GEOTECHNICAL EXPLORATION REPORT

ASCENSION PARISH
PRAIRIEVILLE PARK IMPROVEMENTS
LA 929
PRAIRIEVILLE, LA

FOR

ASCENSION PARISH GOVERNMENT
GONZALES, LA

GULF SOUTH ENGINEERING AND TESTING FILE NO. 23-103

March 5, 2024

GULF SOUTH
ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

15 Veterans Blvd. Kenner, LA 70062
PN: 504.305.4401 FN: 504.305.4408 E-mail: info@gulfsoutheng.com

GULF SOUTH
ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

15 Veterans Memorial Boulevard, Kenner, LA 70062
PN: 504-305-4401 FN: 504-305-4408 E-mail: info@gulfsoutheng.com

March 5, 2024

Ascension Parish Government
Department of Public Works
615 E. Worthey St.
Gonzales, LA 70737

Attn: Ms. Rachael Farrar, Project Manager
E-mail: rachael.farrar@apgov.us

Re: Geotechnical Exploration Report
Ascension Parish
Prairieville Park Improvements
LA 929
Prairieville, LA
Gulf South Engineering & Testing File No. 23-103

Dear Rachael,

Please find attached our geotechnical exploration report that was completed for the referenced project. We appreciate the opportunity to serve your geotechnical needs. Please contact us should you have any questions.

Sincerely,
GULF SOUTH ENGINEERING AND TESTING, INC.

CHAD M. POCHE, P.E.
Executive Vice President

BRYSON S. BEARD, E.I.
Associate Geotechnical Engineer

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LA 929
PRAIRIEVILLE, LA

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1.0 INTRODUCTION & LIMITATIONS

This report contains the results of a geotechnical exploration made at the subject site. Instructions to proceed with the exploration were received from Ascension Parish Government, Department of Public Works (Client) via our approved proposal dated November 22, 2023.

The study included drilling soil test borings and the performance of soil mechanics laboratory tests to evaluate the soil's physical characteristics. Engineering analyses were made and based on the field and laboratory test data to develop recommendations for the project.

The analyses and recommendations presented in this report are based on the provided project information and the results of the exploration. While it is not likely that conditions will differ significantly from those observed during the field exploration it is always possible that variations can occur away from the borehole location(s).

If it becomes apparent during construction that subsurface conditions differing significantly from those observed in our boring(s) are encountered, Gulf South should be notified. Also, should the nature of the project change or should any of the stated assumptions be inaccurate, the recommendations provided in this report should be re-evaluated.

This report has been prepared for the exclusive use of our Client. The recommendations provided in this report are site specific and are not intended for use at any other site or for any other project. This report provides recommendations for design and construction and should not be used as construction specifications.

Gulf South considers the materials testing and onsite inspection during construction an extension of our geotechnical exploration and a key component to ensuring the recommendations provided in this report are followed. For this type of project, these services may consist of earthwork testing and monitoring, shaft inspection and monitoring, vibration monitoring, concrete testing and inspection, and steel inspection. Gulf South should be retained to provide the construction inspection services for this project.

2.0 SOIL BORINGS

Four (4) undisturbed soil borings were drilled to depths of 50 feet (Borings B-1 and B-2), 20 feet (Boring B-3), and 8 feet (Boring B-4) below the ground surface on December 14, 2023. The borings were drilled with an ATV mounted drill rig at the designated location as approximately shown on Figure 1. A general, disturbed soil boring was drilled to a depth of 4 feet (Boring B-5) and was collected as a bulk sample.

Undisturbed sampling was performed continuously or on approximate 5-foot centers in all cohesive or semi-cohesive materials with a three-inch diameter thin wall tube sampler. The samples were extruded in the field, representative portions of each sample were trimmed and placed in moisture proof containers, the samples were properly labeled, and secured for transport to the laboratory.

When cohesionless material was encountered or when soils could not be adequately sampled by undisturbed methods, the Standard Penetration Test was performed. This test consists of driving a two-inch diameter split spoon sampler a total of approximately 18 inches with a 140 lb. hammer falling 30 inches. The number of blows required to drive the sampler per 6-inch increment is recorded and gives an indication of the density of the material. The blows per foot shown on the boring log are the total of the blow counts for the final 12 inches of penetration.

