

TEC Professional Services Questionnaire

A. Project Name and Advertisement Resolution Number:

SOQ 24-022, Resolution No. 144325
Provide Professional Soils Investigation Services for the Department of Public Works

B. Firm Name & Address:

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

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

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

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

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

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

<u> 7 </u> Administrative	<u> </u> Estimators	<u> </u> Specification Writers
<u> </u> Architects (Licensed)	<u> 2 </u> Geologists	<u> </u> Structural Engineers
<u> </u> Chemical Engineers	<u> 17 </u> Geotechnical Engineers	<u> 3 </u> Graduate Engineers
<u> </u> Civil Engineers	<u> </u> Interior Designers	<u> </u> Project Managers
<u> </u> Construction Inspectors	<u> </u> Landscape Architects	<u> 11 </u> Clerical
<u> </u> Ecologists	<u> </u> Land Surveyor	<u> </u> Grant/Funding Specialist
<u> </u> Electrical Engineers	<u> </u> Mechanical Engineers	<u> </u> Sanitary Engineers
<u> 5 </u> Engineer Intern	<u> </u> Environmental Engineers	<u> 47 </u> Other
<u> </u> Professional Land Surveyors		<u> 92 </u> 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 all subcontractors must submit a fully completed copy of this questionnaire, applicable licenses, and any other information required by the advertisement. See Jefferson Parish Code of Ordinances, Sec. 2-928(a)(3). Please attach additional pages if necessary.

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

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

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

TEC Professional Services Questionnaire

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

PROFESSIONAL IN CHARGE OF PROJECT:

Name & Title:

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

Project Assignment:

Principal / Limited Liability Corporation Member

Name of Firm with which Associated:

Eustis Engineering L.L.C.

Years' Experience with This Firm:

31

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 L.L.C. in 1993. Over the past 31 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 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 area, particularly in Jefferson Parish. Mrs. Sanders has been involved in and managed every aspect of a geotechnical engineering project; namely, developing appropriate scopes of work for projects, planning and coordinating field investigations, assigning laboratory testing, performing geotechnical engineering analyses, preparing detailed reports with engineering analyses and recommendations, reviewing reports prepared by other professionals, and consulting with clients. Much of her work experience has dealt with 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, translates to Mrs. Sanders' ability to deliver successful geotechnical engineering projects to her clients.

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

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

- **Jefferson Parish** – Veterans Boulevard Drainage Pump Stations, Metairie, Louisiana, Project No. 2012-034-DR, Eustis Engineering Project Nos. 22024, 22361, 23396.00, 23396.01, 24426.00, 24426.01
- **Jefferson Parish** – Proposed Bike Path and Bridge Over Veterans Memorial Boulevard Along Jefferson Parish Side of 17th Street Canal, Metairie, Louisiana, Eustis Engineering Project Nos. 23920.00-.02
- **Jefferson Parish** – Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey's Cut, Metairie, Louisiana Eustis Engineering Project No. 24281
- **Jefferson Parish** – North Causeway Boulevard (Southbound), Veterans Memorial Boulevard Overpass Ramp Extension, Metairie, Louisiana, Eustis Engineering Project No. 23914

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:
Senior Project Manager / Program Manager
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
20
Education: Degree(s)/Year/Specialization:
Master of Business Administration / 2011 / Business Administration Master of Science / 2003 / Civil Engineering (Geotechnical) Bachelor of Science / 1998 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2004 / Civil Engineering Mississippi: 2012 / Engineering Texas: 2010 / Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>For 3 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 as well as foundation construction observations of spread footings, mats, drilled shafts, augercast piles, driven steel H-piles, tiebacks, and underpinning piers.</p> <p>After relocating to Austin, Texas, to eventually pursue graduate studies in engineering, Mr. Hance acted as an assistant project engineer for several design phase projects. These projects involved retention and stream bank stabilization applications. The types of systems designed included mechanically stabilized earth (MSE), single and multi-tiered walls and slopes utilizing geogrid reinforcement, and the use of geosynthetic materials in engineering applications such as erosion control solutions for open channel flow conditions.</p> <p>Mr. Hance was a graduate research assistant at the University of Texas at Austin where he published his Master's thesis in association with a Master of Science in Civil Engineering degree: <i>Assessment of Seafloor Slope Stability Based on a Database of Published Submarine Slope Failures</i>.</p> <p>Mr. Hance has spent the past 20 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 for new projects with clients, participating in business development and marketing ventures, and negotiating contracts.</p> <p>Some of his experience relative to this submittal includes the following:</p> <ul style="list-style-type: none">• Jefferson Parish – Hoey's Canal Drainage Improvements (Phases II and III), Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 21458 & 22532.00, .01• Jefferson Parish – Proposed Bike Path and Bridge, Over Veterans Memorial Boulevard Along Jefferson Parish Side of the 17th Street Canal, Metairie, Louisiana, Eustis Engineering Project No. 23920

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

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

- **Jefferson Parish** – Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana, Eustis Engineering Project No. 24160
- **Jefferson Parish** – Upper Barataria Terracing Project, Jefferson Parish, Louisiana, FNI Project JPL22495, Eustis Engineering Project No. 25108
- **Jefferson Parish** – Proposed Lift Station, Melody Drive and West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 24782

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Benjamin M. Cody, P.E. / Principal Engineer
Project Assignment:
Senior Project Manager / Supervisor Engineer (P.E.)
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
21
Education: Degree(s)/Year/Specialization:
Master of Science / 1999 / Civil Engineering Bachelor of Science / 1996 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2002 / Civil Engineering Mississippi: 2007 / Engineering Texas: 2014 / Civil Engineering Florida: 2001 / Engineering Alabama: 2003 / Engineering Arkansas: 2014 / Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>From 1993 to 1994, Mr. Benjamin M. Cody first worked with Eustis Engineering as a part-time laboratory soil technician while obtaining his undergraduate degree. After leaving Eustis Engineering in 1994, Mr. Cody worked as an engineering technician with the Sewerage & Water Board of New Orleans and as a student laboratory coordinator at Tulane University's Department of Civil Engineering. Mr. Cody also assisted in teaching the introductory soil mechanics laboratory sessions. For more than a year, he then worked as a graduate research assistant at Tulane University while pursuing his master's degree. At that time, he was responsible for the design, construction, and implementation of bench scale testing system in contaminated soil remediation.</p> <p>From 1998 until 2001, Mr. Cody worked for engineering firms in Florida. He performed such duties as soil evaluation and engineering recommendations for projects of varying sizes including multi-story structures, bridges, and roadways. He performed Phase I environmental site assessments as well as geotechnical sensor installation.</p> <p>In 2001, he returned to the New Orleans area and to Eustis Engineering as a Project Engineer. He now serves as a Principal Engineer with the firm. Since his return, Mr. Cody has performed a wide variety of engineering services including geotechnical project management, engineering design, engineering during construction, and dynamic pile testing. Private sector projects have varied from small private or commercial structures to multi-story high-rise structures, storage tanks, and other industrial facilities. Public projects have included roads and bridges, port facilities, government buildings and facilities, schools, and hurricane protection system improvements.</p> <p>Some of Mr. Cody's project experience, shown in this submittal, includes the following:</p> <ul style="list-style-type: none">• Jefferson Parish – Drainage Canal Development, Veterans Memorial Boulevard and Ridgelake Drive, Metairie, Louisiana, Eustis Engineering Project No. 23413• Jefferson Parish – Department of Public Works, Proposed Pump Station, West Esplanade at the 17th Street Canal, Jefferson Parish, Louisiana, Eustis Engineering Project No. 24427• Jefferson Parish – Veterans Boulevard, Drainage Pump Stations, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 22024, 22631, 23396.00, .01, & 24426.00, .01

