SOUTHERN EARTH SCIENCES
Geotechnical | Environmental | Materials Testing

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Anchor CEI
450 Magnolia Ave
Panama City, FL 32401
Attn: Ms. Elizabeth Moore, P.E.

April 29, 2025
File No: P25-145

Subject: Geotechnical Services for the Mexico Beach Boat Launch Expansion Project in Mexico Beach, Florida

Dear Ms. Moore:

Southern Earth Sciences, Inc., has completed the geotechnical services for the proposed additions at the Mexico Beach Boat Launch site. Our services were performed per your request. Previously, we conducted testing related to the repairs of the boat launch seawalls, with our report submitted on December 12, 2024. Since that time, expansion of the boat launch has been planned. This report presents the results of our field and laboratory testing and includes recommendations with regard to the design and construction of the boat ramp addition.

FIELD INVESTIGATE PROCEDURES:

Prior to our mobilization, underground utilities were located by contacting Sunshine State One Call of Florida. It should be noted, our test locations were performed behind the existing sidewalk, in accessible areas. For our geotechnical investigation, two (2) cone penetrometer soundings were performed to depths of approximately 40 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. The cone soundings were performed in general accordance with ASTM D5778.

To verify soil conditions encountered within the depth of our cone soundings, one direct push boring was performed at test location C-2 to a depth of 15 feet below the existing ground surface. The direct push borings were performed with our Geoprobe 6625 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. Additionally, hand probing was performed to determine the depth of soft bottoms soils/sediment at the mudline.

Test locations were established in the field by using a handheld GPS; therefore, our 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 test 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: Three (3) samples were selected to determine their precent of materials, by dry weight, finer than the U.S. Number 200 Mesh Sieve. Their test was performed in general accordance with ASTM D1140.
Organic Content: One (1) sample was selected to determine its percent organic matter in general accordance with ASTM D2974.

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
ORG = Organic Content (%)

CONE PENETROMETER SOUNDINGS:

CPT Log graphically indicates 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.

SITE AND SOIL CONDITIONS:

It is our understanding the Mexico Beach boat launch expansion will consist of two new boat launch ramps with adjacent piers as well as the installation of a new section of seawall constructed on the eastern side of the new ramp. The original boat launch was constructed in 2009-2010, and the proposed additions will be located east of the existing launch. It is our understanding that the new ramps will be designed to match the layout and construction of the existing ramps. As noted above, we conducted testing in September of 2024 for repairs of the existing seawalls. The seawall is a sheet pile system, and over the course of time, some portions of the seawall were allowing sand to wash through causing subsidence and cracking of the sidewalk behind the wall. Our testing found primarily sand, however, erratic between test locations. In the southeast corner of the site, organic soils (peat/peaty sands) were encountered. Based upon the provided plans, Bay County GIS, and Google Earth, the elevations of our test locations appear to be in the range of approximately +6 to +10 Feet. The logs of our boring and cone soundings are attached. The elevations of our boring locations should be considered approximate.

Based upon the results of our cone soundings and direct push boring, the soils encountered are predominantly sands. The sands vary in color and texture ranging from slightly silty, clayey, and clean sands. Generally, within the top one to two feet the sands are loose then becoming medium dense to dense to an average depth of 13 feet. At this depth we encounter loose clayey sands to depth of 23 feet at test location C-1 and 20 feet at location C-2. Beyond this depth we encountered medium dense sands, extending to 26 feet before encountering another loose clayey sand layer. The loose clayey sands extend to a depth of approximately 35 feet where dense sands were again encountered, for the remaining extent of our cone soundings. It should be noted; various amounts of organics were encountered within the top six to twelve inches of our borings. At test location C-2, organic laden (peat/peaty sands) were encountered at a depth of approximately 4.5 feet extending to approximately 6 feet below existing ground surface.

As noted above, hand probing was performed along the seawall and the easternmost dock to determine depth of soft bottom or sediments. Based upon the results of the probing, we encountered approximately 0.5 to 2.5 feet of soft bottom along the eastern section of the boat ramp expansion.

On the date of our field testing (March 24 and 25, 2025), the groundwater level was

measured at the depth shown on the attached logs which ranged from approximately 4.5 to 5.0 feet below the existing ground surface. Fluctuations in the water table depths will occur due to seasonal precipitation/evapotranspiration differences and any wetland, neighboring drainage, and tidal influences. Therefore, we recommend groundwater depths be verified prior to foundation construction.