3.0 LABORATORY TESTING

Soil mechanics laboratory tests were performed on samples obtained from the borings. The testing consisted of natural moisture content, unit weight, Atterberg limits, soil-cement determination, and unconfined compression strength testing. The results of the laboratory tests are shown on the soil boring logs provided in the Appendix of this report.

4.0 SUBSOIL CONDITIONS

4.1 Subsoil Description

Reference to the borings shows medium stiff to hard silty clay from the ground surface to the approximate 8 to 10 foot depths. Below, interbedded layers of medium stiff to very stiff clay are present to the deepest borings' termination at the approximate 50 foot depth. Boring B-2 encountered a soft clay layer from the approximate 38 to 43 foot depths.

4.2 Groundwater

At the time of making the borings, groundwater was not encountered. These observations were made during a short period of time and groundwater may not have become fully realized at the time of observation. Groundwater can fluctuate with seasonal precipitation, drainage, and prolonged drought. If the depth to groundwater is important to construction, it should be measured at that time.

5.0 FURNISHED INFORMATION AND FOUNDATION RECOMMENDATIONS

Furnished information indicates the project will consist of improvements to Prairieville Park in Prairieville, LA. The improvements will consist of new lighting, restroom, handicap parking, turf infield, dugout and backstop, and a below grade waterline. We understand that the new restroom(s) will be pre-engineered concrete structures. We also understand that some of the new lighting has already been installed onsite. We assume no more than 2 feet of fill will be placed onsite.

In general, the near surface silty clay soils encountered in the borings appear adequate for support of the proposed restroom building using shallow foundations. Excessive settlement may occur if shallow foundations are heavily loaded. If shallow foundations are selected, footings should be placed to bear at least 2 feet below the final design grade. Should the values provided in this report for bearing and settlement not be tolerable, deep foundations should be used for support.

Structural analyses and the structural adequacy of the foundations are outside our scope of work for the project. Utilities to and from the structures should be attached to the slabs using suitable hangers and flexible connections.

Preliminary laboratory test results indicate the near surface soils have minimal shrink/swell potential. Care should be taken during and after construction to limit activities that could affect moisture within the soils below and around the foundations. By precluding surface waters from saturating the soils, the resulting volumetric movements will be minimized. In this regard, good surface drainage should be assured with positive collection and runoff of these waters.

6.0 SHALLOW FOUNDATIONS

6.1 Allowable Soil Bearing Capacities

We estimate net allowable soil bearing capacities of 1,500 lbs. per sq. ft. (psf) and 1,800 psf are available for design of shallow strip or square footings, respectively. These allowable soil bearing capacities assume the footings are bearing at least 2 feet deep and are seated in firm soils as described and encountered in our borings.

Foundation excavations should be thoroughly inspected to assure that the footings are seated in firm and well-drained soil. The allowable soil bearing capacities contain a factor of safety of at least 3.0 against failure but do not preclude settlements, as will be discussed.

6.2 Estimated Settlement

Fill. We have calculated the estimated long-term settlement of the ground surface due to the placement of 2 feet of fill over an approximate 50 ft. by 50 ft. area to be on the order of ½ to 1 inch. Our analysis is based on a unit weight of 110 pcf for fill material. Gulf South should be notified if any additional fill (greater than 2 feet) is placed at the site and fill should be placed as far in advance of construction as possible.

Footings. Settlement analyses were made using applied pressures equal to 100% of the allowable soil bearing values. Long-term settlement of square footings no larger than 6 feet in width and strip footings no wider than 3 feet in width is estimated to be ½ to 1 inch. Settlement will increase with the size of the footing and/or loading and if larger footings are needed for support, revised settlement analyses should be made.

Slab. Long term consolidation settlement at the center of an approximate 50 ft. by 50 ft. flexible slab is estimated to be on the order of ½ inch or less using a uniform loading of up to 150 psf. The estimated settlement should occur over most of the loaded area while the edge settlements should be approximately one–half (1/2) of the center settlement and may only occur over a limited range near the perimeter.