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

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

- **Jefferson Parish** – Severn Avenue Corridor Improvements, Veterans Boulevard to West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 22719
- **Jefferson Parish** – Proposed Bike Path and Bridge Over Veterans Memorial Boulevard Along Jefferson Parish Side of the 17th Street Canal, Metairie, Louisiana, Eustis Engineering Project No. 23920.00-.02
- **Jefferson Parish** – Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey’s Cut, Metairie, Louisiana, Eustis Engineering Project No. 24281
- **Jefferson Parish** – North Causeway Boulevard (Southbound), Veterans Memorial Boulevard Overpass Ramp Extension, Metairie, Eustis Engineering Project No. 23914
- **Jefferson Parish** – Proposed Lift Station, Melody Drive and west Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 24782

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Patrick A. Thurmond, P.E. / Project Manager
Project Assignment:
Geotechnical Project Manager / Engineer (P.E.)
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
8
Education: Degree(s)/Year/Specialization:
Post Graduate Program / 2022 / Data Science and Business Analytics Graduate Certificate / 2021 / Coastal Sciences Master of Science / 2020 / Civil Engineering Graduate Certificate / 2018 / Coastal Engineering Master of Science / 2018 / Engineering Management Bachelor of Science / 2015 / Civil Engineering
Active Registration: Year First Registered/Discipline:
Louisiana: 2020 / Civil Engineering
Other Experience and Qualifications Relevant to the Proposed Project:
<p>Prior to joining the staff of Eustis Engineering, Mr. Thurmond began developing his skills as an intern for the U.S. Department of Agriculture's Natural Resources Conservation Service (USDA NRCS) in Cheyenne, Oklahoma. While there, he gained skills associated with land surveying, erosion control structural design, and hydrology. Mr. Thurmond also interned with a New Orleans-area consulting engineer where he gained skills in construction management and drainage system designs.</p> <p>After graduating from the University of Oklahoma, Mr. Thurmond took a position with Eustis Engineering as an Assistant Project Engineer and was later promoted to Project Engineer. In 2021, he received another promotion to Project Manager, where he continues to excel. In these positions, Mr. Thurmond coordinated site access, assigned laboratory tests, and coordinated project requirements and development with clients. He became adept at a variety of geotechnical engineering analyses and evaluations including allowable bearing capacity, allowable pile load capacity for various types of piles, pile response to vertical and lateral loading, slope stability analyses of levees and earthen structures, sheetpile wall design, effects of drag loads on deep foundations, wick drain design, and settlement. Mr. Thurmond developed proficiency with many engineering programs such as DRIVEN®, LPILE®, TZPILE®, and GROUP® by Ensoft, Inc.; SEEP/W and SLOPE/W by GeoStudio; Settle3 by RocScience Inc.; and GRLWEAP by Pile Dynamics, Inc.</p> <p>Mr. Thurmond has been heavily involved in the operation and maintenance of cone penetrometer equipment, as well as the evaluation, reduction, and correlation of cone penetration test (CPT) data. Other field activities include performing dynamic pile testing, parallel seismic testing, sonic echo/impact response testing, and thermal integrity profiling. Mr. Thurmond holds a drone pilot license and operates Eustis Engineering's drone to facilitate site accessibility assessments for remote locations prior to field exploration.</p>

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Patrick A. Thurmond, P.E. / Project Manager

Mr. Thurmond has direct involvement with the following projects related to this submittal:

- **Jefferson Parish** – Drainage Canal Development, Veterans Memorial Boulevard and Ridgelake Drive, Metairie, Louisiana, Eustis Engineering Project No. 23413
- **Jefferson Parish** –Hoey’s Canal Drainage Improvements (Phases II and III), Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 21458, 22532, 22532.01
- **Jefferson Parish** – Veterans Boulevard Drainage Pump Stations, Metairie, Louisiana, Project No. 2012-034-DR, Eustis Engineering Project Nos. 22024, 22631, 23396.00, 23396.01, 24426.00, 24426.01
- **Jefferson Parish** – Proposed Bike Path and Bridge Over Veterans Memorial Boulevard Along Jefferson Parish Side of 17th Street Canal, Metairie, Louisiana, Eustis Engineering Project No. 23920.00-.02
- **Jefferson Parish** – Proposed Drainage Improvements, Geisenheimer Canal Between Loumor Ditch and Hoey’s Cut, Metairie, Louisiana, Eustis Engineering Project No. 24281
- **Jefferson Parish** – North Causeway Boulevard (Southbound), Veterans Memorial Boulevard Overpass Ramp Extension, Metairie, Louisiana, Eustis Engineering Project No. 23914

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 / Supervisor - Other

Name of Firm with which Associated:

Eustis Engineering L.L.C.

Years' Experience with This Firm:

29

Education: Degree(s)/Year/Specialization:

Associate of Applied Sciences / 1998 / Safety

Active Registration: Year First Registered/Discipline:

LA Driller's License /2013

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 limits 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)

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
- 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
- CBR of laboratory compacted soils
- Consolidated undrained triaxial shear tests
- Direct shear
- Flexible wall permeability test
- Miniature vane shear
- Organic content
- Percent finer than U.S. Standard 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

In early 1998, Mr. Rome joined the Drilling Department as a soil technician while also 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 U.S. Army Corps of Engineers' (USACE's) fixed piston sampling. He is quite familiar with splitspoon, pitcher, Osterberg, Denison, and hollow stem auger sampling operations. He also performs down hole vane shear testing. 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 seven 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.

