CITY OF CALLAWAY
VETERANS PARK DITCH SHORING
BID NO.: PW2022-17

ADDENDUM #1

Date Issued: November 15, 2022

This addendum is being released to provide the Geotechnical Report as referenced in the drawings and attached hereto.

Janice L. Peters, City Clerk

This Addendum must be acknowledged and included with the bid packet submission.

Signature

Company Name

Date

SOUTHERN EARTH SCIENCES
Geotechnical | Environmental | Materials Testing

PANAMA CITY OFFICE
7500 McElvey Road, Ste. A
Panama City Beach, FL 32408

Tel: (850) 769-4773
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www.soearth.com

Baskerville-Donovan, Inc.
14101 PCB Parkway, Ste 110
Panama City Beach, FL 32413
Attn: Mr. Jeff Petermann, PE

April 28, 2022
File No: P22-0181

Subject: Geotechnical Services for the Veterans Park Sheet Pile Wall Installation in Callaway, Florida

Dear Mr. Petermann:

Southern Earth Sciences, Inc., has completed the geotechnical services for the proposed sheet pile wall at Veterans Park ditch bank in Callaway, Florida. Our services were performed per your request. This report presents the results of our field and laboratory testing and includes soil parameters for sheet pile design to be performed by others.

FIELD INVESTIGATIVE PROCEDURES:

The existing west side of the ditch bank at Veterans Park has experienced significant erosion over the last year during the heavy rains. There have been estimates of roughly 10 feet of the existing bank has eroded. There will be a new sheet pile wall installed along the west side of the ditch to prevent further erosion as well as reclaim some of the existing bank area.

Prior to our field testing, boring locations were marked and Sunshine State One Call of Florida was contacted to locate underground utilities. We mobilized to the project to perform the field testing on April 19, 2022. We discussed the boring locations with City of Callaway utility personnel to locate underground utilities. For our geotechnical investigation we performed three soundings on the east side of the asphalt walking path, as close to the ditch bank as possible. These soundings were performed to a depth of 30 feet below existing ground surface. The cone penetrometer is track mounted and rather than sampling and testing at five-foot intervals, as normally done with standard penetration borings, the cone penetrometer is an electronic device that provides continuous evaluation of the soils bearing capacity through point and frictional resistances. The cone penetrometer is hydraulically pushed into the soil with point and frictional resistances obtained continuously on a computer printout. This testing equipment provides an accurate definition of the soil strength characteristics and the changes in stratification. Cone soundings were performed in general accordance with ASTM D5778.

Direct push borings were performed at two of the locations to a depth of 15 feet below existing ground surface. Direct push borings were performed with our Geoprobe 6622 and the

DT22 soil sampling system. This is a closed-piston sampler, with an inner piston rod and outer drive casing, and is driven to the top of the sampling interval. The inner piston rod is removed and the sampler is driven to collect a soil sample. The soil samples are collected in a clear 5-foot PVC liner and are delivered back to our laboratory for soil classifications and laboratory testing.

Test locations were established in the field by using a hand-held GPS and estimating right angles with reference to existing landmarks. Therefore, the test locations should be considered approximate. See the attached Figure for our approximate test locations.

LABORATORY TESTING PROCEDURES:

Laboratory investigative work consisted of physical examination of samples obtained during the soil boring operation. Soil samples were visually classified in the laboratory in accordance with the Unified Soil Classification System. Evaluation of these samples, in conjunction with penetration resistances have been used to estimate soil characteristics.

Natural Moisture: Four (4) samples were selected for determination of their natural moisture content. In the laboratory, each sample was weighed, dried, and its moisture content was calculated in general accordance with ASTM D2216.

Percent Passing 200 Mesh Sieve: Four (4) samples were selected to determine their percent of materials, by dry weight, finer than the U.S. Number 200 Mesh Sieve. This test was performed in general accordance with ASTM D1140.

