# Qualification Statement
# for
# Routine Engineering Services
# for

# Drainage Projects

**SOQ No. 22-011**

**Resolution No 138811**

**March 31, 2022**


**SUBMITTED BY:**

**Design Engineering, Inc.**
**Eustis Engineering, LLC**

DESIGN ENGINEERING, INC.

2021 Reader Rankings CityBusiness

BEST ENGINEERING FIRM
WINNER 2021

EUSTIS
ENGINEERING L.L.C.
SINCE 1946

March 31, 2022

Jefferson Parish Council
c/o Sidney Duffy, Buyer II
Purchasing Department
General Government Building
200 Derbigny Street, Suite 4400
Gretna, Louisiana 70053

Re: Qualification Statement
Providing Routine Engineering Services
For Drainage Projects in Jefferson Parish
SOQ No. 22-011
Resolution No. 138811

Dear Ms. Duffy:

In response to your Public Notice requesting qualification statements from engineering firms interested in providing routine engineering services for Drainage Projects in Jefferson Parish for an annual period, Design Engineering, Inc. is pleased to submit the enclosed Jefferson Parish TEC Professional Services Questionnaire for your consideration.

The principals and technical staff members of Design Engineering, Inc. (DEI) have years of experience in the design of major drainage system projects for Jefferson and Orleans Parishes.

Design Engineering, Inc. is a local firm with its office in Jefferson Parish. Accordingly, all civil engineering work will be designed and supervised by a firm whose staff has years of experience designing projects for Jefferson Parish and is familiar with their procedures and criteria. We would appreciate the opportunity to demonstrate these capabilities on these projects.

As you will observe from the resumes, the staff members of the firm are experienced in local and state design procedures. Through many local engineering projects, this firm has established an excellent working relationship with the Jefferson

Parish Department of Public Works and all private utility companies in the area and will coordinate all work with these agencies.

With respect to our current workload, our firm has the staff and capabilities presently available to complete the projects in the most expeditious manner possible.

Design Engineering, Inc. is a Louisiana firm, domiciled in Jefferson Parish for over 38 years and is in close proximity to the project sites.

We look forward to being of service to Jefferson Parish and respectfully submit this qualification statement for your consideration.

With best regards, I remain

Sincerely,
Design Engineering, Inc.

Jim Martin, Ph.D., P.E.
President

# TEC Professional Services Questionnaire

**A. Project Name and Advertisement Resolution Number:**

Routine Engineering Services for **Drainage Projects** in Jefferson Parish – Resolution No. 138811

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

Design Engineering, Inc.
3330 W. Esplanade Avenue, Suite 205
Metairie, Louisiana, 70002

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

Jim Martin, Ph.D., P.E., President
(504) 836-2155
jmartin@dei-engr.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.**

Jim Martin, Ph.D., P.E., President
(504) 836-2155
jmartin@dei-engr.com

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

| | | |
|---|---|---|
| 2 Administrative | ___ Estimators | ___ Specification Writers |
| ___ Architects (Licensed) | ___ Geologists | 3 Structural Engineers |
| ___ Chemical Engineers | ___ Geotechnical Engineers | ___ Graduate Engineers |
| 4 Civil Engineers | ___ Interior Designers | 2 Project Managers |
| 10 Construction Inspectors | ___ Landscape Architects | 2 Clerical |
| ___ Ecologists | ___ Land Surveyor | ___ Grant/Funding Specialist |
| ___ Electrical Engineers | ___ Mechanical Engineers | ___ Sanitary Engineers |
| 4 Engineer Interns | ___ Environmental Engineers | |
| ___ 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 _X_**

**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.** Eustis Engineering<br>311 28th St.<br>Metairie, LA 70002 | Geotechnical Services | Yes |
| **2.** | | |
| **3.** | | |

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

1 personnel not listed in Section E (drafter) will also work on the project.

**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:**

Jim Martin, Ph.D., P.E.
President

**Project Assignment:**

Principal

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

8

**Education: Degree(s)/Year/Specialization:**

Old Dominion University – Coastal Engineering Certificate, 2010
Tulane University – Doctor of Philosophy, 2003
Tulane University – Masters of Science in Environmental Engineering, 2000
University of Alabama – Bachelor of Science, Civil Engineering, 1998

**Active registration: Year first registered/discipline:**

2004, Civil Engineering, Louisiana License #31281

**Other experience and qualifications relevant to the proposed Project:**

**DUNCAN CANAL BOX CULVERT INSTALLATION:** Principal responsible for the **hydraulic calculations and modeling** that has been reviewed and **accepted by the Parish, the City of Kenner, and the DOTD** for the installation of a massive 2 cell box culvert that intersects with a separate large 2 cell box. Also, is responsible for all structural engineering on the project as well for these extremely large concrete structures (in excess of **13 feet tall and 80 feet wide)**.

**WEST ESPLANADE AVENUE CROSSING (BETWEEN WILLIAMS BLVD. AND POWER BLVD.):** Principal responsible for the feasibility/ conceptualization, hydraulic engineering, preliminary and final plans, construction administration and resident inspection services for the improvements to the W. Esplanade Ave. Crossing. This project consisted of the installation of **twin 96" diameter reinforced concrete arch pipes** with headwalls to accommodate crossing of W. Esplanade Ave. Median Canal and the installation of reinforced concrete u-shaped transition structures from 96" diameter reinforced concrete arch pipe headwall to earthen canal.

**MACARTHUR DRIVE INTERCHANGE COMPLETION – PHASE 1A (AT-GRADE ROADWAY):** Civil Engineer for a massive highway and bridge demolition and reconstruction project in Jefferson Parish. The design work included significant **drainage infrastructure improvements** such as the relocation of dozens of **drainage lines** including some up to 72" diameter; new storm drains, **new drainage pipes** and manholes; and the **extension of the existing reinforced concrete box culvert.** These are of course only some of the features of a much larger project.

**AIRLINE DRIVE DRAINAGE CROSSING ST. PETER'S DITCH:** Principal for the preparation of plans and technical specifications for contract bid and construction process. This project consisted of designing 365 feet of **major drainage improvements** adjacent to and across **Airline Drive**. Included in the work was the design of **large drainage junction boxes**, micro-tunneling or hand tunneling large diameter drain line across Airline

Drive, **reinforced concrete box culverts** and transition structures. **DEI provided hydraulic analysis of the drainage system across Airline Drive**.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** PRincipal responsible for the design, construction administration and inspection of the Seawall Area Erosion Control Paving Project and Seawall Stabilization. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans.

**FRISCO AVENUE DRAINAGE IMPROVEMENTS, JEFFERSON PARISH:** DEI was responsible for the modeling and design improvements along Frisco Avenue in Old Metairie. This project includes upgrading approximately **1200' of drain lines ranging from 15" diameter to 42" diameter pipes** at Frisco Avenue, relocating existing utilities such as waterlines and fiber optic lines along 1000' parallel to an operating railroad. The project also includes the closure of an existing 300' long ditch. Responsibilities include project quantity estimating, preparation of plans for bidding, preparation of specifications for bidding and construction administration. This project also includes coordination with the Norfolk Southern Railroad for permitting, design and throughout the proposed construction.

**JEFFERSON PARISH UTILITY RELOCATION AT CAUSEWAY SOUTH SHORE:** Project Manager for designing relocating for all Parish utilities between the South Shore and 6th Street. This included **drainage lines in excess of 48"**, deep gravity sewer lines, several HDD water lines, as well as coordination with the privately owned utilities in the area (Entergy, AT&T, Cox, TW Telecom, etc.) Dr. Martin was also part of the team that designed and coordinated the construction of the T-wall and associated bridges.

**LAKE CHARLES H & H URBAN DRAINAGE STUDY, LAKE CHARLES, LA:** Project Manager creating multiple HEC-HMS and HEC-RAS models for several urban streams and watersheds. HEC-RAS models were unsteady. All data was assembled via HEC GEO-RAS to assure a seamless integration with flood mapping tools on both the input and output sides of the models.

**VETERANS BOULEVARD BOX CULVERT INSTALLATION EAST OF CAUSEWAY:** In District 5, Jefferson Parish and the Greater New Orleans Expressway Commission sought to relieve congestion at Veterans and Causeway by installing an additional U-turn on Veterans Boulevard East of Causeway. This required the design and construction of a **new concrete box culvert** prior to filling and paving for traffic. The U-turn has been successfully in use since 2008 (in front of Acme Oyster House).

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

John Holtgreve, P.E.
Executive Vice President

**Project Assignment:**

Project Manager

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

38

**Education: Degree(s)/Year/Specialization:**

BS, 1970, Civil Engineering, Tulane University
MCE, 1975, Civil Engineering, Tulane University

**Active registration: Year first registered/discipline:**

1976, Civil Engineering, Louisiana License #16383

**Other experience and qualifications relevant to the proposed Project:**

**DUNCAN CANAL BOX CULVERT INSTALLATION:** Project Manager responsible for the **hydraulic calculations and modeling** that has been reviewed and **accepted by the Parish, the City of Kenner, and the DOTD** for the installation of a massive 2 cell box culvert that intersects with a separate massive 2 cell box. Also, is responsible for all structural engineering on the project as well for these extremely large concrete structures (in excess of **13 feet tall and 80 feet wide)**.

**WEST ESPLANADE AVENUE CROSSING (BETWEEN WILLIAMS BLVD. AND POWER BLVD.):** Project Manager responsible for the feasibility/ conceptualization, hydraulic engineering, preliminary and final plans, construction administration and resident inspection services for the improvements to the W. Esplanade Ave. Crossing. This project consisted of the installation of **twin 96" diameter reinforced concrete arch pipes** with headwalls to accommodate crossing of W. Esplanade Ave. Median Canal and the installation of reinforced concrete u-shaped transition structures from 96" diameter reinforced concrete arch pipe headwall to earthen canal.

**AIRLINE DRIVE DRAINAGE CROSSING ST. PETER'S DITCH:** Project Manager for the preparation of plans and technical specifications for contract bid and construction process. This project consisted of designing 365 feet of **major drainage improvements** adjacent to and across **Airline Drive**. Included in the work was the design of **large drainage junction boxes**, micro-tunneling or hand tunneling large diameter drain line across Airline Drive, **reinforced concrete box culverts** and transition structures. DEI provided hydraulic analysis of the **drainage system across** Airline Drive.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** Project Manager responsible for the design, construction administration and inspection of the Seawall Area Erosion Control Paving Project and Seawall Stabilization. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans.

**NORTHBOUND MANHATTAN BOULEVARD CONTINUOUS RIGHT TURN LANE:** Project Manager for the design and construction administration which included construction of an additional asphaltic concrete lane of traffic to Northbound Manhattan Blvd. (Gretna Blvd. to Westbank Expressway (US 90B)) and a right turn only lane on US90B frontage road eastbound to southbound Manhattan Blvd.; right-of-way requirements; utility and **drainage relocations**. The project was constructed using the designed plans by DEI and DEI personnel provided construction contract administration and construction engineering and resident inspection

services. The project construction continued for 7 days a week for approximately 244 days. DEI also provided services to assist the contractor in working **weekends and nights** as necessary to accommodate up to six (6) crews working **24-hour schedules**.

**INTERSECTION IMPROVEMENTS OF WILKER NEAL AT AIRLINE HIGHWAY, JEFFERSON PARISH:** Project Manager for this project which included the **design and construction of a 10.42 ft. x 18.67 ft concrete box culvert in Canal No. 6 along Airline Drive.** The project also included the removal of the existing bridge and constructing an asphaltic concrete roadway over the box culvert on Wilker-Neal Drive and modify the intersection of Wilker-Neal Drive and Airline Drive, as well as additional turning lanes and median modifications on Airline Drive.

**GENERAL DEGAULLE CANAL ROAD CROSSING (WALL BOULEVARD AND SANDRA DRIVE):** Project Manager for the **design of (10'x14') concrete box culverts**, transition flume sections on each end of box and vertical and horizontal alignment. DEI provided all services required for the preparation of preliminary and final design plans. DEI's responsibilities included horizontal and vertical alignment, **design of new subsurface drainage** to tie existing **drainage infrastructure** with concrete box culverts and comment review and responses.

**AUDUBON BOULEVARD, NEW ORLEANS:** Project Manager for the design, construction administration and resident inspection for a 2,900 LF of new roadway. Included in the project for Audubon Boulevard, a divided roadway with raised median, is a new concrete roadway with concrete, or granite curb and gutter, **2,900 LF of subsurface drainage varying in size from 12" ø to 60" ø RCPA equivalent**, 2900 LF of 8" water main and 3000 LF of 8" sewer line, gas line and electric line relocation, new water meter and new sewer and water house connections.

**ROBERT E. LEE BOULEVARD, PARIS AVE. TO PRATT DRIVE:** Project Manager for the design and construction administration of the reconstruction of 4,500 LF of existing Robert E. Lee Blvd. including **major subsurface drainage improvements from 15" ø to 60" ø of reinforced concrete pipe** and utility relocations. Design Engineering, Inc. provided full construction management services for the LADOTD and the City of New Orleans. The entire construction contract administration and construction engineering and inspection for this project was managed through LADOTD Site Manager Program.

**DWYER DRAINAGE PUMPING STATION DISCHARGE TUBES AND CANAL:** Project Manager for the planning and design of the **discharge pipes and drainage canal** between Dwyer **drainage pumping station** and the IHNC. The design of DEI's work included **3 – 84" ø drain lines**, relocation of utilities, Jourdan Road by-pass, blind bridges to maintain use of all railroad tracks during construction, construction of a 25 foot wide concrete box canal, floodwall relocation and reconstruction of Jourdan Road. Mr. Holtgreve was responsible for estimating cost and schedule, management of multiple stakeholders, project cost and schedule monitoring, documenting and reporting to the client, change order negotiation and preparation, claims management, processing of pay applications, project closeout, dispute resolution and final inspections. Also, Mr. Holtgreve, through Design Engineering, coordinated several meetings with PONO, New Orleans Public Belt Railroad, Sewerage and Water Board of New Orleans, Corps of Engineers and tenants to determine the best way to maintain services during construction of the project.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Brett Liuzza, P.E., Engineer

**Project Assignment:**

Civil Engineer

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

10

**Education: Degree(s)/Year/Specialization:**

BS, 2008, Civil Engineering, Louisiana State University

**Active registration: Year first registered/discipline:**

2012/Civil Engineering, License #37753

**Other experience and qualifications relevant to the proposed Project:**

**AIRLINE DRIVE DRAINAGE CROSSING ST. PETER'S DITCH:** Project Engineer for the preparation of plans and technical specifications for contract bid and construction process. This project consisted of designing 365 feet of **major drainage improvements** adjacent to and across **Airline Drive**. Included in the work was the design of **large drainage junction boxes**, micro-tunneling or hand tunneling large diameter drain line across Airline Drive, **reinforced concrete box culverts** and transition structures. DEI provided hydraulic analysis of the **drainage system across Airline Drive**.

**DUNCAN CANAL BOX CULVERT INSTALLATION:** Civil Engineer responsible for the **hydraulic calculations and modeling** that has been reviewed and **accepted by the Parish, the City of Kenner, and the DOTD** for the installation of a massive 2 cell box culvert that intersects with a separate massive 2 cell box. Also, is responsible for all structural engineering on the project as well for these extremely large concrete structures (in excess of **13 feet tall and 80 feet wide)**.

**WEST ESPLANADE CANAL CROSSING:** Civil Engineer that performed project surface work design for the improvements to West Esplanade Boulevard which include installing a 573-foot Canal Crossing, over 600 feet of roadway, additional sidewalk, and a new signalized interchange. Mr. Liuzza was part of the team that provided hydraulic engineering, conceptual, and preliminary and final plans for the improvements to West Esplanade Boulevard. This project consisted of the installation of **twin 96" diameter reinforced concrete arch pipes** with headwalls to accommodate crossing of W. Esplanade Ave. Median Canal and the installation of reinforced concrete u-shaped transition structures from 96" diameter reinforced concrete arch pipe headwall to earthen canal.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** Project Engineer for the design, construction administration, and inspection of the Seawall Area Erosion Control Paving Project and Seawall Stabilization. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall, and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans.

**MACARTHUR DRIVE INTERCHANGE COMPLETION – PHASE 1A (AT-GRADE ROADWAY):** Civil Engineer for a massive highway and bridge demolition and reconstruction project in Jefferson Parish. The design work included significant **drainage infrastructure** improvements such as the relocation of dozens of **drainage lines including some up to 72" diameter; new storm drains**, **new drainage pipes** and manholes; and **the extension of the existing reinforced concrete box culvert**. These are of course only some of the features of a much larger project.

**LAKESHORE DRIVE SEAWALL PLAZA AREA AND THE MARDI GRAS FOUNTAIN:** Project Engineer for providing erosion/scour protection for behind the Lakeshore Drive Seawall across from Mardi Gras Fountain. This project demonstrated its significant design features by withstanding Hurricane Katrina. The area between the seawall and roadway was paved utilizing a pile-supported two-way drop panel slab. DEI worked with the OLD to not only create an erosion/scour protection slab, but to turn the slab into an aesthetically beautiful recreational plaza area that complements the historic Mardi Gras Fountain. Also incorporated into the design were tree wells for palms, benches, lighting, protective bollards, and **a subsurface drainage system**. With regard to performance, the plaza erosion improvements have survived the intense wave events at Lakeshore Drive, since its installation. This project also included the full restoration of the historic circa 1960 Mardi Gras Fountain and all landscaping.

**RIVER FOREST PAVING AND DRAINAGE IMPROVEMENTS (WILLOW DRIVE):** Civil Engineer for this project, Mr. Bartlett is responsible performing topographic survey services, production of plans, and construction engineering for the roadway and **subsurface drainage improvements** in the City of Covington. This project includes removing and/or **repairing existing drainage structures**; **installing subsurface drainage**, removing and replacing reinforced concrete roadway panels and their underlying structural fills; and other work as required by the plans and specifications. Mr. Bartlett is responsible for the production of preliminary plans, final plans, and project specifications and assisting the owner with the bid phase of the project.

