

BUCKTOWN BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC) SCOPING GRANT



TOGETHER we'll develop integrated
stormwater management solutions to
make **BUCKTOWN** the
GREENEST little town in Jefferson Parish.

SUBMITTED BY



DIGITAL ENGINEERING & IMAGING, INC.

IN ASSOCIATION WITH

Freese and Nichols
Batture, LLC
The Beta Group

April 19, 2022

TABLE OF CONTENTS

LETTER OF INTEREST

01 DIGITAL ENGINEERING

TEC Professional Services Questionnaire

02 FREESE AND NICHOLS

TEC Professional Services Questionnaire

03 BATTURE, LLC

TEC Professional Services Questionnaire

04 THE BETA GROUP

TEC Professional Services Questionnaire



Jefferson Parish Council
c/o Ms. Eula A. Lopez, Parish Clerk
General Government Building
200 Derbigny Street, Ste 6700
Gretna, LA 70053

April 19, 2022

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

Dear Technical Evaluation Committee,

Jefferson Parish is seeking to identify alternatives to reduce flood risk and subsidence, with an emphasis on leveraging combined benefits of grey and green infrastructure, in the Bucktown neighborhood of Metairie. In its commitment to provide innovative and sustainable stormwater solutions while incorporating green infrastructure elements, the Jefferson Parish is embarking on a fresh mission to partner with an integrated engineering team that can collaborate and implement these solutions to better our community.

That team, the Digital Engineering Team, understands your challenges of working with an antiquated system and the missing data values associated with it, navigating the state and federal funding processes, and gaining the trust and support of the citizens to incorporate a solution they are proud of.

Because of our experience in successfully solving similar challenges for other local clients, we understand you, we are here for you, and we are ready to continue this partnership in progressing Jefferson Parish. Together.

The success story of our previous and future partnership with you is evident in the details we provide throughout our TEC form. In this form we illustrate an overview of the DE team, leaders who prioritize communication and collaboration, as well as our capabilities as a Prime in holistically approaching this project to spearhead innovatory project development and implementation.

Our diverse team of engineers and technical professionals, all of whom live and work within the metro area, is eager and energetic to help you continue our shared mission of improving infrastructure and the daily lives of citizens in Bucktown.

**TOGETHER we'll develop integrated stormwater management solutions to make
BUCKTOWN the GREENEST little town in Jefferson Parish.**

Sincerely,
DIGITAL ENGINEERING

A handwritten signature in blue ink that reads 'Rob Delaune, Jr.' The signature is written in a cursive, flowing style.

Rob Delaune, Jr., P.E.
Sr. Vice President, Principal

SECTION 01

DIGITAL ENGINEERING

TEC Professional Services Questionnaire

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

BUCKTOWN BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC) SCOPING GRANT
RESOLUTION No. 139147 | SOQ No. 22-016

B. Firm Name & Address where Project work will be performed:



DIGITAL ENGINEERING & IMAGING, INC.
 527 West Esplanade Avenue, Ste. 200
 Kenner, LA 70065

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:

ROBERT J. DELAUNE, JR., P.E.
Sr. Vice President, Principal

527 West Esplanade Avenue, Ste. 200
 Kenner, LA 70065
 504.468.6129
 rdelaune@deii.net

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.

ANDREW WOODROOF, P.E.
Vice President

527 West Esplanade Avenue, Ste. 200
 Kenner, LA 70065
 504.468.6129
 awoodroof@deii.net

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

<u>5</u> Administrative	<u> </u> Estimators	<u>3</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>15</u> Civil Engineers	<u> </u> Interior Designers	<u>4</u> Project Managers
<u>6</u> Construction Inspectors	<u> </u> Landscape Architects	<u>1</u> Clerical
<u> </u> Ecologists	<u> </u> Land Surveyor	<u>1</u> Grant/Funding Specialist
<u> </u> Electrical Engineers	<u> </u> Mechanical Engineers	<u>1</u> Sanitary Engineers
<u>5</u> Engineer Intern	<u>1</u> Environmental Engineers	
<u> </u> Professional Land Surveyors		<u>42</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. NA

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.

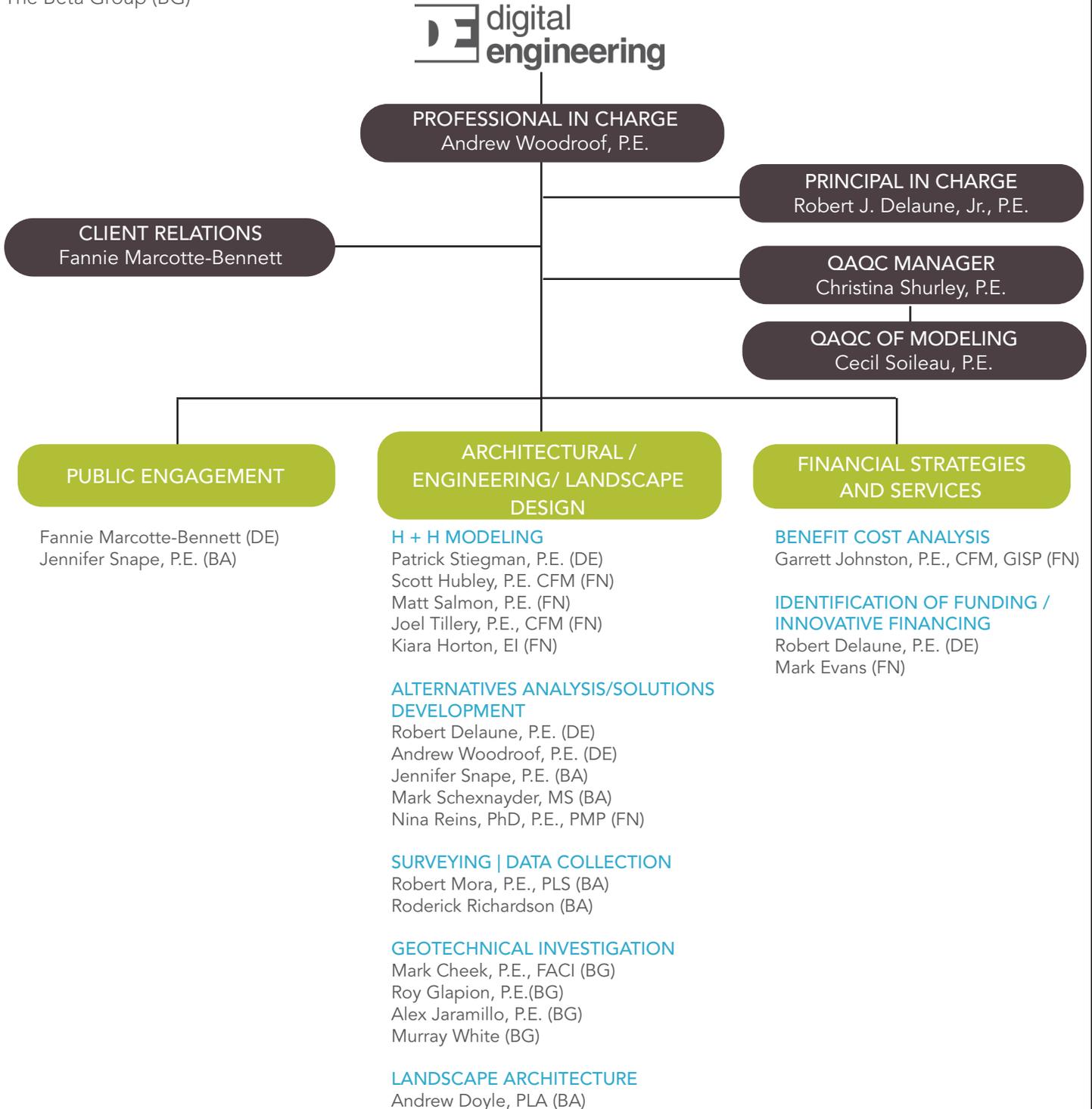
Name & Address:	Specialty:	Worked with Firm Before (Yes or No):
1. FREESE AND NICHOLS 900 Camp St., Ste. 3C3 New Orleans, LA 70130	<ul style="list-style-type: none"> ○ <i>Benefit Cost Analysis</i> ○ <i>H & H Modeling</i> 	<i>Yes</i>
2. BATTURE, LLC 5110 Freret Street New Orleans, LA 70115	<ul style="list-style-type: none"> ○ <i>Landscape Architecture</i> ○ <i>Surveying</i> ○ <i>Public Engagement</i> 	<i>Yes</i>
3. THE BETA GROUP, LLC 1428 Claire Avenue Gretna, LA 70053	<ul style="list-style-type: none"> ○ <i>Geotechnical Investigation</i> 	<i>Yes</i>
4.		

TEC Professional Services Questionnaire

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

DE TEAM ORGANIZATION CHART

DE TEAM
 Digital Engineering (DE)
 Freese and Nichols (FN)
 Batture (BA)
 The Beta Group (BG)



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:

ANDREW WOODROOF, P.E., VICE PRESIDENT

Project Assignment:

PROFESSIONAL IN CHARGE

Name of Firm with which associated:



Years' experience with this Firm:

12

Education: Degree(s)/Year/Specialization:

BS/2008/Civil Engineering MS/2012/Coastal Engineering

Active registration: Year first registered/discipline:

2012/Civil

Other experience and qualifications relevant to the proposed Project:

Andrew Woodroof is experienced in the design of drainage and hydraulic structures, especially within Jefferson Parish and surrounding areas. His expertise includes MS4 Stormwater program management; design of green infrastructure and drainage improvements, potable water and wastewater; coastal engineering; construction phase services, as well as environmental and permitting services.

Certifications: Certified Professional in Municipal Stormwater Management (EPA EnviroCert); Water Wise NOLA Certified Green Infrastructure Professional 1

Training: Building Your Stormwater Management Plan; Stormwater Best Management Practices Planning & Design Workshop; Jefferson Parish Spill Prevention Control & Countermeasures Training; LDEQ Construction Stormwater Permits Workshop; LA Urban Stormwater Coalition Stormwater Inspector Training for Construction Sites 1

DPS 01 Watershed Drainage Upgrades and Green Infrastructure, New Orleans, LA

Senior Project Manager and Lead Designer of drainage upgrades that will construct \$45M of green infrastructure and drainage improvements throughout

the Central City and garden District area of New Orleans to reduce demand on Drainage Pump Station 01 in the Broadmoor neighborhood. Specifically, Andrew led the design and plan development of 3 miles of new drain lines ranging from 24" to 42", more than 80% of which is greater than 36" in diameter. In addition to traditional drainage upgrades, Andrew was responsible for the design of full depth reconstruction of St. Thomas Street to accommodate installation of permeable pavement with underground storm water storage within the footprint of the roadway.

Jefferson Parish Stormwater Management Program, Jefferson Parish, LA

Project Manager responsible for developing/ updating all programs currently implemented under the Jefferson Parish Municipal Separate Storm Sewer System (MS4) Permit and has provided guidance, training, and implementation of the programs required in the MS4 Permit. Tasks for this project include the preparation of the MS4 Permit Annual report for Jefferson Parish; development of the Parish's Stormwater Management Program for the MS4 permit period of 2017-2021 and 2022-2027; preparation of

CONTINUED- Other experience and qualifications relevation to the proposed Project:

the MS4 permit application for Jefferson Parish and it's co-permittees; preparation of 303(d) Impaired Water Bodies Sampling Plan; development of a stormwater educational program for designers, construction contractors, and industrial and high risk facility owners/operators; and evaluation and revision of existing stormwater ordinances.

Bucktown Harbor Paddlers Launch and Parking Evaluation Phase Services, Jefferson Parish, LA

Project Manager for this contract and is responsible for developing the design drawings and specifications based on the overall site plan developed by the landscape architect as part of the Bucktown Harbor Park Master Plan. This project requires a high degree of coordination with the landscape architect while designing critical civil components along with considering the aesthetics of the materials to be used. Some of the design components Andrew is responsible for include timber bulk heads, retaining walls, timber docks, kayak paddlers launch, rip rap break water, pedestrian bridges, and floating docks. The Bucktown Harbor Paddlers Launch is located on the southern side of Lake Pontchartrain and therefore requires a Coastal Use Permit (CUP) and Levee Safety Permit. Andrew is also responsible for completing the permitting process for the CUP and Levee Safety Permit, which requires an understanding of the coastal environment and regulatory requirements of the governing agencies.

RESTORE ACT Direct Component Multiyear Implementation Plan, St. John Parish, LA

Lead Engineer for the DE developed concept of a breakwater system and marsh restoration in two phases. The first phase is a breakwater and marsh restoration from the St. Charles/St. John Parish line to Peavine Rd. The second phase is also a breakwater and marsh restoration from Peavine Road to Ruddock where the breakwater will tie-into an existing shoreline protection system.

Bogue Falaya Shoreline Protection and Paddlers Launch, Covington, LA

Project Manager and Engineer of Record for a 200 foot long bulkhead, 150 foot long concrete driveway, and 180 foot long concrete walkway along the banks of the Bogue Falaya River in Covington. Andrew's responsibilities included overall project coordination and scheduling, evaluation of geotechnical report, analysis of bulkhead using SPW911 Pile Buck software, geometric layout of paving, development of project

specifications, and construction cost estimating. He also oversaw the bidding and construction phases of the project for the City of Covington.

Sewerage and Water Board of New Orleans MS4 Technical Assistance, New Orleans, LA

Project Manager responsible for working with Sewerage & Water Board personnel in development of the Municipal Separate Storm Sewer System (MS4) Annual Report which is required by the Sewerage & Water Board's MS4 Discharge Permit as well as preparing the application for coverage under the MS4 Permit. To complete the Annual Report, Andrew works with Sewerage & Water Board personnel to complete accurate reporting on Structural Controls and Storm Water Collection Operation; Post-Construction Storm Water Management; Roadways; Flood Control Projects; Pesticide, Herbicide, and Fertilizer Applications; Illicit Discharges; Spill Prevention; Industrial and High Risk Runoff; Construction Site Runoff; Public Education; Representative Monitoring; Pollution Prevention for Municipal Operations; and Green Infrastructure and Low Impact Development. Andrew's role in permit preparation includes preparing all elements required by Louisiana Administrative Code 33:IX.2511.D.1, which encompasses all activities and administrative procedures pertaining to MS4 environmental compliance. Preparation of the application package includes documenting all system components and procedures; mapping of system outfalls, zoning and land use, water quality sampling sites, and waste disposal areas. Andrew is also responsible for the development of the Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Carrollton Water Treatment Plant.

City of Kenner Green Infrastructure and Low Impact Development Program, Kenner, LA

Senior Project Manager for developing the City of Kenner's Green Infrastructure (GI) and Low Impact Development (LID) Program. Development and Implantation of the program include reviewing exiting city codes and ordinances for compliance with the EPA's Green Infrastructure Scorecard and Center for Watershed Protection Post-Construction Guidance Manual, revision of existing ordinances and development of new ordinances to remove existing restrictions on GI/LID and create incentives or GI/LID, and development of technical standards and drawing for GI/LID components that can be implemented on residential, commercial, and municipal developments.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

ROBERT DELAUNE, JR., P.E., SR. VICE PRESIDENT

Project Assignment:

PRINCIPAL IN CHARGE | IDENTIFICATION FUNDING | INNOVATIVE FINANCING

Name of Firm with which associated:



Years' experience with this Firm:

21

Education: Degree(s)/Year/Specialization:

BS/2000/Environmental Engineering 2012/Coastal Engineering Certificate

Active registration: Year first registered/discipline:

2006/Civil

Other experience and qualifications relevant to the proposed Project:

Rob serves as Sr. Vice President of Water Resources Operations for DE. Throughout his extensive 21 years of experience in water resources, he has worked on numerous projects that have helped to improve infrastructure and sustain the coast.

Certifications: Water Wise NOLA Certified Green Infrastructure Professional 1

Training: Advanced Training on Modeling Hydrodynamics and Morphodynamics using Delft3D FM and Delft3D 4

Buccaneer Villa North Statewide Flood Control Hydraulic Model and Application, St. Bernard Parish, LA

Project Supervisor for preparation of a hydraulic and hydrologic model to illustrate existing flooding of repetitive loss homes, determination of alternative solutions to mitigate the repetitive losses, and preparation of application and benefit cost analysis to the Statewide Flood Control Program administered by the LADOTD. The proposed improvements modeled included diverting stormwater runoff to a stormwater detention basin/pond to the west of the subdivision and subsurface

pipe upgrades to eliminate the repetitive flooding of structures in the subdivision. The benefit cost analysis included an inventory and tabulation of structures protected by the proposed project which was compared to damage calculations to create a benefit cost ratio of 6:1 on the project.

Parc Place Neighborhood Statewide Flood Control Hydraulic Model and Application, Slidell, LA

Project Supervisor for preparation of a hydraulic and hydrologic model to illustrate existing flooding of repetitive loss homes, determination of alternative solutions to mitigate the repetitive losses, and preparation of an application and benefit cost analysis to the Statewide Flood Control Program administered by the LADOTD. The proposed improvements modeled included widening existing ditches/canals to create additional storage of stormwater during heavy rains with subsurface pipe upgrades to eliminate the repetitive flooding of structures in the area. The benefit cost analysis included an inventory and tabulation of structures protected by the proposed project which was compared to damage calculations to create a benefit cost analyses ratio of 2:1 on the project.

CONTINUED- Other experience and qualifications relevation to the proposed Project:

Engineering Support and Grant Management, St. John the Baptist Parish, LA

Project Manager under this program assisting St. John the Baptist Parish in obtaining, implementing, managing and closing out utilities, drainage and coastal grant funded projects under the Louisiana Government Assistance Program, Community Water Enrichment Fund, Pontchartrain Restoration Program, Community Development Block Grant, EPA Grant funding, RESTORE Act, Southern Rail Commission, GOMESA, LCDBG and Delta Regional Authority.

Boadmoor Drainage Upgrades and Green Infrastructure, New Orleans, LA

Project Supervisor for this \$45M project. He was responsible for oversight of all design and technical assistance and Quality Assurance and Quality Control review of all submittals. The design includes installing drain lines ranging from 36" to 42" diameter to upgrade the drainage system in the Central City neighborhood. The design also includes pipe connections to green infrastructure underground water storage basins beneath existing playground fields and design of permeable pavement above some of the drainage upgrades within the right of way.

Bogue Falaya Park Shoreline Protection and Paddlers Launch, Covington, LA

Project Supervisor responsible for oversight of design and construction and QA/QC review of design submittals. The project included design and construction of an ADA compliant kayak launch, 250 feet of sheet pile bulkhead with a concrete cap to stabilize the shoreline and a pervious paver path from the Bogue Falaya Park parking lot to the new kayak launch. His responsibilities included QA/QC review of the design layout and specifications for the kayak launch, access driveway and shoreline protection.

St. John the Baptist Parish AMI Project, St. John the Baptist, LA

Project Manager Project Manager for the project initiation and planning, funding management, design, procurement and implementation of a new Automated Metering Infrastructure (AMI) system in St. John the Baptist Parish.

As part of the evaluation of the potential new system, a 20-year cost projection was prepared to compare continuing with manual reads vs. replacing and repairing the AMR systems vs. installing a new AMI system. Based on the 20-year cost projection, the AMI system showed as the most cost effective and economical solution to move forward with.

As part of the project initiation and planning phase of the project, five AMI vendors were interviewed and their system features were reviewed and evaluated. Based on these evaluations performance specifications were prepared to meet the preferences of the future system desired by the Utilities Department.

Once the new system specifications were finalized, a public meeting was held to educate the public on the proposed features of the system and the benefits it will offer to them such as a customer portal to view real time meter reads and set up leak detection alerts and water budgets. The new system replaces 16,941 residential and 382 commercial meters. Data collectors were installed on five elevated water storage tanks enabling the Parish to read water meters through a meter data management software. The \$6 million project was funded by a Louisiana Department of Environmental Quality Clean Water State Revolving Loan utilizing green project reserve funds as a water efficiency project. The funding is secured by submitting a proposed \$6 million dollar loan pre-application to LDEQ proposing the new AMI system.

As part of the implementation phase, Rob manages all pay requests to LDEQ for partial payments to the vendor for installation, monitors the contractor for compliance with Davis Bacon Act and American Iron and Steel requirements, and reviews installation vendor certified payrolls required as part of the loan. The implementation phase is scheduled to be complete in May 2021.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

FANNIE MARCOTTE-BENNETT, DIRECTOR OF CLIENT SERVICES

Project Assignment:

CLIENT RELATIONS | PUBLIC ENGAGEMENT

Name of Firm with which associated:



Years' experience with this Firm:

2

Education: Degree(s)/Year/Specialization:

Science (200.BO), Pre-University Program

Active registration: Year first registered/discipline:

NA

Other experience and qualifications relevant to the proposed Project:

Fannie serves as Director of Client Services for Digital Engineering. As an independent Point of Contact for clients, she monitors projects' progress to ensure deadlines are being met, ensures client satisfaction and works with management to resolve any potential conflicts in a rapid and efficient fashion.