The laboratory test results are shown on the boring logs at the depth of the tested sample. Abbreviations of laboratory data are shown below:

NM = Natural Moisture Content (%)
-200 = Percent Finer than the U.S. No. 200 Mesh Sieve
LL = Liquid Limit (%), PI = Plasticity Index

CONE SOUNDINGS:

CPT Log sheets graphically indicate the cone tip resistance, friction ratio, equivalent N-value and interpreted soil type at each sounding location. Soil classifications and data were interpreted from methods recommended by Robertson and Campanella and/or the Swedish Geotechnical Institute Information Publication No. 15E. Correlations between Cone Resistance values and Standard Penetration Testing “N” values were performed according to the methods developed by Robertson, Campanella and Wightman.

The soil types and stratigraphy shown on the CPT Log sheets are based upon material parameters measured and evaluated as the cone is advanced. The CPT Log sheets were developed for general information only. Users should exercise sound judgment when using the tabulated CPT data for interpretation of soil properties such as shear strength, friction angle, etc., to achieve reliable geotechnical parameters. We recommend the engineer be thoroughly familiar with and fully understand the capabilities of the CPT test before using this information for design purposes.

SOIL PARAMETERS FOR SHEET PILE WALL DESIGN:

Our evaluation has been based on information presented in this report and subsurface data obtained during our investigation. In evaluating the borings and soundings, we have used correlations which were previously made between penetration resistances and foundation stabilities observed in soil conditions similar to those encountered at your site.

Based upon the results of our field testing and laboratory classifications, we have estimated the soil parameters at the three test locations for sheet pile wall design to be performed by others. The estimated soil parameters are summarized in the following tables. Table I refers to test location B-1, Table II refers to test location B-2, and Table III refers to test location B-3.

TABLE I: Test Location B-1

Depth:	USCS Classification	Friction Angle (°)	Cohesion (lbs/ft^2)	Unit Weight (lbs/ft^3)
0 – 5 ft.	SP, SP-SM, SM, PT	28	0	90
5 – 9 ft.	PT	-	0	40
9 – 12 ft.	SC	33	0	55
12 – 17.5 ft.	SC	27	0	45
17.5 – 24 ft.	SP-SC, SC	31	0	52
24 – 26.5 ft.	SP	33	0	55
26.5 – 30 ft.	CL	-	100	45

TABLE II: Test Location B-2

Depth:	USCS Classification	Friction Angle (°)	Cohesion (lbs/ft^2)	Unit Weight (lbs/ft^3)
0 – 4 ft.	SP, SP-SM, SM, PT	27	0	90
4 – 8 ft.	SP-SM, PT	-	0	40
8 – 11 ft.	SP-SC, SC	29	0	50
11 – 14 ft.	SC	27	0	45
14 – 24 ft.	SP-SC	31	0	52
24 – 26.5 ft.	SC, SP-SC	32	0	54
26.5 – 30 ft.	CL	-	100	45

TABLE III: Test Location B-3

Depth:	USCS Classification	Friction Angle (°)	Cohesion (lbs/ft^2)	Unit Weight (lbs/ft^3)
0 – 4 ft.	SP-SM	29	0	95
4 – 8 ft.	PT, SP-SM	-	0	40
8 – 10 ft.	SP-SC	31	0	52
10 – 15 ft.	SP-SC	28	0	45
15 – 26 ft.	SP-SM, SP-SC, SC	31	0	52
26 – 30 ft.	CL	-	100	45

GENERAL COMMENTS:

Professional judgments on design criteria are presented in this letter. These are based partly on our evaluations of technical information provided, partly on our understanding of the characteristics of the project being planned, and partly on our general experience with subsurface conditions in the area. We do not guarantee performance of the project in any respect, only that our judgments meet the standard of care of our profession.

This information is exclusively for the use and benefit of the addressee(s) identified on the first page of this report and is not for the use or benefit of, nor may it be relied upon by any other person or entity. The contents of this letter may not be quoted in whole or in part or distributed to any person or entity other than the addressee(s) hereof without, in each case, the advance written consent of the undersigned.