**JEFFERSON PARISH SUBMERGED ROADWAYS PROGRAM:** Project Engineer for damage evaluation due to Hurricane Katrina and roadway reconstruction of eighty-five (85) concrete streets and eight (8) miles of asphalt roadway repair within Council District 3. DEI's responsibilities include Site Evaluations, Preliminary Plans, Final Plans, Construction Administration, and Resident Inspection. During site evaluations, DEI noted settlement and surface condition and verified the degree and severity of damage described in FEMA Project Work Sheets. Considerations during the design phase were tree root impacts on the existing roadway, addition and/or repair of sidewalks, driveways and handicap ramps, and **adjustment of all drainage structures** within the roadway limits.

**NICHOLSON DRIVE @ BRIGHTSIDE LANE & WEST LEE DRIVE, BATON ROUGE, LA -** Engineer Intern for the engineering design services required for developing plans to widen LA Hwy 30 as part of the Green Light Plan Program. Responsibilities included geometric layout of roadway, **drainage design**, utility relocation, project quantities estimation and preparation of plans.

**WEST MCNEESE AND WEAVER RD. IMPROVEMENTS, LAKE CHARLES, LA -** Engineer Intern for the engineering design services required for developing plans of roadway improvements. Responsibilities included **drainage design**, project quantities estimation and preparation of plans.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Ben Bartlett, P.E., PTOE
Engineer

**Project Assignment:**

Project Engineer

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

7

**Education: Degree(s)/Year/Specialization:**

Auburn University – Masters of Civil Engineering, 2010
The Citadel – Bachelor of Science, Civil and Environmental Engineering, 2008

**Active registration: Year first registered/discipline:**

2014, Civil Engineering, Louisiana License No. 38980
2016, Professional Traffics Operations Engineer Certification No. 4020

**Other experience and qualifications relevant to the proposed Project:**

**DUNCAN CANAL BOX CULVERT INSTALLATION:** Project Engineer responsible for the **hydraulic calculations and modeling** that has been reviewed and **accepted by the Parish, the City of Kenner, and the DOTD** for the installation of a massive 2 cell box culvert that intersects with a separate massive 2 cell box. Also, is responsible for all structural engineering on the project as well for these extremely large concrete structures (in excess of **13 feet tall and 80 feet wide)**.

**FRISCO AVENUE DRAINAGE IMPROVEMENTS, JEFFERSON PARISH**: Mr. Bartlett is the engineer responsible for the design of improvements along Frisco Avenue in Old Metairie. This project includes upgrading approximately **1200' of drain lines ranging from 15" diameter to 42" diameter pipes** at Frisco Avenue, relocating existing utilities such as waterlines and fiber optic lines along 1000' parallel to an operating railroad. The project also includes the closure of an existing 300' long ditch. Responsibilities include project quantity estimating, preparation of plans for bidding, preparation of specifications for bidding and construction administration. This project also includes coordination with the Norfolk Southern Railroad for permitting, design and throughout the proposed construction.

**WEST ESPLANADE AVENUE CROSSING (BETWEEN WILLIAMS BLVD. AND POWER BLVD.):** Hydraulic Engineer responsible for the feasibility/ conceptualization, hydraulic engineering, preliminary and final plans, construction administration and resident inspection services for the improvements to the W. Esplanade Ave. Crossing. This project consisted of the installation of **twin 96" ø reinforced concrete arch pipes** with headwalls to accommodate crossing of W. Esplanade Ave. Median Canal and **the installation of reinforced concrete u-shaped transition structures** from 96" ø reinforced concrete arch pipe headwall to earthen canal.

**RIVER FOREST PAVING AND DRAINAGE IMPROVEMENTS (WILLOW DRIVE):** Civil Engineer for this project, Mr. Bartlett is responsible performing topographic survey services, production of plans, and construction engineering for the roadway and **subsurface drainage improvements** in the City of Covington. This project includes **removing and/or repairing existing drainage structures**; **installing subsurface drainage**, removing and replacing reinforced concrete roadway panels and their underlying structural fills; and other work as required by the plans and specifications. Mr. Bartlett is responsible for the production of preliminary plans, final plans, and project specifications and assisting the owner with the bid phase of the project.

**JEFFERSON PARISH UTILITY RELOCATION AT CAUSEWAY SOUTH SHORE:** Project Engineer for this project, Mr. Bartlett was part of the design team (contracted by Jefferson Parish) responsible for the relocation of all Parish utilities

between the South shore of Lake Pontchartrain and 6th Street in order to facilitate the construction of a major hurricane protection feature. This included **large drainage lines, deep gravity sewer lines, several HDD water lines**, as well as coordination with the privately owned utilities in the area (Entergy, AT&T, Cox, TW Telecom, etc.).

**ST. CHARLES PARISH SPILLWAY ROAD CULVERT REPAIR:** Project Engineer for the opening of the Bonnet Carre' Spillway, which caused severe damage to Spillway Road that connects the communities of Norco and Montz in St. Charles Parish. Mr. Bartlett was part of the design team that engineered the repairs to the existing roadway and the **fortification of multiple culvert crossings**. This project included the preparation of plans and technical specifications for contract bid and construction process (including resident inspection).

**ST. CHARLES PARISH CULVERT ORDINANCE REVIEW:** Project Engineer for this project, Mr. Bartlett provided a report that **assessed the Parish's existing drainage system**, the ordinances that affected it, and how surrounding areas dealt with drainage issues. The report required the analysis of various flow situations as well as the legal ramifications associated with the **modification to drainage**. An Attorney General's Opinion as well as the Parish Attorney's Opinion were both reviewed in the report.

**ST. CHARLES PARISH CULVERT PRIORITIZATION:** Project Engineer for this project, Mr. Bartlett created an equitable prioritization system that allowed St. Charles Parish to quickly and easily evaluate and approve requests to install **subsurface drainage** throughout the Parish. The prioritization system identified the most pertinent factors for **rating existing open swale drainage** and provided a grading system for their evaluation. The system is used by the Parish to determine whether to pursue the **installation of subsurface drainage** based on a quantifiable process.

**OLD MANDEVILLE SHORELINE PROTECTION STUDY:** Project Engineer for this project. In the aftermath of Hurricane Isaac, the City of Mandeville received a grant to assess how best to protect its low-lying areas along the North shore of Lake Pontchartrain. The existing drainage system for the City as well as its interaction with the Lake were analyzed and modeled. The analysis encompassed aspects ranging from protection structures and pumping capabilities to **drainage, power, and sewerage utilities**. The information gained from the models was utilized to provide the City with a report which provided a comprehensive overview of the existing system as well as proposed modifications to assist in mitigating issues related to flooding along the Old Mandeville lakefront.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Brent French, P.E., Engineer

**Project Assignment:**

Civil Engineer

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

9

**Education: Degree(s)/Year/Specialization:**

BS, 2011, Civil Engineering, University of Mississippi
MS, 2013, Engineering, University of Mississippi

**Active registration: Year first registered/discipline:**

2016, Civil Engineering, Louisiana License No. 41139

**Other experience and qualifications relevant to the proposed Project:**

**DUNCAN CANAL BOX CULVERT INSTALLATION:** Project Engineer responsible for the **hydraulic calculations and modeling** that has been reviewed and **accepted by the Parish, the City of Kenner, and the DOTD** for the installation of a massive 2 cell box culvert that intersects with a separate massive 2 cell box. Also, responsible for all structural engineering on the project as well for these extremely large concrete structures (in excess of **13 feet tall and 80 feet wide)**.

**WEST ESPLANADE CANAL CROSSING:** Civil Engineer that performed project surface work design for the improvements to West Esplanade Boulevard which include installing a 573-foot Canal Crossing, over 600 feet of roadway, additional sidewalk, and a new signalized interchange. Mr. French was part of the team that provided hydraulic engineering, conceptual, and preliminary and final plans for the improvements to West Esplanade Boulevard. This project consisted of the installation of **twin 96" diameter reinforced concrete arch pipes** with headwalls to accommodate crossing of W. Esplanade Ave. Median Canal and the installation of reinforced concrete u-shaped transition structures from 96" diameter reinforced concrete arch pipe headwall to earthen canal.

**AIRLINE DRIVE DRAINAGE CROSSING ST. PETER'S DITCH:** Engineer Intern responsible for assisting in the preparation of plans and technical specifications for contract bid and construction process. This project consists of designing **365 feet of drainage improvements** adjacent to and across Airline Drive. Included in the work is the design of **large drainage junction boxes**, micro-tunneling or hand tunneling large diameter drain line across Airline Drive, reinforced concrete box culverts and transition structures. DEI provided hydraulic analysis of the **drainage system** across Airline Drive. **This project is shown to demonstrate our ability to function in a busy and overly developed commercial corridor like Severn.**

**AIRLINE PARK BOULEVARD (CAMPHOR TO WEST NAPOLEON) (CE&I):** Civil Engineer responsible for the construction of 0.390 miles of roadway, which included grading, **drainage structures**, milling asphalt pavement, pavement patching, Class II base course, scarifying and compacting roadbed, asphalt concrete pavement, Portland Concrete Pavement, cofferdams, storm water pumping station and related work. Pavement striping, sign and legends and symbols were also included. DEI was responsible for the construction, engineering and inspection of this project which includes maintaining all construction field records; making daily entries in the project diary to indicate the contractor's personnel and equipment being utilized on the project, the work being accepted, and the acceptability of traffic control; **and the charging of contract time through**

**SiteManager.**

**MACARTHUR DRIVE INTERCHANGE COMPLETION – PHASE 1A (AT-GRADE ROADWAY):** Engineer Intern for a massive highway and bridge demolition and reconstruction project in Jefferson Parish. The design work included **significant drainage infrastructure improvements** such as the relocation of dozens of **drainage lines including some up to 72" diameter; new storm drains**, **new drainage pipes** and manholes; and **the extension of the existing reinforced concrete box culvert**. These are of course only some of the features of a much larger project.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** Structural Engineer responsible for the design, construction administration and inspection of the Seawall Area Erosion Control Paving Project and Seawall Stabilization. This multifaceted project included **installing subsurface drainage for the entire roadway**, seawall and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans.

**WESTWOOD DRIVE (WB EXPRESSWAY. TO LAPALCO):** Civil/Structural Engineer for this project, Mr. French is assigned as the project engineer for the construction of 0.648 miles of roadway which includes 20,516 SY of Portland Cement Concrete Pavement with barrier curb, mountable curb and gutter, including Class II base course, **drainage pipes** and structures, sanitary sewer and related work, and tie-in to the existing Westbank Expressway on the north end and Lapalco Blvd. on the south end. Pavement striping, sign and legends and symbols are also included. Mr. French's responsibilities are responding to RFIs, performing periodic site visits, considering and negotiating change orders, and attend project meetings.

**VIOLET CANAL SIPHON STRUCTURE REPLACEMENT, VIOLET, LOUISIANA:** Project Engineer for this project which included the inspection and development of plans and specifications for the Violet Canal Siphon Structure, a structure intended to prevent debris from entering the two (2) 50-inch diameter siphon pipes which divert water from the Mississippi River to the Violet Canal. The timber and chain-link fence structure surrounding the intake portion of the siphon pipes was critically damaged by a marine vessel impact, requiring a design to remove and replace the structure in the MS River.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Max Shukla, P.E.
Senior Engineer

**Project Assignment:**

Structural Engineer

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

36

**Education: Degree(s)/Year/Specialization:**

BS, 1960, Civil Engineering, M.S. University, Baroda, India
MS, 1969, Civil Engineering, M.S. University, Baroda, India

**Active registration: Year first registered/discipline:**

1978, Civil Engineering, Louisiana License No. 17008

**Other experience and qualifications relevant to the proposed Project:**

**DUNCAN CANAL IMPROVEMENTS:** This project includes conceptual, preliminary and final plans to replace the Bridge at Duncan Canal over West Esplanade. In addition, the project required permitting and hydraulic engineering. This project is one of the largest canals in Jefferson Parish and the existing bridges are in poor condition and an eye sore. In this project, **DEI designed two massive concrete box culverts (38 x 13 each) as well as two smaller box culverts to receive Canal #2**. Following the bridge replacement, newly design asphalt roadway will be placed on the approaches as well as over the boxes.

**AIRLINE DRIVE DRAINAGE CROSSING ST. PETER'S DITCH:** Structural Engineer responsible for the preparation of plans and technical specifications for contract bid and construction process. This project consisted of designing **365 feet of major drainage improvements** adjacent to and across Airline Drive. Included in the work was the **design of large drainage junction boxes**, micro-tunneling or hand tunneling large diameter drain line across Airline Drive, reinforced concrete box culverts and transition structures. DEI provided hydraulic analysis of the **drainage system across Airline Drive**.

**INTERSECTION IMPROVEMENTS OF WILKER NEAL AT AIRLINE HIGHWAY, JEFFERSON PARISH:** Structural Engineer for the design and **construction of a 10.42 ft. x 18.67 ft concrete box culvert in Canal No. 6** along Airline Drive. The project also included the removal of the existing bridge and constructing an asphaltic concrete roadway over the box culvert on Wilker-Neal Drive and modify the intersection of Wilker-Neal Drive and Airline Drive, as well as additional turning lanes and median modifications on Airline Drive.

**GENERAL DEGAULLE CANAL ROAD CROSSING (WALL BOULEVARD AND SANDRA DRIVE):** Structural Engineer responsible for the **design of a (10'x14') concrete box culverts**, transition flume sections on each end of box and vertical and horizontal alignment. DEI is providing all services required for the preparation of preliminary and final design plans. DEI's responsibilities included horizontal and vertical alignment, design of **new subsurface drainage to tie existing drainage infrastructure with concrete box culverts** and comment review and responses.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** Structural Engineer responsible for the design, construction administration, and inspection of the Seawall Area Erosion Control Paving Project and Seawall Stabilization.

This multifaceted project included **installing subsurface drainage for the entire roadway, seawall, and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans.

**USACE – WBV – PLANTERS PUMPING STATION:** Structural engineer for the extension of **nine (9) steel drainage discharge pipes**, installation of discharge pipe valves and associated electrical work, construction of a 610-foot-long concrete flood protection T-Wall, and concrete scour protection for a total cost of 35 million dollars. In addition to providing all design services, DEI also performed the Engineering During Construction (EDC) contract, during which shop drawings, design submittals, and Requests for Information (RFI's) by the Contractor were processed during the construction of the pumping station in coordination with other design firms. Resident inspection was also conducted during construction and inspection reports were submitted to USACE. This project has been **awarded the American Concrete Institute (ACI) - Best Concrete Project award for 2012.**

**DWYER DRAINAGE PUMPING STATION DISCHARGE TUBES AND CANAL:** Structural engineer for the planning and design of the **discharge pipes and drainage canal between Dwyer drainage pumping station and the** IHNC. The design of DEI's work included **3 – 84" ø drain lines**, relocation of utilities, Jourdan Road by-pass, blind bridges to maintain use of all railroad tracks during construction, construction of a 25 foot wide concrete box canal, floodwall relocation and reconstruction of Jourdan Road.

**HOLLYGROVE AREA DRAINAGE IMPROVEMENT:** Structural engineer for the installation of **1900 LF of 20'x10' concrete box culvert canal and 550 LF of 16'x10' of concrete box canal** along the abondoned railroad embankment between Monticello Street and Eagle Street. Also, **1500 LF of 5 x 4 concrete box culvert constructed along Eagle Street** from Forshey Street to Stoelitz Street. DEI provided inspection services for the Sewerage and Water Board of New Orleans on the following projects: Hollygrove Area Drainage Improvements Railroad Embankment and Eagle Street Covered Canal Work; Hollygrove Area Drainage Improvements Forshey and Dublin Streets Covered Canal Work; and Pritchard Place Pumping Station.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

John Karlin, S.E., P.E.
Civil Engineer Intern

**Project Assignment:**

Civil Engineer

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

4

**Education: Degree(s)/Year/Specialization:**

MS / 2017 / Civil (Structural) Engineering / University of Illinois at Urbana-Champaign
BS / 2016 / Civil Engineering / Worcester Polytechnic Institute

**Active registration: Year first registered/discipline:**

2020, PE, Civil Engineering, License #0044795

**Other experience and qualifications relevant to the proposed Project:**

**CAUSEWAY BOULEVARD OVERPASS OF AIRLINE DRIVE:** Structural Engineer for this project, Mr. Karlin assisted the project engineer with conducting a comprehensive structural inspection of all portions of the Causeway Boulevard Overpass of Airline Drive (all existing bridge components north of the southern right-of-way line of Airline Drive); performed a load capacity rating analysis of the AS-BUILT and AS-IS conditions of the structure; and submitted a comprehensive repair/rehabilitation report prioritizing recommended repairs/corrective measures. Based on the findings of the report, DEI is responsible for the production of plans, specifications, and contract documents to repair/replace the Overpass's girders, bearings, deck, and **drainage system**. Additionally, it is DEI's responsibility to provide full time resident inspection and testing services during construction.

**CITY OF KENNER DUNCAN CANAL BRIDGE REPLACEMENT:** Mr. Karlin assisted in the replacement of aging bridges spanning the Duncan Canal with a **new, buried box culvert system** that improves aesthetics while maintaining the conveyance of traffic across the canal. Responsibilities include: design of the top slab to resist vehicular loadings; design of the base slab to adequately distribute loads to the soil; design of the walls and wingwalls to resist lateral soil pressures and soil and vehicular surcharge loadings; and design of columns and beams to create a junction between Duncan Canal and Canal No. 2 and facilitate the flow of water between the **two box culverts**.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT – REACH 3A:** Mr. Karlin assisted with the erosion control project of the Lake Pontchartrain seawall. Responsibilities include: design of slab on grade to support pedestrian traffic and prevent cracking and damage during extreme events; layout of slab joints to allow expansion and contraction of the slab and seawall without cracking of the slab; layout of timber piles to ensure proper load transfer from the slab to the soil and minimize settling and damage due to soil erosion; and design of grade beams and retaining walls near existing trees to satisfy the project goals without removal of trees. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall, and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT – REACHES 1C, 2A, AND 5B:** Mr. Karlin assisted with construction management services of the erosion control project of the Lake Pontchartrain seawall. Responsibilities included the review of shop drawings; RFI responses; field inspections of reinforcing steel and concrete; and design modifications, such as pile relocation, when required to address conflicts in the field. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall, and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**.

