mitigation Plan. In preparation for the Parish’s CRS visit, Mr. Comeaux coordinated the review of Elevation Certificates, flood zone determination letters, preparation of required maps and table, and the review of various sections of the CRS manual to evaluate the Parish’s compliance with meeting the requirements. As part of the Parish’s Hazard Mitigation Plan update, Mr. Comeaux coordinated the evaluation of critical facilities, the preparation of the Hazard Mitigation Plan Advisory Committee, the revision and development of hazard profiles, and the development of draft resolutions to be enacted by the various jurisdictions. To assist the Parish with meeting its educational and outreach requirements in accordance with its Program for Public Information, Mr. Comeaux coordinated the design and publication of various public information media, including videos, brochures, websites, and vehicle decals and billboards. Mr. Comeaux also assisted with the preparation and review of materials for the public meetings as required for the Hazard Mitigation Plan update. Mr. Comeaux attended several of the meetings while coordinating the activities with the responsible parties of the BBEC team.

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. Comeaux is currently the project manager for the City of New Orleans hazard mitigation assistance grants managed by the Office of Hazard Mitigation. Mr. Comeaux works with the City of New Orleans to prepare and submit applications for funding to FEMA’s Hazard Mitigation Assistance (HMA) Programs, including but not limited to the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Grant Program, State Generator Program, and the Pre-Disaster Mitigation (PDM) Grant program. It is also the responsibility of Mr. Comeaux to implement the HMGP program for the City. Mr. Comeaux has also been involved in the preparation and review of Benefit Costs Analysis reports for Green Infrastructure projects for the City of New Orleans, including the Mirabeau Gardens Green Infrastructure, the Broadmoor Drainage Improvements project and the City Park Green Infrastructure projects. In this role, Mr. Comeaux has managed the collection of data necessary to calculate the benefit cost ratio and assisted in the preparation of the Benefit Costs Analysis and report for FEMA review. Mr. Comeaux has directly been involved in the approval and/or management of the following projects:

• FY21 FMA SRL Structure Elevation.....	\$10,730,860.00
• FY21 FMA SRL/RL Structure Elevation	\$11,684,737.00
• FY21 FMA RL Reconstruction	\$205,835.00
• FY20 FMA SRL Structure Elevation.....	\$14,200,582.00
• FY20 FMA SRL Structure Reconstruction.....	\$475,151.00
• FY19 FMA Residential Historic Elevation.....	\$8,438,022.00
• FY19 FMA Residential Non-Historic Elevation	\$6,308,246.00
• FY18 1786 Statewide Generator Application	\$1,131,195.00
• FY18 FMA Residential Historic Elevation.....	\$4,227,236.00
• FY18 FMA Residential Non-Historic Elevation	\$4,172,098.39
• FY18 FMA Non-Residential Elevation.....	\$337,150.00
• FY18 SRL-PJ-06-LA-2012-009	\$1,792,928.00
• FY17 FMA Elevation (52 properties).....	\$12,451,579.52
• FY 17 Multi-Jurisdictional Hazard Mitigation Plan Project	\$345,150.00
• FY 2013 FMA Elevation (36 properties).....	\$7,410,818.00
• 1603/1607 HMGP (8 grant applications, 50+ properties)	\$21,349,250.00
• 1607 HMGP Mirabeau Gardens Stormwater Management and Flood Mitigation BCA	\$23,469,698.00
• 1603 HMGP Broadmoor Stormwater Drainage BCA.....	\$55,666,026.00
• 1603 HMGP City Park/Lakeview Drainage Project BCA	\$2,316,000.00
• 1603 HMGP St. Roch Drainage Project BCA.....	\$7,500,000.00

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FEMA Hazard Mitigation Assistance (HMA) Programs (2021 Contract), Terrebonne Parish, LA, 08/2021 - Present

In his role, Mr. Comeaux has prepared and is managing grant applications submitted for the FMA and BRIC grants in the Fiscal Year 2021 cycle. Mr. Comeaux coordinated with Local and State representatives during the development and selection processes. Mr. Comeaux has directly been involved in the application development of the following project:

- Terrebonne Parish, FY 2021 Saferoom Construction.....\$393,224.00

Project Management and Technical Services, 2020 Application Development, Terrebonne Parish, LA, 09/2020 - Present

In his role, Mr. Comeaux has prepared and is managing grant applications submitted for the FMA and BRIC grants in the Fiscal Year 2020 cycle. Mr. Comeaux coordinated with Local and State representatives during the development and selection processes. Mr. Comeaux has directly been involved in the application development of the following projects:

- Terrebonne Parish, FY 2020 FMA SRL Elevation\$953,245.00
- Terrebonne Parish, FY 2020 FMA RL Elevation\$179,412.00

Grant and Project Management Consulting Services for the RESTORE Act, Plaquemines Parish, LA, 09/2020-Present

Mr. Comeaux works with the Parish to perform grant writing, administration, technical support, application, monitoring, and post-grant requirements services with respect to the Restore Act Direct Component allocation from the U.S. Treasury Department. Mr. Comeaux has assisted with the identification of eligible activities, amendments to existing grants, and the development of new grant applications during the open award period.

- Bayou Eau Noire Ridge Restoration and Marsh Creation Phase 1 and 2....\$3,254,150.13
- Bay Adams Headland Restoration and Marsh Creation Phase 1\$1,222,250.00
- Eastbank Landbridge Project – Phoenix to Lake Leary Phase 1\$500,000.00

Hazard Mitigation Grant Program Grant Administration Services, City of Zachary, LA, 02/2020-Present

Mr. Comeaux assists the City in preparing and submitting grant amendments for its generator project. The amendment consists of aligning the scope of projects to actual projects scheduled for completion by the City. Mr. Comeaux has directly been involved in the administration of the following project:

- City of Zachary, DR-4277 HMGP Generator.....\$855,477.00

Application Development and/or Project Management of FEMA HMA Grant Programs Lafourche Parish, LA, 11/2019-Present

Mr. Comeaux assists the Parish in preparing and submitting grant applications for the Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM) grant programs. He has also been assisting the Parish with preparing and submitting grant applications to FEMA's new Building Resilient Infrastructure and Committees (BRIC) Grant Program. In his role, Mr. Comeaux assists the Parish in identifying projects that meet all grant requirements and works on the required Benefit Cost Analysis. Mr. Comeaux has been directly involved in the application development and approval of the following projects:

- Lafourche Parish, FY 2021 FMA SRL/RL Elevations..... \$691,087.00
- Lafourche Parish, FY 2019 FMA SRL/RL Elevations\$749,891.00

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Project Management Services for the Implementation of FEMA – FMA-PJ-06-LA-2017-023, Lafourche Parish, LA, 05/2019-Present

Mr. Comeaux manages the grant for the elevation of seven projects in Lafourche Parish. Mr. Comeaux works with local officials to plan and prepare grant kickoff meetings, prepare grant required paperwork, and to process reimbursement requests and payment requests through GOHSEP. Mr. Comeaux also works with homeowners to assist with contractor selections and meeting all FMA grant requirements.

- Lafourche Parish, FY 2017 FMA Elevations.....\$1,040,209.00

Project Management and Technical Services, 2018 Application Development, Terrebonne Parish, LA, 11/2018 - Present

In his role, Mr. Comeaux has prepared and is managing grant applications submitted for the FMA and PDM grants in the Fiscal Year 2017 and 2018 cycles. During the 2017 cycle, the Parish presented Mr. Comeaux with several projects to be evaluated for application development. After reviewing the projects and the best available information concerning these projects, Mr. Comeaux determined the available projects would not get approved. However, in 2018, Mr. Comeaux was able to assist the Parish in identifying projects that had a better likelihood of being selected and prepared and submitted those applications. Mr. Comeaux coordinate with Local and State representatives during the development and selection processes. Mr. Comeaux has directly been involved in the application development and approval of the following projects:

- Terrebonne Parish, FY 18 FMA SRL Elevation.....\$255,455.00
- Terrebonne Parish, FY18 PDM St. Louis Canal Road Drainage Improvements
-\$1,779,298.00

Project Management Services for the Implementation of FEMA – FMA-PJ-06-LA-2016-003 Award, Lafourche Parish, LA, 07/2018-Present

Mr. Comeaux manages the grant for the elevation of eight projects in Lafourche Parish. Mr. Comeaux works with local officials to plan and prepare grant kickoff meetings, prepare grant required paperwork, and to process reimbursement requests and payment requests through GOHSEP. Mr. Comeaux also works with homeowners to assist with contractor selections and meeting all FMA grant requirements.

- Lafourche Parish, FY 2016 Elevations.....\$1,399,280.00

FEMA Public Assistance and Hazard Mitigation Program Services, St. Charles Parish, LA, 08/2017-Present

Mr. Comeaux has managed this project since 2017. In his role, he has prepared the application for FMA and PDM grants in the Fiscal Year 2017 cycle. In addition, Mr. Comeaux currently manages the Parish's efforts for Public Assistance program funding as a result of Hurricane Barry. Mr. Comeaux also provides technical assistance services to the Grants Department. Mr. Comeaux has directly been involved in the application development and approval of the following projects:

- St. Charles Parish, FY21 FMA SRL Elevation (36 properties).....\$6,367,899.00
- St. Charles Parish, FY20 FMA SRL Elevation (34 properties).....\$6,055,422.00
- St. Charles Parish, FY19 FMA Elevation (31 properties).....\$5,605,602.00
- St. Charles Parish, FY17 FMA Elevation (11 properties).....\$1,606,584.00
- St. Charles Parish, FY 17 Multi-Hazard Mitigation Plan Update\$63,450.00.00

Hazard Mitigation Assistance, Elevation of Four (4) Residential Structures (HMGP # 1786-057-0007, Lafourche Parish, LA, 09/2016-Present

Mr. Comeaux manages the grant for the elevation of four projects in Lafourche Parish. Mr. Comeaux works with local officials to plan and prepare grant kickoff meetings, prepare grant required paperwork, and to process reimbursement requests and payment requests through GOHSEP.

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- Lafourche Parish, FY 2016 HMGP Elevations\$621,376.00

Program Management 2014 Hazard Mitigation Assistance Grant Funding, Jefferson Parish, Louisiana (HMGP PROJECT), 04/2015-04-2019

Mr. Comeaux managed the 2014 Hazard Mitigation Assistance Grant for home elevation and reconstruction for Jefferson Parish. In his role as Project Manager, Mr. Comeaux planned and prepared for grant kickoff meetings hosted by Jefferson Parish. He worked with homeowners preparing grant required paperwork, contracts, and all other documentation required for grant application. Additionally, Mr. Comeaux worked closely with parish officials to prepare program guidance, forms, and processes to guarantee proper accounting and funding of home elevation and reconstruction project.

As Project Manager for elevation and reconstruction projects for Jefferson Parish, Mr. Comeaux coordinates activities between homeowners, contractors, construction management firm, and the parish. As part of the coordination process, Mr. Comeaux is responsible for reviewing contracts for grant compliance, preparing cost reasonable analysis for the work proposed, and applying for reimbursement for the funds allocated to each project. These projects resulted in approximately \$12.6 million in federal grant funding to the parish in reimbursements.

Mr. Comeaux has been directly involved in the management of the following projects:

- Jefferson Parish, FY14, FMA Elevations.....\$3,121,877.50
- Jefferson Parish, FY14, FMA Elevations.....\$3,698,327.00
- Jefferson Parish, FY14, FMA Non-Residential Elevation\$928,220.00
- Jefferson Parish, FY14, PDM Wind Retrofit Project\$3,757,904.00
- Jefferson Parish, FY14, FMA Reconstruction\$1,051,822.00

Grant Closeout for Federal Declared Disasters, 2014 Contract, FEMA Public Assistance Category A and B Projects, St. Bernard Parish, LA, 09/2014-Present

In his role as grant closeout specialist, Mr. Comeaux has provided closeout services for St. Bernard Parish on Category A and B projects since 2015. In his role, Mr. Comeaux has provided oversight of the closeout process and participated in cost reconciliations, cost analyses, documentation reviews, and preparation of closeout versions for submittal by GOHSEP to FEMA. He has been successful in identifying costs that were previously overlooked through the reimbursement process as well as justifying cost reasonableness for the numerous emergency and debris removal projects that were undertaken by St. Bernard Parish.

Louisiana Land Trust Demolition Program, Statewide, LA (CDBG PROJECT), 01/2009-06/2013

As Project Manager for demolition projects for the Louisiana Land Trust, Mr. Comeaux designed and managed the development of several databases utilized for the validation, tracking, accounting, and auditing of U.S. Department of Housing and Urban Development Community Development Block Grants (CDBG). As part of the auditing process, Mr. Comeaux worked with the Louisiana Legislative Auditors for validating work completed against contractor invoices. This has resulted in the processing of approximately \$80 million of CDBG funds and the demolition and restoration of approximately 8600 sites. Mr. Comeaux coordinated and managed contracts involved in the demolition of structures and the removal of slabs and all associated concrete from sites purchased by the Road Home Corporation following Hurricanes Katrina and Rita throughout south Louisiana. He conducted progress meetings with contractors and reviewed daily schedules and progress reports; managed the assignment of field personnel for all aspects of demolition and debris removal monitoring; coordinated progress meetings with Louisiana Land Trust and its agents in all matters pertaining to structure demolition and the removal of slabs and all associated concrete; and reviewed and monitored all reports and data received and transmitted to the Louisiana Land Trust for accounting and progress reporting. Mr. Comeaux assisted with the coordination of LDEQ for compliance for the abatement of structures and slabs.

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Demolition of Road Home Owned Properties, St. Bernard Parish, Louisiana (CDBG PROJECT), 2008-2009

As Project Manager for recovery projects throughout St. Bernard Parish, Louisiana following Hurricanes Katrina and Rita, Mr. Comeaux managed the grant for the demolition of homes owned by the Road Home Corporation throughout St. Bernard Parish. Approximately \$18 million of grant eligible work was completed and St. Bernard Parish received in federal grant funding to the parishes applying to reimburse money spent on recovery projects. Mr. Comeaux worked directly with the Louisiana Office of Community Development – Disaster Recovery Unit, to process environmental review records for each of the properties included in the program.

Federal Emergency Management Agency Public Assistance Grants, City of Baker, St. Bernard Parish, St. Charles Parish, Livingston Parish, and the Town of Jean Lafitte, 2005-Present

As Project Manager for recovery projects throughout south Louisiana following Hurricanes Katrina/Rita, Gustav/Ike, Isaac, 2016 Floods, and Hurricane Barry, Mr. Comeaux prepared grant applications for recovery grants for the City of Baker, Town of Jean Lafitte, and the Parishes of St. Bernard, St. Charles, and Livingston. As part of the grant application process, the following information had to be collected and reported: scope of disaster, scope of services to be covered, cost estimate based on cost reasonableness in accordance with the Code of Federal Regulations (44 CFR Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments) and the updated 2 CFR 200. These grant applications resulted in approximately \$800 million in federal grant funding to the parishes applying to reimburse money expended on recovery projects.

Letter of Map Revision Study and Application, (CCE#119-112), City of Covington, LA, 05/2019-Present

Mr. Comeaux is assisting the City of Covington with preparing a Letter of Map Revision based on FEMA's Flood Insurance Study for the City's Preliminary Digital Flood Insurance Rate Map (DFIRM). Mr. Comeaux has assisted with identifying projects to support the City's request to make preliminary flood zones effective with respect to its current flood zone determinations.

Pre-Monitoring of Emergency Storm Debris Removal, Debris Management Plan, Greater Lafourche Port Commission, LA, 8/2018-05/2019

Mr. Comeaux oversaw the development of a comprehensive Debris Management Plan based on the below listed contents which met FEMA's general criteria for a debris management plan. The plan was successfully completed in May 2019 and ultimately approved by FEMA. Plan components included:

- Debris management overview
- Incidents and assumptions
- Debris collection and removal plan
- Debris removal from private property
- Public Information
- Health and safety requirements
- Environmental considerations and other regulatory requirements
- Temporary debris management sites and disposal locations
- Force account or contracted resources and procurement
- Monitoring of debris operations

FEMA Hazard Mitigation Grant Village Square Site Clearance, Phases 1, 2 and 3, St. Bernard Parish, LA, 2011-2015

Mr. Comeaux coordinated and managed contracts involved in the removal of slabs and all associated concrete in the Village Square area of St. Bernard Parish in compliance with FEMA's Hazard Mitigation Grant Program to return properties in the affected area to green space. He prepared and reviewed contract specifications and advertisements, prepared change order adjustments, completed site reviews with the contractor, conducted progress meetings with contractors and reviewed daily schedules and progress reports. The value for this contract

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totaled \$1.2 million.

- FY 2011 HMGP Acquisition/Demolition.....\$1,071,555.00

Residential Slab Removal, St. Bernard Parish, LA, 2011-2013

Mr. Comeaux coordinated and managed contracts involved in the removal of slabs and all associated concrete from privately-owned sites throughout St. Bernard Parish where removal has been requested by the receipt of a right-of-entry agreement. He conducted progress meetings with contractors and reviews daily schedules and progress reports; managed the assignment of field personnel for all aspects of slab removal and debris removal monitoring; coordinated progress meetings with St. Bernard Parish and its agents in all matters pertaining to the removal of slabs and all associated concrete; and reviewed and monitored all reports and data received and transmitted to St. Bernard Parish Government for accounting and progress reporting. Mr. Comeaux assisted with the coordination of LDEQ for compliance for the abatement of structures and slabs.



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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

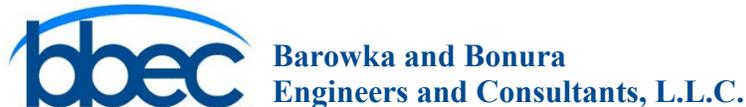
Name & Title:

**Thomas Rodrigue
Certified Floodplain Manager**

Project Assignment:

Floodplain Analysis and Funding Options

Name of Firm with which associated:



Years' experience with this Firm:

6

Education: Degree(s)/Year/Specialization:

Diploma / 1963 / Business Administration/Traffic Management

Active registration: Year first registered/discipline:

Other experience and qualifications relevant to the proposed Project:

Thomas Rodrigue has 20 years of experience as a Floodplain Manager and Hazard Mitigation Specialist for both Parish Government and the civilian sector as a consultant for a private company in the above fields. Mr. Rodrigue became a Floodplain Manager in May of 2001 and became a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) in April 2004. He has been involved in the FEMA Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, Building Resilient Infrastructure and Community (BRIC) Program, and the Severe Repetitive Loss (SRL) grants both for the Parish and the private company previously mentioned.

Relevant projects Mr. Rodrigue has worked on over the years include:

Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352), Jefferson Parish, LA, 01/2017-05/2019

BBEC was tasked by Jefferson Parish to provide Technical Support in enhancing multiple programs that are critical to the Parish's standing with FEMA. One being the submission of the five-year update to the Hazard Mitigation Plan which is a FEMA requirement to ensure the Parish's eligibility to continue applying and receiving FEMA mitigation grant funding. The second initiative deals with the enhancement of the Community Rating System (CRS) rating for the Parish through the National Flood Insurance Program (NFIP) to a Class "5". This rating determines how high of a discount the homeowners in the Parish receive on their annual premiums for their respective Flood Insurance policies if they reside in a Special Flood Hazard Area (SFHA). Mr. Rodrigue was tasked by BBEC to assist the Parish and provide the requested Technical Support based on his previous

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employment with the Parish where he was instrumental in formulating the original Hazard Mitigation Plan for the Parish in his role as the Floodplain Manager and the Community Rating System (CRS) Coordinator where he successfully increased the CRS rating from a Class "8" to a Class "6" during his tenure with the Parish. Through Mr. Rodrigues' efforts, Jefferson Parish was successful in improving their rating from a Class "6" to a Class "5" in May 2019. Note: This program has a descending class rating with "1" being the highest.

Project Management and Technical Services, 2018 Contract, Terrebonne Parish, LA, 11/2018-Present

Mr. Rodrigue conducted one on one meetings with each homeowner interested in pursuing elevation of their structure under this grant. He guided them in the process of obtaining necessary bid estimates from contractors for their selection to accomplish the project. Mr. Rodrigue was also involved in the process of obtaining quotes for those structures requiring an American Disability Act (ADA) lift for individuals who obtained the required declaration from a physician on the need for these lifts.

FEMA Hazard Mitigation Assistance Consultant, New Orleans, LA (Project No. 2130-02035), 01/2017-Present

Mr. Rodrigue manages the individual projects from start to finish in conjunction with the elevation of Repetitive Loss structures covered by the National Flood Insurance Program (NFIP) and approved for mitigation by the Federal Emergency Management Agency (FEMA) as a result of mitigation grant requests submitted by the respective Parish through the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP). He serves as the point of contact with the homeowners, Parish, and Contractor during the duration of the project. He advises on the budget, homeowner cost, and duplication of benefits (if applicable). Mr. Rodrigue issues Notice to Proceed upon receipt and completion of all required paperwork, attends meetings to review agreements, Engineer Design Plans and go over milestone expectations. Mr. Rodrigue develops a consolidated project "Dashboard" to track each property throughout the course of the project. He conducts visits to each property at the completion of all milestones to verify completion, take photographs, and compile a site visit report. Upon completion of each site, he is notified and a final site visit is conducted to verify elevation is at the correct height, and coordinate with the homeowner to ensure they are satisfied with the work so the completion certificate can be signed and the final payment can be processed. Throughout the project, Mr. Rodrigue provides problem resolution with the homeowner and contractor, as needed.

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

Mr. Rodrigue managed the individual projects from start to finish in conjunction with the elevation of Repetitive Loss structures covered by the National Flood Insurance Program (NFIP) and approved for mitigation by the Federal Emergency Management Agency (FEMA) as a result of mitigation grant requests submitted by the respective Parish through the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP). He served as the point of contact with the homeowners, Parish, and Contractor during the duration of the project. He advised on the budget, homeowner cost, and duplication of benefits (if applicable). Mr. Rodrigue issued Notice to Proceed upon receipt and completion of all required paperwork, attended meetings to review agreements, Engineer Design Plans and go over milestone expectations. Mr. Rodrigue developed a consolidated project "Dashboard" to track each property throughout the course of the project. He conducted visits to each property at the completion of all milestones to verify completion, take photographs, and compile a site visit report. Upon completion of each site, he was notified and a final site visit was conducted to verify elevation is at the correct height, and coordinated with the homeowner to ensure they were satisfied with the work so the completion certificate could be signed and the final payment could be processed. Throughout the project, Mr. Rodrigue provided problem resolution with the homeowner and contractor, as needed.

Flood Mitigation Assistance Grant, Elevation of eight (8) structures under SRL/RL Elevation Project, Lafourche Parish, LA, 07/2018-Present

Mr. Rodrigue manages the individual projects from start to finish in conjunction with the elevation of Repetitive Loss structures covered by the National Flood Insurance Program (NFIP) and approved for mitigation by the Federal Emergency Management Agency (FEMA) as a result of mitigation grant requests submitted by the

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respective Parish through the Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP). He serves as the point of contact with the homeowners, Parish, and Contractor during the duration of the project. He advises on the budget, homeowner cost, and duplication of benefits (if applicable). Mr. Rodrigue issues Notice to Proceed upon receipt and completion of all required paperwork, attends meetings to review agreements, Engineer Design Plans and go over milestone expectations. Mr. Rodrigue develops a consolidated project "Dashboard" to track each property throughout the course of the project. He conducts visits to each property at the completion of all milestones to verify completion, take photographs, and compile a site visit report. Upon completion of each site, he is notified and a final site visit is conducted to verify elevation is at the correct height, and coordinate with the homeowner to ensure they are satisfied with the work so the completion certificate can be signed and the final payment can be processed. Throughout the project, Mr. Rodrigue provides problem resolution with the homeowner and contractor, as needed.

Grant Management Specialist/Consultant, 12/2010-05/2013

During the period Dec 2010-May 2013, Mr. Rodrigue was employed by Coastal Shoring, a private concern, which gave him the opportunity to operate at the other end of the mitigation spectrum in the elevation of structures. His duties and responsibilities consisted of the following aspects:

- Coordination with Parish contractor and respective homeowners for elevation of their structures upon their selection of Coastal Shoring to perform the project.
- Monitoring of project progression and advising Parish contractor of the status accordingly.
- Coordinating and establishing the request for periodic funding payments for work performed on these projects to include the submission of appropriate documentation required.
- Coordination with the State Hazard Mitigation Program through the State Office of Community Development for elevation of structures contracted with Coastal Shoring in the same manner previously mentioned for the Parish programs.

Floodplain Manager/CRS Coordinator, Jefferson Parish, LA, 12/2000-12/2010

Mr. Rodrigue's duties and responsibilities consisted of the following aspects:

- Supervision of the Parish contractor staff in administering all the mitigation programs to include the preparation and submission of the FEMA grant applications which produced the funding resources mentioned above as well as required periodic reports on these grants to the Governor's Office of Homeland Security/Emergency Preparedness (GOHSEP).
- Coordination with the Parish contractor concerning appropriate documentation to be maintained for execution of the grant all the way to closeout.
- Participation in all introductory meetings conducted by the Parish contractor with respective homeowners to explain the aspects of the program and the process for getting their project started.
- Coordination with Parish Contractor concerning any and all problem areas resulting from the projects, whether it be Parish requirements, FEMA requirements, or contractor issues.
- Reviewed and approved all periodic contractor payment requests for work performed forwarded from the Parish contractor prior to their transmission to the Parish Finance office for check payment to appropriate elevation contractors. This also included review and approval of all periodic payment requests from the Parish contractor for their performance of Program Management functions for the designated mitigation grants.
- Attended and conducted status meetings both with the Parish contractor and contractors performing the work, if necessary. These meetings also involved individual homeowners, when required.

The above actions resulted in the awarding of over \$200M in HMGP grants from FEMA to include structures damaged as a result of Hurricane Katrina. Upon departing Parish employment in 2010, for another position, Mr. Rodrigue was responsible for mitigating over 1,100 structures for elevation and/or reconstruction.

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Mr. Rodrigue was responsible for obtaining FEMA grants for several key drainage projects both on the East Bank and Westbank of Jefferson Parish. Some of the key projects are listed below:

Eastbank:

- Midway Dr. (River Ridge)
- Cleary/Transcontinental Drs. (Metairie)
- Elmwood Corridor (Metairie)

Westbank:

- Maplewood Subdivision (Harvey)
- Oakwood (Terrytown/Gretna)

These projects represented approximately \$50M in total project costs.

Community Rating System

Mr. Rodrigue's duties and responsibilities consisted of the following:

- Maintaining all necessary documentation required by the National Flood Insurance Program CRS manual to substantiate the appropriate CRS rating for the community.
- Coordination with all pertinent entities with Parish government to collect the required documentation (i.e. Public Works, Drainage, Environmental, Public Affairs, Library, Electronic Information Systems).
- Submission of required community documentation for the annual program recertification in October of each year.
- Presentation of required documentation for the 5-year on-site program review by the Insurance Servicing Office (ISO).

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KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

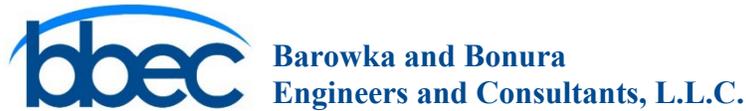
Name & Title:

**Pete Foret
Computer Aided Drafting**

Project Assignment:

Drafting / Report Development

Name of Firm with which associated:



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.

Relevant projects Mr. Foret has worked on over the years include:

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. Tammany 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 grade line.

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

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

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.

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

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

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

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

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

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

N-Y Associates (DOTD Projects), Metairie, LA., 12/2002-12/2004

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

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

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

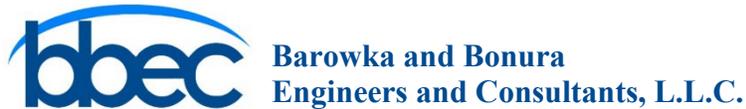
Name & Title:

**Rayburn Clipper
GIS**

Project Assignment:

GIS / Mapping / Public Outreach Presentation

Name of Firm with which associated:



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:

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.

Relevant projects Mr. Clipper has worked on over the years include:

Digital Flood Insurance Rate Map, Jefferson Parish, LA

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

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

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

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

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

TEC Professional Services Questionnaire

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.

Bissonet Plaza Drainage Master Plan (A/E Project No. 20-1708), Jefferson Parish, LA, 05/2018-05/2021

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

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

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

Jefferson Parish GIS Dept., Jefferson Parish, LA, 2019-Present

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.

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

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.

Cypress Park Subdivision Drainage Evaluation, St. Tammany Parish, LA, 11/2016-12/2017

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

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 into the GIS Aerial imagery rectification and mosaicing, 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.

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

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

GIS Projects, St. Bernard Parish, LA

Mr. Clipper provided the parish with GIS support with daily need and custom request. He supported 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.

TEC Professional Services Questionnaire

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 data to ArcSDE server via ArcGIS Server over HTTP.

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.

I-85 Extension and Corridor Study, ALDOT Project No. NCPD-PE02 (910), Montgomery, AL

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

I-12 to Bush Corridor Study, LADOTD Project No. 700-52-0124 (TIMED), Bush, LA, 2006

While employed with DBSysgraphy, Mr. Clipper provided Environmental Site Assessment, extensive cultural resources survey and wetlands delineations, and hydrological modeling, along with numerous other analyses. Mr. Clipper separated from DBSysgraphy prior to completion of the project.

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.

Louisiana Land Trust, Statewide, LA, 01/2009-12/2016

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.

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.

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:

**Lake Avenue and
Carrollton Avenue
(Bucktown Area)
Drainage Study,
Jefferson Parish, LA**

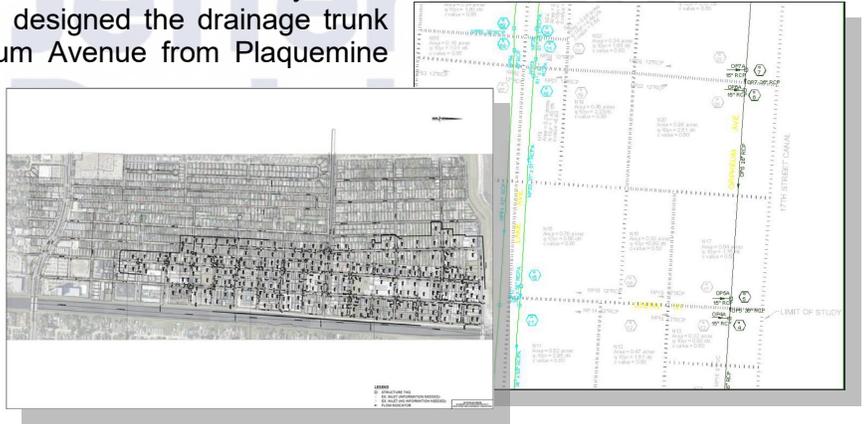
**Jefferson Parish
Government
Mark Drewes,
Director
Department of
Public Works
1221 Elmwood Pk.
Blvd., Suite 904
Jefferson, LA 70123
MDrewes@jeffparish.net
(504) 736-6783**

Applicable Experience

- Coordination with Parish
- Advanced H&H Modeling
- Alternative Analysis and Solution
- Project Scoping
- Cost Estimating
- Surveying Management

The project included an extensive drainage and traffic control study on Lake and Carrollton Avenues in the Bucktown area. BBEC utilized the Parish's GIS to develop a base map of the area and determine the drainage facilities that needed to be studied. BBEC developed a survey scope of work for the surveyor to collect the needed data to develop an H&H model.

BBEC ran an existing model and calibrated model with the Parish's parish-wide model to have continuity between the models. BBEC ran multiple model runs to determine the most cost-effective alternatives to drain a 10-year storm in the area. BBEC made recommendations for a trunk line running down Lake Avenue, which addressed the 10-year storm, but presented constructability issues due to traffic on Lake Avenue. At the Parish's request, BBEC provided a secondary project on Orpheum Avenue that addressed the 5-year storm but did not have the same traffic problems. BBEC designed the drainage trunk line down Orpheum Avenue from Plaquemine Street to West Esplanade Avenue, but the project is still awaiting funding for construction.



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

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

2005 (actual)

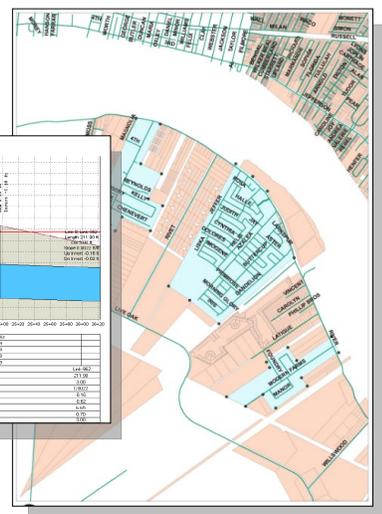
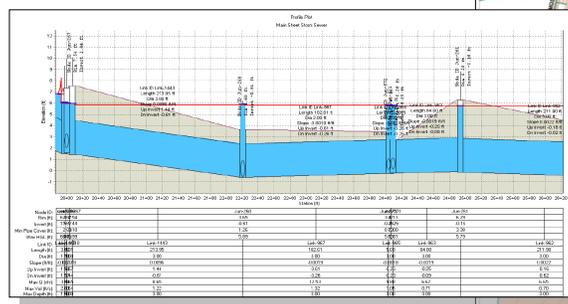
\$80,000 (fee)

\$80,000 (fee)

TEC Professional Services Questionnaire

PROJECT NO. 3

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Waggaman Area Drainage Study (Project No. 2011-03-DR), Jefferson Parish, LA</p> <p>Jefferson Parish Government Mitchell Theriot, P.E., Director Department of Drainage 1221 Elmwood Park Blvd., Suite 907 Jefferson, LA 70123 MTheriot@jeffparish.net (504) 736-6753</p>	<div style="display: flex;"> <div style="background-color: #0056b3; color: white; padding: 10px; width: 25%; margin-right: 10px;"> <p style="text-align: center; margin: 0;"><u>Applicable Experience</u></p> <ul style="list-style-type: none"> Coordination with Parish Advanced H&H Modeling Alternative Analysis and Solution Project Scoping Cost Estimating Surveying Management </div> <div style="flex-grow: 1;"> <p>BBEC 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. BBEC used the Storm Water Management Model (SWMM) V.5 to evaluate the existing subsurface drainage capacities for each subdivision and to examine if the existing system was able handle a 10-year design storm. BBEC developed a hydrologic and hydraulic model using the existing Parish GIS for each area and recommended subsurface improvements based on the SWMM model to handle a 10-year design storm.</p> <p>BBEC developed the survey scope of work and managed the surveyor to obtain the needed data for the model. BBEC performed multiple model runs to determine the most cost-effective means to drain the 10-year storm for each subdivision. BBEC developed recommended project scopes and construction cost estimates for each subdivision.</p> </div> </div>	
<p>Completion Date (Actual or estimated):</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2016 (actual)	\$300,000 (fee)	\$300,000 (fee)



TEC Professional Services Questionnaire

PROJECT NO. 4

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

Nature of Firm's Responsibility:

**Clery Avenue Roadway
and Drainage
Improvements,
Jefferson Parish, LA**

**Jefferson Parish
Government
Mark Drewes,
Director
Department of
Public Works
1221 Elmwood Pk.
Blvd., Suite 904
Jefferson, LA 70123
MDrewes@jeffparish.net
(504) 736-6783**

Applicable Experience

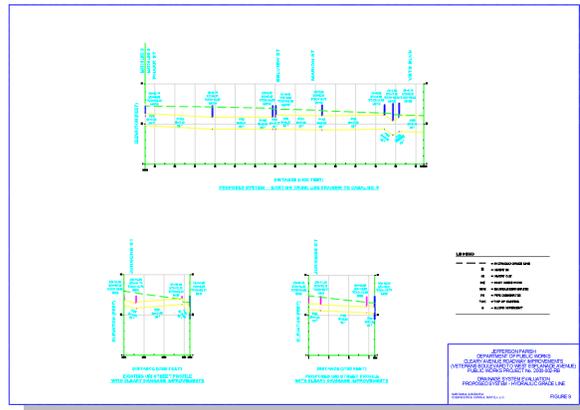
- Coordination with Parish
- Advanced H&H Modeling
- Alternative Analysis and Solution
- Public Engagement
- Project Scoping
- Cost Estimating
- Surveying Management
- Geotechnical Management

BBEC developed a hydrologic and hydraulic model for the project area and the surrounding neighborhoods that drain into the project area. BBEC evaluated the various alternatives to drain to the Veterans Boulevard canal and/or the West Esplanade Avenue canal to accommodate the 10-year design storm, which concluded with a recommendation for construction. BBEC utilized the Parish's existing GIS to develop a base map of the project area, including a schematic of the existing drainage system. BBEC developed a drainage model of the existing conditions and calibrated the model with the Parish's parish-wide HEC-RAS model. With the existing conditions model, BBEC determined areas of

deficient drainage capacity.

BBEC developed different scenarios for improvement by increasing pipe sizes and/or adding trunk lines to address the deficiencies.

The improvements include removing and replacing approximately 4,000 linear feet of four-lane concrete street (2 travel lanes, 2 parking lanes) with curbs; removing and replacing adjoining concrete sidewalks, drives, and ADA ramps; installation of about 2,500 feet of new sub-surface drainage from 36-inch to 48-inch pipe; installation of (2) new outfall pipe crossing W. Esplanade Avenue and discharging into W. Esplanade Avenue Canal; the replacement of all water mains crossing Clery Avenue and West Esplanade Avenue in the project area; and coordination with private utilities for their respective utility relocations.

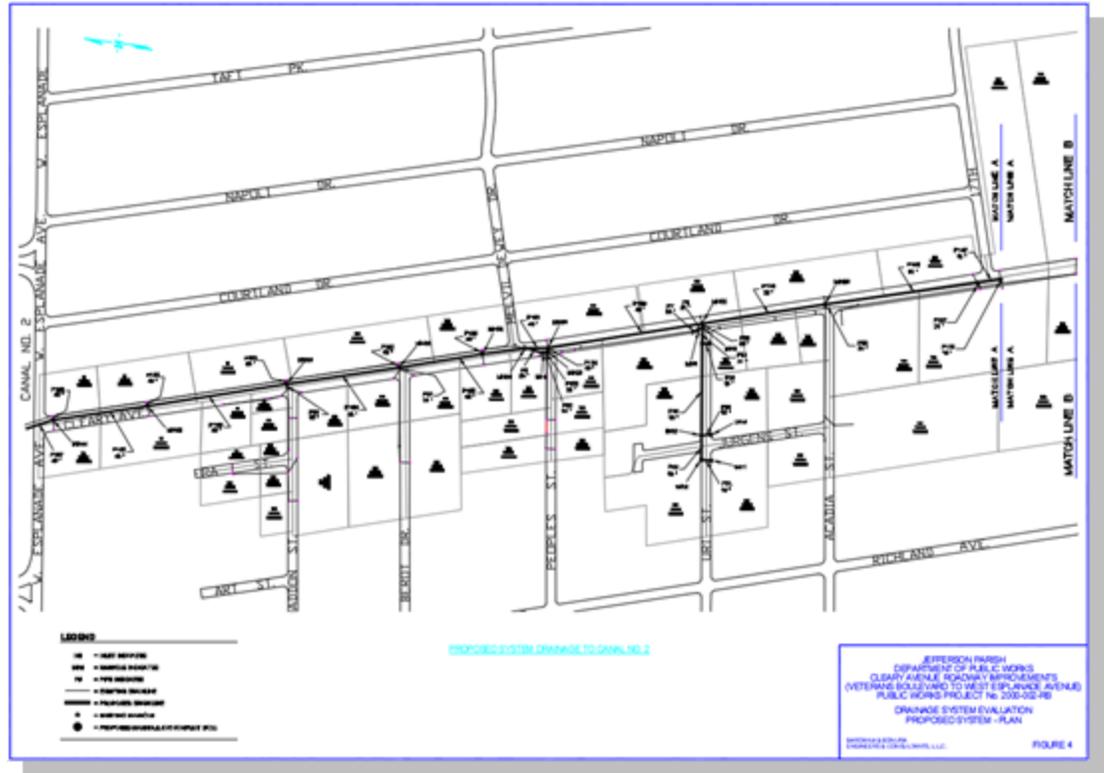


The scope of work also includes traffic phasing, allowing the contractor to work on one lane at a time. When working on the parking lanes, the 2-way traffic is maintained. When working in the travel lanes, only 1-way traffic is allowed.