In view of the magnitude of the estimated settlement and to bridge any undetected soft or loose areas, good rigidity should be assured in the foundations to minimize the effects of differential settlements. This may be accomplished by using a post tensioned slab, a ribbed or waffle type slab, etc.

Adequate steel reinforcement should be designed and included within the foundations. If the estimated settlements for shallow footings are considered prohibitive, deep foundations should be used for support of the structure.

6.3 Site Preparation and Fill Materials

Prior to construction, the foundation areas should be stripped of all vegetation, debris, soft or loose surface soils, deleterious materials, etc., and should be well drained. Subsequent to stripping, the foundation areas should be proof rolled using a heavy wheeled vehicle.

Any "soft/loose" soils noted during the proof rolling or observed within excavations should be removed to a depth where stiffer soils are encountered or to a minimum depth of 1 foot. Excavated soils should be replaced with controlled-compacted structural fill. If fill is needed, the area should be brought to grade using a clean, select, fill material free from debris or organic matter.

A cohesionless soil described as clean sand with less than 10% passing the U.S. No. 200 Sieve may be used for fill. Alternatively, a lean, silty or sandy clay (CL - USCS Classification) may be used for fill. The clay fill should have a Liquid Limit of less than 40 and a Plasticity Index (PI) of less than 20.

6.4 Fill Placement and Compaction

Fill should be placed in 10 to 12-inch loose lifts. Minimum compaction criteria of a dry density at least equal to 95% of its maximum, as determined by the Standard Proctor compaction test (ASTM D698), should be used for fill that will support foundations.

7.0 DEEP FOUNDATIONS

We understand that new lighting is planned and that some of the lighting has already been installed onsite. We have provided deep foundations recommendations if more lighting is to be installed. If the bearing or settlement values provided are intolerable, consideration should be given to supporting the structure(s) on a deep foundation system.

7.1 Allowable Shaft Load Capacities

Analyses have been made to determine the estimated allowable shaft load capacities for several types/sizes of shafts. Allowable shaft load capacities are provided on Figure No. 2.

The allowable shaft load capacities provide for a 2-foot cutoff below the existing ground surface, assume the shafts are vertical, and do not include the weight of the shaft. The provided compression capacities contain an estimated factor of safety of 2 against failure of a single shaft through the soil. The

provided tension capacities contain an estimated factor of safety of 3 against failure. The capacities also include a limiting adhesion value based on load tests in geologically similar soils.

The analyses for shaft capacities are based on a soil-shaft relationship only. The structural capacity of the shafts and their connections to transmit these loads should be determined by a structural engineer.

7.2 Shaft Installation

Based on the soil and groundwater observations made during the field exploration, casing or slurry displacement techniques do not appear to be necessary during the installation of drilled shafts at the site. However, we recommend an experienced drilled shaft contractor should be contacted to determine the proper installation techniques in this area.

Slurry, if used, should be introduced within 5 feet of starting the shaft, regardless if casing is used in conjunction with the slurry installation. The contractor performing the slurry displacement method should be qualified and experienced in this method of installing shafts.

The concrete for the shafts should be placed as soon as possible after the excavations are completed. No excavation should be allowed to remain open for more than 1 hour. The concrete should be tremied into place by pumping.

The concrete mix (water to cement ratio) should be proportioned to achieve the necessary design strength while allowing a slump of 6 to 8 inches (or approved mix design) during concrete placement. There have been problems with both casing withdrawal and shaft integrity and capacity when concrete with a slump of less than 6 inches was used. A program of on-site quality control by a qualified geotechnical technician is strongly recommended during shaft installation.

7.3 Probe Shafts and Shaft Load Tests

It is recommended that probe type shafts be installed at the site to establish installation characteristics and shaft lengths. The probe shafts should be of the same type and size as the job shafts and should be installed

with the same equipment and techniques that will be used to install the job shafts.