**St. Andrew Street Wharf Erosion Mitigation:** (Role: Engineer Intern) Design Engineering, Inc. (DEI) is performing engineering services for the Port of New Orleans for their St. Andrew Street Wharf Erosion Mitigation project. The project works generally encompass the construction of an approximately 1600 feet long and 50 feet deep steel sheet pile wall with a reinforced concrete pile cap along the roadway side of the St. Andrew Street Wharf, and associated roadway construction.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Jay Rafferty
Construction Manager

**Project Assignment:**

Construction Manager

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

2

**Education: Degree(s)/Year/Specialization:**

BS, 1997, Industrial Technology, Southeastern University

**Active registration: Year first registered/discipline:**

N/A

**Other experience and qualifications relevant to the proposed Project:**

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** Construction Project Manager/Project Coordinator Inspector for the Seawall Area Erosion Control Paving Project and Seawall Stabilization. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall, and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans. As Construction Manager, Mr. Rafferty is responsible for overseeing the Resident Inspector, conducting regular site visits, performing quality control, managing office work, and processing pay requests.

**MAGAZINE STREET (LEAKE AVE. TO EAST DRIVE):** Construction Project Manager for this project which consists of providing construction administration and construction engineering services for this roadway rehabilitation project consisting of removal of existing pavement, excavation/embankment, base course, PCC paving, **drainage structures**, concrete curb, sidewalks & handicap ramps, water & sewer lines, pavement markings, and related work. As Construction Manager, Mr. Rafferty is responsible for overseeing the Resident Inspector, conducting regular site visits, performing quality control, managing office work, and processing pay requests.

**CAUSEWAY BOULEVARD OVERPASS OF AIRLINE DRIVE:** Construction Project Manager/Project Coordinator for this project which consists of conducting a comprehensive structural inspection of all portions of the Causeway Boulevard Overpass of Airline Drive, performing a load capacity rating analysis of the AS-BUILT and AS-IS conditions of the structure, and submitting a comprehensive repair/rehabilitation report prioritizing recommended repairs/corrective measures. As Construction Manager, Mr. Rafferty is responsible for overseeing the Resident Inspector, conducting regular site visits, performing quality control, managing office work, and processing pay requests. DEI is responsible for the production of plans, specifications, and contract documents to repair/replace the Overpass's girders, bearings, deck, and **drainage system.**

**AMES BLVD (WB EXPY-HAPPY ST.):** Construction Project Manager for this project which consists of providing construction administration and construction engineering services for the rehabilitation of 0.4 miles of Ames Boulevard between the Westbank Expressway and Happy Street, which consisting of milling and overlaying asphalt pavement, concrete curb, removal and replacement of sidewalks, asphalt patching, **catch basin adjustments**, permanent striping and related work. As Construction Manager, Mr. Rafferty is responsible for overseeing the Resident Inspector, conducting regular site visits, performing quality control, managing office work, and processing pay requests. As Construction Manager, Mr. Rafferty is responsible for overseeing the Resident Inspector, conducting regular site visits, performing quality control, managing office work, and

processing pay requests.

**LAKE PONTCHARTRAIN AND VICINITY 106 CITRUS LAKE FLOOD WALL:** Mr. Rafferty was the Construction Project Manager/Project Coordinator for this project. Mr. Rafferty's responsibilities consisted of managing, scheduling, and coordinating field activities for fifty (50) plus employees. He was also the QC Manager Representative for the US Army Corp of Engineers for this project. His responsibilities included interviewing, training, drug screening, background checking, hiring, and termination of field personnel.

**ST. ANDREW STREET WHARF EROSION MITIGATION PROJECT, PORT OF NEW ORLEANS, LA:** Mr. Rafferty was the Construction Inspector for this project. This project encompassed the construction of an approximately 1600-foot-long and 50-foot-deep steel sheet pile wall with a reinforced concrete pile cap along the roadway side of the St. Andrew Street Wharf and associated roadway construction. Mr. Rafferty was responsible for preparing daily reports, inspecting the progress of the work to ensure that the contractor complied with the requirements of the plans and specifications, and attending all project meetings.

**USACE NO. LPV 04.2 & 2B LPV 05.2B: ST. CHARLES LEVEE REACH 1A LPV 04.2 & 2B LPV 05.2B:** Mr. Rafferty was the Construction Project Manager/Project Coordinator for this project. Mr. Rafferty's responsibilities consisted of managing, scheduling, and coordinating field activities for fifty (50) plus employees. He was also the QC Manager Representative for the US Army Corp of Engineers for this project. Mr. Rafferty's responsibilities included interviewing, training, drug screening, background checking, hiring, and termination of field personnel.

**USACE NO. WBV-07: PLANTERS PUMP STATION:** Mr. Rafferty was the Construction Project Manager/Project Coordinator for this project. Mr. Rafferty's responsibilities consisted of managing, scheduling, and coordinating field activities for more than fifty (50) field personnel. He was also the QC Manager Representative for the US Army Corp of Engineers for this project. He was responsible for interviewing, training, drug screening, background checking, hiring, and termination of field personnel.

**SOUTHBOUND CAUSEWAY SAFETY RAIL IMPROVEMENTS:** Mr. Rafferty provides resident inspection for the improvement of the existing bridge railing system to MASH Test Level 4, the repair of damaged concrete railing, replacement of impact attenuators, relocation of signs and supports, modification of call boxes, installation of pavement markings, and installation of access platforms. CE&I: construction administration includes organization of progress meetings, review of submittals (e.g. Construction Schedules, RFIs, Plan Changes, and Materials), and processing partial pay estimates. Resident inspection includes observation of construction activities (e.g. 48 miles of bridge rail fabrication and installation, 138,000 epoxied anchor rods, and repair of damaged concrete rail), production of daily reports, review of TTC installation/removal, and review of on-site safety.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Jeffrey Monfrey
Certified Inspector

**Project Assignment:**

Resident Inspector

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

3

**Education: Degree(s)/Year/Specialization:**

Certifications: LADOTD Structural Concrete Inspector, LADOTD Embankment and Base Course Inspector, LADOTD PCC Paving Inspector, LADOTD Asphalt Paving Inspector/Technician, ATSSA Flagger, ATSSA Traffic Control Supervisor

**Active registration: Year first registered/discipline:**

N/A

**Other experience and qualifications relevant to the proposed Project:**

**AIRLINE PARK BOULEVARD (CAMPHOR TO WEST NAPOLEON) (CE&I):** Civil Engineer responsible for the construction of 0.390 miles of roadway, which included grading, **drainage structures**, milling asphalt pavement, pavement patching, Class II base course, scarifying and compacting roadbed, asphalt concrete pavement, Portland Concrete Pavement, cofferdams, storm water pumping station and related work. Pavement striping, sign and legends and symbols were also included. DEI was responsible for the construction, engineering and inspection of this project which includes maintaining all construction field records; making daily entries in the project diary to indicate the contractor's personnel and equipment being utilized on the project, the work being accepted, and the acceptability of traffic control; **and the charging of contract time through SiteManager.**

**WESTWOOD DRIVE (WB EXPRESSWAY TO LAPALCO):** Mr. Monfrey provides construction inspection for the construction of 0.648 miles of roadway which includes 20,516 SY of Portland Cement Concrete Pavement with barrier curb, mountable curb and gutter, including Class II base course, **drainage pipes** and structures, sanitary sewer and related work, and tie-in to the existing Westbank Expressway on the north end and Lapalco Blvd. on the south end. Mr. Monfrey's responsibilities include maintaining all construction field records; make daily entries in the project diary to indicate the contractor's personnel and equipment being utilized on the project, the work being accepted, the acceptability of traffic control, and the charging of contract time.

**CANAL BOULEVARD (ROBERT E. LEE – AMETHYST) (CE&I):** Mr. Monfrey provides construction inspection the reconstruction of an existing four (4) lane divided boulevard. This project included grading, **drainage structures**, milling asphalt pavement, pavement patching, Class II base course, scarifying and compacting roadbed, asphalt concrete pavement, Portland Cement Concrete Pavement, cofferdams, stormwater pumping station, pavement striping, signs, and legends and symbols. DEI was responsible for the construction, engineering, and inspection of this project, which included maintaining all construction field records; making daily entries in the project diary to indicate the contractor's personnel and equipment being utilized on the project, the work being accepted, and the acceptability of traffic control; **and the charging of contract time through SiteManager.**

**SOUTHBOUND CAUSEWAY SAFETY RAILS:** Mr. Monfrey provided resident inspection for the improvement of the existing bridge railing system to MASH Test Level 4, the repair of damaged concrete railing, replacement of impact attenuators, relocation of signs and supports, modification of call boxes, installation of pavement markings, and installation of access platforms. Construction Administration included organization of progress meetings, review of submittals (e.g., Construction Schedules, RFIs, Plan Changes, and Materials), and processing of partial pay estimates. Resident Inspection included observation of construction activities (e.g., 48 miles of bridge rail fabrication and installation, 138,000 epoxied anchor rods, and repair of damaged concrete rail), production of daily reports, review of TTC installation/removal, and review of on-site safety.

**WEST LAROSE VERTICAL LIFT BRIDGE REHABILITATION, ROUTE LA 1, LAFOURCHE PARISH, LA.:** Inspector – Mr. Monfrey as the lead inspector for the traffic control, structural repairs and Site Manager for this project. He coordinated the painting and environmental operations as the lead inspector.

**SUBMERGED ROAD PROGRAM, JEFFERSON PARISH, LA.:** Mr. Monfrey served as the Construction Inspector for the Submerged Road Program in Jefferson Parish, Louisiana. This project consisted of design, construction administration and resident inspection of the Streets Improvement Program for specific projects located throughout Council Districts 1, 2, and 5 in Jefferson Parish.

**HUEY P. LONG BRIDGE WIDENING, JEFFERSON PARISH, LA.:** Mr. Monfrey was a Senior Bridge Inspector assigned to the Huey P. Long Bridge widening projects. He supervised the inspection of structural steel erection and bolting, structural concrete construction, embankment and base course construction, concrete paving, and asphaltic concrete paving. This project involved the widening of the current bridge to include three 11-foot travel lanes in each direction, with the addition of inside and outside shoulders. The construction plans called for no additional pier foundations for the main river bridge, but rather widening of pier shafts above the existing caisson foundations and the addition of two new parallel trusses to accommodate the widened roadway along the main bridge. For the approaches, new parallel structures were built to accommodate the new roadways. Cost: $5.2B (construction).

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Jeff Puissegur
Inspector

**Project Assignment:**

Resident Inspector

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

10

**Education: Degree(s)/Year/Specialization:**

Associates of Arts, Business Management, Tulane University
Bachelor of Arts, Major in Business Management, Minor in Arts & Business, Tulane University Completed ATSSA Work Zone Traffic Control Technician and ATSSA Traffic Control Supervisor and Flagger Course

**Active registration: Year first registered/discipline:**

N/A

**Other experience and qualifications relevant to the proposed Project:**

**AIRLINE PARK BOULEVARD (CAMPHOR TO WEST NAPOLEON):** Mr. Puissegur is the Resident Inspector for the construction of 0.390 miles of roadway which includes grading, **drainage structures**, milling asphalt pavement, pavement patching, class ii base course, scarifying and compacting roadbed, asphalt concrete pavement, Portland Cement Concrete Pavement, cofferdams, storm water pumping station, and related work on Airline Park Boulevard from north of its intersection with Camphor St. to its junction with W. Napoleon Ave. Mr. Puissegur prepares daily reports which are recorded through LADOTD Site Manager, inspect the progress of the work to ensure that the Contractor complies with the requirements of the plans and specifications and attends all the progress meetings. Further, Mr. Puissegur writes in his daily diary items of work performed for the day and the comparison of quantities installed with the Contractor.

**SEAWALL AREA EROSION CONTROL PAVING PROJECT:** Resident Inspector for the Seawall Area Erosion Control Paving Project and Seawall Stabilization. This multifaceted project included **installing subsurface drainage for the entire roadway, seawall, and surrounding area, and installing multiple seawall penetrations to accommodate outfall to the lake**. The concept has been so successful and economically advantageous that the client is expanding the design to all 5.2 miles of Lakeshore Drive in New Orleans.

**AIRLINE DRIVE DRAINAGE CROSSING ST. PETER'S DITCH:** Resident Inspector responsible for the quality assurance in the construction of **365 feet of drainage improvements** adjacent to and across Airline Drive, including the construction of **large drainage junction boxes**, **micro-tunneling or hand tunneling large diameter drain line across Airline Drive**, reinforced concrete box culverts and transition structures. Mr. Puissegur prepared daily reports through LADOTD Site Manager, inspected the progress of the work to ensure that the contractor complied with the requirements of the plans and specifications, and attended all project meetings.

**MAGAZINE STREET (LEAKE AVE. TO EAST DRIVE):** Resident Inspector responsible for this project which consists of providing construction administration and construction engineering services for this roadway rehabilitation project consisting of removal of existing pavement, excavation/embankment, base course, PCC paving, **drainage structures**, concrete curb, sidewalks & handicap ramps, water & sewer lines, pavement markings, and related work. Mr. Puissegur prepares daily reports which are recorded through LADOTD Site Manager, inspect the progress of the work to ensure that the Contractor complies with the requirements of the plans and specifications and attends all the progress meetings. Further, Mr. Puissegur writes in his daily diary items of work performed for the day and the comparison of quantities installed with the Contractor.

**LAKE FOREST BOULEVARD:** Resident Inspector for the construction of approximately 638 LF of Portland Cement Concrete Pavement with barrier curb, barrier rails, and retaining wall, **including drainage pipes** and structures and tie-in to the existing Westbound concrete pavement at Lake Forest Boulevard. Also, approximately 624 LF of the existing Eastbound asphaltic concrete pavement on Lake Forest Boulevard was removed by milling and overlayed with 2" asphaltic concrete wearing course, to develop a 2.5% cross slope. Pavement striping, signs, and legends and symbols are included. Mr. Puissegur prepares daily reports which are recorded through LADOTD SiteManager, inspects the progress of the work to ensure that the Contractor complies with the requirements of the plans and specifications, and attends all the progress meetings. Further, Mr. Puissegur wrote in his daily diary items of work performed for the day and the comparison of quantities installed with the Contractor.

**JEFFERSON PARISH SUBMERGED ROADWAYS PROGRAM:** Resident Inspector for damage evaluation due to Hurricane Katrina and roadway reconstruction of eighty-five (85) concrete streets and eight (8) miles of asphalt roadway repair within Council District 3. Design Engineering's responsibilities include Site Evaluations, Preliminary Plans, Final Plans, Construction Administration, and Resident Inspection. During site evaluations, DEI noted settlement and surface condition and verified the degree and severity of damage described in FEMA Project Work Sheets. Considerations during the design phase was tree root impacts on the existing roadway, addition and/or repair of sidewalks, driveways and handicap ramps and adjustment of all **drainage structures** within the roadway limits. Mr. Puissegur prepared daily reports through LADOTD Site Manager, inspected the progress of the work to ensure that the contractor complied with the requirements of the plans and specifications, and attend all project meetings.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

Wayne Lemoine
Inspector

**Project Assignment:**

Resident Inspector

**Name of Firm with which associated:**

Design Engineering, Inc.

**Years' experience with this Firm:**

11

**Education: Degree(s)/Year/Specialization:**

LADOTD Structural Concrete Inspector, ATSSA Flagger, ATSSA Traffic Control Supervisor, ATSSA Flagger, ATSSA Traffic Control Supervisor

**Active registration: Year first registered/discipline:**

N/A

**Other experience and qualifications relevant to the proposed Project:**

**REPAIRS & REPLACEMENT OF THE 9-MILE TURNAROUND SPANS ON LAKE PONTCHARTRAIN CAUSEWAY, ST. TAMMANY AND JEFFERSON PARISHES, LA. (SP NO. 706-99-0004, GNOEC#ER-0004):** Mr. Lemoine is the inspector on the pile driving and structural concrete placement. He maintained all the site manager records and performed the sampling and testing for concrete placements on the decks.

**LA 70 MISSISSIPPI RIVER BRIDGE, PHASE II CE&I, PAINTING INSPECTION, AND ENVIRONMENTAL MONITORING, ST. JAMES PARISH, LA.:** Mr. Lemoine performed structural steel inspection, traffic control inspection and structural concrete repair inspection along with contract administration for the LA 70 Bridge over the Mississippi River. He coordinated the painting and environmental operations with Site Manager Reports and Daily Work Reports. This project include strengthen of steel members, repairing end damns and roadway joints and painting of the steel approaches.

**LOUISIANA TIMED PROGRAM (LTM), STATEWIDE, LA.:** Mr. Lemoine was assigned to the Huey P. Long Bridge widening project where he managed and inspected the widening of the current bridge to include three 11-foot travel lanes in each direction, with the addition of inside and outside shoulders. The construction plans called for no additional pier foundations for the main river bridge, but rather widening of pier shafts above the existing caisson foundations and the addition of two new parallel trusses to accommodate the widened roadway along the main bridge. For the approaches, new parallel structures were built to accommodate the new roadways. Cost: $5.2B (construction)

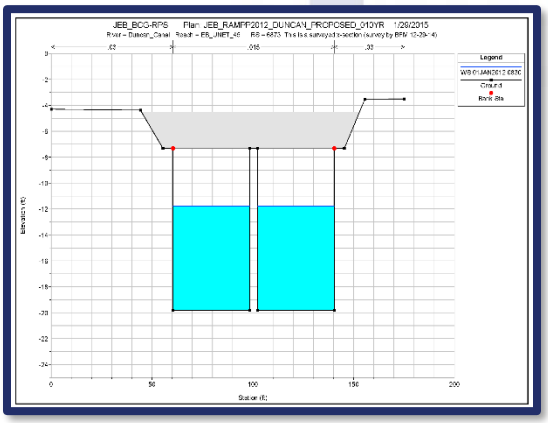
**SUNSHINE BRIDGE, DONALDSONVILLE, LA:** Mr. Lemoine performed inspection to repair the expansion joints on the Sunshine Bridge. Mr. Lemoine also inspected the placement of epoxy in the roadway repair. He was responsible for preparing daily report and attend all project meetings. Mr. Lemoine also reviewed and processed Contractors invoices.