As part of the roadway and drainage improvement project, BBEC performed the engineering services to design and construct 7 water line roadway crossings varying in size from 8-inch to 12-inch water mains. The roadway crossings included

TEC Professional Services Questionnaire

connecting to existing water mains with valves, tees, and other fittings as required.



Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021 (actual)	\$4,456,889	\$4,456,889

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PROJECT NO. 6

<p align="center">Project Name, Location and Owner's contact information:</p>	<p align="center">Nature of Firm's Responsibility:</p>	
<p>LA-45 Evacuation Route Basin Drainage Improvements, Lafitte Area Independent District, LA</p> <p align="center">Lafitte Area Independent Levee District</p> <p>Nicole Cooper, Project Manager 2654 Jean Lafitte Blvd. Lafitte, LA 70067 (504) 233-1109 ncooper@townofjeanlafi tte.com</p>	<p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Coordination with Parish • Advanced H&H Modeling • Alternative Analysis and Solution • Project Scoping • Surveying Management 	<p>BBEC, performing as sub-consultant, developed H&H models for the LA-45 Evacuation Route Basin, both for existing conditions and to reflect the proposed Lafitte Tidal protection project. The analysis identified internal drainage problems resulting from the completion of the Tidal Protection project and established pipe, ditch, canal, and LADOTD roadway culvert sizes. BBEC also modeled discharge pump station and determined the capacity for each of the three pump stations. BBEC also provided Drainage Maps and Conceptual Storm Sewer Routing Plans to show ditches and storm sewer locations, and sized required, and identify any potential problem areas, plans and profiles, required right-of-way and construction access, and any impacts to existing properties.</p>
<p>Completion Date (Actual or estimated):</p>	<p align="center">Estimated Cost:</p>	
	<p align="center">Entire Project:</p>	<p align="center">Work for which Firm was Responsible:</p>
<p align="center">2022 (estimated)</p>	<p align="center">\$67,200 (fee)</p>	<p align="center">\$67,200 (fee)</p>

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PROJECT NO. 7

<p>Project Name, Location and Owner's contact information:</p>	<p>Nature of Firm's Responsibility:</p>	
<p>Digital Flood Insurance Rate Map, Jefferson Parish, LA</p> <p>Jefferson Parish Government Jeb Tate, Director Electronic Information Systems 1221 Elmwood Park Blvd., Suite 700 Jefferson Parish, LA 70123 jtate@jeffparish.net (504) 736-6720</p>	<div style="background-color: #0056b3; color: white; padding: 5px; border: 1px solid #0056b3;"> <p>Applicable Experience</p> <ul style="list-style-type: none"> Coordination with Parish Alternative Analysis and Solution Public Engagement Project Scoping Surveying Management </div> <p>to provide all data and maps in the correct format acceptable by FEMA. Considering that all work associated with the development of the DFIRMs was in strict compliance with the National Flood Insurance Program, BBEC has an intimate knowledge of the NFIP program.</p>	<p>BBEC performed all GIS / Database Management services for the Jefferson Parish DFIRM Project, including documentation and preparation of maps and GIS data. BBEC was responsible for preparing Metadata Base according to "Content Standard for Digital Geospatial Metadata." BBEC prepared base maps including streets, railroads, canals, ditches, benchmarks and flood hazard contours to meet DFIRM specifications. BBEC was also responsible for generating maps to meet DFIRM specifications and</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Jefferson Parish, La FIS Base Map Acquisition Submittal Contract No. EMT-2003-CA-0113</p> <p style="text-align: center;">SUBMITTED BY: Barowka and Bonura Engineers and Consultants, LLC</p> <p>TABLE OF CONTENTS</p> <p>Cover Letter/Transmittal Form</p> <p>1. Summary</p> <p style="padding-left: 20px;">1.1 Introduction</p> <p style="padding-left: 40px;">1.2 Mapping Activity Statement, Tasks 30, 31 and 33 – Base Map Acquisition</p> <p style="padding-left: 40px;">1.3 Map of Coverage Area, Jefferson Parish, LA</p> <p>2. Methodology</p> <p style="padding-left: 20px;">2.1 Acquisition</p> <p style="padding-left: 40px;">2.1.1 Description of data acquired</p> <p style="padding-left: 40px;">2.1.2 Contact Information for sources of data</p> <p style="padding-left: 20px;">2.2 Processing</p> <p style="padding-left: 40px;">2.2.1 Description of processing/alterations made to original data</p> <p>2.3 Data Evaluation</p> <p style="padding-left: 20px;">2.3.1 Comparison of data acquired to FEMA G&S Standards for Base Mapping</p> <p style="padding-left: 20px;">2.3.2 Description of testing done to verify positional accuracy, currency, etc.</p> <p>3. Exceptions</p> <p style="padding-left: 20px;">3.1 Explanation of deviations from MAS and/or FEMA G&S Standards</p> <p>4. Conclusions</p> <p style="padding-left: 20px;">4.1 Base Map format (Raster or Vector)</p> <p style="padding-left: 20px;">4.2 Summary</p> <p>References</p> <p>Appendix A: TSDN Documents</p> <p style="padding-left: 20px;">Deliverables Checklist (Appendix M, Figure M-1)</p> <p style="padding-left: 20px;">Certificate of Compliance (Appendix M, Figure M-11)</p> <p style="padding-left: 20px;">Mapping Information Index (Appendix M, Figure M-12)</p> <p style="padding-left: 20px;">Digital Data Submission Checklist (Appendix L, Section L.5)</p> <p>Appendix B: Internal/Independent QA Forms</p> <p style="padding-left: 20px;">Certification of Quality Assurance</p> <p style="padding-left: 20px;">Quality Assurance Documentation (QA Forms, Response to Review Comments)</p> <p>Appendix C: Documentation that FEMA can use the digital base map</p> <p>Appendix D: Applicable data uploaded to the MIP</p> <p style="padding-left: 20px;">PDF Version of TSDN (Entire document as one PDF file)</p> <p style="padding-left: 20px;">ReadMe (Description of contents, projects, etc.)</p> <p style="padding-left: 20px;">Directory Listing (Detailed list of folders, file names, and file sizes)</p> <p style="padding-left: 20px;">DFIRM Metadata (As required by Appendix L in folder structure as shown in Volume 1, Table 1-6)</p> <p style="padding-left: 20px;">DFIRM Database Data (Spatial files, lookup tables, and domain tables as required by Appendix L in folder structure as shown in Volume 1, Table 1-6)</p> </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>2008 (actual)</p>	<p>\$8,000,000</p>	<p>\$8,000,000</p>

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PROJECT NO. 8

<p style="text-align: center;">Project Name, Location and Owner's contact information:</p>	<p style="text-align: center;">Nature of Firm's Responsibility:</p>	
<p>Map Modernization Project (DFIRM) (Contract No. EMT-2005-CA-0110) (2003 Contract), St. Bernard Parish, LA</p> <p>St. Bernard Parish Government Donald R. Bourgeois, Capital Projects Manager Department of Public Works 1125 E. St Bernard Hwy. Chalmette, LA 70043 dbourgeois@sbsp.net (504) 278-4250</p>	<div style="background-color: #0056b3; color: white; padding: 5px;"> <p style="margin: 0;"><u>Applicable Experience</u></p> <ul style="list-style-type: none"> Coordination with Parish Advanced H&H Modeling Alternative Analysis and Solution Benefit Cost Analysis Public Engagement Project Scoping Cost Estimating Surveying Management Geotechnical Management </div>	<p>BBEC assisted FEMA develop St. Bernard Parish's flood insurance rate maps as part of FEMA's map modernization program. BBEC prepared the project scoping document for St. Bernard Parish and received FEMA approval in accordance with FEMA document Guidance for Scoping Flood Mapping Projects. BBEC incorporated the Parish's hydraulic features into the GIS. BBEC performed the necessary hydraulic and hydrologic studies and analyses necessary for the implementation of the map modernization project by using USCAE's hydraulic and hydrologic modeling software HEC-RAS and HEC-HMS. BBEC incorporated the results of the hydrologic and</p>
<p>hydraulic studies GIS to develop the necessary flood plains. BBEC prepared a Base Map for the project (streets, ditches, benchmarks, etc.) from St. Bernard Parish's existing GIS, modifying the format to FEMA standards. BBEC has submitted all hydraulic and hydrologic and survey work for independent QA/QC and is currently developing DFIRM base maps. All work associated with the development of the DFIRMs were in strict compliance with the National Flood Insurance Program.</p>	<div style="text-align: center;"> </div>	
<p>Completion Date (Actual or estimated):</p>	<p style="text-align: center;">Estimated Cost:</p>	
	<p>Entire Project:</p>	<p>Work for which Firm was Responsible:</p>
<p>2008 (actual)</p>	<p>\$536,163 (fee)</p>	<p>\$536,163 (fee)</p>

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PROJECT NO. 9

<p align="center">Project Name, Location and Owner's contact information:</p>	<p align="center">Nature of Firm's Responsibility:</p>
<p>FEMA Hazard Mitigation Assistance Consultant (Project No. 2130-02035), Project Management for 2013 FMA Grant Funding, City of New Orleans, LA</p> <p>City of New Orleans Ryan Mast, Hazard Mitigation Administrator Office of Homeland Security and Emergency Preparedness Hazard Mitigation Office 1300 Perdido Street, 9th Floor New Orleans, LA 70112 rcmast@nola.gov (504) 658-8740</p>	<div data-bbox="440 436 813 800" style="background-color: #0056b3; color: white; padding: 5px;"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> • Coordination with Parish • Alternative Analysis and Solution • Benefit Cost Analysis • Public Engagement • Project Scoping • Cost Estimating • Surveying Management </div> <p>BBEC, in its role as FEMA Hazard Mitigation Assistance Consultant, works with the City of New Orleans to prepare and submit applications for funding to FEMA's Hazard Mitigation Assistance (HMA) Programs, including but not limited to the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), the Pre-Disaster Mitigation Grant (PDM) Program, and the Building Resilient Infrastructure and Communities (BRIC) Grant Program on behalf of eligible residential National Flood Insurance program (NFIP) policyholders in Orleans Parish and the City of New Orleans and to manage and implement said program for the City.</p> <p>BBEC's services also include:</p> <ul style="list-style-type: none"> • Prioritizing eligible properties for flood mitigation activities; and • Conducting comprehensive property risk analyses for participating RL & SRL properties for mitigation remedies including elevation to or above the current effective Base Flood Elevation (or "best available data"), dry flood proofing for historic structures, or reconstruction when traditional elevation cannot be completed. The participating properties and their respective mitigation undertakings are chosen in such a way to optimize flood risk reduction and cost effectiveness; and • Designing, implementing, and monitoring the consultation process to inform eligible property owners of program requirements, collecting technical information, determining mitigation preferences, case managing each individual property, and providing preliminary mitigation estimates; and • Conducting individualized meetings with eligible property owners during the contractor selection process. These meetings focus on program requirements and mitigation activities. Attendance by representatives from the City of New Orleans is coordinated for all such meetings; and • Performing project management of mitigation offers to individual (i.e. "address level") eligible property owners; and • Holding monthly status meetings with the City's Mitigation Director, Project Delivery Unit Manager, and Chief Resilience Officer or designee, to update grant status and status of individual properties. Status tracking is provided to the City in spreadsheet format either before the monthly status meetings or at the meetings. <p>Projects currently being managed by BBEC:</p>

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	<ul style="list-style-type: none"> • FY21 FMA SRL Structure Elevation..... \$10,730,860.00 • FY21 FMA SRL/RL Structure Elevation \$11,684,737.00 • FY21 FMA RL Reconstruction \$205,835.00 • FY20 FMA SRL Structure Elevation..... \$14,200,582.00 • FY20 FMA SRL Structure Reconstruction \$475,151.00 • FY19 FMA Residential Historic Elevation \$8,438,022.00 • FY19 FMA Residential Non-Historic Elevation \$6,308,246.00 • 1786 Statewide Generator Application \$1,131,195.00 • FY18 FMA Residential Historic Elevation \$4,227,236.00 • FY18 FMA Residential Non-Historic Elevation \$4,172,098.39 • FY18 FMA Non-Residential Elevation \$337,150.00 • FY18 SRL-PJ-06-LA-2012-009 \$1,792,928.00 • FY17 FMA Elevation (52 properties) \$12,451,579.52 • FY17 Multi-Jurisdictional Hazard Mitigation Plan Project \$345,150.00 • FY 2013 FMA Elevation (36 properties) \$7,410,818.00 • 1603/1607 HMGP (8 grant applications, 50+ properties) \$21,349,250.00 • 1607 HMGP Mirabeau Gardens Stormwater Management and Flood Mitigation BCA.... \$23,469,698.00 • 1603 HMGP Broadmoor Stormwater Drainage BCA..... \$55,666,026.00 • 1603 HMGP City Park/Lakeview Drainage Project BCA \$2,316,000.00 • 1603 HMGP St. Roch Drainage Project BCA \$7,500,000.00 	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2024 (estimates)	\$195,494,630	\$195,494,630

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PROJECT NO. 10		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352), Bucktown Marina Vision Plan Preparation, Jefferson Parish, LA,</p> <p>Jefferson Parish Government Maggie Talley, Director Department of Floodplain Management and Hazard Mitigation 1221 Elmwood Park Boulevard, Suite 310 Jefferson, LA 70123 mtalley@jeffparish.net (504) 736-6540</p>	<div style="background-color: #0056b3; color: white; padding: 5px; border: 1px solid #ccc;"> <p><u>Applicable Experience</u></p> <ul style="list-style-type: none"> Coordination with Parish Alternative Analysis and Solution Benefit Cost Analysis Public Engagement Project Scoping Cost Estimating Surveying Management </div>	<p>BBEC oversaw the preparation of the Vision Plan for the Bucktown Marina Harbor. The study started with an existing conditions assessment which included pre-work data collection including boundary and topographical survey, aerial photography, Bathymetric data, studies, reports and/or condition surveys of in-water facilities and other existing buildings and facilities found at the project site, studies and information on the quality and condition of site environmental habitat, regulations pertaining to local land use, environmental protection, watershed protections, storm water detention, and other related data, studies, reports, and mapping on internal and external roadways and traffic volumes, planned roadway improvements, design criteria and other related information, studies, reports, mapping and/or other engineering information on site infrastructure serving the site, potable water and wastewater plant capacities, utilities design criteria and other related data, and site ownership and easements. A project kick-off meeting was then held to confirm project communication chain of command, goals and objectives, project schedule and issues discussion, present early base maps and graphics for review, and complete initial inventory of project stakeholders. An existing conditions analysis was then done using the assembled data. Upon completion of the analysis, a market assessment was then prepared reviewing the Marina and other related marine activities. Upon completion of the market assessment, research began to determine the needs for Bucktown Marina and the Lakefront. Based on all of the research an Initial and then final Bucktown Marina Vision Plan was completed and submitted.</p>
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2018 (actual)	\$90,800 (fee)	\$90,800 (fee)

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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.



Barowka and Bonura Engineers and Consultants, L.L.C. is an engineering consulting firm specializing in civil engineering design, construction management, grant management, and computer consulting services. BBEC's Project Team has substantial experience in all aspects of public works projects. Our staff has specific experience in project development, drainage design, construction management, hydraulic and hydrologic modeling and alternative project evaluation. Our drainage design experience includes numerous projects including drainage pipe, cast-in-place conduit (closed and open), and roadway culvert crossings of all kinds. Our project experience includes the necessary environmental permitting and property acquisition necessary to get any project done.

BBEC also has substantial experience in helping drainage projects achieve the necessary Benefits-Cost Analysis score to receive federal funding. Our premier project for BCA and drainage basin coordination is our FEMA HM Consultants for the City of New Orleans (Section L, Project #9, Pages 48-49) where the City was at risk of losing about \$110,000 in funding for five major drainage projects due to the inability to achieve the needed BCA score. The City issued BBEC task orders to review the projects and work product of the individual design professionals. Due to BBEC's vast understanding of the BCA development process and

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hydrology and hydraulic of drainage systems, we worked with the design professionals to adjust their drainage basins and models to incorporate areas that provided need “benefits” to improve the BCA score. All five projects received the needed BCA score to proceed with funding.

PROJECT UNDERSTANDING

Jefferson Parish has secured funding through FEMA’s FY 2020 Building Resilient Infrastructure and Communities (BRIC) grant cycle for project scoping to reduce flood risk and subsidence by identifying stormwater management solutions, with an emphasis on green infrastructure, in the Bucktown neighborhood of Metairie. For the project to be successful, the resulting project scope will incorporate Hydraulics and Hydrologic (H&H) modeling to enhance the existing drainage structures with green infrastructure components that will provide a more resilient infrastructure resulting in flood reduction and stormwater management improvements for the Bucktown neighborhood. In order to make the project scoping successful, responsive to the needs of the Parish and the residents and business owners of the Bucktown neighborhood, and competitive with respect to future FEMA BRIC application cycles, the project will adhere to the following guiding principles: Community Capability and Capacity Building, Encourage and Enable Innovation, Promote Public and Private Partnerships and Equity, Maintain Flexibility, and Provide Consistency in the overall approach to the construction of the proposed project. BBEC will coordinate a public comment period to receive necessary input which can be incorporated into the project scoping development. A significant factor in scoping a project that will be successful in forthcoming BRIC application cycles will be the successful completion of a competitive Benefit Cost Analysis (BCA) that will result in a benefit cost ratio (BCR) of 1.0 or greater, recognizing that multiple sources of benefits may need to be considered to generate a competitive BCR. Also, the BBEC approach will incorporate necessary messaging of the models produced for this scoping project, along with modifications to the existing drainage infrastructure, that will enhance the BCA to achieve maximum benefits. Since the application cycle for FEMA’s BRIC grant program opens on September 30 and closes at the end of January the following year, BBEC recognizes that time is of the essence and that developing a competitive project scope to support applications that meet this timeline and any earlier deadline dates required for submission to the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) is necessary for a successful completion of the scoping project.

COORDINATION WITH PARISH DEPARTMENTS

BBEC has been working under contract with Jefferson Parish continuously for 25 years. Before that, BBEC’s owner and senior project engineer, Jeffrey Bonura, P.E., worked almost exclusively for Jefferson Parish 9 years prior to that. Over the past 34 years BBEC worked extensively with all Parish Departments. Generally, our computer technology and geographic information systems (GIS) contract for over 20 years provided us with a great working relationship with all the Parish Departments. For over 20 years, we have been helping the Parish Departments develop and maintain their GIS layers, including planning and zoning layers; water, sewerage, drainage, and streets layers; and flood plain management layers.

Similarly, our 34 years of engineering experience for Jefferson Parish provides us with a similar great working relationship with the Public Works Departments. Further, we assisted the Parish’s Floodplain Management & Hazard Mitigation Department for (4) years under contract; and have been assisting the Parish’s Floodplain Management & Hazard Mitigation Department and Ecosystem and Coastal Management Departments for years sharing expertise and ideas regularly assisting the departments succeed in their pursuits and projects.

ADVANCED H&H MODELING

BBEC has substantial experience in developing hydrologic and hydraulic (H & H) models utilizing numerous modeling software coupled with GIS information to develop optimum drainage systems. Sample relevant projects include:

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- Lake Avenue and Carrolton Avenue (Bucktown Area) Drainage Study, Jefferson Parish, LA
- Cleary Roadway and Drainage Improvements, Jefferson Parish, LA
- Guichard Canal Drainage Evaluation, St. Bernard Parish, LA
- Map Modernization Program (modeled to FEMA flood mapping specifications), St. Bernard Parish, LA
- Harvard Avenue Drainage Improvements
- Sanitary Landfill Site Drainage, Jefferson Parish, LA
- Ames Boulevard Drainage Improvements, Jefferson Parish, LA
- Sunset Drainage District (Convert HEC-1 and HEC-2 models to HEC-RAS and HEC-HMS models), Jefferson Parish, LA
- Manson Ditch/Lower Kraak Outfall Improvements, Jefferson Parish, LA
- Digital Flood Insurance Rate Map, Jefferson Parish, LA

We emphasize the Lake Avenue and Carrolton Avenue (Bucktown Area) Drainage Study project, citing that the project is the exact same area as the current SOQ. We are very familiar with the traffic and drainage patterns in the area. It also provides us the opportunity to evaluate any subsidence impacts, being able to compare topographical data from the past and current projects.

We emphasize the Jefferson Parish DFIRM, St. Bernard Parish DFIRM projects, and the Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals projects, citing that those projects required the modeling and floodplain analysis be performed to strict FEMA requirements. The Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals project performed the H & H modeling, alternative analysis, and project scoping which eventually led to the approval of FEMA hazard mitigation funding.

ALTERNATIVE ANALYSIS AND SOLUTION

In each of BBEC's H & H Modeling projects mentioned above, BBEC performed multiple iterations of mode runs to identify problem areas and determine feasible solutions to the identified problems. Our experience with performing design and construction engineering services on a multitude of public works (water, sewerage, drainage, and streets) projects enables us to identify and evaluate realistic and cost feasible alternatives. We have included T. Baker Smith and Desire Line, LLC on our Project Team to help add the needed Green Infrastructure component to our alternatives.

In our specific experience in the Bucktown area, we identified a gravity drain line method to address the stormwater problem, as opposed to an energy and maintenance intensive drainage pumping station.

In our Hazard Mitigation projects, we reviewed other design professional's H & H models to identify possible adjustments to improve the project BCA score. In the reviews, we identified additional project alternatives to continue to resolve the drainage issues; but to also resolve the BCA score issue to achieve the needed 1.0 or better score.

With our experience in helping Jefferson and its neighboring parishes with their various FEMA hazard mitigation programs, we've identified and utilized various non-structural risk reduction measures, including building elevations and wet and dry flood-proofing.

BENEFIT COST ANALYSIS

Benefit-Cost Analysis (BCA) is a method that determines the future risk reduction benefits of a hazard mitigation project and compares those benefits to its costs. The result is a Benefit-Cost Ratio (BCR). A project is considered cost-effective when the BCR is 1.0 or greater. BBEC will perform the BCA using the information

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derived from the H&H models to establish a baseline benefit value. Based on the anticipated total project costs for the project, which will be estimated using best available practices, the benefits necessary to make the project meet minimum requirements for hazard mitigation grant program eligibility will be calculated. Keeping the final BCR in mind, adjustments will be made to the modeling to ensure that the BCR not only meets the minimum requirements but also provides enough of a buffer to ensure that any future design considerations and/or adjustments to construction costs due to inflation or supply chain/labor shortages will guarantee that the project will remain cost beneficial. BBEC has successfully used numerous methods to calculate the required BCR and producing the required BCA for projects funded by FEMA HMGP, FMA, PDM, and BRIC grant programs. These methods have included the spreadsheet approach and FEMA's Benefit Cost Analysis Toolkits including versions 5.3 and 6.0. While some projects, due to the complexity of the project or the overall number of structures that will be included in the analysis, may require a combination of these approaches, BBEC has demonstrated its ability to reach the required BCR for projects that were often initially determined to not to be cost reasonable by others. BBEC experience, diversity of approach, and understanding of what maximizes the benefits for various types of projects makes it well suited for performing this service for Jefferson Parish for the Bucktown Scoping Grant project.

PUBLIC ENGAGEMENT

BBEC has been assisting Jefferson Parish with Public Engagement since the Parish-wide Jeff2000 effort over 20 years ago to the Bucktown Marina Vision Plan of recent; and, we have assisted Jefferson Parish with Public Engagement for its Hazard Mitigation home elevation and its Hazard Mitigation Plan for several years in-between.

Our Public Engagement experience for Jefferson Parish includes mass mailouts to residents and businesses, web ads and applications, social media engagement, and public presentations (including location procurement, setup, displays and props, and presentations). We have specifically included Ms. Alexandra Gelpi Carter, AICP, with Desire Line, LLC on our Project Team, whose home and office is in Bucktown, to assist us with the Public Engagement (and green Infrastructure) parts of the project.

PROJECT SCOPING, ENGINEERING AND COST ESTIMATING

The subject of "Project Scoping" is two-fold: 1.) Developing a general feasible project scope, and 2.) Developing a project scope that meets FEMA's criteria, including scoring the needed BCA of 1.0 or better.

BBEC has in-depth knowledge and experience with accurate cost estimates for Jefferson Parish and surrounding Parishes projects. Our staff members include personnel skilled in estimates that provide detailed cost estimates for the majority of our projects. We adhere to national cost estimating standards to prepare "fair and reasonable" construction cost estimates. Our team also provides extensive construction expertise to augment and ground-truth cost estimating, scheduling, and constructability review activities.

Cost estimates developed for specific projects are covered in the individual projects addressed in other sections of this SOQ.

Regarding FEMA Funded projects, BBEC has developed project scopes and cost estimates meeting the strict FEMA requirements for funding, including back and forth iteration with the BCA Application to achieve the needed BCA score of 1.0 or better.

SURVEYING MANAGEMENT

BBEC has developed detailed scopes of work for surveying firm's to provide the needed survey data to develop a H&H model, including a detailed scope of work needed to develop an H&H model for the Bucktown

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area. BBEC is familiar with the survey requirements needed to perform the floodplain analysis after the H&H model to display the results. Each of our H&H modeling projects required us to develop scopes and manage the survey efforts, including quality control. Our JP DFIRM, SBP DFIRM, Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals, and Coast Guard Road projects required the following floodplain analysis as requested for those FEMA funded projects.

GEOTECHNICAL MANAGEMENT

In our 34 years working with Jefferson Parish, most of our projects require geotechnical engineering services. Our services included developing scope of work for and coordinating work with geotechnical engineering professionals. We teamed with Eustis Engineering, Inc. (Eustis), whose experience in Jefferson Parish in geotechnical engineering is second to none. Eustis further has geotechnical engineering experience with specific green infrastructure design, as described in its St. Anthony Green Streets project initiated to reduce flooding and subsidence risks in the New Orleans Gentilly resilience district.

1. PROFESSIONAL TRAINING AND EXPERIENCE IN RELATION TO STORMWATER MANAGEMENT, INCLUDING PLANNING, DESIGNING, AND IMPLEMENTING GREEN INFRASTRUCTURE AND OTHER STORMWATER BMP'S, HYDROLOGIC AND HYDRULIC MODELING, BIOLOGICAL AND ENVIRONMENTAL ASSESSMENTS, DESIGN ANALYSIS AND REPORTS, TECHNICAL EVALUATIONS, COST ESTIMATES, FIELD INVESTIGATIONS, GRANT WRITING, AND OUTREACH AND EDUCATION SUPPORT,

The Firm's qualifications and experience are demonstrated in the following desired qualifications:

EXPERTISE AND APPLICABLE CREDENTIALS IN FEDERAL PROGRAM MANAGEMENT, CIVIL ENGINEERING, WATER RESOURCES ENGINEERING, LANDSCAPE ARCHITECTURE AND URBAN PLANNING

BBEC performed Program Management services on several federally funded programs in southeast Louisiana.

- BBEC provided Program Management services to St. Bernard Parish after Hurricanes Katrina, Rita, Gustav, and Ike. The projects included water, sewerage, drainage, and roadway repairs and improvements; transitioning flood-prone areas to green-space (including private property buy-out); debris removal; and the demolition of private and public structures. The overall cost of the program managed by BBEC was over \$600 million.
- BBEC provided Program Management services to the State created Louisiana Land Trust, LLC to address all the private properties purchased by the State after Hurricane Katrina through its Road Home Program. The program was funded by U.S, Department of Housing and Urban Development grants, and cost over \$80 million. The work included managing the properties, demolition of structures, slab removal, coordination with EPA and LDEQ in order to maintain compliance with the Clean Water Act (stormwater pollution prevention planning). The effort required us to develop and maintain best stormwater management practices to demolish thousands of structures using federal funding.

BBEC has been performing civil engineering services for 25 years. We have 4 licensed civil engineers on staff, as well as the necessary support personnel. We have teamed with T Baker Smith, LLC (TBS), with their 27 licensed civil engineers and 233 support staff, to support our efforts where needed in the project. Much of our engineering experience is for water resources projects as demonstrated in ours and TBS's project lists.

TBS will support the project in its Landscape Architecture needs. Desire Line, LLC will help with the needed urban planning.

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EXTENSIVE EXPERIENCE MANAGING COMPLIANCE FOR FEDERAL FUNDING RESOURCES INCLUDING BUT NOT LIMITED TO FEMA PA, FEMA HMGP, FEMA HMA, CDBG-DR, AND CDBG-MIT FUNDS

BBEC staff is fully versed in the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP), including the Flood Mitigation Assistance Program (FMA); in addition, we are experienced in other federal grant programs, such as the FEMA's Public Assistance (PA) Grant Program, U.S. Department of Transportation's Emergency Road Program under the Federal Highway Administration (FHWA), and the HUD Community Development Block Grant Program (CDBG). BBEC has considerable experience in the execution of federal grant-funded projects and adhering to the requirements and standards of the grant administering agency. BBEC provided various stages of grant assistance for FEMA and HUD funded projects for over \$750 million in grants.

Our experience includes managing and procuring contractors and coordinating the work with the Environmental Protection Agency (EPA), FEMA, Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), U.S. Department of Housing and Urban Development (HUD), Louisiana Department of Environmental Quality (LDEQ), State Historic Preservation Office (SHPO), U.S. Army Corps of Engineers (USACE), U.S. Department of Transportation (USDOT) and other State and Federal agencies. We have substantial experience in working with all agencies in developing, processing, and obligating the necessary project worksheets so that funding of the project occurs.

BBEC has also assisted its clients in obtaining its federal grants, maintaining compliance with the grants, securing the reimbursements, and addressing comments generated by the audits at close-out of the grants when necessary. Our administrative, accounting, and computer programming staff are very familiar with the record keeping necessary for FEMA funded projects. BBEC has automated record keeping, tracking and document management systems in place that we developed specifically for FEMA and HUD projects.

EXTENSIVE EXPERIENCE WITH STORMWATER MANAGEMENT PLANNING AT LOCAL PARISH AND REGIONAL SCALES IN LOUISIANA

BBEC completed multiple similar projects for Jefferson and its surrounding parishes as described in this SOQ. Each project included many or all of the same components including coordination with Parish, advanced H & H modeling, alternative analysis, benefit cost analysis, public engagement, project development, cost estimates, surveying management and geotechnical management.

BBEC performed the Lake Avenue and Carrollton Avenue (Bucktown Area) Drainage Study, which project limits were from Chickasaw Avenue to the Parish-line Canals, and from Veterans Memorial Boulevard to Lake Pontchartrain. For this project, we performed the survey management, developed an H & H drainage model, developed various alternatives with cost estimates to improve the drainage system, and performed preliminary design phase services for parts of the improvements.

BBEC performed similar H & H modeling services for FEMA Hazard Mitigation or Map Modernization Program funded projects where surveying, H & H modeling, and project development services were performed; but, since the project was funded by FEMA the work was performed to FEMA's strict guidelines. The projects required BBEC to perform substantial floodplain mapping and analysis, utilizing available and project developed GIS data.

Further, BBEC assisted Jefferson Parish for several years successfully receiving FEMA Hazard Mitigation Grants and continues to assist Jefferson's surrounding Parish's secure FEMA Hazard Mitigation and now BRIC grants. We are currently helping St. Charles Parish, Lafourche Parish, Terrebonne Parish, and the City

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of New Orleans with their FEMA HM and BRIC programs and applications.

Our core cost-effective analysis, design, construction, and operation of hydraulic systems experience exceeds 30 years. Similar projects performed related to modeling and drainage system improvements by BBEC include:

- Lake Avenue and Carrollton Avenue (Bucktown Area) Drainage Study, Jefferson Parish, LA
- Bissonet Plaza Master Drainage Plan, Jefferson Parish, LA
- Waggaman Area Drainage Study, Jefferson Parish, LA
- Cleary Avenue Roadway and Drainage Improvements, Jefferson Parish, LA
- Avondale/Bridge City Drainage Evaluation (Area between the Mississippi River and the Union Pacific Railroad, from Huey P. Long Bridge to Avondale Garden Road), Jefferson Parish, LA,
- Digital Flood Insurance Rate Map, Jefferson Parish, LA
- Map Modernization Project (DFIRM) (Contract No. EMT-2005-CA-0110) (2003 Contract), St. Bernard Parish, LA
- Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352), Bucktown Marina Vision Plan Preparation, Jefferson Parish, LA
- Harvard Avenue Drainage Improvements, Jefferson Parish, LA
- Ames Boulevard Roadside Drainage Improvements, Jefferson Parish, LA
- Manson Ditch and Lower Kraak Outfall System Improvements, Jefferson Parish, LA
- Bayou Gauche Drainage Analysis, St. Charles Parish, LA
- Cypress Park Subdivision Drainage Evaluation, St. Tammany Parish, LA
- Guichard Canal Area Drainage Evaluation, St. Bernard Parish, LA
- HMGP Elevation of Coast Guard Road, Phase I (Project No. 1603x-075-0010), (Funding Source: FEMA Hazard Mitigation Grant Program), Plaquemines, Parish, LA
- Plaza Drive Area Drainage Evaluation, St. Bernard Parish, LA,
- LA-45 Evacuation Route Basin Drainage Study, Lafitte Area Independent District, LA
- Widening / Stabilization of Congressman Hebert, Creely, and Bluebird Canals (Hazard Mitigation Grant Program (HMGP)), St. Bernard Parish, LA
- Goodbee Pond, St. Tammany Parish, La.

EXTENSIVE EXPERIENCE PLANNING, DESIGNING, AND IMPLEMENTING GREEN INFRASTRUCTURE AND OTHER STORMWATER BMP'S IN SOUTH LOUISIANA

As mentioned above, TBS will support the project in its Landscape Architecture needs. TBS has performed green infrastructure projects throughout southeast Louisiana. TBS also provided engineering services related to Jefferson's Bucktown Boardwalk and Overlook project, providing them with valuable information regarding the wants and desires of Jefferson Parish and its residents in that neighborhood.

Desire Line, LLC will also support the project as needed, in regard to, green infrastructure planning. Desire Line, LLC recently completed its role in Jefferson's Code and Integrated Green Infrastructure Strategy project giving them firsthand knowledge of Jefferson's green infrastructure wants and needs.

EXTENSIVE EXPERIENCE ASSISTING COMMUNITIES IN THE DESIGN AND IMPLEMENTATION OF NON-STRUCTURAL FLOOD RISK REDUCTION MEASURES

BBEC has been involved in several projects in which the design and implementation of non-structural flood risk reduction measures have been incorporated. Specifically, we have managed the implementation of wind retrofits to the Jefferson Parish East Bank Consolidated Fire Department Headquarters, the Kenner Police Department Headquarters, as well as the wet-floodproofing of several historic residential structures within the

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City of New Orleans. BBEC has also been involved in the feasibility analysis of dry-floodproofing methods for structures such as the Broad Theater in New Orleans. While the ultimate conclusion was that the dry-floodproofing effort was infeasible, BBEC did explore several different methods including the elevation of interior components of the building, automatic perimeter flood barriers, and other automatic flood gates. BBEC has also been involved in the implementation of green infrastructure components which retain flood waters in underground storage areas for later infiltration into the adjacent ground water after the flood waters have receded.

DEMONSTRATED HISTORY OF UNDERSTANDING HOW TO SATISFY MULTIPLE COMMUNITY DEMANDS DURING THE INFRASTRUCTURE PLANNING AND DESIGN PROCESS

Our projects are normally generated by community demands. Once funded, we encourage our clients to identify other potential community demands, so they can be addressed at one time. Some of our projects require us to perform community engagement tasks, such as our Bucktown Marina Vision Plan project or our FEMA HM Funded projects. In each case, multiple community demands are considered and addressed in one planned construction project, so the community is inconvenienced only once, and restoration costs are spent only once.

Further, our history of understanding and project experience are directly embedded in our staff. What follows are a list of key individuals anticipated for the project with brief resumes. Complete resumes are provided in Section K.

Mr. Jeffrey Bonura, P.E., (34 years of experience), Owner and Supervising Engineer for BBEC provides quality control and assurance for all BBEC projects. Mr. Bonura has been working with computer-based hydraulic models since 1988. Mr. Bonura has experience in HEC-1, HEC-2, HEC-RAS, HAEC-HMS (including converting HEC-1 and HEC-2 models to HEC-HMS and HEC-RAS systems), SWMM, StormCAD, SewerCAD, HydroCAD, Flowmaster, TR-55, and other package hydrologic and hydraulic modeling software packages. He has and continues to write his own hydraulic modeling programs for special cases. Mr. Bonura spot checks the modeling by hand for model verification. Mr. Bonura also has substantial experience analyzing hydraulic and operating conditions of existing pump stations, including the configuration of suction and discharge basins.

Mr. Bonura has taken the raw input data from an old Kentucky Pipe Model for the entire Jefferson Parish water distribution system, added it to tables from the Parish's GIS, and developed a working geographical hydraulic model for the entire Jefferson Parish. Mr. Bonura extracted the raw input data from old HEC-1 and HEC-2 models in St. Charles Parish and inserted the data into HEC-RAS and HEC-HMS and verified the results between the two models. Mr. Bonura has substantial experience using computer models such as Storm CAD and Storm and Sanitary Select CAD to evaluate drainage systems and determine the optimum design for the site conditions. Mr. Bonura used computer models for the design of the aforementioned Cleary Avenue, Coast Guard Road, Harvard Avenue, and the Widening/Stabilization of Congressman Hebert, Creely, and Bluebird Canal projects, as well as to evaluate drainage conditions along Ames Boulevard and the Bucktown area in Jefferson Parish, Cypress Park Subdivision in St. Tammany Parish, and Guichard Canal area in St. Bernard Parish.

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 recent completion of the hydrologic and hydraulic modeling of the area associated with our Waggaman Hydraulic Study and the completion of the Bissonet Plaza Master Drainage Plan in Jefferson Parish. He is currently working on the Widening/Stabilization of Congressman Hebert, Creely, and Bluebird

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Canals in St. Bernard Parish and the Drainage and roadway improvements described herein.

- **Mr. Craig Comeaux, C.F.M.** (19 years of experience) has successfully managed or been significantly involved in nearly 100 federal recovery projects in a program management capacity throughout South Louisiana. These projects involve FEMA Public Assistance Grants, FEMA Hazard Mitigation Grants, and U.S. Department of Housing and Urban Development Community Development Block Grants. Mr. Comeaux worked extensively in coordination with FEMA, GOHSEP, Office of Community Development, and local Parish groups to manage over \$700 million in project funds, including oversight of project inspection. Mr. Comeaux recently completed the Technical Assistance for Floodplain Management, Community Rating System, and Hazard Mitigation Related Services for Jefferson Parish where he worked with local officials to assist with Education and Outreach projects, activities to assist with meeting CRS points, edits and updates to flood maps, analysis of NFIP policies, and the planning process for the Parish's multi-jurisdictional Hazard Mitigation Plan.
- **Mr. Thomas Rodrigue, C.F.M.** (20 years of experience), has experience as a Floodplain Manager and Hazard Mitigation Specialist for both Parish Government and the civilian sector as a consultant for a private company in the above fields. Mr. Rodrigue became a Floodplain Manager in May of 2001 and became a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM) in April 2004. He has been involved in the FEMA Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, Building Resilient Infrastructure and Community (BRIC) Program, and the Severe Repetitive Loss (SRL) grants for Parish and the private company. Mr. Rodrigue recently assisted with the development of the Hazard Mitigation Plan and the enhancement of the Community Rating System for the Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services project in Jefferson Parish.
- **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.