**St. Tammany Parish Comprehensive Plan Update
St. Tammany Parish, LA**

Client Services Director/Coordinator responsible for coordinating the infrastructure planning and interviewing portion of Public Participation Plan for the St. Tammany Parish Comprehensive Plan Update (New Directions 2025), which aims to promote the Parish's resilience and sustainability.

Goodbee/West St. Tammany LA 1077 Corridor Study, St. Tammany Parish, LA

Client Services Director and Public Outreach Coordinator for this land use and transportation study reviewing existing conditions of the corridor including land use and transportation data. Responsibilities include preparation or outreach exhibits, presentation and participation in public meetings involving stakeholders ranging from clients to residents

Ben Thomas Road Detention, St. Tammany Parish, LA

Client Services Director responsible for government relations and satisfaction assurance for this FEMA funded flood study, design and construction of a 21.48-acre detention pond for increased flood storage and improved drainage in the Bayou Vincent Basin (W-13) north of Ben Thomas Road, which will serve to substantially reduce downstream flows and improve drainage in the area.

Old Mandeville Shoreline Protection Study, Mandeville, LA

Client Coordination and Public Outreach Coordinator for this initiative involving development of three viable alternatives for protection against storm surges that have repeatedly flooded the city's historic district throughout the years. Public meetings were held to present preliminary findings and gather input from resident and stakeholders affected by repetitive flood events.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

CHRISTINA SHURLEY, P.E., PROJECT ENGINEER

Project Assignment:

QA/QC MANAGER

Name of Firm with which associated:



Years' experience with this Firm:

10

Education: Degree(s)/Year/Specialization:

BS/2003/Civil Engineering

Active registration: Year first registered/discipline:

2011/Civil

Other experience and qualifications relevant to the proposed Project:

Christina has practiced civil engineering in the greater New Orleans area and Mississippi Gulf Coast for the past 10 years, primarily on **stormwater management** and the design of roadways, utilities, and **flood protection**. She is experienced in ArcGIS, WaterCAD, AutoCAD, and Microstation. Christina completed the **Stormwater Management and Flood Control Modeling** Workshop. Her experience includes the following:

Buccaneer Villa North Statewide Flood Control Hydraulic Model and Application, St. Bernard Parish, LA

Project Engineer and Modeler for LADOTD Statewide Flood Control Program application to make drainage improvements in a neighborhood that repeatedly floods during storm events. She developed a skeletal model of the existing drainage system, including piping and inlets, in ArcGIS and imported the model and associated data parameters into XPSTORM to perform a hydraulic and hydrologic analysis of the area. After calibrating the model with a historical rain event and known repetitive loss properties, a 25-year design storm was modeled on the existing system to determine the anticipated flooding extents. Christina modeled several improvements to the existing system to determine the reduction in anticipated flooding and provide a recommendation for an improvement that would ultimately eliminate flooding of the repetitive loss properties during a 25-year design storm. She also assisted in the preparation

of the statewide flood control application and benefit cost analysis, as well as model results report. The benefit cost analysis included an inventory and tabulation of structures protected by the proposed project which was compared to damage calculations to create a benefit cost ratio of 6:1 on the project.

Parc Place Neighborhood Statewide Flood Control Hydraulic Model and Application, Slidell, LA

Project Engineer assisting in developing a hydraulic and hydrologic model to mitigate flooding within the Parc Place neighborhood and surrounding areas. She researched historic flood events, rainfall data and determined the parameters required to replicate the flood events. Existing drainage system in formation, survey of the current conditions and existing GIS data were used to develop a skeletal model of the system. The model was imported from ArcGIS into XPSTORM modeling software that was calibrated to existing conditions. Proposed improvements were modeled by installing large diameter drainage pipes and associated catch basins, and widening existing ditches to increase stormwater conveyance. She also assisted in the preparation of the statewide flood control application and benefit cost analysis. The benefit cost analysis included an inventory and tabulation of structures protected by the proposed project which was compared to damage calculations to create a benefit cost analysis ratio of 2:1 on the project.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT	
Name & Title:	
CECIL SOILEAU, P.E., PLS, D.WRE PROJECT ENGINEER	
Project Assignment:	
H & H MODELING	
Name of Firm with which associated:	
	
Years' experience with this Firm:	
15	
Education: Degree(s)/Year/Specialization:	
BS/Civil Engineering/Coastal Engineering/Water Resource Engineering	
Active registration: Year first registered/discipline:	
LA/Civil LA/Professional Land Surveyor	
Other experience and qualifications relevant to the proposed Project:	
<p>Cecil Soileau was employed by the U.S. Army Corps of Engineers (USACE)- New Orleans District from 1963 to 1993 as a hydraulic engineer. During his tenure with the Corps he served in the following capacities: Chief, Hydrology and Hydraulics Branch (12 years); Chief, Hydraulic Design Section (4 years); Chief, Coastal Engineering Section (10 years); and Chief, Hydrology Section (1 year). He also served as the Executive Secretary of the Corps of Engineers Committee on Tidal Hydraulics from 1983 to 1993.</p> <p>His recent experience, 1999 to 2021, includes the application of 2-D and 1-D unsteady flow models, FASTABS, RMA-2 SMS, HEC-HMS, HEC-RAS and XP-SWMM, for diversion projects ranging in scope from 1,200 cfs to 10,000 cfs for the New Orleans District, the Louisiana Department of Natural Resources, the Coastal Protection and Restoration Authority, and the Ascension Parish Department of Public Works. Cecil has designed a testing program, Designed and managed the construction of a small-scale physical model of the lower Mississippi River Delta, and conducted flow sediment diversion tests, and provided a professional report of the findings. In September 2008, he was appointed to the National ASCE American Academy of Water Resources Engineers as Diplomat Emeritus. He received numerous merit awards of excellence from 1963 to 1993 during his 30 year tenure with U.S. Corps of Engineers. Cecil Soileau has worked as a contract labor employee to DE as lead hydraulic engineer for a number of projects over the past 15 years including</p>	<p>the following projects: Hunt Wyck Village Subdivision in Slidell, Hurricane protection at Kenner flood wall, Swmm5 model of Yale to Kewanee streets, Metairie, and Swmm5 modeling on Bendrick Creek/Soap and Tallow Creek, St Tammany. He also has recent experience with SWMM5 in Tangipahoa and St Bernard Parishes.</p> <p>West Return Landside Runoff Hydraulic Modeling, Jefferson Parish, LA <i>Independent Technical Review (ITR)</i> for DE's Task Order No. CZ02 for Contract No. W912EE-13-D-0003 for West Return Landside Runoff Hydraulic Modeling. The hydraulic model was used to validate USACE's proposed modification to the drainage system by adding vinyl sheet pile to the levee reach between the Parish Line Pump Station and West Esplanade Avenue. He reviewed DE's design files, assumptions and Design Documentation Report, provided comments and recommended acceptance of the model and report to USACE.</p> <p>Huntwyck Village Statewide Flood Control Application and Design, St. Tammany Parish, LA <i>Assisted DE with the preparation of a hydraulic and hydrology model</i> to illustrate the subsurface drainage problems, determine the alternative solutions and prepare an application to the Statewide Flood Control Program administered by the Louisiana DOTD. Based on the findings of his model, St. Tammany Parish received over \$6 million from the Program to complete the necessary improvements.</p>

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

PATRICK STIEGMAN, P.E., PROJECT ENGINEER

Project Assignment:

H & H MODELING

Name of Firm with which associated:



Years' experience with this Firm:

6

Education: Degree(s)/Year/Specialization:

BS/2015/Civil Engineering

Active registration: Year first registered/discipline:

2020/Civil

Other experience and qualifications relevant to the proposed Project:

Patrick serves as a Project Engineer in DE's Kenner office for both transportation and water resources projects. Patrick is skilled in transportation design, water/wastewater resources, civil site design, AutoCAD Civil 3D and modeling. His experience includes the following:

Buccaneer Villa North Statewide Flood Control Hydraulic Model and Application, St. Bernard Parish, LA

Project Engineer for the development of a hydraulic and hydrology model for a proposed project concept that will divert peak rainfall runoff from the existing drainage system in Buccaneer Villa North Subdivision to a proposed retention pond area to the west of the subdivision. Patrick assisted in modeling several improvements to the existing system to determine the reduction in anticipated flooding and provide a recommendation for an improvement that would ultimately eliminate flooding of the repetitive loss properties during a 25-year design storm. He also assisted in preparation of the statewide flood control application and model results report.

Hydraulic/Hydrologic Investigation of Ormond Oaks Downstream Improvements, St. Charles, Parish, LA

Project Engineer assisting lead modeler in a hydrologic study of the Ormond Oaks area. The study's main purpose is to identify problematic flood prone areas and eliminate these flooding problems with proposed solutions. The scope of the work includes delineating the watershed drainage area, building the drainage infrastructure in GIS, importing the GIS into XP Storm modeling software, modeling existing conditions and calibrating the model to real world results, determining peak flows for a 10-year storm, and implementing improvement scenarios for drainage infrastructure including a conceptual plan. He assisted in modeling several improvements to the existing system to determine the reduction in anticipated flooding and provide recommendations for improvements that would reduce flooding throughout the neighborhood during a 10-year design storm. Patrick also assisted in preparing the report for the drainage study, which will provide a summary of the model results, a description of the proposed improvements and construction cost estimates for those improvements.

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>BUCCANEER VILLA NORTH MODELING AND LADOTD STATEWIDE FLOOD PROGRAM APPLICATION <i>St. Bernard Parish, LA</i></p> <p><u>Owner</u> St. Bernard Parish 8201 W Judge Perez Drive Chalmette, LA 70043 Guy McInnis, Parish President 504.278.4200</p>	<p>DE developed a hydraulic and hydrology model that illustrated the existing flooding problem, demonstrated the proposed solution, and provided a recommendation for the proposed remedy that provides the greatest benefit/cost ratio. Once the model was completed and reviewed, a formal funding application which follows the LADOTD Statewide Flood Control Program's procedures was prepared and submitted. A preliminary design was also completed for the selected project as part of the application process.</p> <p>DE's solution was to interconnect the Torres Park pond with a new pond that will be constructed on a property north of the Park donated to St. Bernard Parish by The Meraux Foundation. It also includes a walking path with recreational area and will serve as a green infrastructure element.</p> <p>The modeling of the Buccaneer Villa North included both a hydrologic and hydraulic investigation for the area. The hydraulic investigation included:</p> <ul style="list-style-type: none"> • researching historic flood events • determining the cause of the flood events • obtaining rainfall data and determining the parameters required to replicate one of these flood events in a hydrologic model of the neighborhood • reviewing available drainage system information • obtaining survey data of the current conditions of the existing drainage system • incorporating findings into ArcGIS 	<p>to define the project area and develop a model of the system.</p> <p>This model was imported into XPSTORM, 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) similar to EPA's SWMM 5.1 modeling program. LIDAR data was used to build a digital terrain model (DTM) in XPSTORM to represent the existing ground surface in the project area and catchment areas were delineated from LIDAR.</p> <p>As part of the LADOTD Statewide Flood Control Application and to obtain funding approval, DE prepared a benefit cost analysis. An inventory and tabulation of structures protected by the project was combined with damage calculations. Elevations of 43 concrete slabs for each repetitive loss property were obtained to determine whether these homes would be flooded in a 25-year storm event. Based on the benefit cost analysis described herein a benefit cost ratio of 6:1 was calculated for this project. As part of our stakeholder engagement effort we prepared, distributed, and received statement of views from LDEQ, LADOTD, LDAF Office of Soil and Water Conservation, LDWF, OCM, USACE, and USDA.</p> <p>This project has been approved by LADOTD Statewide Flood Control for funding and is currently in the design phase.</p>
 <p>KEY PERSONNEL INVOLVED: Robert Delaune, Jr., P.E. Andrew Woodroof, P.E. Christina Shurley, P.E. Patrick Stiegman, P.E.</p>		
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
<p>Ongoing</p>	<p>Entire Project:</p> <p>\$7,483,495</p>	<p>Work for which Firm was Responsible:</p> <p>\$442,000 (fee)</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 2

Project Name, Location and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p>PARC PLACE NEIGHBORHOOD STATEWIDE FLOOD CONTROL HYDRAULIC MODEL AND APPLICATION <i>Slidell, LA</i></p> <p>Owner City of Slidell 250 Bouscaren Street, Ste. 302 Slidell, LA 70458 Greg Comer, Mayor 985.646.4332</p>	<p>This project combines stormwater management and flood risk reduction with a future vision of creating a blueway that will be utilized by visitors and residents of Slidell. It is also an example of a successful community and government partnership since LADOTD and Slidell are sharing the costs for this project.</p> <p>The proposed project concept will seek to mitigate flooding of a 265 acre area within the Parc Place neighborhood and surrounding areas by installing larger diameter drainage pipes and associated catch basins as well as widening existing ditches and canals to increase stormwater conveyance. The additional stormwater volume capacity from the widened existing channels will be utilized to hold this water and release it slowly over time into Bayou Pattasat to eliminate repetitive loss flooding and create a blue way that can be utilized for recreation.</p> <p>DE developed a hydraulic and hydrologic model that illustrates the existing flooding problem, demonstrates the proposed solution, and provides</p>	
	<p>a recommendation for the proposed remedy that provides the greatest benefit cost ratio. A formal application which follows the Statewide Flood Control Program's procedures was prepared and submitted to LADOTD. A preliminary design was also completed for the selected project as part of the application process. Upon initial discovery of the available data, we identified the data gaps that existed, some of which were existing cross sections and invert elevation data within our project limits. Data gaps were filled in by survey in the field to complete our model.</p> <p>The modeling included a hydrologic and hydraulic investigation for the area. The hydraulic investigation included:</p> <ul style="list-style-type: none"> • researching historic flood events • determining the cause of the flood events • obtaining rainfall data and determining the parameters required to replicate one of these flood events in a hydrologic model of the neighborhood • reviewing available existing drainage system information • obtaining survey data of the current conditions of the existing drainage system • incorporating this information into ArcGIS to define the project area and develop a model of the system. <p>This model was imported into XPSTORM, 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) similar to EPA's SWMM 5.1 modeling program. LIDAR data was used to build a digital terrain model (DTM) in XPSTORM to represent the existing ground surface in the project area and catchment areas were delineated from LIDAR.</p> <p>DE calibrated the existing model using hourly rainfall data, which was obtained from the National Center for Environmental Information of the National Oceanic and Atmospheric Administration (NOAA), and historic flooding data for the residential properties in the project area. Once calibrated, the existing system was analyzed for the 25-year design storm, as obtained from the LADOTD Hydraulic Manual. Residential properties flooded in this design case, and therefore, several alternatives were considered for eliminating residential flooding during the 25-year design storm.</p> <p>In July 2020, LADOTD approved the project's application to receive funding through the Statewide Flood Control Program.</p> <p>As part of the LADOTD Statewide Flood Control Application and obtaining funding approval, DE prepared a benefit cost analysis. An inventory and tabulation of structures protected by the project was combined with damage calculations. Elevations of 64 concrete slabs for each repetitive loss property were obtained to determine whether these homes would be flooded in a 25-year storm event. Based on the benefit cost analysis described herein a benefit cost ratio of 2:1 was calculated for this project.</p> <p>As part of our stakeholder engagement effort we prepared, distributed, and received statements of views from LDEQ, LADOTD, LDAF Office of Soil and Water Conservation, LDWF, OCM, USACE, and USDA.</p> <p>KEY PERSONNEL INVOLVED: Robert Delaune, P.E., Christina Shurley, P.E., Patrick Stiegman, P.E.</p>	
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
<p>October 2019</p>	<p>Entire Project:</p> <p>\$4,600,000</p>	<p>Work for which Firm was Responsible:</p> <p>\$95,000</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 3

Project Name, Location and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p>HYDRAULIC/HYDROLOGIC INVESTIGATION OF ORMOND OAKS DOWNSTREAM IMPROVEMENTS <i>St. Charles Parish, LA</i></p> <p>Owner St. Charles Parish DPW 100 River Oaks Drive Destrehan, LA 70047 Miles Bingham, P.E. Director of Drainage 985.783.5102</p>	<p>This project utilizes an approach of blending traditional gray infrastructure and green infrastructure to achieve required flood risk reduction for the Ormond Oaks area in St. Charles Parish, where approximately 200 homes suffered repetitive loss within a two years span.</p> <p>The study consisted of developing a hydraulic and hydrologic model of the Ormond Oaks Neighborhood and surrounding area consisting of 863 acres which currently drains to Dunleith Pump Station located just east of the intersection of Brandon Hall Drive and Dunleith Drive. DE conducted a study of historic rainfall events, determined previous causes of flooding, and obtained historic rainfall data via the National Oceanic and Atmospheric Administration (NOAA) and St. Charles Parish rain gauges. DE utilized the hydraulic and hydrologic model of the Ormond Oak Neighborhood to replicate historic rainfall events, and complete a report with proposed recommendations in order to mitigate flooding and prevent future loss/damages within the neighborhood. The report and the proposed recommendations detailed multiple alternatives and the costs associated for each alternative.</p> <p>DE calibrated the existing model using hourly rainfall data obtained from St. Charles Parish and historic flooding data for the residential area. Once calibrated, the existing system was analyzed for the 10, 50, and 100-year design storm.</p> <p>Initially we conducted data discovery meetings with St. Charles Parish to collect available information needed for the framework of the model. St. Charles Parish provided us with their existing GIS system. Upon review of the GIS, we</p>	<p>were able to utilize the ground surface elevation contours, the physical location of the drainage facilities (manholes, catch basins, pipes and waterways) and the drainage pipe diameters, lengths and inverts. Data gaps were identified which mainly included cross sections of existing drainage ditches and canals. We collected these missing cross sections in the field utilizing a GPS unit and imported this data into the model.</p> <p>DE constructed the hydraulic and hydrologic model by utilizing Innovyze's XPStorm 18.1, which is a dynamic, integrated hydraulic and hydrologic stormwater and floodplain modeling software with the capability to model conditions coupled in both 1D (open channel and closed conduit flow) and 2D (overland flow). LIDAR data was used to develop a digital terrain model (DTM) in XPStorm to represent the existing ground surface in the project area and rainfall catchment areas were delineated from LIDAR.</p> <p>The model results indicated that several factors contributed to the widespread flooding of the area and that a single improvement would not address the flooding problems throughout the entire system. Therefore, it was recommended that multiple drainage improvements be constructed in phases, with the initial phase including improvements nearest the Dunleith Pump Station and then continuing upstream. These recommended improvements included widening of an earthen drainage canal, addition of box culverts, upsizing of existing railroad crossings, concrete lining of an existing earthen ditch, the addition of subsurface piping, and a new detention pond.</p>
 <p>ORMOND OAKS DRAINAGE MODEL</p> <p>Legend: - Storm - Catchment - Pipe - Manhole - Invert - Elevation - Structure</p>		
<p>KEY PERSONNEL INVOLVED: Robert Delaune, Jr., P.E. Christina Shurley, P.E. Patrick Stiegman, P.E.</p>		
Completion Date (Actual or Estimated):	Estimated Cost:	
2020	Entire Project:	Work for which Firm was Responsible:
	\$65,282	\$65,282 (fee)

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>DPS 01 WATERSHED DRAINAGE UPGRADES AND GREEN INFRASTRUCTURE, PHASE I <i>New Orleans, LA</i></p> <p><u>Owner</u> City of New Orleans 1300 Perdido Street #6E15 New Orleans, LA 70112 Erika Boerr, MBA, PMP Project Manager 504.658.8475</p>	<p>The Phase 1 DPS 01 Watershed Drainage Upgrades and Green Infrastructure Project encompasses all or part of eight uptown neighborhoods within the boundaries of Louisiana Avenue, Tchoupitoulas Street, Melpomene/MLK, and Broad. The total project area watershed is 1,800 acres in size. The strategy for this project is two-pronged: drainage upgrades to both increase the capacity of the subsurface drainage and facilitate the conveyance of storm water to and from green infrastructure features such as storm water parks and green intersections. In tandem with the Phase 2 DPS 01 Watershed Drainage Upgrades and Green Infrastructure Project, this project will greatly reduce flooding in both the project area and the adjacent Broadmoor neighborhood by slowing down the flow of water from the project area and allowing DPS 01 to drain the Broadmoor area more quickly.</p>	
<p>Digital Engineering was responsible for the design of drainage upgrades on S. Roman Street, Washington Avenue, S. Derbigny Street, and Orange Street. Each of these drainage upgrades will facilitate the flow of storm water into storm water parks and other green infrastructure features and/or provides equalization between drainage canals. The drainage upgrades on S. Roman Street and Washington Avenue, for instance, include the installation of 36" and 42" drain lines which will connect the drainage canals on Claiborne Avenue and Toledano St. to provide equalization between the canals. In between these canals, along Washington Ave., storm water will flow into Taylor Playground where it will be stored in an underground detention basin being designed by other members of the project team. Water will slowly be released from the park to the drainage upgrades along S. Roman before being discharged into the Toledano St. drainage canal. Similarly, the drainage upgrades on S. Derbigny will direct storm water from the neighborhood into Taylor Playground, where it will again be discharged to S. Roman Street. The 36" drainage upgrades on Orange Street will convey storm water from Tchoupitoulas Street to a storm water park at Annunciation Square, where it will be detained and slowly released back to Orange Street at a downstream location before continuing to the Camp St. box culvert.</p>		
<p>Design challenges for this project were numerous and included layout of large diameter drain lines while minimizing impacts to other existing utilities such as water, sewer, and gas in a highly urbanized area; ensuring proper hydraulic design of drainage structures with little topographic relief; altering drainage patterns in select areas of the watershed; and coordinating project overlap with other existing City projects.</p>		
<p>KEY PERSONNEL INVOLVED: Robert Delaune, Jr., P.E. Andrew Woodroof, P.E. Christina Shurley, P.E. Patrick Stiegman, P.E.</p>		
Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
November 2020	NA	\$75,900