STRICTURAL INFORMATION:

As noted above, we understand the expansion will consist of a new boat ramp located to east of the existing boat ramps. The proposed boat ramp expansion will have an area of approximately 7,533 square feet and extend into the Mexico Beach Canal. The concrete ramp will be separated into an upper and lower section by a concrete promenade with less slope than the other sections. The existing sheet pile section on the western side will be removed, however the section perpendicular to the ramp will remain in place and be cut at the appropriate depth. The upper section will measure approximately 60 feet in length and 55 feet in width, with a slope of approximately 10.5%. While the lower section will measure approximately 63.5 feet in length and 55 feet in width, with a slope of approximately 12.3%, terminating with a 10-foot-wide section of rip-rap overlain a geotextile fabric. The elevation of the proposed boat ramp will match that of the adjacent boat ramp, extending from +10 Ft at the top down to -5 Ft at the bottom of the ramp. A sheet pile/cofferdam system will be required to construct the ramp and perform the necessary earthwork.

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 this site.

Based upon the results of our field testing and laboratory classifications, we have estimated the soil parameters at the two test locations for sheet pile wall design to be performed by the Structural Engineer. The estimated soil parameters are summarized in the following tables. Table I refers to test location C-1, Table II refers to test location C-2. It should be noted, elevation of our test locations should be considered approximate.

TABLE I: Test Location C-1

Depth:	USCS Classification	Friction Angle (°)	Cohesion (lbs/ft^2)	Unit Weight (lbs/ft^3)
0 – 4 ft.	SP-SM, SP	31	0	100
4 – 9 ft.	SP-SM, SP	33	0	52
9 – 14 ft.	SP, SP-SM	34	0	54
14 – 23 ft.	SC, SM	27	0	45
23 – 27 ft.	SP-SC	31	0	50
27 – 30 ft.	SC, SM	29	0	48
30 – 36 ft.	SC	27	0	45
36 – 40 ft.	SP-SC	32	0	51

Estimated ground elevation at location C-1, approximately +10 Ft

TABLE II: Test Location C-2

Depth:	USCS Classification	Friction Angle (°)	Cohesion (lbs/ft^2)	Unit Weight (lbs/ft^3)
0 – 4 ft.	SP-SM, SP	30	0	95
4 – 6 ft.	SP, PT	28	0	45
6 – 13 ft.	SP	32	0	51
13 – 20 ft.	SC	27	0	45
20 – 25 ft.	SP, SP-SC	32	0	51
25 – 34 ft.	SC, SM	27	0	45
34 – 38 ft.	SP	32	0	51
38 – 40 ft.	SP-SC	29	0	48

Estimated ground elevation at location C-2, approximately +7 Ft

SOIL PREPARATION RECOMMENDATIONS:

Based upon the provided information, cutting of the existing soils will be required to achieve finished grade elevation for the boat ramp. As noted above, the top of the ramp will be near +10 Ft, sloping downward with the bottom elevation of the ramp at -5 Ft. The soil preparation recommendations for the boat ramps are based upon the information provided. As noted above, a cofferdam system will need to be utilized for construction. Continuous dewatering will be required to perform the earthwork in these conditions. If any of this information is incorrect, we should be notified to provide revisions to our pavement recommendations.

If necessary, fill soils, shall be sands to slightly silty sands (non-plastic) containing no more than 12%, by dry weight, finer than the U.S. No. 200 mesh sieve and shall be free of organics, rubble, clay balls, and other deleterious materials. Fill soils shall be placed in thin level lifts and compacted to a density of 98% of the Modified Proctor (AASHTO T-180) maximum dry density throughout its full depth.

Clear and grub the surface soils within the perimeter of the boat launch, extending at least three (3) feet beyond the edge of the pavement, where practical, to remove all organics laden sands, organic soils, large aggregate and other deleterious materials. Based upon the results of our borings, we anticipate the majority of these soils will be removed during the excavation of the existing soils to achieve finished grade. However, if these soils are encountered at the bottom of the ram, they should be removed throughout their entirety.

Prior to the addition of fill soils or once the soils have been excavated to the bottom of the base, compact the existing soils until a density of 98% of the Modified Proctor (AASHTO T-180) maximum dry density is achieved to a depth of twelve (12) inches. Fill soils described above should be placed to achieve final grades. A vibratory roller is typically recommended for compaction, however, in shallow groundwater conditions, only the static weight of the equipment should be utilized for compaction.