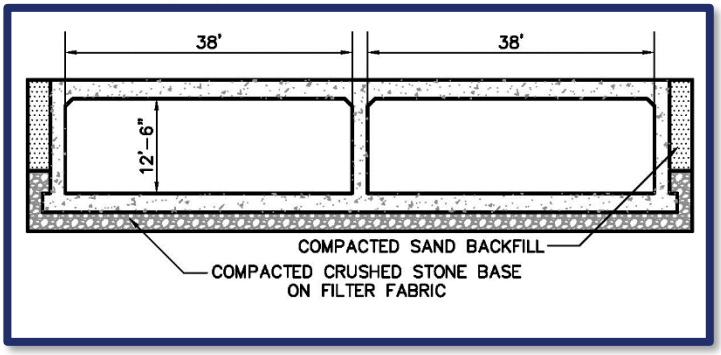
**CAUSEWAY BRIDGE, METAIRIE, LA:** Mr. Lemoine was the Senior Bridge Inspector and coordinator with the Greater New Orleans Expressway Commission. Mr. Lemoine inspected the installation of the dynamic boards at the Causeway bridge. He also inspected the reconstruction of the electrical system of the North Toll Plaza Building and inspected the reconstruction of the exit road and parking lot at the North Toll Plaza.

**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: |
|---|---|
| **Duncan Canal Bridge Replacement**<br>**Kenner, Louisiana**<br><br>Jose Gonzalez<br>City of Kenner<br>1610 Reverend Richard Wilson Dr.<br>Kenner, LA 70062<br>(504) 468-7515 | This project is located at the confluence of West Esplanade Canal and Duncan Canal in the City of Kenner (Jefferson Parish). The objective of the project is to reduce restriction in both Canals by removing the aging wooden bridge structures and replacing it with **two modern large double barrel concrete box culverts** (2 boxes in each canal).<br><br>A secondary objective is to reduce the "perch" of the bridges so that traffic sight lines are improved. This will result in increased driving safety, which is an important feature in this highly trafficked corridor which is adjacent to multiple retail outlets, a shopping mall, and several residential areas.<br><br>Another secondary objective is to improve the location aesthetically by removing the unsightly structures and **replacing them with large box culverts** that will enclose large portions of the canals, add green space, and allow for decorative landscaping as well as potential recreation.<br><br>Design Engineering, Inc. performed multiple planning, design, and engineering tasks, most notably the **hydraulic analysis for this primary drainage canal for the City of Kenner** as well as the **structural design** for the boxes. The Duncan Boxes alone are **over 13 feet tall and 80 feet wide** inside the openings (the actual structure is of course much larger). |






| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible: |
| 2017 | $12,503,000.00 | $9,230,000.00 |

| PROJECT NO. 2 | |
|---|---|
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
| **West Esplanade Avenue Crossing (Between Williams Blvd. and Power Blvd.)**<br><br>Mitch Theriot<br>Jefferson Parish Engineering<br>1221 Elmwood Park Blvd.<br>Jefferson, Louisiana<br>(504) 736-6512<br><br>  <br><br><br>  | DEI was contracted by Jefferson Parish to provide feasibility/ conceptualization, hydraulic engineering, preliminary and final plans, construction administration, and resident inspection services for the improvements to the West Esplanade Avenue Crossing (Between Williams Blvd. and Power Blvd.)<br><br>This project included the installation of **500 feet of twin 96" diameter reinforced concrete arch pipes** with headwalls to accommodate crossing of West Esplanade Avenue Median Canal and the installation of reinforced concrete u-shaped transitions structures from 96" diameter reinforced concrete arch pipe headwall to earthen canal.<br><br>The project also required **large confluence boxes** as well as on site adjustment to drainage laterals in order to avoid penetration of the recycled pipe that was used in the project in order to save costs and use a resiliency design technique.<br><br>The West Esplanade Avenue Median Canal Crossing also consisted of the following:<br><br>• 50 ft. taper to 100 ft. storage lane to east-to-west U-turn;<br>• 4-lane crossing with traffic signal system;<br>• 50 ft. taper to 200 ft. storage lane to west-to-east U-turn |

| **Completion Date (Actual or estimated):** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2017 | $3,000,000.00 | $3,000,000.00 |

| PROJECT NO. 3 | |
|---|---|
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
| **Frisco Avenue Drainage Improvements**<br>**Jefferson Parish, Louisiana**<br><br>Mitch Theriot<br>Jefferson Parish Drainage Department<br>1221 Elmwood Park Blvd.<br>Jefferson, LA<br>(504) 736-6505<br><br>  <br><br>  | The project area is located in Old Metairie in Jefferson Parish, Louisiana. The drainage system in this study is part of the Old Metairie basin which discharges via Lake Avenue into the Canal Street Canal.<br><br>Design Engineering, Inc. (DEI) was contracted by Jefferson Parish to study and **improve the hydraulic characteristics of the Frisco Drainage Sub-Basin** in Old Metairie which includes the corner of Metairie Road and Frisco Avenue, Frisco Avenue, and Lake Avenue. Currently, the corner of Metairie Road and Frisco Avenue experiences issues with flooding even during minor rain events.<br><br>DEI modeled the drainage system and was able to determine areas of concern in the present system. Improvements to the system were also modeled to provide the Parish with recommendations to address claims of flooding the shops along Metairie Road during severe storm events.<br><br>DEI's analysis of the Frisco Drainage Sub-Basin and its respective subsurface drainage system indicates conveyance issues negatively affect the corner of Metairie Road and Frisco Avenue during the design storm event. The results indicate that drainage lines are generally undersized and require substantial upsizing to improve hydraulic performance.<br><br>DEI re-designed the drainage system to improve hydraulic performance and alleviate flooding. The drainage system and parking lot at the corner of Metairie Road and Frisco Avenue were also re-designed to improve stormwater conveyance and collection. The design team overcame challenges associated with conflicting utilities (e.g. sewer, water, gas, electrical & fiber optic lines) while limiting head loss in the drainage system. Additionally, due to the close proximity of Norfolk Southern's rail line, the design team had to work with the railroad to develop Plans that would meet strict railroad requirements (i.e. minimal railroad disruption, maintain slope stability, etc). |

| **Completion Date (Actual or estimated):** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2019 | $1,250,000.00 | $1,250,000.00 |

| PROJECT NO. 4 | |
|---|---|
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
| **Northbound Manhattan Boulevard**<br>**Continuous Right Turn Lane**<br>**Jefferson Parish, LA**<br><br>Juan Gutierrez<br>Jefferson Parish Engineering<br>1221 Elmwood Park Blvd.<br>Jefferson, LA<br>(504) 736-6505<br><br>  <br><br>  | Design Engineering, Inc. (DEI) was responsible for the Feasibility Study, Preliminary and Final Designs, Construction Administration, and Inspection Services for this project. This project included construction of an additional asphaltic concrete northbound lane for Manhattan Blvd. (Gretna Blvd. to West Bank Expressway) with a concrete combination curb and gutter, **subsurface drainage**, replacement of existing gravity sewer line, relocation of existing water line and sewer force main, and removal and replacement of exiting concrete walks and drives under heavy traffic conditions and electrical services. The project also involved acquisition of substantial properties.<br><br>Project Objectives:<br>• To design and construct an additional asphaltic concrete lane to reduce traffic congestion along the Manhattan Blvd. – between Gretna Blvd. and the West Bank Expressway.<br>• The project also required acquisition of property, traffic management and an expedited seven (7) day and night work schedule, in addition to design and construction engineering and inspection services.<br>• This project was approximately 5,500 LF on Manhattan Blvd.<br><br>Design Phase: The design phase included the design of an additional lane of vehicular traffic to the Northbound Manhattan Blvd. from Gretna Blvd. to US Highway 90 Business (South Side). This lane was added to the property side of the existing roadway (Manhattan Blvd. Northbound) a distance of approximately 5,500 LF. The added lane begins at Gretna Blvd. and ends as a right turn lane at US Hwy 90 B Eastbound (West Bank Expressway) in order to reduce traffic congestion on Northbound Manhattan Blvd.<br><br>Construction Phase: DEI was responsible for the construction administration and inspection services on the replacement and/or relocation of underground utilities, **drainage, and subsurface drainage under the additional lane**, while having the existing two (2) traffic lanes open at all times except when work was scheduled at night where a lane could be closed between 10:00pm to 6:00am. The project construction continued for 7 days a week for approximately 244 days. Also included in this project was the placement of new 12" sub-base, 12" base course and 12" asphaltic concrete and new driveways. DEI coordinated with the contractor to make sure that the businesses and vehicular traffic had the least interruption possible when working on the new driveways, traffic signalization, laying of the asphaltic concrete (**at night**) and pavement striping (**at night**).<br><br>Manhattan is a heavy traffic main corridor for the West Bank of Jefferson Parish. Our firm worked closely with local and state authorities as well as business owners to ensure the least disruption possible for the traveling public and business. We provided services to assist the contractor in working **weekends, nights** and as necessary to accommodate up to six (6) crews working **24-hour schedules**. We understood the need to be completely flexible with the work schedule at this location.<br><br>The project was completed "32" days ahead of the scheduled substantial completion date and on budget. This project concluded on November 1, 2012 successfully with our current staff expending a significant effort to successfully construct the project on this very highly trafficked roadway. |

| **Completion Date (Actual or estimated):** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2012 | $3,783,000.00 | $892,000.00 |

| PROJECT NO. 5 | |
|---|---|
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
| **Airline Drive Drainage Crossing (St. Peter's Ditch)**<br>**Jefferson Parish, LA**<br><br>Mark Drewes<br>Jefferson Parish Engineering<br>1221 Elmwood Park Blvd.<br>Jefferson, LA<br>(504) 736-6505 | This project included drainage improvements to the existing St. Peter's Ditch which extends in the north-south direction approximately 2,000 feet from Cross Canal to Airline Drive and approximately 2,500 feet from Airline Drive to West Metairie Drive. The project was divided into three (3) phases and included deepening and widening the existing ditch and the installation of cast-in-place concrete U-channels, reinforced concrete **box culverts and drainage piping**. Design Engineering, Inc. (DEI) prepared plans and specifications for preliminary and final design and conducted construction administration and resident inspection services on Phase 3B to **supplement drainage** across Airline Drive.<br><br>Phase 3B of this project included approximately **365 feet of drainage improvements** near Airline Drive. DEI studied several alternatives in an effort to avoid the open cut of Airline Drive to remove an existing reinforced concrete box culvert and construct a new box culvert, thus adversely affecting traffic on Airline Drive for an extended period of time. In order to reduce the impact of construction on Airline Drive traffic, the accepted alternative was to retain the existing box culvert and supplement the existing box culvert by installing four (4) 42" diameter fiberglass reinforced pipes, approximately 124 feet in length, beneath Airline Drive by using trenchless construction utilizing microtunneling or hand tunneling methods. The project also included the relocation of existing utilities, **including a 24" drain line, a 30" drain line**, a 20" water line, an 8" water line, a gas line, a telephone line, fiberoptic lines and Entergy lines. |
|  <br>  | |

| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2014 | $3,500,000.00 | $150,000.00 |

## PROJECT NO. 6

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: |
|---|---|
| **Westwood Drive (WB Expy. to Lapalco)**<br>**Jefferson Parish, LA**<br><br>Mark Drewes<br>Jefferson Parish Engineering<br>1221 Elmwood Park Blvd.<br>Jefferson, LA<br>(504) 736-6505 | Design Engineering, Inc. (DEI) is responsible for providing the construction contract administration and construction engineering inspection services for the construction of 0.648 miles of roadway which includes 20,516 SY of Portland Cement Concrete Pavement with barrier curb, mountable curb and gutter, including Class II base course, **drainage pipes and structures**, sanitary sewer and related work, and tie-in to the existing Westbank Expressway on the north end and Lapalco Blvd. on the south end. Pavement striping, sign and legends and symbols are also included. Construction Management performed by the office and site personnel includes:<br>• Schedule and attend the preconstruction meeting<br>• Maintain all construction field records; make daily entries in the project diary to indicate the contractor's personnel and equipment being utilized on the project, the work being accepted, the acceptability of traffic control, and the charging of contract time. **All of these activities are managed through LADOTD's Site Manager Program.**<br>• Coordinate with Jefferson Parish Engineer/Representative for all relocations/adjustments of utility facilities and existing drainage structures for the construction of work site.<br>• Inspect the Contractor's construction operations (daily) to ensure that all work is performed in accordance with the specified plans and specifications.<br>• Prepare final estimate packages, including Form 2059 – "Summary of Test Results" in conformance with the DOTD's requirements.<br>• Prepare plan changes and change orders.<br>• Review and process Contractor's invoices and generate partial estimates and weather and workday reports in **Site Manager**.<br>• Work on the175 project closeout and submit all documents required by LADOTD Baton Rouge, Construction Audit. |

| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible: |
| 2020 | $602,000.00 | $602,000.00 |

## PROJECT NO. 7

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: |
|---|---|
| **Fleur de Lis Drive Reconstruction – Phase II (Veterans Memorial Blvd. to North of 30th Street)**<br>**New Orleans, LA**<br><br>Marvin Thompson<br>City of New Orleans, DPW<br>1300 Perdido Street<br>New Orleans, LA<br>(504) 658-8047 | Design Engineering, Inc. was under contract with the Louisiana Department of Transportation and Development and the City of New Orleans to provide the modification of design, construction contract administration, and construction engineering and resident inspection services for the referenced project. The project construction period was 250 calendar days, and the value of the construction contract was $10,804,998.00. On-site project representative services were provided for construction of roadway, **drainage structures and drain lines**, sewer lines, Class II Base Course, Portland Cement Concrete pavement, asphalt patching, Superpave asphaltic concrete pavement, water distribution system, placing pavement markings, traffic signal loop detectors, landscaping (tree removals and replacement) and related work. The entire construction administration for this project was managed through SiteManager (i.e., change orders, daily reports, generating monthly estimates and pay request).<br><br>Construction Management performed by office and site personnel:<br>1. Scheduled and attended the preconstruction meeting.<br>2. Conducted the meeting and maintained minutes of the meeting.<br>3. Maintained all construction field records; made daily entries in the project diary to indicate the Consultant's personnel and equipment being utilized on the project, the work being accepted, the acceptability of traffic control, and the charging of contract time. **All of these activities were managed through LADOTD's SiteManager Program; Critical Path Scheduling; Primavera P6 Software and Bentley ProjectWise.**<br>4. Coordinated with the City Engineer/Representative for all relocations/adjustments of utility facilities for the construction of work site.<br>5. Inspected the Contractor's construction operations (daily) to ensure that all work was performed in accordance with the specified plans and specifications.<br>6. Kept clear and concise records of the contractual operations, prepared monthly pay estimates, and made monthly progress reports in conformance with the DOTD's requirements.<br>7. Prepared final estimate packages, including Form 2059 – "Summary of Test Results" in conformance with the DOTD's requirements.<br>8. Reviewed all form work drawings and submitted to the DOTD for further handling, review, and distribution.<br>9. Coordinated construction activities between engineer, owner, DOTD and FHWA. Followed DOTD procedures for reporting and documentation of pay request.<br>10. Participated in conferences, visited job site, and participated in inspectors by DOTD representative.<br>11. Prepared and submitted as-built plans with the final estimates.<br>12. Prepared field change authorizations<br>13. Prepared plan changes and change orders.<br>14. Monitored and documented construction claims and provided recommendation on disposition of claims. |
|  <br>  <br>  | |

| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | Entire Project: | Work for which Firm was Responsible: |
| 2010 | $1,224,990.00 | $1,224,990.00 |

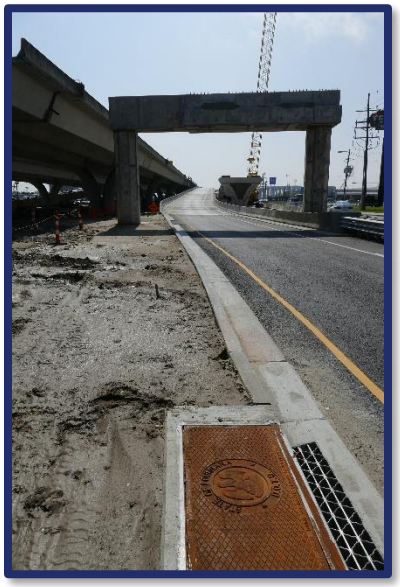
## PROJECT NO. 8

| Project Name, Location and Owner's contact information: | Nature of Firm's Responsibility: |
|---|---|
| **Algiers Canal Pumping Station Project (Planters Pumping Station)**<br>**Jefferson Parish, LA**<br><br>Craig Waugaman<br>USACE<br>Leake Avenue<br>New Orleans, LA<br>(504) 862-2673<br><br>  <br>  | **Jefferson Parish Pumping Station (Planters Pumping Station):** This project received the following **American Concrete Institute awards in November 2012**:<br><br>**Overall Best Project**<br>**Best Concrete Sustainability**<br>**Award of Excellence (Best Project of 2012)**<br><br>This U.S. Army Corps of Engineers' project involved the **extension of nine (9) steel drainage discharge pipes** (eight-84 in. diameter and one-36 in. diameter), installation of discharge pipe valves and associated electrical and mechanical work, construction of a concrete flood protection T-Wall (consisting of pile foundation, wall and base slab) within the existing discharge basin, concrete scour protection at the location where the required T-wall ties into an existing earthen levee system at both ends of the improvement and a concrete dolphin protection system. In addition, miscellaneous work required for this project included placement and compaction of earthen backfill material and lightweight aggregate, construction of concrete paving between the pump station's existing I-wall and required T-wall, construction of a steel walkway for the pipe extensions, and installation of a storm drain line behind the required T-wall. This project was a part of the Army Corps of Engineers work for the New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS).<br><br>The majority of this project required the utilization of cast-in-place concrete made of Type I cement with 20% Class F Flyash replacement, precast concrete piles made of Type I cement concrete, and a combination of cast-in-place and precast concrete pile bents made of high early strength Type III cement concrete. Cast-in-place concrete was utilized for the required concrete T-wall constructed in the discharge basin of the pump station, the required concrete scour protection slope paving at the tie-in locations with the existing earthen levee, concrete paving between the existing pump station I-wall and required T-wall, and a limited number concrete pile bents. Precast concrete piles and precast bents were utilized to construct the new walkway and the discharge pipe supports.<br><br>The entire project was designed and constructed as per the U.S. Army Corps of Engineers Hurricane and Storm Drainage Risk Reduction System Design Guidelines of 2008. All structural loads resulting from storm water at still water level, low water level and up to the top of T-wall, structural fill, storm surge wave action, barge impact, construction surcharge, and wind were incorporated in the design of the concrete T-wall. In addition, the cofferdams required for the construction of T-walls had concrete wing wall elements which were designed for temporary loads resulting from construction and water drawdown conditions. Temporary concrete pipe supports were also provided when necessary to facilitate pump discharging operations. The permanent pipe supports were designed to carry the discharge pipes and all associated loads. The Dolphin system was designed for 100 kips of barge impact load.<br><br>DEI provided the **Design, Engineering During Construction, and Project Closeout** for all civil and structural engineering of this $35,000,000 project. |

| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2012 | $35,000,000.00 | $8,750,000.00 |

| PROJECT NO. 9 | |
|---|---|
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
| **Audubon Boulevard (Willow – South Claiborne)**<br>**New Orleans, LA**<br><br>Marvin Thompson<br>City of New Orleans, DPW<br>1300 Perdido Street<br>New Orleans, LA<br>(504) 658-8042 | Design Engineering, Inc. (DEI) was responsible for providing all services required for preparation of preliminary design plans, final design plans, specifications, and bid documents for the reconstruction of Audubon Boulevard (Willow Street – South Claiborne Avenue). DEI was also responsible for the following design features: roadway pavement complete with curbs; a base for the roadway pavement; **subsurface drainage**; water and sanitary sewer installation, modifications, adjustments, and repair as required; adjustments as required at driveways, at intersecting streets, and at project termini. Final grades were to be compatible with adjacent properties and insured a positive flow of water towards catch basins. Installation of ramps for the handicapped at intersections (including medians) were included.<br><br>Specifically, this project included the preliminary and final design, construction administration, and resident inspection for 2,900 LF of new roadway. Included in the project for Audubon Boulevard was a divided roadway with raised median, a new concrete roadway with **2,900 LF of subsurface drainage** varying in size from 12"ø to 60"ø RCPA equivalent, 2900 LF of 8" water main and 3000 LF of 8" sewer line, gas line, and electric line relocation, new water meter and new sewer, water house connections, cold planning and overlaying on side streets. During the project design phase DEI prepared project specifications, DOTD permitting and prepared cost estimates. |
|  <br>  <br>  | |

| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2012 | $1,403,488.00 | $1,403,488.00 |

| PROJECT NO. 10 | |
|---|---|
| **Project Name, Location and Owner's contact information:** | **Nature of Firm's Responsibility:** |
| **MacArthur Drive Interchange Completion Phase 1A – (At-Grade Roadway & Bridges), Westwego, Gretna, LA**<br><br>Mark Drewes<br>Jefferson Parish Engineering Dept.<br>1221 Elmwood Park Blvd.<br>Jefferson, LA<br>(504) 736-6505<br><br>  <br>  | Macarthur Drive Interchange Completion (On and Off Ramps For Peters Road) – Phase 1A (At-Grade Roadway) - includes the demolition of a portion of the existing service road and the relocation of the service road to accommodate the new bridges to be constructed under Phase 1B of this project. The bridges will be constructed using Type II girders and trapezoidal box girders supported on single pier bents with pile footings to match the aesthetics of the existing Westbank Expressway Bridge. The work includes the relocation of existing utilities, including water mains and appurtenances, gas lines, as well as overhead and below ground power lines; the construction of **storm drain pipes and manholes; the extension of the existing reinforced concrete box culvert**; and the construction of the new relocated service road, including the installation of a compacted sand sub-base course, crushed limestone base course, Superpave asphaltic concrete binder and wearing courses, as well as concrete curb and gutters, concrete driveways and concrete sidewalks.<br><br>DEI has been engaged to provide the necessary engineering services to complete the project.<br><br>DEI is providing the design for:<br>✓ All geometric design incorporating the required safety features<br>✓ Column clearance designs<br>✓ **Utility relocations**<br>✓ Foundation Clearance design<br>✓ Attention to the coordination of very large columns within the roadway right-of-way<br>✓ **Drainage design**<br>✓ At-grade roadway relocation<br>✓ Right-of-way plans<br>✓ Temporary retaining structure for pile supported columns<br>✓ Management of roadway & bridge design team during construction<br>✓ Major public presentations and meetings with affected property owners.<br>The project is rated as very complex by the LADOTD. Phase 1A bid at $4,400,000.00 |

| Completion Date (Actual or estimated): | Estimated Cost: | |
|---|---|---|
| | **Entire Project:** | **Work for which Firm was Responsible:** |
| 2016 | $39,000,000.00 | $4,700,000.00 |

**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. | | |

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

Design Engineering, Inc. (DEI), a Jefferson Parish Woman Owned Small Business, is a highly qualified professional engineering services firm and has been engaged in the engineering business in Jefferson Parish for over 38 years. Since 1984, DEI has focused much of its efforts on designing and constructing large and complex drainage and flood control projects in Jefferson Parish, including large box culverts, large reinforced concrete pipes, and massive drainage pumping stations. DEI maintains excellent daily working relationships with Jefferson Parish and is well-versed in the challenges and complications of the project and has the technical expertise to produce successfully for Jefferson Parish.

**MINIMUM REQUIREMENTS FOR SELECTION**

**1.** One principal who is a professional engineer who shall be registered as such in Louisiana.

Design Engineering, Inc. has several personnel that meet this requirement. For the sake of brevity, we have included only Dr. Martin. ***Jim Martin, Ph.D., P.E.*** has over 18 years of design and management experience with Civil Engineering **drainage projects** and is a Registered Professional Engineer in the State of Louisiana with a doctorate degree in hydraulics (specifically researching open channel flows).

**2.** A professional in charge of the project who is a professional engineer who shall be registered as such in Louisiana with a minimum of five (5) years experience in the disciplines involved.

Design Engineering, Inc. has several personnel that meet this requirement. For the sake of brevity, we have included only Mr. Holtgreve. ***John Holtgreve, P.E.*** has over 42 years of design and management experience with Jefferson Parish **drainage projects** and is a Registered Professional Engineer in the State of Louisiana with

vast experience in roadway design, highway design, **drainage improvements**, water and sewer systems, flood control projects, underground utilities, and bridge design projects.

Duncan Canal Box Culvert

**3.** One 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 the requirement only if the advertised project involves more than one discipline.)

Design Engineering, Inc. (DEI) has six (6) full-time professional engineers registered in the State of Louisiana with over 135 years combined experience in **drainage design**, culvert design and roadway design. DEI will make available as many as all six (6) professional engineers for this project.

## EVALUATION CRITERIA

### 1. PROFESSIONAL TRAINING AND EXPERIENCE (35 POINTS):

Design Engineering, Inc. (DEI) has extensive local project experience and specialized engineering and design experience for **drainage** projects. DEI presently has on staff the technical, supervisory, and administrative personnel to provide professional engineering services related to drainage projects and can assure the expeditious handling of the work.

For many years, the DEI staff has executed design and construction administration of key projects throughout Jefferson Parish with success. DEI personnel are prepared to address the challenging issues of cost and time that face the Jefferson Parish Department of Public Works specific to this project.

We have pointed out some of our significant key projects for which we have provided important design. Our engineering and management staff has designed and constructed all of the projects presented. We list some of the personnel below who have been significantly involved in the process.

***Jim Martin, Ph.D., P.E.,*** is President of Design Engineering, Inc. and has over 18 years of experience in Research, Analysis, Design, and Construction of hydraulic projects throughout the State of Louisiana. From the very beginning of his career, **drainage projects** have been an emphasis. (Please note the projects in his resume contained herein.) Dr. Martin holds an undergraduate degree in Civil Engineering from the University of Alabama, a Masters from Tulane University in Environmental Engineering, and a Doctorate from Tulane (primarily based on fluids research). Dr. Martin is a registered Professional Engineer in Louisiana, Alabama, and Georgia and is President of the New Orleans Chapter of American Consulting Engineers Council/Louisiana and Past President of the New Orleans Chapter of ASCE. Recently he was certified as a Coastal Engineer by Old Dominion University in Virginia.

Fleur de Lis Drive Reconstruction – Phase II

***John W. Holtgreve, P.E.*** is Executive Vice President of Design Engineering, Inc. and will serve as *Project Manager* for DEI and as a *Civil Engineer* for this project. Mr. Holtgreve has over 47 years of professional consulting engineering experience and has worked as Project Manager and Principal-in-Charge for numerous **drainage improvement projects**. (Please note the projects in his resume contained herein.) Mr. Holtgreve holds a BS and a MS in Civil Engineering from Tulane University and is a Registered Professional Engineer in the State of Louisiana. Mr. Holtgreve's past professional experience includes American Society of Civil Engineering (Past State Board Member), American Consulting Engineers Council/Louisiana (Past President and Board Member), American Consulting Engineers Council (National Director), Society of American Military Engineers, American Concrete Institute, American Public Works Association.

***Ben Bartlett, P.E., P.T.O.E.,*** has over 9 years of experience with the Design and Construction of Civil and Environmental projects. Mr. Bartlett has worked on numerous projects including the design of major drainage facilities in Jefferson Parish (Duncan Canal Box Culvert at West Esplanade) and the St. Charles Parish Spillway Culvert Improvement (in which he designed culverts beneath Spillway Road which have survived the recent openings). He holds a BS in Civil and Environmental Engineering from the Citadel and a Master's in Civil Engineering from Auburn University and is a Registered Professional Engineer in the State of Louisiana.

***John Karlin, S.E., P.E.,*** has been involved with numerous design and construction projects with Design Engineering, Inc. for several years. **(He is a licensed Structural Engineer (one of only 4 in Metairie)**. Mr. Karlin has authored the General Design Memorandum (GDM) for the LADOTD, Jefferson Parish and the Regional Planning Commission for a new bridge to be constructed between River Road north to the elevated Causeway at Jefferson Highway/Causeway Bridge. The project involves 10 alternatives that range from $11,500,000.00 to $25,000,000.00 and can be constructed in two (2) phases. This complex project involves major traffic efforts that will improve the traffic flow on River Road at Ochsner Hospital to Causeway Blvd. and Jefferson Highway. He holds a BS in Civil Engineering from Worcester Polytechnic Institute and a Masters in Civil Engineering from University of Illinois at Urbana-Champaign. He is certified in the ATSSA Traffic Control Technician, and ATSSA Traffic Control Supervisor and Flagger Course as required by the LADOTD.

***Max Shukla, P.E.***, of DEI, will serve as a *Structural Engineer* for this project. Mr. Shukla has decades of experience working on numerous civil and structural projects in the Greater New Orleans Area, including bridge design, roadway design, highway design, flood control projects, **underground utilities**, water and sewer systems, and **drainage improvement** projects. Several of his designs have won awards for DEI. He holds a BS and a MS in Civil Engineering and is a Registered Professional Engineer in the State of Louisiana.

***Brett Liuzza, P.E.,*** has over 11 years of experience on a variety of infrastructure improvement projects which primarily are **drainage** related. Mr. Liuzza holds a BS in Civil Engineering from Louisiana State University and is a registered professional engineer in the State of Louisiana.

Airline Drive Drainage Crossing
(St. Peter's Ditch)

**2. CAPACITY FOR TIMELY COMPLETION OF NEWLY ASSIGNED WORK (20 POINTS):**

The designs of several drainage projects have been recently completed or are near completion. Therefore, we have a large engineering team available to jump on this project. This project can be easily absorbed by the firm, as we have substantial reserve production capacity to meet any reasonable project scheduling.

Our current and projected firm capacity shown below indicates a 40% capacity shortfall by July 2022. The 15% capacity anticipated for this project would be very welcome and needed to maintain our current staff levels.

**3. LOCATION OF OFFICE (15 POINTS):**

Design Engineering, Inc. maintains its office in Jefferson Parish at 3330 West Esplanade Avenue, Suite 205, Metairie, Louisiana and has done so for 38 years.

Our Firm knows the territory.

- We are headquartered in Jefferson Parish and have outstanding geographic proximity to serve Jefferson Parish under this assignment.
- We have worked with all facets of federal, state, and local governments as well as local communities and private industry in excess of 40 years as individuals and in excess of 38 years as a firm.
- All of our proposed project personnel work in Jefferson Parish (and most of them live here as well).
- We can and will provide responsive services to Jefferson Parish as demanded for this project.

**4. ADVERSARIAL LEGAL PROCEEDINGS (15 POINTS):**

Design Engineering, Inc. is not now, nor has it ever been, involved in any adversarial legal proceedings between the Parish and any related parties.

**5. PRIOR SUCCESSFUL COMPLETION OF PROJECTS OF THE TYPE AND NATURE OF THE ENGINEERING SERVICES (15 POINTS):**

DEI has completed dozens of successful drainage projects in Greater New Orleans that required new drainage structures, earth work, roadway reconstruction and utilities relocation work. Many are shown herein, and a brief listing is shown below:

- **Airline Drive Drainage Crossing - St. Peter's Ditch**: Design, Construction Administration and Resident Inspection for drainage improvements to the existing St. Peter's Ditch.
- **Duncan Canal Bridge Replacement:** Planning, design, and engineering tasks, most notably the hydraulic analysis and structural design for the primary drainage canal in Kenner.
- **West Esplanade Canal Crossing**: feasibility/ conceptualization, hydraulic engineering, preliminary and final plans, construction administration, and resident inspection services for the improvements to the West Esplanade Avenue Crossing (Between Williams Blvd. and Power Blvd.)
- **Northbound Manhattan Boulevard Continuous Right Turn Lane**: Design, Construction Administration, Construction Engineering, and Resident Inspection for the widening the roadway which included drainage and subsurface drainage under the additional lane.

West Esplanade Canal Crossing

- **Wilker Neal Drive at Airline Drive:** Design, Construction Administration, and Resident Inspection for a new 1100 foot long double celled 8'x8' reinforced concrete box culvert.
- **Robert E. Lee Boulevard Improvements:** Wickfield Dr. to Elysian Fields Ave.: Design, Construction Engineering and Resident Inspection (drainage structures and drain lines).
- **Robert E. Lee Boulevard Improvements:** Paris Avenue to Pratt Drive: Design, Construction Management and Resident Inspection (drainage structures and drain lines).
- **Fleur de Lis Drive Reconstruction – Phase II:** DEI provided the Design, Construction Management and Resident Inspection for this project. (drainage structures and drain lines)
- **Audubon Boulevard Street Improvement Project (Willow St. to South Claiborne Ave.):** Design, Construction Engineering and Resident Inspection (subsurface drainage)
- **Veterans Blvd. Widening:** Roosevelt to Williams: addition of one lane in each direction and left-turn and U-turn lanes with complete overlay (subsurface drainage)
- **Macarthur Dr. Interchange Completion Project (At-Grade Roadway & Bridges):** Design, Construction Engineering and Support of a frontage road along the elevated Westbank Expressway (storm drain pipes).
- **Dwyer Drainage Pumping Station, Discharge Tubes and Canal:** Design, Construction Engineering and Resident Inspection (drainage discharge).
- **Algiers Canal Pumping Station Project (Planters Pumping Station):** Design and Engineering During Construction (extension of nine (9) steel drainage discharge pipes)

**6. SIZE OF FIRM (10 POINTS):**

Unlike at larger firms, DEI utilizes its most senior professionals and executives as actual engineers, rather than exclusively as executives or "rainmakers." Engineers with 40 years' experience simply do not perform the engineering work on a hands-on basis at other firms. All of DEI's engineers in this submittal will participate in the intimate details of the engineering required for this project. Conversely, smaller firms simply do not have the depth and breadth of experience, nor the technical resources, that DEI has. Simply put, **DEI combines the experience and technical resources of a large firm with the attention to detail and customer service of a small firm**. DEI presently has on staff sufficient technical, supervisory, and administrative personnel to provide the required services and can assure the successful completion of this project.

**7. PAST PERFORMANCE ON PUBLIC CONTRACTS (10 POINTS):**

DEI is a Jefferson Parish company that has won awards for its work in Jefferson Parish (among other places).

**DEI was awarded the ACI Louisiana Award for Best Project of 2012, Best Public Works Project of 2012, and the Award for Sustainability for its work on the Planters Pumping Station Frontal Protection Project (located in**

**Jefferson Parish).**

**The latest award we received was the ACI Louisiana Award of Excellence and the Overall Best Concrete Project for MacArthur Interchange Completion Project – Phase 1B in 2016 (Jefferson Parish).**

The Wilker Neal at Airline Drive construction project was completed on time and without a single change order. The Veterans Boulevard Widening, Roosevelt to Williams project was completed on time as well in a difficult traffic situation and with no complaints from adjacent property owners during or after construction.

The Manhattan Blvd. Widening was successfully completed amid some of the highest levels of traffic anywhere in the Parish.

Design Engineering, Inc. has designed and administered the construction contracts for award winning projects. DEI received a Certificate of Exceptional Performance from the USACE for work that included, among others, pump station design. The Lakefront Airport Bridge (East Approach) has won several awards including Best Project of the Year in the State of Louisiana by the ACI Louisiana Chapter. The project also received awards from the Precast/Prestressed Concrete Institute including Best Project of the Year in Louisiana and second overall for the Southern Region.

Widening of Manhattan Blvd.

DEI also won the ACI Louisiana Award of Excellence and Best Public Improvement Project for its work on the Lakefront Seawall Area Erosion Control Project in 2014.

- Our firm has completed each task assigned in a timely manner.
- We have remained within budget.
- We have been singled out on numerous occasions for local and regional awards.

**8) PAST AND CURRENT PROFESSIONAL ACCOMPLISHMENTS (10 POINTS):**

Design Engineering, Inc. has over 38 years of experience providing engineering design and analysis and construction management of sewer systems, water systems, **drainage systems** and pumping stations, roadways, site facilities, marinas, levees, floodwalls, and floodgates. DEI has served as project coordinator on many complex projects including a major hurricane and flood protection project that involved more than 80 projects totaling over $400 million. DEI maintains the highest quality projects in its portfolio of any firm in the region. Over the years DEI has received many awards and accolades for the professional services it has provided. Below is a list of some of these awards, several of which are for work that was performed in Jefferson Parish.