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>DPS 01 WATERSHED DRAINAGE UPGRADES AND GREEN INFRASTRUCTURE, PHASE II <i>New Orleans, LA</i></p> <p><u>Owner</u> City of New Orleans 1300 Perdido Street #6E15 New Orleans, LA 70112 Erika Boerr, MBA, PMP Project Manager 504.658.8475</p>	<p>The Phase 2 DPS 01 Watershed Drainage Upgrades and Green Infrastructure Project encompasses all or part of eight uptown neighborhoods within the boundaries of Louisiana Avenue, Tchoupitoulas Street, Melpomene/MLK, and Broad. The total project area watershed is 1,800 acres in size. The strategy for this project is two-pronged: drainage upgrades will aim to both increase the capacity of the subsurface drainage and facilitate the conveyance of stormwater to and from green infrastructure features such as storm water parks, green intersections, and permeable streets. In tandem with the Phase 1 DPS 01 Watershed Drainage Upgrades and Green Infrastructure Project, this project will greatly reduce flooding in both the project area and the adjacent Broadmoor neighborhood by slowing down the flow of water from the project area and allowing DPS 01 to drain the Broadmoor area more quickly.</p>	
<p>Digital Engineering was responsible for the design of drainage upgrades on S. Tonti Street, Philip Street, Dryades Street, Chippewa Street, and St. Thomas Street. Each of these drainage upgrades will facilitate the flow of storm water into storm water parks and other green infrastructure features and/or provides equalization between drainage canals to facilitate the flow of storm water.</p>		
<p>On S. Tonti, Philip, and Dryades, large diameter drain lines will be installed to provide equalization between larger drainage canals. On S. Tonti, a new 42" diameter perforated drain line will be installed within the right of way to both equalize the drainage canals on Martin Luther King and Toledano while also quickly infiltrating water from the neighborhood before water from upstream neighborhoods reaches the lower portion of the drainage basin. Drainage upgrades on Philip and Dryades, range from 36" to 42" and provide equalization between larger diameter drainage canals on Louisiana Ave., Third Street, Simon Bolivar, and Martin Luther King. Drainage upgrades on Chippewa consist of a 24" drain line to provide connectivity between Third Street and Washington Avenue.</p>		
<p>Drainage upgrades on St. Thomas Street include both capacity upgrades and green infrastructure features. The design for this street includes installation of underground storm water storage within the footprint of the pavement. Storm water will be infiltrated into the storage aggregate via permeable interlocking pavers which will be installed in the parking lanes. New 24" drain lines will then interconnect the drainage on Philip Street and Washington Avenue, completing the system. Design challenges for this project were numerous and included layout of large diameter drain lines while minimizing impacts to other existing utilities such as water, sewer, and gas in a highly urbanized area; ensuring proper hydraulic design of drainage structures with little topographic relief; altering drainage patterns in select areas of the watershed; and coordinating project overlap with other existing City projects.</p>		
<p>KEY PERSONNEL INVOLVED: Robert Delaune, Jr., P.E., Andrew Woodroof, P.E., Christina Shurley, P.E., Patrick Stiegman, P.E.</p>		
Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
October 2020	NA	\$227,700

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:

GREEN INFRASTRUCTURE TOOLKIT AND STORM WATER CALCULATOR
City of New Orleans, LA

Owner

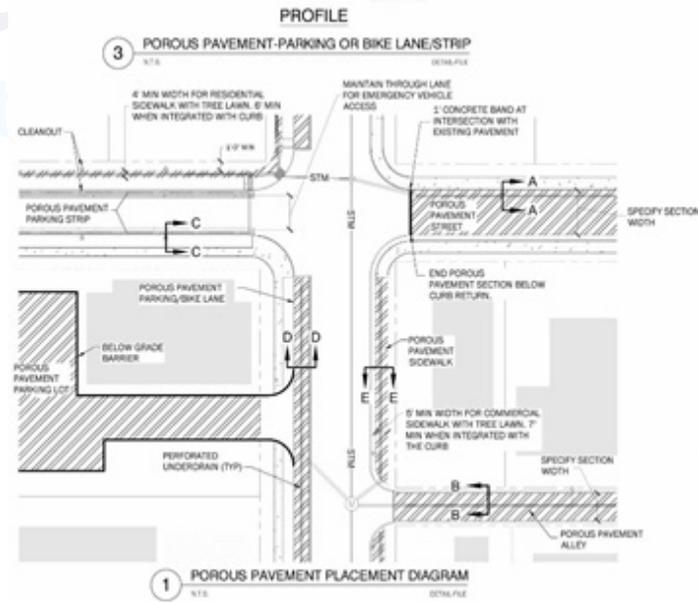
City of New Orleans
 1300 Perdido Street
 New Orleans, LA 70112
 Mary Kincaid, P.E.
 504.658.8709

Nature of Firm's Responsibility:

This project is an example of **experience designing green infrastructure features that were used and implemented on multiple green infrastructure type projects** within the City of New Orleans.

As a sub-consultant, DE provided CAD support services for the development of Green Infrastructure standard details. These details give a standard of quality for green infrastructure elements to designers and contractors that can be utilized as approved concepts on projects in the City of New Orleans.

The details DE provided support for include infiltration trenches, previous pavement, retention basins, curb gabs and step-outs. The details developed will be provided to design consultants that are working on green infrastructure projects through the **City's Hazard Mitigation Program** and the **Gentilly Resilience District** for use on those projects. The details will also be provided to developers of property within the City's storm water retention and runoff requirements.



KEY PERSONNEL INVOLVED:
 Robert Delaune, Jr., P.E.

Completion Date (Actual or Estimated):

2017

Estimated Cost:

Entire Project:

NA

Work for which Firm was Responsible:

\$22,600

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>BUCKTOWN HARBOR PARK PADDLER'S LAUNCH AND PARKING <i>Jefferson Parish, LA</i></p> <p><u>Owner</u> Jefferson Parish Ecosystem and Coastal 1221 Elmwood Park Blvd., Ste. 310 Jefferson, LA 70123 Michelle Gonzales, CFM 504.736.6653</p>	<p>In an effort to renew its Lakefront, Jefferson Parish envisions a re-imagined Bucktown Harbor Park that blends recreational and natural spaces, along with providing access to water and natural resources for Jefferson Parish residents and visitors.</p> <p>A key component of Bucktown Harbor Park will be the Paddler's Launch, which will provide universal access for kayaking, canoeing, paddle boarding, and other water sport activities. The design approach seeks to highlight the historic relationship of the neighboring 17th Street Canal to Bucktown while maintaining the quality of greenspace and vehicular circulation.</p>	
<p>Jefferson Parish contracted with Digital Engineering to conduct evaluation, permitting and design phase services to guide the planning and implementation of the Paddler's Launch and Parking Area for the re-imagined Bucktown Harbor Park.</p> <p>To complete this task, evaluated three different design alternatives for a variety of factors, including estimated construction cost, constructability, estimated duration, and permitting requirements.</p> <p>DE's approach was to gain maximum input from all stakeholders involved in the master planning process. To begin, DE held a design charette with members of the master planning design team and the owner where DE presented three design approaches: Maximum Paddler's Access, Pedestrian-Driven Design, and Integrated Waterway Feature.</p> <p>Through this process, the team generated the benefits and challenges of each design approach. Strategies for resolving challenges for each approach were discussed to transition each design approach into the best possible version of a design alternative for a given approach. The stakeholder team selected the Integrated Water feature alternative, which blends hardscapes with natural features in a design that both mimics the natural shoreline of Lake Pontchartrain while being resilient to storm surge and maximizing maintainability.</p> <p>KEY PERSONNEL INVOLVED: Robert Delaune, Jr., P.E. Andrew Woodroof, P.E.</p>	<p>Jefferson Parish contracted with Digital Engineering to conduct evaluation, permitting and design phase services to guide the planning and implementation of the Paddler's Launch and Parking Area for the re-imagined Bucktown Harbor Park.</p> 	
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
<p>Ongoing</p>	<p>Entire Project:</p> <p>\$283,630</p>	<p>Work for which Firm was Responsible:</p> <p>\$237,573</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 8

Project Name, Location and Owner's Contact Information:	Nature of Firm's Responsibility:
<p>GOODBEE POND <i>St. Tammany Parish, LA</i></p> <p><u>Owner</u> St. Tammany Parish Government Post Office Box 628 Covington, LA 70434 Trip Sharp, Project Manager 985.898.2552 tdsharp@stp.gov.org</p>	<p>The approximate watershed boundary for this project is 4,300 acres and bounded on the west by Hwy 1077, north by Hwy 1078, east by the Tchefuncte River and south by Hwy 190. In this area there are 205 repetitive loss homes due to historical flooding from intense rainfall events. The area is also growing rapidly with new developments. Drainage improvements need to be implemented to eliminate additional flooding of homes in the watershed.</p> <p>The purpose of the project is to develop proposed drainage improvements which may include a detention pond in the watershed to capture and store rainfall runoff to eliminate flooding of homes in the area.</p>

The scope of the project is to establish an existing conditions **model in EPA SWMM 5.1** software that reflects historical flooding events and the known repetitive losses. The model will be calibrated with the historical flooding events that flooded homes to ensure that real world conditions are represented in the model.

Once the existing conditions model is calibrated proposed alternatives will be modeled for the 25 and 100 year storm events. These **proposed alternatives** will be optimized in the model to get the best **cost-benefit ratio** for each alternative and determine the point of diminishing returns on the improvements.

Once the proposed improvement alternatives are finalized a report will be prepared that outlines all parameters of the alternatives and develops budgets for the alternatives.

Topographic survey cross-sections were collected as part of the modeling effort. While in the field the survey crew discovered a beaver dam across one of the main distributaries in the watershed that is contributing to flooding in the area. Our team is coordinating with St. Tammany Parish on how to deal with this beaver dam since it is a major hindrance to any proposed improvements that will be implemented in the model.

KEY PERSONNEL INVOLVED:

Robert Delaune, Jr., P.E.
 Patrick Stiegman, P.E.
 Cecil Soileau, P.E.



Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2021 (A)	NA	\$82,615 (fee)

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>JEFFERSON PARISH MUNICIPAL SEPARATE STORM SEWER (MS4) PROGRAM MANAGEMENT: PERMIT RENEWAL, ANNUAL REPORT, 303(D) WATER BODIES SAMPLING PLAN Jefferson Parish, LA</p> <p>Owner Jefferson Parish Dept. of Environmental Affairs 834 S. Clearview Pkwy. Harahan, LA 70123 Sami Khalil Storm Water Management Supervisor 504.731.4612</p>	<p>Through the contract with Jefferson Parish for Technical Assistance for MS4 program management, DE assists the Parish with all aspects of the Department of Environmental Affairs Stormwater Program. The program is designed to maintain compliance with all Louisiana Department of Environmental Quality regulations, while integrating other Parish Departments' goals for stormwater quantity management. DE's work on this contract includes:</p> <ul style="list-style-type: none"> • Preparation of the Jefferson Parish Stormwater Management Program (SWMP) for 2016-2022 and 2023-2027. • Preparation of the Parish's Annual MS4 Report to DEQ which demonstrates to regulatory authorities all activities the Parish undertakes to maintain compliance with stormwater regulations. DE has prepared annual reports from 2016 to 2021. • Development and Implementation of Stormwater Education Programs funded for Jefferson Parish by the Pontchartrain Conservancy, including programs for Construction Stormwater Management; Commercial, Industrial, and High-Risk Facility Stormwater Management; and Sewer Science program. • Preparation of the Department of Environmental Affairs' Stormwater Sampling Plan, which outlines the procedures for monitoring impaired waterbodies within the Parish for targeted pollutants. 	
	<ul style="list-style-type: none"> • Preparation of Stormwater Pollution Prevention Plans (SWPPP) and Spill Control and Countermeasure Plans (SPCC) for all Parish facilities including treatment plants, pump stations, waste facilities, and Parish buildings. <p>To complete the Stormwater Management Program and MS4 Annual Report tasks, DE collaborates with and collects data from all Parish departments that interface with the stormwater system. This includes Departments of Drainage, Streets, Environmental Affairs, Sewerage, Parks and Parkways, HAZMAT/Fire, Water, Engineering/SCADA, Planning, Floodplain Management, and Coastal and Ecosystem Management. Each of these departments conducts activities that affects the ability of the stormwater system to convey runoff as well as control the quality of stormwater that enters the system. DE works with these Departments to identify measurable goals for incorporation into the Stormwater Management Program, tracks the measurable data on an annual basis, and determines the effectiveness of each measurable goal to assess the overall success of the SWMP. Components of the SWMP include:</p> <ul style="list-style-type: none"> • Structural Controls and Storm Water Collection System Operation • Areas of New Development and Redevelopment • Roadway System Maintenance • Flood Control Projects • Pesticide, Herbicide, and Fertilizer Application • Illicit Discharges and Improper Disposal • Spill Prevention and Response • Industrial and High-Risk Runoff • Construction Site Runoff • Public Education and Outreach / Public Involvement and Participation • Representative Monitoring (Storm Water Sampling) • Pollution Prevention and Good Housekeeping for Municipal Operations • Green Infrastructure/Low Impact Development <p style="text-align: right;">KEY PERSONNEL INVOLVED: Andrew Woodroof, P.E. Robert Delaune, Jr., P.E. Christina Shurley, P.E.</p>	
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
<p>2022 (E)</p>	<p>Entire Project:</p> <p>\$1,172,000</p>	<p>Work for which Firm was Responsible:</p> <p>\$1,172,000</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 10

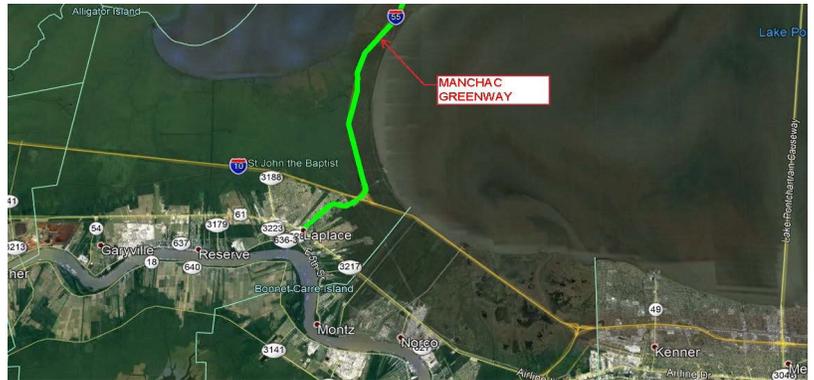
Project Name, Location and Owner's Contact Information:

**RESTORE ACT DIRECT COMPONENT
MULTIYEAR IMPLEMENTATION PLAN**
St. John the Baptist Parish, LA

Owner

St. John the Baptist Parish
1801 W. Airline Highway
LaPlace, LA 70068
Jaclyn Hotard, Parish President
985.652.9569

Nature of Firm's Responsibility:



Under a contract for Parish-wide grant management, Digital Engineering (DE) is responsible for **preparing funding applications** and providing technical assistance on projects for a variety of state and federal funding sources, including the **Environmental Protection Agency, RESTORE Act, GOMESA, LA SAFE, LA Statewide Flood Control Program, Pontchartrain Restoration Program, Community Water Enrichment Fund, Louisiana Government Assistance Program, and the Louisiana Community Development Block Grant Program**, among others. Two projects funded by RESTORE, the Belle Terre Streetscapes and Stormwater Management Project and the Manchac Greenway Project, aim to increase connectivity, provide recreational amenities, merge stormwater management with ecosystem service, and advocate for the use of sustainable development. DE was responsible for preparing the RESTORE Act Direct Component Multi-Year Implementation Plan as well as all funding amendments.

Each grant program has its own guidelines that have to be followed so the funding is not compromised. DE is knowledgeable of all guidelines for each program so that the projects move in a timely manner. Knowledge of these programs is gained through researching and working with the grantee agency to make sure all of the requirements are met. This skill is highly specialized and it takes years to gain this knowledge for all of the grant programs that are being implemented in St. John Parish.

MANCHAC GREENWAY

Digital Engineering was responsible for project development of the Manchac Greenway project, which is to be incorporated into St. John the Baptist Parish's RESTORE Act Multiyear Implementation Plan. The proposed planning assistance project for **infrastructure benefiting the economy** includes the development of a Master Plan for the Manchac Greenway along the Manchac Landbridge in St. John the Baptist Parish, LA. The Master Plan will develop **conceptual improvements for evaluation and implementation** along the greenway, including projects for **improved access to outdoor recreation** and **natural resources**; increased connectivity for multi-modal transportation; **economic development** through eco-tourism; and **protection/preservation of wetlands, wildlife habitat, and natural areas**. The proposed project serves to accentuate the natural environment along the existing corridor between St. John the Baptist Parish and Tangipahoa Parish, benefiting the economy and **advocating for the use of sustainable development techniques such as greenways as a model for future development in Louisiana**.

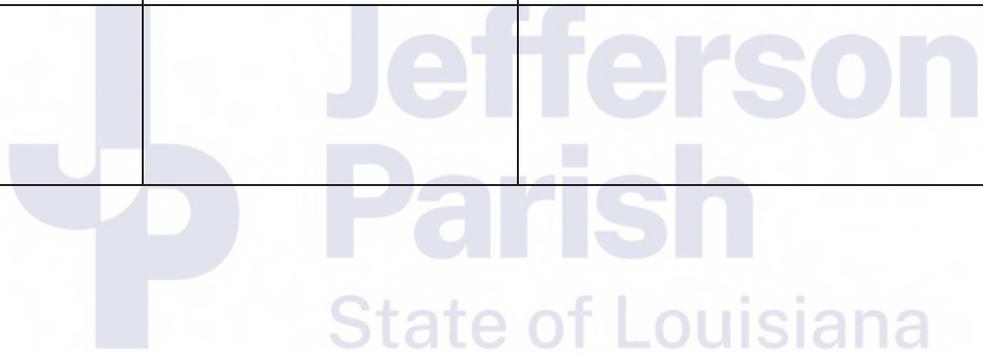
KEY PERSONNEL INVOLVED: Robert Delaune, Jr., P.E., Andrew Woodroof, P.E.

Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Ongoing	\$50,000	\$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. None		
2.		
3.		
4.		



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.



WHO WE ARE

Digital Engineering (DE), a full-service engineering firm, has been providing transportation and water resources engineering and planning services throughout southeast Louisiana for over 30 years. Established in 1990, DE is headquartered in Kenner at 527 West Esplanade Boulevard.

Bettering our communities along the Gulf Coast is our sole purpose in prioritizing our clients' needs and offering them cradle-to-grave services to successfully implement projects at any stage.

WHAT WE DO

DE's definition of "full-service engineering" is delivering quality products and projects to surpass the clients' goals, ensure their objectives are delivered, and ultimately our communities are improved. As a Small Business, we make it a priority to fully engage our clients in their projects and provide them a personal touch by offering full access to principals and project managers on every project.

HOW WE ARE DIFFERENT

What sets DE apart in the engineering community is our commitment to our clients that goes above and beyond just designing or constructing projects to their satisfaction. Developing close working relationships with our clients allows us to become a virtual extension of their staff. By becoming a

virtual extension of their staff, we are able to offer and achieve efficiency and continuity thus accomplishing our shared mission of improving the communities we live and work in.

WHY DIGITAL ENGINEERING

Digital Engineering's experience in flood mitigation, coupled with our intimate **knowledge of Jefferson Parish** across stakeholder departments, uniquely positions our team to deliver stormwater management solutions that achieve the goals of the **Building Resilient Infrastructure Communities** program strategically within Jefferson Parish's existing Public Works Infrastructure.

Award Winning Work



In 2017, the Jefferson Parish Stormwater Task Force Coalition was awarded the "2017 Environmental Leadership Program (ELP) Award for Pollution Prevention" by the Louisiana Department of Environmental Quality.

