

TIERRA

July 22, 2025

Pasco County Sheriff's Office
8661 Citizens Drive
New Port Richey, Florida 34654

Attn: Keith Dillon - Inspector

**RE: Geotechnical Engineering Services Report
Pasco County Sheriff's Office – Structures Additions
Pasco County, Florida
Tierra Project No.: 6511-25-164**

Mr. Dillon:

Tierra, Inc. (Tierra) has completed geotechnical engineering services for the above-referenced project. The results of our field exploration program and subsequent geotechnical recommendations are presented in this report.

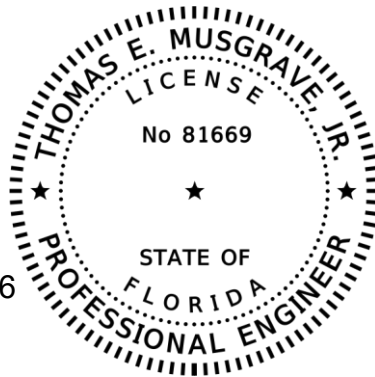
Tierra appreciates the opportunity to be of service to Pasco County Sheriff's Office (PCSO) on this project. We look forward to working with you on future projects. If you have any questions or comments regarding this report, please contact Tierra at your earliest convenience.

Respectfully Submitted,

TIERRA, INC.



Tyler R. Jean, P.E.
Geotechnical Engineer
Florida License No. 101456



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Geotechnical Engineer
Florida License No. 81669

TABLE OF CONTENTS

PROJECT DESCRIPTION	1
Project Information.....	1
Scope of Services.....	1
SITE AND SUBSURFACE CONDITIONS	2
USGS Quadrangle Map.....	2
USDA Soil Survey.....	2
Subsurface Conditions.....	3
Groundwater Information	4
Ground Penetrating Radar (GPR) Study	4
EVALUATION AND RECOMMENDATIONS.....	4
Geological Hazards	4
General.....	5
Site Preparation	5
Foundation Recommendations	5
Settlement	6
Floor Slab	6
CONSTRUCTION CONSIDERATIONS	7
General.....	7
Fill Placement and Subgrade Preparation	7
Drainage and Groundwater Concerns	8
Structural Fill.....	9
Excavations	9
REPORT LIMITATIONS	10
APPENDIX	
Boring Location Plan	
Soil Profiles	
GPR Survey Plan	

PROJECT DESCRIPTION

Project Information

The project is located within the existing Pasco County Sheriff's Office campus located along Central Boulevard in Pasco County, Florida. Based on information provided, we understand the project consists of a new building addition to the existing facility. This report addresses the evaluation of existing subsurface soil conditions with regard to the proposed new structure only.

Structural loads for the proposed building were not available for preparation of this report. Tierra anticipates that the maximum column and wall loads will not exceed 50 kips and 5 kips per linear foot, respectively. If the loading conditions for the proposed structure exceed these anticipated loads, then Tierra should be given the opportunity to review the final design information and amend the recommendations herein, if warranted.

Scope of Services

The objective of our study was to obtain information concerning subsurface conditions at the site in order to base engineering estimates and recommendations in each of the following areas:

1. General location and description of potentially deleterious materials discovered in the borings which may interfere with the construction progress or proposed structure and pavement performance, including existing fills, debris, or surficial organics.
2. General suitability of materials encountered within the borings for use as general backfill.
3. Feasibility of utilizing the insitu soils for support of the proposed structure using shallow foundations. Suitability of insitu soils for support of slab-on-grade.
4. Design parameters required for the foundation systems, including allowable bearing pressures, foundation sizes, foundation levels and soil subgrade recommendations.

In order to meet the preceding objectives, we provided the following services:

1. Conducted a visual site reconnaissance of the project site and coordinated utility clearance via Sunshine One-Call.
2. Reviewed the "Ehren, Florida" Quadrangle Map published by the United States Geological Survey (USGS), as well as the Web Soil Survey of Pasco County, Florida, published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS).
3. Performed a Ground Penetrating Radar (GPR) study within the anticipated building footprint to determine the presence of subsurface anomalies of interest.
4. Executed a program of subsurface exploration consisting of borings, subsurface sampling, and field testing. We performed a total of six (6) Standard Penetration Test (SPT) borings to depths of approximately 30 feet below existing site grades.