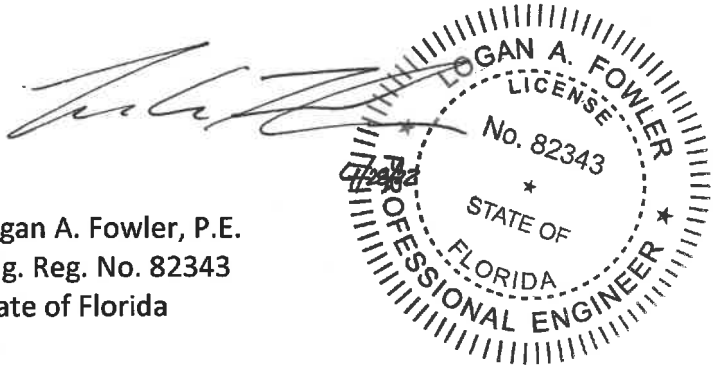
This report has been prepared in order to aid in the evaluation of this property and to assist the architects and engineers in the sheet pile wall design. It is intended for use with regard to the specific project discussed herein, and any changes in the locations, or assumed (or reported) grades shall be brought to our attention immediately so that we may determine how such changes may effect our conclusions and recommendations. We would appreciate the opportunity to review the plans and specifications for the sheet pile wall to verify that our conclusions and recommendations are interpreted correctly. Our report does not address environmental issues which may be associated with the subject property.

While the soundings and borings performed for this project are representative of subsurface soil conditions at their respective locations and for their respective vertical reaches, local variations of the subsurface materials are anticipated and may be encountered. The boring logs and related information are based on the driller's logs and visual examination of selected samples in the laboratory. Delineation between soil types shown on the boring logs is approximate, and soil descriptions represent our interpretation of subsurface conditions at the designated boring location on the particular date drilled.

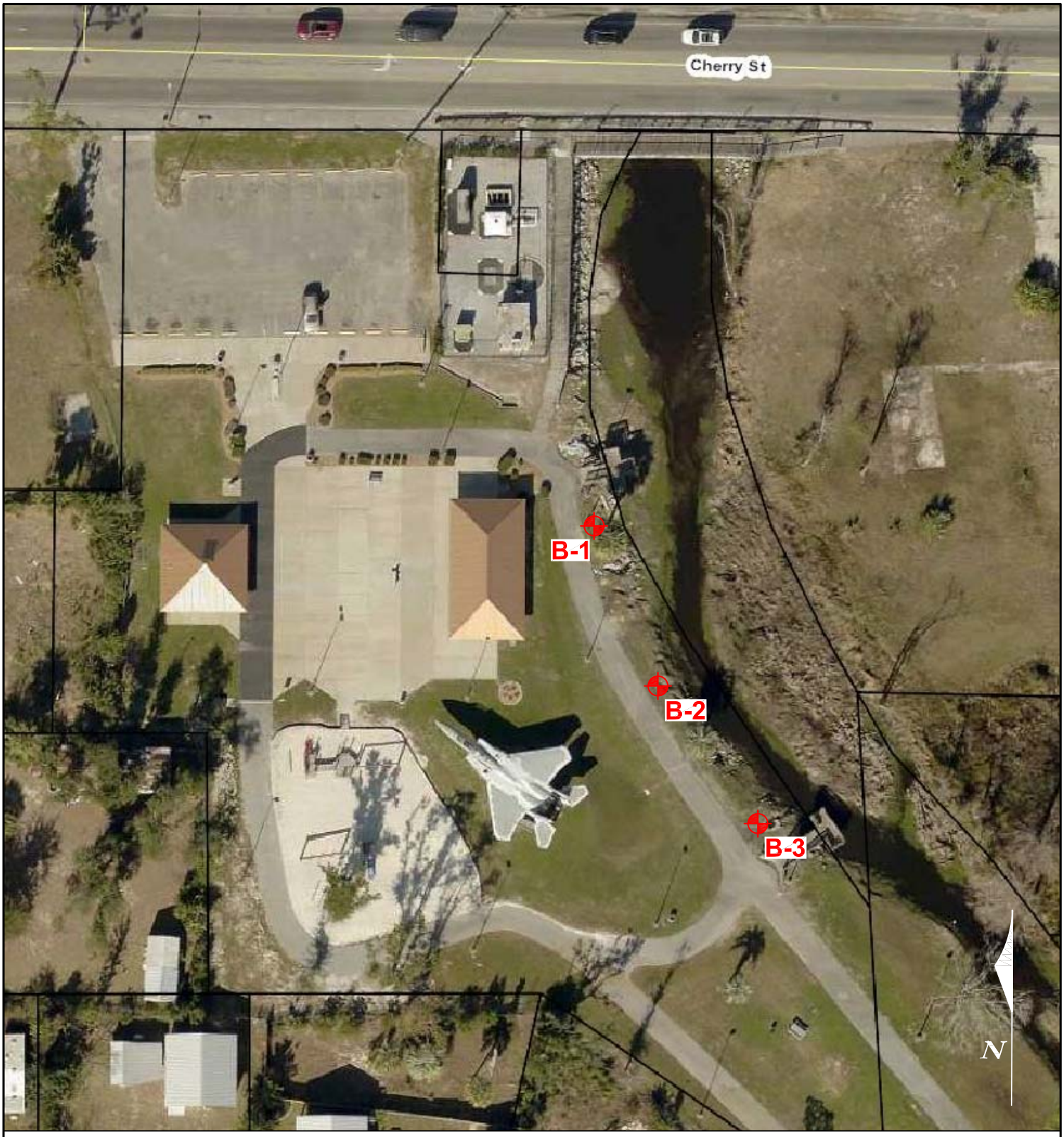
We appreciate the opportunity to assist you. If you have any questions or if we may be of further assistance, please call at your convenience.