BBEC teamed with TBS and Desire Line to complement our staff's abilities for the subject project. What follows are TBS and Desire Line's professionals available and anticipated for the project, with brief resumes highlighting their relevant experience. Complete information regarding TBS and Desire Line are provided in their attached TEC Professional Services Questionnaire.

- **Ms. Alex Gelpi Carter, AICP**, (13 years of experience), has substantial experience in Policy development and implementation support to achieve long-term resilience objectives, in alignment with green infrastructure principles, available hazard mitigation data and modeling, FEMA CRS standards and point classifications. She drafted the Stormwater and Green Infrastructure Plan and Code Update, and provided public presentations and materials in coordination with a local Project Technical Committee for Jefferson Parish.
- **Mr. Brian E. Moldaner, PE, MBA**, (11 years of experience), is the engineering lead professional of the Metairie office and a project manager skilled at coordinating projects involving various disciplines including engineering, surveying and environmental services. He performs project management duties that include service fee proposals, coordination of engineering design professionals and technicians, creating project management plans, coordinating sub-consultants, and coordinating survey and

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environmental field crews. As a professional engineer, Brian manages and delivers complete plan sets for civil projects, including site developments, roadways, drainage systems, bridges, pipelines, and utilities. He is engaged in all aspects of the project from conceptualization through construction and operation and will use his management experience to deliver a quality project.

- **Mr. Matthew Thornong, PLA**, (16 years of experience), responsibilities include managing design, planning layouts, plan production, meeting deadlines and site construction management, as well as obtaining plan approval from regulatory agencies for municipal districts, parish, and city projects. He is also experienced in coordinating project design for clients, including public and private land developers and recreational facilities. Matt has experience in the planning and design of green infrastructure drainage programs, airports, comprehensive plans, park master plans, recreation facilities, passive parks, wall systems, hike and bike trails/sidewalks, boulevard landscape design, monument entry, and Splash N Play parks.

2. SIZE OF FIRM

The firm's staff consists of 19 professional, technical, and clerical personnel capable of handling project and administrative tasks; all of which are available to work on the project. Recognizing the project could require additional staff with specific knowledge and experience BBEC teamed with TBS, Desire Line, and Eustis to complement our staff.

For this project, we hopefully would start near July of 2022, allowing time for selection, contract negotiation, and contract signing. We expect the project to require an overall project/client manager, a GIS Technician used periodically, as needed, (1) H&H modeler, (1) drainage project engineer, and support staff. BBEC will provide the project manager, one modeler, and the GIS Technicians and support staff as needed. TBS will provide the surveying, green infrastructure, additional engineering support, and the landscape architect. Desire Line, LLC will assist with the planning (including green infrastructure) and public engagement. Mr. Bonura will manage the project through completion, making sure that all requirements of the project are met.

3. CAPACITY FOR TIMELY COMPLETION OF NEWLY ASSIGNED WORK/CURRENT UNFINISHED WORKLOAD/AVAILABLE PROFESSIONAL AND SUPPORT PERSONNEL

BBEC has substantial experience in working on many public works projects in Jefferson Parish. We have worked as a company for the Parish for 25 years, and Mr. Bonura worked an additional 10 years on Parish projects before that. Over the years, BBEC successfully performed well over \$100 million in fees of engineering and engineering related projects for various entities and municipalities throughout southeast Louisiana. The work performed included surveying management, H & H modeling, project design and development, floodplain analysis and hazard mitigation, geographic information systems, alternative analysis and solution, benefit cost analysis, geotechnical management, stormwater management planning, coordination with Parish and others. Our experience also includes 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 (master's 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

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projects and win new work and manage our projects accordingly to finish every project timely.

Regarding the potential floodplain analysis and grant application needs, we have two Certified Floodplain Managers and four FEMA grant specialists available to help with 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.

4. PAST PERFORMANCE BY PERSON OR FIRM ON PROJECTS OF OR SIMILAR COMPARABLE SIZE, SCOPE, AND SCALE/ASSERTIONS OF FAULT

Our proposed Project Manager performed several modeling projects for Jefferson Parish, namely, Harvard Avenue Drainage, Lake Avenue and Carrolton Avenue (Bucktown Area) Drainage Study, Cleary Avenue Drainage, and Waggaman Drainage. Mr. Bonura also managed the parish-wide drainage model for St. Bernard Parish to update its FIRMs and performed similar multi-subdivisions drainage model project for other parishes. Kevin Forschler has modeling experience, working on many of the projects with Mr. Bonura. Mr. Forschler also performed BBEC's portion of the Bissonet Drainage Master Plan in gathering data, reviewing the Parish's existing SWMM model, and developing the existing conditions model for the watershed. Mr. Forschler is currently performing the modeling services for the Avondale/Bridge City project.

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

Relevant projects previously completed or currently being worked on specifically for Jefferson Parish include:

- Ames Boulevard Roadside Drainage Improvements
- Canal Monumentation Program, Jefferson Parish, LA
- Lake Avenue and Carrolton Avenue (Bucktown Area) Drainage Study
- Cleary Avenue Roadway and Drainage Improvements
- Harvard Avenue Drainage Improvements, Project No 99-046-DR and 99-046A-DR, (Funding Source: Community Development Block Grant)
- Waggaman Area Drainage Study (Project No. 2011-03-DR)
- 2014 Hazard Mitigation Assistance (HMA) Grant Management Services
- Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352)
- Drainage Pump Station Fuel Storage Secondary Containment
- Labarre Road Back-to-Back U-Turn Intersection Improvements (West Esplanade Avenue/North Labarre Road)
- Manson Ditch and Lower Kraak Outfall System Improvements
- West Napoleon Avenue Improvements, Cleary Avenue to Severn Avenue, (LA DOTD Project No. 742-07-0088)
- Sanitary Landfill Stormwater Detention
- Underground Storage Tank Improvements Program
- Digital Flood Insurance Rate Map

BBEC performed many other engineering projects for Jefferson Parish unrelated to H&H Modeling and FEMA validated benefit cost analysis; therefore, they are not listed.

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Mr. Comeaux, CFM has been involved in the preparation and review of Benefit Costs Analysis reports for Green Infrastructure projects for the City of New Orleans, including the Mirabeau Gardens Green Infrastructure and the City Park Green Infrastructures projects. In this role, Mr. Comeaux managed the collection of data necessary to calculate the benefit cost ratio and assisted in the preparation of the Benefit Costs Analysis and report. He has worked with local governments and their Capital Projects staff to assist with the Benefit Cost Analysis of several projects that FEMA had determined were not cost reasonable. He worked with department staff and the assigned project engineer to collect data, analyze the results, and then prepare and justify a benefit cost analysis that would meet FEMA's requirements of at least a 1:1 ratio between project costs and benefits. This has resulted in the FEMA's approval of nearly \$100 million in construction costs for the City of New Orleans. Over the last several years, he has successfully developed the applications for the projects listed on the following table and is currently managing many of these projects through mitigation.

Client	Year Submitted	Year Awarded	\$ Amount	#	HMA Grant	Grant ID #	Project Type	Status
City of New Orleans Austin Feldbaum (504) 658-8740	2021		\$10,730,860.00	50	FMA		Elevation - SRL Structures	Submitted Application
City of New Orleans Austin Feldbaum (504) 658-8740	2021		\$11,684,737.00	48	FMA		Elevation - SRL Structures	Submitted Application
City of New Orleans Austin Feldbaum (504) 658-8740	2021		\$205,835.00	1	FMA		Reconstruction - RL Structure	Submitted Application
City of New Orleans Austin Feldbaum (504) 658-8740	2021		\$13,070.71	N/A	BRIC		Audubon Golf Course Community Flood Mitigation Project	Phase I and II Request BBEC - BCA Only
St. Charles Parish Carla Chiasson (985) 783-5000	2021		\$6,367,899.00	36	FMA		Elevation - SRL Structures	Submitted Application
Lafourche Parish Lionel Lagarde, Jr. (985) 493-6673	2021		\$691,087.00	3	FMA		Elevation - RL Structures	Submitted Application
Terrebonne Parish Jennifer Gerbasi (985) 873-6565	2021		\$393,224.00	1	BRIC		Saferoom Construction	Submitted Application
City of New Orleans Austin Feldbaum (504) 658-8740	2020		\$14,200,582	58	FMA	EMT-2020-FM-053-0030	Elevation - SRL Structures	Identified for Further Review
City of New Orleans Austin Feldbaum (504) 658-8740	2020		\$475,151	2	FMA	EMT-2020-FM-053-0014	Reconstruction - SRL Structures	Identified for Further Review
St. Charles Parish Carla Chiasson (985) 783-5000	2020		\$6,055,422	33	FMA	EMT-2020-FM-053-0006	Elevation - SRL Structures	Identified for Further Review
Terrebonne Parish Jennifer Gerbasi (985) 873-6565	2020		\$953,245	3	FMA	EMT-2020-FM-053-0003	Elevation - SRL Structures	Identified for Further Review

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Terrebonne Parish Jennifer Gerbasi (985) 873-6565	2020		\$179,412	1	FMA	EMT-2020-FM-053-0017	Elevation - RL Structures	Identified for Further Review
City of New Orleans Austin Feldbaum (504) 658-8740	2019	2021	\$6,308,246	29	FMA	FMA-PJ-06-LA-2019-003	Elevation	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2019	2021	\$8,438,022	31	FMA	FMA-PJ-06-LA-2019-002	Elevation of Historic Structures	Under Construction
St. Charles Parish Carla Chiasson (985) 783-5000	2019	2021	\$5,605,602	31	FMA	FMA-PJ-06-LA-2019-007	Elevation	Under Construction BBEC - Application Development Only
Lafourche Parish Lionel Lagarde, Jr. (985) 493-6673	2019	2021	\$749,891	4	FMA	FMA-PJ-06-LA-2019-034	Elevation	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2021	\$4,227,236	20	FMA	FMA-PJ-06-LA-2018-006	Elevation of Historic Structures	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2020	\$337,150	1	FMA	FMA-PJ-06-LA-2018-008	Elevation of Non-Residential Structure	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2020	\$4,172,098	22	FMA	FMA-PJ-06-LA-2018-005	Elevation	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2018	\$1,131,195	11	HMGP	1786 Statewide Application	Generator	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2018	\$23,469,698	N/A	HMGP	HMGP 1607-071-0022	Mirabeau Gardens Stormwater Management	In Design BBEC - BCA Only
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2018	\$55,666,026	N/A	HMGP	HMGP 1603-071-0034	Broadmoor Drainage Improvements	Phase II Request BBEC - BCA Only
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2018	\$7,500,000	N/A	HMGP	DR-1603-LA Project F429	St. Roch Drainage improvements	Phase II Request BBEC - BCA Only
City of New Orleans Austin Feldbaum (504) 658-8740	2018	2018	\$2,316,000	N/A	HMGP	HMGP 1603-071-0047	Lakeview-City Park	Phase I Request BBEC - BCA Only
Terrebonne Parish Jennifer Gerbasi (985) 873-6565	2018		\$1,779,298	N/A	PDM	PDMC-PJ-06-LA-2017-009	Westside/Alma Drainage Improvement Project	Identified for Further Review

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Terrebonne Parish Jennifer Gerbasi (985) 873-6565	2018	2018	\$255,455	2	FMA	FMA-PJ-06-LA-2017-024	Elevation	Under Construction
City of New Orleans Austin Feldbaum (504) 658-8740	2017	2020	\$345,150	N/A	PDM	PDMC-PJ-06-LA-2017-004	Hazard Mitigation Plan Update	BBEC - Application Development Only
City of New Orleans Austin Feldbaum (504) 658-8740	2017	2019	\$12,451,579	52	FMA	FMA-PJ-06-LA-2017-002	Elevation	Under Construction
St. Charles Parish Carla Chiasson (985) 783-5000	2017	2019	\$1,606,584	11	FMA	FMA-PJ-06-LA-2017-018	Elevation	Under Construction BBEC - Application Development Only
St. Charles Parish Carla Chiasson (985) 783-5000	2017	2019	\$63,450	N/A	PDM	FMA-PJ-06-LA-2017-002	Hazard Mitigation Plan Update	Plan Approved by FEMA BBEC - Application Development Only

TBS has demonstrated in their attached SOQ that they have completed relevant survey, green infrastructure, and landscape architectural projects. Similarly, Desire Line, LLC has demonstrated additional experience in completing green infrastructure and other planning projects. And, Eustis has demonstrated in their SOQ the needed experience in geotechnical engineering projects.

GEOGRAPHIC INFORMATION SYSTEMS/MAPPING

BBEC has extensive knowledge of the Geographic Information Systems (GIS). Drawings and data developed from the GIS showing site topography could be used to develop site plans for construction, traffic detour plans, preliminary cost estimates, project presentations, tracking operations, and many other uses. BBEC assisted Jefferson Parish develop its GIS (utilities, cadastre, contours, etc) under an annual contract for 18 years. Similarly, BBEC upgraded St. Bernard Parish GIS to include contours, drainage, water, sewer, buildings, and addresses. BBEC upgraded both Jefferson's and St. Bernard's GIS's so that the GIS's could be used to develop both Parish's Digital Flood Insurance Rate Maps (DFIRMs) and developed and submitted the DFIRM to FEMA for both Parishes in accordance with FEMA standards. BBEC's GIS experience included detailed use and development in Oracle, the database behind the GIS software, as well. Both Jefferson and St. Bernard Parishes use ESRI and Oracle products for their GIS's. We have used these services to prepare detailed zone maps for streets, drain lines, sewer systems, and canals. We have also prepared progress reports of construction services by showing street-by-street progress of crews through a zone, and we published the information on the web daily for some of our clients.

5. LOCATION OF THE PRINCIPAL OFFICE

The BBEC Team's offices are all located in Metairie so all work will be performed in our Jefferson Parish offices.

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6. ADVERSIAL LEGAL PROCEEDINGS BETWEEN JEFFERSON PARISH AND BBEC

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

7. PRIOR SUCCESSFUL COMPLETION OF PROJECTS OF THE TYPE AND NATURE OF THE ENGINEERING SERVICES WITH VERIFIABLE REFERENCES

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

For Jefferson Parish H&H modeling projects completed by BBEC inclusive of Waggaman Area Drainage Study, Bissonet Plaza Master Drainage Plan, Harvard Avenue Drainage Improvements, Cleary Avenue Roadway and Drainage Improvements, Lake Avenue and Carrollton Avenue (Bucktown Area) Drainage Study, we offer the following references:

- **Mitch Theriot, P.E., Director of Drainage Department • Jefferson Parish • 1221 Elmwood Park Blvd., Suite 907, Jefferson, LA. 70123 • 504-736-6751**
- **Maggie Talley, Director • Jefferson Parish • 1221 Elmwood Park Blvd., Suite 310, Jefferson, LA. 70123 • 504-736-6540 • mtalley@jeffparish.net**
- **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 detailed H&H modeling, and benefit costs analysis aspects for other clients, we offer the following references:

- **Austin Fledbaum, Hazard Mitigation Office • City of New Orleans • 1300 Perdido Street, 9th Floor, New Orleans, LA 70112 • 504-658-8740 • afeldbaum@nola.gov**
- **Miles Bingham, P.E., Director of Public Works • St. Charles Parish • 15045 River Road, Hahnville, LA. 70057 • 504-736-8753**
- **Guy McInnis, Parish President • St. Bernard Parish • 8201 W. Judge Perez Drive, Chalmette, LA 70043 • 504-278-4227**
- **Nicole Cooper, Project Manager, Lafitte Area Independent Levee District • Town of Jean Lafitte • 2654 Jean Lafitte Blvd, Lafitte, LA 70067 • 504-689-2208**

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

- Lake Avenue and Carrollton Avenue (Bucktown Area) Drainage Study, Jefferson Parish, LA
- Bissonet Plaza Master Drainage Plan (A/E Project No. 20-1708), Jefferson Parish, LA
- Waggaman Area Drainage Study (Project No. 2011-03-DR), Jefferson Parish, LA
- Cleary Avenue Roadway and Drainage Improvements, Jefferson Parish, LA
- Avondale/Bridge City Drainage Evaluation (Area between the Mississippi River and the Union Pacific Railroad, from Huey P. Long Bridge to Avondale Garden Road), Jefferson Parish, LA

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- LA-45 Evacuation Route Basin Drainage Improvements, Lafitte Area Independent District, LA
- Digital Flood Insurance Rate Map, Jefferson Parish, LA
- Map Modernization Project (DFIRM) (Contract No. EMT-2005-CA-0110) (2003 Contract), St. Bernard Parish, LA
- FEMA Hazard Mitigation Assistance Consultant (Project No. 2130-02035), Project Management for 2013 FMA Grant Funding, City of New Orleans, LA
- Technical Assistance for Floodplain Management, Community Rating System and Hazard Mitigation Related Services (Project No. 0352), Bucktown Marina Vision Plan Preparation, Jefferson Parish, LA

Relevant projects in addition to those described in Section L include:

Cypress Park Subdivision Drainage Evaluation, St. Tammany Parish, LA, 11/2016-12/2017

BBEC performed a hydraulic and hydrologic study of the Erindale Heights and Cypress Park Subdivisions (about 450 acres of single-family residential property). The study consisted of developing a computer model of the hydrology and drainage system consisting of natural channels, open ditches, closed conduits, and culverts. BBEC evaluated the 5, 10, 25, 50, and 100-year storms, and developed several alternatives for addressing the flooding concerns. BBEC provided pros and cons, permitting concerns, and construction cost estimates related to the alternatives. The alternatives considered included elevation adjustments to open channels, increased closed conduit usage and size of existing closed conduits, levees, and pump stations.

HMGP Elevation of Coast Guard Road, Phase I (Project No. 1603x-075-0010), Plaquemines Parish, LA (Funding Source: FEMA Hazard Mitigation Grant Program), 09/2013-06/2016

Approximately 0.2 miles of the existing section of Coast Guard Road in Venice, beginning with its intersection with Tidewater Road, between longitude/latitude 29.258072/-89.367031 and 29.253624/-89.35847, was addressed under this project. The work included the design for the addition of appropriate earth materials to elevate the roadway base with stabilization from its current elevation of +3' NGVD to an elevation of +5' NGVD. In its previous condition, this roadway experienced overtopping with flood waters regularly whenever the stage of the Mississippi River at Venice exceeds +4' NGVD. Additionally, the existing drainage system was upgraded in order to increase the outflow capacity, replacing the current 24"/30" diameter piping with 36" piping.

In accordance with Executive Order 11988, Plaquemines Parish Government determined that the entirety of the project area is located within the 100-year floodplain, and in accordance with Executive Order 11990, that the project had the potential to impact the wetlands in the area.

Phase I of the HMGP Elevation of Coast Guard Road consisted of:

- Hydrologic and Hydraulic (H&H) study to identify the existing drainage system, the need for project upgrades, and the anticipated benefits to be derived from the proposed upgrades,
- Environmental review,
- Design the upgrades including the recommendations of the H&H Study and prepare the bid and construction documents, and
- Preliminary and revised cost estimates.

Bayou Gauche Drainage Analysis, St. Charles Parish, LA, 01/2003-12/2005

The project included updating the Parish's existing hydraulic and hydrologic computer models with current developments for the Sunset Drainage District watershed in St. Charles Parish. The Parish's existing HEC -1 and HEC-2 hydraulic models were evaluated and revised to include infrastructure improvements throughout the drainage district. The existing models were converted to HEC-RAS and HEC-HMS for use in this study

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and future evaluations. Model runs were performed to verify the need for drainage pump station improvements in the area and determine the improved capacity of the pump station.

Guichard Canal Area Drainage Evaluation, St. Bernard Parish, LA, 03/2004-04/2005

The project consisted of evaluating the ability of an existing drainage system to handle the 10-year storm for a 200-drainage basin in a residential area primarily consisting of open ditches and miscellaneous culverts with multiple outfalls into the Guichard Canal. The area is bounded by the Guichard Canal on the west, Paris Road on the east, Judge Perez Drive on the south, and Patricia Street on the north. The area also contained two drainage pump stations that were designed to drain the subsurface system, while the main volume of flow during the rain events utilized roadside ditches and some subsurface drain lines. BBEC developed a drainage layer in the Parish's GIS, surveyed elevations of the drainage features, developed a hydrologic and hydraulic model for the area, modeled the area and determined all deficient drain lines. BBEC made recommendations for the necessary improvements to cover the 10-year storm.

Plaza Drive Area Drainage Evaluation, St. Bernard Parish, LA, 2005

The project consisted of evaluating the ability of an existing drainage system to handle the 10-year storm for a 150-drainage basin in a residential area primarily consisting of open ditches and miscellaneous culverts with multiple outfalls into the drainage trunk line under Judge Perez Drive to the north and the drainage canal along St. Bernard Highway to the south. The area includes three parallel streets, including Plaza Drive. The area also contained two drainage pump stations that were designed to drain the subsurface system, while the main volume of flow during the rain events utilized roadside ditches and some subsurface drain lines. BBEC developed a drainage layer in the Parish's GIS, surveyed elevations of the drainage features, developed a hydrologic and hydraulic model for the area, modeled the area and determined all deficient drain lines. BBEC made recommendations for the necessary improvements to cover the 10-year storm.

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

BBEC is currently working on detailed plans and specifications for the construction of the 2.5-mile bike path, part of which is on the top of the Mississippi River levee and the balance of which is on the shoulders of two state highways. A key component to BBEC's designs on the levee section is to maintain the integrity of the levee while constructing the base and asphalt bike path section with a limited width of top of levee. For the state highway portion of the project, part of the project has asphalt shoulders in place, therefore only pavement markings and signage are required. In other locations, roadway widening and required subsurface drainage is necessary to install the bicycle travel lanes.

BBEC developed a hydraulic and hydrologic model to drain a 220-acre area. BBEC designed the drainage for the area, which includes a series of canals with 48-inch and double 48-inch culverts.

BBEC is currently coordinating its work with the LDOTD, the West Jefferson Levee District, the USACE through the levee district, and Union Pacific Railroad to obtain the necessary permits to perform the project. BBEC is also working with Jefferson Parish to determine the required right-of-way (ROW) so it could be acquired from the adjacent property owner(s).

Once the design is complete, BBEC will perform bidding services, construction administration services, and resident inspection services for the construction project.

Manson Ditch and Lower Kraak Outfall System Improvements, Jefferson Parish, LA, 06/2004-09/2008

The scope of BBEC's work was to provide full engineering services, including evaluation of alternatives, preliminary design, final design, bidding, construction administration, resident inspection, and as-built drawing services, for the improvements to the Manson Ditch outfall into the West Metairie Avenue Canal. The project consisted of hydraulic modeling of drainage structures, design of drainage systems composed of cast-in-place

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concrete structures and pipe systems, connection to existing culverts, transition to existing canal banks, utility relocations, roadway and other site restoration, traffic maintenance and signal design, pavement striping, and all incidental work. Currently two large diameter drain lines (60-inch and 72-inch diameter) discharge into the West Metairie Canal culvert crossing under Cleary Avenue. The purpose of the project was to remove the connection and discharge the two drain lines directly into the canal, requiring an outfall structure. The outfall structure is designed to accept the two drain lines, connect to the existing two 96-inch diameter culverts, and be able to transition to a future 16-foot-wide u-channel. Temporary bank stabilization is required until the future u-channel project is completed. Traffic flow on the two major arterial streets must always be maintained through construction of the project.



Ames Boulevard Roadside Drainage Improvements, Jefferson Parish, LA, 01/2004-12/2005

BBEC designed roadside drainage improvements along approximately 6,200 linear feet of Ames Boulevard in Jefferson Parish for this project. BBEC utilized TR-55 (computer model) to determine surface runoff for the drainage system. BBEC developed a computer model based on DOTD's spreadsheet to perform the hydraulic design. The drainage pipe ranged from 15- to 36-inches in diameter. Round and arched pipe was installed; concrete and plastic materials were used. Project site provided limited space between the road and property lines because of its 40-foot ROW. Existing water, sewer, power, cable television, and telephone services were worked around.

West Napoleon Avenue Improvements, Cleary Avenue to Severn Avenue, (LA DOTD Project No. 742-07-0088), Jefferson Parish, LA, 02/2003-08/2005

BBEC performed construction administration services on this \$11 million TIMED roadway and drainage project, which consisted of about 3,800 linear feet of four-lane concrete roadway divided by a new 30-foot-wide concrete u-channel. BBEC coordinated with the private utility companies to relocate (or work around) natural gas pipelines and power and communication lines, overhead and buried, and coordinated construction and connection to public utilities (water and sewer) as well. BBEC reviewed and made recommendations regarding substitute materials and construction methods and monitored the contractors' accelerated operations that reduced the construction contract time from two and a half years to one and a half years. The project consisted of the design of three 9' x 9' box culverts (for a 250-foot box culvert crossing; design (roadway & culvert), construction administration services for about 3,500 linear feet of a new four-lane roadway construction with installation of 26-foot-wide concrete u-channel, traffic design & maintenance, utility relocations, resident inspection.



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

BBEC is performing engineering services related to improving the drainage systems crossing Canadian National (CN) Railroad System on the east bank of St. Charles Parish. The project includes the drainage facilities crossing and/or adjacent to the CN railroad at Ducayet Drive, Ormond Oaks Drive, Destrehan Drive, Longview Drive, Longwood Drive, and S. Destrehan Avenue. The project includes the installation of (6) 60-inch culverts, (2) 54-inch culverts, and (1) 48-inch culvert crossing the railroad at various locations. The project also includes the installation of 60-inch drainpipe, cast-in-place concrete box culverts, u-channels, and other drainage structures. BBEC is performing design, construction management, and permitting of the project. BBEC is also coordinating with and managing the surveying, and geotechnical engineering services.

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Gloria Drive Pump Station, Project No. 20-2022A, Lafitte Area Independent Levee District Drainage, Town of Jean Lafitte, LA, 05/2020-Present

BBEC is providing Design Engineering Services for the Gloria Drive Pump Station Improvement Project which consists of expanding the existing pump station by doubling its capacity from 45 cfs to 90 cfs.

The existing pump station has one pump on a pile supported structure, adjacent to an existing levee. The existing pump discharge pipe runs through the levee, discharging on the other side. On the pump station side, the levee is supported by a timber bulkhead, part of which has deteriorated over time. When constructed, the levee project provided for a second pipe penetration in anticipation of this project. The pump station has an existing stand-by generator, which was appropriately sized for the single pump.

The proposed scope of the 45 cfs expansion includes:

- Installing a new 45 cfs pump in line with the second discharge pipe provided by the levee project
- Constructing a new reinforced concrete pump station structure for both pumps, with bar screens (mechanical if funding allows) at the entrance. The new structure will replace the deteriorating timber bulkhead, as well.
- Repairing or replacing the timber bulkhead wall not addressed by the pump station structure.
- Installing a new generator structure and generator sized to run both pumps and incidental equipment.
- Extending the new pump discharge pipe as required and providing for scour protection at the outfall.
- Building the project in phases to utilize the existing pump during construction or providing temporary pumping during construction.

Drainage Pumping Stations Improvements, St. Bernard Parish, LA, 2005

BBEC evaluated the condition and performance of 18 existing drainage pump stations in St. Bernard Parish and made recommendations for improvements. The evaluation consisted of site visits to observe condition and make test pump runs to measure performance, developing computer models to evaluate alternatives for improvements, perform hydrologic analysis to determine required capacity, and evaluate costs of improvements to arrive at the most cost effective improvements. BBEC prepared plans and specifications for several stations.

Primrose Box Culverts, St. Charles Parish, LA, 03/2004-10/2004

BBEC performed preliminary and final design, construction related services, administration, and resident inspection services for three 24-foot clear span box culverts and related road/drive restoration.

Boutte Drainage Improvements, St. Charles Parish, LA, 09/2002-05/2004

The project consisted of design and construction related services for 2,000 linear feet of 15-inch to 30-inch drainpipe along US Highway 90, including roadway and parking lot restoration. TR-55 (computer model) was used to determine the watershed's runoff. Hydraulic calculations were performed by hand.



Canal Monumentation Program, Jefferson Parish, LA, 01/2004-12/2005

BBEC worked with the Parish's Drainage Department to develop and implement a canal monumentation project for the entire Parish. The project included stationing the canals with vertical and horizontal monuments strategically located, locating right of way and servitude information, researching existing data and projects for

TEC Professional Services Questionnaire

data relevant to the project such as current or past projects, subdivision plats, the Parish's GIS, and other information available for the implementation of the project.

Bar None East Phase III, St. Charles Parish, LA, 03/2004-08/2005

The project included reconstruction of an existing drainage system in the Bar None Subdivision along Canyon and Holster Lanes. BBEC's services included a hydraulic analysis of the existing drainage system using StormCAD hydraulic modeling software, recommendations for improvements, and the preparation of plans and specifications for the recommended improvements. The project consisted of the installation of approximately 1,000 linear feet of 18-inch diameter drain-pipe and associated inlets and structures, typical utility coordination and relocation, and pavement restoration.

Program Management Services to the Department of Public Works (2003 Contract), St. Bernard Parish, LA, 2003-Present

The scope of BBEC's work included providing engineering services to assist St. Bernard Parish (Parish) in managing from inception through construction various public works projects. As program manager, the projects authorized and BBEC's roles in management were as follows:

- **Delacroix Coastal Complex** - BBEC assisted the Parish in determining a scope for improvements and assisted the Parish in performing the improvements with current annual maintenance contracts with the Parish and in-house crews (construction cost = \$75,000).
- **Central Fire Station** - BBEC assisted the Parish in determining a scope of work, negotiated a contract with the architect, assisted the Parish in design reviews, and monitored the work during construction with the architect (project cost = \$135,000)
- **Recreation Park Improvements (Borgemouth Park Improvements)** – BBEC assisted the Parish in developing a project scope, performed a wetlands determination, negotiated and managed a surveyor for topographical survey, and prepared plans and specifications for the construction of a 20 acre recreation facility including a new road, bridge, walking paths, football field, soccer field, gymnasium, concession stands, 5 baseball fields, and associated work (project cost \$800,000)
- **Yscloskey Center Improvements** – BBEC assisted the Parish in determining a scope for improvements and assisted the Parish in performing the improvements with current annual maintenance contracts with the Parish and in-house crews (construction cost = \$125,000)
- **Renovations to Fire Station No. 12** – BBEC assisted the Parish in determining a scope of work, negotiated a contract with the architect, and assisted the Parish in design reviews (project cost = \$170,000)
- **Concrete Street Replacement** – BBEC prepared bid documents for a concrete panel replacement and drainage improvement project for scattered sites and is currently managing it through construction (project cost = \$1,300,000).
- **Asphalt Overlay** – BBEC prepared bid documents for an asphalt overlay contract for scattered sites and managed the project through construction (project cost = \$600,000).
- **OEP Center Improvements** - BBEC assisted the Parish in determining a scope of work, negotiated a contract with the architect, and assisted the Parish in design reviews (project cost = \$130,000)
- **Federal Highway Streets Program for St. Bernard Parish** – BBEC assisted the Parish in determining scopes of work for 9 roadway and drainage projects, each with estimated construction values of about \$2,000,000. BBEC has negotiated engineering and survey contracts to date for 5 of the projects. BBEC is coordinating the work with the area's Regional Planning Commission and Louisiana Department of Transportation and Development. BBEC developed cost estimates and a schedule for construction that fits within the Parish's ability to pay the local match for the project (construction cost = \$10,000,000)
- **Sidewalk Improvements / Tree Removal** – BBEC developed bid documents for an annual tree removal contract base on work orders issued to the Contractor. Upon receipt of the locations from the Parish, BBEC developed and issued work orders to the contractor and monitored the work through

TEC Professional Services Questionnaire

- construction (construction cost = \$175,000)
- **Ring Levee Improvements** – BBEC worked with a local surveyor to provide top elevations of about 7 miles of existing levees on the Parish's GIS to determine its compliance with an existing Corps of Engineers permit. BBEC then provided cross sectional information to the Parish so that the levee could be repaired to its originally permitted state by in-house crews (construction cost = \$200,000).
- **Drainage Improvements** – BBEC provided construction details for specific drainage problems within the Parish to be constructed by a current annual contractor and monitored the work through construction (construction cost = \$150,000)
- **Florida Avenue Extension Study** – BBEC developed a scope of work and negotiated an engineering contract to determine the most feasible alternative to extend a two lane roadway through residential or wetland areas (study cost = \$100,000)
- **Geographic Information Systems** - BBEC assisted the Parish in managing the Parish's information systems consultants and geographic information systems consultants to integrate the computer systems so that asset management, mapping, utility, and other information could be accessed through one integrated system.
- **Hurricane Katrina Damage Assessment** – BBEC assisted St. Bernard in assessing the damages to all sewer lift stations, 5 sewer treatment plants, the water treatment plant, all drainage pumping stations, and a majority of the Parish's roads and street signs. BBEC provided cost estimate of the damages and repairs which were utilized in the development of FEMA project worksheets.
- **Emergency Water Point Repairs** – Numerous water lines and hydrants were damaged by Katrina. BBEC developed plans and specifications for a unit price contract to repair the water distribution system, handled the project through bidding, and performed construction administration and resident inspection services through completion of the project. BBEC also assisted the Parish and FEMA in developing the project worksheet and preparing requests for reimbursement for the Parish.
- **Emergency Sewer Pump Out Contract** – Ninety-one sewer lift stations were inoperable due to Katrina. In order to maintain sewer flows in St. Bernard, 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.

Louisiana Land Trust Demolition Program, Statewide, LA (Funding Source: CDBG Grant Management), Statewide, LA

The Road Home Corporation dba Louisiana Land Trust (LLT) is a non-profit organization chartered under the authority of Louisiana Revised Statute 40:600.63. LLT was charged with the acquisition, disposition, purchase, demolition, renovation, improvement, leasing, or expansion of housing stock, including but not limited to housing stock as described by the Road Home Program designed by the Louisiana Recovery Authority and funded by the U.S. Department of Housing and Urban Development's Community Development Block Grant (CDBG) Program. BBEC was the primary sub-consultant to the Louisiana Land Trust for providing program management and oversight of LLT's demolition program and related activities undertaken in support of recovery, blight removal, property disposition, and redevelopment.

Program management services provided by BBEC included:

- Procurement of demolition contractors on behalf of LLT
- Oversight and monitoring of contractors' operations
- Coordination of environmental services
- Management of the related permit process

The total number of properties involved was approximately 8,700 residential properties owned by LLT

TEC Professional Services Questionnaire

throughout South Louisiana, with about 90% of them concentrated in the New Orleans metropolitan area. BBEC also assisted in the management of a separate program in St. Bernard Parish to remove slabs from properties where structure had previously been removed as part of Hurricane Katrina cleanup operations.

Specific responsibilities of BBEC throughout this project included:

- Developing an operational plan that addresses quality control, fraud, waste, mismanagement, estimated costs of demolition and debris removal work, record-keeping, reporting, closeout with time lines for project completion.
- Developing a management information system to track each site until close out
- Reviewing each property and developing a scope of work for each site to remove all structures, foundations, drives, etc.
- Reviewing environmental clearances on each property
- Completing bid documents
- Providing Resident Project Representation for all projects
- Negotiating, issuing and administering contracts for demolition, debris removal and site cleanup, as well as changes thereto
- Providing LLT with timely support services as needed related to the demolition program and to hurricane recovery, blight removal, and redevelopment efforts.

As part of the debris and demolition removal services, BBEC managed the completion of approximately 9000 properties to date. BBEC performs all services necessary to ensure structures owned by LLT are properly demolished including, but not limited to, preparing bid specifications for the demolition of the damaged structures and pavement and site restoration, coordinating plan preparation with LDEQ and other regulating agencies for their concurrence of the approval, coordinating with local Parish Safety and Permits offices to obtain appropriate property permits, securing Environmental Review Record approvals for each property, and asbestos testing. Once BBEC confirms all necessary pre-demolition activities are performed satisfactorily and work orders are released for demolition, BBEC monitors the work to ensure that it is completed properly and to the satisfaction of the contract and Parish and addresses damage made to public and private property. BBEC coordinated with the Louisiana Department of Environmental Quality (LDEQ) for regulatory compliance for the abatement of structures and slabs included in the Louisiana Land Trust's residential demolition and slab removal program.

BBEC, in its work with Louisiana Land Trust, identified areas of the City of New Orleans that could be utilized for neighborhood gardens and storm retention green spaces in low lying neighborhoods. BBEC helped identify properties suited for these "green infrastructure projects" using typography and data from its GIS.

2014 Hazard Mitigation Assistance (HMA) Grant Management Services, Jefferson Parish, LA, 04/2015-04/2019 (Funding Source: FMA and PA)

BBEC provided grant management services for Jefferson Parish Hazard Mitigation Assistance grant program. As part of this project, BBEC provided guidance to Jefferson Parish, in regards to FEMA guidelines including elevation requirements, construction requirements, and grant application requirements as described in FEMA's program guidance. Additionally, BBEC assisted Jefferson Parish by assisting homeowners through the process of home elevation and/or reconstruction by assisting with the bidding process, preparation of contractor agreements, and the processing of payment requests and reimbursements. BBEC also prepared quarterly reports, tracked the grant budget, and retained and maintained all grant related documentation for Parish closeout. To assist in this process, BBEC developed a project specific database, document management system, and dashboard reporting component that provided electronic data concerning the project to Jefferson Parish.

In addition to managing the grant for elevating structures, BBEC was involved in the management of the

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FEMA HMGP funded reconstruction program. As part of this program in this grant year, homeowners were given the option to select reconstruction in lieu of elevating the existing structure. BBEC provided professional engineering, program management, construction monitoring, code enforcement compliance, and general monitoring services for the work funded by the Hazard Mitigation Grant Program.

Application Development and/or Project Management of FEMA HMA Grant Programs, Lafourche Parish, LA, 11/2019-Present (Funding Source: FMA)

BBEC is assisting Lafourche Parish in the development and administration of grant programs stemming from non-disaster grant opportunities announced beginning in 2019. BBEC consults with property owners to obtain all required data, provides updates throughout the process while the application is being processed, and meets with homeowners to discuss the process and/or obtain documentation.

BBEC prepared and submitted a grant application and Benefit Cost Analysis (BCA) along with adequate documentation for a complete review and analysis for a mitigation project for the elevation of 4 structures in FY 2019 which was approved by FEMA in 2021. During the Fiscal Year 2021 cycle, BBEC prepared and submitted a grant application and BCA for the elevation of 3 structures.

- Lafourche Parish, FY 2021 FMA SRL/RL Elevations\$691,087.00
- Lafourche Parish, FY 2019 FMA SRL/RL Elevations\$749,891.00

As part of the Application Development services performed, BBEC:

- Conductions public and individual meetings to assist homeowners with the program requirements for applying;
- Conducts application planning and site drawings for the application;
- Prepares a Benefit Cost Analysis using FEMA's BCA Toolkit 6.0;
- Prepares the application in FEMA's eGrants Mitigation module or FEMA GO (2020 and later applications);
- Collects from the homeowner required documents, including but not limited to: application form, flood insurance policy declaration page, elevation certificate, proof of loss history report, and physician's certification for ADA access facility.