5. Collected groundwater level measurements for the project.
6. Visually classified the samples in the laboratory using the Unified Soil Classification System (USCS) and performed laboratory classification testing on selected samples to confirm visual review. Identified soil conditions at each boring location.
7. Prepared this engineering report in accordance with the scope of services herein that summarizes the course of study pursued, the field and laboratory data generated, subsurface conditions encountered and our engineering recommendations in each of the pertinent topic areas.

The scope of our services did not include an environmental assessment for determining the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, groundwater, or air, on or below or around this site. Any statements in this report or on the boring logs regarding odors, colors, unusual or suspicious items or conditions are strictly for the information of our client.

SITE AND SUBSURFACE CONDITIONS

USGS Quadrangle Map

Based on the “Ehren, Florida” United States Geological Survey (USGS) Quadrangle Map, ground elevations at the project site range from approximately +75 feet to +80 feet National Geodetic Vertical Datum of 1929 (NGVD 29).

USDA Soil Survey

Soil data published by the USDA Soil Survey of Pasco County, Florida was reviewed as part of the subsurface investigation. This information indicates that there are two (2) primary mapping units within the vicinity of the proposed project site. The following paragraphs and table provide a brief description of these soil units as presented in the Soil Survey.

Adamsville fine sand (Map Unit 11) – The Adamsville component makes up 95 percent of the map unit. Slopes are 0 to 2 percent. This component is on rises, coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded or ponded. A seasonal zone of water saturation is at 20 inches during June, July, August, September, October, and November. Organic matter content in the surface horizon is about 1 percent.

Smyrna fine sand (Map Unit 21) – The Smyrna, non-hydric component makes up 70 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on marine terraces on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. A seasonal zone of water saturation is at 12 inches during June, July, August, and September. Organic matter content in the surface horizon is about 3 percent.

Summary of USDA Soil Survey Pasco County, Florida							
USDA Map Symbol and Soil Name	Soil Classification				pH	Seasonal High Water Table	
	Depth (in)	USCS	AASHTO	Permeability (in/hr)		Depth (feet)	Months
(11) Adamsville	0-7	SP-SM, SM, SP	A-3, A-2-4	6.0 - 20.0	4.5-7.8	1.5-3.5	June-Nov
	7-20	SP-SM, SM, SP	A-3, A-2-4	6.0 - 20.0	4.5-7.8		
	20-80	SP-SM, SM, SP	A-3, A-2-4	6.0 - 20.0	4.5-7.8		
(21) Smyrna, non-hydric Smyrna, hydric	0-5	SP-SM, SP	A-2-4, A-3	6.0 - 20.0	3.5-5.0	0.5-1.5	June-Sept
	5-13	SP-SM, SP	A-2-4, A-3	6.0 - 20.0	3.5-5.0		
	13-25	SP-SM, SM	A-2-4, A-3	0.6 - 6.0	3.5-5.0		
	25-80	SP-SM, SP	A-3	6.0 - 20.0	4.5-5.5		
	0-5	SP-SM, SP	A-2-4, A-3	6.0 - 20.0	3.5-5.0	0.0-0.5	June-July, Aug, Sept
	5-13	SP-SM, SP	A-2-4, A-3	6.0 - 20.0	3.5-5.0		
	13-25	SP-SM, SM	A-2-4, A-3	0.6 - 6.0	3.5-5.0		
25-80	SP-SM, SP	A-3	6.0 - 20.0	4.5-5.5			

It should be noted that information contained in the USDA/NRCS Web Soil Survey may not be reflective of current subsurface conditions, particularly if recent development in the project vicinity has modified existing soils or surface/subsurface drainage.

Subsurface Conditions

The subsurface conditions were explored using a total of six (6) SPT borings performed to a depth of approximately 30 feet below the ground surface. The borings were located in the field by representatives of Tierra using handheld global positioning system (GPS) equipment. The locations of the borings performed are presented on the **Boring Location Plan** in the **Appendix**.