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, fleet management, as well as other duties.

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

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

Mr. Rome has direct involvement with the following projects related to this submittal:

- **Jefferson Parish** – Drainage Canal Development, Veterans Memorial Boulevard and Ridgelake Drive, Metairie, Louisiana, Eustis Engineering Project No. 23413
- **Jefferson Parish** – Severn Avenue Corridor Improvements, Veterans Boulevard to West Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 22719
- **Jefferson Parish** – Proposed Bike Path and Bridge Over Veterans Memorial Boulevard Along Jefferson Parish Side of 17th Street Canal, Metairie, Louisiana, Eustis Engineering Project No. 23920.00-.02
- **Jefferson Parish** – Proposed Pump Station, Blanchard Lane, Grand Isle, Louisiana, Eustis Engineering Project No. 24160
- **Jefferson Parish** – North Causeway Boulevard (Southbound), Veterans Memorial Boulevard Overpass Ramp Extension, Metairie, Louisiana, Eustis Engineering Project No. 23914

TEC Professional Services Questionnaire

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:
Name & Title:
Ryan A. Rodrigue / Laboratory Manager
Project Assignment:
Laboratory Manager / Technician
Name of Firm with which Associated:
Eustis Engineering L.L.C.
Years' Experience with This Firm:
21
Education: Degree(s)/Year/Specialization:
High School Diploma / 1998 / General Studies
Active Registration: Year First Registered/Discipline:
N/A
Other Experience and Qualifications Relevant to the Proposed Project:
<p>Accreditations / Affiliations / Certifications</p> <p>American Concrete Institute (ACI) Concrete Strength Testing Technician Concrete Laboratory Testing Technician, Level 1 Aggregate Testing Technician, Level 1 Aggregate Base Testing Technician National Institute for Certification in Engineering Technologies (NICET), Certification No. 111500: Level II: Construction Materials Testing, Soils Level IV: Geotechnical Engineering Technology</p> <p>Professional Experience</p> <p>After working in our soils' laboratory for approximately 11 years, Mr. Rodrigue was promoted to the position of Assistant Laboratory Manager, and he became Laboratory Manager in 2018. In this role, Mr. Rodrigue ensures all samples coming into our laboratory are processed the moment they are received. He coordinates and organizes multiple ongoing projects to ensure the project and the client's deadlines are met. He also oversees the development and training of laboratory technicians.</p> <p>To accomplish the above tasks, Mr. Rodrigue assesses, oversees, and coordinates all current and upcoming workloads. He directs and provides support to the laboratory staff to ensure all tasks are completed in an efficient manner without compromising quality. He also ensures the quality of the finished product. He works with both the Engineering and Construction Materials Testing departments to deliver the final product to the client within the required timeframes. This includes checking and reporting laboratory data for these departments.</p> <p>Mr. Rodrigue is responsible for training and developing the laboratory staff's skills to meet the industrial demands and standards required by ASTM, AASHTO, the U.S. Army Corps of Engineers, the Louisiana Department of Transportation and Development, and other governing agencies who regulate quality control and assurance guidelines. As part of his duties, Mr. Rodrigue must interpret, implement, and ensure guidelines are met daily.</p>

KEY PERSON, SPECIALIST, OR INDIVIDUAL CONSULTANT:

Name & Title:

Ryan A. Rodrigue / Laboratory Manager

In addition to the above, Mr. Rodrigue implements and adheres to our corporation's quality system program. He controls expenditures within the limits of the laboratory budget. He identifies staffing requirements and coordinates staffing with upper management and human resources. He assists with the selection of new equipment. He also reviews and approves employee and subcontractor timesheets.

Some of Mr. Rodrigue's experience relative to this submittal includes the following:

- **Jefferson Parish** – Drainage Canal Development, Veterans Memorial Boulevard and Ridgelake Drive, Metairie, Louisiana, Eustis Engineering Project No. 23413
- **Jefferson Parish** – Veterans Boulevard, Drainage Pump Stations, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 22024, 22631, 23396.00, .01, & 24426.00, .01
- **Jefferson Parish** – Hoey's Canal Drainage Improvements (Phases II and III), Labarre Road to Causeway Boulevard, Jefferson Parish, Louisiana, Eustis Engineering Project Nos. 21458 & 22532.00, .01
- **Jefferson Parish** – Proposed Lift Station, Melody Drive and west Esplanade Avenue, Metairie, Louisiana, Eustis Engineering Project No. 24782

Testing Skills

- Atterberg limits determinations
- CBR of laboratory-compacted soil
- Column settling test
- Compaction test, standard and modified
- Consolidated undrained triaxial test
- Consolidated undrained triaxial test with pore pressure measurements
- Consolidation test
- Direct shear test
- Direct simple shear
- Direct simple shear (cyclic)
- Expansion index of soils
- Hydrometer
- Miniature vane shear test
- Moisture content of soil and rock
- One-dimensional swell
- Organic content
- Percent finer than No. 200 sieve
- Permeability, flexible and rigid wall
- pH of soils
- Pocket penetrometer
- Relative density
- Soil resistivity
- Specific gravity of soil, sand, and rock
- Torvane
- Turbidity
- Unconfined compression shear
- Unconsolidated undrained triaxial compression shear
- Unit weight
- Visual classification of soils
- Self-weight consolidation
- Lime stabilization
- Soil cement