Project Management and Technical Services, 2018 Contract, Terrebonne Parish, LA, 11/2018-Present

This project includes the development and administration of grant programs stemming from non-disaster grant opportunities for the Flood Mitigation Assistance and Pre-Disaster Mitigation Grant Programs. The scope of services includes coordinating with the Parish the application for Elevation, Infrastructure and Restoration grants that may include elevation, mitigation reconstruction, buyout, critical facility hardening, pump station improvements, coastal restoration and planning. BBEC successfully submitted three applications approved by the State to be submitted to FEMA. Of the three applications submitted during the Fiscal Year 2018 application cycle, two applications were selected for further review. The third application, although it met FEMA's requirements, did not get selected because the total number of applications exceeded the funding approved for the fiscal year.

Project Management and Technical Services, St. Louis Canal Road Drainage Improvements, Terrebonne, LA, 11/2018-Present

BBEC prepared and submitted on behalf of Terrebonne Parish a grant application for the Pre-Disaster Mitigation Grant Program for Drainage Improvements at the St. Louis Canal. The Lisa Park community located in Houma, Louisiana, was constructed over a period of 35 years from 1970 through the mid-1990s. The subdivision suffered flood damage from two severe weather events causing damage to numerous businesses and residences in the community. The proposed project includes the installation of two new concrete box culverts under the road to increase drainage flow into St. Louis Canal. The grant application was submitted during the Fiscal Year 2018 FEMA PDM Grant Cycle. In June 2019, the grant application was

TEC Professional Services Questionnaire

selected for funding and further review by FEMA. This project, valued at approximately \$1.8 million, was the largest valued PDM application selected by FEMA in the State of Louisiana during the FY 2018 grant cycle.

Project Management Services for Hazard Mitigation Grant, SRL/RL Elevation Project, Elevation of Four (4) Residential Structures (HMGP #1786-057-0007), Lafourche Parish, LA, 08/2016-Present

The FEMA Hazard Mitigation Grant for the Elevation of Four (4) Residential Structure project includes all professional services necessary for the implementation of the FEMA HMGP #1786-057-0007 grant. The properties included in this project are located in Bayou Blue, Des Allemands, Lockport and Thibodaux and require that the structure be elevated to or above the base flood elevation. BBEC's services include Grant Administration and Construction Observation. The construction cost of these properties is \$621,376.00.

As part of the Grant Administration services performed, BBEC:

- Conducts public and individual meetings to assist homeowners with the program requirements for elevation
- Coordinates with the Governor's Office of Homeland Security and Emergency Preparedness and FEMA for elevations
- Complies with all grant program mandates and documentation requirements for elevations
- Reviews detailed drawings submitted by property owners showing character and extent of the work to be performed by the Contractor
- Prepares specifications
- Furnishes the Parish with documents and design data as may be required
- Advises the Parish of any adjustments of the cost estimate for the project; and
- Prepares proposal forms and assist in the preparation of contract documents.

As part of the Construction Observation services performed, BBEC:

- Conducts pre-construction planning for compliance with building codes and coordinates with the Permit Office for any specialized design issues
- Makes project eligibility determinations for elevations
- Conducts contract closings between homeowner, contractors, and Lafourche Parish
- Conducts financial tracking of program funds and homeowner payments
- Inspects construction for compliance with program requirements and to approve milestone payment requests from contractors
- Conducts change orders requested by homeowner
- Conducts final inspection
- Develops and submit progress reports to the Parish and the State; and
- Provides in Progress Reviews as required to keep the Parish informed on project progress.

Program Management Services Related to Natural or Manmade Disasters, Hurricane Isaac, Grant Management (2013 Contract), St. Bernard Parish, LA (2013-Present)

The Grant Administration and Closeout Services provided by BBEC included the grant administration and closeout of grants from Hurricane Isaac. BBEC provides assistance to the Finance Department in processing FEMA reimbursements, based on federal and state requirements and developing close out documentation. BBEC consults with Parish officials and prepares documentation and applications as required. In our capacity as Grant Manager, BBEC provides the broad-based support services designated to help maximize federal funding, expedite the process and retain funds during the closeout process. Services performed by BBEC included but are not limited to the following:

- Assisting the Finance Department with cash flow, advance, and reimbursement requests and documentation in anticipation of future audits
- Developing a comprehensive tracking method of project worksheets
- Creating a filing system that will enhance the ability to substantiate grant fund during an audit

TEC Professional Services Questionnaire

- Working with the state and FEMA to properly formulate large project worksheets
- Reviewing project worksheets previously written by FEMA and augment them with proper information regarding eligibility, scope and cost via version requests
- Identifying and correcting inappropriate insurance reductions
- Maximizing and formulating Section 406 hazard mitigation projects
- Assisting with reconciling internal records to the project worksheets
- Providing guidance in dealing with FEMA and State personnel and policies
- Reviewing St. Bernard Parish procurement policies, ensuring that all potential emergency contracts comply with federal requirements and guidelines set forth in the Public Assistance Program.
- Challenging, where applicable, FEMA on their previous work, eligibility determination, cost valuations, project formulation and inaccurate statements on the Public Assistance Program.

Grant and Project Management Consulting Services for the RESTORE Act, Plaquemines Parish, LA, (2020-Present)

Barowka and Bonura Engineers and Consultants, LLC works with Plaquemines Parish to perform grant writing, administration, technical support, application, monitoring, and post-grant requirements services with respect to the Restore Act Direct Component allocation from the U.S. Treasury Department. BBEC has assisted with the identification of eligible activities, amendments to existing grants, and the development of new grant applications during the open award period. BBEC continues to monitor project progress, providing the U.S. Department of the Treasury with semi-annual financial and progress monitoring reports. BBEC is also assisting Plaquemines Parish with the revision to its Multi-year Implementation Plan. By identifying projects that meet the RESTORE Act goals and assisting the Parish with identification of match funding, Plaquemines Parish is able to identify projects that utilize the RESTORE Act funds to their greatest benefit of the Parish.

- Bayou Eau Noire Ridge Restoration and Marsh Creation Phase 1 and 2.... \$3,254,150.13
- Bay Adams Headland Restoration and Marsh Creation Phase 1 \$1,222,250.00
- Eastbank Landbridge Project – Phoenix to Lake Leary Phase 1 \$500,000.00

Public Assistance Grant Administration, 2016 Louisiana Severe Storms, City of Baker, LA (2016-Present)

The project includes providing consulting and representation services in support of the FEMA PA Program Services related to declared disaster events. In this role, BBEC acts as a liaison with the Governor's Office of Homeland Security and Emergency Preparedness and FEMA officials by serving as the Parish's representative. BBEC has also assisted the City of Baker with preparing hazard mitigation grant applications, benefit cost analyses, and other services related to the Hazard Mitigation Grant Program to assist the City with rebuilding to prevent future losses.

FEMA Hazard Mitigation Grant Village Square Site Clearance, Phases 1, 2 and 3, St. Bernard Parish, LA (2011-2015)

BBEC managed the Village Square Site Clearance, Phases I, II and III, a project that consisted of the removal and recycling of concrete slab foundations and other pavement, removal of hazardous trees, clearing sites, fill and grade of sites to promote proper drainage. In preparation for concrete recycling, BBEC ensured that the contractors complied with all regulatory requirements for the disposal of concrete slab foundations and other pavement in a recycling facility. BBEC managed the project from scope development through reimbursement for the purpose of meeting all requirements of the FEMA Hazard Mitigation Grant Program. Those requirements included but were not limited to collecting and reporting the scope of disaster, scope of services to be covered, cost estimate based on cost reasonableness in accordance with the Code of Federal Regulations (44 CFR Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments). Subsequent coordination with the Governor's Office of Homeland Security secured the necessary funding allocated to this work.

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BBEC managed the project from scope development through reimbursement for the purpose of meeting all requirements of the FEMA Hazard Mitigation Grant Program for the abatement and removal of 123 building slabs and 3 structures (Phase I: 89 Slabs, Phase II: 31 Slabs, Phase III: 3 Slabs and 3 Structures). The project included specifying requirements of a SWPPP and overseeing the implementation of that plan.

Private Residential Structure Elevation Project Statewide, Louisiana, (HMGP PROJECT), (2012-2014)

The project includes 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. As Supervising Engineer, Mr. Bonura oversaw and performed technical reviews of the plans and supervision of the field personnel. Mr. Bonura managed the professional engineering, program management, construction monitoring, observation of construction methods, code enforcement compliance, and general monitoring services in association with construction contractors elevating and/or reconstructing residential structures for eligible construction activities through the Hazard Mitigation Grant Program (HMGP).

Project Management Services for the Implementation of FEMA – FMA-PJ-06-LA-2016-003, Elevation of eight (8) structures under SRL/RL Elevation Project, Lafourche Parish, LA, (07/2018-Present)

BBEC is responsible for grant administration for the elevation of eight structures in Lafourche Parish. BBEC's work includes meeting with the homeowners to explain grant program requirements and required documentation, the bidding and contractor selection process, the construction process, and the process for grant closeout. While the application consisted of eight structures previously determined as eligible for the elevation grant program, BBEC worked with the Parish to identify one structure where flood insurance had not been maintained and was voluntarily removed from the project. BBEC continues to work with homeowners to ensure they are meeting requirements for the homeowner cost share, work elements, and flood insurance deed restrictions and compliance. The construction cost of the 8 properties is \$1,399,280.00.

As part of the Grant Administration services performed, BBEC:

- Conducts public and individual meetings to assist homeowners with the program requirements for elevation
- Coordinates with the Governor's Office of Homeland Security and Emergency Preparedness and FEMA for elevations
- Complies with all grant program mandates and documentation requirements for elevations
- Reviews detailed drawings submitted by property owners showing character and extent of the work to be performed by the Contractor
- Prepares specifications
- Furnishes the Parish with documents and design data as may be required
- Advises the Parish of any adjustments of the cost estimate for the project; and
- Prepares proposal forms and assist in the preparation of contract documents.

As part of the Construction Observation services performed, BBEC:

- Conducts pre-construction planning for compliance with building codes and coordinates with the Permit Office for any specialized design issues
- Makes project eligibility determinations for elevations
- Conducts contract closings between homeowner, contractors, and Lafourche Parish
- Conducts financial tracking of program funds and homeowner payments
- Inspects construction for compliance with program requirements and to approve milestone payment requests from contractors
- Conducts change orders requested by homeowner

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Grant Closeout for Federal Declared Disasters, 2014 Contract, FEMA Public Assistance Category A and B Projects, St. Bernard Parish, LA (2014-Present)

The Grant Administration and Closeout Services provided by BBEC included the grant administration and closeout of grants from Hurricanes Katrina and Rita. BBEC provides assistance to the Finance Department in processing FEMA reimbursements, based on federal and state requirements and developing close out documentation. BBEC consults with Parish officials and prepares documentation and applications as required. In our capacity as Grant Manager, BBEC provides the broad-based support services designated to help maximize federal funding, expedite the process and retain funds during the closeout process. Services performed by BBEC included but are not limited to the following:

- Assisting the Finance Department with cash flow, advance, and reimbursement requests and documentation in anticipation of future audits
- Developing a comprehensive tracking method of project worksheets
- Creating a filing system that will enhance the ability to substantiate grant fund during an audit
- Working with the state and FEMA to properly formulate large project worksheets
- Reviewing project worksheets previously written by FEMA and augment them with proper information regarding eligibility, scope and cost via version requests
- Identifying and correcting inappropriate insurance reductions
- Maximizing and formulating Section 406 hazard mitigation projects
- Assisting with reconciling internal records to the project worksheets
- Providing guidance in dealing with FEMA and State personnel and policies
- Reviewing St. Bernard Parish procurement policies, ensuring that all potential emergency contracts comply with federal requirements and guidelines set forth in the Public Assistance Program.
- Work with St. Bernard Parish employees to compile the necessary documents to justify work performed and funds obligated according to FEMA guidelines.
- Review contracts and invoices to reconcile total project costs for completed projects and write version requests to obtain funding for FEMA approved work.
- Challenging, where applicable, FEMA on their previous work, eligibility determination, cost valuations, project formulation and inaccurate statements on the Public Assistance Program.
- Working with GOHSEP to obtain required documents for grant close-out, provide assistance to GOHSEP Document Review Specialist and Team Leads on a daily basis, and attend meetings on behalf of St. Bernard Parish.
- Provide documentation to the Louisiana Legislative Auditors in an effort to speed up the closeout process and generate final versions for projects.

Federal Emergency Management Agency Public Assistance Program Services, St. Charles Parish, LA, (09/2017-Present)

The project includes providing consulting and representation services in support of the FEMA PA Program Services related to declared disaster events including Hurricane Barry and COVID-19. In this role, BBEC acts as a liaison with the Governor's Office of Homeland Security and Emergency Preparedness and FEMA officials by serving as the Parish's representative. BBEC is currently performing program administrative/management services for the FEMA PA program due to Hurricane Ida. BBEC has also assisted St. Charles Parish with preparing hazard mitigation grant applications, benefit cost analyses, and other services related to the Hazard Mitigation Grant Program and Pre-Disaster Mitigation grant program.

- St. Charles Parish, FY21 FMA SRL Elevation (36 properties)..... \$6,367,899.00
- St. Charles Parish, FY20 FMA SRL Elevation (34 properties)..... \$6,055,422.00
- St. Charles Parish, FY19 FMA Elevation (31 properties) \$5,605,602.00
- St. Charles Parish, FY17 FMA Elevation (11 properties) \$1,606,584.00
- St. Charles Parish, FY 17 Multi-Hazard Mitigation Plan Update \$63,450.00.00
- St. Charles Parish, Hurricane Barry \$964,198.12

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Grant Management Services for Federal and State Grants, Town of Jean Lafitte, LA (2013-Present)

BBEC is currently providing grant management services for the Town of Jean Lafitte and the Lafitte Area Independent Levee District project to close out almost \$3.9M in FEMA Public Assistance Grants. The scope of work managed includes:

- Serve as liaison as PW Specialist for Town of Jean Lafitte Administration to GOHSEP and FEMA.
- Maintain master spreadsheet tracking status of RRF's and status of payments.
- Utilize LouisianaPA.com daily to track projects, upload required documents, complete reports such as quarterly reports and close-out reports, and provide analytical reviews.
- Submit project invoices for both consultants and contractors into LouisianaPA.com and secure reimbursements for Town of Jean Lafitte.
- Review all invoices for accuracy and verify that invoices adhere to state approved guidelines and verify accuracy of payments generated by GOHSEP.
- Track expenses from origination to project worksheet assignments and payment.
- Work with Town of Jean Lafitte employees to compile the necessary documents to justify work performed and funds obligated according to FEMA guidelines.
- Assist the Parish in resolving issues during reconciliation of grant close-out.
- Communicate effectively with state auditors on behalf of the parish.
- Review contracts and invoices to reconcile total project costs for completed projects and write version requests to obtain funding for FEMA approved work.
- Formulate projections for future anticipated costs.
- Provide documentation to the Louisiana Legislative Auditors in an effort to speed up the closeout process and generate final versions for projects.
- Work with GOHSEP to obtain required documents for grant close-out, provide assistance to GOHSEP Document Review Specialist and Team Leads on a daily basis, and attend meetings on behalf of Town of Jean Lafitte.
- Utilize electronic document management system to store project records.

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Jefferson
Parish
State of Louisiana

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

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

Title: Member Date: April 19, 2022



TEC Professional Services Questionnaire for ENGINEERING SUPPORT, GREEN INFRASTRUCTURE, AND SURVEYING

T. Baker Smith, LLC
740 Phosphor Avenue, Suite B
Metairie, LA 70005

Kenneth Wm. Smith, PE, PLS, FACEC
Chief Executive Officer
Office: (985) 223-9248
Email: Kenneth.smith@tbsmith.com



TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

**BUCKTOWN BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES
(BRIC) SCOPING GRANT**
Resolution No. 13947

B. Firm Name & Address:

T. Baker Smith, LLC
740 Phosphor Avenue, Suite B
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:

Kenneth Wm. Smith, PE, PLS, FACEC
Chief Executive Officer
985.223.9248
Kenneth.Smith@tbsmith.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.

Licensed Professional Engineer
Brian E. Moldaner, PE, MBA
Lead Professional, Engineering
504.608.9367
Brian.Moldaner@tbsmith.com

Licensed Professional Land Surveyor
Rene J. Hebert, PLS, PMP
Lead Professional, Survey
985.857.3011
rene.hebert@tbsmith.com

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

<u>40</u> Administrative	<u>1</u> Estimators	<u>5</u> Specification Writers
<u> </u> Architects (Licensed)	<u> </u> Geologists	<u> </u> Structural Engineers
<u> </u> Chemical Engineers	<u> </u> Geotechnical Engineers	<u> </u> Graduate Engineers
<u>27</u> Civil Engineers	<u> </u> Interior Designers	<u>24</u> Project Managers
<u>5</u> Construction Inspectors	<u>1</u> Landscape Architects	<u> </u> Clerical
<u>10</u> Ecologists	<u> </u> Land Surveyor	<u> </u> Grant/Funding Specialist
<u> </u> Electrical Engineers	<u>1</u> Mechanical Engineers	<u> </u> Sanitary Engineers
<u>11</u> Engineer Intern	<u>1</u> Environmental Engineers	<u>144</u> Other
<u>18</u> Professional Land Surveyors		<u>260</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

N/A

H. Has this JOINT-VENTURE previously worked together? Please check:

YES _____ NO _____ N/A

I. List all subcontractors anticipated for this Project. Please note that **all subcontractors must submit a fully completed copy of this questionnaire**, 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):
N/A		

J. Please specify the total number of support personnel that may assist in the completion of this Project:

260 (all personnel, primary and support, will be available to work on all assigned projects)

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:
William "Will" Bane, PE <i>Sr. Project Manager</i>
Project Assignment:
Project Manager
Name of Firm with which associated:

Years' experience with this Firm:
1 years with this firm, 17 years with other firm
Education: Degree(s)/Year/Specialization:
Bachelor of Science/2003/Civil Engineering Master of Science/2005/Civil Engineering
Active registration: Year first registered/discipline:
LA PE.36709/2011/Civil
Other experience and qualifications relevant to the proposed Project:
<p>William has 17 years of experience in design and construction of civil engineering projects and is a graduate of Tulane University and the University of Illinois Urbana-Champaign. He has a successful history as a Project Manager having managed regional drainage projects, green infrastructure, watermain improvements and sewer collection system improvements, street construction, site development, as well as flood protection projects. He has served as designer for sewer, water and drainage projects. He has a depth of experience in design, construction estimates, scheduling, permitting, bidding and construction. He has successfully executed many multifaceted projects from problem identification through project completion. His experience includes large civil works for private developers and public municipalities. His drainage experience has included regional stormwater detention ponds, stormwater collection systems, floodplain alterations, underground storage, and canals.</p> <p>Project Experience</p> <p>Hagan-Lafitte Lafitte Drainage Upgrades and Green Infrastructure, New Orleans, Louisiana – Project Manager responsible for drainage, streets, green infrastructure, water, and underground storage system for FEMA HGMP funded project to reduce flooding in the Lafitte neighborhood. The project proposed improvements to the storm network to increase pipe sizes and provide underground storage within a public park. Green infrastructure elements were included to recharge groundwater and reduce downstream capacity demands. A Benefit Cost Analysis justified the proposed project through flood reductions. The project required coordination between the engineer, Department of Public Works, and the Sewer and Water Board. Modeling results indicate a reduction in flooding during a 2-year storm of 14 inches.</p> <p>Blue and Green Corridors, New Orleans, Louisiana – Project Manager responsible for regional stormwater retention, drainage upgrades, streets, green infrastructure, and underground storage system for HUD funded project to reduce flooding, increase health outcomes, and economic revitalization in the Gentilly neighborhood. The project proposed improvements to the neutral grounds of major streets in Gentilly and creation of new civic spaces at seven city owned lots. Water elements were proposed to allow for public amenities and interaction while realizing stormwater benefits. Green infrastructure elements were included to recharge groundwater and reduce downstream capacity demands. A Benefit Cost Analysis justified the proposed project through flood reductions. The project required coordination between many City agencies, multiple subconsultants and offices including many disciplines. Project included large public involvement component to educate residents and received check-in and buy-in at multiple stages of design.</p> <p>St. Charles Parish West Bank Master Drainage Plan, St. Charles, LA - Project Manager. Oversee development of H&H model using 2D HEC-RAS model of drainage system. This effort divides the parish into sub-basins and uses LiDAR, surveyed data, and pump station parameters to create a model which analyzes the drainage patterns and proposes parish-wide improvement projects. Estimated costs for the projects and prioritization will assist the parish in identifying and funding construction and maintenance schedule.</p>

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Doyle "Paul" Carroll, PE

Project Engineer

Project Assignment:

Project Engineer

Name of Firm with which associated:



Years' experience with this Firm:

5 years with this firm, 13 years with other firms

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2003/Mechanical Engineering

Bachelor of Science/2006/Civil Engineering

Active registration: Year first registered/discipline:

LA PE.33902/2008/Civil

Other experience and qualifications relevant to the proposed Project:

Paul Carroll is a Louisiana-licensed Professional Engineer with over 18 years of experience in stormwater drainage, levees, retention ponds, vertical curve roadway design, structural design, and project management of small to large projects. He is primarily responsible for providing advanced technical support and assisting the project manager in the development and design of project plans, specifications and estimates.

Project Experience

Detention Pond Innovations, St. Tammany Parish Government – Drainage Engineer. Implemented soil analysis to determine fertilizer and lime treatment. Initiated wetland tree planting and wetland grasses in pond bottoms for increased water quality, reduced maintenance cost and to create wildlife habitat resulting in a BOD5 discharge of less than half the inlet values. Used on-site permanent stockpile of removed pond spoil to speed up construction and reduce construction cost by millions of dollars for Cypress Bayou Pond. Provided opportunities for recreational paths at Cypress Bayou Pond location. *(Project completed while working for St. Tammany Parish)*

Colonial Club Pump Station Evaluation, Jefferson Parish, LA– Drainage Modeling Lead. Developed drainage model for 105-acre site in Jefferson Parish to study the feasibility of constructing a drainage pump station to discharge into the Mississippi River. SWMM model constructed for the existing condition and the post-project maximum water surface elevations to determine the proposed benefits or the project. Multiple alternatives for potential pump locations examined and recommendation was made to Jefferson Parish on next steps for conceptual layouts, servitudes, permitting, environmental impacts and estimate costs.

Distribution Center, Carencro, LA – Project Engineer. Modeled and designed the stormwater drainage system in SWMM including interconnected ponds and 3 separate discharge locations. Designed a sewer force main with 5 in-line lift stations.

St. Charles Master Drainage Plan, St. Charles Parish, LA – Drainage Modeling Lead. Modeled and oversaw the modeling for several large developed areas using 2D HEC-RAS for existing and proposed conditions.

Hogan Minor Subdivision, St. Tammany Parish – Project Engineer. Designed drainage plan and performed hydrological modeling.

Priority Drainage Projects (employee of St. Tammany Parish Government), St. Tammany Parish, LA – *Drainage Engineer*. While working for St. Tammany Parish Government, Paul served as Project Engineer for LRA and HMGP projects related to stormwater drainage and wastewater with a budget over \$35,000,000. Duties included pursuing grant funding, land acquisition, design, review of design, and project management. He worked with the parish Regulatory Managers to identify and provide documentation for priority drainage projects identified in St. Tammany Parish's ESF 14 List for LRA following Katrina/Rita. The parish obtained \$19 million in CDBG funding, provided through HUD, and completed engineering and design for four of the projects.

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:

Brian E. Moldaner, PE, MBA

Lead Professional, Engineering

Project Assignment:

Engineering Lead Professional

Name of Firm with which associated:



Years' experience with this Firm:

11 years with this firm

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2011/Civil Engineering | Master of Business Administration/2019

Active registration: Year first registered/discipline:

LA PE.40075/2015/Civil

Other experience and qualifications relevant to the proposed Project:

Brian is the engineering lead professional of the Metairie office and a project manager skilled at coordinating projects involving various disciplines including engineering, surveying and environmental services. He performs project management duties that include service fee proposals, coordination of engineering design professionals and technicians, creating project management plans, coordinating sub-consultants, and coordinating survey and environmental field crews. As a professional engineer, Brian manages and delivers complete plan sets for civil projects, including site developments, roadways, drainage systems, bridges, pipelines, and utilities. He is engaged in all aspects of the project from conceptualization through construction and operation and will use his management experience to deliver a quality project.

Project Experience

Colonial Club Pump Station Evaluation, Harahan, LA (Jefferson Parish Government) – Engineering Lead Professional. Provided QA/QC of modeling results and project exhibits/reports. Oversaw all aspects of the project including conceptual design, scheduling, survey, modeling, reporting and client communications. Ensured successful project outcome through management and technical guidance of the project team.

David Drive Corridor Improvements (West Napoleon Avenue to Veterans Boulevard), Metairie, LA (Jefferson Parish Government) – Project Manager, Project Engineer. As a subconsultant to Digital Engineering, performed engineering and project management services for all aspects of design of the drainage improvements associated with the reconstruction of the roadway corridor, including drainage system modeling to size culverts, placement of drainage structures, constructability review, utility conflict identification and general plan set preparation.

St. Charles West Bank Master Drainage Plan, St. Charles, LA (St. Charles Parish Government) – Engineering Lead Professional. Oversees all services including H&H modeling of the entire West Bank of St. Charles Parish, improvement identification/prioritization, improvement benefit analysis, improvement cost estimating, and report/presentation preparation.

Goodbee Pond, Goodbee, LA (St. Tammany Parish Government) – Lead Professional. Oversees all aspects of the delivery of a 54-acre stormwater detention pond including H&H modeling, pond design, scheduling, survey, management of key subconsultants, and client communications. Ensures successful project outcomes through strong management and technical guidance to the project team.

Distribution Center, Carencro, LA (Confidential Client) – Project Manager, Engineer of Record. Led design and construction administration of all civil scope including the 150-acre site design supporting the 1,080,000 square foot facility, offsite road improvements, 40 acres of site drainage detention ponds, 1,000 passenger vehicle parking spaces and 300 truck stalls. Managed and participated in public outreach to address local citizens' concerns regarding traffic.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Matthew Thornton, PLA
Planner/Landscape Architect

Project Assignment:

Landscape Architect

Name of Firm with which associated:



Years' experience with this Firm:

10 years with this firm; 6 years with other firms

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2006/Landscape Architecture

Active registration: Year first registered/discipline:

LA PLA #0698/2014/Landscape Architecture

Other experience and qualifications relevant to the proposed Project:

Matt's responsibilities include managing design, planning layouts, plan production, meeting deadlines and site construction management, as well as obtaining plan approval from regulatory agencies for municipal districts, parish, and city projects. He is also experienced in coordinating project design for clients, including public and private land developers and recreational facilities. Matt has experience in the planning and design of green infrastructure drainage programs, airports, comprehensive plans, park master plans, recreation facilities, passive parks, wall systems, hike and bike trails/sidewalks, boulevard landscape design, monument entry, and Splash N Play parks.

Project Experience

Green Infrastructure/Low Impact Development Projects and Awards – A team member of the winning team for the Low Impact Development subdivision competition and awarded second place for the L.I.D. roadway competition within the County of Harris in Houston Texas. Assisted Harris County with the creation of the Green Infrastructure guidelines.

Wellness Phase II Sports Complex, Thibodaux Regional Medical Center, Thibodaux, LA – Project Manager for a NCCA compliant sports complex which included; Soccer Stadium, 8 Beach Volleyball Courts, 12 Tennis Courts, community garden, memorial hiking trail, drainage, parking, lighting, hike and bike trails, and landscape design.

CARMAX, Lafayette, LA -- Site Designer for the facility including design of the green infrastructure of the bio-detention swale(s) which were designed to meet stormwater detention and water quality standards for the city.

Greenwell Springs Multifamily, Baton Rouge, LA -- Project Manager for the facility including design of the 12 building site as well as the series of green infrastructure detention facilities.

Drakes Landing Multifamily, Baton Rouge, LA -- Project Manager for the project from conceptual layouts through construction. Project includes a complex green infrastructure stormwater management system, garden apt buildings, parking, play ground, dog park, and clubhouse.

Lafourche Parish Wetland Boardwalk, Thibodaux, LA – Provided design for the boardwalk, entry signage, pedestrian bridge, historical landmarks, loading/parking areas, and marketing storyboard and brochures; coordinated with elected officials; and continually provides project guidance and support.

Breaux Bridge Comprehensive Long-Range Resiliency Plan – Assisted with grant applications, funding acquisition, public meetings, GIS mapping, report drafts, council meetings, and final report compilation.

Church Point Comprehensive Resiliency Plan – Assisted with public meetings, GIS mapping, analysis, report compilation and recommendations, and final presentation to client.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Christopher "Clark" Capone, PE

Project Manager

Project Assignment:

Project Engineer

Name of Firm with which associated:



Years' experience with this Firm:

1 years with this firm, 6 years with other firm

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2013/Civil Engineering

Active registration: Year first registered/discipline:

LA PE.43455/2019/Civil

Other experience and qualifications relevant to the proposed Project:

Clark Capone is a licensed professional engineer and is responsible for the design and management of various civil projects that include street restoration & reconstruction, water, sewer, drainage, levees, and site development. Clark's design responsibilities include H&H modeling, construction plan & specification preparation, cost estimating, and scheduling. Project management responsibilities include proposal development, creating project management plans, coordination of subconsultants, oversight of topographic surveys & geotechnical work, and construction administration.

Project Experience

St. Charles West Bank Master Drainage Plan, St. Charles Parish, LA (St. Charles Parish Government) – Project Engineer. Assisted in the H&H modeling of the entire West Bank of St. Charles Parish, improvement identification/prioritization, improvement benefit analysis, improvement cost estimating, and report/presentation preparation.

Colonial Club Pump Station Evaluation, Harahan, LA (Jefferson Parish Government) – Project Manager, Engineer of Record. Performed data discovery & analysis, technical calculations, H&H modeling, benefit analysis, cost estimating, and report & exhibit production. Also, provided overall management for the project which included coordination of all work, managing multiple disciplines, leading team meetings, and client relations. Produced final H&H report detailing all the findings of the evaluation.

Pines Village Group A, New Orleans, LA (City of New Orleans) – Project Manager, Project Engineer. Infrastructure improvements project (streets, water, sewer, & drainage). Responsible for the design and overall management of the project. Required management of several design consultants, multiple inspectors, and the construction contractor. Required coordination with S&WB and DPW. Funding for the project was through FEMA recovery roads program and included ADA settlement funding and waterline replacement through SWBNO. Advanced project through bidding phase. Provided construction management services (e.g., change orders, payment applications, progress meetings, resident inspection).

Goodbee Detention Pond, Goodbee, LA (St. Tammany Parish Government) – Project Manager. H&H study for the construction of a 54-acre stormwater detention pond. Provides overall management for the project including coordination of all work, management of sub-consultants, leading team meetings, maintaining project schedule & budget, and providing updates to the Owner.

Audubon Group A, New Orleans, LA (City of New Orleans) – Project Manager, Project Engineer. Infrastructure improvements project (streets, water, sewer, & drainage). Responsible for the design and overall management of the project. Required management of several design consultants, multiple inspectors, and the construction contractor. Required coordination with S&WB and DPW. Funding for the project was through FEMA recovery roads program and included ADA settlement funding and waterline replacement through SWBNO. Advanced project through bidding phase.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Rene Hebert, PLS, PMP
Survey Lead Professional

Project Assignment:

Survey Lead Professional

Name of Firm with which associated:



Years' experience with this Firm:

14 years with this firm; 2 years with other firms

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2008/Geomatics

Active registration: Year first registered/discipline:

LA PLS.5070/2011/Survey; Project Management Professional/3150916/2021

Other experience and qualifications relevant to the proposed Project:

As Survey Lead Professional, Rene has 16 years of project experience. He has served as Survey Lead Professional of numerous survey projects where he has been responsible for overseeing and executing the technical aspect of surveying projects including producing and revising drawings, sketches, plans, etc. for contract documents and QC/QA of surveying services. He coordinates work among project technicians, field crew coordinator, field survey personnel, and other required professionals working on the project. Rene has gained valuable experience surveying the environment of south Louisiana including topographic, boundary and GPR surveys and underwater acoustic hydrographic surveys including multi-beam, single beam, side scan sonar, acoustical soundings, magnetometry and other bathymetric surveys for industrial, government and private clients.

Project Experience

Colonial Club Pump Station, Jefferson Parish, LA – *Survey Lead Professional*. Coordinated the collecting of all the required survey data, verified the collected data for accuracy, and produced the final survey deliverables.

Goodbee Pond, St. Tammany Parish, LA (St. Tammany Parish Government) – *Survey Lead Professional* - Coordinated the collecting of all the required survey data, verified the collected data for accuracy, and produced the final survey deliverables.

Lafourche Parish Master Drainage Plan, Lafourche Parish, for Lafourche Parish Government – *Survey Lead Professional*. Topographic survey of 181 miles of forced drainage collection canals and pump stations, along with surveying 355 cross sections across bayous, canals, and ditches and 412 bridges and culverts within the parish. Matt coordinated field crews, processed data, and produced topo maps for the project.

Eastside Drainage Improvements, Lafourche Parish Government – *Survey Lead Professional*. The purpose of this project was to provide Lafourche Parish with the necessary professional service to design, survey and permit the solution to the current drainage problems along the 20 Arpent canal on the eastside of Bayou Lafourche in the southern part of Lafourche Parish. This included replacement of culverts, cleaning of existing canals and new canals. Also, included is the managing of the required construction and contacting the property owners for permission to construct the project.

Harrison Improvements US190-LA59, St. Tammany Parish, LA (St. Tammany Parish Government) – *Survey Lead Professional*. Responsible for overseeing topographic surveys, crew coordination, oversight of data processing, surface generation for use in existing drainage maps, deliverable preparation, title take off, property surveys, prepared base and final right of way maps for the improvements along Harrison Ave. include approximately 13,200 feet of roadway widening along existing alignment including the installation of single lane roundabouts at Marigold Dr. and Falconer Dr.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Jean Reulet, PLS
Project Manager, Survey

Project Assignment:

Project Surveyor

Name of Firm with which associated:



Years' experience with this Firm:

1 years with this firm, 13 years with other firm

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2011/Geomatics

Active registration: Year first registered/discipline:

LA PLS. 5145/2015/ Survey

Other experience and qualifications relevant to the proposed Project:

Jean Reulet has served in various roles as a professional land surveyor since 2015. His field experience for LADOTD projects began in 2012 where he has been involved in dozens of topographic surveys of varying sizes across southern Louisiana. He has participated in all stages of a topographic survey from field data collection to final deliverables preparation according to the LADOTD's Location and Survey Manual. Jean is experienced in the use of cutting edge technology such as terrestrial and mobile LIDAR methods for collecting topographic and structural data in an efficient and safe manner.

Project Experience

LA 3127 Extension (LA 70 to LA 1), Ascension Parish, LA (Ascension Parish Government) – Survey Project Manager. Responsible for topographic surveys, crew coordination, oversight of data processing, deliverable preparation, title take off, title research reports, property surveys, prepared base right of way maps including 12 parcels for this project.

STPG/BH-Harrison Improvements US190 - LA59 – Survey Project Manager. Responsible for topographic surveys, crew coordination, data processing, surface generation for use in existing drainage maps, deliverable preparation, title take off, property surveys, prepared base and final right of way maps for the improvements along Harrison Ave. that includes approximately 13,200 feet of roadway widening along existing alignment including the installation of single lane roundabouts at Marigold Drive and Falconer Drive.

Rural Bridge Replacement Initiative Phase I (47 bridge structures), Districts 04, 05, 08, 58 (LADOTD) – Survey Project Manager. Coordinated field crews, processed data daily, and provided QA/QC of deliverables. TBS performed control, topographic, and right of way surveys for the replacement of 47 bridge structures in the northern Louisiana. Data was captured to detail the existing bridges themselves, roadways on either side, and surrounding terrain to ensure proper tie into to existing surfaces. Cross sections of the channels they cross were also surveyed to provide information for hydraulic modeling. Property surveys of affected tracts of land were also surveyed for any takings or servitudes, and these lines portrayed on Right of way maps.

Contract 4400019336 – Rural Bridge Replacement Initiative Phase 2 (40 bridge structures), Districts 04 & 05 (LADOTD) – Survey Project Manager. Coordinated field crews, processed data daily, and provided QA/QC of deliverables. TBS performed control, topographic, and right of way surveys for the replacement of 40 bridge structures in the northern Louisiana. Data was captured to detail the existing bridges themselves, roadways on either side, and surrounding terrain to ensure proper tie into to existing surfaces. Cross sections of the channels they cross were also surveyed to provide information for hydraulic modeling. Property surveys of affected tracts of land were also surveyed for any takings or servitudes, and these lines portrayed on Right of way maps.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Jacob J. Callais, PLS

Project Manager, Survey

Project Assignment:

Project Surveyor

Name of Firm with which associated:



Years' experience with this Firm:

7 years with this firm, 10 years with other firm

Education: Degree(s)/Year/Specialization:

Bachelor of Science/2010/Geomatics

Active registration: Year first registered/discipline:

LA PLS. 5132/2015/ Survey

Other experience and qualifications relevant to the proposed Project:

Jacob is a licensed professional land surveyor with 17 years of survey experience performing topographic surveys, hydrographic surveys, property surveys, preparation of right of ways, ALTA surveys, and computation for all aspects of land surveying. He is primarily responsible for providing advanced technical support in the form of calculations, document research and drawing preparation, as well field crew coordination and overall project development. He also has extensive experience performing major hydrographic surveys for multiple agencies, including the USACE.

Project Experience

SP H.011767.5, SP H.011806.5, SP H.011788.5; FP H011767, FP H011806, FP H011788 DOTD; OSBR Assumption/Iberville/West BR – Project Surveyor. Oversaw topographic surveys of the existing roadway, bridge and channel for multiple of-system bridge replacement project.

DOTD - Retainer Contract No. 4400003473 (LADOTD) – Project Surveyor. Oversaw surveying services including Topographic Survey, Title Research Reports, Property Survey, Title Updates, Right-of-Way (R/W) Maps for various project locations.

Mississippi River Re-introduction into Bayou Lafourche – Phase 2 Bayou Lafourche Freshwater District, Lafourche, Assumption, Ascension Parishes, LA – Project Surveyor. Created spreadsheets and converted elevations. Reprocessed old static data.

Bayou Dularge Marsh, Ridge, & Hydrologic Restoration Natural Resources Conservation Service (Subconsultant), Terrebonne Parish, LA – Project Manager. Coordinated topographic survey for perimeter containment, ridge survey. Prepared field packs and reviewed with field crew. Prepared field packs for magnetometer and side scan surveys of ridge survey. Reviewed data. Performed QA/QC and compared bathymetric data for Grand Pass multibeam survey. Reviewed final data and presented data to client.

Port of New Orleans Napoleon & Nashville Wharves - Hydrographic Survey – Project Manager. TBS collected topographic survey data within the designated survey area. The designated survey area for phase 1A began 100' east of the existing loading ramp, then proceeded west to the eastern face of the Nashville B warehouse and from the riverside edge of the existing wharf to the centerline of the railroad track that ran along the land side of the warehouse loading dock.