We recommend the probe shafts be allowed to set for a period of 14 days and at least one of the probe shafts be tested to failure in accordance with ASTM D 1143. Gulf South should be retained to evaluate and verify the estimated shaft load capacities.

7.4 Vibrations

Vibrations due to construction activities should be expected and they should be monitored during all construction activities. In general, vibrations should be limited to about 0.25 inch/sec. (average peak particle velocity) at all existing nearby sensitive structures. Construction should be stopped if peak values exceed about 0.5 in./sec.

7.5 Drag Load

When fill is placed on the site, the underlying compressible soils consolidate, resulting in surface settlement. As the compressible soils consolidate, "negative skin friction" or downdrag can be imparted on shafts. This can result in a load that is additive to structural loads on shafts and will increase settlement of the shafts and structures.

Drag load is dependent on the thickness of fill, compressibility of the soils, time-rate of consolidation, and shaft size and length. Gulf South should be notified if more than 2 feet of fill is expected to be placed on site.

7.6 Group Effect

The effects of shaft grouping on single shaft load capacities is dependent on shaft spacing, shaft lengths, and soil characteristics throughout the shaft length and below the shaft tip. Assuming a minimum center to center spacing of 3 ft., group effect should be unimportant for shaft clusters of up to 6 shafts. Group effect may become important for larger clusters and should be evaluated when actual shaft layouts are known using the criteria provided on Figure No. 3.

7.7 Estimated Settlement for Deep Foundations

Settlement of shaft supported footings and slabs constructed in single, widely, spaced rows, or in clusters of up to 4 to 6 shafts is estimated to be 1 inch or less for the provided capacities and tip depths. These values assume shafts are drilled to the specified tip depths and not loaded greater than the stated allowable carrying capacities.

8.0 SOIL/CEMENT PERCENTAGE DETERMINATION

Soil/Cement testing was completed on a bulk sample for the base of the new turf site. Based on the results, we recommend a minimum compressive strength of 150 psi be maintained for the base and that a minimum of 5 percent cement by dry mass be mixed with the near surface soils or imported structural fill.

9.0 PAVEMENTS

Flexible (asphalt) or rigid (concrete) surface paving for handicap parking will be constructed at the site. Based upon our understanding of the proposed facility usage, we anticipate that the paved areas will be used primarily by automobiles and light trucks with an occasional passage of a delivery type vehicle and/or garbage collection vehicle. Our design does not account for construction traffic. Our designs are valid for up to 100,000 ESAL passes (20 year).

The subgrade should first be prepared in accordance with the recommendations of this report. Base course and pavement materials should conform to the requirements of LA DOTD Standard Specifications, latest edition.

9.1 Flexible Pavement

For flexible pavements, an asphalt surface thickness of at least three (3) inches is recommended for the parking area. The base course beneath the asphalt surface should consist of at least twelve (12) inches of crushed stone or soil-cement. A geotextile paving fabric is recommended between base materials and the natural subgrade if crushed stone is used.

We recommend the asphalt courses be placed as late as possible in the project so that the effects of settlement can be reduced. Proper drainage during and after construction is essential to the success of flexible asphaltic pavement systems.

Flexible pavements are susceptible to failures due to poor surface and subsurface drainage. Asphalt pavement generally requires surface sealing with a thin (½ inch) hot mix asphaltic concrete or an asphalt slurry seal at a 4 to 5 year interval to maintain a good pavement system because the local climate tends to weaken and oxidize the surface.

9.2 Rigid Pavement

For rigid pavements, the pavement surface for the parking area should consist of at least five (5) inches of concrete. Upon completion of subgrade preparation, a minimum six (6) inch thick layer of sand is recommended for the base course. A geotextile fabric should be placed beneath the pavement joints, at a minimum.

The provided concrete thickness assumes an ultimate flexural strength for the concrete of at least 600 psi or 3,000 psi compressive strength. Expansion and construction joints should be doweled or keyed for good transfer of load and should be well sealed to prevent the intrusion or surface waters into the pavement base and natural subgrade. The use of wire mesh is left up to the designer.