As the Jefferson Parish Stormwater Program Managers, we assisted the Parish with educational workshops targeting General Contractors, both commercial and residential, to increase awareness as to how their activities contribute to pollution entering Lake Pontchartrain and surrounding water bodies.

CORPORATE SOCIAL RESPONSIBILITY

Corporate Social Responsibility (CSR) within the Digital Team is core to the individual and collective cultures of our firm. Comprised of commitments to and investments in pillars of service such as community engagement, volunteerism, and resiliency, our corporate social responsibility ethos is underpinned by uncompromising integrity in any and everything we do. It is embedded in our business priorities and integral to our mission, vision, and values. With great purpose and passion, we apply our collective skills to our strategic focus areas of improving our communities, developing next-generation leaders, and advancing community investments in resiliency. We work in partnership with our clients to engage in social investments and activities that strengthen our culture, spur innovation, and better the communities in which we work.

As a part of our CSR activities, DE employees volunteer to cover a total of 10 miles in the areas of Bucktown in Jefferson Parish and Possum Hollow Park in Slidell as part of Storm Sweep, a month-long cleanup of the Lake Pontchartrain Basin as our communities prepare for hurricane season. Hosted annually by the Pontchartrain Conservancy, DE is proud to sponsor of Storm Sweep, and ended the day collecting 110 pounds of trash and debris so that catch basins can adequately route stormwater out of our neighborhoods and our waterways can be litter-free!



Storm Sweep 2021 DE Volunteers Michael Flynn and Rob Delaune along the levee in Bucktown.

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.

Understanding the needs of Jefferson Parish

Jefferson Parish is the recipient of a BRIC grant and is now seeking to conduct a study that identifies and evaluates alternatives to reduce flood risk and subsidence, with an emphasis on leveraging combined benefits of grey and green infrastructure, in the Bucktown neighborhood of Metairie. Previous H&H studies performed for the area supported the ongoing design of a new pump station on Lake Avenue adjacent to the 17th Street Canal which will provide protection for 10-year storm event. Through successful funding opportunities, the Parish is looking to further enhance drainage through recommendations of combined grey and green infrastructure to improve conveyance and system storage, so that the level of service for the combined system can be enhanced to manage the extensive flooding that can occur during a 25-year storm event. This approach has proven successful in countless communities across the US and is a major focus of federal grant programs like the Building Resilience Infrastructure and Communities (BRIC) Grant.

Our Approach

Digital Engineering will use a **methodical, yet collaborative approach** to ensure that project goals are met, while incorporating stakeholder and community input into all outcomes. We will review previously completed studies, identify data gaps, model and validate existing conditions, develop potential projects to alleviate flooding issues, prepare benefit-cost ratios of potential projects, and assist the Parish with identifying funding for selected project implementation. Community engagement will be conducted at nearly every stage of the project.

Our team has **extensive knowledge of the Jefferson Parish drainage system**, including the



Figure 1 - Previous Work by DE team identifying flooding "hot spot" in Bucktown area, leading to development of Lake Avenue Pump Station

Bucktown area. In 2007, DE completed the East Bank Sub-Surface Drainage Improvement Plan, which identified flooding "hot spots" throughout the Parish, including areas of Bucktown, which ultimately led to the modeling and development of the recently designed Lake Avenue Pump Station.

The DE team is also intimately familiar with all Parish stakeholders for this project, including but not limited to Floodplain Management and Hazard Mitigation, Drainage, Ecosystem and Coastal Management, Planning, Engineering, Streets, Parkways, Environmental Affairs, and Council District 5. DE has numerous past and active projects with these stakeholders, including ongoing work for Parish-wide Stormwater Management.

DE's approach begins with gathering and evaluating all existing data. Our coordination with stakeholder departments will begin at this stage – during review of the previous modeling efforts, we will **conduct meetings with Jefferson Parish Departments to verify existing system performance is consistent with previous studies**. We will also conduct community outreach early in the project, seeking the public's input on their flooding experiences, ensuring that our model review captures what the residents of Bucktown are experiencing. Throughout this process, we will **identify data gaps** – topographic, geotechnical, hydrologic, and hydraulic data to be gathered will be identified to assist with future model calibration.

Hydrologic and hydraulic (H&H) modeling is a major component of the project to identify the potential for reducing peak water levels during heavy rain events coupled with a benefit cost analysis that quantifies the reduction in flood damages upon implementing various solutions. Our team understands that there are at least two existing H&H models (SWMM5) that have been produced for the area: one comprehensive Jefferson Parish-wide drainage model (east bank polder), and another that supported design of a new pump station on Lake Avenue adjacent to the 17th Street Canal. Both studies provide excellent information with which to develop an updated H&H model to identify resilient solutions that will enhance the existing level of drainage in the Bucktown area. Utilizing the information from the existing models for the 10-year storm event, our team will model enhanced drainage through **combined grey and green infrastructure** to improve conveyance and system storage, to **improve the level of service for the combined system** to manage the extensive flooding that can occur **during a 25-year storm event**. This approach has proven successful in countless communities across the US and is a **major focus of federal grant programs like the Building Resilience Infrastructure and Communities (BRIC) Grant**.

TEC Professional Services Questionnaire

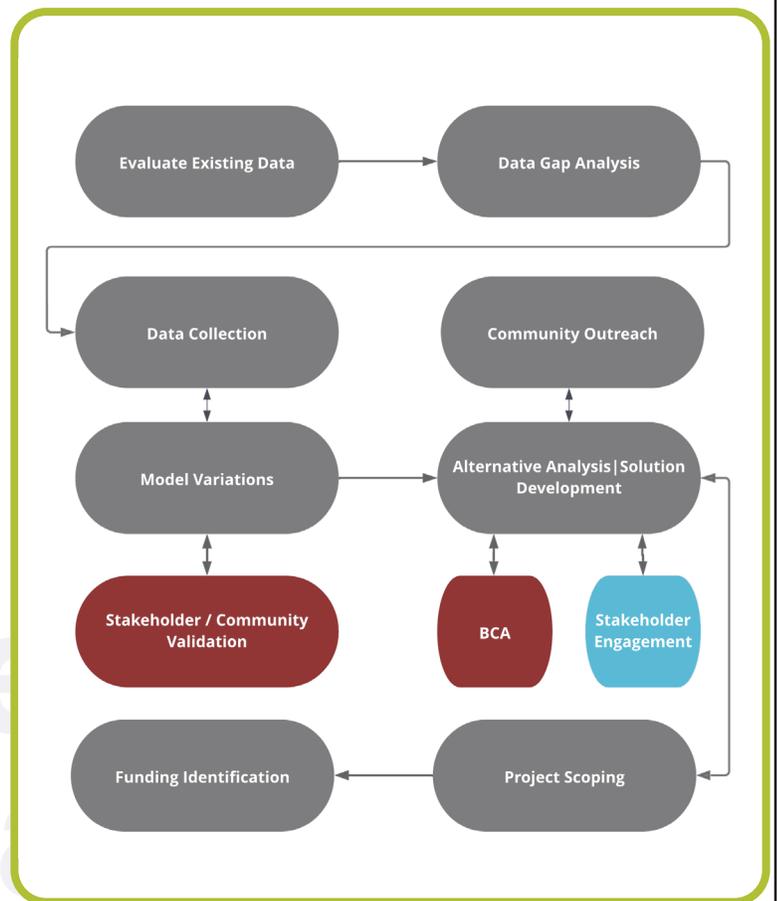
N. Use this space to provide any additional information or description of resources supporting Firm's qualifications for the proposed project.

The specific strategy for H&H modeling to support the project will be based on the previously discussed data gap analysis and evaluation of the existing model performance and capabilities; our team expects that we will fully **leverage these existing models to reduce the overall cost of the modeling effort**. The existing models will provide a wealth of information on the existing drainage network and together with Jefferson Parish's knowledge of localized flooding problems (further elicited during community engagement efforts), the models can be used to quickly identify a range of solutions.

Our team proposes to convert the 1D SWMM models available from previous studies to a 2-dimensional model using readily available software packages such as PC-SWMM or XP-SWMM that provide advanced functionality to that of EPA-SWMM. The advantages of a 2D model are that the **distribution of flooding can be more accurately represented** based on the terrain and eliminate the need for simplified representations of surface storage and overland flow paths. While not a 2D modeling approach, outputs from the existing 1D models can be coupled with GIS to map the flood extents relative to the existing infrastructure. The ultimate goal of the modeling exercise is to pinpoint flood risks relative to existing infrastructure and buildings can be achieved with either of the 2D modeling approaches as well as the 1D approach linked with a mapping exercise.

Once future flood risks are identified, the DE team will develop a suite of potential solutions. Our approach is to **leverage the combined benefits of grey and green infrastructure**, with green infrastructure reducing stress on the grey system so that it may perform optimally. Our team has extensive experience with this approach, as demonstrated in our past project experience, specifically the DPS01 Drainage Upgrades and Green Infrastructure projects. Additionally, the DE team will **engage the public while developing projects**, ensuring that community needs and expectations are met.

Generally, FEMA approved methods rely on the use of accurate flood models that predict inundation depths coupled with curves that describe damages expected under certain levels of inundation. Team member FNI has **extensive experience conducting benefit cost analysis associated with reducing flood risk**. For the Dillard Wetlands Project, a City of New Orleans project that is part of the Gentilly Resilience District funded through the National Disaster Resilience Competition administered by HUD, FNI utilized the City's PC-SWMM model to determine



depths of flooding at existing buildings under existing conditions versus with project conditions. Depth damage curves developed by the US Army Corps of Engineers were used to determine the cost of damage at each structure. Damages across the project area were aggregated to produce reduced damages for a range of design storms. The probability of these design storms occurring within a given year was used to compute the reduced damages expected on an annual basis. These calculations can be conducted manually, as in the case of the Dillard Wetlands project, or using FEMA's BCA Toolkit. The advantage of manual calculations is that benefits can be assessed much more quickly with a customized tool in lieu of FEMA's BCA Toolkit. **For this project, the team proposes to develop a custom tool to evaluate a range of solutions.** FNI has successfully used this approach in the San Jacinto, Texas Watershed Regional Master Drainage Plan and a drainage improvement project for the City of Buda, Texas. Once a preferred solution is identified, the FEMA BCA Toolkit will be used to present the summary results as part of a grant application.

In addition to traditional benefit assessment resulting from reduced flooding (e.g., avoided building damages, increased longevity of public infrastructure including

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.

streets), the team also has **experience assigning monetary benefits to a variety of other metrics** including: environmental benefits attributed to **improved green space, water quality, increased biodiversity, increased tree canopy, reduced heat island effects**; social benefits such as increased access to public open space, increased usage of public infrastructure, and improved public health outcomes; and **economic benefits such as increases in nearby construction, increases in small business activity, and increased home values**. Triple Bottom Line (TBL) approaches that combines social, environmental, and financial metrics into a comprehensive framework for benefit assessment are being increasingly adopted by FEMA given that social disparities arise between affluent areas and impoverished communities when relying solely on reduced damages to buildings and infrastructure.

Finally, **green infrastructure solutions should provide water quality benefits that align with the Parish's needs across department lines**. While developing future solutions, the DE team will engage stakeholder departments such as Drainage, Engineering, Planning, Floodplain Management, Coastal and Ecosystem Management, and Environmental Affairs to ensure that proposed solutions not only align with the Parish's flood risk mitigation needs and maintenance capabilities, but also provide water quality benefits that help the Parish maintain compliance with increasingly stringent water quality regulations.

Our Experience with Federal Funding

DE has a successful and proud history of securing loans and grants for our clients as well as managing those funds. We've helped our clients develop and execute strategies for securing support at both the state and federal levels. This success would not be possible without the firsthand knowledge of local criteria as well as a deep understanding of the guidelines involved in each specific grant or loan.

DE was the lead on developing a second task order for the Community Development Block Grant Recovery/HUD Proposal for \$32,000,000 allocated for St. John Parish. The recovery proposal included development of housing, infrastructure and economic development programs.

DE was responsible for cradle to grave services on these programs. We prepared the scope of work for the repairs, assembled bid packages that met the CDBG/HUD requirements, accepted and reviewed bids, and awarded the projects to the low bid contractors.

Following award, a pre-construction meeting was held to review all CDBG/HUD grant requirements. During construction, periodic site visits, substantial completion,

and final inspections were held to make sure the contract followed all required program and CDBG/HUD requirements. When construction was complete, DE prepared all CDBG/HUD closeout documents for the project.

In the table below, we highlight our experience with FEMA, CDBG and other Disaster Recovery grant and loan programs.

DISASTER RECOVERY AND VARIOUS GRANTS/LOANS

Louisiana Department of Transportation and Development	19 +48 LOCAL ROAD SAFETY PROGRAM TASK ORDERS
Coastal Protection and Restoration Authority	3
LA Dept of Environmental Quality Clean Water State Revolving Loan	7
LA Dept of Health Drinking Water State Revolving Loan	6
Louisiana State Office of Community Development Block Grant	5
New Orleans Regional Planning Commission	16
USACE-New Orleans District	2 CONTRACTS 70 TASK ORDERS
FEMA	26
Environmental Protection Agency	1

EVALUATION CRITERIA

Professional Training & Experience

DE and our staff have served as professional engineering consultants for Jefferson projects for over 30 years.

We are experienced and skilled in providing professional engineering services for the following project types:

- SW Mgmt Plan + MS4
- Statewide Flood Control
- Program Management + Funding
- Hydraulic + Hydrologic Modeling
- Green Infrastructure

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.

MINIMUM PERSONNEL REQUIREMENTS

JEFFERSON PARISH REQUIREMENTS	DE TEAM MEMBERS
1. The persons or firm under consideration shall have at least one (1) principal who is a professional engineer in the State of Louisiana.	Robert Delaune, P.E. Andrew Woodroof, P.E.
2. The persons or firm under consideration shall have a professional engineer in charge of the project who is a registered as such in Louisiana with a minimum of five (5) years' experience in the disciplines involved.	Andrew Woodroof, P.E.
3. The persons or firm under consideration shall have one (1) employee who is a professional engineer registered as such in Louisiana in the field or fields of expertise required for the project. (A sub-consultant may meet this requirement only if the advertised Project involves more than one discipline.)	Robert Delaune, P.E. Andrew Woodroof, P.E. Christina Shurley, P.E. Patrick Stiegman, P.E.

Capacity for Timely Completion of the Project

We have assigned 22 key personnel to this contract who all are experienced in supporting our clients with a range of stormwater management related services.

DE's staffing/resource capacity combined with our office location in Jefferson Parish will allow for timely response and completion for any and all engineering services that Jefferson Parish may require as a part of this contract.

Location of Principal Office

Digital Engineering's main office is located in Jefferson Parish at 527 West Esplanade Avenue, Suite 200, in Kenner, Louisiana 70065. All project management and engineering services will be performed at this location.

Adversarial Legal Proceedings

Digital Engineering has not been involved in any litigation with Jefferson Parish, nor with any of our Louisiana clients.

Prior Successful Completion of Projects

DE's record on public contracts is exemplary as shown by the project experience demonstrated herein. We have an excellent history of working with Jefferson Parish.

Size of Firm

DE is comprised of 42 employees. We have the in-house resources within our Kenner office to support Jefferson Parish with all project management and engineering services for this project.

Past Performance by Person or Firm on Parish Contracts

DE has provided professional engineering services for a variety of projects for Jefferson Parish including environmental, coastal, roadway, sewer, water, drainage, and building projects.

We have included a matrix below that illustrates the training and experience of our technical personnel that appear on the organization chart and whose detailed resumes are included in this questionnaire.

TRAINING & EXPERIENCE MATRIX

Professional	Degree	Louisiana Professional Civil Engineer	Years of Relevant Water Project Experience	Experience with Jefferson Parish Projects
Robert Delaune, P.E.	BS/Civil	•	21	•
Andrew Woodroof, P.E.	BS/Civil	•	11	•
Christina Shurley, P.E.	BS/Civil	•	18	•
Patrick Stiegman, P.E.	BS/Civil	•	6	•

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.

”

Bogue Falaya Shoreline Protection and Paddlers Launch From their initial involvement in developing the Bogue Falaya Master Plan in 2016 to implementing shoreline protection to designing a more resilient and enhanced Park for our community, DE has continually exceeded our expectations and is a wonderful partner who shares our mission in creating a better community for our citizens.

*Mark Johnson, Mayor
City of Covington*

For further discussion of our services to Jefferson Parish and other public entities, we invite you to contact the following references:

NEIL SCHNEIDER, P.E. | (504) 349.5800
Director of Capital Projects, Jefferson Parish

MARK DREWES, P.E. | (504) 736.6784
Director, Department of Public Works, Jefferson Parish

JACLYN HOTARD | (985) 652.9569
Parish President, St. John the Baptist Parish

CHERYN ROBLES, APR | (504) 658.8000
Chief of Staff, Department of Public Works, City of New Orleans

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

Signature: 

Print Name: Robert Delaune, Jr., P.E.

Title: Sr. Vice President, Principal

Date: 04/19/2022

SECTION 02

FREESE AND NICHOLS

TEC Professional Services Questionnaire

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

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

B. Firm Name & Address:

Freese and Nichols, Inc.
900 Camp Street
Suite 354
New Orleans, Louisiana 70130

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:

Scott Hubley, PE, CFM
Vice President/Principal
scott.hubley@freese.com
817-735-7378
Professional Engineer (PE) Louisiana: #PE.0042272

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.

Matt Salmon, PE
Project Manager
504-291-3496
matthew.salmon@freese.com

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

<u>41</u> Administrative	<u>4</u> Estimators	<u>0</u> Specification Writers
<u>7</u> Architects (Licensed)	<u>1</u> Geologists	<u>18</u> Structural Engineers
<u>1</u> Chemical Engineers	<u>4</u> Geotechnical Engineers	<u> </u> Graduate Engineers
<u>362</u> Civil Engineers	<u>0</u> Interior Designers	<u>72</u> Project Managers
<u>116</u> Construction Inspectors	<u>5</u> Landscape Architects	<u>0</u> Clerical
<u>36</u> Ecologists	<u>0</u> Land Surveyor	<u>1</u> Grant/Funding Specialist
<u>18</u> Electrical Engineers	<u>12</u> Mechanical Engineers	<u> </u> Sanitary Engineers
<u> </u> Engineer Intern	<u>16</u> Environmental Engineers	<u>279</u> Other
<u>0</u> Professional Land Surveyors		<u>993</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

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Scott Hubley, PE, CFM, Vice President/Principal

Project Assignment:

Principal/Modeling Lead

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 14 / Total: 16

Education: Degree(s)/Year/Specialization:

MEng/2007/Civil Engineering; BS/2005/Civil Engineering

Active registration: Year first registered/discipline:

#PE.0042272: 2017/Professional Engineer (PE) Louisiana
 #1499-08N: 2008/Certified Floodplain Manager

Other experience and qualifications relevant to the proposed Project:

Scott Hubley provides system owners with a comprehensive approach to stormwater solutions based on his experience in the planning and design of municipal stormwater infrastructure, including closed systems, open channels and detention facilities. His background in hydrologic and hydraulic modeling, including open-channel studies, closed-system analyses, flood damage analyses, FEMA map revisions and watershed studies. He has been involved in the design and construction of \$100 million in stormwater improvements. He is also experienced in advanced modeling techniques, including dynamic storm drain analysis, unsteady open-channel modeling and 2D representation of overland flow. He is proficient in HEC-RAS, HEC-HMS, HEC-GeoRAS, ArcGIS, InfoWorks SD and EPA SWMM.

Louisiana Watershed Initiative Modeling Contract | Louisiana Department of Transportation and Development, LA | Senior Advisor | FNI is developing large-scale H&H models to create a statewide watershed-based floodplain management program. The five-year, \$18 million contract involves the development of calibrated 1-D/2-D HEC-RAS models for use in consequence and risk assessment. Region 2 is made up of nine HUC-8 watersheds covering approximately 9,500 square miles in the north central part of the state. Scott is serving as senior advisor to evaluate mitigation projects identified in the study.

Rodney Cook Sr. Park | City of Atlanta, GA | Senior Advisor | FNI developed a master plan and design for the Rodney Cook Sr. Park in Atlanta to add more open space to the surrounding neighborhood, alleviate localized flooding, increase stormwater capacity, improve water quality and to provide educational opportunities.

2023 San Jacinto Regional Flood Plan | San Jacinto Region RFPG | Senior Advisor | FNI is the prime consultant for the San Jacinto Regional Flood Planning Group (Region 6), one of the 15 Regional Flood Planning Groups (RFPG) formed by the Texas Water Development Board. Region 6 includes all or part of 11 counties and extends from Galveston in the south to Huntsville in the north. FNI will be assisting the San Jacinto RFPG with identifying specific flood risks and strategies to reduce flood risks in coming years.