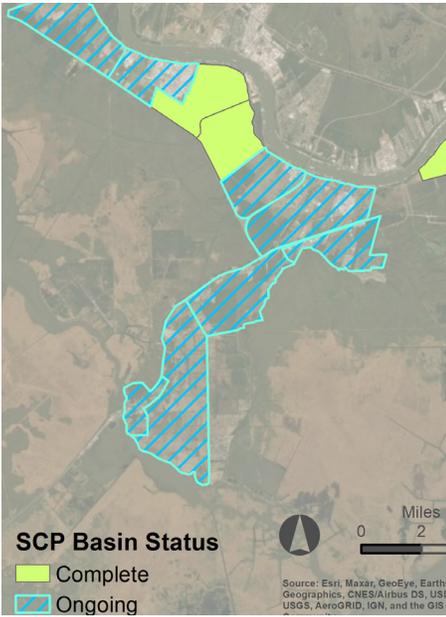
TEC Professional Services Questionnaire

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:	
<p>Colonial Club Ditch Pumping Station Evaluation Jefferson Parish, LA</p> <p><i>Jefferson Parish Government John O'Connor, PE 1221 Elmwood Park Blvd. Suite 906 Jefferson, LA 70123 504.736.6833</i></p>  	<p>TBS performed a topographic survey of the Colonial Club Ditch in Jefferson Parish, LA. The ditch drains a large residential area including a golf course. TBS collected data on the ditch itself, as well as other elements draining immediately into it, improvements within the area of the ditch, and utility information for those which might be affected by digging or widening of the ditch. The data was then processed and converted to CAIRO datum, due to the elevation of New Orleans, and brought into CAD for deliverable preparation. Plan views were created showing linework of improvements that were collected, elevation values, utility information, and contour lines of the surveyed area. They were delivered to the Parish and TBS' in-house engineers so that they could then evaluate the need and effectiveness of a pump station based on the existing drainage conditions. TBS evaluated two alternative locations for the station along the drainage canal and compared the benefits and costs associated with each alternative. Professional Services provided for this evaluation include Topographic Survey, Data Collection, Hydrologic and Hydraulic (H&H) modeling and report, Conceptual Design and Layout, Environmental Analysis, and Cost Estimating.</p> <p>H&H modeling was performed using the PCSWMM software package. PCSWMM is a dynamic hydrology-hydraulic simulation model used to simulate runoff quantity from areas and determine how this runoff behaves as it is transported through the drainage network. For the modeling effort, TBS utilized Jefferson Parish's East Bank H&H model as the base model. This model covers drainage for the entire east bank of Jefferson Parish. TBS updated the model parameters within the project area to reflect the newly collected data and the change in land use. The following models were produced: the Existing Conditions model, the Alternative #1 model, and the Alternative #2 model. The results from the Existing Conditions model formed a baseline to compare against the two post-improvement models.</p> <p>TBS performed a Conceptual Design to select an appropriate pump for the application and to size the wet well. The total head loss of the system was calculated, and a pump was selected based on this calculation and the desired station capacity. The wet well was sized to maximize efficiency and minimize the number of pump start-ups. To determine impacts to landowners by the proposed improvements, TBS produced Conceptual Layouts for both alternatives depicting access (utility & site) to the station, layout on the pump station components (generator, wet well, trash screen, control panel), the piping network, and the outfall location. Cost estimates were generated to compare the costs between the two alternatives.</p>	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021 (actual)	N/A	\$55,000

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. 2		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>St. Charles Parish Master Drainage Plan St. Charles, LA</p> <p><i>St. Charles Parish Government</i> <i>Miles Bingham</i> <i>mbingham@stcharlesgov.net</i> <i>985.331.2624</i></p>  	<p>TBS was selected to support St. Charles Parish Government in the development of a Master Drainage Plan (MDP). The MDP analyzes the existing gravity and forced drainage networks within the West Bank of St. Charles Parish and provides recommendations for improvements to these systems aimed towards mitigating flooding for the existing conditions and planning for surface water runoff from future development. The West Bank of St. Charles Parish is comprised of approximately 21,000 acres of land (excluding marsh/ swampland) and consists of eleven primary drainage basins, which will be analyzed separately in phases based upon their locations and similarities. The improvements recommended for each basin will be prioritized using multiple factors including implementation time, cost, and anticipated benefit to their respective area, which when compiled into the MDP, can be utilized to prepare a comprehensive Capital Improvements Program.</p> <p>As part of the phased approach for this analysis, TBS has conducted several data gap analyses to identify where additional information is needed for a complete drainage plan for individual basins. TBS used the data provided by the Parish, publicly available data, and supplemental data collected following the data gap analysis to develop hydrologic and hydraulic models of the watersheds in the Phase I region. These watersheds include Hahnville 1, Hahnville 2, and Ama-Sellers. TBS has prepared individual reports that summarize the results of the modeling for each watershed. Included in each of these reports are conceptual level cost estimates, project priority lists, and other recommendations for implementing the proposed improvements included in the proposed conditions modeling. The detailed reports developed by TBS for each watershed will be used to compile an overall Master Drainage Plan for the West Bank of St. Charles Parish. Final deliverables for the project will also include GIS data generated as part of the H&H analyses.</p> <p>The analyses for Phase I have been completed, and the analyses for Phases II (Luling and Luling 310) and IIIA (Mimosa-Willowdale) have commenced. The work products completed for Phase I were used to develop a template for the subsequent analyses and reports. This template has been reviewed and approved by the Parish. Upon completion of Phases II and IIIA, TBS will conduct studies for Phases IIIB (Des Allemands, Paradis, and Sunset) and IV (Killona and Taft).</p> <p>In addition to completing the H&H modeling and reporting tasks, TBS has also participated in community outreach efforts with the Parish. In late 2020 a Citizens' Drainage Committee was formed by the Parish. TBS has attended these events to ensure that the scope of drainage issues is understood as described by those experiencing them first-hand. As part of the Phase I analyses, TBS has also reviewed the updated drainage policies implemented by the Parish and has provided insight for future modifications. Lastly, as requested by the Parish, TBS has prepared summary information of the completed Phase I analyses for distribution and presentation to sitting council members. This information describes the potential construction phasing and cost information for all proposed improvements.</p>	
<p>Completion Date (Actual or estimated):</p> <p align="center">Ongoing</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
	N/A	\$577,000

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. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Goodbee Pond Goodbee, LA</p> <p><i>St. Tammany Parish Government 21490 Koop Dr. Mandeville, LA 70471 Anthony Smith 985.898.2700</i></p> 	<p>TBS serves as the prime consultant for the Goodbee Pond Project. The project consists of re-evaluating a previous Hydrologic and Hydraulic (H&H) Modeling Study for the area and implementing improvements to reduce flooding in the project area. The previous study was completed several years prior and evaluated the reduction in water surface elevations in the approximately 1,800-acre study area with the implementation of several drainage improvements. The proposed improvements analyzed include a 54-acre dry detention pond, a control structure, channel widening, channel extending, and culvert upgrades.</p> <p>The Professional Services provided for the project to date include data discovery, data gap analysis, topographic survey, H&H modeling and report production, model QA/QC, composite landowner mapping, desktop environmental analysis, and overall project management. Future tasks include design of the drainage improvements, additional topographic surveying required for design, geotechnical engineering (borings, laboratory testing, analysis), wetland delineation, and permitting.</p> <p>TBS provided a topographic survey to acquire data on the existing drainage features (culverts, ditches, channels) in the approximately 4,000- acre watershed for use in the modeling effort. A combination of digital terrain models, contours, and topographic survey information was used to determine the watershed area and to establish boundary conditions for the model. The model was updated to reflect the newly gathered data.</p> <p>The H&H modeling software used was the EPA SWMM 5.0 module which is a dynamic, integrated hydrologic and hydraulic stormwater and floodplain modeling software with the ability to model conditions coupled in both 1D (open channel and closed conduit flow) and 2D (overland flow). High water marks were collected by the TBS survey team during a heavy rain event and used in the model calibration. Once calibrated, the proposed improvements were analyzed for two design storms.</p> 	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Ongoing	N/A	\$351,000

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. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>CarMax Lafayette, LA</p> <p><i>Centerpoint Integrated Solutions</i> <i>John Thatcher</i> 355 Union Blvd., Suite 301 Lakewood, CO 80228 jthatcher@centerpoint-is.com</p>	<p>TBS performed civil site design and green infrastructure services for the CarMAX car dealership in Lafayette, LA. This Facility consists of 1 main showroom building and cleaning facility, on 10 acres. The CarMAX development was completed in 2018.</p> <p>The project included the engineering and design of green infrastructure implementations of pervious areas. To reduce the impact of the paved areas and downstream effects, bio-detention swales were added to the property and integrated into the drainage system to manage and control stormwater.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Landscape Architecture • Boundary, Topographic, and ALTA Survey Services • Land Planning • Civil Design • Overall Green Infrastructure Drainage Solutions • Utility • SWPPP 	
	 <p><i>CarMax Aerial View</i></p>	
	Estimated Cost:	
Completion Date (Actual or estimated):	Entire Project:	Work for which Firm was Responsible:
2018 (actual)	N/A	\$173,000 (fees)

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. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Greenwell Springs Multifamily Complex Baton Rouge, LA</p> <p><i>LDG Development, LLC Evan Holladay 1469 South Fourth Street Louisville, KY 40208 cgallahue@ldgdevelopment.com</i></p>	<p>TBS performed land planning, landscape architectural, and civil site design services for the Greenwell Springs Multifamily Complex in Baton Rouge, LA. This complex consists of 12 buildings, 240 units, on 18 acres. The Greenwell Springs development has been approved by the planning commission. Construction documents are currently on hold by client.</p> <p>The project included small scale green infrastructure implementation to slow the rate of runoff and store the first flush of rainfall in engineered bio-filters. These features help to reduce the pollutant load from impervious areas and alleviate downstream conveyance needs.</p> <p>Stormwater is controlled through a series of green infrastructure catch basins that interconnect to minimize the detention pond size required by slowing runoff rates.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Landscape Architecture • Boundary, Topographic, and ALTA Survey Services • Land Planning • Park Design • Green Infrastructure Detention Facilities • Civil Design • Environmental Wetland Evaluation • SWPPP 	
	 <p><i>Greenwell Springs Complex Rendering</i></p>	
	Estimated Cost:	
Completion Date (Actual or estimated):	Entire Project:	Work for which Firm was Responsible:
2018	N/A	\$186,000 (fees)

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.

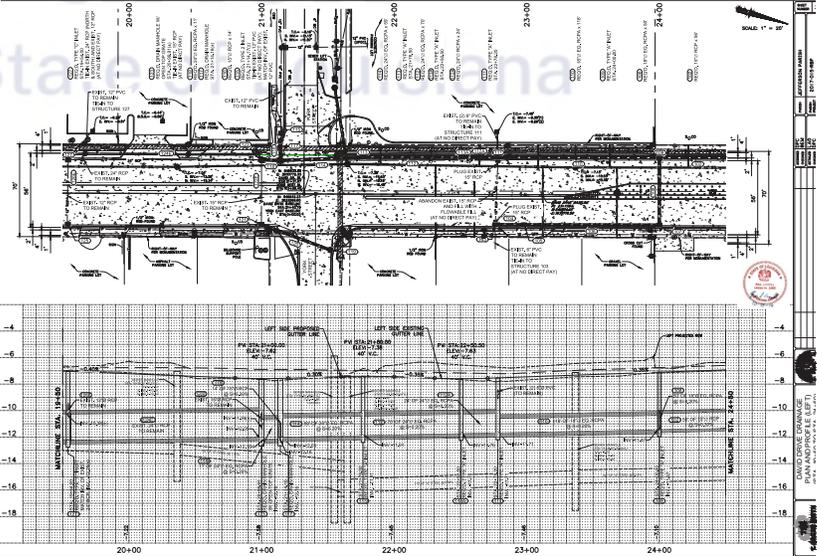
PROJECT NO. 6

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:					
<p>2017-032-RBP, Eastbound West Esplanade Avenue Restoration, Tartan Drive to Haring Rd Jefferson Parish, LA</p> <p><i>Jefferson Parish Public Works Department Mark Drewes, PE, Director 1221 Elmwood Pk. Blvd., Suite 904 Jefferson, LA 70123 504.736.6500</i></p>   	<p>The eastbound lanes of West Esplanade Avenue between Tartan Drive and Haring Road were in less-than-desirable condition due to general wear and tear, various patch repairs and the overall age of the roadway. Jefferson Parish contracted TBS to restore and rehabilitate the roadway to like-new condition.</p> <p>TBS completed design of the improvements and coordinated the public bid of the project in collaboration with the Road Bond Program Manager and Jefferson Parish. TBS provided Construction Administration services throughout the construction and closeout of the project and also provided Resident Inspection services for the project through a subconsultant. TBS completed Record Drawings and is currently assisting the Parish and Road Bond Program Manager with final project closeout tasks.</p> <p>In addition to designing the general removal and replacement of 9-inch concrete along the half-mile roadway segment, the project includes roadway profile adjustments to optimize driver comfort, upgrade of three cross drains to 42-inch RCP, heavy duty curbing, adjustment of various catch basins and manholes, ADA compliant handicap accessible curb ramps and sidewalk improvements, driveway removal and replacement, median drainage improvements, and relocation of street lighting.</p> <p>TBS also performed the topographic survey of the site and coordinated with the Jefferson Parish Engineering Department who designed significant waterline improvements as part of the project.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Topographic Survey • Construction Cost Estimating • Design of Full Roadway Reconstruction (Concrete and Asphalt Paving) • Design of Drainage Improvements (Small and Large Diameter RCP) • Utility Coordination • Coordination of Public Bidding • Construction Administration • Resident Inspection (via sub-consultant) • Record Drawings 					
<p align="center">Completion Date (Actual or estimated):</p> <p align="center">2019 (actual)</p>	<p align="center">Estimated Cost:</p> <table border="1" data-bbox="597 1822 1536 1992"> <thead> <tr> <th data-bbox="597 1822 1076 1906">Entire Project:</th> <th data-bbox="1076 1822 1536 1906">Work for which Firm was Responsible:</th> </tr> </thead> <tbody> <tr> <td align="center" data-bbox="597 1906 1076 1992">\$2,077,645 (construction)</td> <td align="center" data-bbox="1076 1906 1536 1992">\$2,077,645</td> </tr> </tbody> </table>		Entire Project:	Work for which Firm was Responsible:	\$2,077,645 (construction)	\$2,077,645
Entire Project:	Work for which Firm was Responsible:					
\$2,077,645 (construction)	\$2,077,645					

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. 7

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>2017-015-RBP, David Drive Corridor Improvements, West Napoleon Avenue to Veterans Boulevard Jefferson Parish, LA</p> <p><i>Jefferson Parish Public Works Department Mark Drewes, PE, Director 1221 Elmwood Pk. Blvd., Suite 904 Jefferson, LA 70123 504.736.6500</i></p>	<p>T. Baker Smith was selected by Jefferson Parish as a sub-consultant to Digital Engineering & Imaging Inc. for the David Drive Corridor Improvements (West Napoleon Avenue to Veterans Boulevard).</p> <p>TBS was responsible for all tasks for the Drainage Design associated with the project that include: Design of the required roadway drainage collection system and subsurface drainage system, sizing and locating the required system, drainage layout plan, drainage plan/profile drawings utilizing the improved conditions prepared by the prime consultant, existing drainage map, proposed drainage map, hydraulics report, summary of drainage structures, specifications for non-standard items, outfall tie-in design for Soniat Canal structural wall, quantity takeoffs and cost estimate. The final design is complete and the project is currently under construction.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Hydraulic Design and Reporting • Storm Drainage System Design • Canal Wall Structural Tie-in Design • Construction Cost Estimating • Specifications for Non-standard Items 	
Completion Date (Actual or estimated):	Estimated Cost:	
2022 (estimated)	Entire Project:	Work for which Firm was Responsible:
	\$7,200,000 (construction)	\$1,400,000

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. 8

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Bucktown Boardwalk & Marsh Overlook Jefferson Parish, LA</p> <p><i>Jefferson Parish Government Lauren Averill 1221 Elmwood Park Blvd. Suite 906 Jefferson, LA 70123 504.736.6653</i></p>   <p><i>Bucktown Boardwalk & Marsh Site Photos</i></p> 	<p>The Jefferson Parish Department of Environmental Affairs along with the Coastal Management Department of Jefferson Parish is looking to renovate the Bucktown Harbor. This Boardwalk will be the first phase of these proposed renovations to the harbor. The proposed plan is to build a boardwalk that is 8 feet wide and 928 feet long, along the western edge of the Harbor's property that extends into Lake Pontchartrain. This proposed boardwalk will have two eastern facing observation decks that will extend into the interior marsh. The two eastern facing decks will have benches and bird blinds. There are also two proposed 16-foot x 24-foot western facing observation decks with benches that will extend from the boardwalk into the lake. On the northern end of the boardwalk there is a proposed kayak launch.</p> <p>TBS conducted a topographic survey of existing interior marsh area and lake edge. This work was performed strictly on foot as not to disturb the vegetation in the interior marsh or the lake edge. TBS collected elevation data on a 50-foot grid through the marsh area. In the area of the proposed interior decks, TBS collected elevation data on a 25-foot grid. TBS also provided a detailed survey of an existing water feature that connects the interior marsh with the lake, and cross-section of the existing rip-rap that runs along the lake shoreline. In specified locations TBS extended these cross sections into the lake to locate the end of the submerged rip-rock.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Topographic Surveys • Control Points • OPUS Data Processing  <p align="center"><i>Bucktown Boardwalk & Marsh Site Photos</i></p>	
<p align="center">Completion Date (Actual or estimated):</p>	<p align="center">Estimated Cost:</p>	
	<p align="center">Entire Project:</p>	<p align="center">Work for which Firm was Responsible:</p>
<p align="center">2018 (actual)</p>	<p align="center">N/A</p>	<p align="center">\$7,650 (surveying fees)</p>

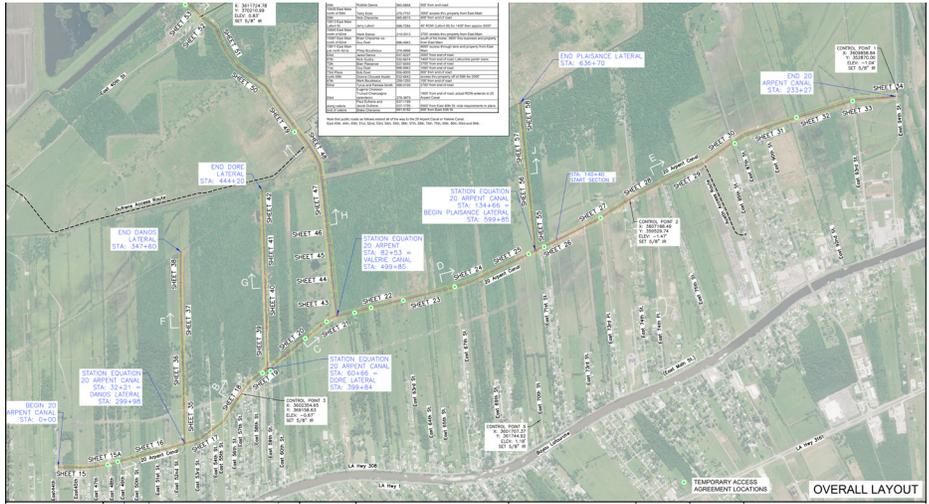
TEC Professional Services Questionnaire

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. 9		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
<p>Bucktown Harbor Survey Services Jefferson Parish, LA</p> <p><i>Jefferson Parish Government</i> <i>Mark Drewes</i> <i>1221 Elmwood Pk. Blvd.</i> <i>Suite 802</i> <i>Jefferson, LA 70123</i> <i>504.736.6500</i></p>  <p align="center"><i>Bucktown Harbor Vision Plan</i> <i>(image credit: bucktownharbor.com)</i></p>	<p>Bucktown Harbor is a partially reclaimed stretch of 30+ acres of lake bottom which forms a protected harbor on the south shore of Lake Pontchartrain in Metairie, LA. Currently a home base for the U.S. Coast Guard Station New Orleans and serving as a recreational and commercial fishing marina, the Harbor is largely undeveloped. This property provides opportunity to develop a vibrant waterfront gathering place, rich with tradition and honoring the history of the community. Future plans for the property include modification of the harbor entry, additional boating docks, terraced lawns, an educational marsh boardwalk and fishing pier, among other features.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Site-wide topographic land surveying <ul style="list-style-type: none"> ○ 36-acre Topographic Survey ○ Utilities Mapping ○ Elevation Grid of Marsh Area • Single-Beam Hydrographic Survey <ul style="list-style-type: none"> ○ Inner Harbor ○ Pump Station Discharge Area ○ Lake Pontchartrain Shoreline from Harbor to Causeway Bridge • Multi-Beam Hydrographic Survey <ul style="list-style-type: none"> ○ Harbor Entrance ○ Pump Station Discharge Area • 6(f) Boundary in Accordance with LWCF Guidelines • Shoreline Erosion Assessment (Ongoing) <ul style="list-style-type: none"> ○ Aerial LiDAR ○ Traditional Topographic Survey ○ Bathymetric Survey 	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2019 (actual)	N/A	\$41,000

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. 10					
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:				
<p>Eastside Drainage Improvements Lafourche Parish, LA</p> <p><i>Lafourche Parish Government Archie Chaisson, III parishadministrator@lafourchegov.org 985.446.8427</i></p>	<p>TBS provided the necessary professional services to design, survey and permit the solution to the current drainage problems along the 20 Arpent canal on the eastside of Bayou Lafourche in the southern part of Lafourche Parish. This included replacement of culverts and cleaning of existing canals and new canals. Also, included is the managing of the required construction and contacting of property owners for permission to construct the project.</p> <p>An existing unsteady HEC-RAS model was updated with raw survey data including new canals, updated culvert crossings, updated bridge crossings, and many new cross-sections. A proposed model was then created to determine which improvements would be necessary to improve the maximum flood depth such that client goals were achieved.</p> <p>TBS obtained a grant totaling approximately \$4.5 million to help fund its construction which will include a future pump station not yet under design.</p> <p>Services Provided:</p> <ul style="list-style-type: none"> • Topographic Survey & Aerial Photography • Right of Way Surveying and ROW Plats • Hydraulic Modeling and Coordination • Grant Application Assistance • Engineering Design - Civil • Construction Administration Services • Construction Plans and Specifications • Wetland Delineation 				
					
Completion Date (Actual or estimated):	Estimated Cost:				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Entire Project:</td> <td style="width: 50%; text-align: center;">Work for which Firm was Responsible:</td> </tr> <tr> <td style="text-align: center;">\$612,000</td> <td style="text-align: center;">\$612,000</td> </tr> </table>	Entire Project:	Work for which Firm was Responsible:	\$612,000	\$612,000
Entire Project:	Work for which Firm was Responsible:				
\$612,000	\$612,000				
Ongoing					

TEC Professional Services Questionnaire

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:	
Jefferson Parish Government	Swift Energy Operating, LLC; Double Eagle Marine, LLC; Tommie Vizier and Sons Towing Co, LLC; Premier Tugs, LLC; Daigle Towing Service, LLC; T. Baker Smith, LLC	Because TBS held a portion of the liability, Jefferson Parish offered a settlement, which we negotiated with them and which was approved by Jefferson Parish Council on April 30, 2014. Jefferson Parish prevailed in this litigation, which was settled out of court.

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

FIRM HISTORY

T. Baker Smith, LLC (TBS), an *Engineering News Record* Top 500 Design Firm, has provided professional surveying, engineering, environmental, and construction management services in Louisiana for the past century. TBS is a fully integrated, professional consulting firm committed to precision, integrity, and ingenuity. Founded in 1913, TBS has grown from a one-man shop in Houma, LA to a 260+ associate firm with office locations across the Gulf Coast Region, including Metairie, Covington, Baton Rouge, Lafayette, Thibodaux, and Houma, Louisiana; Galveston, Corpus Christi, and Houston, Texas; and Jackson, Mississippi. As residents of Jefferson Parish, we are deeply invested in the success of projects in the area, as it affects our homes, our families, and our businesses. We are eager to engage all of our resources to assist Jefferson Parish in any effort.

FIRM SIZE

TBS currently has over 260 staff members firm-wide including civil, structural, and environmental engineers, land surveyors, planners, environmental scientists, biologists, construction administrators, and project representatives.

LOCATION OF THE PRINCIPAL OFFICE

TBS will manage projects resulting from this request from our Metairie office, located at 740 Phosphor Avenue, Suite B, Metairie, LA 70001. Additional support can be provided from all TBS offices if ever needed.



PROFESSIONAL TRAINING AND EXPERIENCE

Our professionals hold degrees in civil engineering, mechanical engineering, structural engineering, mechanical engineering technology, geomatics, industrial technology, drafting and design technology, etc. All of our professionals have proper state registrations. These qualifications are exemplified in the resumes provided in Section K.

CAPACITY FOR TIMELY COMPLETION OF PROJECTS

TBS has an office in Jefferson Parish, LA located at 740 Phosphor Avenue, Suite B, Metairie, LA 70005. The Metairie office employs ten associates, five of whom reside in Jefferson Parish. Our local staff is fully supported by a company-wide staff of 260+ associates, including 27 professional engineers and 18 professional surveyors that are available to assist in meeting project demands, should the need occur.

TBS maintains a steady workload and routinely delivers an array of projects to new and existing clients successfully. Our highly skilled Discipline Leaders work collaboratively with Project Managers and their delivery teams to level workload and technical resources as change management in projects occur. We have structured project management processes and systems that have served us well for a century and continue to be adapted in the increasingly fastpaced engineering world. This process will be implemented in our approach to managing any project for Jefferson Parish. With over 260 associates firm-wide and multiple office locations ready to assist as needed, TBS is able to allocate the necessary personnel to staff this project immediately. With a purposeful and significant investment in all facets of technology that facilitate project delivery, TBS can rapidly and efficiently manage resources on a daily basis, ultimately leading to the project's completion within the proposed schedule.

ADVERSARIAL LEGAL PROCEEDINGS

As described in Section M above, TBS was involved in a legal matter with Jefferson Parish that was settled in April of 2014.

TEC Professional Services Questionnaire

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

T. BAKER SMITH BENCH STRENGTH

TBS has 260+ associates in ten office locations across Louisiana, Texas and Mississippi. Our diverse group of associates includes civil, structural, environmental and coastal engineers; professional land surveyors; planners; environmental scientists; biologists; construction administrators; project representatives; and technical support personnel. Our qualified associates are the foundation of our success, and the equipment and technology that we own and maintain allow them to perform quality services that exceed the expectations of our clients. This includes one of the largest fleets of work boats, airboats, and all-terrain vehicles to access the most remote project site locations.



MINIMUM REQUIREMENTS

Requirement	TBS Associate
1. The persons or firms under consideration shall have at least one principal who is a professional engineer who shall be registered as such in Louisiana	Kenneth Wm. Smith, PE, PLS., FACEC Chief Executive Officer LA PE.24642 exp.: 9/30/2022
2. The persons or firms under consideration shall have a professional in charge of the project who is a licensed, registered professional engineer or architect in the State of Louisiana with a minimum of five (5) years experience in the disciplines involved	Brian E. Moldaner, PE, MBA Lead Professional, Engineering LA PE.40075 exp.: 3/31/2024
3. The persons or firms under consideration shall have one employee who is a licensed, registered professional engineer or architect in the State of Louisiana in the applicable discipline involved. (A sub-consultant may meet the requirement only if the advertised project involves more than one discipline.)	Brian E. Moldaner, PE, MBA Lead Professional, Engineering LA PE.40075 exp.: 3/31/2024

TEC Professional Services Questionnaire

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

PRIOR SUCCESSFUL COMPLETION OF PROJECTS

TBS' team of professionals has many years of experience working on drainage projects in Louisiana. Projects highlighted in Section L exemplify our history of similar project experience and include:

Knowledge of Area:

- **Jefferson Parish Bucktown Boardwalk and Harbor Survey Services** - TBS provided surveying services for two projects. This Boardwalk will be the first phase of these proposed renovations to the harbor. TBS conducted a topographic survey of existing interior marsh area and lake edge. TBS collected elevation data on a 50-foot grid through the marsh area. In the area of the proposed interior decks, TBS collected elevation data on a 25-foot grid. Bucktown Harbor is a partially reclaimed stretch of 30+ acres of lake bottom which forms a protected harbor on the south shore of Lake Pontchartrain. TBS provided site-wide topographic land surveying services for 36 acres.

Local Drainage Experience:

- **2017-015-RBP, David Drive Corridor Improvements, West Napoleon Ave. to Veterans Blvd., Jefferson Parish** - TBS was responsible for all design of the required roadway drainage collection systems. This included hydraulic design, and storm drainage system design.
- **Jefferson Parish Colonial Ditch Pumping Station Survey** - TBS performed a topographic survey of the Colonial Club Ditch which drains into a large residential area. Additionally, H&H modeling was performed that covered the entire East Bank of the Parish. From this, alternatives were developed and conceptual design was performed to select the appropriate drainage application.

Green Infrastructure:

- **Greenwell Springs Multifamily Complex, Baton Rouge, LA** - TBS performed land planning, landscape architectural, and civil site design services for the Greenwell Springs Multifamily Complex in Baton Rouge, LA. This complex consists of 12 buildings, 240 units, on 18 acres. Services included Green Infrastructure Detention facilities boundary, topographic and ALTA survey services, landscape architecture, and SWPPP.
- **CarMax Facility, Lafayette, LA** - TBS performed civil site design and green infrastructure services for the CarMAX car dealership in Lafayette, LA. This Facility consists of 1 main showroom building and cleaning facility, on 10 acres. Services also included surveying services and landscape architecture.

TBS' multi-disciplined approach to surveying services, drainage and green infrastructure design has resulted in successful projects for the past 25 years. From start to finish, TBS' associates are involved in every phase of the project – this seamless, integrated effort has been proven to deliver projects on-time and exceed expectations.

CONCLUSION

TBS' team of professionals have exemplified experience throughout our history on projects. We know this project is important to the Parish and community and will use our experience to make it successful. TBS has provided surveying and design services for projects of all types including H&H, green infrastructure, residential and commercial development.

Within the past years, TBS has completed similar projects with marked success, on-time and on budget for local and state governments, including Jefferson Parish Government, the Louisiana DOTD, Lafourche Parish Government, City of Covington, and Terrebonne Parish Consolidated Government.

Since 1913, TBS has provided public works solutions that improved the quality of life in the communities we helped build. With our 100 years of experience and passion for seeing our communities thrive, we ask for your trust in TBS to provide Jefferson Parish with integrated solutions for this project.

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

Signature: Andrée J. Cortez

Print Name: Andrée Cortez, PE, PMP

Title: Chief Operations Officer

Date: 4/14/2022



TEC Professional Services Questionnaire for **PUBLIC OUTREACH AND GREEN INFRASTRUCTURE PLANNING**

Desire Line, LLC
1348 Chickasaw Avenue
Metairie, LA 70005

Alexandra "Alex" Gelpi Carter, AICP
President and CEO
Office: (504) 388-0482
Email: AlexGelpiCarter@Desire-Line.com



TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

SOQ 22-016 - Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant
Resolution No. 139147

B. Firm Name & Address:

Desire Line LLC
1348 Chickasaw Avenue
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:

Alexandra "Alex" Gelpi Carter, AICP
President and CEO
Phone: 504-388-0482
Email: AlexGelpiCarter@Desire-Line.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.

NA

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

2 Administrative	___ Estimators	___ Specification Writers
___ Architects (Licensed)	___ Geologists	___ Structural Engineers
___ Chemical Engineers	___ Geotechnical Engineers	___ Graduate Engineers
___ Civil Engineers	___ Interior Designers	2 Project Managers
___ Construction Inspectors	___ Landscape Architects	___ Clerical
___ Ecologists	___ Land Surveyor	2 Grant/Funding Specialist
___ Electrical Engineers	___ Mechanical Engineers	___ Sanitary Engineers
___ Engineer Intern	___ Environmental Engineers	
___ Professional Land Surveyors		6 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.
NA

2.
NA

H. Has this JOINT-VENTURE previously worked together? Please check:
 YES NO

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, 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. NA		
2. NA		
3. NA		

J. Please specify the total number of support personnel that may assist in the completion of this Project:

 1

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:

Alexandra "Alex" Gelpi Carter, AICP
President & CEO

Project Assignment:

Project Scoping Specialist; Senior Planner; Policy Writer; Outreach & Engagement Specialist; FEMA, CDBG-MIT and DR Subject Matter Expert; Watershed Management & Green Infrastructure Subject Matter Expert

Name of Firm with which associated:

Desire Line LLC

Years' experience with this Firm:

1 year

Education: Degree(s)/Year/Specialization:

Master of Urban and Regional Planning, Housing and Finance Specialization, GPA 4.0 - University of New Orleans (2011)
Bachelor of Fine Arts, GPA 4.0 - Loyola University of New Orleans (2009)

Active registration: Year first registered/discipline:

AICP – American Institute of Certified Planners (2016 – Present)

Other experience and qualifications relevant to the proposed Project:

Alex is a Certified Planner with 10+ years of experience implementing best practices in community, state, and federal codes; grants and programs; and has a thorough understanding of federal guidelines and state enabling statues governing floodplain management, coastal zone management, drainage, comprehensive planning, and development. Alex is a lifelong resident of Jefferson Parish and homeowner (10+yrs) in the Bucktown neighborhood. She has first-hand experience advancing economic development in Jefferson Parish and Louisiana communities, including fostering smart growth initiatives (Metairie Road, Old Jefferson, and Fat City in Jefferson Parish), neighborhood revitalization efforts built upon major infrastructure investments (Severn Avenue Pedestrian Improvements, Pocket Parks on Metairie Road and 18th Street in Jefferson Parish), creation of neighborhood civic organizations (Friends of Fat City) and adoption of local codes that support reinvestment and infill development, including: pedestrian, landscaping and stormwater improvement overlays, and business development districts. Alex has been recognized locally (Planner of the Year, Jefferson Parish) and nationally (APA Small Town and Rural Planning Division). As Program Manager for the Louisiana Watershed Initiative (LWI), Alex programed the expenditure of 1.2 billion in federal mitigation funds statewide, and successfully facilitated the award of over \$700M in resilient projects and programs, and the development of SB 414 currently under consideration to formalize regional watershed management entities statewide. She led development o the LWI Nature Based Solutions program, a two-year training series with technical resources aimed at promoting the incorporation of nature-based solutions into project designs that harness natural features to reduce flood risk, reduce long-term operations and maintenance costs, and improve water quality, She also led the Statewide Data and Modeling Program, providing project and planning oversight on H&H model development statewide to simulate flood scenarios and analyze potential flood mitigation solutions to support next steps in regional collaboration and enhanced project development around shared water management challenges. Alex's work has built a national reputation for high-quality planning and project management; elevated standards in location-driven project scoping; specialized expertise in ingenuity in smart growth, nature based solutions, water management and revitalization projects; managing grant compliance documentation to FEMA and HUD regarding unique floodplain issues such as: functionally dependent uses, V-Zone and floodway construction and retrofit, temporary and non-traditional building types; and funding/managing local project/permitting large infrastructure assets in high hazard areas.

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:	
Project Name: Code and Integrated Green Infrastructure Strategy Location: Jefferson Parish, LA Contact: Brooke Perry Tolbert Assistant Director, Planning Department Jefferson Parish Government 1221 Elmwood Park Blvd, Suite 601 Jefferson, LA 70123 P: 504-736-6354 E: BPerry@JeffParish.net	In partnership with Volkert, Inc. (prime) and Meyer Engineers, Ltd., Alex Carter developed the December 2021 Draft Jefferson Parish Stormwater and Green Infrastructure Plan. Project included analysis of parishwide flood risk and project development location priorities, recommendations to leverage grants in furtherance of Plan objectives, and an implementation schedule to assist the Parish in organizing efforts to effectively reduce flood risk. Development of a Green Infrastructure Capital Improvement Plan was recommended as an immediate next step, including the prioritization of potential green infrastructure project locations and project designs, including a public engagement process, to isolate solutions to nuisance flooding, reduce flood claims, improve water quality, and support and improve traditional drainage system capacity.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
12/31/2021	\$200,000	\$28,000

PROJECT NO. 2

Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Project Name: Planning and Floodplain Management Support for FEMA NFIP Substantial Damage Estimates Location: Terrebonne Parish, LA 7836 Park Avenue, Houma, LA 70364 Contact: Christopher M. Pulaski, PLA Director, Planning & Zoning P: (985) 873-6569 E: cpulaski@tpcg.org	In response to impacts from hurricane Ida, Desire Line (prime) completed FEMA substantial damage determinations in coordination with Terrebonne Parish Planning and Permitting staff in fulfillment of minimum FEMA NFIP requirements. Work included planning, grant management, and FEMA compliance and coordination; as well as field data collection on more than 35,000 private properties, development of damage determination methodology, daily reporting, permitting staff support, elevation certification scanning support services, and preparation and presentation of final report and presentation.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
03/31/2022	\$205,000	\$167,000

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility	
Project Name: Planning and Floodplain Management Support for Substantial Damage Estimates Location: City of Kenner, LA Contact: Tiffany Wilken Interim Director Inspection & Code Enforcement City of Kenner P: (504)975-8976 E:twilken@kenner.la.us	In response to impacts from hurricane Ida, Desire Line LLC (prime) completed substantial damage determinations in coordination with the City of Kenner Code Enforcement staff in fulfillment of minimum FEMA NFIP requirements. Work included planning, grant management, and FEMA compliance and coordination; as well as review of field data collected to-date, development of damage determination methodology, completion of substantial damage determinations for properties identified by the City and suspected by FEMA as substantially damaged, weekly reporting, preparation and presentation of final report and presentation, and permitting staff support.	
Completion Date (Actual or estimated)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
03/31/2022	\$165,000	\$165,000

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Project Name: Grants Strategy and Development Support for Magnolia Consultants and the Port of South Louisiana Location: 10557 Airline Highway, St. Rose, LA 70087 Contact: Leonard "Lenny" Kopowski, President, Magnolia Strategic Consultants P: 504-737-1600 E: lkopowski@magnoliastrategic.com	In partnership with Magnolia Strategic Consultants, LLC (prime) Desire Line is providing strategic planning and grant management services to develop more creative, specialized, competitive grants that further the Port of South Louisiana's long-term development strategy, including improving existing grant competitiveness, developing comprehensive "Mega Grants", and supporting the implementation of a long-term pro-active grant management strategy.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Ongoing	NTE \$150,000	\$60,000

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Project Name: CDBG-MIT Program Administration Support - City of Clute, TX Location: City of Clute, TX Contact: Mark Goodson, Principal CSRS P: (225) 831-2211 E: mark.goodson@csrsinc.com	In partnership with CSRS LLC (prime), Desire Line is supporting grant administrative tasks, including project startup, procurement; project design review and coordination; public communication and participation; project bidding, construction, and close-out; grant compliance, draw down and reporting; pre-audit and monitoring preparation services. (1/2022 - 1/2025)	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
(ongoing) Contract end date:1/2025	\$450,000 (Grants Admin)	\$223,661.50 (50% of Grants Admin)

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Project Name: LWI Highway 22 Gapping Infrastructure Grant Administration Support Location: Lake Ponchartrain Levee District Owner Contact: Monica Price, PD LLC P: (985) 201- 4917 E: monicaprice@pdconsulting.biz	In partnership with La Terre Engineering (Prime) and PD LLC, Desire Line is supporting grant administrative tasks, including project startup, procurement; project design review and coordination; public communication and participation; project bidding, construction, and close-out; grant compliance, draw down and reporting; pre-audit and monitoring preparation services.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
(Ongoing) Contract renewal date: 2/15/2023	\$157,500 (Grants Admin)	\$47,250 (30% of Grants Admin)

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Project Name: Belle Terre Gateway Project Location: St. John the Baptist Parish, LA Contact: Ms. Tara Lambeth. PhD, AICP, CFM Coastal and Water Management Division Lead St. John the Baptist Parish 1801 West Airline Highway LaPlace, LA 70068 P: (985) 651- 5565 E: t.lambeth@stjohn-la.gov	In partnership with Meyer Engineers, Ltd (prime) and Dana Brown and Associates, Desire Line LLC is performed project management services and developed a scope report and alternatives analysis for the clearing and redevelopment of the Interstate 10 interchange at the Belle Terre Exit to LaPlace, Louisiana. Desire Line facilitated meetings with parish staff (including development of meeting agendas, comment/decision resolution matrices, meeting presentations, moderation, summaries, and next steps tracking); reviewed existing plans, state and federal guidelines; and best practices in gateway alternatives; coordinated with DOTD and DNR regarding ongoing awareness and identification of relevant processes to complete to execute alternatives; and completed site research, analysis, and mapping.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
3/31/2021	\$35,000	\$14,500

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Project Name: Unified Development Code Update Location: St. Tammany Parish, LA Contact: Ross P. Liner, AICP, PTP, CFM Director of Planning and Development St. Tammany Parish Government 21454 Koop Drive, Building B, Mandeville, LA 70471 P: 985.898.2529 E: rliner@stpgov.org	In partnership with Fairway Consulting & Engineering LLC (prime) and Villavaso and Associates LLC, Desire Line is currently drafting an update to St. Tammany's Code of Ordinances, Part II, Land Development Code, including reorganization, reformatting, and incorporating amendments to zoning district standards, sign regulations, landscaping, accessory uses, nonconforming uses, definitions, stormwater regulations, subdivision standards and land development processes in accordance with best practices.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
10/31/2022	\$150,000	\$50,000

TEC Professional Services Questionnaire

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.		
2.		
3.	NA	
4.		