The SPT borings were performed with the use of a drill rig equipped with an automatic hammer, using mud-rotary drilling procedures. The soil sampling was performed in general accordance with the American Society for Testing and Materials (ASTM) Test Designation D-1586. The initial 4 feet of some SPT borings were advanced by hand auger to verify subsurface utility clearances. SPT resistance N-values were then taken continuously to a depth of 10 feet and at intervals of 5 feet thereafter. As each soil type was encountered samples were collected and visually classified in the field. The samples were then transported to our Tampa laboratory for verification of the visual classification and testing.

The soil strata encountered in the borings performed at the project site are summarized in the following table:

Stratum Number	Soil Description	USCS Symbol
1	Light Brown to Gray Sand to Sand with Silt	SP/SP-SM
2	Light Brown to Gray Silty Sand	SM
3	Light Gray to Brown Clayey Sand	SC
4	Calcareous Clay to Weathered Limestone	---(1)
(1) USCS does not include nomenclature for LIMESTONE		

The subsurface soil stratification is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The **Soils Profiles** sheet in the **Appendix** should be reviewed for specific information at individual boring locations. These profiles include soil descriptions, stratifications and penetration resistances. The stratifications shown on the boring profiles represent the conditions only at the actual boring location. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.

Groundwater Information

At the time of our field activities, groundwater was encountered in the borings at depths ranging from 2 feet to 3 feet below existing grades. Groundwater conditions will vary with environmental variations and seasonal conditions, such as the frequency and magnitude of rainfall patterns, as well as man-made influences (i.e. existing swales, drainage ponds, underdrains and areas of covered soils, such as paved parking lots).

Ground Penetrating Radar (GPR) Study

A geophysical study consisting of a GPR (Ground Penetrating Radar) study was performed within the anticipated building footprint to characterize the subsurface conditions encountered at the site, to assist in placing test borings, and to evaluate the potential necessity of a pre-development remediation program. GPR is a non-intrusive surface geophysical method used for locating both natural geologic and man-made subsurface features using electromagnetic energy to acquire subsurface information.

Ten (10) GPR transects were completed and the approximate locations are illustrated on the **GPR Survey Plan** in the **Appendix**. Based upon our interpretation of the data, some of the GPR profiles depict anomalies/subsurface reflection patterns, including down warping, that can be interpreted as consistent with subsurface karst/sinkhole activity.

However, GPR signal penetration can be limited due to existing subsurface conditions (i.e. the presences of groundwater, plastic soils etc.). Therefore, deep-seated karst features may not be detected by GPR in some cases. In addition, the identification of a potential karst feature does not indicate whether the feature is active or inactive. Changes in the depth of penetration may also be related to changes in historical geologic deposition rates and non-conformities or periods of reworking and erosion occurring in the past resulting in lateral lithological variation not related to karst activity.

EVALUATION AND RECOMMENDATIONS

Geological Hazards

The project site is within a region of Pasco County and West-Central Florida that can be characterized as having a moderate to high potential for sinkhole development. Based on the limited geotechnical services performed, the subsurface conditions encountered in the borings did not demonstrate a combination of characteristics that are indicative of karst/sinkhole activity or other existing geologic hazards at the site. Therefore, a pre-development subsurface remediation program is not recommended at this time.

Sinkhole conditions were not encountered within the borings performed. Unanticipated soil conditions may require that additional expense be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs. Should sinkhole conditions be encountered during construction, Pasco County guidelines for sinkhole remediation should be followed and Tierra should be immediately notified.

General

Based on our understanding of the anticipated loading conditions previously stated herein and that finished site grades are anticipated to be within 2 feet of existing grades for the proposed structure, the foundations and floor slab may bear on imported approved fill or on the existing sandy soils encountered in the borings when improved according to our recommendations. The boring results generally indicate that the sandy soils will provide adequate support for lightly loaded shallow foundation systems when prepared in accordance with the recommendations provided herein.

The building pad area for the proposed structure will require proper site preparation before development. Our recommendations for site preparation, foundation design criteria, settlement, floor slabs and construction considerations are presented in the following report sections.