Fort Hood Main Cantonment Drainage Master Plan | U.S. Army Corps of Engineers - Fort Worth District | Senior Advisor | Watershed master plans for North Fort Hood, West Fort Hood and the Main Cantonment (approximately 61.2 square miles) to identify problems and solutions within these watersheds, and to estimate probable construction costs. Resulted in over 200 projects with estimated construction costs of \$180 million.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Matt Salmon, PE, Project Manager/Coastal Engineer

Project Assignment:

Project Manager

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 0.5 / Total: 14

Education: Degree(s)/Year/Specialization:

BS/2008/Civil Engineering (Ocean Engineering)

Active registration: Year first registered/discipline:

#38647/2014/Professional Engineer, Louisiana

Other experience and qualifications relevant to the proposed Project:

Matt Salmon is a project manager and coastal engineer experienced with engineering planning, design, and construction on projects including coastal, environmental, and hydraulic disciplines. He has extensive experience with numerical models including ADCIRC, Delft3D, HEC-RAS, HEC-HMS, SWMM, and SMS. His coastal experience spans projects including marsh and ridge restoration, habitat enhancement, living shorelines, shoreline protection, hurricane surge protection, environmental and maintenance dredging, beneficial use of dredge material, breakwaters, jetties, navigation channel control/maintenance, ports/marinas, recreational boat launches and salinity control structures. He has experience with environmental permitting, wetland delineation, and all phases of CERCLA driven remediation. His hydraulic experience includes numerical modeling, FEMA BCA, and roadway drainage design.

Jefferson Parish Coastal Support | Jefferson Parish, LA | Design Engineer | FNI is providing coastal engineering and consulting services and staff augmentation on an as-needed basis for work throughout Jefferson Parish. Services include coastal planning and design (civil, hydraulic, hydrologic and environmental), mapping, CAD support and bidding and construction administration services.

Dillard Wetland Restoration | City of New Orleans, LA | Quality Control | FNI is designing stormwater diversion

features, new weirs and water control devices, wetlands and bioswales, a vegetation management and control plan, and boardwalks through the forest. FNI is also performing a comprehensive hydrologic and hydraulic study, extensive flood modeling simulations within the Dillard Wetlands and adjacent communities, and triple bottom-line cost-benefit analysis to inform City, community and project teams regarding the formulation of green infrastructure and stormwater management installation/improvements features and locations.

Dallas Floodway 277K Levee Raise | Kiewit Engineering Group Inc. | Assistant Project Manager | As a subconsultant, FNI is providing design-build proposal support for the USACE Dallas Floodway 277K levee project, which includes engineering advice, resume preparation, job description preparation and proposal content preparation.

Regional Flood Studies - Central Region | Texas General Land Office | Task Leader | FNI is leading a four-year, \$25-million flood planning effort to assist 20 Hurricane Harvey-impacted counties and municipalities in the Brazos River, San Jacinto River and Galveston Bay areas (referred to as the Central Region). FNI is identifying and funding flood risk reduction strategies and mitigation projects that may reduce disaster suffering and increase community resiliency.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Mark Evans, Funding Specialist

Project Assignment:

Federal Funding Support

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 3 / Total: 22

Education: Degree(s)/Year/Specialization:

BBA/2000/Finance

Active registration: Year first registered/discipline:

N/A

Other experience and qualifications relevant to the proposed Project:

Mark Evans is an FNI Funding Specialist, providing technical assistance to clients and staff on multiple funding alternatives, including low interest loans, grants, disaster relief and hazard mitigation-type funding programs for water, wastewater, and stormwater opportunities. He has extensive experience mapping out traditional and disaster response emergency relief funding strategies that involves both grant (including principal forgiveness) and low-to-zero-interest loans to assist clients build needed infrastructure projects as quickly as possible. Strategies are customized for each client based on their long-term development goals and constraints. In the last three years, Mark has worked on more than 30 projects funded by agency programs and have assisted clients in accessing more than \$600 million in funding.

Regional Flood Studies - Central Region | Texas General Land Office | Funding Specialist | FNI is leading a four-year, \$25-million flood planning effort to assist 20 Hurricane Harvey-impacted counties and municipalities in the Brazos River, San Jacinto River and Galveston Bay areas (referred to as the Central Region). FNI is identifying and funding flood risk reduction strategies and mitigation projects that may reduce disaster suffering and increase community resiliency.

Application Phase Project Manager and Program Management Services | New Braunfels Utilities | Application Phase Assistance | Assisted the Utility and its consultants with preparation of an application for funding to the Texas Water Development Board (TWDB) for expansion of the utilities surface water treatment plant to 16 MGD. The project is needed to increase the water system capacity due to growth and increasing demand. The application resulted in the City receiving a commitment of \$40 million in a below-market rate loan from the Drinking Water State Revolving Fund (DWSRF).

Wastewater Treatment Plant and Reuse System Expansion | City of Cleburne, TX | Application Phase Assistance and Funding Program Compliance | Application for funding to TWDB for improvements at the Cleburne WWTF to increase capacity and provide 4 MGD of high-quality reclaimed effluent for indirect potable reuse and direct non-potable reuse applications. In addition, the funding application will finance construction of a pump station and a pipeline to transfer high quality reclaimed effluent to the permitted outfall on the City's primary water supply reservoir (IPR) as well as industrial and non-consumptive users on the City's west side. The application resulted in the City receiving a commitment of \$42 million in a below-market rate loan and a grant from the Clean Water State Revolving Fund (CWSRF).

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Garrett Johnston, PE, CFM, GISP

Project Assignment:

Benefit Cost Analysis (BCA)

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 11 / Total: 15

Education: Degree(s)/Year/Specialization:

MS/2010/Civil Engineering

BS/2009/Civil Engineering

Active registration: Year first registered/discipline:

115779: 2013/Professional Engineer

#2320-12N: Certified Floodplain Manager; #91637: Certified Geographic Information Systems Professional

Other experience and qualifications relevant to the proposed Project:

Garrett Johnston is a stormwater engineer with experience in watershed-level modeling and mapping, stormwater master plans, and development and design of flood mitigation alternatives. He specializes in 1D and 2D stormwater modeling and automated processing of results. Garrett teaches HEC-RAS 2D workshops at dam safety and floodplain management conferences, and is proficient in HEC-HMS, HEC-RAS, InfoWorks ICM, FEMA BCA, ArcGIS, ModelBuilder, and Python automation. He has developed several automated in-house tools for processing radar rainfall, summarizing precipitation frequency data and rapid benefit-cost analysis.

San Jacinto Regional Watershed Master Drainage Plan | Harris County Flood Control District | Assistant Project Manager | FNI conducted a comprehensive flood mitigation master drainage plan for the San Jacinto River Watershed's major streams (600 miles) which flagged flooding hazards that have resulted in loss of life and property. The project identified 16 regional flood mitigation projects, including regional detention structures, channel improvements and sediment management. FNI noted tools that could enhance public information and flood level assessment capabilities during a disaster along with strategies that can be implemented both near- and long-term to improve community resilience to flooding. Garrett is leading FNI's H&H model-

ing effort for this study, spanning 946 square miles of drainage area and 254 miles of detailed study stream.

Rodney Cook, Sr. Park | City of Atlanta | Stormwater Lead | Garrett led the stormwater master planning and water quality design for a 16-acre neighborhood park near downtown Atlanta. The design integrated the park with a 28-acre-foot wet detention pond, bioretention, and stormwater planters. Garrett also designed an innovative overflow weir and vetted it using 3D computational fluid dynamic modeling.

Task Order 1 – Standard Operations | Federal Emergency Management Agency | Stormwater Lead | FNI is providing architect and engineering (A&E) services to generate and evaluate flood hazard and risk information and support for the development and implementation of mitigation, planning, flood mapping and modeling activities for Zone 1 for FEMA's Risk MapProgram.

Stormwater Master Plan | City of Buda | Stormwater Lead | FNI studied more than 30 flooding and erosion problem areas and developed conceptual solutions and cost estimates for each. Garrett provided 2-D stormwater modeling services and design services in support of final design of a major drainage CIP adjacent to Onion Creek. Garrett prepared two separate FEMA BCAs for Hazard Mitigation Grant Program (HMGP) applications to receive FEMA funding for construction.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Nina Reins, PhD, PE, PMP

Project Assignment:

Water Resources

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 4 / Total: 20

Education: Degree(s)/Year/Specialization:

PhD/2018/Engineering and Applied Science
MS/2005/Civil and Environmental Engineering; BS/2001/Structural/Civil Engineering

Active registration: Year first registered/discipline:

#PE.0033749: 2008/Professional Engineer, Louisiana
#1418378: Project Management Professional

Other experience and qualifications relevant to the proposed Project:

Nina Reins is a senior environmental engineer with 20 years of expertise in project and program management with a focus on coastal and environmental projects and a certified Project Management Professional (PMP) from the Project Management Institute. Her career and research focus has been on coastal restoration in Louisiana with an emphasis on regional sediment management and the understanding of natural sediment patterns within the Mississippi River and the coastal bays.

Environmental Services Contract Task Order No. 01 | Coastal Protection and Restoration Authority | Project Manager | Nina managed the work FNI conducted in support of CE Hydro under this Task Order. FNI provided hydraulic and hydrologic (H&H) modeling to improve emergency response and post-disaster recovery through Dynamic Flood Inundation Mapping (DFIM) of compound flooding for the Coastal Protection and Restoration Authority (CPRA) of Louisiana.

Dillard Wetland Restoration | City of New Orleans | Project Manager | FNI is designing: (1) Stormwater Diversion features; (2) New Weirs and Water Control Devices; (3) Wetlands and Bioswales; (4) Invasive Species and Vegetation Management Plan; and (5) Boardwalks through the forest. Additionally, FNI is performing a comprehensive hydrologic and hydraulic study, extensive flood modeling simulations within the Dillard Wetlands and adjacent

communities, and triple bottom line benefit-cost analysis to inform city, community and project teams in formulating green infrastructure and stormwater management installation/improvements features and locations.

Jefferson Parish Coastal Support | Jefferson Parish, LA | Project Manager | FNI is providing coastal engineering and consulting services and staff augmentation on an as-needed basis for work throughout Jefferson Parish. Services include coastal planning and design (civil, hydraulic, hydrologic and environmental), mapping, CAD support and bidding and construction administration services related to coastal protection and restoration.

Bayou Eau Noire Ridge and Marsh Restoration | Plaquemines Parish LA | Project Manager | FNI developed engineering analyses associated with the creation of more than 400 acres of marsh and 26,500 LF of coastal ridge habitat, along with earthen containment dikes, marsh creation fill area design and earth ridge design. Nina developed a permitting strategy based on her expertise in USACE permitting of sand and marsh borrow, its conveyance and placement for restoration purposes.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Joel Tillery, PE, CFM

Project Assignment:

Water Resources

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 2 / Total: 19

Education: Degree(s)/Year/Specialization:

Graduate Certificate/2018/Coastal Engineering; MS/2003/Civil and Environmental Engineering; BS/2001/Agricultural and Biological Engineering

Active registration: Year first registered/discipline:

#38376: 2013/Professional Engineer, Louisiana
US-16-09436: 2016/Certified Floodplain Manager

Other experience and qualifications relevant to the proposed Project:

Joel Tillery is a water resources and coastal engineer and project manager with experience in planning and design of flood risk management, drainage improvements, and coastal restoration projects. Over half of his career has been dedicated to assessing and mitigating flood risks in Louisiana, specifically urbanized areas affected by intense rainfall and inadequate drainage infrastructure. He is a skilled H&H modeler, well-versed in various software packages including HEC-RAS, HEC-HMS, ICPR, PondPack, PC-SWMM, XP-SWMM, Hydraflow, Storm Sewers, and Storm and Sanitary Analysis (SSA).

Louisiana Watershed Initiative Modeling Contract | Louisiana Department of Transportation and Development, LA | Assistant Project Manager | FNI is developing large-scale H&H models to create a statewide watershed-based floodplain management program. The five-year, \$18 million contract involves the development of calibrated 1-D/2-D HEC-RAS models for use in consequence and risk assessment. Region 2 is made up of nine HUC-8 watersheds covering approximately 9,500 square miles in the north central part of the state.

Dillard Wetland Restoration | City of New Orleans, LA | Assistant Project Manager | FNI is designing stormwater diversion features, new weirs and water control devices, wetlands and bioswales, a vegetation management and control plan, and boardwalks through the forest.

FNI is also performing a comprehensive hydrologic and hydraulic study, extensive flood modeling simulations within the Dillard Wetlands and adjacent communities, and triple bottom-line cost-benefit analysis to inform City, community and project teams regarding the formulation of green infrastructure and stormwater management installation/improvements features and locations.

Jefferson Parish Coastal Support | Jefferson Parish, LA | Project Engineer | FNI is providing coastal engineering and consulting services and staff augmentation on an as-needed basis for work throughout Jefferson Parish. Services include coastal planning and design (civil, hydraulic, hydrologic and environmental), mapping, CAD support and bidding and construction administration services related to coastal protection and restoration.

West Shore Lake Pontchartrain Hurricane Storm Damage Risk Reduction System | USACE - New Orleans District | Project Manager | FNI is providing civil, geotechnical, mechanical and electrical engineering design services for Reaches 105 and 108 of the WSLP Hurricane and Storm Damage Risk Reduction (HSDRR) project consisting of 4.7 miles of earthen levee, three drainage structures and pile-founded T-type floodwalls. The designs were conducted in accordance with all applicable design criteria, including HSDRR Design Guidelines. Joel is FNI's lead responsible for design team management and USACE coordination

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT

Name & Title:

Kiara Horton, EI, Engineer Intern

Project Assignment:

Engineer Intern

Name of Firm with which associated:



Years' experience with this Firm:

FNI: 2 / Total: 5

Education: Degree(s)/Year/Specialization:

BS/2020/Environmental and Civil Engineering

Active registration: Year first registered/discipline:

#0034595: 2020/Engineer Intern, Louisiana

Other experience and qualifications relevant to the proposed Project:

Kiara Horton has provided technical support on water resource and coastal engineering projects. Her experience includes H&H modeling, including HEC-RAS and PCSWMM models, data analysis, vulnerability assessments and flood risk management, as well as supporting geotechnical and structural design as it pertains to drainage improvement projects.

Louisiana Watershed Initiative Modeling Contract | Louisiana Department of Transportation and Development, LA | Engineering Support | FNI is developing large-scale H&H models to create a statewide watershed-based floodplain management program. The five-year, \$18 million contract involves the development of calibrated 1-D/2-D HEC-RAS models for use in consequence and risk assessment. Region 2 is made up of nine HUC-8 watersheds covering approximately 9,500 square miles in the north central part of the state.

Dillard Wetland Restoration | City of New Orleans, LA | Engineering Support | FNI is designing stormwater diversion features, new weirs and water control devices, wetlands and bioswales, a vegetation management and control plan, and boardwalks through the forest. FNI is also performing a comprehensive hydrologic and hydraulic study, extensive flood modeling simulations within the Dillard Wetlands and adjacent communities,

and triple bottom-line cost-benefit analysis to inform City, community and project teams regarding the formulation of green infrastructure and stormwater management installation/improvements features and locations

Jefferson Parish Coastal Support | Jefferson Parish, LA | Engineering Support | FNI is providing coastal engineering and consulting services and staff augmentation on an as-needed basis for work throughout Jefferson Parish. Services include coastal planning and design (civil, hydraulic, hydrologic and environmental), mapping, CAD support and bidding and construction administration services related to coastal protection and restoration.

West Shore Lake Pontchartrain Hurricane Storm Damage Risk Reduction System | U.S. Army Corps of Engineers - New Orleans District | Engineering Support | FNI is providing civil, geotechnical, mechanical and electrical engineering design services for Reaches 105 and 108 of the West Shore Lake Pontchartrain Hurricane and Storm Damage Risk Reduction (HSDRR) project consisting of 4.7 miles of earthen levee, three drainage structures and pile-founded T-type floodwalls. The designs were conducted in accordance with all applicable design criteria, including HSDRR Design Guidelines.

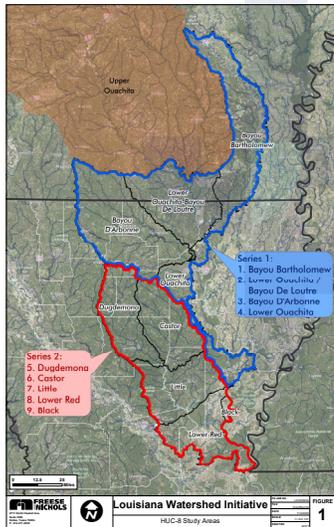
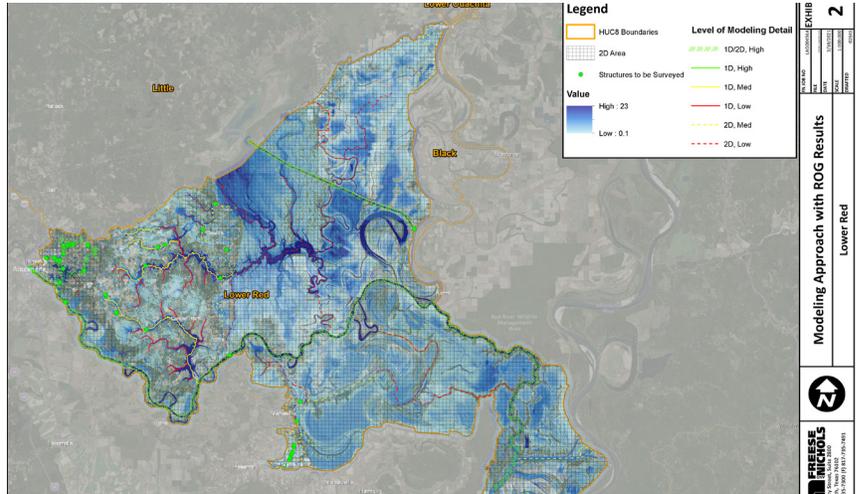
L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 1

Project Name, Location and Owner's Contact Information:

Louisiana Watershed Initiative, Region 2
 North Central Louisiana Watersheds, Baton Rouge, LA
 Owner:
 Louisiana Department of Transportation and Development (LADOTD)
 Billy Williamson, PE
 Statewide Flood Control Program Manager
 1201 Capital Access Road
 Baton Rouge, Louisiana 70802
 225-379-3023
 billy.williamson@la.gov

Nature of Firm's Responsibility:



FNI is working with the Louisiana Department of Transportation and Development (DOTD) for the Louisiana Watershed Initiative (LWI) Modeling Contract encompassing Region 2. The five-year, \$18 million contract involves the development of calibrated 1-D/2-D HEC-RAS models for use in consequence and risk assessment, ultimately informing the implementation of flood risk reduction projects via watershed coalitions in coordination with parish, state and federal entities. Region 2 is made up of nine Hydrologic Unit Code-8 (HUC-8) watersheds cover-

ing approximately 9,500 square miles in the north central part of the state. FNI's innovative project management approach is centered around the community, leveraging accurate watershed data and facilitating regional continuity of the hydrologic and hydraulic model development. FNI fully integrated stakeholders throughout the watershed and adjacent regions via the discovery process. The FNI team secured buy-in from local, parish, state and federal partners through accurate, complete, transparent and accessible data.