PROJECT NO. 01

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Drainage Canal Development Veterans and Memorial Boulevard and Ridgelake Drive Metairie, Louisiana Eustis Engineering Project No. 23413 </p> <p align="center"> Contact Information: Jefferson Parish Through Linfield, Hunter & Junius, Inc. 3608 18th Street Suite 200 Metairie, Louisiana 70002 Anthony Goodgoin, P.E. @ 504-833-5300 </p>	<p>Approximately 1,100 feet of the drainage canal along Veterans Memorial Boulevard between 300 feet east of Ridgelake Drive and Melody Drive in Metairie, Louisiana, was to be filled in. The reach encompassed three turnarounds. The filled area was to be reclaimed, and buildings were proposed atop a drainage culvert that would replace the existing trapezoidal canal section.</p> <p>Eustis Engineering drilled four undisturbed soil borings to depths of 100 feet below grade at the canal banks using typical undisturbed Shelby-tube sampling as well as standard penetration tests. Borings in the canal were obtained to depths of 8 feet below the canal bottom using a piston sampler deployed from a flatboat.</p> <p>Samples obtained from the borings were subjected to soil mechanics laboratory tests. The tests consisted primarily of natural water content, unit weight, and either unconfined compression shear or unconsolidated undrained triaxial compression shear. In addition, Atterberg limits determinations were performed on selected samples obtained from the borings. These laboratory tests helped determine the shear strength and relative compressibility of the subsoils encountered at the project site.</p> <p>A composite sample of the subsoils was subjected to chemical testing. These tests included pH, soil resistivity, sulfate content, and chloride content. The purpose of these tests was to evaluate the corrosion potential of the subsoils to concrete and metal.</p> <p>Engineering analyses included estimates of allowable pile load capacities, settlement analyses, settlement effects on existing grade supported culverts and pile supported features, and recommendations for temporary retaining structures and pressure relief.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">12/2016 (A)</p>	<p align="center">Entire Project:</p> <p align="center">Unknown</p>	<p align="center">Work for Which Firm Was Responsible:</p> <p align="center">\$11,750</p>

PROJECT NO. 02

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

Nature of Firm's Responsibility:

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

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

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

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

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

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

PROJECT NO. 02		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<p>construction contractor.</p> <p>We also performed additional engineering analyses for the project after our client discovered a new NOPBR track closer to Hoey's Canal. This new construction altered the cross-sections we evaluated in our previous study, requiring an evaluation of the impact on the proposed walls within Hoey's Canal.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
03/2017 (A)	Unknown	\$37,800

PROJECT NO. 03

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

Nature of Firm's Responsibility:

**Jefferson Parish
Veterans Boulevard
Drainage Pump Stations
Jefferson Parish, Louisiana
Eustis Engineering Project Nos.
22024, 22631, 23396.00-.01, and 24426.00-.01**

Contact Information:
Jefferson Parish Through
ECM Consultants, Inc.
Suite 200
1301 Clearview Parkway
Metairie, Louisiana 70001
Sunina Shrestha, P.E. @ 504-885-4080

Two new drainage pump stations are proposed on the north and south sides of Veterans Memorial Boulevard at the 17th Street Canal. Each of these pump stations will discharge into the 17th Street Canal. Due to 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 in order to accommodate a discharge pipe through each wall. Access gates will also be provided as part of the floodwall modifications. For additional data at the site, Eustis Engineering L.L.C. 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.

Due to the 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 as well as 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. Engineering analyses for the evaluation of the proposed T-wall to support the construction permit application and the SAR 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 (TFP) and temporary retaining structures (TRS). Stability analyses were also performed to address construction dewatering requirements for the pump station excavation with respect to the existing and proposed flood protection.

Our work to support the design included estimates of allowable axial pile load capacity 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.

Eustis Engineering is currently performing Engineering During Construction (EDC) services as required by the SAR. To date, we have responded to contractor requests for information (RFIs) and have performed submittal reviews. The EDC submittal reviews include the test pile program (TPP) plan, TRS and TFP methods, and sequences

PROJECT NO. 03

PROJECT NO. 03		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	proposed by the contractor. We evaluated the results of the TPP to confirm the design pile capacity as well as installation criteria. We will review the results of geotechnical instrumentation to monitor the excavation and dewatering, including piezometers and inclinometers.	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
04/2025 (E)	Unknown	\$109,826 (to date)

PROJECT NO. 4

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Severn Avenue Corridor Improvements Veterans Boulevard to West Esplanade Avenue Metairie, Louisiana Eustis Engineering Project No. 22719 </p> <p align="center"> Contact Information: Jefferson Parish Through ECM Consultants, Inc. 4409 Utica Street Suite 200 Metairie, Louisiana 70006 Chris Maniscalco @ 504-885-4080 </p>	<p>Drainage improvements were planned along the Severn Avenue corridor between West Esplanade Avenue and Veterans Boulevard. The work would require trench excavation, pipe bedding installation, and concrete pavement repair. Storm drainage excavations would average 7 feet deep, and excavations for connections to box culverts would extend to maximum depths of 10 feet. The pavement would need to be repaired in accordance with State of Louisiana, Department of Transportation and Development standards and recommendations. An average daily traffic count of 37,960 vehicles per day was provided by the project engineer.</p> <p>The scope of our services included the drilling of 13 soil borings, the performance of soil mechanics laboratory tests to evaluate the physical properties of the subsoils, and the development of engineering analyses based on data gathered during the field and laboratory testing programs.</p> <p>The soil borings were each performed with truck mounted equipment. The concrete pavement was cored at each location to assist in the drilling operations and evaluate the existing pavement components. The borings extended between depths of 10 and 15 feet below the existing ground surface. Soil mechanics laboratory tests consisted primarily of classification tests.</p> <p>Engineering analyses and recommendations for the project included:</p> <ul style="list-style-type: none"> • site preparation including the use of temporary and permanent drainage during construction, as well as the removal of the existing pavement, and subbase and base material; • drainage pipe installation recommendations including the use of excavations and dewatering with the possibility of lateral movement and settlement of the adjacent ground surface; • the use of a geotextile separator for the excavation bottom; • recommended bedding and structural fill to be used during construction; • allowable soil bearing values for the proposed box culverts; and • component recommendations for rigid pavements. 	
<p align="center">Completion Date (Actual or Estimated)</p>	<p align="center">Estimated Cost:</p>	
<p align="center">6/2015 (A)</p>	<p align="center">Entire Project:</p> <p align="center">Unknown</p>	<p align="center">Work for Which Firm Was Responsible:</p> <p align="center">\$11,600</p>

PROJECT NO. 5

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

Nature of Firm's Responsibility:

**Jefferson Parish
Proposed Bike Path and Bridge
Over Veterans Memorial Boulevard
Along Jefferson Parish Side
of the 17th Street Canal
Metairie, Louisiana
Eustis Engineering Project Nos. 23920.00-.02**

Contact Information:

Jefferson Parish Public Works Through
Linfield, Hunter and Junius, Inc.
3608 18th Street
Metairie, Louisiana 70002
Mark K. Annino @ 504-833-5300

A bike path and bridge were proposed over Veterans Memorial Boulevard, along the Jefferson Parish side of the 17th Street Canal, in Metairie, Louisiana. The bridge would be approximately 900 feet long. Pile-supported bridge pier foundations were anticipated to be on approximate 60- and 80-ft centers. Pier loads were anticipated to be 320 kips for four piles (60-ft pier spacings) and 640 kips for eight piles (80-ft pier spacings). An asphalt bike path would extend north and south of the bridge for approximately 2,600 and 800 linear feet, respectively.