Considering our current workload, DEI has the manpower and equipment to execute the volume of work anticipated in this solicitation. We are confident that we have the right people and required resources, when and where they are needed, to meet the needs of this project. DEI has established management procedures for coordinating and executing work among in-house staff and subcontractors to ensure the work is performed on schedule and without budgeting overruns.

## Closing Statement:

**We are extremely interested in this solicitation.**

**Design Engineering, Inc. has extensive experience in the design of drainage improvement projects in Jefferson Parish and throughout the New Orleans Metropolitan Area.**

**Design Engineering, Inc. has the capacity to easily absorb this project assignment.**

**Please give us your serious consideration.**

## AWARDS

- ***Award of Merit from the ACI, Louisiana Chapter for St. Andrew Street Wharf Erosion Mitigation (2022)***
- ***Award for the Top Engineering Firm from the City Business (2021)***
- ***Award for the Top Engineering Firm from the City Business (2020)***
- ***Award of Excellence from ACI Louisiana Chapter for Replacement of Sewage Pumping Station No. 8 (2019)***
- ***Award of Merit from ACI, Louisiana Chapter for West Esplanade Avenue Crossing Project (2019)***
- ***Award of Excellence in Historic Preservation from The La Landmarks Society for 419 Carondelet Project (2019)***
- ***Award of Excellence in Historic Preservation from The La Landmarks Society for 822 Howard Project (2017)***
- ***Overall Best Concrete Project from ACI Louisiana Chapter for MacArthur Interchange Completion Project –Phase 1B (2016)***
- ***Award of Excellence from ACI Louisiana Chapter for MacArthur Interchange Completion Project – Phase 1B (2016)***
- ***Award of Excellence from the ACI, Louisiana Chapter for Seawall Erosion Control Paving Project – Reach 1B (2014)***
- ***Most Improvement to the Public Award from the ACI, Louisiana Chapter for Seawall Erosion Control Paving Project – Reach 1B (2014)***
- ***Overall Best Project from the ACI, Louisiana Chapter for Planter's Pump Station Frontal Protection (2012)***
- ***Award for Concrete Sustainability from the ACI, Louisiana Chapter for Planter's Pump Station Frontal Protection (2012)***
- ***Award of Excellence from the ACI, Louisiana Chapter for Planter's Pump Station Frontal Protection (2012)***
- ***USACE – New Orleans District Certificate of Appreciation, for Exceptional Achievement in support of the Mississippi Valley Division's New Orleans District and the Execution of the Hurricane and Storm Damage Risk Reduction System (2012)***
- ***Exceptional Project Rate, for LPV 106, US Army Corps of Engineers Hurricane Protection Office (2012)***
- ***Award of Merit from ACI for the Plaza Area Paving at Stepped Seawall on Lakeshore Drive (2005-2006)***
- ***Award of Excellence from ACI for the Lakeshore Drive – London Avenue Canal Bridge Replacement (2003)***
- ***Award of Merit from ACI for the Retaining Wall Restoration at the New Orleans Lakefront Airport (2001)***
- ***Creative Design Utilizing Precast and Prestressed Concrete from PCI for the East Approach to Stars and Stripes Boulevard (1999)***
- ***Concrete Project Award from G.S.P.C.A. for Best Project for Stars and Stripes Boulevard East and West Approach (1997 – 1998)***
- ***Best Project of the Year award from ACI, Louisiana Chapter for East Approach to Stars and Stripes Boulevard (1997)***
- ***Award of Excellence from the ACI, Louisiana Chapter for East Approach to Stars and Stripes Boulevard (1997)***

**BEST OVERALL CONCRETE PROJECT & AWARD OF EXCELLENCE**
MacArthur Interchange Completion Project – Phase 1B

**OVER ALL BEST PROJECT, AWARD OF CONCRETE SUSTAINABILITY & AWARD OF EXCELLENCE**
Planter's Pump Station Frontal Protection

**AWARD OF EXCELLENCE & MOST IMPROVEMENT TO THE PUBLIC**
Lakeshore Dr. Seawall Area Erosion Control Paving

## REFERENCES

(1) Dr. Shawn Wilson
Secretary
LADOTD
Baton Rouge, LA
(225) 379-1200

(2) Wilma Heaton
Board Member
NFPAMA
New Orleans, LA
(504) 355-5990

(3) Carlton Dufrechou
General Manager
GNOEC
Metairie, LA
(504) 835-3118

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

**Signature:** _____ **Print Name:** Jim Martin, Ph.D., P.E.

**Title:** President **Date:** March 31, 2022

# USACE - New Orleans District

## *Certificate of Appreciation*

is presented to

## Design Engineering, Inc.

For exceptional achievement in support of the Mississippi Valley Division's New Orleans District and the execution of the Hurricane and Storm Damage Risk Reduction System (HSDRRS) mission. The Design Engineering, Inc. contractors' professionalism, competence, and initiative were instrumental to the successful execution with multi-disciplinary design support of multiple sites critical to the completion of both design and the construction of the HSDRRS project.

Design Engineering, Inc.'s outstanding achievement is in keeping with the finest traditions of public service and reflects great credit upon the Design Engineering, Inc. team, the U.S. Army Corps of Engineers, and the United States Army.

06 February 2012

Edward R. Fleming
Colonel, US Army
Commander, New Orleans District
US Army Corps of Engineers

US Army Corps
of Engineers ®
New Orleans District

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

**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

July 1, 2016

To Whom It May Concern:

I write this letter as a recommendation for Design Engineering, Inc (DEI).

I have worked with DEI for the past ten (10) years in my capacity as Louisiana Department of Transportation and Development (LADOTD) District Area Engineer in New Orleans and I write with confidence that the staff is responsible, qualified, highly attentive to detail, and have always met or exceeded their contract requirements..

DEI has primarily served us in performing Construction Engineering and Inspection for transportation projects that have been designed by LADOTD staff and/or contracted Consultant firms on behalf of LADOTD, and constructed through contracts with LADOTD and/or Partner Agencies. On these contracts, in part, DEI has been responsible for:

- Conducting preconstruction meetings
- Conducting regular progress meetings
- Coordinating activities between multiple stakeholders, the contractor, the state, and the local sponsors
- Maintaining detailed records and photographs of construction operations
- Providing certified inspectors to monitor work for compliance with plans and specifications
- Reviewing submittals and shop drawings
- Responding to requests for information
- Monitoring quantities and stored materials
- Preparing and quantifying pay applications and certifying them for payment
- Negotiating and recommending change orders
- Conducting final inspections and producing close out documentation

I know DEI's staff and work performance very well from the numerous projects they have performed under my direction. I have been completely satisfied by their performance and have enjoyed a good working relationship with their staff.

We have worked together on many projects in the past and I look forward to working with them again on future projects.

If further information is required, please contact me at (504) 253-6102.

Sincerely,

Frederick L. Wetekamm, III, P.E.
Louisiana Dept. of Transportation and Development
District Area Engineer, New Orleans East
14101 Old Gentilly Road
New Orleans, LA 70129

# JEFFERSON PARISH

Office of the President

*(via email & US Mail)*

**Michael S. Yenni**
President
March 12, 2019

Mr. Shawn D. Wilson
Secretary
LA Department of Transportation & Development
1201 Capitol Access Road
Baton Rouge, LA 70804

Re: Westwood Drive Improvements
(Westbank Expressway to Lapalco Blvd.)
State Project No. H.011795
Federal Aid Project No. H011795
Jefferson Parish Public Works Project No. 2017-060-RBP

Dear Secretary Wilson:

As a follow-up to our conversation of this morning regarding the selection of Design Engineering Inc. (Local Firm) by the Louisiana Department of Transportation Development (DOTD) for Construction Engineering and Inspection Services associated with reference project, please advise on whether Jefferson Parish at this time can reverse course and select one of the other firms short listed by the DOTD for this work. Informational background on this matter is as follows:

- Project was bid by the DOTD on November 14, 2018. Command Construction Industries, LLC was declared to be the low bidder by the DOTD with a bid of $5,175,201.80. Parish concurred with acceptance of low bidder via Resolution No. 132834 adopted January 16, 2019.

- Parish received a short list from the DOTD regarding firms that had applied for Construction Engineering and Inspection Services through a DOTD process. The short list received was as follows:

    1) Design Engineering, Inc.
    Sub: G.E.C., Inc.
    Sub: APS Design & Testing, LLC

    2) Michael Baker International, Inc.
    Sub: GOTECH, Inc.

3) Providence Engineering & Design, LLC
Sub: The Beta Group Engr. & Constr. Svcs., LLC

Historically the Parish has always selected the number one (1) ranked firm by the DOTD. However, special exceptions may have occurred in the past, whereas the Parish may have selected the second or third ranked firm. This would have required special justification and be subjected to DOTD approval. Parish fully understands that the Parish's original recommendation was a non-binding recommendation.

- Parish has already executed a contract with the Construction Contractor (Command Construction). Such contract was executed on February 8, 2019. Therefore, Construction Contractor will soon be ready to start with the construction of this project.

- Construction Engineering Services have been estimated to be $602,828.

- A Contract for Construction Engineering Services has already been prepared by the DOTD and executed by Design Engineering, Inc. Parish has not executed such contract yet.

- Project has been programmed to receive 80% Federal funds for construction and Construction Engineering Services.

Considering the importance of this project to the Parish and the deadline that we are currently facing, could you please provide us with advice on whether it would be possible/appropriate for the Parish at this time to select the second or third ranked firm by the DOTD for Construction Engineering Services.

Would you kindly advise on this matter as soon as possible, as our deadline for having an item on the upcoming Jefferson Parish Council Agenda scheduled for next Wednesday is this Thursday, March 14 at noon. It should go without saying that the Parish would not want to jeopardize the 80% Federal funding already allocated to this project.

Sincerely,

Michael S. Yenni

**MICHAEL S. YENNI**
President

MSY/clr

# JEFFERSON PARISH

Office of the President

**Michael S. Yenni**
President

December 12, 2018

Department of Transportation and Development
Dr. Shawn Wilson, Secretary
1201 Capitol Access Road
Baton Rouge, LA 70802

Re: ***Contract No. 4400014973, State Project No. H.011798 (CE&I)***
***Airline Park Blvd (Camphor – W Napoleon), Jefferson Parish***

Dear Secretary Wilson:

We understand that construction engineering and inspection qualification statements were received by DOTD Consultant Contract Services for the above-referenced project, were recently reviewed, and subsequently scored for ranking purposes. It is our understanding that the top three ranked consultants (in order) are Design Engineering, Inc., Richard C. Lambert Consultants, LLC, and Providence Engineering & Design, LLC.

On behalf of Jefferson Parish Government, I would like to recommend award of the CE&I contract to Design Engineering, Inc., the top ranked firm. Design Engineering, Inc. has capably provided similar services on previous Jefferson Parish Federal Aid Urban System Program roadway construction projects. This firm's current staff is very experienced and highly qualified to perform the required services.

I appreciate your consideration of Design Engineering, Inc. for the Airline Park Blvd project; and if you should like to contact me directly to discuss my recommendation, you may reach me at (504) 736-6400.

Sincerely,

Michael S. Yenni

**MICHAEL S. YENNI**
President

Joseph S. Yenni Building – 1221 Elmwood Park Blvd – Suite 1002 – Jefferson, LA 70123 – PO Box 10242 – Jefferson, LA 70181-0242
Office 504.736.6400 – Fax 504.736.6638
General Government Building – 200 Derbigny St – Suite 6100 - Gretna, LA 70053 – PO Box 9 – Gretna, LA 70054
Office 504.364.2700 – Fax 504.364.2828
Email: MYenni@jeffparish.net Website: www.jeffparish.net

# TEC Professional Services Questionnaire

**A. Project Name and Advertisement Resolution Number:**

SOQ 22-011, Resolution No. 138811
Routine Engineering Services for Drainage Projects

**B. Firm Name & Address:**

**Eustis Engineering L.L.C.**
3011 28th Street, Metairie, Louisiana 70002

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

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

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

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

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

| | | | | | |
|---|---|---|---|---|---|
| 10 | Administrative | | Estimators | | Specification Writers |
| | Architects (Licensed) | 2 | Geologists | | Structural Engineers |
| | Chemical Engineers | 15 | Geotechnical Engineers | 1 | Graduate Engineers |
| | Civil Engineers | | Interior Designers | | Project Managers |
| | Construction Inspectors | | Landscape Architects | 6 | Clerical |
| | Ecologists | | Land Surveyor | | Grant/Funding Specialist |
| | Electrical Engineers | | Mechanical Engineers | | Sanitary Engineers |
| 3 | Engineer Intern | | Environmental Engineers | 41 | **Other** |
| | Professional Land Surveyors | | | | |
| | | | | 78 | **TOTAL** |

**F. Is this submittal is a JOINT-VENTURE? Please check: YES ☐ NO ☒**

**If marked "No," skip to Section I. If marked "Yes," complete Sections G-H.**

# TEC Professional Services Questionnaire

| **G. If submittal is by JOINT-VENTURE, list the firms participating and outline specific areas of responsibility (including administrative, technical, and financial) for each firm. Please attach additional pages if necessary.** |
|---|
| **1.** Not applicable. |
| **2.** |

| **H Has this JOINT-VENTURE previously worked together: Please check:** |
|---|
| **YES** ☐ **NO** ☐ |

**I. List all subcontractors anticipated for this Project. Please note that <u>all subcontractors must submit a fully completed copy of this questionnaire</u>, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.**

| Name & Address: | Specialty: | Worked with Firm Before (Yes or No): |
|---|---|---|
| 1. Not Applicable. | | |
| **2.** | | |
| **3.** | | |

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

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

| PROJECT NO. 01 | | |
|---|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** | |
| **Jefferson Parish**<br>**Department of Public Works**<br>**Proposed Pump Station**<br>**West Esplanade at the 17th Street Canal**<br>**Jefferson Parish, Louisiana**<br>**Eustis Engineering Project No. 24427**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>ECM Consultants, Inc.<br>Suite 200<br>1301 Clearview Parkway<br>Metairie, Louisiana 70001<br>Sunina Shrestha, P.E. @ 504-885-4080 | Jefferson Parish proposed a pump station at the intersection of the 17th Street Canal and West Esplanade Avenue in Metairie, Louisiana. The pump station would be built on the west bank of the canal.<br><br>The pump station was planned to have approximate dimensions of 50' × 36' with a sump depth of approximately 18 feet. A new 78" × 122" arch-shaped reinforced concrete pipe would feed collected drainage water to the pump station. A new generator pad with approximate plan dimensions of 16' × 37' would be located south and west of the pump station.<br><br>Discharge pipes, 32 inches in diameter, would be installed from the pump station, extending over the levee and floodwall to discharge storm water from the pump station into the 17th Street Canal. The discharge pipes were to be pile-supported on the land and flood sides of the levee and floodwall.<br><br>Eustis Engineering performed engineering analyses based on data obtained from previous subsurface explorations at the site supplemented by those in the project area.<br><br>The scope of service of this project included compiling and updating geotechnical analyses from previous reports that were still applicable to the pump station plans. These previous analyses included deep-seated global stability analyses, seepage potential evaluation, and estimates of pile load capacities for various types and sizes of piles.<br><br>We performed supplemental deep-seated global stability analyses to provide an alternate analysis. We also furnished supporting documentation for temporary retaining structure design and seepage and heave analyses. Finally, we generated recommendations for general site preparation and foundation construction procedures. | |
| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 09/2021 (E) | Unknown | $25,500 |

| PROJECT NO. 02 | |
|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** |
| **Jefferson Parish**<br>**Veterans Boulevard**<br>**North and South Pump Stations**<br>**Jefferson Parish, Louisiana**<br>**Eustis Engineering Project Nos. 23396, 23396.01, and 24426**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>ECM Consultants, Inc.<br>Suite 200<br>1301 Clearview Parkway<br>Metairie, Louisiana 70001<br>Sunina Shrestha, P.E. @ 504-885-4080 | Two new drainage pump stations are proposed on the northern and southern sides of Veterans Memorial Boulevard at the 17th Street Canal. Each of these pump stations will discharge into the 17th Street Canal. Because of a planned bike path along the hurricane protection floodwall, these discharge pipes will need to penetrate the flood protection. As a result, plans called for the replacement of portions of the existing West 17th Street Canal I-walls (which cannot be penetrated and still comply with the U.S. Army Corps of Engineers' (USACE) guidelines) with T-walls. Both pump stations would require demolition of approximately 20 feet of existing concrete I-wall for installation of the new T-wall to accommodate a discharge pipe through each wall. Access gates will also be provided as part of the floodwall modifications.<br><br>Because of these modifications to the flood protection, a safety assurance review (SAR) was conducted by an independent reviewer. The SAR included a review of the plans and specifications, and design reports and calculations. Comments from the SAR were incorporated into the permit package submitted to the review agencies. The project plans have civil, structural, mechanical, and electrical components.<br><br>For additional data at the site, Eustis Engineering used soil boring and laboratory test data contained in our own files from prior explorations as well as data obtained through a Freedom of Information of Act request to the USACE.<br><br>Engineering analyses for the evaluation of the proposed T-wall followed the USACE's Hurricane and Storm Damage Risk Reduction System Design Guidelines dated June 2012. Global and local stability analyses were performed to evaluate the design and construction of the T-wall, including temporary flood protection and temporary retaining structures. Stability analyses were also performed to address construction dewatering requirements for the pump station excavation with respect to the existing and proposed flood protection.<br><br>Our work included estimates of allowable axial pile load capacities for piles supporting the T-wall foundations as well as the pump station and discharge pipes. We also performed analyses to evaluate the potential for seepage and heave during and after construction for the proposed features. New generator pads were located adjacent to each pump station to house controls outside the new intake excavation. |

| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 11/2021 (A) | Unknown | $53,400 |