Key Personnel Involved:
 Scott Hubley, PE, CFM
 Jim Keith, PE, CFM
 Joel Tillery, PE, CFM
 Kiara Horton, EI

RELEVANCE

- Hydrologic and Hydraulic modeling

Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
July 2025 (est.)	\$18 million	\$300,858 (current)

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>Dillard Wetland Restoration City of New Orleans, LA</p> <p>Owner: City of New Orleans, LA Dylan Blaskey City of New Orleans 504-658-4000 dylan.blaskey@nola.gov</p>  <p>Key Personnel Involved: Matt Salmon, PE Nina Reins, PhD, PE, PMP Joel Tillery, PE, CFM Kiara Horton, EI</p> <div data-bbox="110 1581 565 1728" style="background-color: #800000; color: white; padding: 10px; border-radius: 15px;"> <p>RELEVANCE</p> <ul style="list-style-type: none"> • Hydrologic and Hydraulic Modeling • FEMA BCA </div>	<p>FNI is providing design and construction management services which are funded through the Department of Housing and Urban Development's (HUD's) National Disaster Resilience (NDR) Program.</p> <p>The City of New Orleans has undertaken an unprecedented network of integrated innovative water management initiatives across the Gentilly neighborhood, under the established Gentilly Resiliency District, that will reduce flood risk, slow land subsidence, spur economic opportunity, improve health, encourage neighborhood revitalization and adapt the city to a changing environment.</p> <p>These Gentilly Resiliency District projects, which includes the Dillard Wetland project, encompass green infrastructure features that use vegetation, soils and natural processes to manage water and create healthier urban environments.</p> <p>The Dillard Wetland is a 27-acre parcel of forested low-lying land on the west side of the London Canal opposite of Dillard University, and is one of the last remaining parcels of wetland/forest within city limits. The project is being planned and designed to provide a retreat from urban life and increase stormwater retention capacity and re-establish healthy wetland vegetation.</p> <p>FNI is designing: (1) Stormwater Diversion features to route existing grey infrastructure discharges in surrounding neighborhoods into the wetlands; (2)</p>	 <p>New Weirs and Water Control Devices to manage residence time of stormwater flows to the wetland and to outflow to the London Canal; (3) Wetlands and Bioswales to function as stormwater filtration and temporary stormwater retention features; (4) Vegetation Management and Control Plan to remove invasive species trees, restore native plants, to manage vector species in the wetlands, and to improve the health of the ecosystem; and (5) Boardwalks through the forest to provide access to outdoor classroom and recreational space.</p>
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
	<p>Entire Project:</p>	<p>Work for which Firm was Responsible:</p>
<p>March 2023 (est.)</p>	<p>\$654,000 (est.)</p>	<p>\$ 318,000 (current)</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

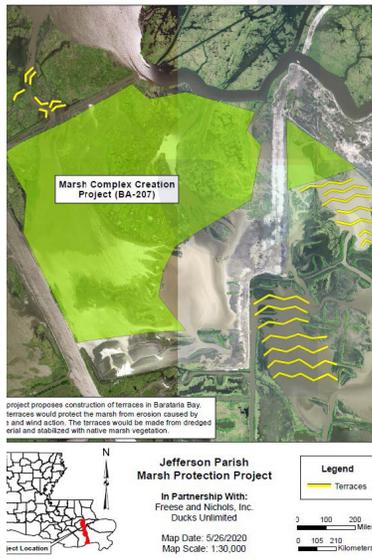
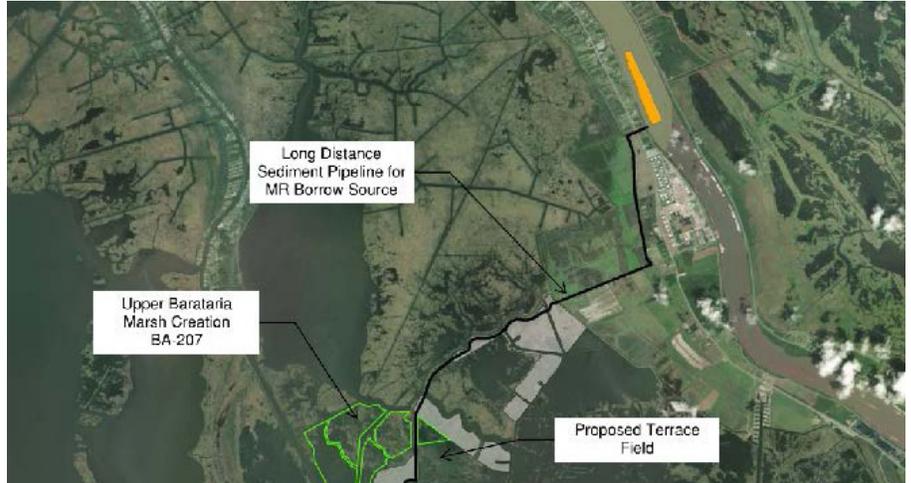
PROJECT NO. 3

Project Name, Location and Owner's Contact Information:

Jefferson Parish Coastal Support | Jefferson Parish, LA

Owner:
 Jefferson Parish, LA
 Michelle Gonzales
 Director - Ecosystem and Coastal Mgmt
 1221 Elmwood Park Blvd, Ste 802
 New Orleans, LA 70123-2374
 225-223-2719
 mgonzales@jeffparish.net

Nature of Firm's Responsibility:



FNI is providing coastal engineering and consulting services and staff augmentation on an as-needed basis for work throughout Jefferson Parish. Efforts include but are not limited to coastal planning and design (civil, hydraulic, hydrologic and environmental), mapping, CAD support and bidding and construction administration services related to coastal protection and restoration.

Task orders include a Coastal and Marine Habitat Restoration Grant; North American Wetlands Conservation Act (NAWCA) Grant; research, concept refinement, and grant identification; 30 percent design of the Upper Barataria Terracing Project and Joint Permit Application (JPA); Upper Barataria Terracing Project support services; National Coastal Wetlands Conservation Grant Application; and general coastal program support.

Key Personnel Involved:

- Matt Salmon, PE
- Nina Reins, PhD, PE, PMP
- Joel Tillery, PE, CFM
- Kiara Horton, EI

RELEVANCE

- Jefferson Parish Coordination

Completion Date (Actual or Estimated):

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

Ongoing

\$111,000

\$111,000

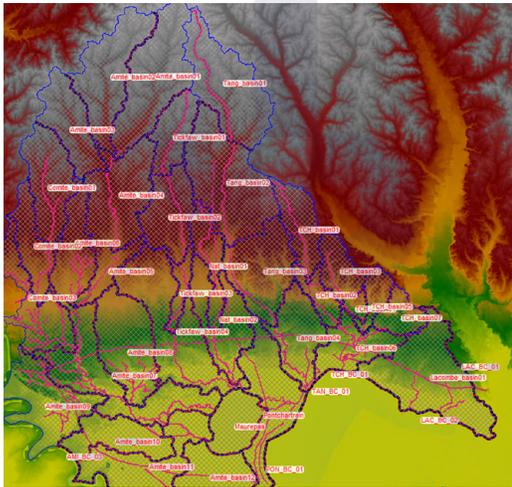
L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 4

Project Name, Location and Owner's Contact Information:

Nature of Firm's Responsibility:

Dynamic Flood Inundation Mapping for Lake Pontchartrain and Lake Maurepas Drainage Basins | Mandeville, LA
 Owner:
 Coastal Protection and Restoration Authority, LA
 Katelyn Costanza
 Principal Engineer/Owner
 2020 N Causeway Blvd, Ste G
 Mandeville, LA 70471-3180
 504-756-9376
 kcostanza@cehydro.com



FNI provided hydraulic and hydrologic (H&H) modeling to improve emergency response and post-disaster recovery through Dynamic Flood Inundation Mapping (DFIM) of compound flooding for the Coastal Protection and Restoration Authority (CPRA) of Louisiana. FNI developed a 2-D HEC-RAS model building upon CPRA's existing Lake Pontchartrain and Lake Maurepas Regional Model, developed by the USACE-MVN (New Orleans District), in response to catastrophic flooding in Louisiana in August 2016.

The updated model represents existing conditions to the greatest extent possible by incorporating major drainage features, inline structures and variations to roughness based on latest land use data. FNI calibrated and validated the model to available gauge data, and tested stability by executing the model through a range of frequent, moderate and extreme events. Model results are compared against known inundation extents and collected high-water mark data gathered by the U.S. Geological Survey/National Oceanic Atmospheric Administration (USGS/NOAA). During the development process, the model runtime was a primary metric while improving model accuracy to the greatest extent possible.

One of the primary objectives of the project was to build a framework which provides information on timing, duration and extent of flooding while including provisions to address the uncertainties in flood inundation forecasting throughout the Lake Pontchartrain/Lake Maurepas watershed. The updated model increases the predictive capabilities for use in dynamic flood inundation forecasting and improves the forecasting framework. The inundation products are exported to a web application for improved decision support during inclement weather.

Key Personnel Involved:
 Nina Reins, PhD, PE, PMP
 Jim Keith, PE, CFM

RELEVANCE

- Hydrologic and Hydraulic Modeling

Completion Date (Actual or Estimated):

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

April 2021

\$155,000

\$66,200

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>Rodney Cook Sr. Park City of Atlanta, GA</p> <p>Owner: City of Atlanta, GA Todd Hill Watershed Director 72 Marietta Street, 8th Floor Atlanta, GA 30303 404-546-1355 thill@atlantaga.gov</p>	<p>FNI was hired through a Joint Venture team to develop a comprehensive design that would meet the needs of the community in regard to flooding, stormwater management and water quality enhancements. HDR was hired by Trust for Public Land and worked in conjunction with FNI and various departments at the City of Atlanta to design the park. HDR's work focused on the recreational elements. Before designing the central detention pond and surrounding features, FNI developed a stormwater master plan for the 150-acre watershed, including a phased approach for implementation.</p>	<ul style="list-style-type: none"> • Alleviate neighborhood flooding and combined sewer overflows using innovative stormwater practices integrated into the surrounding park setting. • Provide sustainable venues for a multitude of recreational activities and spaces for community. • Honor the neighborhood's legacy with the construction of monuments and statues of historic leaders. • Integrate a 28-acre-foot stormwater detention facility with green infrastructure features. • Capture an average of 37 million gallons of runoff per year in the proposed pond from 150 acres of drainage area. • Detain stormwater runoff within the pond, up to the 100-year storm event, and slowly release it back into the combined sewer system to prevent flooding in the surrounding areas to reduce the burden on the City's downstream infrastructure. • Integrate an innovative overflow weir with the park design and model the weir using 3D computational fluid dynamics software to derive a proper coefficient. • Integrate green infrastructure into the park setting to meet the City's water quality treatment goals. This includes stormwater planters, trash racks, bioretention ponds, and a 5.7-acre wet pond with a normal pool area of 1 acre and an underground cistern for the make-up water. • Remove approximately 2.5 million gallons/year of runoff collected from the stormwater system through evapotranspiration from the proposed green infrastructure practices.
	<p>Located in the historic Vine City area near downtown Atlanta, the dynamic 16-acre neighborhood park provides much-needed public space and flood relief to Atlanta's westside neighborhoods. The design includes green infrastructure features that collect stormwater and reduce flooding that plagued the area during rain events. The park was designed through a collaborative effort between the City of Atlanta Department of Watershed Management and the Parks Department, Trust for Public Land, National Monuments Foundation, and the Vine City community.</p>	
<p>Key Personnel Involved: Scott Hubley, PE, CFM Garrett Johnston, PE, CFM,</p> <div data-bbox="110 1465 605 1738" style="background-color: #800000; color: white; padding: 10px; border-radius: 15px;"> <p>RELEVANCE</p> <ul style="list-style-type: none"> • Storm drain master planning and design • Surface detention • Site civil design and grading • Stormwater controls design • Construction documents • H&H modeling (InfoWorks ICM) • 3D fluid dynamic modeling (FLOW-3D) • Water quality modeling (EPA-SWMM) • Landscape architecture • Project management • Stakeholder meeting participation and preparation • Cost estimating • Final design and construction management support </div>	<p>As a dual-purpose park and watershed management project, Cook Park seamlessly integrates functional engineering features within the programmed park and includes public education components that illustrate how the green infrastructure elements help reduce flood risk and improve water quality. The project elements were modeled in detail using hydrologic, hydraulic and water quality modeling software (Innovyze ICM and EPA-SWMM).</p> <p>Key stormwater design components:</p>	
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
<p>2018</p>	<p>Entire Project:</p> <p>\$ 24 million</p>	<p>Work for which Firm was Responsible:</p> <p>\$ 24 million</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

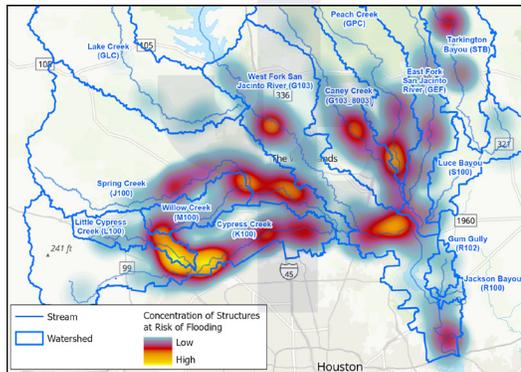
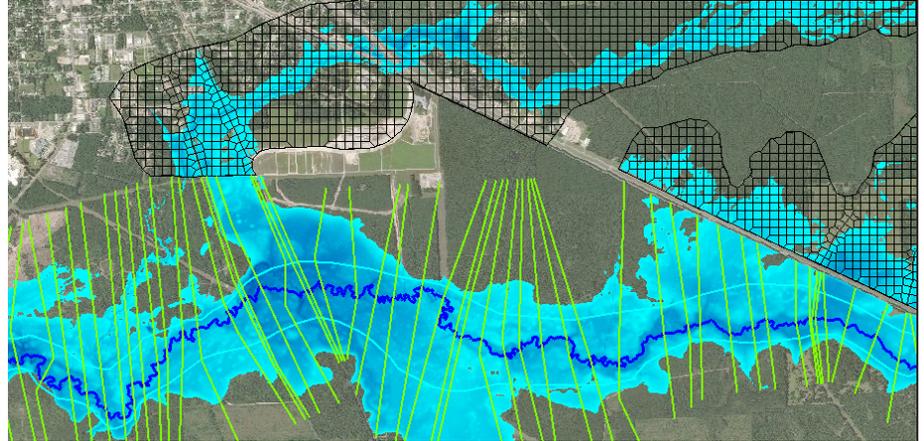
PROJECT NO. 6

Project Name, Location and Owner's Contact Information:

San Jacinto Regional Watershed Master Drainage Plan | Harris County Flood Control District | Houston, TX

Owner:
 Harris County Flood Control District, TX
 Jing Chen, PE, CFM
 Project Manager
 9900 Northwest Freeway
 Houston, TX 77092
 713-684-4264
 jing.chen@hcfcd.hctx.net

Nature of Firm's Responsibility:



The San Jacinto Regional Watershed Master Drainage Plan (SJMDP), is a comprehensive regional study funded by a federal grant and local partnerships. The SJMDP study effort is led by the Harris County Flood Control District (HCFCD), joined by three other local entities: the San Jacinto River Authority (SJRA), Montgomery County, and the City of Houston. Freese and Nichols was part of the consultant team, and responsible for significant production on every key task in the project.

unsteady HEC-RAS models for approximately 319 square miles with 81 miles of detailed study stream.

These detailed hydrologic and hydraulic (H&H) models were the basis for the flood-risk assessment and identification of regional projects needed to mitigate flood risk within the watershed. Alternatives considered included large regional detention, channel modification, sedimentation removal and buyouts. A total of 16 projects were scored and ranked according to standardized screening criteria, added to the base existing and future conditions models, and evaluated according to FEMA benefit-cost methodology. The project also included development of funding opportunities, a vegetation and sediment control plan, and a project implementation plan.

All work was completed in compliance with HCFCD methodology, guidance, and best practices and standards.

FNI performed a comprehensive assessment of flood hazard for the 2,880 square mile San Jacinto River watershed upstream of I-10. The assessment included existing conditions, as well as conditions associated with future development on the East Fork San Jacinto River, Luce Bayou, Tarkington Bayou and Cypress Creek, located in Harris, Montgomery, Liberty, San Jacinto and Walker Counties. The East Fork, Luce and Tarkington watersheds involved building new HEC-HMS and 1-D unsteady HEC-RAS models for approximately 173 miles of detailed studied streams. The Cypress Creek watershed involved updating existing HEC-HMS and 1-D

Key Personnel Involved:
 Garrett Johnston, PE, CFM, GISP

RELEVANCE

- Modeling
- Automated Processing
- Mitigation Solutions

Completion Date (Actual or Estimated):

March 2021

Estimated Cost:

Entire Project:

\$1.4 million

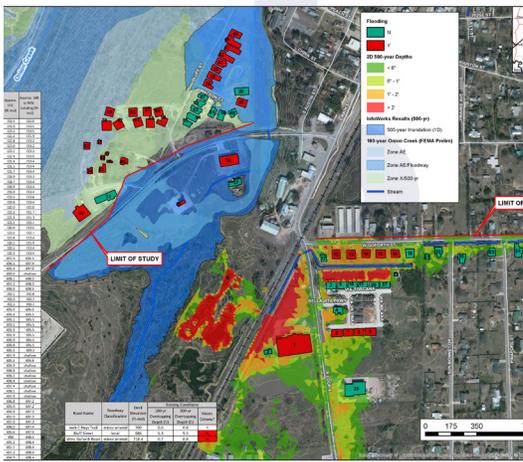
Work for which Firm was Responsible:

\$ 1.4 million

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>2014 Drainage CIP, Phase II City of Buda, TX</p> <p>Owner: City of Buda, TX John Nett City Engineer 100 Houston Street, Suite A P.O. Box 1218 Buda, TX 78610 512-966-5131 jnett@ci.buda.tx.us</p>	<p>FNI performed preliminary engineering and design phase services for four major drainage CIP projects passed by voters in the City of Buda 2014 Bond Election. The first phase included field work, permit requirements utility conflict assessment, environmental resources inventory, public meetings, and H&H modeling and impact analyses for the four project areas.</p> <p>The modeling effort for Project Area 1 included complex 1D/2D modeling of a tributary to Onion Creek near West Goforth Road and Jack C Hays Trail. This watershed included residential structures, a fire station and warehouses that had flooded due to an undersized drainage system. FNI's project team created an existing conditions InfoWorks ICM model of the watershed based on available lidar and survey data. The 2D model allowed the team to capture the existing ditch capacity and overflow across West Goforth Road into the adjacent watershed and verify runoff patterns and timing from a large offsite drainage area using rain-on-mesh approaches. To establish accurate tailwater conditions, the team also integrated the ICM model with the latest available preliminary HEC-RAS model of Onion Creek.</p>	<p>The alternatives were summarized in a PER along with recommendations for final design, estimates of probable construction costs, permitting assessments and evaluation of required easement and ROW acquisition. The FNI project team also provided engineering support services for the City's Hazard Mitigation Grant Program (HMGP) application filed under FEMA Disaster Declaration DR-4245-TX. This included combined the detailed 2D modeling results with standard FEMA and USACE depth-damage curves to complete benefit-cost analyses, developing grant application materials, detailed scopes of work and schedules.</p> <p>FNI also provided support services to the City's grant application consultant, including responding to questions and requests for additional supporting documentation from the Texas Department of Emergency Management (TDEM) and FEMA. The grant was awarded, providing the City with \$2.21 million of federal funding for final design and construction of a large diversion channel and culverts beneath Jack C. Hays Trail.</p> <p>FNI has since completed final modeling, design and final construction documents for the selected alternative. Construction is ongoing.</p>



Key Personnel Involved:
Garrett Johnston, PE, CFM, GISP
Kim Patak, PE, CFM, ENV SP

RELEVANCE

- H&H Modeling

FNI evaluated several proposed alternatives to increase the ditch capacity and convey it through improved culvert crossings toward Onion Creek without causing an adverse impact. In response to three recent major flooding events and in anticipation of upcoming revisions to NOAA Atlas 14, the City and project team set a design target of conveying pre-Atlas-14 500-year design rainfall depths without overtopping roads or flooding residential structures.

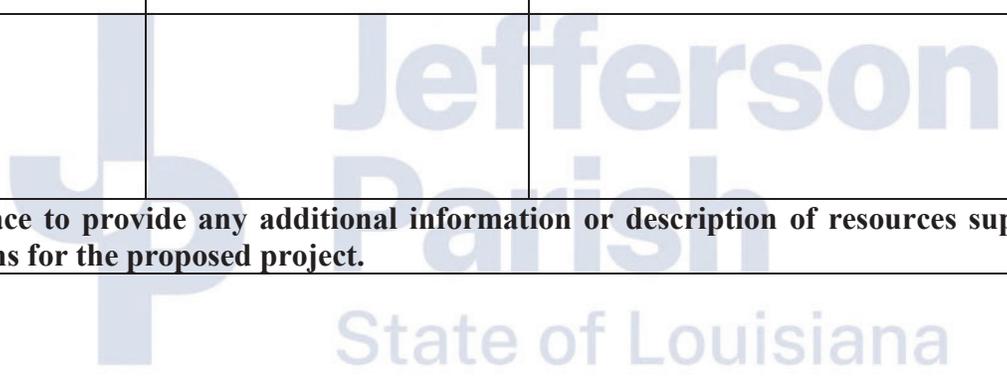
Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
July 2022 (est.)	\$5.2 million	\$ 5.2 million

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. N/A	N/A	N/A
2.		
3.		
4.		

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



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

Signature: SAH Print Name: Scott Hubley, PE, CFM
 Title: Vice President/Principal Date: April 19, 2022

SECTION 03

BATTURE

TEC Professional Services Questionnaire

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

Bucktown Building Resilient Infrastructure and Communities (BRIC) Scoping Grant
 Resolution Number: 139147; SOQ 22-016

B. Firm Name & Address where Project work will be performed:

Batture, LLC
 5110 Freret Street
 New Orleans, LA 70115

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:

Jennifer Snape, PE
 Managing Partner
 Phone: 480-522-9502
 Email: jsnape@batture-eng.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.