The provided plans indicate a minimum of 6-inches of No 57 stone placed beneath the concrete pavement. We believe this is suitable, however, a graded aggregate may provide additional stability compared to an open graded aggregate. Additionally, reclaimed crushed concrete may also be used. If crushed concrete it utilized it should meet FDOT standard specifications.

CONSTRUCTION TESTING SERVICES:

The effectiveness of the foundation will depend significantly on the proper preparation of the soils, as indicated previously. Therefore, we recommend the owner employ Southern Earth Sciences, Inc., as the testing laboratory to perform construction testing services. If we are not employed to provide construction testing services, Southern Earth Sciences, Inc., cannot accept any responsibility for any conditions, which deviate from those described in this geotechnical report. Southern Earth Sciences, Inc., should be invited to the pre-construction conference to discuss the project with all interested parties so that the project may be completed expeditiously and to the intent of our geotechnical report. We would be pleased to review the plans and specifications as they relate to the soil preparation and provide a fee proposal for construction testing.

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 design of the project. It is intended for use with regard to the specific project discussed herein, and any substantial changes in the locations, loads, 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 foundations 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 SCIENCES, INC.

Charles Howell Logan Jr.
Staff Engineer

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

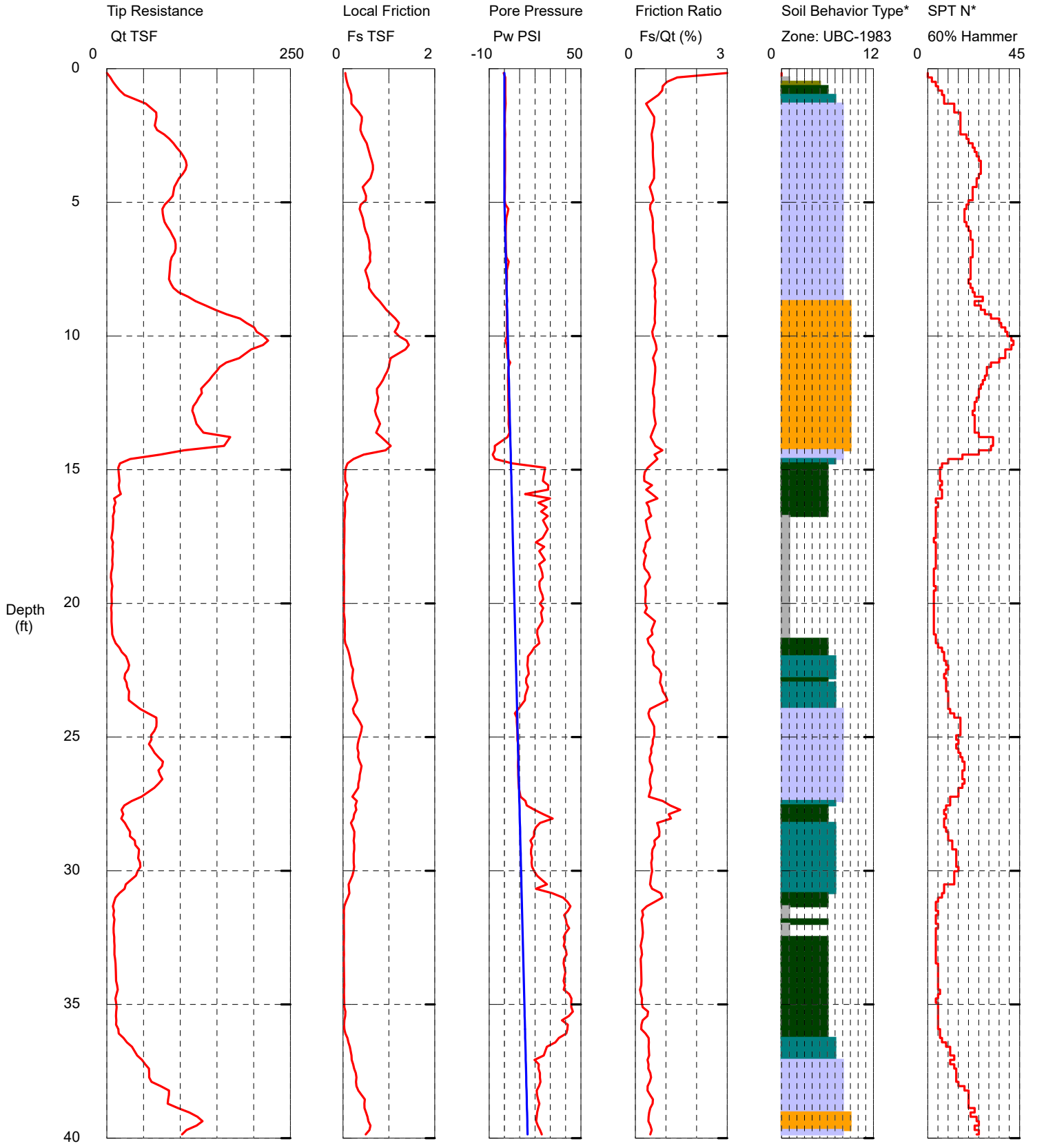
This item has been digitally signed and sealed by Logan A. Fowler, P.E. (FL Eng. License No.: 82343) using a Digital Signature. Printed copies of this document are not considered signed and sealed and the authentication code must be verified on any electronic copies.