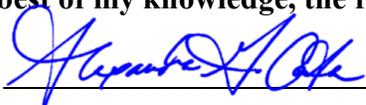
N. Use this space to provide any additional information or description of resources supporting Firm’s qualifications for the proposed project.

Desire Line LLC is a local planning and disaster recovery company; a Certified-Active Small Entrepreneurship; a Small and Emerging Business Enterprise; and DOTD Certified DBE. President and CEO, Alex Carter, is a lifelong resident of Jefferson Parish and 10+ year homeowner in the Bucktown neighborhood where the scoping project is located. Prior to forming Desire Line, Alex was responsible for management and implementation of the Louisiana Watershed Initiative (LWI), where she designed programs to invest over \$1.2 billion in federal funding by multiple state agencies for innovative watershed management and resilience projects. Through her involvement in major infrastructure project management, she has stretched federal dollars and brought innovation and simplicity to complex multi-stakeholder projects. She has proven expertise in finding and administering grants on aggressive timelines; drafting, researching, and administering resilience programs and policy; and is a seasoned project manager for state and federal grant projects, including a specialized focus in compliance for HUD and FEMA programs (CDBG, Public Assistance, HMGP, BRIC (formerly PDM)), and federal coastal programs (RESTORE Act Funding, GOMESA, WRDA and USACE funded projects).

Alex has made bringing state and federal funding to local jurisdictions and tailoring projects and approaches to the distinct needs of each community a core mission of Desire Line. Throughout her career, she has worked to bring funds to local jurisdictions and to ensure communities are not presented with a “one-size fits all” solution that doesn’t match their particular issues. To this effect, she is deeply committed to develop project alternatives that address multiple objectives to best position the BRIC Scoping Project to competitively secure long-term funding sources for design and construction. Her first-hand experience as LWI Program Manager—designing and implementing federally regulated, competitive HUD and FEMA project selection processes—has provided Alex with an uncanny insight into the pitfalls in project scoping approaches, enabling her to support project alternatives for District 5’s consideration that will not only be eligible for multiple long-term funding sources, but also be the most competitive project applications when compared against other projects.

Alex and her team at Desire Line have built a reputation for high-quality project management; effective public outreach; elevated standards in meeting facilitation, messaging, communication management, deliverable development and finalization; specialized expertise in issue resolution, and ingenuity in smart growth, coastal, nature-based solutions, water management and revitalization projects. They are detail-oriented and best positioned to support the development of highly effective, Bucktown-specific BRIC project scopes, with feasible implementation schedules that meaningfully advance District 5 goals.

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

Signature:  Print Name: Alexandra G. Carter
 Title: President & CEO Date: 04/14/2022



DESIRE LINE

A Planning + Disaster Recovery Company

ALEX GELPI CARTER, AICP

AlexGelpiCarter@
Desire-Line.com

TITLE

Program Manager, CDBG-MIT & Grant Subject Matter Expert, Senior Planner, Policy Writer, and Outreach Specialist

EXPERIENCE

10+ years in Greater New Orleans and the State of Louisiana

SKILLS

CDBG-DR & MIT grants administration, climate action and capital improvement planning, pedestrian and bicycle planning, technical writing, policy research, land use regulation, governmental relations, data analysis, project management, zoning administration, ArcGIS

SPOTLIGHT

State of Louisiana Master CDBG-MIT Action Plan ('19)

LWI Website ('18 – '21)

LWI Regional Capacity Building Grant Program Policies and Procedures & Public Documents ('18 – '21)

Modeling, Mapping and Monitoring Program '18-'21)

APA LA Metro News Winter '18 & Spring '18

APA Small Town and Rural Planning Member Spotlight

Alex is a certified Planner with over 10 years of experience and founder of Desire Line LLC, a planning and disaster recovery company. As program administrator for the Louisiana Watershed Initiative, she effectively managed, programmed and ensured grant compliance and reporting for a \$1.2B statewide program, demonstrating her ability to effectively manage, program and ensure effective and efficient grant compliance and reporting. She has a history of excellence in managing complex, challenging projects that require enhanced logistics, strategic long-range planning, and focused efforts across multiple teams with programmed workflows and short, high-pressure deadlines. Her collaborative attitude and unprecedented work ethic has built strong, lasting relationships within and across local, regional, state and federal agencies, including FEMA, EPA, USDA-NRCS, USGS, FHA, NOAA, HUD, USACE, LA GOHSEP, LA OCD, LA DOTD, LA DEQ, LDWF, GOCA, CPRA, the New Orleans Regional Planning Commission, GNO, Inc., JEDCO, and many others.

Alex specializes in project and grant program development and management, team building, urban and regional planning, grants administration and development, policy and local code research and development, outreach and communications, ArcGIS, and mapping. She has extensive experience developing and managing projects, policies, and programs focused on natural functions, watershed management, and flood risk mitigation; supporting climate adaptation and long-term resilience strategies; administering and supporting local planning, permitting, code enforcement, transportation, and floodplain management offices and services; and performing land use, multi-modal, and comprehensive planning studies and master plans.

PROJECT EXPERIENCE

CDBG-MIT Grants Management, Lake Ponchartrain Levee District (LA) and City of Clute (TX). In partnership with CSRS LLC (prime, Clute) and La Terre Engineering, LLC (prime, PLD), Alex and Desire Line staff are supporting grant administrative tasks, including procurement; project design review and coordination; public communication and participation; project bidding, construction, and close-out; grant compliance, draw down and reporting; pre-audit and monitoring preparation services. (1/2022 - 1/2025)

Code and Integrated Green Infrastructure Strategy, Jefferson Parish Planning Department. In partnership with Volkert, Inc. (prime) and Meyer Engineers, Ltd., Alex developed the December 2021 Draft Jefferson Parish Stormwater and Green Infrastructure Plan and Code Update. Project included analysis of parishwide flood risk and project development location priorities, recommendations to leverage grants in furtherance of Plan objectives, production of draft Code amendments to incorporate recommended plan standards into land development review processes, and long-term vision and implementation schedule to assist the parish in organizing efforts to effectively reduce flood risk, including the incorporation of natural and green infrastructure parishwide. (8/2021 - 12/2021)

Unified Development Codes, St. Tammany & West Feliciana Parishes. In partnership with Fairway Consulting & Engineering LLC (prime, St. Tammany) and Villavaso and Associates LLC,(prime, W. Feliciana) Alex is currently drafting an update of parishwide Unified Development Codes, including amendments to stormwater regulations, subdivision standards and land development processes. (8/2021- Present)

Substantial Damage Estimates, Terrebonne Parish Consolidated Government and City of Kenner, LA.

Alex and Desire Line staff successfully provided project management, floodplain management and planning services in support of completing FEMA substantial damage determinations in Terrebonne Parish, LA and the City of Kenner, LA staff in fulfillment of minimum FEMA NFIP requirements. (11/2021 – 3/31/2022)

CAREER HISTORY AND ACCOMPLISHMENTS

Program Manager, Louisiana Watershed Initiative CDBG-MIT

2018 – 2021; Office of Community Development, Baton Rouge, Louisiana

- Managed and programed the expenditure of 1.2 billion in HUD Community Development Block Grant Mitigation funds to implement long-term resilience objectives of the Louisiana Watershed Initiative.
- Drafted and facilitated approval of the State's CDBG-MIT Master Action Plan for spending 1.2B in federal funds.
- Aligned federal and state program missions, policies, criteria and fund sources, including FEMA HMGP and BRIC funds, enabling over \$130M of HUD CBDG-MIT funds to be utilized as local project match statewide.
- Successfully performed contract negotiations with USACE Vicksburg and New Orleans offices on behalf of the Council of Watershed Management; implemented and managed data sharing agreements with the USACE; developed and submitted grant applications in partnership with the USACE; gained a thorough understanding of USACE roles, authorities and project development procedures relative to river maintenance and navigation; as well as development and maintenance of conveyance structures and long-term environmental management strategies.
- Developed and implemented LWI programs, including the Regional Capacity Building Grant Program; Modeling, Mapping and Monitoring Program; and Local and Regional - Rounds 1 & 2; State Projects and Programs; Statewide Buyout Program; Nature-Based Solutions Program; and the Non-Federal Cost Share Assistance Program; all of which advance over \$700M in investments in projects, policies and improvements in science and data to reduce flood risk statewide.

Director of Planning, Zoning, Floodplain Management & Code Enforcement Department

2016 - 2018; St. John the Baptist Parish – LaPlace, LA

- Managed more than 20 civil service and contract employees; reviewed planning, permit, building code, business, trade, floodplain, and historic district applications; managed projects and grants re: housing recovery, streetscape, rail, and sidewalk enhancements.
- Updated land use, zoning, and subdivision regulations to enhance the community's quality of life and address long-standing community issues.
- Prepared, pursued adoption, and implemented an Administrative Hearing procedure to more efficiently adjudicate long standing violations of the Code.
- Managed the operations of local Planning Commission and Zoning Board of Adjustments and drafted, facilitated the establishment of, and managed operations of the local Coastal Zone Committee and Historic Preservation Commission
- Oversaw efforts and reporting requirements for the NFIP's Community Rating System (CRS) program.

Planner & Planning Intern, Planning Department

2009 – 2016; Jefferson Parish, Louisiana

- Performed research and analysis of comprehensive land use studies and land use issues; drafted language for proposed development standards; compiled land use, demographic, and environmental data for reports using GIS and field surveys.
- Successfully developed and presented study recommendations to public and private organizations, interested stakeholders, and boards and agencies including, but not limited to, the Planning Advisory Board, East Bank Civic League, West Bank Civic Coalition, and Jefferson Chamber of Commerce.

EDUCATION & CERTIFICATIONS

AICP

American Institute of Certified Planners (2016 – Present)

Master of Urban and Regional Planning (GPA 4.0)

University of New Orleans (2011)

Bachelor of Fine Arts (GPA 4.0)

Loyola University of New Orleans(2009)

St. Mary's Dominican High School (GPA 4.0)

New Orleans, Louisiana (2005)

PROFESSIONAL DEVELOPMENT

NORLI *Class of 2019*

APA LA Metro Section Director (2017-2019)

Louisiana Floodplain Management Association

American Planning Association (2009 – Present)

National Small Business Association (2021- Present)

Member of the NSBA Environment & Regulatory Affairs Committee (2021 to Present)

Member of the NSBA Small Business Technology Council (2021 to Present)



A Planning & Disaster Recovery Company

- Grants & Program Management
- Government Administrative Support
- Urban & Regional Planning
- Disaster Recovery & Mitigation

“Alex Carter was the lead program manager of the Louisiana Watershed Initiative — the most comprehensive initiative that our state has ever undertaken for flood mitigation and watershed management.

Besides her visionary thinking and planning, Alex is a talented leader who knows how to bring diverse teams together within a collaborative environment where they can collectively work towards shared plans and objectives.”

Emad Habib

Theriot Endowed Chair in Engineering Hydrology
Professor, Department of Civil Engineering
Director, UL Watershed Flood Center
University of Louisiana at Lafayette

MISSION

In planning, architecture, and transportation fields, ‘desire lines’ often represent a record of civil disobedience, where pedestrians ignore formal routes in favor of short cuts, or more efficient (unplanned) paths in and around public or private spaces. They provide feedback to project designers on where people naturally walk and what may have been a more efficient route from one place to another. They represent human nature’s boldness and our desire for choice, and manifest in our environment as well-worn ribbons of dirt or beaten trails off a sidewalk. They are not pretty. They are meaningful. Those who are independent enough to begin a new path, flatten the grass, and leave behind evidence of their choice can write their own story in the built environment. These stories represent the core mission of our company: understanding the individuality of people and cultures and fitting plans, projects, grants, and programs to reflect the path they desire to take in the most efficient (and effective) manner possible. We are change agents focused on action and movement with a keen appreciation for difference, individuality, and nuance.

COMPANY STRUCTURE

Desire Line is an emerging limited liability company established in 2021 to provide more direct, efficient and effective support to communities and clients, including grants program development, management and application; government administrative support; urban and regional planning; and disaster recovery and mitigation services. The company is a Certified-Active Small Entrepreneurship, a Small and Emerging Business Enterprise; and a certified Disadvantaged Business Enterprise as part of the Louisiana Unified Certification Program.

WHY DESIRE LINE?

We are not learning on the job. We understand from direct experience the political and legislative mechanisms at local, state and federal levels; the constraints associated with public work; the challenges of increased flooding, climate change, and resource and planning limitations. We have a history of isolating opportunities to develop feasible approaches, projects, and programs that work in alignment with local conditions, produce desired outcomes for clients, and enhance the quality of life for public servants, area residents and businesses.

We are committed to ensuring that the solutions offered are simple to implement for local officials and achieve intended goals without excessive interpretation or deliberation. To this effect, as former Program Manager and Resilient Planning Specialists LA OCD, Desire Line staff have over 30 years of public sector experience and most recently managed and implemented the [Louisiana Watershed Initiative](#), investing over [\\$1.2 billion in federal funding](#) statewide to advance innovative watershed management and resilience projects across the State of Louisiana.

www.Desire-Line.com

504-388-0482

AlexGelpiCarter@Desire-Line.com





COMPANY SERVICES

URBAN & REGIONAL PLANNING

Elevating the Invisible Lines that Shape Our Lives

- ◆ Master planning, including housing, multi-modal, and community revitalization, climate adaption and long-term resilience strategies
- ◆ Local economic development initiatives including special financing districts, commercial overlays and business incentive programs
- ◆ Green infrastructure, low-impact development alternatives, and storm-water control measures
- ◆ Outreach and engagement

RECOVERY AND MITIGATION SERVICES

Helping to Reframe the Word "Rebuild"

- ◆ Disaster recovery technical and strategic consulting assistance
- ◆ Post disaster staff augmentation and training for damage assessments, floodplain management, code enforcement, planning and zoning, permitting, records retrieval and digitization
- ◆ Pre- and post-disaster emergency operations standard operating procedures (SOPs) and communication plans
- ◆ Post Disaster FEMA NFIP compliant Substantial Damage Determinations
- ◆ Policy development and implementation support to achieve long-term resilience objectives, in alignment with green infrastructure principles, available hazard mitigation data and modeling, FEMA CRS standards and point classifications

GRANTS & PROGRAM MANAGEMENT

Making Every Dollar Count

- ◆ Grants strategy development, identification, preparation, scoping, application, management, and closeout
- ◆ Grant program development and management including rule and policy-making, program policy and procedure development, program launch, fund distribution, procurement, project evaluation, selection and award, compliance, monitoring and closeout

GOVERNMENT ADMINISTRATIVE SUPPORT

Recognizing We are in this Together and Lending a Hand

- ◆ Local capacity building, including new administration, code enforcement, planning, floodplain management, planning commissioner, police jury or council member issue-specific training series
- ◆ Capital improvement planning, procurement and procedures development, support and assistance
- ◆ GIS map development, data maintenance, and data cleanup in support of improved data-based decision-making



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504-388-0482

AlexGelpiCarter@Desire-Line.com



Louisiana Watershed Initiative

Project Location: State of Louisiana



Statewide Watershed Modeling

Sustainable Solutions

Engagement & Capacity Building

Regional Organization & Project Funding

PROJECT DESCRIPTION: The [Louisiana Watershed Initiative \(LWI\)](http://www.watershed.la.gov) (www.watershed.la.gov) is a statewide program aimed at promoting watershed-based floodplain management to reduce flood risk vulnerabilities through pre-disaster mapping, modeling and watershed management planning – backed by large-scale investments in projects and programs that directly mitigate risks.

CLIENT: Louisiana Office of Community Development, Division of Administration

SCHEDULE: 2018 – 2021 (12-year grant, ending in February 2032)

PROJECT VALUE: \$1.2B

FIRM RESPONSIBILITY: Desire Line LLC managed and programmed the expenditure of \$1.2 billion in HUD Community in fulfillment of this program’s objectives in partnership with AECOM, CSRS, and Henry Consulting.

SERVICES PROVIDED: Desire Line LLC staff developed and managed more than 20 agreements and more than 35 task orders, drafted and facilitated approval of the State’s CDBG-MIT Master Action Plan; and managed the award of over \$500M projects and programs. Desire Line LLC staff developed and implemented LWI programs, including the Regional Capacity Building Grant Program; Modeling, Mapping and Monitoring Program; and Local and Regional - Rounds 1 & 2; State Projects and Programs; Statewide Buyout Program; Nature-Based Solutions Program; and the Non-Federal Cost Share Assistance Program; all of which advance investments in projects, policies and improvements in science and data to reduce flood risk statewide.

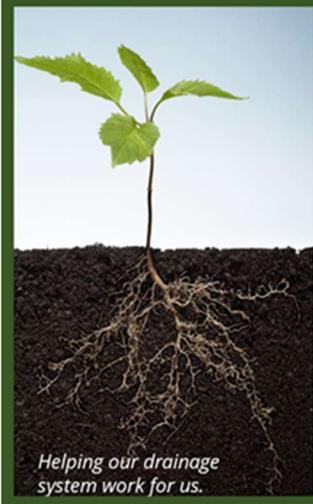
FIRM PERSONNEL INVOLVED: Alex Carter as Program Manager, Evelyn Campo and Nicolette Jones as Resilience Planning Specialists

CLIENT REFERENCE: Pat Forbes, P.E., Executive Director, LA OCD, 617 N. Third Street, 6th Floor, Baton Rouge, LA 70804-9095, (225) 342-1717, Patrick.Forbes@la.gov

ONE CHALLENGE/RESOLUTION: There are more than 2,000 entities that impact water management on the federal, state, and municipal levels in Louisiana, which has resulted in a complex, uncoordinated landscape. [Exercises](#) to identify regional work, align objectives commonly held across stakeholders, and determine how to best deliver these functions were performed as part of the [Regional Capacity Building Program](#). This effort informed and built support for the development of [recommendations for a statewide framework for regional watershed management and boundaries](#). Recommendations have informed the design of state and local policies (i.e. proposed roles and responsibilities for long-term regional watershed coalitions), and established funding programs (i.e. incentivizing the development of certain types of projects and/or facilitating capital improvement planning throughout the watershed) to produce better outcomes in each watershed throughout the state.

Integrated Green Infrastructure Strategy & Code Update

Project Location: Jefferson Parish, Louisiana



Helping our drainage system work for us.

Big Picture

- 1. Problem:** Increased rate of flooding from intense rainfall events, negative effects stormwater runoff has on waterbodies, and the debilitating effect subsidence on our traditional infrastructure.
- 2. Strategic Action** is needed to reduce flooding impacts, better prolong and protect the integrity of drainage system and stabilize our natural environments.
- 3. Focus on balanced methods** re: traditional pump and pipe and using the land, soil, and vegetation to hold and filter water is more effective in terms of managing both water quality and flood risk.
- 4. Best practices:** Many communities are now looking to combine gray and green infrastructure approaches to manage stormwater to achieve multiple community goals.

The subsidence rate in Jefferson Parish is one of the highest in the world due to the lack of water in the ground.



Jefferson Parish
December 2021

Integrated Green Infrastructure (IGI) Strategy

A results-oriented stormwater management strategy that helps our drainage system work for us.

For more information visit: [http://www.jp\[parish.net\]/departments/planning/green-infrastructure-plan](http://www.jp[parish.net]/departments/planning/green-infrastructure-plan)

IGI Strategy Summary
Planning a sustainable community begins here.

36 Actions
Building from 2015 Guide to Enhancing Sustainable Communities with Green Infrastructure, the Strategy consists of over 36 actions for the Parish's consideration with a focus on better site planning and design techniques, low impact development practices, and planning "greenways" or "greenways" designed to rehabilitate urban and suburban environments to help prevent increases in post-construction stormwater runoff rates, volumes and pollutant loads.

8 Elements
The Strategy also builds on previous local smart growth planning efforts to reuse local, sustainable and resilient infrastructure within the parish and consists of eight elements: (1) Vision and Goals, (2) Introduction to Green Infrastructure (3) Community Assessment (4) Best Management Practices (BMPs), (5) Local Data, Assets and Opportunities, (6) Parish Code of Ordinances, (7) Review of Existing Parish Storm Drain Design Manual, (8) Recommendations and Next Steps.

Lot and Municipal Scale
The Strategy focuses on green infrastructure applications appropriate for both a lot and municipal scale (i.e., infrastructure scale) to deliver better drainage and water quality.

PUBLIC MEETING NO. 1
December 17, 2021
Available online at: [https://www.jp\[parish.net\]/departments/planning/green-infrastructure-plan](https://www.jp[parish.net]/departments/planning/green-infrastructure-plan)

PUBLIC MEETING NO. 2
December 1, 2021
in Person
STAFF NAME:
Sally A. Olson
Joseph S. Terry-Banking
Grand River Street Chamberlain
1221 Elmwood Park Blvd
Jefferson, LA 70123

PUBLIC MEETING NO. 3
December 7, 2021
in Person
STAFF NAME:
Sally A. Olson
Joseph S. Terry-Banking
Grand River Street Chamberlain
1221 Elmwood Park Blvd
Jefferson, LA 70123

PROJECT DESCRIPTION: In partnership with Volkert, Inc. (prime) and Meyer Engineers, Ltd., Desire Line LLC staff drafted the Jefferson Parish Stormwater and Green Infrastructure Plan and Code Update, Public presentations and materials in coordination with a local Project Technical Committee.

CLIENT: Jefferson Parish Planning and Zoning Department

SCHEDULE: 2018 – 2021

PROJECT VALUE: \$200,000

FIRM RESPONSIBILITY: Desire Line LLC services included analysis of parishwide flood risk and project development location priorities, recommendations to leverage grants in furtherance of Plan objectives, production of draft Code amendments to incorporate recommended plan standards into land development review processes, two public meetings, development of long-term vision, goals and strategy; as well as an implementation schedule to assist the parish in organizing efforts to effectively reduce flood risk, including the incorporation of natural and green infrastructure parishwide.

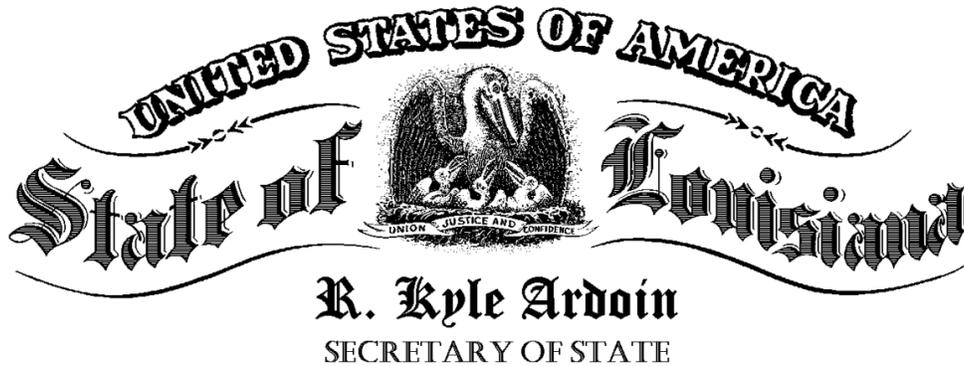
SERVICES PROVIDED: Master Planning, Project Management, Community Engagement, Leveraging Funds, Recommended Program of Infrastructure and Model Policies and Ordinance, Project Prioritization

FIRM PERSONNEL INVOLVED: Alex Carter and Evelyn Campo as Senior Planners

CLIENT REFERENCE: Brooke Perry Tolbert, Assistant Director, Planning Department, 1221 Elmwood Park Blvd, Suite 601, Jefferson, LA 70123, (504) 736-6354, BPerry@JeffParish.net

ONE CHALLENGE/RESOLUTION: Available space is the most significant challenge to implementing Green Infrastructure Elements parishwide. Aligning the design of public improvements to integrate green infrastructure solutions into available public space and strategically requiring green infrastructure on private development sites is key in overcoming this challenge. For this reason, the Plan recommends creative, location-based, data-driven solutions that strategically prioritize resources based on a common set of criteria focused on better site planning and design techniques, low impact development practices, and planning "greenways" or "greenways" designed to rehabilitate urban and suburban environments to help prevent increases in post-construction stormwater runoff rates, volumes and pollutant loads.

DESIRE LINE LLC ARTICLES OF INCORPORATION



As Secretary of State of the State of Louisiana, I do hereby Certify that

a copy of the Articles of Organization and Initial Report of

DESIRE LINE LLC

Domiciled at METAIRIE, LOUISIANA,

Was filed and recorded in this Office on August 09, 2021,

And all fees having been paid as required by law, the limited liability company is authorized to transact business in this State, subject to the restrictions imposed by law, including the provisions of R.S. Title 12, Chapter 22.

In testimony whereof, I have hereunto set my hand and caused the Seal of my Office to be affixed at the City of Baton Rouge on,

August 9, 2021

Secretary of State

WEB 44542527K



Certificate ID: 11439433#EGG62

To validate this certificate, visit the following web site, go to **Business Services, Search for Louisiana Business Filings, Validate a Certificate**, then follow the instructions displayed.
www.sos.la.gov

DESIRE LINE LLC LED HUDSON INITIATIVE CERTIFICATE



DIVISION OF SMALL BUSINESS SERVICES

This certification acknowledges that

Desire Line LLC

is Certified-Active as a Small Entrepreneurship with Louisiana Economic Development's Hudson Initiative.

This certification is valid from 9/7/2021 to 9/7/2022 .

Certification No. 22843

A handwritten signature in blue ink, which appears to be "Stephanie Hartman".

Stephanie Hartman,
Director, Small Business Services



Division of Small and Emerging Business Development
SEBD CERTIFICATION

Desire Line LLC

is hereby certified as a Small and Emerging Business Enterprise.

This certification is valid beginning 9/7/2021 and supersedes any registration or listing previously issued. At any time there is a change in ownership or control of the firm, notification must be made immediately to the Division of Small and Emerging Business Development.

Issued at Baton Rouge, Louisiana 9/7/2021

This certification expires on: 9/7/2031

Certification No. 22843

A handwritten signature in black ink, appearing to read 'Stephanie Hartman', written over a horizontal line.

Stephanie Hartman,
Director, Small Business Services



LOUISIANA UNIFIED CERTIFICATION PROGRAM

Disadvantaged Business Enterprise (DBE) Program

This is to certify that under Title 49, Part 26, of the Code of Federal Regulations & under the State of Louisiana United Certification Program (LAUCP)

Desire Line LLC

Is a Certified Disadvantaged Business Enterprise (DBE) in the following specialties:

541320, 925120, 541611

NOTE: There may be other approved NAICS codes. The online DBE Directory includes a complete list of approved codes.

Certificate Eligibility: January 19, 2022 to January 19, 2023

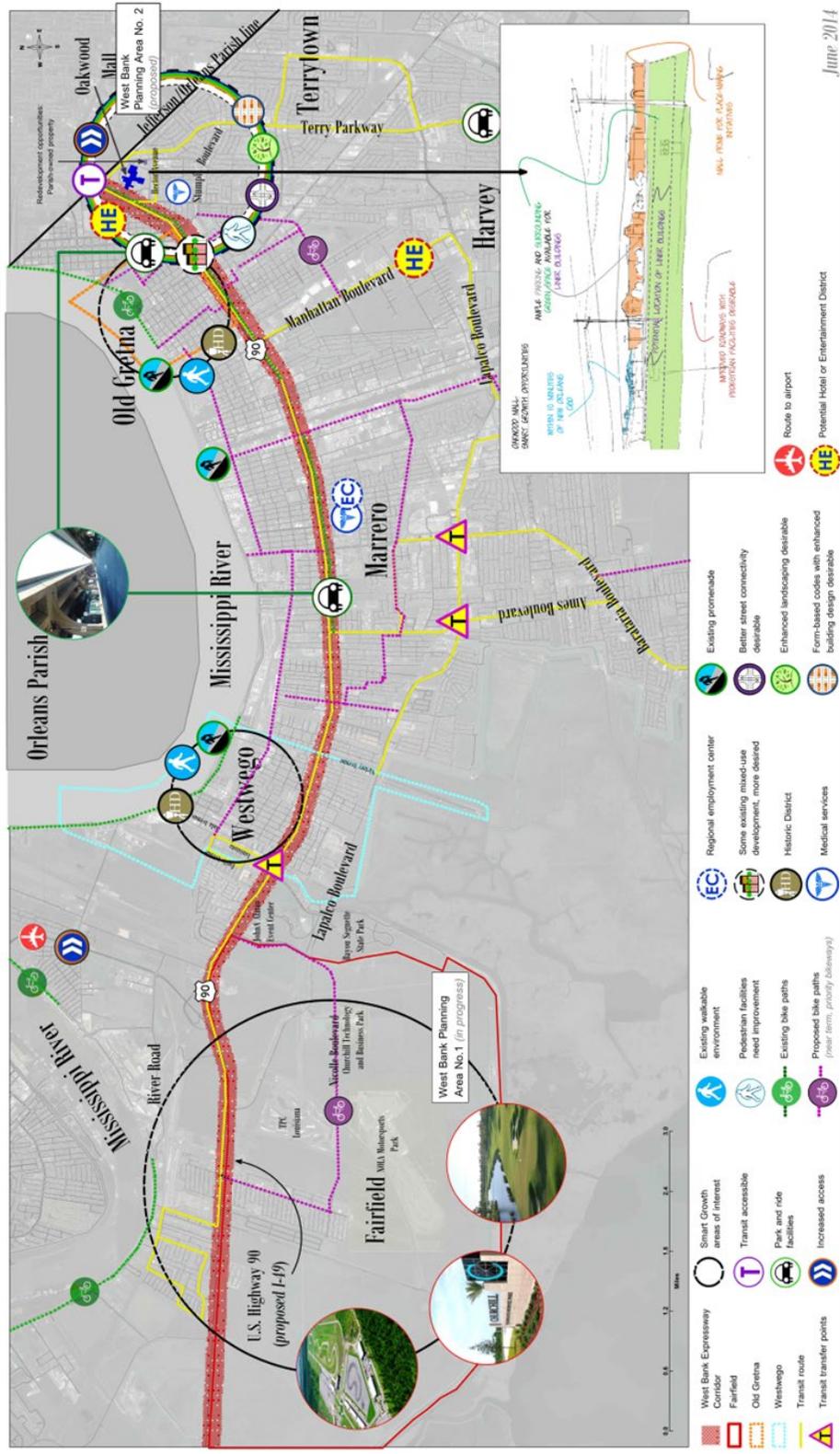
This certificate is valid through the above dates provided. This firm meets the on-going programmatic standard and fulfills the annual update requirement to remain in good standing as a DBE. This certification is subject to annual verification and suspension or revocation based upon reasonable cause to believe that the firm is ineligible.

Philistine Ferrand, DBE Liaison Officer (DBELO)

Louis Armstrong New Orleans International Airport

WESTBANK EXPRESSWAY SMART GROWTH

Jefferson Parish Smart Growth
WESTBANK EXPRESSWAY



June 2014



Urban Park Site Selection



Summary

To assess sites in Fat City, the Planning Department developed a process to rate potential sites to help ensure that a successful and functional park is developed for the area. The process involved three (3) steps, two (2) of which have been completed to date: 1) define the search area, 2) evaluate sites against minimum criteria and assess their suitability for development as an urban park, and 3) determine site development feasibility.

Step 1: Search Area

The search area includes the three (3) blocks North and South of 18th street. 18th street was selected because it is poised to become a thriving commercial corridor. Based on multiple site visits, six (6) sites were selected for evaluation (see the adjacent map for details).



Step 2: Site Evaluation Process

First, the sites were evaluated against minimum criteria, summarized in the table below.

	Site Size	Contiguous Lots	Street Frontage	Site Restoration
Site 1	0.83 acres	Yes	370 ft	Low
Site 2	1.01 acres	Yes	420 ft	Medium
Site 3	1.13 acres	Yes	235 ft	Low
Site 4	1.25 acres	Yes	470 ft	Low
Site 5	1.01 acres	Yes	420 ft	Low
Site 6	0.94 acres	Yes	465 ft	Low

Next, the suitability of the each site was assessed by the following factors:

1. Commercial area served (square footage of commercial space within a 650 ft radius)
2. Resident population served (square footage of residential space within a 650 ft radius)
3. Quality of surrounding structures (as observed on a site visit on 9/18/12)
4. Marketability (distance from major roads Veterans and Severn)
5. Proximity to transit (ft to nearest transit stop)
6. Potential to increase street connectivity
7. Distance from nearest undeveloped or vacant site (in feet)
8. Bicycle connectivity (route likely to run on Severn and 18th)

September 24, 2012 Fat City Advisory Board Meeting

Each site received scores based on these factors, which are summarized in the table below:

	Com. Area Served	Resd. Pop Served	Surround. Structures	Market-ability	Prox to Transit	Street Connect.	Dist from Vacant	Bike Connectivity	Total
Site 1	3	2	2	3	2	1	2	3	18
Site 2	3	3	2	3	1	1	4	3	20
Site 3	3	2	2	4	3	1	4	3	22
Site 4	2	3	2	2	1	1	2	3	16
Site 5	3	3	1	1	2	1	2	2	15
Site 6	2	4	1	2	3	2	3	2	19

Note: 4 = Excellent, 3 = Good, 2 = Fair, 1 = Poor. Highest possible score = 32

Based on these findings, the Planning Department has determined that the most suitable sites for an urban park in Fat City are (listed from highest to lowest): Site 3, Site 2, and Site 6. See the following map for details.

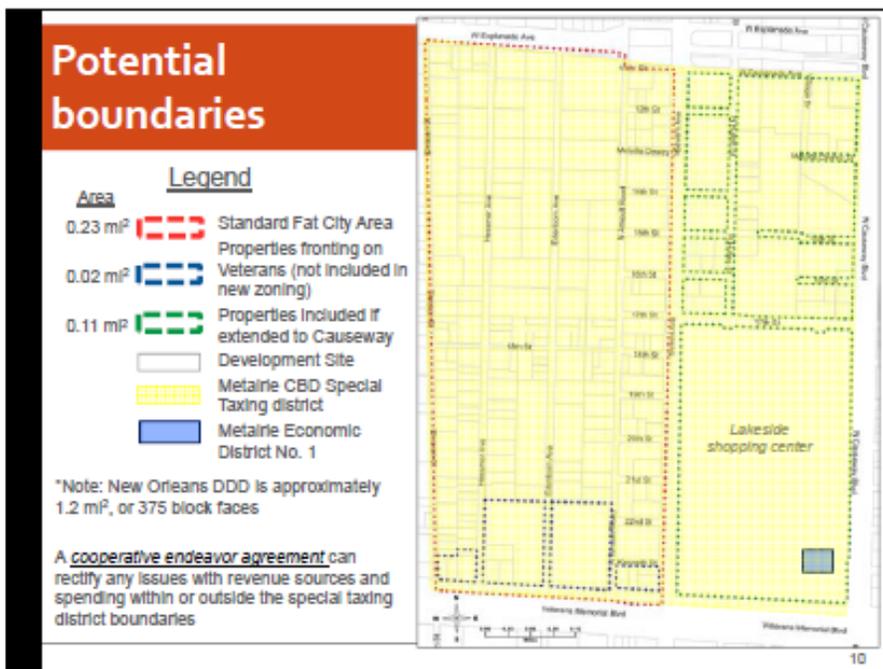
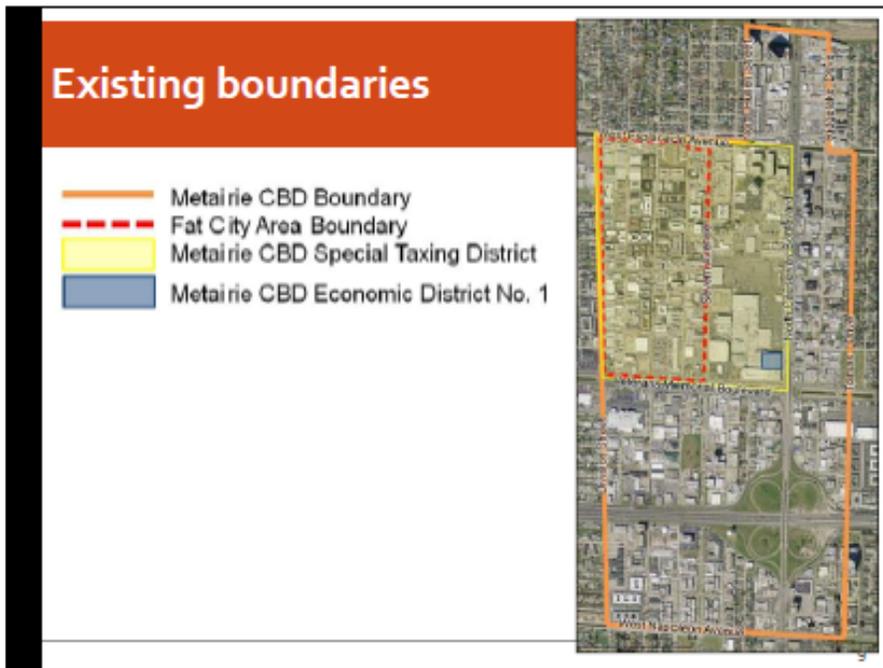


Step 3: Site Development Feasibility (determined by the following criteria)

1. Financial costs (cost of land and potential costs associated with development, i.e. demolition)
2. Number of owners
3. Presence of publicly owned land

September 24, 2012 Fat City Advisory Board Meeting

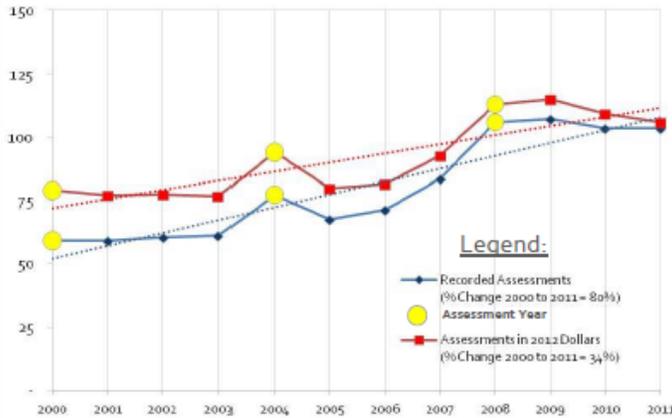
EXCERPTS FROM RESEARCH TO DEVELOP A FAT CITY BUSINESS DEVELOPMENT DISTRICT



Property taxes in Fat City



Average Assessed Value of Properties in Fat City
(in thousands of dollars)



- Assessment years more accurate portrayal of trends in the area
- Overall trend: steady increase despite Katrina ('05), and recent recession ('09 - '11)
- % increase from '00 to '11 less substantial after accounting for inflation

*Property Assessment Data (2012) obtained from JP Assessors Office, represents 180 properties within Fat City

Property taxes

Fat City assessed property values
(Parish assessor's data)

% Change 2000-2011

- -55% to -30%
- -29% to 0%
- 1% to 30%
- 31% to 1404%
- NA



*Property Assessment Data (2012) obtained from JP Assessors Office, represents 180 properties within Fat City

Jefferson EDGE 2020: Fat City Redevelopment REPORT of the FAT CITY ADVISORY BOARD

SECTION 1: Overview

On January 12, 2011, Jefferson Parish Council Resolution No. 116038 created the Fat City Advisory Board to develop recommendations over a 24-month period¹ on the following topics that the Fat City Strategic Implementation Plan² identified as action items:

1. Waste management
2. Capital improvement program
3. Business development district
4. Neighborhood association
5. Parking management
6. Crime prevention

The Board, which included voting and nonvoting members, met monthly beginning on May 23, 2011. Its meetings consisted of technical presentations on the topics, discussions and deliberations, and formulation of recommendations confirmed by a vote of the members.