Sincerely,

SOUTHERN EARTH SCIENCE, INC.



Logan A. Fowler, P.E.
Eng. Reg. No. 82343
State of Florida



Parcel Boundary Should Be Considered Approximate. Aerial Obtained from Bay Co P.A.

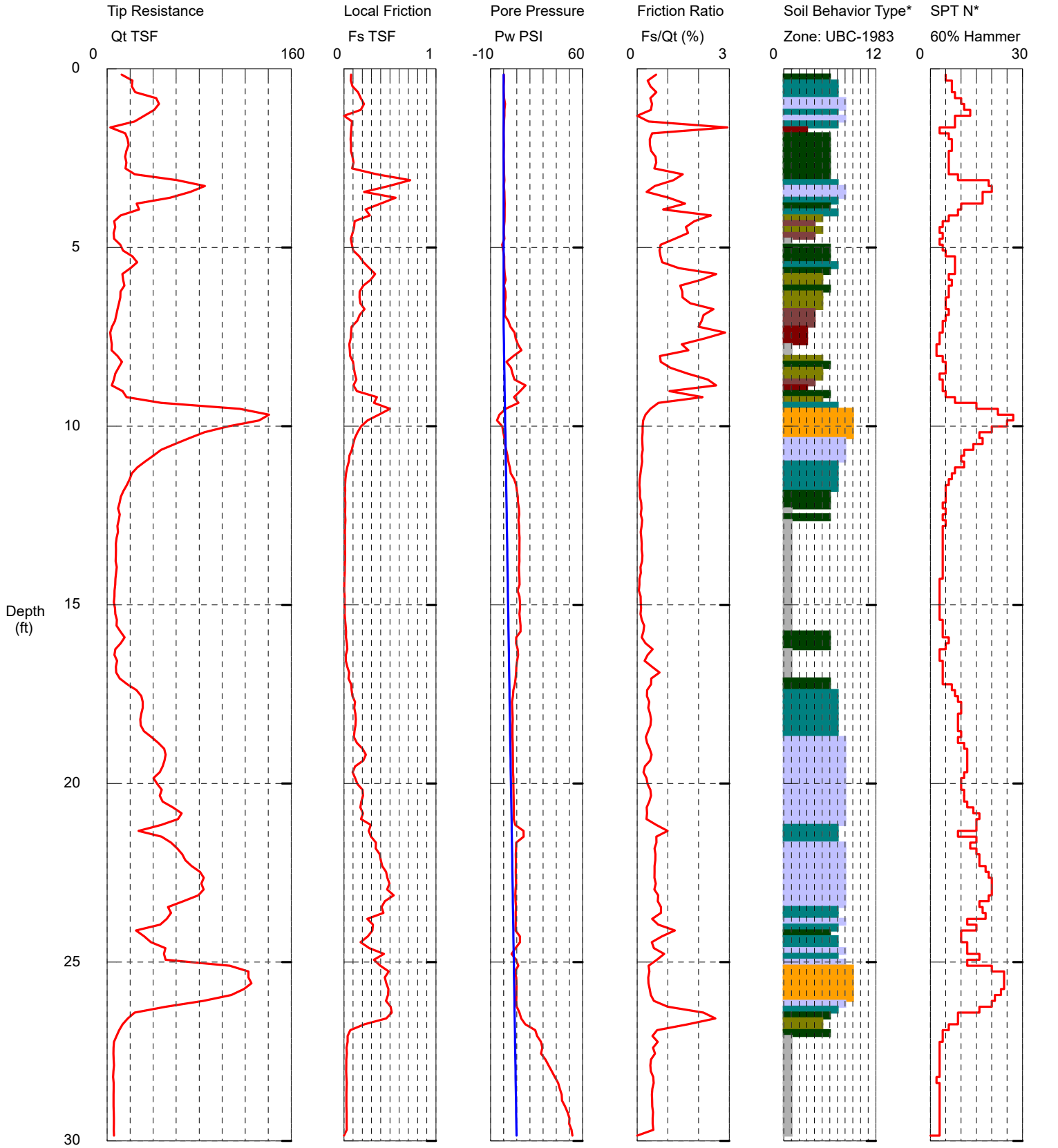
0 50' 100'