Prior to performing the field investigation, Eustis Engineering obtained a permit from the South Louisiana Flood Protection Authority – East (SLFPA-East). This permit request included obtaining Letters of No Objection from the State of Louisiana, Coastal Protection and Restoration Authority (CPRA) and the U.S. Army Corps of Engineers (USACE). SLFPA-East, CPRA, and USACE are all project stakeholders since the bike path overlies the levee embankment adjacent to an existing floodwall which parallels the 17th Street Canal. We also contacted Louisiana One Call to locate utilities near proposed exploration points.

Eustis Engineering drilled two soil borings to depths of 100 feet below the existing ground surface. In each case, the boring was washed to the 40-ft depth since existing historical data was available. Eustis Engineering drilled three additional soil borings to depths of 100 feet near the proposed bridge piers. Finally, eight direct push borings were made to depths of 4 to 5 feet with one of our Geoprobe® rigs. The direct push borings were positioned in the areas of the proposed asphalt paths. Laboratory tests were performed on the samples to determine the shear strength and relative compressibility of the subsoils encountered. Historical subsurface soil data were also referenced in the development of the soil design parameters.

Information from the borings and laboratory results informed the engineering analyses for foundation design, pile installation recommendations, and seepage/stability evaluations. The geotechnical design report included:

- a discussion of subsoil and groundwater conditions;
- estimates of settlement and differential settlement;
- estimates of allowable load capacities for various types and sizes of piles (including timber, steel, and concrete);
- slope stability analyses of the levee embankment and I-wall system at the locations north and south of the Veterans Memorial Boulevard overpass where the bridge would tie into the existing levee embankment;
- seepage analyses to evaluate impacts for the proposed construction on the flood protection;
- Seismic Site Classification in accordance with the

PROJECT NO. 5

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<p>International Building Code;</p> <ul style="list-style-type: none"> • recommendations for asphalt pavement sections for an at-grade bike path; • recommendations for transitioning between grade-supported and pile-supported approach slabs; • recommendations associated with excavations and dewatering; and • general construction recommendations. <p>Our sensitivity analyses for potential for piping along the proposed monopiles supporting the bridge bents identified the need for a supplemental exploration. The composite stratigraphy provides an acceptable factor of safety against piping. However, significant variations in surficial fill material composition and thickness could present the need to supplement the seepage blanket at select individual foundation locations. Thus, a supplemental exploration was completed. Eustis obtained supplemental permitting to perform 14 cone penetration tests (CPTs), along the western side of the 17th Street Canal, at each individual bridge bent. Each CPT was performed to a depth of 30 feet or practical refusal. The CPTs provide a means to interpret stratigraphy continuously with depth at each bent to aid in the assessment of piping potential to ensure no unintended impacts to the flood protection and assess construction requirements ahead of releasing the bid package to reduce change orders once construction proceeds. These results of these supplemental services were issued in a report.</p> <p>Eustis Engineering also performed supplemental geotechnical analyses to evaluate the soil response of individual piles to lateral loads to aid in the selection and design of the monopiles to support the bridge. We performed soil-pile interaction analyses to estimate the maximum bending moment and deflections in various open-end steel pipe pile diameters and wall thicknesses. The unfactored results were summarized in graphical and tabular form in an additional supplemental letter.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
08/2023 (A)	Unknown	\$55,400

PROJECT NO. 06		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p style="text-align: center;">Jefferson Parish Proposed Drainage Improvements Geisenheimer Canal Between Loumor Ditch and Hoey's Cut Metairie, Louisiana Eustis Engineering Project No. 24281</p> <p style="text-align: center;">Contact Information: Jefferson Parish Through Design Engineering, Inc. Suite 205 3330 West Esplanade Avenue Metairie, Louisiana 70002 John Holtgreve, P.E. @ 504-836-2155</p>	<p>Drainage improvements were planned for a portion of Geisenheimer Drainage Canal between Loumor Ditch and Hoey's Cut in Metairie, Louisiana. A new box culvert would be installed north of and parallel to the existing Geisenheimer Drainage Canal over a distance of approximately 2,800 linear feet. The purpose of this project was to increase flow capacity. Tie-ins in the form of junction boxes would be required at three locations including the new and existing Loumor Ditch, Woodvine Ditch, and at Hoey's Cut. The existing covered canal generally consisted of an 8' x 15' box culvert supported by timber piles. A section of the Hoey's Cut covered canal indicated a 9.5' x 25' structure comprising concrete sheetpiles as the sidewalls. The new structure was planned to be an 8' x 12' box culvert supported at grade.</p>	
	<p>Eustis Engineering had previously performed geotechnical explorations for prior project phases. To supplement these historic data, Eustis Engineering performed four cone penetration tests (CPTs) to a depth of 60 feet each below the existing ground surface. The CPTs were made with a track-mounted cone penetrometer rig. This exploration scope was selected to expedite the project schedule and keep field costs contained.</p>	
	<p>Geotechnical engineering recommendations for the project included site preparation, managing drainage during and after construction, identifying demolition of existing features interfering with new construction, and the need for a temporary retaining structure (TRS) for excavations.</p>	
	<p>Eustis Engineering analyzed at least one concept of a TRS considering application of factors of safety to the sheetpile penetration or to the soil design parameters. Other considerations for the TRS included recommendations for construction sequence; excavation; dewatering; lateral movement and soil subsidence; preparation of the excavation base; the bridge lift and bedding; sealant slab; and material selection and compaction for structural, non-structural, and embankment fill.</p> <p>Our personnel also analyzed earth and water pressures associated with the box culvert as well as the use of a grade-supported culvert base slab. Analyses associated with the slab included allowable soil bearing values, net applied pressure intensity, and settlement estimates. Differential settlement was considered in association with pavements, the existing pile-supported box culvert, and underground utilities.</p>	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
03/2020 (A)	Unknown	\$12,100