| PROJECT NO. 03 | |
|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** |
| **Gretna City Park**<br>**Proposed Water Capacity Improvements**<br>**910 Gretna Boulevard**<br>**Gretna, Louisiana**<br>**Eustis Engineering Project No. 24290**<br><br>**Contact Information:**<br>Gretna City Park Through<br>Waggoner & Ball Architects, APC<br>2200 Prytania Street<br>New Orleans, Louisiana 70130<br>Andy Sternad @ 504-524-5308 | Open-air pavilion and pedestrian bridge structures were anticipated as part of the Gretna City Park upgrades. The pavilion structure would consist of an approximate 25' × 30' timber frame structure.<br><br>In the field, Eustis Engineering's drill crew completed nine undisturbed soil borings, varying in depth from 10 to 75 feet below the existing ground surface. Additionally, our personnel performed two infiltration tests on site using the Compact Constant Head Permeameter (Amoozemeter®) procedure. Following the field investigation, our Metairie laboratory conducted natural water content, unconfined compression shear, and one-point unconsolidated undrained triaxial compression shear tests to inform the engineering design.<br><br>Engineering analyses and recommendations included the following:<br><br>• slope stability analyses;<br>• site preparation recommendations including drainage (both during construction and permanent) and subgrade preparation.<br>• fill selection as well as its recommended compaction and its estimated settlement;<br>• estimates of load capacity for treated ASTM D25 quality timber piles, as well as settlement estimates;<br>• pile installation recommendations;<br>• pavement design; and<br>• material recommendations including components of the pavement itself and the use of geotextiles.<br><br>  |

| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 04/2020 (A) | Unknown | $13,300 |

| PROJECT NO. 04 | | |
|---|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** | |
| **Jefferson Parish**<br>**Jung and Falcone Lift Station Upgrades**<br>**(K-11-3)**<br>**New Sanitary Lift Station**<br>**Marrero, Louisiana**<br>**Eustis Engineering Project No. 23819**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>Principal Engineering, Inc.<br>Suite 19<br>1011 North Causeway Boulevard<br>Mandeville, Louisiana 70471<br>Jeneva Hinojosa, E.I. @ 985-624-5001 | The new lift station was to consist of a fiberglass wet well and fiberglass valve pit. The wet well was to be approximately 6 feet in diameter and 18 feet in depth. The valve pit was to be approximately 6 feet in diameter and 8 feet in depth. Site improvements were to include a gravity sewer line installed approximately 12 feet below grade and a force main approximately 4 feet below grade.<br><br>Our field investigation included the drilling of one soil boring to a depth of 80 feet below the existing ground surface using one of our truck-mounted rigs. Once in our laboratory, samples selected by our engineering staff were subjected to soil mechanics laboratory tests including visual classification, natural water content, unit weight, unconfined compression shear, and one-point unconsolidated undrained triaxial compression shear.<br><br>Using these data, our staff performed engineering analyses and developed recommendations for the project documented in a report including:<br>• recommendations for site preparation encompassing temporary and permanent drainage, dewatering and pressure relief of excavations, and ways to limit lateral movement;<br>• methods for excavation, base preparation, and bedding associated with the sanitary gravity sewer line, wet well, and valve box;<br>• estimates of lateral earth pressures;<br>• recommendations for material placement and compaction of backfill for the force main and sanitary sewer line;<br>• allowable soil bearing value recommendations for the wet well and valve box;<br>• allowable pile load capacities, in compression and tension, for treated ASTM D25 quality timber; and<br>• settlement estimates for both ground-supported and pile-supported project features. | |
| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 06/2018 (A) | Unknown | $4,900 |

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

| PROJECT NO. 06 | |
|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** |
| **Jefferson Parish**<br>**Proposed Pump Station**<br>**Blanchard Lane**<br>**Grand Isle, Louisiana**<br>**Eustis Engineering Project No. 24160**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>GIS Engineering, L.L.C.<br>197 Elysian Drive<br>Houma, Louisiana 70363<br>Kyle Galloway @ 985-219-1000 | Plans called for the pump station to be supported on timber or concrete piles. Three reinforced concrete inlet pipes were planned, and two 24-in. diameter discharge pipes would be connected to the pump station. Each of the discharge pipes would be connected to a vertical pump with an electric motor housed on an elevated platform above the pump station. The pump station would have approximate plan dimensions of 14' × 16.33' and be constructed to bear at a depth of 14 feet below grade. A design alternative, consisting of a grade supported pump station (without pile support), was also evaluated as part of our investigation.<br><br>In the field, one undisturbed boring was drilled for the project extending to a depth of 150 feet below the existing ground surface. In the laboratory, soil mechanics laboratory tests included visual classification, natural water content, unit weight, unconfined compression shear, and unconsolidated undrained triaxial compression shear tests.<br><br>Engineering analyses and recommendations included the following:<br>• recommendations for groundwater management;<br>• site preparation recommendations including excavation preparation and development of a working platform/bedding as well as a sealant slab;<br>• recommended construction materials including geotextile fabric as well as structural fills and their compaction;<br>• minimum requirements for temporary retaining structures;<br>• dewatering and pressure relief associated with a working platform;<br>• allowable soil bearing values for the pump station, net applied soil pressure, and settlement of the mat/slab supported pump station;<br>• consideration of hydrostatic uplift pressures;<br>• lateral earth pressures;<br>• estimated allowable load capacities for various sizes of treated ASTM D25 quality timber piles and square, precast concrete piles;<br>• estimated pile settlement due to sustained structural loads; and<br>• pile installation recommendations. |

| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 08/2019 (A) | Unknown | $14,500 |

| PROJECT NO. 07 | |
|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** |
| **Jefferson Parish**<br>**Proposed Drainage Improvements**<br>**Geisenheimer Canal Between Loumor Ditch and Hoey's Cut**<br>**Metairie, Louisiana**<br>**Eustis Engineering Project No. 24281**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>Design Engineering, Inc.<br>Suite 205<br>3330 West Esplanade Avenue<br>Metairie, Louisiana 70002<br>John Holtgreve, P.E. @ 504-836-2155 | Drainage improvements were planned for a portion of Geisenheimer Drainage Canal between Loumor Ditch and Hoey's Cut in Metairie, Louisiana. A new box culvert would be installed north of and paralleling the existing Geisenheimer Drainage Canal over a distance of approximately 2,800 linear feet. The purpose of this project was to increase flow capacity. Tie-ins in the form of junction boxes would be required at three locations including the new and existing Loumor Ditch, Woodvine Ditch, and at Hoey's Cut. The existing covered canal generally consisted of an 8' × 15' box culvert supported by timber piles. A section of the Hoey's Cut covered canal indicated a 9.5' × 25' structure comprising concrete sheetpiles as the sidewalls. The new structure was planned to be an 8' × 12' box culvert supported at grade.<br><br>Eustis Engineering had previously performed geotechnical explorations for prior project phases. To supplement these historic data, Eustis Engineering performed four cone penetration tests (CPTs) to a depth of 60 feet each below the existing ground surface. The CPTs were made with a track-mounted cone penetrometer rig. This exploration scope was selected to expedite the project schedule and keep field costs contained.<br><br>Geotechnical engineering recommendations for the project included site preparation, managing drainage during and after construction, identifying demolition of existing features interfering with new construction, and the need for a temporary retaining structure (TRS) for excavations.<br><br>Eustis Engineering analyzed at least one concept of a TRS considering application of factors of safety to the sheetpile penetration or to the soil design parameters. Other considerations for the TRS included recommendations for construction sequence; excavation; dewatering; lateral movement and soil subsidence; preparation of the excavation base; the bridge lift and bedding; sealant slab; and material selection and compaction for structural, non-structural, and embankment fill.<br><br>Our personnel also analyzed earth and water pressures associated with the box culvert as well as the use of a grade-supported culvert base slab. Analyses associated with the slab included allowable soil bearing values, net applied pressure intensity, and settlement estimates. Differential settlement was considered in association with pavements, the existing pile-supported box culvert, and underground utilities. |

| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
|---|---|---|
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 03/2020 (A) | Unknown | $12,100 |

| PROJECT NO. 08 | |
|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** |
| **Jefferson Parish**<br>**Hoey's Canal Drainage Improvements (Phases II and III)**<br>**Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard**<br>**Jefferson Parish, Louisiana**<br>**Eustis Engineering Project Nos. 21458, 22532, and 22532.01**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>Linfield, Hunter & Junius, Inc.<br>3608 18th Street<br>Metairie, Louisiana 70002<br>Robert Nockton, P.E. @ 504-833-5300 | Eustis Engineering has performed multiple geotechnical explorations dating back to 1966 along Hoey's Canal for various modifications and improvements. Phases II and III of the proposed drainage improvements along Hoey's Canal included the deepening and lining of the canal using sheetpile walls and concrete slope paving for the upper slopes of the canal. Phase II extended from Deckbar Avenue (LA Highway 3139) to the railroad crossing near Labarre Road in Jefferson Parish, Louisiana. This portion of the drainage improvements was approximately 1,715 feet long and was a continuation of an earlier phase of the project that extended from Deckbar Avenue to Betz Avenue (approximately 805 feet long) tying into an existing sheetpile lined canal. Phase III consisted of improvements to approximately 1,625 feet of Hoey's Canal from Causeway Boulevard to Labarre Road. Eustis Engineering was retained for Phase III because of our ability to deliver high quality geotechnical recommendations in a timely fashion to our clients and to Jefferson Parish.<br><br>For Phase II, Eustis Engineering drilled four undisturbed soil test borings using a truck-mounted, rotary-type drill rig. We drilled one soil boring to a depth of 130 feet and three borings to depths of 60 feet below the existing ground surface. For the Phase III exploration, we utilized data from one of the soil borings we obtained in Phase II in addition to drilling three borings to depths of 60 feet with a low ground pressure track-mounted drill rig. We coordinated with the New Orleans Public Belt Railroad (NOPBR) and Jefferson Parish to ensure our field exploration was performed safely and met the NOPBR and parish requirements. The Phase III borings were drilled on the southern side of the canal because borings were not feasible on the northern side due to overhead electrical lines. Eustis Engineering performed soil mechanics laboratory tests on samples obtained from the borings during Phases II and III to evaluate the physical properties of the subsoils.<br><br>Based on existing data, soil borings, and laboratory test results, Eustis Engineering provided recommendations regarding site preparation, sheetpile analyses, global stability analyses, estimates of allowable pile load capacities for alternative flume support, estimates of allowable pile load capacities for the railroad bridge which would replace an existing culvert, and general construction recommendations. We also evaluated dewatering/pressure relief and heave which were major design challenges due to a shallow subsurface sand deposit located near the bottom of the deepened canal.<br><br>For Phase II, we provided supplemental engineering analyses which included addressing requests for information posed by the construction contractor and evaluating the pile load capacity results from a static load test program. Our Phase III engineering scope |

| PROJECT NO. 08 | | |
|---|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** | |
| | addressed geotechnical related issues during construction with the construction contractor.<br><br>We also performed additional engineering analyses for the project after our client discovered a new NOPBR track closer to Hoey's Canal. This new construction altered the cross-sections we evaluated in our previous study, requiring an evaluation of the impact on the proposed walls within Hoey's Canal. | |
| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 03/2017 (A) | Unknown | $37,800 |

<table>
<tr><th colspan="3">PROJECT NO. 09</th></tr>
<tr><th>Project Name, Location, and Owner's Contact Information:</th><th colspan="2">Nature of Firm's Responsibility:</th></tr>
<tr><td>Jefferson Parish<br>Bonnabel Canal<br>Pomona Street to Nero Street<br>Metairie, Louisiana<br>Eustis Engineering Project No. 23387<br><br>Contact Information:<br>Jefferson Parish Through<br>BCG Engineering & Consulting, Inc.<br>3012 26th Street<br>Metairie, Louisiana 70002<br>Ann Springston, P.E. @ 504-454-3866</td><td colspan="2">BCG Engineering & Consulting, Inc. (BCG) requested Eustis Engineering's consultation in finalizing the plans and providing support during construction of the proposed Bonnabel Canal east bank stabilization features. The construction planned for an approximate 1,600-ft stretch of the project that would extend from Pomona Street to Nero Street in Metairie, Louisiana. The furnished plans showed a 35-ft AZ26 sheetpile with a top at el 8 and a tip at el -27.<br><br>Prior to these final design/construction phase services, Eustis Engineering had performed several geotechnical explorations for the project that were used as the basis of our updated design services. The most recent study was published in our report entitled "Geotechnical Investigation, Jefferson Parish, Bonnabel Canal, South of Veterans Boulevard to West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 20438," dated 20 November 2009.<br><br>Using the available data, Eustis Engineering performed local stability analyses of the new sheetpile wall configuration using CWALSHT to confirm that the proposed sheetpile tip embedment was sufficient.<br><br>Additionally, we evaluated deep-seated global stability for the cantilever sheetpile wall using the Spencer's Method of Slices for non-circular and circular failures (with optimization search routines) with the software SLOPE/W, Version 8.16, GEOSLOPE International Ltd. These analyses also confirmed the proposed configuration was stable. Thus, the plans being developed could be finalized to provide for improved drainage within the tight construction corridor.</td></tr>
<tr><th rowspan="2">Completion Date<br>(Actual or Estimated)</th><th colspan="2">Estimated Cost:</th></tr>
<tr><th>Entire Project:</th><th>Work for Which Firm Was Responsible:</th></tr>
<tr><td>11/2017 (A)</td><td>Unknown</td><td>$3,700</td></tr>
</table>

| PROJECT NO. 10 | | |
|---|---|---|
| **Project Name, Location, and Owner's Contact Information:** | **Nature of Firm's Responsibility:** | |
| **Jefferson Parish**<br>**Monticello Canal Improvements**<br>**Jefferson Parish, Louisiana**<br>**Eustis Engineering Project Nos. 23050 and 23050.01**<br><br>**Contact Information:**<br>Jefferson Parish Through<br>Hartman Engineering, Inc.<br>527 West Esplanade Avenue<br>Suite 300<br>Kenner, Louisiana 70065<br>Rolland Mura @ 504-466-5667 | In September of 2014, Jefferson Parish and Hartman Engineering, Inc. solicited Eustis Engineering for the proposed Monticello Canal improvements in Jefferson Parish, Louisiana. This project called for a flume to be installed on the northern side of Airline Highway and three 84-in. diameter pipes to be jacked-and-bored under Airline Highway and Kansas City Southern Railroad. A 200-ft long section of arched pipe would also extend from the southern end of the 84-in. diameter pipes to the existing canal.<br><br>After site reconnaissance, Eustis Engineering drilled one undisturbed sample type soil test boring to a depth of 80 feet below the existing ground surface. Engineering analyses, based on the soil boring and subsequent laboratory test results, were used to develop recommendations for excavations, dewatering and pressure relief, temporary retaining structures' (TRS) feasibility, and deep-seated global stability for sheeted construction excavations. We also estimated allowable pile load capacities and settlement, and provided general foundation construction recommendations.<br><br>In 2016, the sheetpile used as a TRS during construction of the flume unexpectedly required removal after construction. Eustis Engineering initially provided results considering this sheetpile would be permanent, so we provided supplemental analysis for the "after-construction" condition without the sheetpile.<br><br>Additionally, the arched pipe, initially planned for the southern side of Airline Highway, was to be replaced with an open flume. This allowed for a consistent drainage approach with the adjacent Hoey's Canal drainage project. Eustis Engineering evaluated two cross-sections to address these geometric changes; to perform global stability and local stability analyses for the "during-construction" and "after-construction" cases; to consider heave and dewatering; and to implement sheetpile wingwalls at the southern limit where the flume will meet Hoey's Canal.<br><br>Finally, Eustis Engineering was available to assist BCG Engineering & Consulting with review of specifications regarding temporary retaining structures and dewatering. | |
| **Completion Date (Actual or Estimated)** | **Estimated Cost:** | |
| | **Entire Project:** | **Work for Which Firm Was Responsible:** |
| 10/2016 (A) | Unknown | $18,900 |

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

## PROFESSIONAL IN CHARGE OF PROJECT:

**Name & Title:**

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

**Project Assignment:**

Project Principal / Limited Liability Corporation Member

**Name of Firm with which Associated:**

**Eustis Engineering L.L.C.**

**Years' Experience with This Firm:**

29

**Education: Degree(s)/Year/Specialization:**

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

**Active Registration: Year First Registered/Discipline:**

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

**Other Experience and Qualifications Relevant to the Proposed Project:**

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

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

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

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

## PROFESSIONAL IN CHARGE OF PROJECT:

**Name & Title:**

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

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

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

## TEC Professional Services Questionnaire

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

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
| --- |
| **Name & Title:** |
| James J. Hance, P.E. / Senior Project Manager and Vice President (Finance) |
| for new projects with clients, participating in business development and marketing ventures, and negotiating contracts. Some of his experience relative to this submittal includes the following:<br><br>• Jefferson Parish - Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana<br>• Jefferson Parish - Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana<br>• Jefferson Parish - Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana<br>• Jefferson Parish - Monticello Canal Improvements, Jefferson Parish, Louisiana |

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

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

**Project Assignment:**

Project Manager / Limited Liability Corporation Member

**Name of Firm with which Associated:**

**Eustis Engineering L.L.C.**

**Years' Experience with This Firm:**

21

**Education: Degree(s)/Year/Specialization:**

Master of Science / 1999 / Civil Engineering
Bachelor of Science / 1996 / Civil Engineering

**Active Registration: Year First Registered/Discipline:**

Louisiana: 2002 / Civil Engineering
Mississippi: 2007 / Engineering
Texas: 2014 / Civil Engineering
Florida: 2001 / Engineering
Alabama: 2003 / Engineering
Arkansas: 2014 / Engineering

**Other Experience and Qualifications Relevant to the Proposed Project:**

From 1993 to 1994, Mr. Cody first worked with Eustis Engineering as a part-time laboratory soil technician while obtaining his undergraduate degree. After leaving Eustis Engineering in 1994, Mr. Cody worked as an engineering technician with the Sewerage & Water Board of New Orleans and as a student laboratory coordinator at Tulane University's Department of Civil Engineering. Mr. Cody also assisted in teaching the introductory soil mechanics laboratory sessions. For more than a year, he then worked as a graduate research assistant at Tulane University while pursuing his Master's degree. At that time, he was responsible for the design, construction, and implementation of bench scale testing system in contaminated soil remediation.

From 1998 until 2001, Mr. Cody worked for engineering firms in Florida. He performed such duties as soil evaluation and engineering recommendations for projects of varying sizes including multi-story structures, bridges, and roadways. He performed Phase I environmental site assessments as well as geotechnical sensor installation.