SESI FILE NO: P25-145	SOUTHERN EARTH SCIENCES	DRAWN BY:	HL	FIGURE I
		CHECKED BY:	LF	
Mexico Beach Boat Launch Expansion Mexico Beach, FL		DATE:	4/29/25	APPROXIMATE TEST LOCATIONS
		SCALE:	1:100	

Southern Earth Sciences inc.

Operator: Pat Conroy
Sounding: C-1
Cone Used: DDG1702
Groundwater: 5.0 feet

CPT Date/Time: 3/24/2025 9:56:51 AM
Location: Mexico Beach Boat Launch Expansion
Job Number: P25-145
Elevation: +10 Feet (Approx.)



Maximum Depth = 39.86 feet

Depth Increment = 0.164 feet

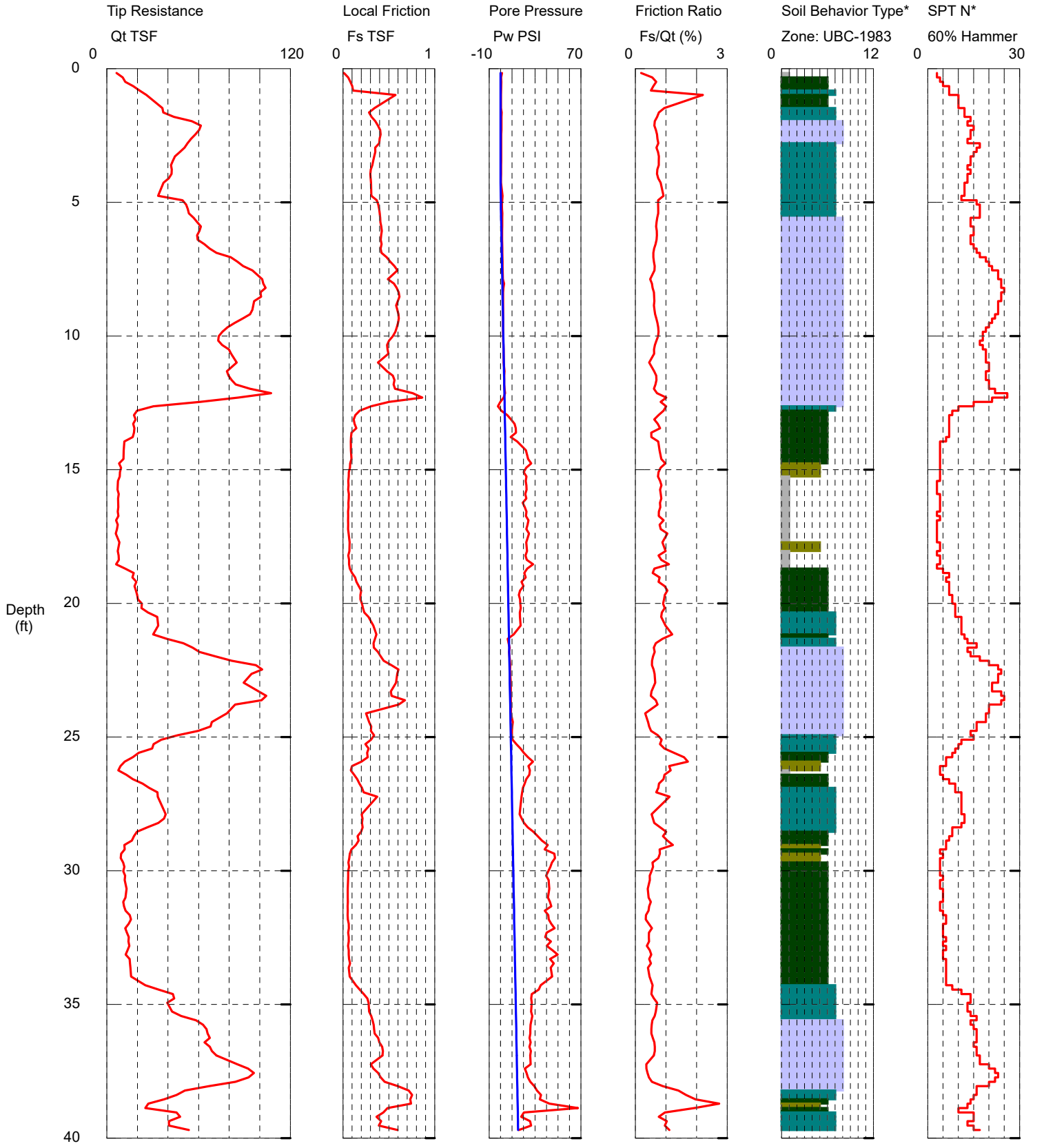
1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