It should be noted that if final design loads or final foundation criteria deviates from what is stated in this report, Tierra should be given the opportunity to review the new information and amend our recommendations, if necessary.

Site Preparation

Prior to construction, the location of any existing underground utilities within the construction area should be established. Material suitable for re-use may be stockpiled; however, any material stockpiled for re-use shall be tested for conformance to material specifications as indicated in the following sections of this report. Provisions should then be made to relocate any interfering utility lines within the construction area to appropriate locations and backfilling the resulting excavations with compacted structural fill. In this regard, it should be noted that if abandoned underground pipes are not properly removed or plugged, they might serve as conduits for subsurface erosion, which subsequently may result in excessive settlement.

Clearing operations ought to remove all deleterious materials from the proposed development area to a minimum depth of 6 feet. As a minimum, it is recommended that the clearing operations extend to the depth needed to remove material considered deleterious at least 5 feet beyond the proposed development area. Deleterious materials to be removed include roots, organics, tree stumps or other buried or surface debris. Fill placement and subgrade preparation recommendations are presented in the "Construction Considerations" Section of this report.

Foundation Recommendations

The borings performed at the proposed project site generally encountered very loose to medium dense sandy soils within the anticipated foundation influence zone depths. Based on our evaluation and analyses, these soils are capable of supporting the assumed structural loads on shallow foundations after proper subgrade preparation, including surface compaction.

Based on the anticipated construction and loading conditions, field results indicate shallow foundations may be designed for a net maximum allowable bearing pressure of 2,000 psf once deleterious materials have been removed. The foundations and floor slab should bear on properly placed and compacted cohesionless (sand) structural fill. The existing near surface sandy soils should be improved by compaction after clearing operations to improve foundation support and reduce total and differential settlement. Compaction criteria are presented under the "Construction Considerations" Section of this report.

All footings should be embedded so that the bottoms of the foundations are a minimum of 18 inches below adjacent compacted grades on all sides. Conventional strip or wall footings should be a minimum of 24 inches wide and pad or column footings should be a minimum of 30 inches wide. The minimum footing sizes should be used regardless of whether or not the foundation loads and allowable bearing pressures dictate a smaller size. These minimum footing sizes tend to provide adequate bearing area to develop bearing capacity and account for minor variations in the bearing materials. All footings should be constructed in a dry fashion. All footing excavations should be covered due to rain events. Uncovered excavations may become oversaturated and difficult to compact during rain events. Surface run-off water should be drained away from the excavations and not allowed to pond. It is important that the structural elements be centered on the footings such that the load is transferred evenly unless the footings are proportioned for eccentric loads.

Settlement

The settlement of shallow foundations supported on compacted sand should occur rapidly after loading. Thus, the expected settlement should occur during construction as dead loads are imposed. Provided the recommended site preparation operations are properly performed and the recommendations previously stated are utilized, the total settlement of wall and isolated column footings should not exceed approximately 1 inch. Differential settlement is estimated to be on the order of one-half of the total settlement. Differential settlement of this magnitude is usually considered tolerable for the anticipated construction; however, the tolerance of the proposed structure to the predicted total and differential settlement should be confirmed by the structural engineer. If final loading conditions differ from the loads discussed above, Tierra should be given the opportunity to review and amend (if necessary) our recommendations.

Floor Slab

The proposed floor slabs may be safely supported as a slab-on-grade provided any unsuitable materials are removed and replaced with approved fill. It is also recommended that the floor slab bearing soils be covered by lapped polyethylene sheeting in order to minimize the potential for floor dampness which can affect the performance of various flooring materials. This membrane should consist of a minimum six (6) mil single layer of non-corroding, non-deteriorating sheeting material placed to minimize seams and to cover all of the soil below the building floor. This membrane should be cut in a cross shape for pipes or other penetrations; the membrane should extend to within one-half inch of all pipes or other penetrations. All seams of the membrane should be lapped at least 12 inches. Punctures or tears in the membrane should be repaired with the same or comparable material.