PROJECT NO. 07

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Proposed Pump Station Blanchard Lane Grand Isle, Louisiana Eustis Engineering Project No. 24160 </p> <p> Contact Information: Jefferson Parish Through GIS Engineering, L.L.C. 197 Elysian Drive Houma, Louisiana 70363 Kyle Galloway @ 985-219-1000 </p>	<p>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' x 16.33'. A design alternative, consisting of a grade-supported pump station (without pile support), was also evaluated as part of our investigation.</p> <p>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.</p> <p>Engineering analyses and recommendations included the following:</p> <ul style="list-style-type: none"> • recommendations for groundwater management; • site preparation recommendations including excavation preparation and development of a working platform/bedding as well as a sealant slab; • recommended construction materials including geotextile fabric as well as structural fills and their compaction; • minimum requirements for temporary retaining structures; • dewatering and pressure relief associated with a working platform; • allowable soil bearing values for the pump station, net applied soil pressure, and settlement of the mat/slab-supported pump station; • consideration of hydrostatic uplift pressures; • lateral earthen pressures; • estimated allowable load capacities for various sizes of treated ASTM D25 quality timber piles and square, precast concrete piles; • estimated pile settlement due to sustained structural loads; and • pile installation recommendations. 	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
08/2019 (A)	Unknown	\$14,465

PROJECT NO. 08

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

Nature of Firm's Responsibility:

**Jefferson Parish
North Causeway Boulevard (Southbound)
Veterans Memorial Boulevard
Overpass Ramp Extension
Metairie, Louisiana
Jefferson Parish Project No. 2017-011-RBP
DEI Project No. 3017
Eustis Engineering Project No. 23914**

Contact Information:
Jefferson Parish Through
Design Engineering, Inc.
Suite 250
3300 West Esplanade Avenue
Metairie, Louisiana 70002
John Holtgreve @ 504-836-2155

The project included roadway widening work as well as structural modifications to a portion of the bridge over Veterans Memorial Boulevard. A sign foundation also required removal and relocation to facilitate the bridge widening. The existing sign foundation was to be abandoned with supporting timber piles cut to 3 feet below finished grade.

Three new column bents were proposed for the project, each consisting of five to nine vertical 14-in. square, precast concrete piles (SPCs). Three existing piles would be incorporated into one of these pile caps. Four additional bents along the widened slab spans would each require three additional vertical 14-in. SPCs. The relocated sign foundation would be supported by four vertical 14-in. SPCs. Finally, four individual vertical 12-in. SPCs were proposed for support of the curtain wall. Based on this information, forty-four 14-in. and four 12-in. SPCs would be installed as part of the structural modifications. Dynamic pile testing was proposed on at least two of the piles.

The roadway widening would extend approximately 700 feet north from the bridge and include a shift in the median to the west. This shift would require partial pavement removal as well as additional paving. The average daily traffic volume was 31,619 vehicles per day for the right southbound lane along the project corridor.

Our field investigation included one undisturbed soil boring and two direct push borings to determine the subsurface conditions at the project site and to supplement available subsurface data from the original project plans. The undisturbed boring extended to a depth of 100 feet below the existing ground surface, and the push borings were performed to a depth of 10 feet each below the existing asphalt pavement.

Once the field investigation was completed, we performed soil mechanics laboratory tests in our accredited laboratory in Metairie. Testing included visual classification, natural water content, unit weight, unconfined compression shear, unconsolidated undrained triaxial compression shear, Atterberg limits determinations, and grain size analyses.

Engineering analyses and recommendations for the project included:

- site preparation recommendations including temporary and permanent drainage, clearing and stripping, and demolition;

PROJECT NO. 08

PROJECT NO. 08		
Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
	<ul style="list-style-type: none">• subgrade preparation including recommended fills, their compaction, and estimated fill settlement;• areal subsidence;• excavation recommendations including OSHA requirements, bracing, opencuts, dewatering and pressure relief, working surfaces, lateral movement, and settlement of the adjacent ground surface;• retaining structures;• deep foundation analyses including ultimate vertical pile capacity, in compression and tension, for SPC piles supporting the ramp extension and sign relocation; load resistance factors; pile spacing; estimated pile settlement due to structural loads; and differential settlement between the existing bridge and the proposed pile supported road widening;• soil/pile interaction analyses for laterally loaded pile groups;• pile installation recommendations; and• pavement analyses.	
Completion Date (Actual or Estimated)	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
04/2019 (A)	Unknown	\$22,500

PROJECT NO. 09

Project Name, Location, and Owner's Contact Information:		Nature of Firm's Responsibility:	
<p style="text-align: center;">Jefferson Parish Upper Barataria Terracing Project Jefferson Parish, Louisiana FNI Project JPL22495 Eustis Engineering Project No. 25108</p> <p style="text-align: center;">Contact Information: Jefferson Parish Government Through Freese and Nichols, Inc. 900 Camp Street New Orleans, Louisiana 70130 Nina Reins @ 225-245-7202</p>		<p>The Upper Barataria Terracing project comprises construction of earthen terraces, using materials from adjacent borrow canals in open water to encourage the creation of emergent marsh in Barataria Bay near Bayou Dupre Cut and Bayou Dupont.</p> <p>Eustis Engineering L.L.C.'s scope of service for the geotechnical exploration comprised obtaining a Coastal Use Permit (CUP), executing a geotechnical exploration, and performing subsequent laboratory testing. Borings were performed at nine locations to depths of 50 feet below the mudline to evaluate subsurface conditions and stratification and to obtain samples of the various substrata. The soil test borings were drilled using a drill rig mounted onto a marsh buggy. Soil mechanics laboratory tests, performed on samples obtained from the soil borings, were used to evaluate the physical properties of the subsoils. The results from the soil borings and laboratory tests were transmitted through a geotechnical data report and later used to establish the recommendations we prepared in our geotechnical engineering report.</p> <p>Engineering analyses performed by Eustis Engineering for the proposed terraces included slope stability evaluation of the earthen terraces considering adjacent borrow canals; settlement analyses for immediate and long-term settlement due to the compression of subsurface soil consolidation; and general construction recommendations. We transmitted the findings and recommendations into a final geotechnical engineering report. Eustis Engineering provided additional consulting efforts with Freese and Nichols to establish constructability recommendations for use in the project plans and specifications. Our constructability recommendations are based on recent coastal engineering projects specific to earthen terraces and borrow canals.</p>	
		Estimated Cost:	
Completion Date (Actual or Estimated)	Entire Project:	Work for Which Firm Was Responsible:	
04/2024 (A)	Unknown	\$131,000	