Jennifer Snape, PE
 Managing Partner
 Phone: 480-522-9502
 Email: jsnape@batture-eng.com

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

4 Administrative	___ Estimators	___ Specification Writers
___ Architects (Licensed)	___ Geologists	2 Structural Engineers
___ Chemical Engineers	___ Geotechnical Engineers	___ Graduate Engineers
4 Civil Engineers	___ Interior Designers	___ Project Managers
2 Construction Inspectors	1 Landscape Architects	___ Clerical
1 Ecologists	4 Land Surveyor	___ Grant/Funding Specialist
___ Electrical Engineers	___ Mechanical Engineers	___ Sanitary Engineers
8 Engineer Intern	___ Environmental Engineers	
1 Professional Land Surveyors		27 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:
 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. N/A		
2. N/A		
3. N/A		

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

16

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Jennifer Snape, PE Managing Partner
Project Assignment:
Principal in Charge
Name of Firm with which associated:
Batture LLC
Years' experience with this Firm:
5 years
Education: Degree(s)/Year/Specialization:
Master's Certificate/2012/Coastal Engineering B.S./2004/Civil Engineering
Active registration: Year first registered/discipline:
2010/LA Civil Engineering PE #35470
Other experience and qualifications relevant to the proposed Project:
Ms. Snape has 20 years of project experience including the design of municipal infrastructure, including water distribution systems and sanitary sewer systems; coastal erosion protection systems; structural design; civil site design for sites ranging from less than an acre to over 1000 acres; hydrologic and hydraulic modeling; stormwater management plans for urban, rural, and coastal systems; environmental consulting and due diligence studies; and permitting through federal, state, and local agencies. She has successfully managed and delivered projects for private and public clients, including the City of New Orleans, Sewerage & Water Board of New Orleans, Plaquemines Parish, St. Bernard Parish, St. Tammany Parish, and others. At Batture LLC she manages civil and structural engineering 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:

Robert Mora, PE, PLS
Managing Partner

Project Assignment:

Professional Land Surveyor

Name of Firm with which associated:

Batture LLC

Years' experience with this Firm:

6 years

Education: Degree(s)/Year/Specialization:

B.S./2003/Civil Engineering

Active registration: Year first registered/discipline:

2009/LA Civil Engineering PE/35109
2010/Land Surveying PLS/5042

Other experience and qualifications relevant to the proposed Project:

Mr. Mora has 19 years of experience providing professional land surveying and civil design services on projects for private developers and municipalities. He has successfully managed and completed projects for entities such as the Sewerage and Water Board of New Orleans, City of New Orleans Department of Public Works, Regional Planning Commission, LaDOTD, CPRA, Jefferson Parish, St. Bernard Parish, Orleans Levee Board, and Army Corps of Engineers. Additionally, Mr. Mora has extensive experience with construction management/administration and project management.

Mr. Mora has worked on a number of surveying jobs that require extensive title research and understanding of property deeds, including boundary surveys, ALTA surveys, and route surveys.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Roderick Richardson Survey Operations Manager
Project Assignment:
Survey Operations Manager
Name of Firm with which associated:
Batture LLC
Years' experience with this Firm:
2 years
Education: Degree(s)/Year/Specialization:
B.S./2003/Architectural Engineering
Active registration: Year first registered/discipline:
Pursuing PLS License
Other experience and qualifications relevant to the proposed Project:
Roderick (Rod) Richardson is Survey Operations Manager at Batture LLC, overseeing project management, surveying, and drafting for land surveying projects. When he joined the team in 2020, he had 18 years of surveying and drafting experience at a New Orleans engineering, architecture, and land surveying firm. He has experience with a variety of programs, including AutoCAD, Carlson Survey, Leica GEO and Carlson Xport. His experience in rural, coastal, and urban settings has afforded Rod with an extensive knowledge of most surveying equipment and the skill of performing surveying tasks through the use of boats and ATV's. Mr. Richardson has completed surveying and drafting tasks for commercial and residential clients; organizations such as LaDOTD, the Orleans Levee Board, and USACE; and city/local municipalities.

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:

Andrew Doyle, PLA
Professional Landscape Architect

Project Assignment:

Landscape Architect / Professional in Charge of Project

Name of Firm with which associated:

Batture LLC

Years' experience with this Firm:

2 years

Education: Degree(s)/Year/Specialization:

B.L.A./2013/Landscape Architecture

Active registration: Year first registered/discipline:

2016/LA Landscape Architecture # 0739

Other experience and qualifications relevant to the proposed Project:

Andrew Doyle, PLA is a Registered Professional Landscape Architect at Batture with a background in designing and implementing sustainable site interventions in the urban environment. Over his 10 years of experience, he has specialized in large scale ecological and transportation planning, sustainable urban design strategies, watershed management master planning, and green infrastructure-based stormwater management. He has extensive experience in designing site- and neighborhood- scale stormwater management and green infrastructure interventions for the specific conditions present in the Greater New Orleans area. Past project experience included bicycle and pedestrian-focused master plans, field data collection, regional mapping and GIS analysis, 2-D and 3-D H&H modeling, and site-specific detail design using digital modeling software. He skillfully prepares graphic-based representations using computer-based modeling and rendering software to articulate design ideas generated by multi-disciplinary project teams for the purpose of communicating innovative design strategies.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Mark Schexnayder, MS Marine and Botanical Biologist
Project Assignment:
Biologist
Name of Firm with which associated:
Batture LLC
Years' experience with this Firm:
2 years
Education: Degree(s)/Year/Specialization:
B.S./1983/Marine Biology M.S./1987/Botany/Biology
Active registration: Year first registered/discipline:
Professional Association of Diving Instructors (PADI)
Other experience and qualifications relevant to the proposed Project:
Mark Schexnayder, MS, is a career biologist who joined the Batture team in 2020. Over his 50+ year career, he earned respected roles such as Louisiana Department of Wildlife and Fisheries (LDWF) Louisiana shrimp program manager and the Director of the LDWF Marine Laboratory on Grand Terre before joining LSU AgCenter in 2000 as a Coastal Advisor. He was named a Special Assistant to the Chancellor to oversee recovery efforts in the Greater New Orleans Area after Hurricane Katrina. Mark helped craft the Bayou St. John Management Plan and lead several restoration projects in the bayou and in New Orleans City Park, such as removal of a dam on Bayou St John and the Big Lake enhancements. He also was part of a team that installed nine artificial fishing reefs in Lake Pontchartrain. As an employee of Batture, Mark is able to apply his talents to public parks and coastal projects, as well as local, State and Federal government projects.

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:

City of New Orleans / DPW Streets Projects

New Orleans, Louisiana

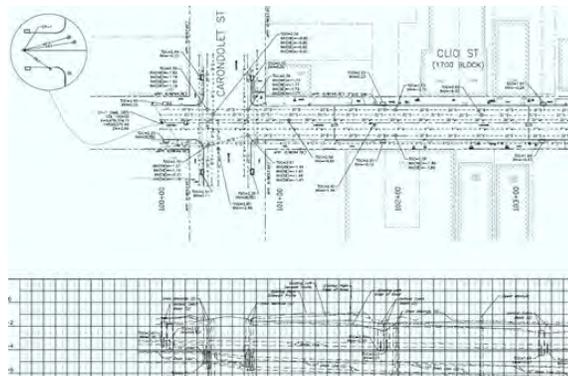
Owner

City of New Orleans DPW
 Louis Haywood
 louis.haywood@nola.gov, 504-658-8000
 1300 Perdido Street Suite 6W03
 New Orleans, LA 70112

Batture has been successfully providing land surveying and civil engineering services on City of New Orleans/Department of Public Works projects since 2016. Surveying work is completed in accordance with the DPW standards for street surveys. Drawings include vertical and horizontal project control points, plan & profile drawings, and cross sections. Batture utilized contacts with local utility agencies to plot underground utilities located within the street right-of-way. The majority of these projects are Recovery Roads and Hazard Mitigation projects. They were performed as a subconsultant to firms such as: Greenpoint Engineering, CDM Smith, Design Engineering Inc, Stantec, and Digital Engineering.

KEY PROJECT ELEMENTS

- Topographic Land Surveying
- Boundary Land Surveying
- Land Title Research
- Utility Research
- Pavement Design
- Drainage Design
- Waterline Design
- Stakeholder Coordination
- Specifications
- Utility Coordination
- Cost Estimating
- Coordination with waterline design by others, ESSA & SERRP design
- QC for FEMA compliance



KEY PERSONNEL INVOLVED:

Robert Mora, PE, PLS

Completion Date (Actual or Estimated):

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

Ongoing

N/A

\$300,000 - \$500,000 (annually)

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

<p>Project Name, Location and Owner's Contact Information:</p>	<p>Nature of Firm's Responsibility:</p>	
<p>Lakeview City Park Drainage Improvements <i>New Orleans, Louisiana</i></p> <p>Owner City of New Orleans Mary Kincaid 1300 Perdido St New Orleans, LA 70112 (504) 658-8048, mkincaid@nola.gov</p>	<p>City Park is a 1,300-acre urban park located in the heart of New Orleans. The park was established in 1854 and remains one of the oldest and largest urban parks in the United States. As prime consultant for the Lakeview City Park Drainage Improvements Project, Batture is overseeing all professional design and construction administration services for the FEMA HMGP-eligible project site of the Lakeview City Park (bounded by the Orleans Canal, Wisner Blvd, Robert E Lee Blvd, and City Park Drive, in City Park of New Orleans. This project explores how New Orleans City Park might be used to manage stormwater and mitigate flooding in the surrounding neighborhoods. In addition to project management, Batture is providing engineering design, H&H modeling, water quality monitoring, habitat assessments, surveying, and construction administration services. Plans and specifications for the project site may include the following design features: large retention/detention basins, street basins, streetside bioswales, public art features, streetscapes, green alleyways, and upgraded grey infrastructure.</p> <p>Project goals include the design and construction administration of green infrastructure and stormwater management features throughout City Park for the purpose of: 1) maximizing the park's stormwater retention capacity; 2) reducing stress on the existing grey drainage infrastructure system in surrounding neighborhoods; and 3) mitigating flooding.</p>	
	<p>KEY PROJECT ELEMENTS</p> <ul style="list-style-type: none"> • Surveying • Civil Site Design • Construction Administration • Landscape Architecture • Hydraulic and Hydrologic modeling • Community Outreach • Project Management • Green Infrastructure 	
<p>KEY PERSONNEL INVOLVED: Robert Mora, PE, PLS Jennifer Snape, PE Andrew Doyle, PLA Troy Jeanfreau, PE Ryan Jeansonne, PE Mark Schexnayder, MS</p>		
<p>Completion Date (Actual or Estimated):</p>	<p>Estimated Cost:</p>	
<p>Design - May 2022 Construction - April 2023</p>	<p>Entire Project: \$15,828,879 (Construction) \$1,606,245 (Consulting)</p>	<p>Work for which Firm was Responsible: \$890,000</p>

L. Work by Firm or Joint-Venture members which best illustrates current qualifications relevant to this Project. Please include any and all work performed for Jefferson Parish. Please attach additional pages if necessary.

PROJECT NO. 3

Project Name, Location and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p>LA SAFE Gretna Resilience District Kickstart Ph. I <i>Gretna, Louisiana</i></p> <p>Owner City of Gretna Matthew Martinec PO Box 404 Gretna, LA 70054 (504) 363-1568, mmartinec@gretnala.com</p>	<p>The Gretna Resilience District Kickstart is an ambitious parish-owned Resilient Infrastructure and Community Nonstructural Mitigation/Flood Risk Reduction project. This phase of the project focuses on Gretna City Park, an existing public space that occupies nearly 100 acres in the center of the City of Gretna. The existing amenities are focused primarily on passive use with lots of open space, an existing retention pond, forested areas, and some pathways connection to limited parking areas. Aside from the primary goal of the project, which is to address localized flooding and repetitive loss in the district, other goals include: improving access to the park and connectivity into its interior, introduce more active programming elements, provide landmarks and destinations within the park, provide additional parking, repair existing structure on site such as the outfall weir on Claire Ave, designate pedestrian routes through the park with the use of trails, expand and enhance the existing pond system, improve water quality within the park and district to provide a healthier habitat for local wildlife, and introduce interpretive signage to educate the public about water quality and green infrastructure.</p> <p>Waggonner & Ball Architecture/Environment (WBAE) (the project architects) worked with the City of Gretna on an 8-week programming/ scenario planning phase prior to beginning design on the Gretna Park Resiliency Improvements project. Once this initial phase was complete Batture worked directly with WBAE and the project landscape architect (Carbo Landscape Architecture) for the design phase. Batture was responsible for all H&H modeling (and surveying associated with the modeling); structural engineering of the renovation weir structure platform, proposed overflow weir structures for the expanded lagoon system, and new event pavilion; civil site design and grading; stormwater management design; habitat assessments; sedimentation and erosion control; and some cost estimation for the project.</p>	
<p>KEY PROJECT ELEMENTS</p> <ul style="list-style-type: none"> • Hydraulic and Hydrologic modeling • Right of Way Surveying • Topographic Surveying • Cost Estimation • Public Outreach • Structural Engineering • Civil Site Design • Stormwater Management Design • In Situ Water Quality Improvements • Green Infrastructure <p>KEY PERSONNEL INVOLVED: <i>Robert Mora, PE, PLS</i> <i>Jennifer Snape, PE</i> <i>Andrew Doyle, PLA</i> <i>Roderick Richardson</i> <i>Mark Schexnayder, MS</i></p>		
<p>Completion Date (Actual or Estimated):</p>	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
September 2020	\$5,605,000	\$20,397 (Programming Phase) \$165,100 (Design Phase)

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:

Fleming Construction Surveying Services

Jefferson Parish, Louisiana

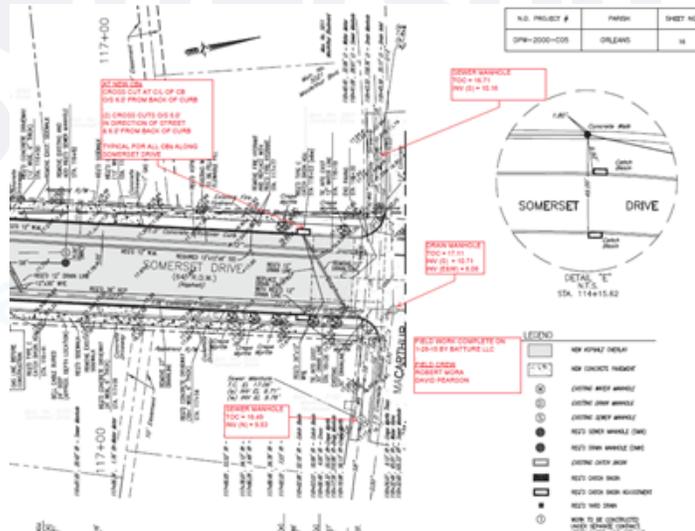
Owner

Fleming Construction
 Joe Malley
 23 E. Airline Hwy
 Kenner, LA 70062
 504.641.3967, jmalley@flemco.net

Batture LLC has provided land surveying and engineering support (including construction surveying and drafting) to Fleming Construction on infrastructure projects including water, sewer, drainage, and roadway work since our founding. Our role is to verify existing survey data and construction drawings prior to Fleming mobilizing to the site. During construction, Batture provides layouts of the features to be built. Project deliverables consist of field notes, survey data, and drawings. Projects in Jefferson Parish have included Lynette and Shirley Sewer Lift Station, Improvements to N. Lester Ave. at Canal No. 5, Improvements of Existing Alexis Drive Lift Station, Willowbrook Drive Drainage Improvements Phase II, River Road Waterline Replacement - Ph. II, Improvements to Sewage Lift Station M-12-1A, Maplewood Drive/Paillet Street Drainage Improvements, and Sibley & W. Napoleon Upgrades.

KEY PROJECT ELEMENTS

- Data Collection
- Construction Surveying
- Drafting



KEY PERSONNEL INVOLVED:

Robert Mora, PE, PLS

Completion Date (Actual or Estimated):

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

Ongoing

N/A

Varies by project

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>Stage 0/Stage 1 Feasibility Study: Causeway Blvd at US 90/Jefferson Hwy <i>Jefferson Parish, Louisiana</i> Owner Regional Planning Commission Jeffrey W. Roesel, Executive Director 10 Veterans Blvd, New Orleans, LA 70124 (504) 483-8500, rpc@norpc.org</p>	<p>Batture, LLC assisted Design Engineering, Inc. in generating the Stage 0/ Stage 1 report for the improvement of the Causeway Boulevard/Jefferson Highway interchange to accommodate additional traffic from the Ochsner Hospital expansion. The Stage 0 identified various alternatives and potential utilities, environmental constraints, or other issues that could influence the concept's feasibility, timing, and impact on the physical, natural, and human environment. Batture produced the "Environmental Impacts" report section, including DOTD's Stage 0 Environmental Checklist. Batture will provide environmental and surveying services including right-of-way surveying and identify any conflicting issues present for the revised Stage 0 and Stage 1. The project began in January of 2018.</p>

KEY PROJECT ELEMENTS

- Data Collection
- Right of Way Surveying
- Drafting
- Stage 0 Environmental Checklist
- Environmental Assessment
- Phase 1 ESA



KEY PERSONNEL INVOLVED:

Robert Mora, PE, PLS
 Jennifer Snape, PE

Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
December 2020	N/A	\$152,875

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:

St. Anthony Green Streets Programming and Design

New Orleans, Louisiana

Owner

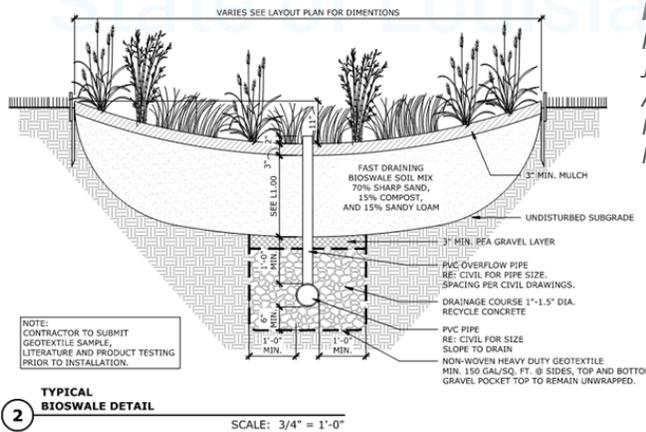
City of New Orleans
 Mary Kincaid
 mkincaid@nola.gov, 504-658-8048
 1300 Perdido Street
 New Orleans, LA 70112

This project, a component of the Gentilly Resilience District, will create a network of small green infrastructure improvements that will capture water where it falls, reduce runoff flowing into the city's drainage system, infiltrate stormwater, and reduce flooding. The goals for this project are to improve stormwater management and reduce flood risk and subsidence, empower residents to participate in adapting their block and neighborhood parks to manage water and build resilience, enhance social cohesion and community well-being, increase recreational opportunities, and develop a replicable model for block-by-block strategies for stormwater management and community resilience across the city. As the prime consultant for this project, Batture's H&H responsibilities include stormwater modeling, drainage infrastructure design, stormwater design, and planning/permitting with City agencies. Batture is performing all surveying tasks within the project, including the mapping of Finished Floor Elevations (FFE's) for the Benefit-Cost Analysis. As project prime, Batture has supervised all oversight of complete streets design and community engagement, planning, and outreach activities. Batture's effective communication and coordination between agencies (including the City of New Orleans, Sewerage and Water Board, Gentilly Resilience District stakeholders, the public, sub-consultants, and project managers of other Gentilly Resilience District projects) has promoted timely and efficient task completion.