CONSTRUCTION CONSIDERATIONS

General

Tierra should be retained to provide observation and testing of construction activities involved in the foundation earthwork and related activities of this project. Tierra cannot accept any responsibility for any conditions which deviate from those described in this report, if not engaged to provide construction observation and testing for this project.

Fill Placement and Subgrade Preparation

The following are our recommendations for overall site preparation and mechanical densification work following the ground improvement/remediation program for the construction of the proposed improvements based on the anticipated construction and our test boring results. These recommendations should be used as a guideline for the project general specifications prepared by the design engineer.

1. The site should be cleared; this primarily includes removing any deleterious materials currently on the site such as roots, organics, tree stumps or other buried or surface debris. It is recommended that any undesirable material be removed to the satisfaction of Tierra prior to beginning construction at the site. Resulting excavations should be backfilled with compacted structural fill. It is important that pavement and structure remnants be removed in their entirety. As a minimum, it is recommended that the clearing operations extend at least five (5) feet beyond the development perimeters.
2. Following the clearing, the development area should be proofrolled. The proofrolling may consist of compaction with a large diameter, heavy vibratory drum roller (if not within 50 feet of existing structures). The vibratory drum roller should have a static drum weight on the order of 8 to 10 tons and should be capable of exerting a minimum impact force of 36,000 pounds (DYNAPAC CA-250 or equivalent is expected to provide acceptable results). Vibratory rollers should not be used within 50 feet of any existing structures. Areas within 50 feet of existing structures should be compacted using a fully loaded 2 cubic yard capacity front-end loader or equivalent (i.e. through non-vibratory means). The proofrolling equipment should make a minimum of eight (8) overlapping passes over the structure and pavement areas with the successive passes aligned perpendicular.
3. Careful observations should be made during proofrolling to help identify any areas of soft yielding soils that may require over excavation and replacement. The backfilling may be done with well-compacted, suitable fill such as clean sand (i.e. less than 12% passing the No. 200 sieve), gravel, or crushed FDOT No. 57 or FDOT No. 67 stone.
4. The subgrade within the building and pavement areas should be compacted to a dry density of at least 95% of the Modified Proctor maximum dry density to a minimum depth of one (1) foot below stripped grade.
5. Following satisfactory completion of the initial compaction and proofrolling, the structure and pavement areas may be brought up to finished subgrade levels, if needed, using structural fill. Imported fill should consist of fine sand with less than 12% passing the No. 200 sieve, free of rubble, organics, clay, debris and other unsuitable material. Fill should be tested and approved

prior to acquisition. Approved sand fill should be placed in loose lifts not exceeding 12 inches in thickness and should be compacted to a minimum density of 95% of the Modified Proctor maximum dry density. Density tests to confirm compaction should be performed in each fill lift before the next lift is placed.

6. Prior to beginning compaction, soil moisture contents may need to be controlled in order to facilitate proper compaction. If additional moisture is necessary to achieve compaction objectives, then water should be applied in such a way that it will not cause erosion or removal of the subgrade soils. Moisture content within the percentage range needed to achieve compaction (typically ± 2 percent of optimum) is recommended prior to compaction of the natural ground and fill.
7. After compaction of insitu soils or fill lifts, the building foundation excavations can begin. Foundation excavations should be observed by the geotechnical engineer or a representative to explore the extent of any loose, soft, or otherwise undesirable materials.
8. If the foundation excavations appear suitable as load bearing materials, the bottom of the foundation excavations should be compacted to a minimum density of 95% of the Modified Proctor maximum dry density to a minimum depth of one (1) foot below the bottom of the footing depth, as determined by field density compaction tests.
9. If soft pockets are encountered in the footing excavations, the unsuitable materials should be removed and the proposed footing elevation may be re-established by backfilling. This backfilling may be done with a well-compacted, suitable fill such as clean sand, gravel, or crushed FDOT No. 57 or FDOT No. 67 stone. Sand backfill should be compacted to a minimum density of 95% of the Modified Proctor maximum dry density.
10. Immediately prior to reinforcing steel placement, it is suggested that the bearing surfaces of all footing and floor slab areas be compacted using hand operated mechanical tampers. In this manner, any localized areas, which have been loosened by excavation operations, should be adequately re-compacted.
11. Backfill soils placed adjacent to footings or walls should be carefully compacted with a light rubber-tired roller or vibratory plate compactor to avoid damaging the footings or walls. Approved sand fills to provide foundation embedment constraint should be placed in loose lifts not exceeding 6 inches and should be compacted to a minimum density of 95% of the Modified Proctor maximum dry density.