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

Southern Earth Sciences inc.

Operator: Pat Conroy
Sounding: C-2
Cone Used: DDG1702
Groundwater: 4.5 feet

CPT Date/Time: 3/24/2025 10:38:34 AM
Location: Mexico Beach Boat Launch Expansion
Job Number: P25-145
Elevation: +7 Feet (Approx.)



Maximum Depth = 39.70 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 (*)

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

LOG OF BORING C-2

PROJECT: Mexico Beach Boat Launch Expansion
METHOD: Direct Push
LOCATION: Mexico Beach, FL
DRILLER: PC
PROJECT NO.: P25-145
ENGR / GEOL: LF
DATE: 03/24/25
SURFACE ELEVATION: +7 ft

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	NATURAL MOISTURE (%)	ATTERBERG LIMITS (%) LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI	PASSING #200 SIEVE (%)
0		SP-SM	Gray Slightly Silty Fine SAND with Trace Organics						
		SP-SM	Gray and Brown Slightly Silty Fine SAND						
5		SP	Gray and Light Gray Fine SAND with Trace Organics						
	▼	PT	Dark Gray Peaty Fine SAND with Wood (ORG=6.5%)						
5		SP	Dark Gray Fine SAND with Trace Organics		43				
0									
					22				3
10									
-5		SP	Gray and Brown Fine SAND		22				3
		SP	Dark Gray Fine SAND						
		SC	Brown and Light Brown Clayey Fine SAND		28				12
15									

Water Level Est. Seasonal High GWL: ▽ Measured: ▼ Perched: ▼

Water Observations: Groundwater Measured at 4.5 Feet Below Existing Ground Surface