In 2001, he returned to the New Orleans area and to Eustis Engineering as a Project Engineer. He now serves as a Principal Engineer with the firm. Since his return, Mr. Cody has performed a wide variety of engineering services including geotechnical project management, engineering design, engineering during construction, and dynamic pile testing. Private sector projects have varied from small private and commercial structures to multi-story high-rise structures, storage tanks, and other industrial facilities. Public projects have included roads and bridges, port facilities, government buildings and facilities, schools, and hurricane protection system improvements.

Some of Mr. Cody's project experience, shown in this submittal, includes the following:

- Jefferson Parish Department of Public Works - Proposed Pump Station, West Esplanade at the 17th Street Canal, Jefferson Parish, Louisiana
- Jefferson Parish - Veterans Boulevard, North and South Pump Stations, Jefferson Parish, Louisiana

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
| --- |
| **Name & Title:** |
| Benjamin M. Cody, P.E. / Principal Engineer |
| • Jefferson Parish - Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana<br>• Southeast Louisiana Flood Protection Authority - East, East Jefferson Levee District, Gabrielle Subdivision Runoff Control Piping, Near the Duncan Canal Pump Station, Kenner, Louisiana<br>• Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana<br>• Jefferson Parish - Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana<br>• Jefferson Parish - Monticello Canal Improvements, Jefferson Parish, Louisiana |

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

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

**Project Assignment:**

Principal Engineer / Limited Liability Corporation Member

**Name of Firm with which Associated:**

**Eustis Engineering L.L.C.**

**Years' Experience with This Firm:**

10

**Education: Degree(s)/Year/Specialization:**

Master of Science / 2010 / Civil Engineering
Bachelor of Science / 2007 / Civil Engineering

**Active Registration: Year First Registered/Discipline:**

Louisiana: 2013 / Civil Engineering

**Other Experience and Qualifications Relevant to the Proposed Project:**

For his first five years after graduation, Sean G. Walsh, P.E., was a Project Engineer on numerous projects in the New York and New Orleans metropolitan areas where he gained experience in civil, geotechnical, and geo-environmental engineering projects for a variety of public and private clients.

Since joining Eustis Engineering in 2012 as a Project Engineer, Mr. Walsh has been responsible for developing and managing engineering package preparations (e.g., engineering design and analysis, reporting, development of construction and permit drawings, contract specifications, cost estimates, and design reporting) for a diverse range of design and analysis projects, including deep foundations, excavation support systems, utility foundations, slope stabilization, solid waste closure systems, levee inspection/safety, and seepage modeling.

Mr. Walsh was promoted to Project Manager in 2017. Mr. Walsh is also a graduate of the 2017 New Orleans Regional Leadership Institute (NORLI), a one-year training program designed to help shape community leaders.

During his employment with Eustis Engineering, Mr. Walsh has provided engineering services on more than 400 projects. Mr. Walsh has risen to the level of Vice President and Engineering Manager, in which he is responsible for personnel resource allocation, the overall engineering schedule, and execution of engineering services. Mr. Walsh also functions as a mentor to the engineering staff.

A large portion of Mr. Walsh's experience, before and after joining Eustis Engineering, involved development of design and construction recommendations associated with flood protection systems in southeastern Louisiana. Mr. Walsh has served as the project engineer and project manager responsible for the development and implementation of geotechnical exploration programs; development of soil testing laboratory programs; and interpretation of the results to evaluate strength, compressibility, and general soil characterization. Mr. Walsh used these data for geotechnical designs comprising pile capacity curves; bearing capacity analyses; cantilever retaining analyses; anchored retaining wall analyses; temporary retaining structure design; time-settlement projections for earthen levees with lift schedules; soil pressure profiles; structural and earthen levee under seepage analyses; levee and bank stability by the Spencer's Method and the Method of Planes; reinforced embankment design; stability analyses of flood protection walls (e.g., T-wall, I-wall, L-wall, and braced 'A-Frame' walls); downdrag and settlement analyses; settlement induced bending

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| Sean G. Walsh, P.E. / Engineering Manager and Vice President (Engineering) |

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

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

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

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

- Gretna City Park - Proposed Water Capacity Improvements, 910 Gretna Boulevard, Gretna, Louisiana
- Jefferson Parish - Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana
- Jefferson Parish - Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana
- Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana
- Jefferson Parish - Bonnabel Canal, Pomona Street to Nero Street, Metairie, Louisiana

## TEC Professional Services Questionnaire

| KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT: |
|---|
| **Name & Title:** |
| Lawrence W. Rome, C.E.T. / Operations Manager and Vice President (Operations) |
| **Project Assignment:** |
| Operations Manager / Limited Liability Corporation Member |
| **Name of Firm with which Associated:** |
| **Eustis Engineering L.L.C.** |
| **Years' Experience with This Firm:** |
| 28 |
| **Education: Degree(s)/Year/Specialization:** |
| Associate of Applied Sciences / 1998 / Safety |
| **Active Registration: Year First Registered/Discipline:** |
| N/A |
| **Other Experience and Qualifications Relevant to the Proposed Project:** |

**Accreditations / Affiliations / Certifications**

American Society of Certified Engineering Technicians
Confined Space Entry Certification
Greater New Orleans Industrial Education Council Safety Training
Medic First Aid and CPR Course 2015
HAZMAT Certification, 49 CFR 172, Subpart H, Nuclear Gauges
International Code Council: Soils Special Inspector
National Institute for Certification in Engineering Technologies:

- Level I: Construction Materials Testing, Asphalt
- Level II: Construction Materials Testing, Concrete
- Level IV: Construction Materials Testing, Soils
- Level II: Geotechnical Engineering Technology, Construction
- Level III: Geotechnical Engineering Technology, Generalist
- Level IV: Geotechnical Engineering Technology, Exploration
- Level IV: Geotechnical Engineering Technology, Laboratory
- Level III: Transportation Engineering Technology, Highway Materials

10-Hour OSHA Training
Transportation Workers Identification Card (TWIC)
Registered Well Driller for the States of Louisiana and Mississippi

**Professional Experience**

After joining Eustis Engineering in 1994, Mr. Rome has worked in several departments throughout our firm. He began as a laboratory technician, performing simple testing such as grain size analyses, Atterberg liquid and plastic limits, and unconfined compression shear. Mr. Rome has become involved in more complex testing procedures such as permeability and consolidation tests. His capabilities have expanded to include lime stabilization studies, California Bearing Ratio tests, hysteresis, direct shear tests, swelling pressure and percent swell tests, consolidated undrained triaxial shear tests, relative density tests, and compaction tests.

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

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

**Project Assignment:**

Operations Manager / Limited Liability Corporation Member

**Name of Firm with which Associated:**

**Eustis Engineering L.L.C.**

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

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

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

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

## KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

**Name & Title:**

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

**Project Assignment:**

Operations Manager / Limited Liability Corporation Member

**Name of Firm with which Associated:**

**Eustis Engineering L.L.C.**

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

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

- Gretna City Park - Proposed Water Capacity Improvements, 910 Gretna Boulevard, Gretna, Louisiana
- Jefferson Parish - Jung and Falcone Lift Station Upgrades (K-11-3), New Sanitary Sewer Lift Station, Marrero, Louisiana
- Jefferson Parish - Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana
- Jefferson Parish - Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana
- Jefferson Parish - Hoey's Canal Drainage Improvements (Phases II and III), Deckbar Avenue to Labarre Road and Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana
- Jefferson Parish - Monticello Canal Improvements, Jefferson Parish, Louisiana

# TEC Professional Services Questionnaire

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

| Parties: | | Status/Result of Case: |
|---|---|---|
| **Plaintiff:** | **Defendant:** | |
| **1.** None at this time. | | |
| **2.** | | |
| **3.** | | |
| **4.** | | |

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

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

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

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

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

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

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

Eustis Engineering has worked on over 800 geotechnical and construction materials testing projects for Jefferson Parish Government entities, many of which focused on drainage. We have also worked on over 4,000 projects of all types throughout the east and west banks of Jefferson Parish alone, not considering similar projects in the surrounding parishes. This work history gives our engineering staff unparalleled familiarity with the foundation conditions in the Gulf Coast and the challenges that may arise for projects associated with this contract.

## ENGINEERING SERVICES

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

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

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

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

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

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

### Engineering Staffing

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

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

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

(1) Long-term Subcontractor

## Cone Penetration Testing Capabilities

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

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

## Dynamic Pile Testing Capabilities

Eustis Engineering was the first private consulting firm to own and operate dynamic pile testing equipment in the States of Louisiana and Mississippi. The pile types tested include timber piles; small size pipe piles; square, precast concrete piles and large (60 to 72-in. diameter) spun-cast, prestressed concrete piles; open-end and closed-end steel pipe piles; and steel H-piles.

We often upgrade our data collectors and operate four Pile Driving Analyzers® (PDAs), one PAX unit and three PDA-8G units. These units can be battery operated and use wireless gauge transmitters to eliminate the need for a main cable to connect directly to the units. We also stock and have used underwater gauges to monitor pile driving in marine environments when the pile head descends below the water surface.

To support our four PDA units, Eustis Engineering maintains an extensive inventory of calibrated gauges and accessories. To provide quality assurance and rapid response to issues in the field, all PDAs have wireless communication, enabling our engineers direct oversight of the dynamic pile testing process in real time.

We also use this PDA equipment to maintain the calibrations of our automatic SPT hammers on our drill rigs.

## Other Non-Destructive Testing Capabilities

Our engineering staff at Eustis Engineering also performs other non-destructive testing services to verify the structural integrity of drilled shafts, augercast piles, and precast concrete piles. Some of these processes include cross-hole/single-hole sonic logging (CSL or SSL), low strain pile integrity testing (PIT), and thermal integrity profiling (TIP). We also perform parallel seismic testing to evaluate existing foundation depths.

## INSTRUMENTATION

Eustis Engineering has installed geotechnical instrumentation for decades. Our instrumentation programs have resulted in substantial cost savings to our clients by reducing preload durations, providing refinement of geotechnical design parameters through full scale testing, and verifying the performance of cutting-edge designs. Our services go beyond the construction phase, as long-term monitoring programs enable owners to maximize utilization of their facilities throughout the design life by verifying soil behavior is within acceptable limits.

Eustis Engineering provides the following instrumentation services.

- Vibrating wire devices including piezometers, extensometers, settlement gauges, and strain gauges
- Data loggers to enable periodic collection of data for vibrating wire devices

- Data links for remote web access to loggers in near real time
- Settlement plates
- Conventional slope inclinometers or MEM sensor array inclinometers
- Monitoring services of all instrumentation devices with geotechnical interpretation

Instrumentation is a natural complement to our design services, providing data to verify or modify recommendations based on the observational method. Ongoing monitoring enables us to provide continuing services from project inception to the end of a project's design life.

## DRILLING/FIELD EXPLORATION

Eustis Engineering possesses licenses and credentials to perform geotechnical drilling in Louisiana and Mississippi (no license is needed in Texas). With our licenses and credentials, Eustis Engineering drills soil borings and performs sampling operations for our clients' projects in all types of environments including land, marsh, swamp, and marine. Our personnel have the capability and experience to provide these services from trucks, barges, pontoons, and swamp or marsh buggies.

### Field Exploration Personnel

We can provide up to ten (10) drillers and drill rigs capable of obtaining standard 3-in. diameter Shelby tube samples and 5-in. diameter fixed piston samples, sounding CPT, advancing Geoprobe® samplers, and installing geotechnical instrumentation on land, in water, and in marsh environments as indicated in the following table.

| Capabilities of Eustis Engineering's Field Exploration Staff | Scott Bombard | Jordon Brightwell | James Cordes | Rene Davidson | Robert Dupuy | Eric Held | James Lubben | George Reitmeyer | Lawrence Rome | Michael Whipkey |
|---|---|---|---|---|---|---|---|---|---|---|
| Hand Auger Borings | X | X | X | X | X | X | X | X | X | X |
| General Type (3-in. Diameter Borings) | X | X | X | X | X | X | X | | X | X |
| General Type (3-in. Diameter Borings) in Hard Access Locations (Marsh, Swamp, Heavily Forested) | X | X | X | X | | X | X | | X | |
| Undisturbed Type (5-in. Diameter Borings) | X | X | X | X | X | X | X | | X | X |
| Undisturbed Type (5-in. Diameter Borings) in Hard Access Locations (Marsh, Swamp, Heavily Forested) | | X | X | X | | X | X | | X | |
| Location Information (Latitude, Longitude) | | X | X | X | X | X | X | | X | X |
| Set Permanent Benchmarks | | X | X | X | | X | X | | X | |
| Install Instrumentation | | X | X | X | | X | X | | X | |
| Cone Penetration Tests | | | | | | X | | X | | |
| Geoprobe® Sampling | X | | X | | X | X | X | | X | X |

## Field Exploration Equipment

Eustis Engineering owns and operates six wet rotary drill rigs, both truck-mounted and skid-mounted. This equipment includes one Diedrich truck-mounted D-50 turbo drill rig (with an automatic SPT hammer); one Failing skid only rig (with an automatic SPT hammer); one truck-mounted CME-55 rig; one track-mounted CME-850X rig with an automatic hammer; one track-mounted CME-850XR rig with an automatic hammer; and one truck-mounted CME-55 rig with a detachable CME-55 skid unit and automatic hammer. We also own two track-mounted cone penetrometer systems capable of providing up to 15 tons of reaction. Our CME track rigs provide low ground pressure and are designed to traverse soft ground surfaces, steep slopes, and lightly wooded areas.

Eustis Engineering also owns four direct push Geoprobe® units, two 3230DTs, the 6620DT and the 540M. Eustis Engineering's 6620DT/3230DT Geoprobe with their 12-in. tracks allow this equipment to be used on pavement as well as off road and in rugged terrain. The 6620DT and 3230DT rigs also can be placed on specialized equipment. This includes a jack-up barge and a cargo buggy for operations over marsh/water. These units can install shallow monitoring wells and other instrumentation. We also have the capability to perform CPTs using the 3230DT rigs.

Our 540M Geoprobe can fit into confined spaces as narrow as 32 inches. The 540M can also be utilized on an airboat for coastal terrains.

## Other Specialized Soil Sampling Equipment

We have hand augers to obtain samples at various depths for use in classification and stratification of soil deposits. This equipment can be used in association with handheld piston samplers to obtain small diameter samples. Finally, we operate a dynamic cone penetrometer (DCPT) to assess the in situ strength of undisturbed soils and compacted materials in accordance with ASTM D6951.

## Drone Capabilities

Eustis Engineering utilizes small Unmanned Aerial Systems (sUAS), more commonly known as "drones" to enhance our services. We use the drones to perform site inspections, field reconnaissance, pre/post-construction condition surveys, construction inspections, and other forms of visual monitoring. We currently operate a DJI Mavic Air 2S Drone piloted by a Part 107 Certified Remote Pilot.

## LABORATORY SERVICES

Eustis Engineering's laboratories are constantly evolving with the purchase of new equipment on a yearly basis. Our gINT® data management software from Bentley allows for maximum efficiency in production of boring logs and data entry.

Eustis Engineering has also recently acquired OpenGround®, Bentley's Cloud platform, which interfaces with a collection of geotechnical applications. OpenGround provides a comprehensive solution for collecting, reporting, managing, visualizing, analyzing, and accessing data. Its advanced digital workflows combine both subsurface and surface data into one cohesive design. This software will provide Eustis Engineering's team members access to a data source via connected applications or a web portal, increasing collaboration and efficiency. The improved access and reliability will save time and money in the planning, design, analysis, construction, and operation of infrastructure projects.

Eustis Engineering has also acquired KeyLAB® from Bentley. KeyLAB is the leading laboratory management system built specifically for geotechnical and construction materials testing laboratories. It improves our laboratory efficiency at every stage of the geotechnical and construction testing process, including sample and storeroom management, as well as electronic scheduling, testing, and reporting. It integrates with Microsoft Excel® allowing for easily customized worksheets and reports.

Technical testing common to our laboratories includes ASTM, ACI, LaDOTD, AASHTO, FAA, and USACE. Our laboratories hold accreditations from AASHTO, LaDOTD, and the USACE.

## Laboratory Staffing

Eustis Engineering currently has more than a dozen technicians to perform soil mechanics laboratory testing. These technicians are versed in the latest standards from ASTM, LaDOTD, MDOT, AASHTO, FAA, and the USACE. Many of our technicians have earned certifications with the National Institute for Certification in Engineering Technologies (NICET) in the area of geotechnical engineering technology and in the subfields of construction, exploration, generalist, and laboratory.

## Laboratory Quality Control

In our effort to ensure the quality of our laboratory and materials testing, our programs are regularly inspected by outside agencies such as the U.S. Army Corps of Engineers, the AMRL Group of the American Association of State Highway and Transportation Officials, and the CCRL Group of AASHTO. Eustis Engineering is also accredited by the Mississippi Department of Transportation.

Eustis Engineering has three soil mechanics laboratories where our laboratory practices and quality management system meet the requirements of AASHTO R 18 and ASTM E329. These offices are located in Metairie, Baton Rouge, and Gulfport. Individual offices may comply with ASTM quality system specifications including ASTM C1077, ASTM D366, and ASTM D3740. Accreditations in the various areas are shown below.

| Metairie | Baton Rouge | Gulfport |
|---|---|---|
| Aggregate | | Aggregate |
| Asphalt | Aggregate | Asphalt |
| Concrete | Soil | Concrete |
| Masonry | Spray Fire-Resistive Material | Soil |
| Soil | | Spray Fire-Resistive Material |

Our laboratory in Houston, Texas has capabilities in the areas of Aggregate, Concrete, Masonry, and Soil. Applications for CCRL and AMRL accreditation are in process with the intent of achieving these accreditations later this year.

To show further that quality is paramount to Eustis Engineering, we have two individuals in charge of maintaining quality in our testing. Travis R. Richards, P.E., is the engineer-in-charge, and we also have a Quality Control Manager who oversees the calibration of our equipment. The biggest reward of our quality measures is knowing that our clients are confident that our testing laboratory produces the highest quality results and conforms to national and international standards.

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

**Signature:** _____ **Print Name:** Gwendolyn P. Sanders, P.E.

**Title:** President **Date:** 18 March 2022