9.3 Pavement Materials and Construction

Poor site conditions will develop unless good drainage is provided throughout the project duration. Proper site drainage should be maintained prior to, during, and after construction. Providing drainage during the construction process will facilitate construction by reducing the potential for compaction problems. Maintaining the drainage after construction will improve the life of the pavement by avoiding water softening of the foundation soils.

Prior to pavement construction, the site should be stripped of all debris, vegetation, etc., and proof rolled with a heavy wheeled vehicle to detect any "soft" spots. Any soft spots should be undercut at least 1 foot and backfilled

with a structural fill. The geotextile fabric should be a nonwoven fabric with an apparent opening size (AOS) smaller than a U.S. No. 70 sieve.

The sand and stone should be compacted to a dry density at least equal to 95 percent of its maximum as determined by the Modified Proctor compaction test (ASTM D1557), or to a minimum relative density of 75 percent in accordance with ASTM D4253 and D4254. In-place density measurements should be taken to assure that this degree of compaction is achieved. The base may be placed and compacted in maximum 8 inch loose lifts and it should meet LA DOTD specifications for base course.

Lime treatment of the subgrade soils (e.g. heavier clays; LL>40 & PI>20) should be expected if soil cement is used for the base. Lime mix designs should be performed prior to construction. Typically, lime percentages of 6% to 12% should be expected.

The methods, means, and sequence of construction are the responsibility of the contractor. It should be noted that our recommendations regarding concrete and material thicknesses are based on the assumed traffic loading conditions. Appropriate measures should be taken by the contractor to assure the integrity and performance of the pavements during and after construction.

10.0 CLOSING

Gulf South is available to answer any questions you may have concerning this report. Should additional analyses be required or requested, additional fees may be necessary.

As previously discussed, Gulf South considers the materials testing and onsite inspection during construction an extension of our geotechnical exploration. Gulf South should be retained to provide the construction inspection services.

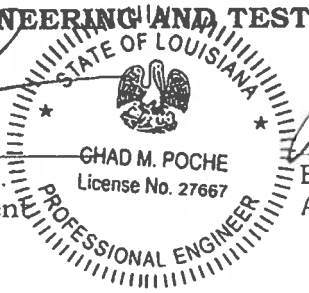
The issuance of this report completes the geotechnical exploration scope and Gulf South's involvement on the project. Retaining Gulf South as a vital member of the design team can add considerable value. Over the next few

months, the project will incur many changes, challenges, and opportunities – all of which will occur without our knowledge and in some cases rendering our recommendations compromised or irrelevant. Gulf South's additional involvement will be a small price to pay for the peace of mind that any foundation, earthwork, and paving components of the project are fully integrated during design, resulting in potential cost savings and efficient construction. Please consider including Gulf South as a full member of your design team and throughout the project duration.

We appreciate the opportunity to provide this report and look forward to working with you again in the future.

Sincerely,

GULF SOUTH ENGINEERING AND TESTING, INC.



CHAD M. POCHE, P.E.
Executive Vice President

BRYSON S. BEARD, E.I.
Associate Geotechnical Engineer

FIGURES

GULF SOUTH
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GULF SOUTH ENGINEERING AND TESTING, INC Geotechnical & Materials Consultants	Gulf South Engineering and Testing, Inc. Kenner, LA	**Ascension Parish - Prairieville Park Improvements** Ascension Parish 23-103	— Project Location ◈ Soil Borings	**FIGURE NO. 1**

GEOTECHNICAL EXPLORATION

ASCENSION PARISH
PRAIRIEVILLE PARK IMPROVEMENTS
LA 929
PRAIRIEVILLE, LA

GULF SOUTH ENGINEERING AND TESTING PROJECT NO. 23-103

ALLOWABLE SHAFT LOAD CAPACITIES

[ASSUMES EFFECTS OF NO MORE THAN THAN 2 FEET OF FILL]