PROJECT NO. 10

Project Name, Location, and Owner's Contact Information:	Nature of Firm's Responsibility:	
<p align="center"> Jefferson Parish Proposed Lift Station Melody Drive and West Esplanade Avenue Metairie, Louisiana Eustis Engineering Project No. 24782 </p> <p align="center"> Contact Information: Jefferson Parish Through ECM Consultants, Inc. 1301 Clearview Parkway Suite 200 Metairie, Louisiana 70006 Sunina Shrestha P.E. @ 504-885-4080 </p>	<p>A new lift station was proposed to be constructed at the intersection of Melody Drive and West Esplanade Avenue in Metairie, Louisiana, just east of the existing lift stations. The structure's wet well and valve pit would have a 2-ft (thick) base slab extending 2 feet beyond all sides. Two options regarding the wet well size and dimensions were being considered. A new pile-supported sewer force main aerial canal crossing was also proposed.</p> <p>Eustis Engineering's subsurface exploration comprised one undisturbed sample type soil test boring to a depth of 70 feet below the existing ground surface using a truck-mounted rotary-type drill rig. Due to the existing site features and overhead and underground utilities, our crew coordinated closely with the designer and representatives of Jefferson Parish to select the boring location. After completion of the field work, the samples were transported to our certified Metairie laboratory for testing. Soil mechanics laboratory tests consisted of visual classification, natural water content, unit weight, unconfined compression shear, unconsolidated undrained triaxial compression shear, and Atterberg liquid and plastic limits tests. These test results were utilized to develop soil design parameters for the geotechnical analyses.</p> <p>We made recommendations for both shallow (mat/slab) and deep (driven pile) foundation design, installation, and materials.</p> <p>Engineering analyses included settlement and lateral earthen pressures (at-rest, active, and passive). For mat foundations, we calculated allowable soil bearing values, net applied pressure intensity, estimated settlement, and uplift pressure. For pile foundations, we calculated allowable pile load capacities in compression and tension and estimated settlement. We also provided recommendations for pile materials, size, and installation methods.</p>	
<p align="center">Completion Date (Actual or Estimated)</p>	Estimated Cost:	
	Entire Project:	Work for Which Firm Was Responsible:
<p align="center">05/2022 (A)</p>	<p align="center">Unknown</p>	<p align="center">\$6,160</p>

TEC Professional Services Questionnaire

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

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

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

When Eustis Engineering L.L.C. opened its first office in Vicksburg, Mississippi, in 1946, it housed its entire operation in less than 500 square feet of space. *Seventy-eight 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 single two-man office to approximately 115 individuals in five offices, 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 Baton Rouge and Lafayette, Louisiana, Gulfport, Mississippi, and Houston, Texas. Our offices and staff collaborate seamlessly using Microsoft Teams and other virtual platforms.

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

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

Eustis Engineering L.L.C. Important Numbers	
Item	Number
Unique Entity Identifier (UEI)	R83MG9NLTMS4
CAGE Code	4MOP2
Firm License - Louisiana	EF.0003558
Firm License - Mississippi	2078
Firm Registration – Texas	13895

Eustis Engineering has worked on over 850 geotechnical and construction materials testing projects for Jefferson Parish Government entities either as a prime or subconsultant. Project types include water and wastewater pump stations, lift stations, roads and bridges, utilities, drainage structures and canals, coastal features and flood protection. 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 drilling, laboratory, and engineering staffs unparalleled familiarity with the subsurface and foundation conditions in the Gulf Coast and the challenges that may arise for projects associated with this contract.

ENGINEERING SERVICES

Eustis Engineering has geotechnical engineering capabilities to fulfill the requirements of nearly any project. As evidenced by the included write-ups in this package, our experience with performing field exploration, testing, and geotechnical engineering design is varied and extensive.

Eustis Engineering's design teams have completed projects associated with all types of infrastructure and capital/public works projects including water, sewerage, drainage, streets, and parkways. Eustis Engineering's design teams evaluate pavement subgrades and provide recommended pavement component thicknesses for rigid and flexible pavements, including permeable, pervious, and impervious systems. We also evaluate pavement materials and mix designs. Our evaluation of bearing capacity considers the excavation depth, base preparation, and utility diameter. We have developed pile capacity and bearing capacity analyses for projects throughout Jefferson Parish and the coastal areas of the United States. Eustis Engineering's evaluation of piles includes estimates of vertical capacity for groups. We also perform lateral analyses of individual piles and pile groups using LPILE® and GROUP® software.

We evaluate local and deep-seated global stability of canals, waterway slopes and embankments as well as excavation shoring and sheeting. We provide assessments of heave, seepage and erosion control measures. We evaluate floodwalls, including I-walls, L-walls, T-walls and gates.

We perform settlement studies including estimates of settlement and time-rate of settlement with and without wick drains to enhance consolidation. 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.

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 moments. Eustis Engineering is also utilizing a numerical model program, SIGMA/W, in association with the rigorous settlement program Settle3.

Engineering Staffing

Our engineering staff has 20 master's degrees in civil engineering, Engineering, Engineering Management, Geology, 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, is very important to Eustis Engineering. Our engineers also regularly present at technical conferences. We encourage and fund our staff for these activities and programs.

Employee	Education	Experience	
		Years with Eustis Engineering	Total Years
Professional Engineers (P.E.)			
Benjamin M. Cody	M.S. / Civil Engineering	22	26
Brian A. Deschamp	B.A. / Business Administration	12	12
	M.S. / Civil Engineering – Geotechnical		
P. Tennant Duckworth	M.S. / Civil Engineering	3	3
James J. Hance	M.S. / Civil Engineering	20	24
	M.B.A. / Business Administration		
Chad L. Held	M.S. / Civil Engineering	33	33
Matthew K. Morales	B.S. / Civil Engineering	15	15
Tomas K. Morales	B.S. / Civil Engineering	10	10
Travis R. Richards	M.S. / Engineering	17	24
	M.S. / Engineering Management		
	Coastal Engineering Certificate		
Chad D. Roe	M.S. / Civil Engineering	1	11
Gwendolyn P. Sanders	M.S. / Engineering	31	31
Sanjay S. Shahji	M.S. / Civil Engineering	1	18
Shaun R. Simon	M.S. / Civil Engineering	24	24
Alice E. Stark	M.S. / Civil and Environmental Engineering	<1	8
Patrick A. Thurmond	M.S. / Engineering Management	9	9
	M.S. / Civil Engineering		
	Coastal Engineering Certificate		
Sean G. Walsh	M.S. / Civil Engineering	11	16
James M. Williams	M.S. / Civil Engineering	6	6
Henry C. Worley	M.S. / Engineering	6	7
	Coastal Engineering Certificate		
Engineering Interns (E.I.)			
Adam K. Abdulbagi	B.S. / Civil Engineering	1	1
Naba Almofraji	B.S. / Civil Engineering	<1	6
Alvaro E. Carvajal	B.S. / Civil Engineering	1	1
Joseph P. DiGiovanni	B.S. / Civil Engineering	1	1
Steven B. Tidwell	B.S. / Geological Engineering	<1	13
Engineering Graduates			
Alexander Soriano Doninelli	B.S. / Civil Engineering	<1	4
Lesley L. Reitmeyer	B.S. / Civil Engineering	15	15
Xia (Bruce) Xialong	PhD / Geotechnical Engineering	<1	10