SESI FILE NO: P22-0181	SOUTHERN EARTH SCIENCES	DRAWN BY:	LF	FIGURE I
		CHECKED BY:	LF	
Veterans Park, Cherry Street Callaway, FL Ditch Bank Shoring Project		DATE:	4/27/22	APPROXIMATE TEST LOCATIONS
		SCALE:	1:50	

SOUTHERN EARTH SCIENCES

Operator: DUSTIN THOMPSON
Sounding: B-1
Cone Used: DDG1485
Groundwater Depth: 6.1 ft

CPT Date/Time: 4/19/2022 2:10:03 PM
Location: VETERANS PARK
Job Number: P22-0181
Elevation: Unknown



Maximum Depth = 30.02 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

Filter On
Auto Enhance On

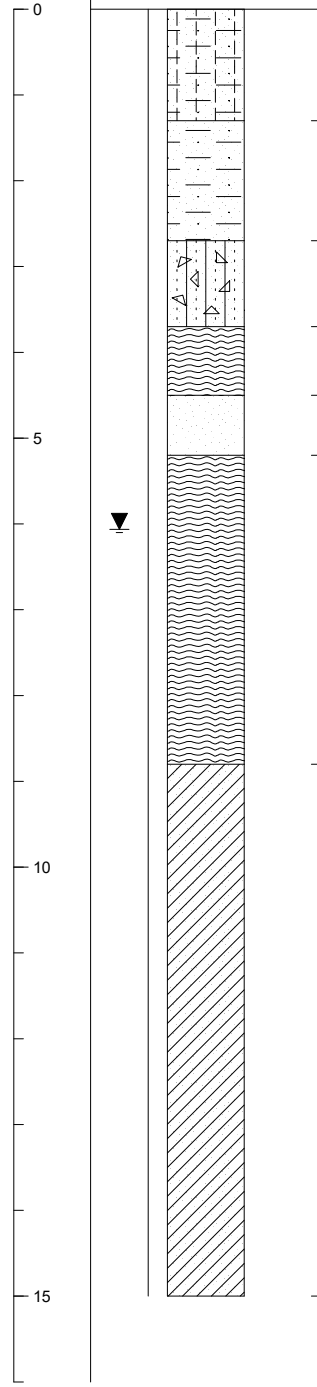
VETTIN

*Soil behavior type and SPT based on data from UBC-1983

LOG OF BORING B-1

PROJECT: Veterans Park Ditch Shoring Project
LOCATION: Callaway, FL
PROJECT NO.: P22-0181
DATE: 04/19/22

METHOD: Direct Push
DRILLER: DT
ENGR / GEOL: LF
SURFACE ELEVATION: Unknown



Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION / MATERIAL DESCRIPTION	N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0		SP-SM	Dark Brown Slightly Silty Fine SAND with Trace Organics						
		SP	Tan and Light Gray Fine SAND with Trace Organics						
		SM	Dark Gray Silty Fine SAND with Shell and Aggregate						
		PT	Dark Gray Peaty Sand with Organics						
		SP	Gray and Brown Fine SAND						
5	▼	PT	Dark Gray Peaty Sand with Trace Organics						
				●	46				
		SC	Gray and Brown Clayey Fine SAND						
10				●	20				16
15									