DRILLED, CAST IN PLACE, CONCRETE SHAFTS

SHAFT SIZE	SHAFT TIP EMBEDMENT BELOW GROUND SURFACE IN FEET	ESTIMATED ALLOWABLE SINGLE SHAFT LOAD CAPACITIES IN TONS COMPRESSION FACTOR OF SAFETY = 2 TENSION FACTOR OF SAFETY = 3	
		COMPRESSION	TENSION
12-inch Diameter	10 15 20	7 11 15	5 7 10
24-inch Diameter	10 15 20	14 22 30	9 15 21
36-Inch Diameter	10 15 20	21 33 45	14 22 30

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FIGURE NO. 2

Minimum Pile/Shaft Spacing

$SP = 0.05\ L_1 + 0.025\ L_2 + 0.0125\ L_3$

SP (ft.) = Center to center spacing of piles/shafts = (Min. 3.0 ft.)

L_1 = Pile/Shaft penetration in ft. up to 100 ft.

L_2 = Pile/Shaft penetration in ft. from 101 to 200 ft.

L_3 = Pile/Shaft penetration in ft. from 201 to 300 ft.

Allowable Group Capacity*

$$Q_a = \frac{P * L * c}{FSF} + \frac{2.6 * q_u * (1 + 0.2\ {}^{w}/_{b}) * A}{FSB}$$

P = Average perimeter of pile/shaft group (ft.)

L = Length of piles/shafts in group (ft.)

c = Average (weighted) shear strength (½ q_u) of soil throughout pile/shaft length (lbs./sq. ft.)

q_u = Unconfined compressive strength of soils below pile tips (lbs./sq.ft.)

w = Width of pile/shaft group at tip (ft.)

b = Length of pile/shaft group at tip (ft.)

A = Area of pile/shaft group at tip (sq. ft.)

FSF = Factor of safety for friction area = 2

FSB = Factor of safety for tip area = 3

*In no case should the cumulative single pile/shaft load capacity of the group be exceeded.

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FIGURE NO. 3

APPENDIX

BORING LOGS

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GULF SOUTH ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

15 Veterans Memorial Blvd,
Kenner, LA
Office: +1 (504) 305-4401

Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.300317/-90.960764 SOIL BORING: B-1

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Mud Rotary
Depth:	50'				

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
										Rig Type: Ardco K-1000 Tooling: Rotary Drill Surface Elevation: ~20.9'
		3.00			21.2		37-18-19			Brown and dark gray, **SILTY LEAN CLAY (CL)**, with organics
		3.00			12.1					-Dry samples from 2-10 ft. depths.
										4.0
5		4.00		3.358	11.1	111				Very Stiff, gray and tan, **SILTY LEAN CLAY (CL)**
		1.50			11.3					
										8.0
		2.00		2 543	18.3	129				Very Stiff, gray and tan, **FAT CLAY (CH)**, with trace silt and sand
10		2.75		2 774	20.9	130				
		2.50		2 741	20.6	130				
15										
		1.75			26.9					
20										
										23.0
		2.00		1.143	27.8	124				Stiff, gray and tan, **FAT CLAY (CH)**
25										
		2.25			25.7					
30										
		2.25		1 844	26.5	123				
35										

Graphics Legend

CL

CH

ST - Shelby Tube

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion.

GULF SOUTH
ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

15 Veterans Memorial Blvd,
Kenner, LA
Office: +1 (504) 305-4401

Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.300317/-90.960764 SOIL BORING: B-1

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Mud Rotary
Depth:	50'				

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
										Rig Type: Ardco K-1000 Tooling: Rotary Drill Surface Elevation: ~20.9'
40		2.50			37.8					Stiff, gray and tan, **FAT CLAY (CH)**
										43.0
45		1.50		0.634	34.1	115				Medium Stiff, gray and tan, **FAT CLAY (CH)**
		1.25		0.662	28.9	122		80.9		-with sand
50										50.0 Boring completed at 50 ft. below the ground surface.

Graphics Legend

CH

ST - Shelby Tube

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion.