KEY PROJECT ELEMENTS

- Surveying
- Civil Site Design
- Landscape Architecture
- Hydraulic and Hydrologic Modeling
- Community Outreach
- Project Management
- Parks and Athletic Fields
- Green Infrastructure

PROJECT AREA



KEY PERSONNEL INVOLVED:

*Robert Mora, PE, PLS
 Jennifer Snape, PE
 Andrew Doyle, PLA
 Ryan Jeansonne, PE
 Mark Schexnayder, MS*

Completion Date (Actual or Estimated):

Estimated Cost:

Entire Project:

Work for which Firm was Responsible:

Ongoing

\$13,400,000

\$1,640,000

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>Blue & Green Corridors City of New Orleans <i>New Orleans, Louisiana</i></p> <p><u>Owner</u> Dan Grandal Stantec Consulting Services, Inc. 1340 Poydras Street, Suite 1420 New Orleans, LA 70112 (504) 654-1758, dan.grandal@stantec.com</p>	<p>The Blue & Green Corridors project is part of the Gentilly Resilience District. Batture is the largest sub and protégé to Stantec on this groundbreaking resilience and water management project that will transform major boulevards in Gentilly. The large neutral grounds on the major streets in Gentilly present a unique opportunity to construct a network of stormwater management features and multimodal connections. These areas are currently being designed to provide innovative stormwater management as well as facilitate safe and comfortable travel while creating recreational areas for residents. Examples of enhancements to improve multimodal transportation include – dedicated and buffered bike lanes, shared use paths, road diets, bike racks, traffic calming measures, safe and comfortable transit stops and intersection safety improvements.</p>	
<p>KEY PROJECT ELEMENTS</p> <ul style="list-style-type: none"> • Surveying • Civil Site Design • Landscape Architecture • Stormwater Management • Drainage Design • Project Management • Green Infrastructure 	<p>Batture is providing topographic and right-of-way surveys, civil design and landscape architecture on this project. Additionally, as Stantec's protégé we are deepening our knowledge of complete street design principles and green infrastructure by working side by side with the experts on their team.</p>	
	<p>KEY PERSONNEL INVOLVED: Robert Mora, PE, PLS Jennifer Snape, PE Andrew Doyle, PLA</p>	

Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2022	\$45,000,000	\$374,053

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>District 5 Project Development <i>Jefferson Parish, Louisiana</i></p> <p>Owner Jefferson Parish Michelle Gonzales (504)736-6653 mgonzales@jeffparish.net</p>	<p>Batture was chosen by Jefferson Parish to provide coastal engineering and consulting services on an as-needed basis to identify projects located throughout the parish that would benefit Jefferson Parish and District 5. Our senior biologist is working alongside the Coastal Management Director and District 5 staff to pursue potential funding mechanisms in support of the Parish's coastal interests. The project scope includes coastal planning & design, mapping, CAD support, and bidding. We will provide cost benefit analyses, meeting support and collaboration, design drawings, and cost estimates. Additional responsibilities include project start up, project coordination, reporting, and invoicing. The project manager submits monthly project reports and attends all pertinent project and grant meetings.</p>

KEY PROJECT ELEMENTS

- Data Collection
- Coastal Planning
- Mapping
- Project Management
- Cost Benefit Analysis
- Community Outreach

KEY PERSONNEL INVOLVED:

Jennifer Snape, PE
Mark Schexnayder, MS



Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Estimated August 2022	\$30,000	\$30,000

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>Hoey's Basin <i>Jefferson Parish, Louisiana</i></p> <p>Owner Aquaterra-CAYO Doug Bryan 1400 Everman Pkwy, Ste 127 Fort Worth, TX 76140 (309) 303-4964</p>	<p>Batture's scope of work for this surveying project included elevations of house and building slabs, driveway pavement, sidewalks, golf courses, and paving elements in street sections within 500' of the project site. Services included pre-construction and post-construction cross sections, verification of project control and setting off on-site control, As-Built drafting support, and preparation of drawings for RFIs. Total stations, GPS, and differential leveling were used to perform field work. Project deliverables consisted of field notes, survey data, and drawings.</p>



KEY PROJECT ELEMENTS

- Data Collection
- Surveying
- Drafting
- Project Management
-

KEY PERSONNEL INVOLVED:
 Robert Mora, PE, PLS

Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Fall 2017	\$4,000,000	\$30,000

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

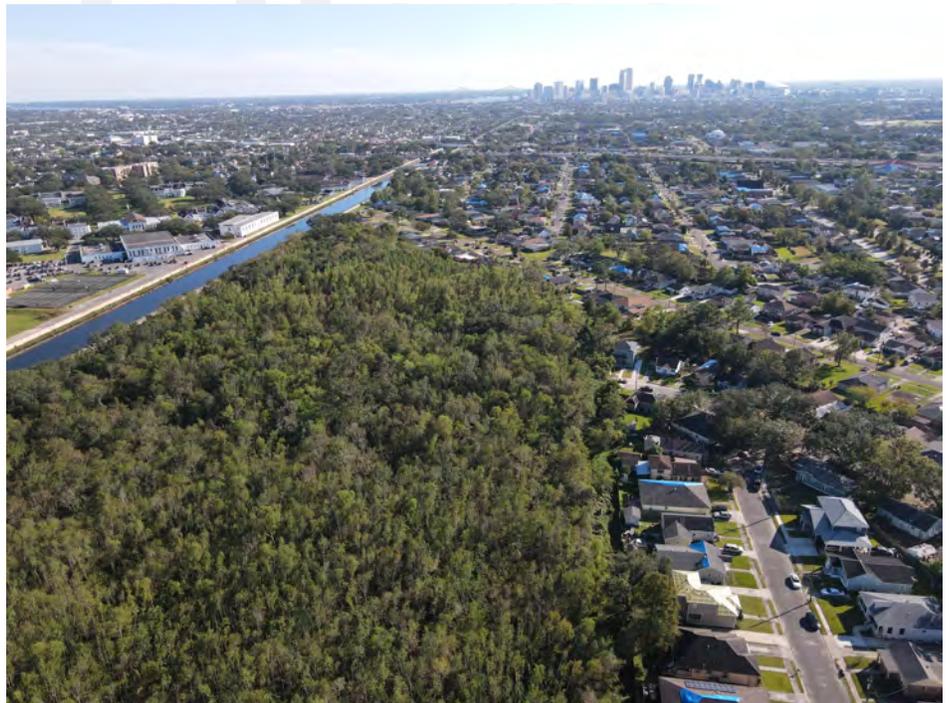
Project Name, Location and Owner's Contact Information:	Nature of Firm's Responsibility:
<p>Dillard Wetlands <i>New Orleans, Louisiana</i></p> <p>Owner Freese & Nichols Nina Reins 900 Camp Street, Suite 354 504-478-1065 nina.reins@freese.com</p>	<p>The Dillard Wetland is a 27-acre parcel of forested low-lying land on the west side of the London Canal opposite of Dillard University and is one of the last remaining parcels of forest within city limits. The Greater New Orleans Water Plan envisaged the Dillard Wetlands as providing a retreat from urban life. The existing low-lying area would be nourished by an influx of stormwater from the surrounding neighborhoods, supporting a healthy wetland ecosystem through green infrastructure solutions. Batture is sub-consultant to Freese and Nichols. We provided surveying services for Phase I of the project, including boundary survey, topographic survey, and tree identification/assessments. In Phase II, we are providing design analysis and reports, civil engineering, H&H modeling, and structural engineering.</p>

KEY PROJECT ELEMENTS

- Data Collection
- Surveying
- Drafting
- Project Management
- Civil Site Design
- Landscape Architecture
- H & H Modeling
- Structural Design
- Green Infrastructure

KEY PERSONNEL INVOLVED:

Robert Mora, PE, PLS
Jennifer Snape, PE
Andrew Doyle, PLA
Roderick Richardson
Mark Schexnayder, MS



Completion Date (Actual or Estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Estimated August 2022	N/A	\$236,676

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. N/A		
2. N/A		
3. N/A		
4. N/A		

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

Established in 2014, Batture LLC is a Louisiana-based land surveying firm and civil engineering firm specializing in drainage & utility design, hydraulic/hydrodynamic modeling, land surveying, green infrastructure solutions, public outreach, site development, environmental research, civil site design, and construction management. Our company is a certified Disadvantaged Business Enterprise (DBE) and a Small Entrepreneurship (Hudson Initiative), dedicated to the progress and protection of Southeast Louisiana. The highly-diversified team of Batture LLC possesses a wide range of professional knowledge. Most of the work that we do is centered around infrastructure, open space development, and housing, with projects ranging from residential jobs to large neighborhood-wide green infrastructure projects. Batture LLC has successfully completed projects for many local and government agencies, including Jefferson Parish, Lakefront Management Authority, City of New Orleans, Sewerage & Water Board of New Orleans, City of N.O. Department of Public Works, City of N.O. Network for Economic Opportunity, Port of N.O., St. Bernard Parish, and others. The team at Batture prides itself on maintaining excellent communication with clients and delivering projects that improve the livelihood of communities.

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

Signature:  Print Name: Jennifer Snape
 Title: Managing Partner Date: 04/18/2022



Office of the Secretary
PO Box 94245 | Baton Rouge, LA 70804-9245
PH: 225-379-1200 | FX: 225-379-1851

John Bel Edwards, Governor
Shawn D. Wilson, Ph.D., Secretary

February 2, 2022

Batture, LLC.

Attn: Jennifer Snape
5110 Freret Street
New Orleans, LA 70115

Dear Jennifer Snape:

The Louisiana Department of Transportation and Development (LADOTD) have received your firm's Disadvantaged Business Enterprise (DBE) and Small Business Element (SBE) annual affidavit. Based on the information, which you provided, it has been confirmed that your firm continues to meet the eligibility requirements of our program and remains certified for only the following specific work categories that fall under the listed NAICS and/or DOTD Work codes:

NC541330- Engineering Services
C05- Structural Engineering
C06- Land Surveying
C09- Civil Engineering
C74- Construction Management

Please note that per the federal regulations, suppliers only receive 60% goal credit towards the materials they provide. Also, note that any contractor performing work in excess of \$50,000 with the exception of electrical, mechanical and plumbing requires A Louisiana Contractor's License, which are required to have a license if work is in excess of \$10,000. You may contact the State Licensing Board for Contractors at (225) 765-2301 for more information. All participants of the Louisiana Unified Certification Program will recognize your firm's certification. This includes all entities receiving federal transportation funding within the boundaries of our state.

You will be required to submit an annual affidavit with all supporting documents (**Business taxes with all attachments, such as 1098, 1099, K-1's and/or W-2's**) stating your firm continues to meet the eligibility requirements of the program. An email informing you to submit the necessary documentation will be forwarded to you approximately six (6) weeks prior to your anniversary date of **January 31, 2023**. However, should you not receive notification from this office for your annual affidavit; it is your responsibility to contact us. Additionally, you must notify our office immediately regarding any changes, which affect the social and economic disadvantage, size, ownership or control of your firm.

Batture, LLC.
February 2, 2022
Page 2

The LADOTD has contracted with Urban League of Louisiana Center for Entrepreneurship & Innovation to provide DBE Supportive Services to all certified DBEs, in the LAUCP, at no cost to you. This consultant can offer your firm assistance and guidance on areas such as marketing, estimating, bidding, financial preparations, etc. Contact Klassi Duncan with Urban League of Louisiana Center for Entrepreneurship and Innovation at (504) 620-9647 for any assistance needed to grow your organization.

We reserve the right to withdraw this certification, if at any time, it is determined that **DBE and SBE** certifications was knowingly obtained by the submission of false, misleading or incorrect data. We further reserve the right to request additional information and/or conduct an on-site visit at any time during your certification period.

We are pleased to have you as a participant in the LAUCP and wish you much success.

If you have any questions regarding the content of this letter, contact the LADOTD DBE Certification Unit at (225) 379-1382.

Respectfully,

Rhonda Wallace

Rhonda Wallace

DBE/SBE Programs Manager



LOUISIANA UNIFIED CERTIFICATION PROGRAM

Disadvantaged Business Enterprise Program (DBE)

Small Business Element (SBE)

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)

Batture, LLC.

Is a Certified Disadvantaged Business Enterprise (DBE) & Small Business Element (SBE) in the following specialties:

NC541330

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

Certificate Eligibility: January 2022 to January 2023

This certificate is valid through the above date 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.

Rhonda Wallace

Rhonda Wallace, DBE/SBE Programs Manager

Louisiana Department of Transportation & Development

SECTION 04

THE BETA GROUP

TEC Professional Services Questionnaire

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

BUCKTOWN BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC) SCOPING GRANT
RESOLUTION No. 139147 | SOQ No. 22-016

B. Firm Name & Address where Project work will be performed:

The Beta Group Engineering and
 Construction Services, LLC
 1428 1/2 Claire Avenue
 Gretna, LA 70053

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:

Mark A. Cheek, P.E., FACI
 Vice President/ Technical Manager
 504-227-2273
 mcheek@betagroupgc.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.

Mark A. Cheek, P.E., FACI
 Vice President/ Technical Manager
 504-227-2273
 mcheek@betagroupgc.com

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

<u>7</u> Administrative	___ Estimators	___ Specification Writers
___ Architects (Licensed)	___ Geologists	___ Structural Engineers
___ Chemical Engineers	<u>1</u> Geotechnical Engineers	___ Graduate Engineers
<u>2</u> Civil Engineers	___ Interior Designers	<u>18</u> Project Managers
<u>22</u> Construction Inspectors	___ Landscape Architects	<u>3</u> Clerical
___ Ecologists	___ Land Surveyor	___ Grant/Funding Specialist
___ Electrical Engineers	___ Mechanical Engineers	___ Sanitary Engineers
___ Engineer Intern	___ Environmental Engineers	
___ Professional Land Surveyors		<u>53</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.

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. N/A		
2.		
3.		

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

53 _____

TEC Professional Services Questionnaire

<p>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.</p>
PROFESSIONAL IN CHARGE OF PROJECT:
Name & Title:
Mark A. Cheek, P.E., FACI Vice President / Technical Manager (Fulfills MPRs 1, 2 and 3)
Project Assignment:
Principal Engineer, Project Manager
Name of Firm with which associated:
The Beta Group Engineering and Construction Services, LLC
Years' experience with this Firm:
23 Years with Beta 9 Years with other firms
Education: Degree(s)/Year/Specialization:
B.S. / 1993 / Civil Engineering MS-Level Coursework since 1995
Active registration: Year first registered/discipline:
1999, Civil Engineer, Louisiana No. 28531 1999, Civil Engineer, Mississippi No. 14491
Other experience and qualifications relevant to the proposed Project:
<p>As technical manager of Beta, Mr. Cheek is responsible for maintaining proper supervision and training for inspection personnel. He conducts technical classes and participates in the formulation of company policies. He solves problems with ongoing projects, reviews inspection reports for accuracy and completeness, and analyzes and interprets lab test results. When needed, he troubleshoots concrete field problems. Finally, as technical manager, he maintains the laboratory accreditation and technical competence.</p> <p>Mr. Cheek's experience was gained in positions such as: construction materials field and laboratory testing technician, resident project engineer, structural design engineer, geotechnical engineer, and construction materials testing agency manager. His certifications include: ACI (Field Grade 1, Strength, Flatwork, Aggregate and Laboratory Testing Technician), F-Number Measurement Floor Profiler, Troxler, NRMCA Inspecting Engineer, and NRMCA Examiner for Pervious Concrete.</p>

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title: Roy A. Glapion, P.E. Vice President, Civil Engineer
Project Assignment: Quality Assurance
Name of Firm with which associated: The Beta Group Engineering and Construction Services, LLC
Years' experience with this Firm: 9 Years with Beta 25 Years with other firms
Education: Degree(s)/Year/Specialization: B.S. / 1987 / Civil Engineering
Active registration: Year first registered/discipline: 1999, Civil Engineer, Louisiana No. 27450
Other experience and qualifications relevant to the proposed Project: <p>Mr. Glapion graduated from the University of New Orleans in 1987 with a degree, BSCE, in Civil Engineering. He has practiced his profession with numerous prominent engineering firms located throughout the greater New Orleans area. With an emphasis in Structural Design, Mr. Glapion has extensive experience in Foundation, Vertical Structure, Floodwall, Bridge and Drainage Design.</p> <p>In addition to his design experience, Mr. Glapion is the Co- Founder of Citywide Testing and Inspections, Inc. He served as the President of this organization. At its peak, Citywide employed over 100 people. Citywide was a multi-discipline construction, environmental and geotechnical testing laboratory with offices located in New Orleans, Baton Rouge, LA and Biloxi, MS. As the prime consultant, Citywide provided services on numerous prestigious projects such as: The New Orleans Sports Arena, Superdome Roof Improvements, Jordon Road Overpass, John A. Alario, Sr. Event Center, Pontchartrain Center Expansion, Ernest N. Morial Convention Center Expansion and the Katrina Recovery.</p>

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Alex Jaramillo, P.E. Geotechnical Engineer
Project Assignment:
Laboratory Manager
Name of Firm with which associated:
The Beta Group Engineering and Construction Services, LLC
Years' experience with this Firm:
11 Years with Beta 16 Years with other firms
Education: Degree(s)/Year/Specialization:
B.S. / 1999 / Civil Engineering
Active registration: Year first registered/discipline:
2011, Civil Engineer, Louisiana No. 36324 2018, Civil Engineer, Mississippi No. 28833
Other experience and qualifications relevant to the proposed Project:
Mr. Jaramillo is responsible for: All geotechnical activities including performing subsoil explorations, completion of soils laboratory testing, geotechnical analyses for projects and completion of the geotechnical report; Preparation, presentation and management of scope, budget, and work plan; Review daily field inspection reports for accuracy and completeness; Monitor the soil laboratory activities; Coordinate logistics; Supervise and interpret field & laboratory testing/data for use in engineering analyses; Ensure services provided are technically satisfactory and effective; Monitor that the project goals and quality objectives are being provided; Responsible for routine communication with client during the project; Prepare and review technical reports and ensure on-time delivery.

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Murray White President
Project Assignment:
Quality Assurance, Signature Authority
Name of Firm with which associated:
The Beta Group Engineering and Construction Services, LLC
Years' experience with this Firm:
25 Years with Beta 2 Years with other firms
Education: Degree(s)/Year/Specialization:
1994-1995, Coursework, McNeese State University 1991-1994, Coursework, University of Mississippi
Active registration: Year first registered/discipline:
NA
Other experience and qualifications relevant to the proposed Project:
Mr. White has served as President of Beta since 1999. In his years with the firm, he established and maintained an appropriate quality assurance program at various levels of the organization. He has performed all required inspections and tests to maintain quality control and assure compliance to specifications, codes, and standards on multiple projects. Further, Mr. White established and maintained equipment calibration procedures and records, and provided detailed inspection procedures for various projects. In his career, Mr. White served as a Field Technician with another firm. He performed all necessary inspections and tests required to maintain quality control and assure adherence to project specifications, codes, and standards. He also dispatched inspectors to requested project sites to perform numerous tasks for contractors.

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:	
Terry Parkway to Browning Lane Terrytown, LA HNTB Corporation Randal Bonura (504) 872-3004	Beta is providing construction materials testing for the project which includes: Concrete Testing, Soils Testing and various Field Inspections	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
On-Going	N/A	\$9,649.65 to date

PROJECT NO. 2		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Lapalco Blvd. Overlay Jefferson Parish Streets Department Don Hogan, Jr.	Beta provided Ground Penetrating Radar Surveying for this project.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Oct 2021	N/A	\$2,250

TEC Professional Services Questionnaire

PROJECT NO. 3		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility	
Jefferson Parish Water Point Repair Fleming Construction Mason Katz (504) 464-4000	Beta provided Vibration Monitoring Services for this project.	
Completion Date (Actual or estimated)	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
June 2021	N/A	\$357.20

PROJECT NO. 4		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
11th Street Rehabilitation Gretna, LA Meyer Engineers Ltd. Randy Oustalet (504) 885-9892	Beta is providing construction materials testing for the project which includes: Concrete Testing, Soils Testing and Vibration Monitoring Services.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
On-Going	N/A	\$1,591.65 to date

TEC Professional Services Questionnaire

PROJECT NO. 5		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Hope Haven Fitness Trail Marrero, LA Meyer Engineers Ltd. Jimmy Ray (504) 885-9892	Beta is providing construction materials testing for the project which includes: Asphalt Testing, Concrete Testing, Soils Testing, Pile Inspection, Proof Roll Inspection and Vibration Monitoring.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
April 2022 (E)	N/A	\$13,145.70 to date

PROJECT NO. 6		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Ames Blvd. Resurfacing Marrero, LA H. Davis Cole & Associates H. Davis Cole (504) 836-2020	Beta provided construction materials testing for the project which included: Asphalt Testing and Concrete Testing.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
June 2021	N/A	\$3,526.81

TEC Professional Services Questionnaire

PROJECT NO. 7		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Lapalco Blvd. Overpass of Bayou Segnette Rehabilitation Westwego, LA ECM Consultants Sunina Shrestha (504) 885-4080	Beta provided construction materials testing for the project which included: Asphalt Testing, Concrete Testing and Soils Testing.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
Nov. 2021	N/A	\$9,392.95

PROJECT NO. 8		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Oakwood Smart Growth - Hector Ave. Improvements (Whitney Ave. to Terry Parkway) Terrytown, LA ECM Consultants Sunina Shrestha (504) 885-4080	Beta provided construction materials testing for the project which included: Concrete Testing, Pile Inspection, Vibration Monitoring and Soils Testing.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2022 (E)	N/A	\$10,304.43 to date

TEC Professional Services Questionnaire

PROJECT NO. 9		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Pritchard Road Extension (Leo Kerner Parkway to Sprig Dr.) Marrero, LA Pivotal Engineering Yoseph Shifare (504) 799-3653	Beta provided construction materials testing for the project which included: Asphalt Testing, Concrete Testing, Vibration Monitoring and Soils Testing.	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
May 2022 (E)	N/A	\$18,296.35 to date

PROJECT NO. 10		
Project Name, Location and Owner's contact information:	Nature of Firm's Responsibility:	
Goose Bayou Basin Drainage Pump Station No. 2 Lafitte, LA APTIM Biagio Caruso 504-883-9021	Beta is providing construction materials testing for this project which included: Soils Testing, Concrete Testing, Pile Inspection and Logging, and Pile Load Testing	
Completion Date (Actual or estimated):	Estimated Cost:	
	Entire Project:	Work for which Firm was Responsible:
2019	N/A	\$16,593

TEC Professional Services Questionnaire

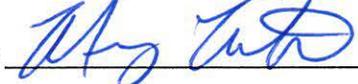
M. List all prior and/or on-going litigation between Firm and Jefferson Parish. Please attach additional pages if necessary.

Parties:		Status/Result of Case:
Plaintiff:	Defendant:	
1. N/A		
2.		
3.		
4.		

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

See following pages

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

Signature:  Print Name: Murray White
 Title: President Date: March 28, 2022