	M.S. / Geotechnical Engineering		
Geologists			
Matthew J. Blasini, G.I.T.	B.S. / Geology	5	6
Nathan A. Quick, P.G.	M.S. / Geology	2	7
Total Years of Experience		246	341

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

Cone Penetration Testing Capabilities

Eustis Engineering owns two dedicated track-mounted cone penetration test (CPT) rigs and operates four other multi-purpose rigs capable of performing CPTs. Operators are either specifically trained engineering technicians or engineers who perform 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 CPTs and using CPT technology since the early 2000s.

A CPT can be accomplished rapidly with four or five being performed in the same time frame as a standard geotechnical boring; therefore, CPTs are 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 use 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 responses 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 Standard Penetration Test (SPT) hammers on our drill rigs.

Other Non-Destructive Testing Capabilities

Our engineering staff at Eustis Engineering 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 crosshole/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 if 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 data loggers in near real time
- Settlement plates
- Conventional slope inclinometers or MEM sensor array inclinometers and tiltmeters
- 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. We also have portable units that can be used inside structures planned for retrofit/renovations.

Field Exploration Personnel

We can provide up to nine 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	Blair Armant	Scott Bombard	James Cordes	Tevin Crawford	Rene Davidson	Eric Held	James Lubben	George Reitmeyer	Lawrence Rome
Hand Auger Borings	X	X	X	X	X	X	X	X	X
General Type (3-in. Diameter Borings)	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		X
Undisturbed Type (5-in. Diameter Borings)	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		X
Location Information (Latitude, Longitude)	X		X	X	X	X	X		X
Set Permanent Benchmarks	X		X	X	X	X	X		X
Install Instrumentation	X		X	X	X	X	X		X
Cone Penetration Tests						X		X	
Geoprobe Sampling		X	X			X	X		X

Field Exploration Equipment

Eustis Engineering owns and operates six wet rotary drill rigs, both truck-mounted and skid-mounted. This equipment includes one Diedrich truck-mounted D-50 turbo drill rig (with an automatic SPT hammer); one Failing skid only rig (with an automatic SPT hammer); one truck-mounted CME-55 rig; one track-mounted CME-850X rig with an automatic hammer; one track-mounted CME-850XR rig with an automatic hammer; and one truck-mounted CME-55 rig with a detachable CME-55 skid unit and automatic hammer. We also own two track-mounted cone penetrometer systems capable of providing up to 15 tons of reaction. Our CME track rigs provide low ground pressure and are designed to traverse soft ground surfaces, steep slopes, and lightly wooded areas. Eustis Engineering also owns four direct push Geoprobe units: two 3230DTs, the 6620DT, and the 540M. Eustis Engineering's 6620DT/3230DT Geoprobe with their 12-in. tracks allow this equipment to be used on pavement as well as off road and in rugged terrain. The 6620DT and 3230DT rigs also can be placed on specialized equipment. This includes a jack-up barge and a cargo buggy for operations over marsh/water. These units can install shallow monitoring wells and other instrumentation. We also have the capability to perform CPTs and downhole vanes using the 3230DT rigs.

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

Other Specialized Soil Sampling Equipment

In addition to our drill rigs, Eustis Engineering owns and operates an Acker Vane Shear to perform down hole in-situ testing. We also 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 to assess the in-situ strength of undisturbed soils and compacted materials in accordance with ASTM D 6951.

Drone Capabilities

Eustis Engineering utilizes small Unmanned Aerial Systems (sUAS), more commonly known as “drones,” to enhance our services. We use 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 the production of boring logs and data entry.

Eustis Engineering has also 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 provides Eustis Engineering’s team members access to a data source via connected applications or a web portal, increasing both collaboration and efficiency. 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 the efficient development of customized worksheets and reports.

Technical testing common to our laboratories includes ASTM; American Concrete Institute (ACI); State of Louisiana, Department of Transportation and Development (LaDOTD); AASHTO; FAA; and the U.S. Army Corps of Engineers (USACE). Our laboratories hold accreditations from AASHTO, LaDOTD, and the USACE.

Laboratory Staffing

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

Laboratory Quality Control

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

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

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

To further show 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. Timmy Holleman, dedicated Quality Control Manager, oversees the calibration of our equipment and maintenance of our quality system. The biggest reward of our quality system is knowing our clients are confident our testing laboratories produce the highest quality results and conform to state and national standards.

CONSTRUCTION MATERIALS TESTING

Eustis Engineering has been involved in construction materials testing (CMT) and inspection on a regular basis since the mid-1980s. Over the past 30+ years, Eustis Engineering has accumulated a wealth of experienced technicians in these areas. Whether 20 feet down in an excavation or 20 stories up in a high rise, our CMT technicians are there providing the inspection services needed on individual projects.

Staffing

Eustis Engineering currently has nearly 30 technicians on staff to provide construction inspection services on a daily basis. These services encompass the areas of soils, piling, asphalt, concrete, steel, and others.

Services

Soils testing in the field is performed by means of density tests, fill placement inspection, and depth checks. These services are performed by technicians who have attended courses by Troxler or Humboldt in the use of nuclear density devices.

Piling services include the inspection of various types of piles, logging these piles, and performance of pile load tests with calibrated equipment. Load test results are, in turn, interpreted and reported by a registered engineer on our staff.

Our realm of concrete inspection includes the formulation and review of mix designs, quality control at the plant and in the field, materials testing and sampling, precast piling inspection, post tension inspection, floor flatness, and mortar and grout inspection. These services are performed by our ACI and NICET certified technicians.

Steel inspection may include the visual inspection of structural steel at the site or in the shop, steel and pipe coating sampling, post tension and welder certification witnessing, and the performance of ultrasonic and x-ray testing. These services are performed by members of our staff currently certified with AWS, ASNT, and/or ASME.

Other CMT services provided by Eustis Engineering personnel include fireproofing inspection, vibration and acoustical monitoring, paint inspection, and more.

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

Signature: 
Title: President

Print Name: Gwendolyn P. Sanders, P.E.
Date: 8 July 2024