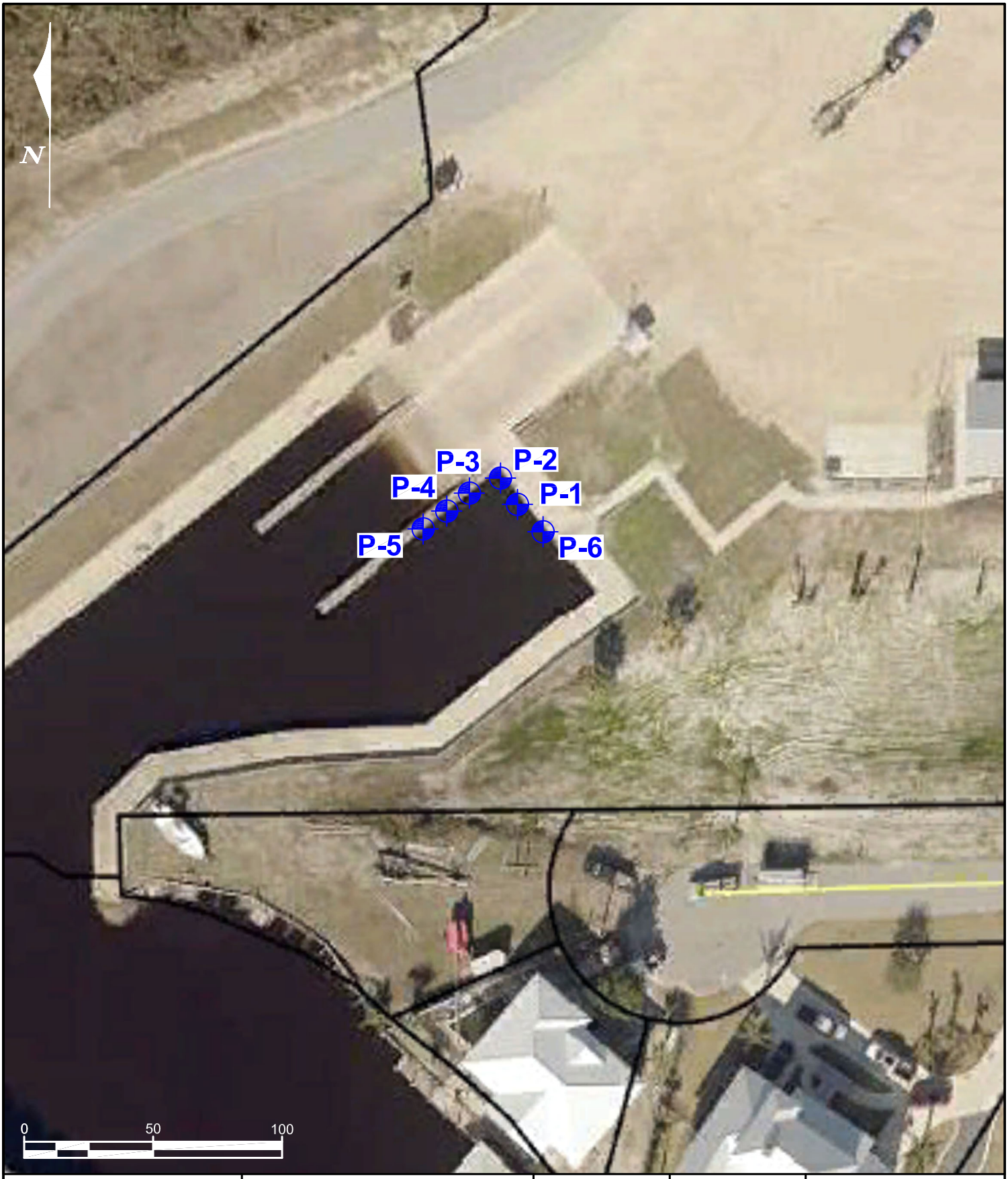
Notes:
- Elevation Should Be Considered Approximate

N - SPT Data (Blows/Ft) P - Pocket Penetrometer (tsf)

Sample Key: ◪ SPT ■ Shelby Tube

SOUTHERN EARTH SCIENCES, inc.

LOG OF BORING P25-145.GPJ SES PC FL.GDT 4/29/25



SESI FILE NO: P25-145	SOUTHERN EARTH SCIENCES	DRAWN BY:	HL	FIGURE II
		CHECKED BY:	LF	
Mexico Beach Boat Launch Expansion Mexico Beach, FL		DATE:	4/9/25	APPROXIMATE TEST LOCATIONS
		SCALE:	1:50	

P25-145
Mexico Beach Boat Launch Expansion Project

Table I
Dock Probing Locations

Station	Soft Bottom Thickness*
P-1	1.5'
P-2	2.3'
P-3	1.6'
P-4	2.0'
P-5	0.5'
P-6	2.5'

*Approximate Depth from the mudline level to the depth that the hand dial penetrometer could not be pushed deeper

Soil Map—Bay County, Florida
(Mexico Beach Boat Launch Repair)

Map Scale: 1:761 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bay County, Florida
Survey Area Data: Version 24, Aug 22, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 2, 2020—Dec 8, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13	Leon sand, 0 to 2 percent slopes	0.8	58.1%
29	Rutlege sand, 0 to 2 percent slopes	0.5	41.9%
99	Water	0.0	0.0%
Totals for Area of Interest		**1.3**	**100.0%**

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
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