Board Membership	
Voting	Non-Voting
Pat LeBlanc - Chair	Kazem Alikhani – Public Works
Melvin Smith, Jr. – Vice Chair	Edwin Durabb/Terri Wilkinson – Planning
David Guidry	Deborah Foshee – Parish Attorney’s Office
Nick Hazard	Carey Hammett – Friends of Jefferson the Beautiful
Phil DeGruy	Tiffany Wilken – Inspection and Code Enforcement
Barry Breaux	Marnie Winter – Environmental
Melissa O’Neal	
Paul Rivera	
Charles Silbernagel	
Jim Hudson (<i>November 2011 – present</i>)	
David Martin (<i>2011</i>)	

1.1 Recommendation Summary

1.1.1. WASTE MANAGEMENT ALTERNATIVES TO DUMPSTERS

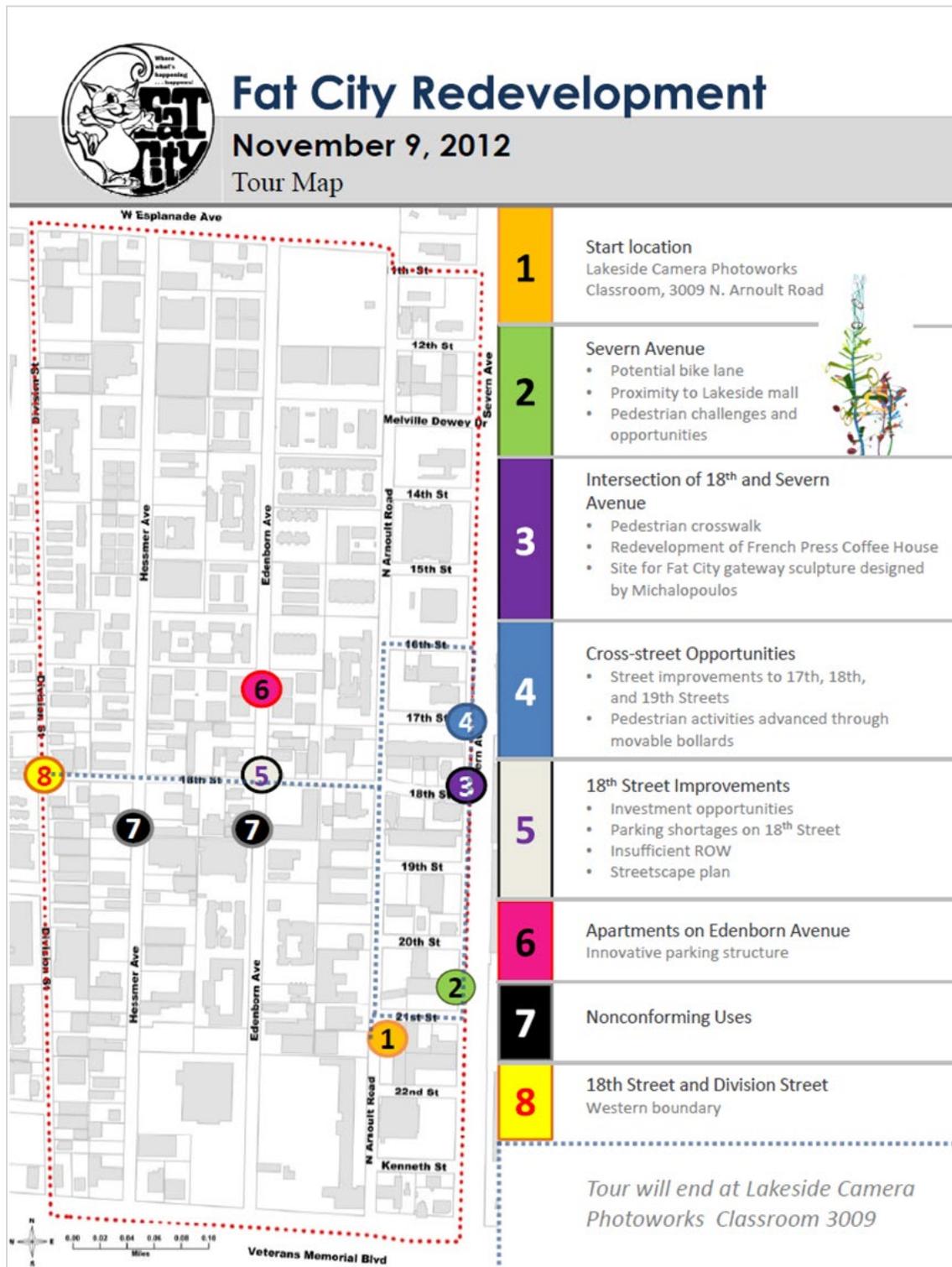
The Fat City Advisory Board made the following recommendations for waste management in Fat City:

1. For *new development* involving new construction on a cleared or vacant site in all zoning districts—FC-1, FC-2, and FC-3—existing provisions should be maintained and enforced relative to waste management; however, no hardship provision should be allowed.
2. Hardship provisions should be allowed for *existing development* in all Fat City zoning districts.
3. Existing garbage collection times (7 a.m. to 10 p.m.) should be enforced.
4. The Fat City area, including the west side of Division Street, should be designated for ‘innovative collection’ under the Parish’s existing garbage contract.
5. Dumpsters should continue to be prohibited in the FC-1 district, except for restaurants. The deadline for compliance should be changed from January 1, 2014 to June 30, 2014 to coincide with a new parish garbage contract.
6. When the parish re-advertises for waste collection services in 2014, the advertisement should include in the Request for Proposals (RFP) special collection measures for Fat City, such as more frequent collection, similar to the French Quarter that would facilitate the use of tipper carts.

¹ Resolution No. 120062, adopted on 12-12-12, extended the term of the board for an additional six (6) months; the Board’s work program is included in the Appendix (p. 22) of this report.

² JEDCO and Jefferson Parish. Jefferson EDGE 2020 Strategic Implementation Plan: Fat City Redevelopment. Ordinance No. 23881 adopted September 22, 2010.

FAT CITY ADVISORY WORKSHOP AND TOUR



FAT CITY NEIGHBORHOOD ASSOCIATION 2-PAGER

Neighborhood Associations in a Nutshell



Guest Speaker: Lynne Parker

Lynne Parker currently serves on the Jefferson Parish Planning Advisory Board. She has extensive experience advising groups of citizens on how to become neighborhood associations in Jefferson Parish, after assisting in the creation of the East Bank Civic League and Bissonet Civic Association.

Neighborhood Association:

A group that meets regularly to improve and/or maintain the quality of life in their neighborhood. Groups may include homeowners, renters, business owners, school faculty or staff, church officials, honorary members, and members of nonprofit organizations. Depending on the group, meetings may be held twice a year, once a quarter or every month.

Neighborhood Association

- Voluntary
- Dues are optional; set by members
- Can be formally structured entities (have official 501(c)3 tax exempt status) or loosely structured groups
- May adopt guiding principles and/or by-laws
- No authority to force residents to do anything
- Membership may include: renters, homeowners, business owners, honorary members, etc.

Homeowners Association

- Mandatory
- Dues not optional
- More strictly organized
- By-laws required (bound by covenant, conditions, and restrictions [CC&Rs])
- Have the authority to enforce rules and regulations (liens)
- Membership strictly limited to homeowners

Forming a Neighborhood Association:

- Typically form in response to an issue or concern
 - Example: Five (5) to ten (10) residents or homeowners with a vested interest in the success of the neighborhood form the “core,” of the organization. They then call and notify the rest of the area of the association’s formation, interests, concerns, meeting schedule, etc. Once the community is notified, and it’s first meeting is held, a member list can begin to be compiled.
- No standard rules, though structure is recommended for larger organizations. Some action items larger organizations should consider include:
 - A charter and bylaws to create standards and set expectations for members
 - A standard method to notify residents of scheduled meetings (signage, newsletters, official webpage)
 - Clearly defined neighborhood boundaries
 - Specific goals and objectives of the association, i.e. neighborhood plan
 - Can then assign a committee to each goal/objective (crime reduction, finance, neighborhood development, neighborhood improvement, publicity, etc.)
 - Efficient methods of record keeping
 - Standard meeting procedures

September 24, 2012 Fat City Advisory Board Meeting

- Large associations may also apply for charitable organization status to claim tax exemption, also known as a 501(c)3.

Advantages of 501(c)3 status:

- Qualify for grants from government agencies and private foundations
- Provide tax deductions for donor gifts
- Receive tax exemptions from federal, state, local, income, sales, and excise taxes
- Provide legal protection for the association's directors and officers

Disadvantages of 501(c)3 status:

- Must keep detailed financial records
- Required to prepare and file an annual report or other periodic report with the state
- Must make financial records available to organizations or individuals that contribute funds to the associations
- Association must not engage in political activities such as campaigning, lobbying, or support

Typical Activities:

- | | | |
|---|-----------------------------|--|
| ○ "Greet the neighbor" program | ○ Fire prevention education | ○ Produce clubs (exercise, car pool, babysitting, hobbies) |
| ○ Crime prevention initiatives | ○ Fire safety programs | ○ School supply drives |
| ○ "Neighborhood Night Out" | ○ Neighborhood surveys | ○ Fund raising activities |
| ○ Neighborhood traffic control | ○ Block parties | ○ Neighborhood beautification projects |
| ○ Youth activities | ○ Neighborhood yard sales | ○ Yard of the month programs |
| ○ Child safety programs | ○ Festivals | ○ Median landscaping projects |
| ○ "Kid Watch" safe neighborhood program | ○ Home tours | ○ Park developments |
| ○ Street improvements | ○ Paint/fix up projects | |
| ○ Leadership workshops | ○ Neighborhood cleanups | |
| | ○ Holiday celebrations | |
| | ○ Produce co-ops | |

Aspects unique to Fat City:

- Implementation task of the Strategic Plan
 - Incorporating citizens uninvolved in redevelopment efforts may be challenging
- Will likely be composed of business members and residents
 - Solutions to sustaining a balance between competing interests is key
 - Also, reconciling homeowners' and renters' varied interests may be challenging
- Will likely be the only citizen-based organization in Fat City prior to BDD formation
 - BDD formation will raise questions as to their relationship to each other regarding overlapping interests and efforts within the area

September 24, 2012 Fat City Advisory Board Meeting

APPLICABILITY: Characteristics of Metairie Road suggest that enhanced development standards consistent with smart growth and urban design principals are appropriate for the corridor given:

- o Vibrant residential neighborhoods
- o Strong civic and institutional presence
- o Small-scale commercial and office uses
- o Narrow right-of-way and relatively low speed limit
- o Regular bus service
- o Prevalent sidewalks and street canopy



Overview



2017 APA SMALL-TOWN AND RURAL PLANNING SPOTLIGHT

([Metro New Orleans Section](#) | [APA Louisiana Chapter \(louisianaplanning.com\)](#))

Page 10

Summer 2017—Small Town & Rural Planning

Member Spotlight: Alex Gelpi Carter, AICP

Name: Alexandra (Alex) Gelpi Carter, AICP

Position: Planning, Zoning, and Code Enforcement Director, St. John the Baptist Parish, Louisiana

Education: Bachelor of Fine Arts, Loyola University New Orleans (2009) and Masters in Urban and Regional Planning, University of New Orleans (UNO) (2011)

APA Involvement: APA LA Metro New Orleans Section Director

How did you become interested in planning?

As a freshman art major, my student orientation was literally scheduled the same week that Hurricane Katrina made landfall in New Orleans; so throughout the next 4 years, I would create art work during a time when New Orleans was experiencing significant tragedy and reconstruction. In my senior year, I looked back and discovered common themes of community, problem solving, redevelopment, and a strong instinct to take things apart, understand their components, and put them back together in creative, but different ways. At a cross-road, I realized that my enthusiastic, problem-solving instincts would be better spent impacting the built environment directly, rather than creating work meant to inspire others to take up the mantle of public service. In my part-time job at an engineering firm, a friend of mine and long-time member of APA, Tim Jackson, mentioned the

planning profession as an alternative to art. He continues to be a steady figure and mentor to me in my career. Before graduating with a Bachelor degree in Fine Arts from Loyola University in New Orleans, I secured a 2-year academic scholarship to attend the University of New Orleans' Urban and Regional Planning Master's Program and never looked back: it was a perfect fit.

How did you get involved in APA?

As a student at UNO, I became a member of APA and attended lunch and learns, volunteered for conferences, 'got the coffee,' etc. It wasn't until I became the Director of Planning and Zoning in a more rural, growing, suburban parish that I decided to volunteer as the APA LA Metro New Orleans Section Director. This decision came from a desire to stay connected with developments in planning throughout the State, to better share St. John's planning successes, and to increase opportunities to partner and learn from other communities in our region. Meeting new planners and finding creative ways to collaborate has and continues to be a fantastic experience.

What is the most interesting project you're working on?

Small, rural lot and subdivision design: This has been a painstaking issue within the Parish, as only suburban subdivision development is permitted. The Department has been setting aside creative



alternatives that preserve rural settings in a manner that also increases housing affordability. As we work on this very exciting project... I welcome input and advice for fellow STaR members!

What is one of your biggest successes?

Within the last year, we have (in-house) drafted and received approval of new or significantly amended standards re: content neutral sign codes, nonconforming uses and sites, junked vehicles, trash and debris, as well as set up a local Administrative Hearing procedure to process unaddressed code violations more swiftly. These changes have improved the perception of our office and built public trust in planning, zoning, and code enforcement. This public trust enabled the Department to take on a stronger role and bolster support for the simultaneous establishment of four Cultural Districts and four Historic Preservation Districts. Members of Louisiana's Office of Cultural Development have enthusiastically advised that this type of simultaneous approval of eight separate districts by application of a local government has never been done before. To manage and maintain collaboration between the

districts, we've set up a Cultural District Coalition of civic and business leaders, representatives from Parish Administration, cultural nonprofits, and groups with an interest in tourism and building St. John's cultural economy. This has been an incredible experience and a significant success for the entire Parish of St. John and I look forward to seeing it work to preserve and build upon the community's unique cultural identity in the years to come.

Have you had any projects that didn't work out? What did you learn from that experience?

Yes - and it all comes down to not taking on something that is impossible to deliver. When I started as a Zoning Regulatory Administrator in St. John, I was the first planner to ever work in the parish. At the time, the University of New Orleans was in the process of closing out a project to update the entire zoning code for the parish, which had never been updated comprehensively (original adoption in '86). Arriving in the 11th hour, I reviewed the document and had many concerns. These concerns arose because it was clear there was a communication issue and that--for this to successfully work--the University needed another planner (that spoke the same language) to translate issues on the ground into real solutions in the proposed Code. In a herculean effort, I worked nights reviewing and editing the document in attempt to make it ready for adoption. After weeks of working late into the evening, I came to the conclusion that it simply would not work. The truth was, I needed more time to get to know the Parish, it's people, and the issues with planning and zoning before amendments to the zoning code could truly be adopted in the public's interest. Ultimately, this is happening now...we continue to incrementally update sections of the Code with special attention given to each issue and its effect on the public.

Advice for planners just starting out?

In municipal government these days everybody is tired, overworked and feeling a bit underappreciated. In many instances - these feelings are totally justifiable, but be careful not to wear them on your sleeve or 'buddy up' to someone of this nature and take on these characteristics. Be a professional at all times; don't lose steam; and (to the very best of your ability) keep a positive, productive attitude; i.e. be the person you imagine you are in your best job interview.

What is the best part of working in small towns & rural areas?

It is the very real, local knowledge of the public and its effect on implementation. It's truly amazing to experience how quickly public issues, projects, and solutions get addressed, completed, and put into action when you have a small number of dedicated people at the helm and a very interactive and involved public.





EUSTIS
ENGINEERING
SINCE 1946

TEC Professional Services Questionnaire for **GEOTECHNICAL**

Eustis Engineering, LLC
3011 28th Street
Metairie, LA 70002

Gwendolyn P. Sanders, P.E.
President
Office: (504) 834-0157
Email: gsanders@eustiseng.com



TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

SOQ No. 22-016, Resolution No. 139147
Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant

B. Firm Name & Address:

Eustis Engineering L.L.C.

3011 28th Street, Metairie, Louisiana 70002

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:

Gwendolyn P. Sanders, P.E. / President / 504-834-0157 / gsanders@eustiseng.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.

Gwendolyn P. Sanders, P.E. / President / 504-834-0157 / gsanders@eustiseng.com

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

<u>10</u> Administrative	<u> </u> Estimators	<u> </u> Specification Writers
<u> </u> Architects (Licensed)	<u> 2 </u> Geologists	<u> </u> Structural Engineers
<u> </u> Chemical Engineers	<u> 15 </u> Geotechnical Engineers	<u> 1 </u> Graduate Engineers
<u> </u> Civil Engineers	<u> </u> Interior Designers	<u> </u> Project Managers
<u> </u> Construction Inspectors	<u> </u> Landscape Architects	<u> 6 </u> Clerical
<u> </u> Ecologists	<u> </u> Land Surveyor	<u> </u> Grant/Funding Specialist
<u> </u> Electrical Engineers	<u> </u> Mechanical Engineers	<u> </u> Sanitary Engineers
<u> 3 </u> Engineer Intern	<u> </u> Environmental Engineers	<u> 39 </u> Other
<u> </u> Professional Land Surveyors		<u> 76 </u> TOTAL

F. Is this submittal 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. Not applicable.

2.

H Has this JOINT-VENTURE previously worked together: Please check:

YES NO

I. List all subcontractors anticipated for this Project. Please note that all subcontractors must submit a fully completed copy of this questionnaire, 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. Not Applicable.		
2.		
3.		

J. Please specify the total number of support personnel that may assist in the completion of this Project:

We estimate **16** individuals will be needed to complete the geotechnical services associated with projects under this advertisement. This includes a three-member drill crew as well as laboratory, clerical, and engineering staff. More employees can be added, as necessary, to complete any project.

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:

Gwendolyn P. Sanders, P.E. / President and Project Principal

Project Assignment:

Project Principal / Limited Liability Corporation Member

Name of Firm with which Associated:

Eustis Engineering L.L.C.

Years' Experience with This Firm:

29

Education: Degree(s)/Year/Specialization:

Master of Science / 1992 / Civil Engineering
Bachelor of Science / 1990 / Civil Engineering

Active Registration: Year First Registered/Discipline:

Louisiana: 1997 / Civil Engineering
Mississippi: 2003 / Engineering
Texas: 2020 / Civil Engineering

Other Experience and Qualifications Relevant to the Proposed Project:

Mrs. Sanders began her professional career with Eustis Engineering in 1993. Over the past 29 years, she has worked her way up through the ranks of the engineering department including Associate Engineer, Project Engineer, Project Manager, and Engineering Manager. She has been on Eustis Engineering's Board of Directors since 1997. In 2020, Mrs. Sanders became Eustis Engineering's first woman president after previously serving as a vice president and executive vice president. As President, she is responsible for day-to-day business operations including quality, safety, marketing, and long-term strategic growth. She also still actively participates in the engineering design and review processes.

Considering her experience with Eustis Engineering, a leading Gulf Coast geotechnical firm, Mrs. Sanders has extensive experience in soft soils and working on projects in coastal Louisiana. She has been directly and indirectly involved in numerous projects throughout the Gulf Coast region, particularly in the Greater New Orleans area. Mrs. Sanders has been involved in and managed every aspect of a geotechnical engineering project, namely developing appropriate scopes of work for projects, planning and coordinating field investigations, assigning laboratory testing, performing geotechnical engineering analyses, preparing detailed reports with engineering analyses and recommendations, reviewing reports prepared by other professionals, and consulting with clients. Much of her work experience consists of identifying soil properties, developing criteria for design of foundations, and determining appropriate foundations to support structures under consideration.

In 2017, Mrs. Sanders served as Program Advisor for the Deep Foundations Institute's 42nd annual conference. She has twice been named one of the 50 New Orleans CityBusiness Women of the Year, first in 2017 and again in 2021. She is currently serving as an associate member of the ASCE Standards Committee for the Design of Foundations. She has a keen eye for detail and is a stickler for quality. Her work ethic, combined with her communication skills, translate to Mrs. Sanders' ability to deliver successful geotechnical engineering projects to her clients.

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.

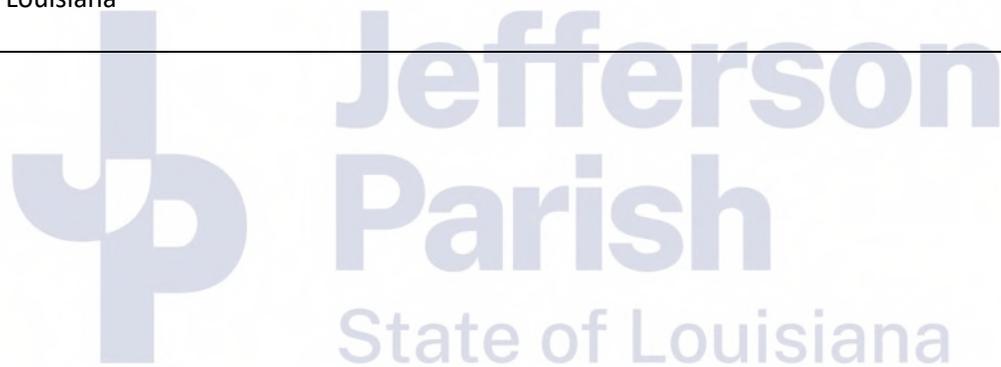
PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

Gwendolyn P. Sanders, P.E. / President and Project Principal

Over the years, Mrs. Sanders has been involved with more than 2,800 projects in some capacity, including the following contained within this submittal:

- Jefferson Parish Department of Public Works - Proposed Pump Station, West Esplanade at the 17th Street Canal, Jefferson Parish, Louisiana
- Jefferson Parish - Veterans Boulevard, North and South Pump Stations, Jefferson Parish, Louisiana
- Southeast Louisiana Flood Protection Authority - East, East Jefferson Levee District, Gabrielle Subdivision Runoff Control Piping, Near the Duncan Canal Pump Station, Kenner, Louisiana
- Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana
- Jefferson Parish - Bonnabel Canal, Pomona Street to Nero Street, Metairie, Louisiana
- City of New Orleans - Department of Public Works, Lakeview City Park, Proposed Drainage Improvements, New Orleans, Louisiana



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
James J. Hance, P.E. / Senior Project Manager and Vice President (Finance)
Project Assignment:
Engineering Manager / Limited Liability Corporation Member
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
19
Education: Degree(s)/Year/Specialization:
Master of Business Administration / 2011 / Business Administration Master of Science / 2003 / Civil Engineering (Geotechnical) Bachelor of Science / 1998 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2004 / Civil Engineering Mississippi: 2012 / Engineering Texas: 2010 / Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>For three years, Mr. Hance was a Staff Engineer and Assistant Project Manager on numerous design and construction phase projects in the Washington D.C. metropolitan area. His duties included management of field technicians who performed concrete, asphalt, and soils testing and observation of foundation construction of spread footings, mats, drilled shafts, augercast piles, driven steel H-piles, tiebacks, and underpinning piers.</p> <p>After relocating to Austin, Texas, to eventually pursue graduate studies in engineering, Mr. Hance acted as an assistant project engineer for several design phase projects. These projects involved retention and stream bank stabilization applications. The types of systems designed included mechanically stabilized earth (MSE); single and multi-tiered walls and slopes utilizing geogrid reinforcement; and the use of geosynthetic materials in engineering applications such as erosion control solutions for open channel flow conditions.</p> <p>Mr. Hance was a graduate research assistant at the University of Texas at Austin where he published his Master's thesis in association with a Master of Science in Civil Engineering degree: <i>Assessment of Seafloor Slope Stability Based on a Database of Published Submarine Slope Failures</i>.</p> <p>Mr. Hance has spent the past 19 years with Eustis Engineering and has worked on many projects for Jefferson Parish. During his tenure at Eustis Engineering, he has earned four promotions: Project Engineer (July 2004), Project Manager (November 2007), Vice President (August 2011), and Chief Financial Officer (August 2012). Mr. Hance manages geotechnical services associated with commercial, industrial, environmental, and civil works projects. His responsibilities include managing a wide variety of design and construction phase projects (public and private sectors), overseeing staff engineers and development of their skill assets, developing scopes of work and appropriate fees</p>

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

James J. Hance, P.E. / Senior Project Manager and Vice President (Finance)

for new projects with clients, participating in business development and marketing ventures, and negotiating contracts. Some of his experience relative to this submittal includes the following:

- Jefferson Parish - Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana
- Jefferson Parish - Monticello Canal Improvements, Jefferson Parish, Louisiana



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Benjamin M. Cody, P.E. / Principal Engineer
Project Assignment:
Project Manager / Limited Liability Corporation Member
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
21
Education: Degree(s)/Year/Specialization:
Master of Science / 1999 / Civil Engineering Bachelor of Science / 1996 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2002 / Civil Engineering Mississippi: 2007 / Engineering Texas: 2014 / Civil Engineering Florida: 2001 / Engineering Alabama: 2003 / Engineering Arkansas: 2014 / Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>From 1993 to 1994, Mr. Cody first worked with Eustis Engineering as a part-time laboratory soil technician while obtaining his undergraduate degree. After leaving Eustis Engineering in 1994, Mr. Cody worked as an engineering technician with the Sewerage & Water Board of New Orleans and as a student laboratory coordinator at Tulane University's Department of Civil Engineering. Mr. Cody also assisted in teaching the introductory soil mechanics laboratory sessions. For more than a year, he then worked as a graduate research assistant at Tulane University while pursuing his Master's degree. At that time, he was responsible for the design, construction, and implementation of bench scale testing system in contaminated soil remediation.</p> <p>From 1998 until 2001, Mr. Cody worked for engineering firms in Florida. He performed such duties as soil evaluation and engineering recommendations for projects of varying sizes including multi-story structures, bridges, and roadways. He performed Phase I environmental site assessments as well as geotechnical sensor installation.</p> <p>In 2001, he returned to the New Orleans area and to Eustis Engineering as a Project Engineer. He now serves as a Principal Engineer with the firm. Since his return, Mr. Cody has performed a wide variety of engineering services including geotechnical project management, engineering design, engineering during construction, and dynamic pile testing. Private sector projects have varied from small private and commercial structures to multi-story high-rise structures, storage tanks, and other industrial facilities. Public projects have included roads and bridges, port facilities, government buildings and facilities, schools, and hurricane protection system improvements.</p> <p>Some of Mr. Cody's project experience, shown in this submittal, includes the following:</p> <ul style="list-style-type: none">• Jefferson Parish Department of Public Works - Proposed Pump Station, West Esplanade at the 17th Street Canal, Jefferson Parish, Louisiana• Jefferson Parish - Veterans Boulevard, North and South Pump Stations, Jefferson Parish, Louisiana

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Benjamin M. Cody, P.E. / Principal Engineer

- Southeast Louisiana Flood Protection Authority - East, East Jefferson Levee District, Gabrielle Subdivision Runoff Control Piping, Near the Duncan Canal Pump Station, Kenner, Louisiana
- Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana
- Jefferson Parish - Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana
- Jefferson Parish - Monticello Canal Improvements, Jefferson Parish, Louisiana



TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Sean G. Walsh, P.E. / Engineering Manager and Vice President (Engineering)
Project Assignment:
Principal Engineer / Limited Liability Corporation Member
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
10
Education: Degree(s)/Year/Specialization:
Master of Science / 2010 / Civil Engineering Bachelor of Science / 2007 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2013 / Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>For the first five years after graduation, Sean G. Walsh, P.E., was a Project Engineer on numerous projects in the New York and New Orleans metropolitan areas where he gained experience in civil, geotechnical, and geo-environmental engineering jobs for a variety of public and private clients.</p> <p>Since joining Eustis Engineering in 2012 as a Project Engineer, Mr. Walsh has been responsible for developing and managing engineering package preparations (e.g., engineering design and analysis, reporting, development of construction and permit drawings, contract specifications, cost estimates, and design reporting) for a diverse range of design and analysis projects, including deep foundations, excavation support systems, utility foundations, slope stabilization, solid waste closure systems, levee inspection/safety, and seepage modeling.</p> <p>Mr. Walsh was promoted to Project Manager in 2017. Mr. Walsh is also a graduate of the 2017 New Orleans Regional Leadership Institute (NORLI), a one-year training program designed to help shape community leaders.</p> <p>During his employment with Eustis Engineering, Mr. Walsh has provided engineering services on more than 700 projects. Mr. Walsh has risen to the level of Vice President and Engineering Manager, in which he is responsible for personnel resource allocation, the overall engineering schedule, and execution of engineering services. Mr. Walsh also functions as a mentor to the engineering staff.</p> <p>A large portion of Mr. Walsh's experience, before and after joining Eustis Engineering, involved development of design and construction recommendations associated with flood protection systems in southeastern Louisiana. Mr. Walsh has served as the project engineer and project manager responsible for the development and implementation of geotechnical exploration programs; development of soil testing laboratory programs; and interpretation of the results to evaluate strength, compressibility, and general soil characterization. Mr. Walsh used these data for geotechnical designs comprising pile capacity curves; bearing capacity analyses; cantilever retaining analyses; anchored retaining wall analyses; temporary retaining structure design; time-settlement projections for earthen levees with lift schedules; soil pressure profiles; structural and earthen levees under seepage analyses; levee and bank stability by the Spencer's Method and the Method of Planes; reinforced embankment design; stability analyses of flood protection walls (e.g., T-wall, I-wall, L-wall, and braced 'A-Frame' walls); downdrag and settlement analyses; settlement induced bending</p>

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Sean G. Walsh, P.E. / Engineering Manager and Vice President (Engineering)

moments (SIBM) in foundation piles; piping analyses; uplift analyses; heave analyses; three-dimensional modeling of fill and structural load placements for predictions of time-rate settlements of foundation systems; and numerical modeling of soil-structure-interaction (SSI) of flood protection structures by the finite element method (FEM).

Mr. Walsh has also worked on many local government projects in towns and cities including New Orleans, Golden Meadow, and Kentwood; numerous projects in Jefferson, Orleans, St. Bernard, St. Charles, and Plaquemines Parishes; several Port Commissions (e.g., Baton Rouge, New Orleans, South Louisiana); Sewerage & Water Board of New Orleans projects; etc.

Regardless of the types of projects engineered for these agencies, his responsibilities have remained the same, namely defining the project philosophy; developing and maintaining the schedule; providing status reports to clients; controlling expenditures; overseeing project personnel; and reviewing the project design for compliance with engineering principles, company standards, and customer requirements. He is hands-on in coordinating activities concerned with technical developments and in resolving engineering design/test problems.

Mr. Walsh's skills over the past nine years have developed exponentially with the variety of projects that have crossed his desk. With regard to this submittal, Mr. Walsh has been directly involved with the following projects:

- Gretna City Park - Proposed Water Capacity Improvements, 910 Gretna Boulevard, Gretna, Louisiana
- Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana
- Jefferson Parish - Bonnabel Canal, Pomona Street to Nero Street, Metairie, Louisiana
- City of New Orleans - St. Anthony Green Streets, Programming and Design Services, New Orleans, Louisiana
- City of New Orleans - Department of Public Works, Lakeview City Park, Proposed Drainage Improvements, New Orleans, Louisiana

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations)
Project Assignment:
Operations Manager / Limited Liability Corporation Member
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
28
Education: Degree(s)/Year/Specialization:
Associate of Applied Sciences / 1998 / Safety
Active Registration: Year First Registered/Discipline:
N/A
Other Experience and Qualifications Relevant to the Proposed Project:
Accreditations / Affiliations / Certifications American Society of Certified Engineering Technicians Confined Space Entry Certification Greater New Orleans Industrial Education Council Safety Training Medic First Aid and CPR Course 2015 HAZMAT Certification, 49 CFR 172, Subpart H, Nuclear Gauges International Code Council: Soils Special Inspector National Institute for Certification in Engineering Technologies: Level I: Construction Materials Testing, Asphalt Level II: Construction Materials Testing, Concrete Level IV: Construction Materials Testing, Soils Level II: Geotechnical Engineering Technology, Construction Level III: Geotechnical Engineering Technology, Generalist Level IV: Geotechnical Engineering Technology, Exploration Level IV: Geotechnical Engineering Technology, Laboratory Level III: Transportation Engineering Technology, Highway Materials 10-Hour OSHA Training Transportation Workers Identification Card (TWIC) Registered Well Driller for the States of Louisiana and Mississippi
Professional Experience After joining Eustis Engineering in 1994, Mr. Rome has worked in several departments throughout our firm. He began as a laboratory technician, performing simple testing such as grain size analyses, Atterberg liquid and plastic limits, and unconfined compression shear. Mr. Rome has become involved in more complex testing procedures such as permeability and consolidation tests. His capabilities have expanded to include lime stabilization studies, California Bearing Ratio tests, hysteresis, direct shear tests, swelling pressure and percent swell tests, consolidated undrained triaxial shear tests, relative density tests, and compaction tests.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations)

Project Assignment:

Operations Manager / Limited Liability Corporation Member

Name of Firm with which Associated:

Eustis Engineering L.L.C.

Mr. Rome is thoroughly familiar with the performance of the following types of testing.

- | | |
|---|---|
| Atterberg limits | CBR of laboratory compacted soils |
| Consolidated drained triaxial shear tests | Consolidated undrained triaxial shear tests |
| Consolidation tests | Direct shear |
| Direct simple shear | Flexible wall permeability test |
| Hydrometer | Miniature vane shear |
| Moisture content of soil and rock | Organic content |
| Particle size analysis of soils and aggregates | Percent finer than No. 200 sieve |
| Pocket penetrometer | Relative density tests |
| Settlement column testing of dredged materials | Sieve analyses |
| Soil constants | Specific gravity of soils |
| Standard and modified compaction | Swell pressure tests |
| Torvane shear tests | Unconfined compressive strength of soil |
| Unconsolidated undrained triaxial shear tests | Unified Soil Classification System |
| Unit weight | Visual classification of soils |
| Moisture density relationships of soil-cement mixtures | |
| Molded sand triaxial test using Mississippi Department of Transportation specifications | |
| U.S. Army Corps of Engineers' New Orleans District Classification System | |

In early 1998, Mr. Rome joined the Drilling Department as a soil technician, while assisting the drilling crew as a wrenchman. In November 1998, Mr. Rome became a driller for Eustis Engineering. In this capacity, he performed sampling operations using 3-in. diameter Shelby tubes and 5-in. diameter Corps of Engineers' fixed piston sampling. He is also familiar with splitspoon, pitcher, Osterberg, Denison, and hollow stem auger sampling operations. He is competent in the installation of piezometers, monitoring wells, inclinometers, and pore pressure transducers. Mr. Rome has drilled to depths in excess of 300 feet utilizing 5-in. fixed piston samplers and in excess of 400 feet for 3-in. diameter Shelby tube sampling. Mr. Rome has drilled from various types of equipment including pontoons, cargo buggies, shallow draft elevating boats, barges, and pull boats using CME, Diedrich, and Failing drill rigs. Mr. Rome has also served as a Quality Assurance/Quality Control inspector for drilling operations for FFEB JV. This included ensuring as many as 22 drill crews were performing sampling operations in strict compliance with USACE specifications.

In the early 2000s, Mr. Rome attended the University of Missouri at Rolla for Advanced Soil Mechanics training. In 2005, he began serving as Operations Manager, overseeing the laboratory department's daily objectives, reviewing calculations, and developing new skills in laboratory personnel, as well as other duties. In the drilling department, he oversees up to five drilling crews which involves ordering parts, evaluating prospective sites, making crew schedules, lining up subcontract equipment, and ensuring the highest quality samples are obtained by drill crews and subcontractors. Mr. Rome also serves as a driller or soil technician when his experience is required or to train new employees.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations)

Project Assignment:

Operations Manager / Limited Liability Corporation Member

Name of Firm with which Associated:

Eustis Engineering L.L.C.

In 2013, Mr. Rome added the CMT Department under his operational duties in addition to his responsibilities within the lab and drilling departments. Mr. Rome works closely with the operations supervisor for CMT, overseeing the department's daily objectives, reviewing reports, reviewing invoices, addressing staffing needs, as well as other duties.