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ENGINEERING AND TESTING, INC.
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15 Veterans Memorial Blvd,
Kenner, LA
Office: +1 (504) 305-4401

Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.29946667/-90.96059167 SOIL BORING: B-2

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Mud Rotary
Depth:	50'				

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
										Rig Type: Ardco K-1000 Tooling: Rotary Drill Surface Elevation: ~21.9'
		0.75		0.817	24.5	118				Medium Stiff, dark gray and brown, **SILTY LEAN CLAY (CL)**, with organics — 2.0
		4.00		2.828	16.9	121	69-16-53			Very Stiff, gray and tan, **SILTY LEAN CLAY (CL)** -Dry samples from 2-6 ft. depths — 4.0
5		4.50		5.625	17	131				Hard, gray and tan, **SILTY LEAN CLAY (CL)** — 6.0
		3.00			21.3					Medium Stiff, gray and tan, **FAT CLAY (CH)**, with trace silt and sand -with organics
		1.75		0.889	23.8	119				— 10.0
10		2.25		2.239	22	128				Very Stiff, gray and tan, **FAT CLAY (CH)**
		2.25			20.1					— 18.0
15										Medium Stiff, gray, **FAT CLAY (CH)**, with trace silt and sand pockets
		2.50		0.967	37.4	119				— 23.0
20										Very Stiff, gray, **FAT CLAY (CH)**
		3.00			33.5					
25										
		2.00		2.397	23.6	127				
30										
		4.00			23.7					
35										

Graphics Legend

CL

CH

ST - Shelby Tube

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion.

GULF SOUTH ENGINEERING AND TESTING, INC
Geotechnical & Materials Consultants

15 Veterans Memorial Blvd,
Kenner, LA
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Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.29946667/-90.96059167 SOIL BORING: B-2

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Mud Rotary
Depth:	50'				

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
										Rig Type: Ardco K-1000 Tooling: Rotary Drill Surface Elevation: ~21.9'
40		2.00		0.298	34.4	118				Very Stiff, gray, **FAT CLAY (CH)** 38.0 Soft, gray, **FAT CLAY (CH)** -Slick-en-sided
45		3.00			30.3					43.0 Stiff, gray and tan, **FAT CLAY (CH)**
50		3.00		1.959	36.9	117				50.0 Boring completed at 50 ft. below the ground surface.

Graphics Legend

CH

ST - Shelby Tube

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion.

GULF SOUTH
ENGINEERING AND TESTING, INC
Geotechnical & Materials Consultants

15 Veterans Memorial Blvd,
Kenner, LA
Office: +1 (504) 305-4401

Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.300186/-90.961611 SOIL BORING: B-3

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Mud Rotary
Depth:	20'				

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
		2.50		1.722	22.1	123	38-17-21			Stiff, brown and dark gray, **SILTY LEAN CLAY (CL)**, with organics 2.0
		4.00			11.9	102				Stiff, gray and tan, **SILTY LEAN CLAY (CL)**
5		4.00		1.193	13.4	111	38-10-28			-Dry samples from 2-6 ft. depths
		2.75			20.1					8.0
		2.75		2.774	21.6	129	59-14-45			Very Stiff, gray and tan, **FAT CLAY (CH)**
10		2.75			22.4					
		2.75		2.718	21.6	129				
15										
		3.00			25					
20										20.0

Rig Type: Ardco K-1000
Tooling: Rotary Drill
Surface Elevation: ~N/A

Boring completed at 20 ft. below the ground surface.

Graphics Legend

CL

CH

ST - Shelby Tube

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion.

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Kenner, LA
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Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.29992778/-90.961275 SOIL BORING: B-4

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Mud Rotary
Depth:	8'				

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
										Rig Type: Ardco K-1000 Tooling: Rotary Drill Surface Elevation: ~21.0'
		4.00		2 283	23.3	123	49-14-35			Very Stiff, gray and tan, **SILTY LEAN CLAY (CL)**
		4.00		2.19	21.8	127	41-14-27			
5		1.50			22.6					
		2.50		2 782	20.5	127				
										8.0

Boring completed at 8 ft. below the ground surface.

Graphics Legend

CL

ST - Shelby Tube

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion.