Water Level Est. Seasonal High GWL: ▽ Measured: ▼ Perched: ▼ **Notes:**
Water Observations: Groundwater Measured at 6.1 Feet Below Existing Ground Surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)
Sample Key: ◪ SPT ■ Shelby Tube

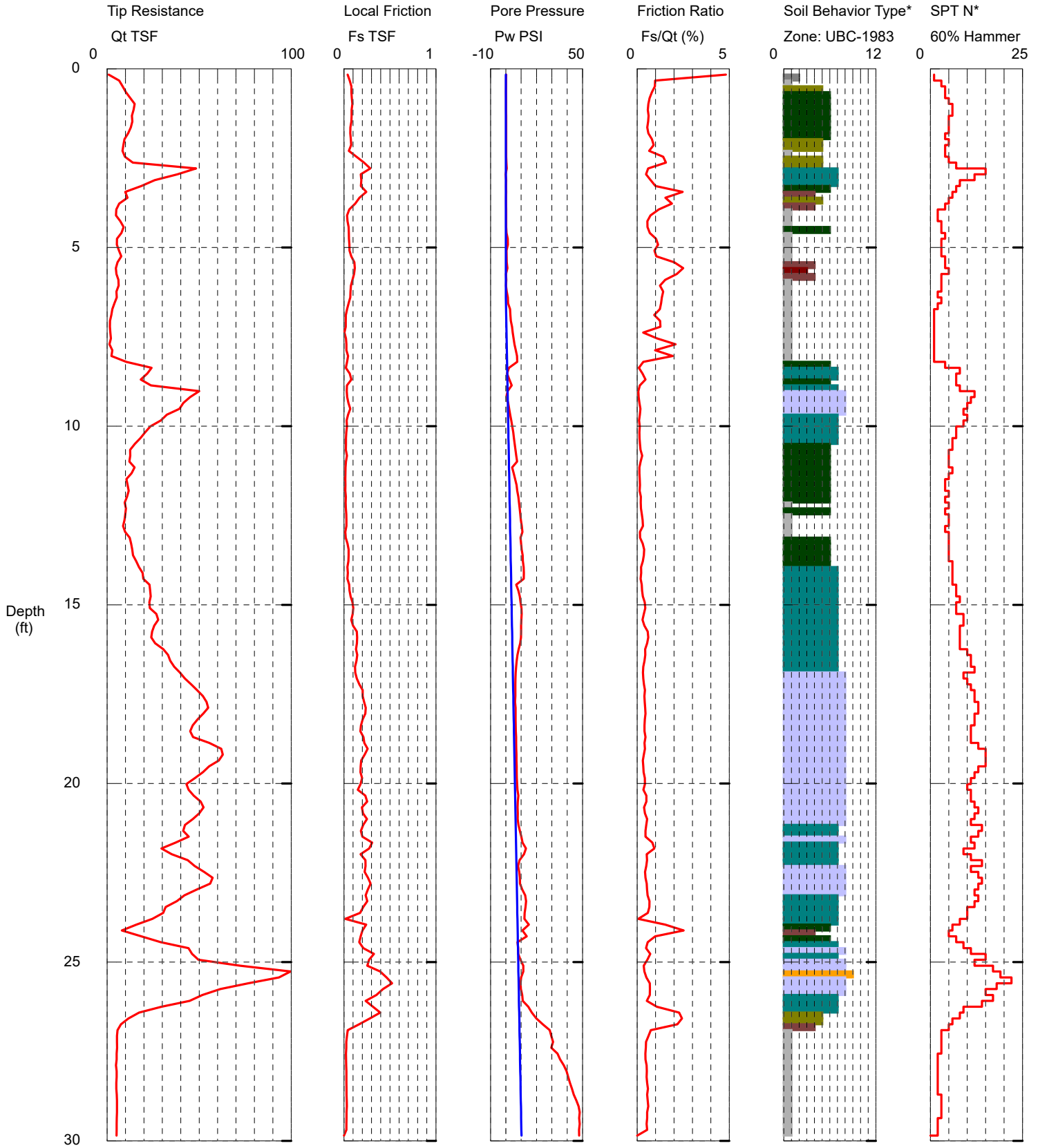
SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING P22-0181.GPJ SES PC FL.GDT 4/27/22