Mr. Rome has worked on the following projects within this submittal:

- Gretna City Park - Proposed Water Capacity Improvements, 910 Gretna Boulevard, Gretna, Louisiana
- Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana
- Jefferson Parish - Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana
- Jefferson Parish - Monticello Canal Improvements, Jefferson Parish, Louisiana
- City of New Orleans - St. Anthony Green Streets, Programming and Design Services, New Orleans, Louisiana
- City of New Orleans - Department of Public Works, Lakeview City Park, Proposed Drainage Improvements, New Orleans, Louisiana



PROJECT NO. 01

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Department of Public Works Proposed Pump Station West Esplanade at the 17th Street Canal Jefferson Parish, Louisiana Eustis Engineering Project No. 24427 </p> <p align="center"> Contact Information: Jefferson Parish Through ECM Consultants, Inc. Suite 200 1301 Clearview Parkway Metairie, Louisiana 70001 Sunina Shrestha, P.E. @ 504-885-4080 </p>	<p>Jefferson Parish proposed a pump station at the intersection of the 17th Street Canal and West Esplanade Avenue in Metairie, Louisiana. The pump station would be built on the west bank of the canal.</p> <p>The pump station was planned to have approximate dimensions of 50' x 36' with a sump depth of approximately 18 feet. A new 78" x 122" arch-shaped reinforced concrete pipe would feed collected drainage water to the pump station. A new generator pad with approximate plan dimensions of 16' x 37' would be located south and west of the pump station.</p> <p>Discharge pipes, 32 inches in diameter, would be installed from the pump station, extending over the levee and floodwall to discharge storm water from the pump station into the 17th Street Canal. The discharge pipes were to be pile-supported on the land and flood sides of the levee and floodwall.</p> <p>Eustis Engineering performed engineering analyses based on data obtained from previous subsurface explorations at the site supplemented by those in the project area.</p> <p>The scope of service of this project included compiling and updating geotechnical analyses from previous reports that were still applicable to the pump station plans. These previous analyses included deep-seated global stability analyses, seepage potential evaluation, and estimates of pile load capacities for various types and sizes of piles.</p> <p>We performed supplemental deep-seated global stability analyses to provide an alternate analysis. We also furnished supporting documentation for temporary retaining structure design and seepage and heave analyses. Finally, we generated recommendations for general site preparation and foundation construction procedures.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">09/2021 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$25,500</p>

PROJECT NO. 02

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Veterans Boulevard North and South Pump Stations Jefferson Parish, Louisiana Eustis Engineering Project Nos. 23396, 23396.01, and 24426 </p> <p> Contact Information: Jefferson Parish Through ECM Consultants, Inc. Suite 200 1301 Clearview Parkway Metairie, Louisiana 70001 Sunina Shrestha, P.E. @ 504-885-4080 </p>	<p>Two new drainage pump stations are proposed on the northern and southern sides of Veterans Memorial Boulevard at the 17th Street Canal. Each of these pump stations will discharge into the 17th Street Canal. Because of a planned bike path along the hurricane protection floodwall, these discharge pipes will need to penetrate the flood protection. As a result, plans called for the replacement of portions of the existing West 17th Street Canal I-walls (which cannot be penetrated and still comply with the U.S. Army Corps of Engineers' (USACE) guidelines) with T-walls. Both pump stations would require demolition of approximately 20 feet of existing concrete I-wall for installation of the new T-wall to accommodate a discharge pipe through each wall. Access gates will also be provided as part of the floodwall modifications.</p> <p>Because of these modifications to the flood protection, a safety assurance review (SAR) was conducted by an independent reviewer. The SAR included a review of the plans and specifications, and design reports and calculations. Comments from the SAR were incorporated into the permit package submitted to the review agencies. The project plans have civil, structural, mechanical, and electrical components.</p> <p>For additional data at the site, Eustis Engineering used soil boring and laboratory test data contained in our own files from prior explorations as well as data obtained through a Freedom of Information Act request to the USACE.</p> <p>Engineering analyses for the evaluation of the proposed T-wall followed the USACE's <u>Hurricane and Storm Damage Risk Reduction System Design Guidelines</u> dated June 2012. Global and local stability analyses were performed to evaluate the design and construction of the T-wall, including temporary flood protection and temporary retaining structures. Stability analyses were also performed to address construction dewatering requirements for the pump station excavation with respect to the existing and proposed flood protection.</p> <p>Our work included estimates of allowable axial pile load capacities for piles supporting the T-wall foundations as well as the pump station and discharge pipes. We also performed analyses to evaluate the potential for seepage and heave during and after construction for the proposed features. New generator pads were located adjacent to each pump station to house controls outside the new intake excavation.</p>	
<p align="center"> Completion Date (Actual or Estimated) </p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">11/2021 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$53,400</p>

PROJECT NO. 03

PROJECT NO. 03		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p style="text-align: center;">Gretna City Park Proposed Water Capacity Improvements 910 Gretna Boulevard Gretna, Louisiana Eustis Engineering Project No. 24290</p> <p style="text-align: center;">Contact Information: Gretna City Park Through Waggoner & Ball Architects, APC 2200 Prytania Street New Orleans, Louisiana 70130 Andy Sternad @ 504-524-5308</p>	<p>Open-air pavilion and pedestrian bridge structures were anticipated as part of the Gretna City Park upgrades. The pavilion structure would consist of an approximate 25' x 30' timber frame structure.</p> <p>In the field, Eustis Engineering's drill crew completed nine undisturbed soil borings, varying in depth from 10 to 75 feet below the existing ground surface. Additionally, our personnel performed two infiltration tests on site using the Compact Constant Head Permeameter (Amoozemeter®) procedure. Following the field investigation, our Metairie laboratory conducted natural water content, unconfined compression shear, and one-point unconsolidated undrained triaxial compression shear tests to inform the engineering design.</p> <p>Engineering analyses and recommendations included the following:</p> <ul style="list-style-type: none"> • slope stability analyses; • site preparation recommendations including drainage (both during construction and permanent) and subgrade preparation. • fill selection as well as its recommended compaction and its estimated settlement; • estimates of load capacity for treated ASTM D25 quality timber piles, as well as settlement estimates; • pile installation recommendations; • pavement design; and • material recommendations including components of the pavement itself and the use of geotextiles. <div style="text-align: center;">  </div>	
Completion Date (Actual or Estimated)	Estimated Cost:	
04/2020 (A)	Entire Project:	Work for Which Firm Was Responsible:
	Unknown	\$13,300

PROJECT NO. 04

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Southeast Louisiana Flood Protection Authority - East East Jefferson Levee District Gabrielle Subdivision Runoff Control Piping Near the Duncan Canal Pump Station Kenner, Louisiana Eustis Engineering Project Nos. 22537, 23474, and 24245 </p> <p> Contact Information: Southeast Louisiana Flood Protection Authority – East Suite 225 6001 Stars and Stripes Boulevard New Orleans, Louisiana 70126 Chris Humphreys @ 504-262-8922 </p>	<p> This project began with proposed pipeline rerouting at Pump Station No. 4, near Duncan Canal Pump Station, in Kenner, Louisiana. Eustis Engineering used existing geotechnical data obtained from previous projects at the site to perform global stability analyses to evaluate the existing hurricane protection levee and floodwall during and after construction of the proposed pipeline. Slope stability analyses for the proposed trench/excavation for the installation of the pipe followed the criteria provided in the U.S. Army Corps of Engineers' (USACE) <u>Hurricane and Storm Damage Risk Reduction System Design Guidelines</u> and were performed using the Spencer's Method of Slices coded within SLOPE/W. The slope stability analyses were performed for the T-wall and proposed protected side excavation for pipeline installation. We also computed Lane's Weighted Creep Ratio to evaluate piping potential into the excavation as the result of seepage during a high-water event. </p> <p> Using data obtained from these calculations, we provided construction recommendations for the contractor's use on the project. </p> <p> Fleming Construction Company, L.L.C., was contracted to install a 40-in. PVC drainage pipe in the proposed excavation. They provided construction drawings delineating the configuration of a Temporary Retaining Structure (TRS). In order to ensure the contractor's TRS design met the requirements of the construction permit, including review by the USACE, Eustis Engineering was retained to evaluate these drawings and provide comments. Subsequently, we provided clarification, revised calculations to accommodate plan changes, and responded to further queries and comments as needed. </p> <p> When this review process was completed and construction commenced, Eustis Engineering provided additional geotechnical services on this project, sampling earthwork and subjecting the samples to laboratory testing including compaction, Atterberg liquid and plastic limits testing, and the percent passing the No. 200 sieve. We also evaluated the results of monitoring operations performed by the contractor to confirm the TRS was behaving as predicted and within permit requirements. </p>	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">05/2020 (A)</p>	<p align="center">Entire Project:</p>	<p align="center">Work for Which Firm Was Responsible:</p>
	<p align="center">Unknown</p>	<p align="center">\$32,200</p>

PROJECT NO. 05

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Proposed Drainage Improvements Geisenheimer Canal Between Loumor Ditch and Hoey's Cut Metairie, Louisiana Eustis Engineering Project No. 24281 </p> <p> Contact Information: Jefferson Parish Through Design Engineering, Inc. Suite 205 3330 West Esplanade Avenue Metairie, Louisiana 70002 John Holtgreve, P.E. @ 504-836-2155 </p>	<p>Drainage improvements were planned for a portion of Geisenheimer Drainage Canal between Loumor Ditch and Hoey's Cut in Metairie, Louisiana. A new box culvert would be installed north of and parallel to the existing Geisenheimer Drainage Canal over a distance of approximately 2,800 linear feet. The purpose of this project was to increase flow capacity. Tie-ins in the form of junction boxes would be required at three locations including the new and existing Loumor Ditch, Woodvine Ditch, and at Hoey's Cut. The existing covered canal generally consisted of an 8' x 15' box culvert supported by timber piles. A section of the Hoey's Cut covered canal indicated a 9.5' x 25' structure comprising concrete sheetpiles as the sidewalls. The new structure was planned to be an 8' x 12' box culvert supported at grade.</p> <p>Eustis Engineering had previously performed geotechnical explorations for prior project phases. To supplement these historic data, Eustis Engineering performed four cone penetration tests (CPTs) to a depth of 60 feet each below the existing ground surface. The CPTs were made with a track-mounted cone penetrometer rig. This exploration scope was selected to expedite the project schedule and keep field costs contained.</p> <p>Geotechnical engineering recommendations for the project included site preparation, managing drainage during and after construction, identifying demolition of existing features interfering with new construction, and the need for a temporary retaining structure (TRS) for excavations.</p> <p>Eustis Engineering analyzed at least one concept of a TRS considering application of factors of safety to the sheetpile penetration or to the soil design parameters. Other considerations for the TRS included recommendations for construction sequence; excavation; dewatering; lateral movement and soil subsidence; preparation of the excavation base; the bridge lift and bedding; sealant slab; and material selection and compaction for structural, non-structural, and embankment fill.</p> <p>Our personnel also analyzed earth and water pressures associated with the box culvert as well as the use of a grade-supported culvert base slab. Analyses associated with the slab included allowable soil bearing values, net applied pressure intensity, and settlement estimates. Differential settlement was considered in association with pavements, the existing pile-supported box culvert, and underground utilities.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
03/2020 (A)	Unknown	\$12,100

PROJECT NO. 06

Project Name, Location, and Owner's Contact Information:

Nature of Firm's Responsibility:

**Jefferson Parish
Hoey's Canal Drainage Improvements
(Phases II and III)
Deckbar Avenue to Labarre Road and
Labarre Road to Causeway Boulevard
Jefferson Parish, Louisiana
Eustis Engineering Project Nos.
21458, 22532, and 22532.01**

Contact Information:
Jefferson Parish Through
Linfield, Hunter & Junius, Inc.
3608 18th Street
Metairie, Louisiana 70002
Robert Nockton, P.E. @ 504-833-5300

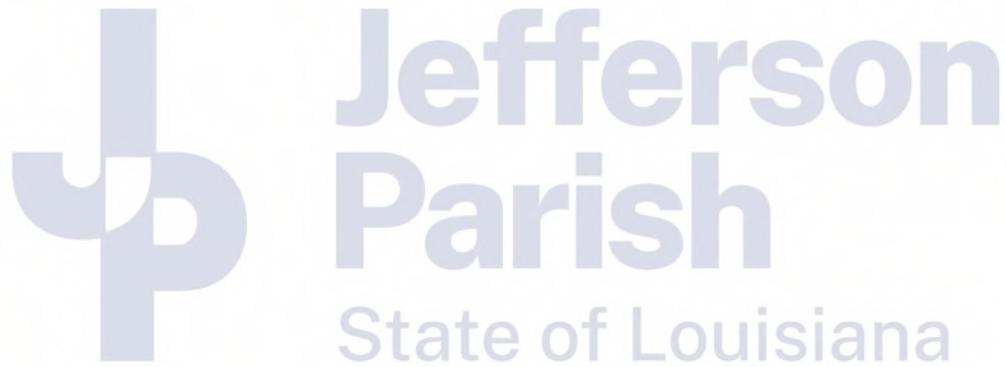
Eustis Engineering has performed multiple geotechnical explorations dating back to 1966 along Hoey's Canal for various modifications and improvements. Phases II and III of the proposed drainage improvements along Hoey's Canal included the deepening and lining of the canal using sheetpile walls and concrete slope paving for the upper slopes of the canal. Phase II extended from Deckbar Avenue (LA Highway 3139) to the railroad crossing near Labarre Road in Jefferson Parish, Louisiana. This portion of the drainage improvements was approximately 1,715 feet long and was a continuation of an earlier phase of the project that extended from Deckbar Avenue to Betz Avenue (approximately 805 feet long) tying into an existing sheetpile-lined canal. Phase III consisted of improvements to approximately 1,625 feet of Hoey's Canal from Causeway Boulevard to Labarre Road. Eustis Engineering was retained for Phase III because of our ability to deliver high quality geotechnical recommendations in a timely fashion to our clients and to Jefferson Parish.

For Phase II, Eustis Engineering drilled four undisturbed soil test borings using a truck-mounted, rotary-type drill rig. We drilled one soil boring to a depth of 130 feet and three borings to depths of 60 feet below the existing ground surface. For the Phase III exploration, we utilized data from one of the soil borings we obtained in Phase II in addition to drilling three borings to depths of 60 feet with a low ground pressure track-mounted drill rig. We coordinated with the New Orleans Public Belt Railroad (NOPBR) and Jefferson Parish to ensure our field exploration was performed safely and met the NOPBR and parish requirements. The Phase III borings were drilled on the southern side of the canal because borings were not feasible on the northern side due to overhead electrical lines. Eustis Engineering performed soil mechanics laboratory tests on samples obtained from the borings during Phases II and III to evaluate the physical properties of the subsoils.

Based on existing data, soil borings, and laboratory test results, Eustis Engineering provided recommendations regarding site preparation, sheetpile analyses, global stability analyses, estimates of allowable pile load capacities for alternative flume support, estimates of allowable pile load capacities for the railroad bridge which would replace an existing culvert, and general construction recommendations. We also evaluated dewatering/pressure relief and heave which were major design challenges due to a shallow subsurface sand deposit located near the bottom of the deepened canal.

For Phase II, we provided supplemental engineering analyses which included addressing requests for information posed by the construction contractor and evaluating the pile load capacity results from a static load test program. Our Phase III engineering scope

PROJECT NO. 06		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<p>addressed geotechnical related issues during construction with the construction contractor.</p> <p>We also performed additional engineering analyses for the project after our client discovered a new NOPBR track closer to Hoey's Canal. This new construction altered the cross-sections we evaluated in our previous study, requiring an evaluation of the impact on the proposed walls within Hoey's Canal.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
03/2017 (A)	Unknown	\$37,800



PROJECT NO. 07

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Bonnabel Canal Pomona Street to Nero Street Metairie, Louisiana Eustis Engineering Project No. 23387 </p> <p align="center"> Contact Information: Jefferson Parish Through BCG Engineering & Consulting, Inc. 3012 26th Street Metairie, Louisiana 70002 Ann Springston, P.E. @ 504-454-3866 </p>	<p>BCG Engineering & Consulting, Inc. (BCG) requested Eustis Engineering's consultation in finalizing the plans and providing support during construction of the proposed Bonnabel Canal east bank stabilization features. The construction planned for an approximate 1,600-ft stretch of the project that would extend from Pomona Street to Nero Street in Metairie, Louisiana. The furnished plans showed a 35-ft AZ26 sheetpile with a top at el 8 and a tip at el -27.</p> <p>Prior to these final design/construction phase services, Eustis Engineering had performed several geotechnical explorations for the project that were used as the basis of our updated design services. The most recent study was published in our report entitled "Geotechnical Investigation, Jefferson Parish, Bonnabel Canal, South of Veterans Boulevard to West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 20438," dated 20 November 2009.</p> <p>Using the available data, Eustis Engineering performed local stability analyses of the new sheetpile wall configuration using CWALSHT to confirm that the proposed sheetpile tip embedment was sufficient.</p> <p>Additionally, we evaluated deep-seated global stability for the cantilever sheetpile wall using the Spencer's Method of Slices for non-circular and circular failures (with optimization search routines) with the software SLOPE/W, Version 8.16, GEOSLOPE International Ltd. These analyses also confirmed the proposed configuration was stable. Thus, the plans being developed could be finalized to provide for improved drainage within the tight construction corridor.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">11/2017 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$3,700</p>

PROJECT NO. 08

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Monticello Canal Improvements Jefferson Parish, Louisiana Eustis Engineering Project Nos. 23050 and 23050.01 </p> <p align="center"> Contact Information: Jefferson Parish Through Hartman Engineering, Inc. 527 West Esplanade Avenue Suite 300 Kenner, Louisiana 70065 Rolland Mura @ 504-466-5667 </p>	<p>In September of 2014, Jefferson Parish and Hartman Engineering, Inc. solicited Eustis Engineering for the proposed Monticello Canal improvements in Jefferson Parish, Louisiana. This project called for a flume to be installed on the northern side of Airline Highway and three 84-in. diameter pipes to be jacked-and-bored under Airline Highway and Kansas City Southern Railroad. A 200-ft long section of arched pipe would also extend from the southern end of the 84-in. diameter pipes to the existing canal.</p> <p>After site reconnaissance, Eustis Engineering drilled one undisturbed sample type soil test boring to a depth of 80 feet below the existing ground surface. Engineering analyses, based on the soil boring and subsequent laboratory test results, were used to develop recommendations for excavations, dewatering, and pressure relief; temporary retaining structures' (TRS) feasibility; and deep-seated global stability for sheeted construction excavations. We also estimated allowable pile load capacities and settlement and provided general foundation construction recommendations.</p> <p>In 2016, the sheetpile used as a TRS during construction of the flume unexpectedly required removal after construction. Eustis Engineering initially provided results considering this sheetpile would be permanent, so we provided supplemental analysis for the "after-construction" condition without the sheetpile.</p> <p>Additionally, the arched pipe, initially planned for the southern side of Airline Highway, was to be replaced with an open flume. This allowed for a consistent drainage approach with the adjacent Hoey's Canal drainage project. Eustis Engineering evaluated two cross-sections to address these geometric changes; to perform global stability and local stability analyses for the "during-construction" and "after-construction" cases; to consider heave and dewatering; and to implement sheetpile wingwalls at the southern limit where the flume will meet Hoey's Canal.</p> <p>Finally, Eustis Engineering was available to assist BCG Engineering & Consulting with review of specifications regarding temporary retaining structures and dewatering.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">10/2016 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$18,900</p>

PROJECT NO. 09

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> City of New Orleans St. Anthony Green Streets Programming and Design Services New Orleans, Louisiana Eustis Engineering Project Nos. 23849 and 23849.01 </p> <p align="center"> Contact Information: City of New Orleans Through Batture LLC 500 Crystal Street New Orleans, Louisiana 70124 Robert Mora, P.E. @ 504-533-8644 </p>	<p>The St. Anthony Green Streets project was initiated to reduce flooding and subsidence risks within the St. Anthony neighborhood, a subset of the Gentilly Resilience District in New Orleans, Louisiana. Project improvements were planned along Wildair Drive and Windgate Drive between Robert E. Lee Boulevard and Filmore Avenue. In addition, the Filmore Gardens and Eddie Gatto Playgrounds were incorporated into the project. The City of New Orleans proposed new green infrastructure and stormwater management features comprising rain gardens, bioswales, permeable sidewalks, and other landscape features used for the detention and infiltration of rainwater.</p> <p>Based on previous explorations performed in proximity to the subject site, the geology was characterized by fill, drained marsh, and inland swamp deposits overlying a relic beach. Surficial materials overlying the deposits, as mapped by the Natural Resource Conservation Service, comprised heavy clay. Eustis Engineering was requested to perform a field exploration and engineering analyses to evaluate how this clay, and its ability to infiltrate water, would impact the project.</p> <p>Eustis Engineering drilled 13 soil borings using our track mounted Geoprobe® rig with a Macro-Core® sampler. Five borings were drilled to depths of 20 feet, and eight borings were drilled to depths of 10 feet. These depths were chosen to assist in defining the depths and locations of the relic beach sand deposits. Samples obtained from the borings were subjected to soil mechanics laboratory tests comprising visual classification, natural water content, Atterberg liquid and plastic limits, and percent passing the U.S. Standard No. 200 mesh sieve. Swell pressure and percent swell tests were performed to determine the magnitude of shrink/swell potential of the subsoils.</p> <p>Engineering analyses were performed to evaluate the shrink/swell potential of the existing subsoils, heave potential due to water infiltration, estimates of allowable soil bearing values, recommendations for fill placement and compaction as well as pavements, and general construction procedures.</p> <p>Eustis Engineering was later asked to perform supplemental services consisting of the installation of open well standpipes piezometers and data monitoring for a duration of one year. Piezometer installation locations were selected by Eustis Engineering based on design recommendations. This instrumentation was installed in areas of possible subsidence and potential storm water infiltration or retention zones.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">01/2020 (A)</p>	<p align="center">Entire Project:</p>	<p align="center">Work for Which Firm Was Responsible:</p>
	<p align="center">Unknown</p>	<p align="center">\$24,500</p>

PROJECT NO. 10

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> City of New Orleans Department of Public Works Lakeview City Park Proposed Drainage Improvements New Orleans, Louisiana Eustis Engineering Project No. 24192 </p> <p align="center"> Contact Information: City of New Orleans Through Batture LLC 500 Crystal Street New Orleans, Louisiana 70124 Jennifer Snape, P.E. @ 504-533-8644 </p>	<p>This green infrastructure project featured the addition and expansion of water features within New Orleans City Park to accommodate additional water storage, particularly regarding drainage from the Lake Vista neighborhood.</p> <p>Eustis Engineering was involved with the initial exploration and design concepts associated with developing the final project scope. Our primary focus involved monitoring ground water levels, both before and during the various project phases in order to evaluate the impact and effectiveness of the green infrastructure improvements.</p> <p>For the exploration and monitoring portion of the work, we first performed fifteen 10-ft direct push type borings using a Geoprobe® rig to identify subsurface soil conditions and stratigraphy at each piezometer location, and to obtain samples of the various strata prior to piezometer installation. The soil samples were subjected to soil mechanics laboratory tests, including natural water content, unit weight, visual classification, and Atterberg limits determinations.</p> <p>At each of the 15 boreholes, we installed an open well piezometer with a data logger that collected readings at hourly intervals to continuously monitor water level fluctuations and salinity. We also installed one rain gauge and utilized a barologger to monitor barometric pressure in the vicinity of the project. An existing rainfall gauge maintained by the USACE was also referenced in the data evaluation. Monitoring continued for a period of 12 months, during which Eustis Engineering provided monthly reports to the client detailing data measurements and interpretations. We also periodically collected samples for testing of independent salinity measurements.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">07/2021 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$99,000</p>

TEC Professional Services Questionnaire

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. None at this time.		
2.		
3.		
4.		

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

When Eustis Engineering opened its first office in Vicksburg, Mississippi, in 1946, it housed its entire operation in less than 500 square feet of space. *Seventy-six years later*, our personnel and equipment occupy 40,000+ square feet of space in five locations.

Eustis Engineering is the third oldest, continually operating geotechnical firm in the United States. From a two-man office to approximately 100 individuals, the firm has grown to house accounting, administrative, quality control, safety, drilling, engineering, laboratory, and construction materials testing departments. These departments work together to provide our clients with the quality work desired in a cost efficient and timely manner.

Eustis Engineering is headquartered in Metairie, Louisiana, in the heart of Jefferson Parish’s East Bank. We also operate branch offices in Lafayette and Baton Rouge, Louisiana; in Gulfport, Mississippi; and in Houston, Texas. Our offices and staff collaborate seamlessly using Microsoft Teams and other virtual platforms.

Eustis Engineering’s services encompass many disciplines including the performance of:

- subsurface exploration (drilling of soil borings, cone penetration testing, downhole vane, and Geoprobe®);
- soil mechanics laboratory tests;
- field instrumentation and monitoring;
- non-destructive testing of piles and shafts including dynamic pile testing, cross-hole sonic logging, single-hole sonic logging, low strain pile integrity testing, and thermal integrity profiling;
- geotechnical engineering design; and
- construction quality control and materials testing services.

Eustis Engineering L.L.C. Important Numbers	
Item	Number
DUNS	78-481-0959
CAGE Code	4MOP2
Firm License - Louisiana	EF.0003558
Firm License - Mississippi	2078
Firm Registration – Texas	13895

Eustis Engineering has worked on over 800 geotechnical and construction materials testing projects for Jefferson Parish Government entities. We have completed over 4,000 projects of all types throughout the east and west banks of Jefferson Parish alone, as well as many similar projects in the surrounding parishes. This work history gives our engineering staff unparalleled familiarity with the foundation conditions in the Gulf Coast and the challenges that may arise for projects associated with this contract. Eustis Engineering’s staff has provided exploration, design, and testing support services for numerous projects that have included FEMA funding, Community Development Block Grants, and those associated with implementing green infrastructure and other stormwater BMPs.

ENGINEERING SERVICES

Eustis Engineering has engineering capabilities to fulfill the requirements of nearly any project. Our clients include local, state, and federal entities as well as industrial and commercial facility owners. Thus, we understand multiple stakeholder demands and design approaches. We can also assist with coordination with partner agencies.

We have developed pile capacity and bearing capacity analyses for projects throughout the coastal areas of the United States. Eustis Engineering's evaluation of piles and shafts includes estimates of vertical capacity for groups. We also perform lateral analyses of individual piles and pile groups using LPILE and GROUP. We provide guidance for the assessment of uplift on shallow and deep foundations as a result of hydrostatic pressures.

We perform settlement studies including estimates of total and differential settlement and time-rate of settlement (with and without wick drains to enhance consolidation) for shallow and deep foundations for all types of structures and features. These settlement studies include estimates and recommendations for lift construction affecting a gain-in-strength of foundation soils associated with subsoil consolidation. Preload/surcharge operations are also a component of our settlement evaluations.

Our capabilities extend to performance of deep-seated global stability analyses for structures (T-walls and I-walls) according to the standards of the Hurricane and Storm Damage Risk Reduction System Design Guidelines, Louisiana Flood Protection Design Guidelines, and the CPRA's Marsh Creation Design Guidelines, using Spencer's Method as coded in SLOPE/W and the LMVD Method of Planes as coded in UPLIFT. These programs are also used for the design and verification of levees, reinforced embankments, revetments, channel slopes, and open excavations. We also evaluate local and global stability of temporary or permanent retaining systems using these same programs. We assess the potential for basal heave and the need for dewatering and pressure relief measures.

We routinely provide geotechnical recommendations for development of plans and specifications, including material properties for bedding and backfill, placement and compaction efforts appropriate to these fill materials, and other construction considerations. Our engineering staff's involvement with construction materials testing projects of all types helps to inform design decisions and recommendations.

In our practice, Eustis Engineering has developed methodologies associated with the estimates of negative skin friction on pile foundations. The methods are the current state of practice. The extension of these methods is an evaluation of settlement induced bending moment (SIBM). Eustis Engineering is also utilizing a numerical model program, SIGMA/W, in association with the rigorous settlement program Settle3. Finally, Eustis Engineering has performed seepage analyses for evaluation of heave, uplift, and piping. We use EM 1110-2-1913, EM 1110-2-1901, and DNR 1110-1-400 for manual calculations that consider blanket theory. We also use SEEP/W for a computer model and typically compare the results of manual calculations to the SEEP/W model as a quality assurance procedure.

Engineering Staffing

Our engineering staff has 15 Master's degrees in Civil Engineering, Engineering, Engineering Management, and Business Administration. Participation in post Bachelor of Science curricula, as well as continuing education and professional registration that emphasizes engineering management and technical issues, are very important to Eustis Engineering. Our engineers also regularly present at technical conferences. We encourage and fund our staff for these activities and programs.

Reviewing the following table, the majority of Eustis Engineering's professional engineers have at least ten years of experience in geotechnical engineering.

Employee	Education	Experience	
		Years with Eustis Engineering	Total Years
Professional Engineers (P.E.)			
Benjamin M. Cody	M.S. / Civil Engineering	21	25
Brian A. Deschamp	B.S. / Civil & Environmental Engineering	10	10
	B.A. / Business Administration		
Lars A. Erickson	B.S. / Civil & Environmental Engineering	6	6
	Coastal Engineering Certificate		
James J. Hance	M.S. / Civil Engineering	19	23
	M.B.A. / Business Administration		
Chad L. Held	M.S. / Civil Engineering	31	31
David J. Indest	M.S. / Civil Engineering	21	21
Matthew K. Morales	B.S. / Civil Engineering	13	13
Travis R. Richards	M.S. / Engineering	17	24
	M.S. / Engineering Management		
	Coastal Engineering Certificate		
Gwendolyn P. Sanders	M.S. / Engineering	29	29
Shaun R. Simon	M.S. / Civil Engineering	22	22
Patrick A. Thurmond	M.S. Engineering Management	7	7
	M.S. / Civil Engineering		
	Coastal Engineering Certificate		
Sean G. Walsh	M.S. / Civil Engineering	10	15
James M. Williams	M.S. / Civil Engineering	4	4
Henry C. Worley	B.S. / Civil Engineering	5	6.5
	Coastal Engineering Certificate		
Engineering Interns (E.I.)			
Scot J. Breaux, Jr.	B.S. / Civil and Environmental Engineering	1	2
Patrick T. Duckworth	M.S. / Civil Engineering	2	2
Grant Collongues	B.S. / Civil Engineering	0	0
Tomas K. Morales ⁽¹⁾	B.S. / Civil Engineering	9	9
Engineering Graduates			
Lesley L. Reitmeyer	B.S. / Civil Engineering	13	13
Sean T. Smith	B.S. / Civil Engineering	6	6
Geologists			
Matthew J. Blasini, G.I.T.	B.S. / Geology	3	4
Nathan A. Quick, P.G.	M.S. / Geology	1	6
Total Years of Experience		250	278.5

⁽¹⁾ Long-term Subcontractor

Cone Penetration Testing Capabilities

Eustis Engineering owns two dedicated track-mounted Cone Penetration Testing (CPT) rigs and operates four other multi-purpose rigs that can perform CPTs. Operators are either specifically trained engineering technicians or engineers who perform the field operations utilizing the CPT equipment. Engineers with specialized knowledge and experience operating the rigs evaluate the sounds and produce the CPT logs. Five of our rigs can be placed on a cargo buggy, shallow draft barge, or airboat to access coastal marsh or open water. We have sounded to depths of 180 feet and have the ability to perform dissipation and seismic testing. Field testing is performed according to ASTM D5778 and common industry practices. Eustis Engineering has been performing and using CPT technology since the early 2000s.

A CPT can be accomplished rapidly with four or five being made in the same time frame as a standard geotechnical boring. Therefore, the CPT is typically cost effective in providing enhanced subsurface exploration and better delineation of subsurface conditions at a project site.

Dynamic Pile Testing Capabilities

Eustis Engineering was the first private consulting firm to own and operate dynamic pile testing equipment in the States of Louisiana and Mississippi. The pile types tested include timber piles; small size pipe piles; square, precast concrete piles and large (60 to 72-in. diameter) spun-cast, prestressed concrete piles; open-end and closed-end steel pipe piles; and steel H-piles.

We often upgrade our data collectors and operate four Pile Driving Analyzers® (PDAs), one PAX unit, and three PDA-8G units. These units can be battery operated and use wireless gauge transmitters to eliminate the need for a main cable to connect directly to the units. We also stock and have used underwater gauges to monitor pile driving in marine environments when the pile head descends below the water surface.

To support our four PDA units, Eustis Engineering maintains an extensive inventory of calibrated gauges and accessories. To provide quality assurance and rapid response to issues in the field, all PDAs have wireless communication, enabling our engineers direct oversight of the dynamic pile testing process in real time.

We also use this PDA equipment to maintain the calibrations of our automatic SPT hammers on our drill rigs.

Other Non-Destructive Testing Capabilities

Our engineering staff at Eustis Engineering also performs other non-destructive testing services to verify the structural integrity of drilled shafts, augercast piles, and precast concrete piles. Some of these processes include cross-hole/single-hole sonic logging (CSL or SSL), low strain pile integrity testing (PIT), and thermal integrity profiling (TIP). We also perform parallel seismic testing to evaluate existing foundation depths.

INSTRUMENTATION

Eustis Engineering has installed geotechnical instrumentation for decades. Our instrumentation programs have resulted in substantial cost savings to our clients by reducing preload durations, providing refinement of geotechnical design parameters through full-scale testing, and verifying the performance of cutting-edge designs. Our services go beyond the construction phase, as long-term monitoring programs enable owners to maximize utilization of their facilities throughout the design life by verifying soil behavior is within acceptable limits.

Eustis Engineering provides the following instrumentation services.

- Vibrating wire devices including piezometers, extensometers, settlement gauges, and strain gauges
- Data loggers to enable periodic collection of data for vibrating wire devices

- Data links for remote web access to loggers in near real time
- Settlement plates
- Conventional slope inclinometers or MEM sensor array inclinometers
- Monitoring services of all instrumentation devices with geotechnical interpretation

Instrumentation is a natural complement to our design services, providing data to verify or modify recommendations based on the observational method. Ongoing monitoring enables us to provide continuing services from project inception to the end of a project’s design life.

DRILLING/FIELD EXPLORATION

Eustis Engineering possesses licenses and credentials to perform geotechnical drilling in Louisiana and Mississippi (no license is needed in Texas). With our licenses and credentials, Eustis Engineering drills soil borings and performs sampling operations for our clients’ projects in all types of environments including land, marsh, swamp, and marine. Our personnel have the capability and experience to provide these services from trucks, barges, pontoons, and swamp or marsh buggies.

Field Exploration Personnel

We can provide up to eight (8) drillers and drill rigs capable of obtaining standard 3-in. diameter Shelby tube samples and 5-in. diameter fixed piston samples, sounding CPT, advancing Geoprobe® samplers, and installing geotechnical instrumentation on land, in water, and in marsh environments as indicated in the following table.

Capabilities of Eustis Engineering’s Field Exploration Staff	Scott Bombard	James Cordes	Rene Davidson	Eric Held	James Lubben	George Reitmeyer	Lawrence Rome	Michael Whipkey
Hand Auger Borings	X	X	X	X	X	X	X	X
General Type (3-in. Diameter Borings)	X	X	X	X	X		X	X
General Type (3-in. Diameter Borings) in Hard Access Locations (Marsh, Swamp, Heavily Forested)	X	X	X	X	X		X	
Undisturbed Type (5-in. Diameter Borings)	X	X	X	X	X		X	X
Undisturbed Type (5-in. Diameter Borings) in Hard Access Locations (Marsh, Swamp, Heavily Forested)		X	X	X	X		X	
Location Information (Latitude, Longitude)		X	X	X	X		X	X
Set Permanent Benchmarks		X	X	X	X		X	
Install Instrumentation		X	X	X	X		X	
Cone Penetration Tests				X		X		
Geoprobe® Sampling	X	X		X	X		X	X

Field Exploration Equipment

Eustis Engineering owns and operates six wet rotary drill rigs, both truck-mounted and skid-mounted. This equipment includes one Diedrich truck-mounted D-50 turbo drill rig (with an automatic SPT hammer); one Failing skid only rig (with an automatic SPT hammer); one truck-mounted CME-55 rig; one track-mounted CME-850X rig with an automatic hammer; one track-mounted CME-850XR rig with an automatic hammer; and one truck-mounted CME-55 rig with a detachable CME-55 skid unit and automatic hammer. We also own two track-mounted cone penetrometer systems capable of providing up to 15 tons of reaction. Our CME track rigs provide low ground pressure and are designed to traverse soft ground surfaces, steep slopes, and lightly wooded areas.

Eustis Engineering also owns four direct push Geoprobe® units, two 3230DTs, the 6620DT and the 540M. Eustis Engineering's 6620DT/3230DT Geoprobe with their 12-in. tracks allow this equipment to be used on pavement as well as off road and in rugged terrain. The 6620DT and 3230DT rigs also can be placed on specialized equipment. This includes a jack-up barge and a cargo buggy for operations over marsh/water. These units can install shallow monitoring wells and other instrumentation. We also have the capability to perform CPTs and downhole vanes using the 3230DT rigs.

Our 540M Geoprobe can fit into confined spaces as narrow as 32 inches. The 540M can also be utilized on an airboat for coastal terrains.

Other Specialized Soil Sampling Equipment

We have hand augers to obtain samples at various depths for use in classification and stratification of soil deposits. This equipment can be used in association with handheld piston samplers to obtain small diameter samples. Finally, we operate a dynamic cone penetrometer (DCPT) to assess the in-situ strength of undisturbed soils and compacted materials in accordance with ASTM D6951.

Drone Capabilities

Eustis Engineering utilizes small Unmanned Aerial Systems (sUAS), more commonly known as "drones" to enhance our services. We use the drones to perform site inspections, field reconnaissance, pre/post-construction condition surveys, construction inspections, and other forms of visual monitoring. We currently operate a DJI Mavic Air 2S Drone piloted by a Part 107 Certified Remote Pilot.

LABORATORY SERVICES

Eustis Engineering's laboratories are constantly evolving with the purchase of new equipment on a yearly basis. Our gINT® data management software from Bentley allows for maximum efficiency in production of boring logs and data entry.

Eustis Engineering has also recently acquired OpenGround®, Bentley's Cloud platform, which interfaces with a collection of geotechnical applications. OpenGround provides a comprehensive solution for collecting, reporting, managing, visualizing, analyzing, and accessing data. Its advanced digital workflows combine both subsurface and surface data into one cohesive design. This software will provide Eustis Engineering's team members access to a data source via connected applications or a web portal, increasing collaboration and efficiency. The improved access and reliability will save time and money in the planning, design, analysis, construction, and operation of infrastructure projects.

Eustis Engineering has also acquired KeyLAB® from Bentley. KeyLAB is the leading laboratory management system built specifically for geotechnical and construction materials testing laboratories. It improves our laboratory efficiency at every stage of the geotechnical and construction testing process, including sample and storeroom management, as well

as electronic scheduling, testing, and reporting. It integrates with Microsoft Excel® allowing for easily customized worksheets and reports.

Technical testing common to our laboratories includes ASTM, ACI, LaDOTD, AASHTO, FAA, and USACE. Our laboratories hold accreditations from AASHTO, LaDOTD, and the USACE.

Laboratory Staffing

Eustis Engineering currently has qualified technicians to sample construction materials and perform soil mechanics laboratory testing. These technicians are versed in the latest standards from ASTM, LaDOTD, MDOT, AASHTO, FAA, and the USACE. Many of our technicians have earned certifications with the National Institute for Certification in Engineering Technologies (NICET) in the area of geotechnical engineering technology and in the subfields of construction, exploration, generalist, and laboratory.

Laboratory Quality Control

In our effort to ensure the quality of our laboratory and materials testing, our programs are regularly inspected by outside agencies such as the U.S. Army Corps of Engineers, the AMRL Group of the American Association of State Highway and Transportation Officials, and the CCRL Group of AASHTO. Eustis Engineering is also accredited by the Mississippi Department of Transportation.

Eustis Engineering has three soil mechanics laboratories where our laboratory practices and quality management system meet the requirements of AASHTO R 18 and ASTM E329. These offices are located in Metairie, Baton Rouge, and Gulfport. Individual offices may comply with ASTM quality system specifications including ASTM C1077, ASTM D366, and ASTM D3740. Accreditations in the various areas are shown below.

Metairie	Baton Rouge	Gulfport
Aggregate	Aggregate	Aggregate
Asphalt	Soil	Asphalt
Concrete	Concrete	Concrete
Masonry	Masonry	Soil
Soil	Spray Fire-Resistive Material	Spray Fire-Resistive Material

Our laboratory in Houston, Texas has capabilities in the areas of Aggregate, Concrete, Masonry, and Soil. Applications for CCRL and AMRL accreditation are in process with the intent of achieving these accreditations later this year.

To show further that quality is paramount to Eustis Engineering, we have two individuals in charge of maintaining quality in our testing. Travis R. Richards, P.E., is the engineer-in-charge, and we also have Timmy Holleman, dedicated Quality Control Manager, who oversees the calibration of our equipment and maintenance of our quality system. The biggest reward of our quality system is knowing our clients are confident that our testing laboratory produces the highest quality results and conforms to state and national standards.

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

Signature:  **Print Name:** Gwendolyn P. Sanders, P.E.
Title: President **Date:** 14 April 2022