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15 Veterans Memorial Blvd,
Kenner, LA
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Ascension Parish - Prairieville Park Improvements

Lat/Lon: 30.30012778/-90.96100556 SOIL BORING: B-5

Date Started:	12/14/23	Date Completed:	12/14/23	Location Accuracy:	Tablet GPS
Project No:	23-103	Client Name:	Ascension Parish	Boring Diameter:	4"
Driller:	J. Anslem	Drilling Firm:	Gulf South Engineering and Testing	Hammer Type:	Cathead
Hammer Weight:	140	Logged By:	T. Pregeant	Method:	Auger

Depth (ft)	Sample Graphic	Lab: Pocket Penetrometer (tsf)	Lab: Blow Counts (N-Value)	Lab: Compressive Strength (tsf)	Lab: Moisture Content (%)	Lab: Wet Density (PCF)	Lab: Atterberg Limits (LL-PL-PI)	Lab: % Fines	Graphic Log	Visual Classification and Remarks
		N/A								Tan and gray, **SILTY LEAN CLAY (CL)**
										4.0

Rig Type: Ardco K-1000
Tooling: 4" Solid Stem Auger
Surface Elevation: ~21.7'

Boring completed at 4 ft. below the ground surface.

Graphics Legend

CL

Auger - Auger Sample

REMARKS

- Borehole backfilled per LA DOTD & LA DEQ requirements upon completion. Bulk samples were taken for Soil-Cement determination. Classified by field observations.

GULF SOUTH

ENGINEERING AND TESTING, INC.

Geotechnical & Materials Consultants

15 Veterans Memorial Boulevard | Kenner LA 70062

p 504-305-4401

3121 S Darla Avenue | Gonzales LA 70737

p 225-450-3361

info@**gulfsoutheng.com**

Toni Ourso

From: Julie Paille <jpaille@gulfsoutheng.com>
Sent: Tuesday, March 5, 2024 10:44 AM
To: AP Accounts Payable
Cc: Eric Paille; Chad Poche
Subject: Prairieville Park Improvements Invoice
Attachments: Invoice 24-054 (File 23-103).pdf; Report (File 23-103; 3-5-23).pdf

Accounts Payable,

Please find attached the invoice for the above referenced project along with the report. Please let us know if there are any questions or concerns.

Kindest Regards,

Julie Paille
Billing Specialist

All invoices are net 30 days from the date of the invoice. Thank you!

GULF SOUTH
ENGINEERING AND TESTING, INC.
Geotechnical & Materials Consultants

Providing responsive and professional geotechnical engineering and testing services with safety and integrity from technicians to owners and from start to finish for every project.

*Licensed in Louisiana, Mississippi, and Texas

Ascension Parish Office:
3121 S Darla Ave.
Gonzales, LA. 70737
Office (225) 450-3361

Corporate Office:
15 Veterans Memorial Blvd.
Kenner, LA 70062
Office (504) 305-4401

I N V O I C E

To: Ascension Parish Government
Department of Public Works
615 E. Worthey St.
Gonzales, LA 70737

Attn: Finance Department

Invoice No: 24-054
Invoice Date: 03/05/24
Invoicing Time Period: 11/22/2023 through 03/05/2024
Client Authorization: *Signed Proposal*
Client/Client Representative: Ms. Rachael Farrar
Rachael.Farrar@apgov.us
Gulf South File No.: 23-103
Task Order No.: 01-GSE-REC-2023
Contract No.: 230254
Ascension Parish Project No.: REC230011

PROJECT INFORMATION

Description of Services: Geotechnical Exploration Report for Ascension Parish, Prairieville Park Improvements, LA 929, Prairieville, LA. Report dated March 5, 2024.

EXPLANATION OF CHARGES

PROFESSIONAL SERVICES

Geotechnical Exploration Report (Total fee = $8,500; 100% complete):	Lump Sum = $8,500.00

TOTAL AMOUNT DUE - THIS INVOICE	**$8,500.00**

Remit Payment To:
Gulf South Engineering & Testing, Inc.
15 Veterans Memorial Blvd.
Kenner, LA 70062
PN: 504-305-4401

Federal Tax ID: 27-3104212

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