SOUTHERN EARTH SCIENCES

Operator: DUSTIN THOMPSON
Sounding: B-2
Cone Used: DDG1485
Groundwater Depth: 5.6 ft

CPT Date/Time: 4/19/2022 2:38:28 PM
Location: VETERANS PARK
Job Number: P22-0181
Elevation: Unknown



Maximum Depth = 30.02 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

Filter On
Auto Enhance On

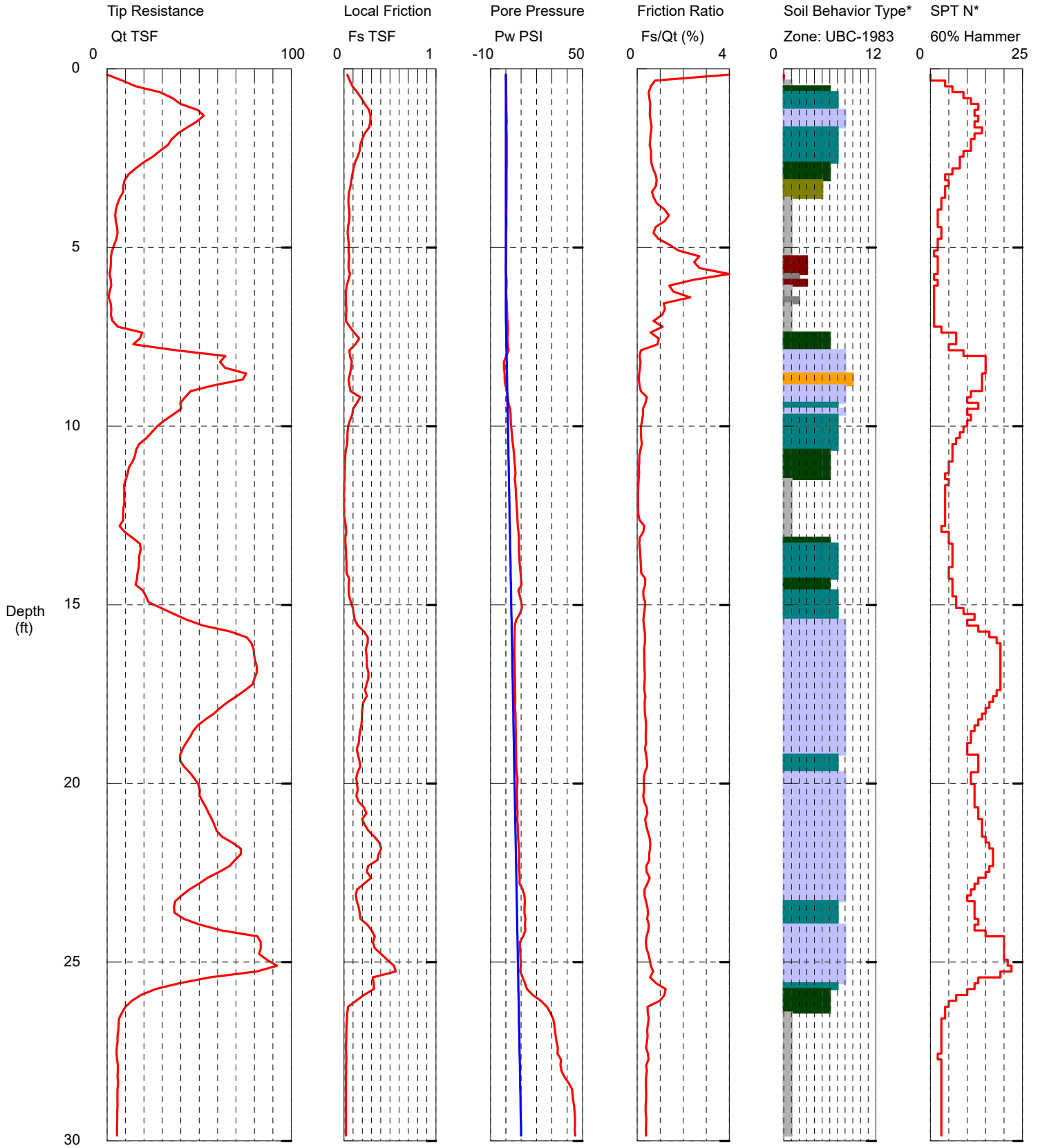
VETTIN

*Soil behavior type and SPT based on data from UBC-1983

SOUTHERN EARTH SCIENCES

Operator: DUSTIN THOMPSON
Sounding: B-3
Cone Used: DDG1485
Groundwater Depth: 6.0 ft

CPT Date/Time: 4/19/2022 3:01:15 PM
Location: VETERANS PARK
Job Number: P22-0181
Elevation: Unknown



Maximum Depth = 30.18 feet

Depth Increment = 0.164 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

Filter On
Auto Enhance On

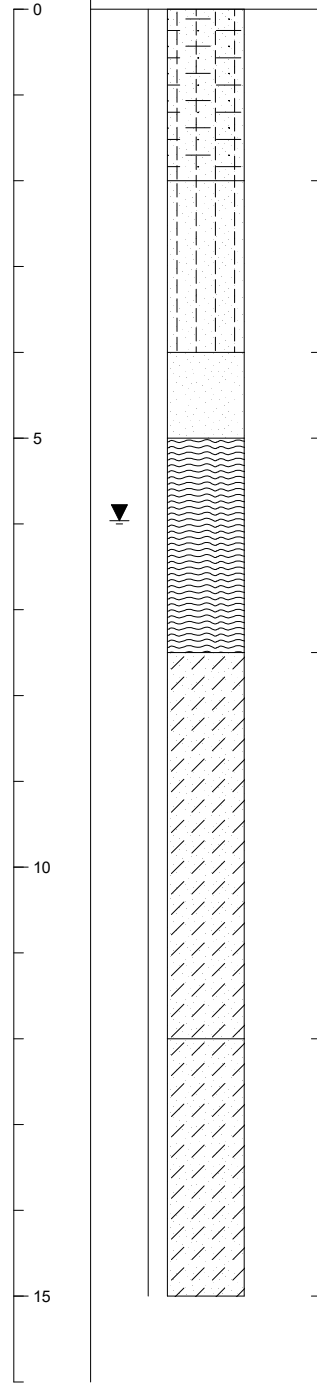
VETTIN

*Soil behavior type and SPT based on data from UBC-1983

LOG OF BORING B-3

PROJECT: Veterans Park Ditch Shoring Project
LOCATION: Callaway, FL
PROJECT NO.: P22-0181
DATE: 04/19/22

METHOD: Direct Push
DRILLER: DT
ENGR / GEOL: LF
SURFACE ELEVATION: Unknown



Elevation / Depth	Soil Symbols Sampler Symbols and Field Test Data	USCS	LOCATION: Per Plan / MATERIAL DESCRIPTION	▲ N Value (blows/ft) 20 40 60 80 / Atterberg Limits Natural Moisture PL MC LL 20 40 60 80	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0		SP-SM	Dark Brown Slightly Silty Fine SAND with Trace Organics						
		SP-SM	Tan and Light Gray Fine SAND with Trace Organics						
		SP	Dark Gray Silty Fine SAND with Shell and Aggregate						
5	▼	PT	Dark Gray Peaty Sand with Organics						
		SP-SC	Gray and Dark Gray Slightly Clayey Fine SAND						
10					19				10
		SP-SC	Gray and Light Brown Slightly Clayey Fine SAND						
					19				9
15									

Water Level Est. Seasonal High GWL: ▽ Measured: ▼ Perched: ▼ **Notes:**
Water Observations: Groundwater Measured at 6.1 Feet Below Existing Ground Surface

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)
Sample Key: ◪ SPT ■ Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING P22-0181.GPJ SES PC FL.GDT 4/27/22

Important Information About Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you —* should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.

ASFE
The Best People on Earth

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

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