A representative from our firm should be retained to provide on-site observation of earthwork and ground modification activities. Density tests should be performed in the top one (1) foot of compacted existing ground, each fill lift, and the bottom of foundation excavations within sandy soils. It is important that Tierra be retained to observe that the subsurface conditions are as we have discussed herein, and that foundation construction ground modification and fill placement is in accordance with our recommendations.

Drainage and Groundwater Concerns

The groundwater levels presented in this report are the levels that were measured at the time of our field activities. Fluctuation should be anticipated. We recommend that the Contractor determine the

actual groundwater levels at the time of the construction to determine groundwater impact on this construction procedure.

Water should not be allowed to collect in the foundation excavations, on the floor slab areas, or on prepared subgrades of the construction either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of the building and beneath the floor slabs. The grades should be sloped away from the building and surface drainage should be collected and discharged such that water is not permitted to infiltrate the backfill and floor slab areas of the building.

Structural Fill

If necessary, all materials to be used for structural fill or backfill should be evaluated and tested by Tierra prior to placement to determine if the materials are suitable for the intended use. Suitable fill materials should consist of fine to medium sand with less than 12% passing the No. 200 sieve, free of demolition debris, rubble, pavement remnants, organics, clay, debris and other unsuitable material and evaluated against project engineering requirements.

In general, the soils of Stratum 1 (SP/SP-SM) may be moved and used for grading purposes, site leveling, general engineering fill, structural fill and backfill in other areas, provided the fill is free of organic materials, clay, debris or any other material deemed unsuitable for construction and evaluated against engineering fill requirements.

Excavations

Excavations and temporary side slopes should comply with the Occupational Safety and Health Administration's (OSHA) trench safety standards, 29 C.F.R., s. 1926.650, Subpart P, all subsequent revisions or updates of OSHA's referenced standard adopted by the Department of Labor and Employment Security and Florida's Trench Safety Act, Section 553.62, Florida Statutes.

REPORT LIMITATIONS

The analyses, conclusions and recommendations contained in this report are professional opinions based on the site conditions and project layout described herein and further assume that the conditions observed in the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions elsewhere on the site are the same as those disclosed by the borings. If, during construction, subsurface conditions different from those encountered in the exploratory borings are observed or appear to be present beneath excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary.

If there is a substantial lapse in time between the submittal of this report and the start of work at the site, or if conditions or project layout are changed due to natural causes or construction operations at or adjacent to the site, we recommend that this report be reviewed to determine the applicability of conclusions and recommendations considering the changed conditions and time lapse.

This report was prepared for the exclusive use of Pasco County Sheriff's Office and their consultant for evaluating the design of the project as it relates to the geotechnical aspects discussed herein. It should be made available to prospective contractors for information on factual data only and not as a warranty of subsurface conditions included in this report. Unanticipated soil conditions may require that additional expense be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

Appendix

Boring Location Plan

Soil Profiles

GPR Survey Plan



NOTE: BASE MAP PROVIDED BY PASCO COUNTY SHERIFF'S OFFICE

BORING LOCATION PLAN



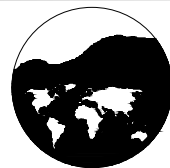
LEGEND

APPROXIMATE LOCATION OF SPT BORING

DRAWN BY:
SW
CHECKED BY:
TJ

APPROVED BY:
TEM
DATE:
JUL 2025

ENGINEER OF RECORD:
THOMAS E. MUSGRAVE, JR., P.E.
FLORIDA LICENSE NO.:
81669



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7351 Temple Terrace Highway
Tampa, Florida 33637
Phone: 813-989-1354 Fax: 813-989-1355

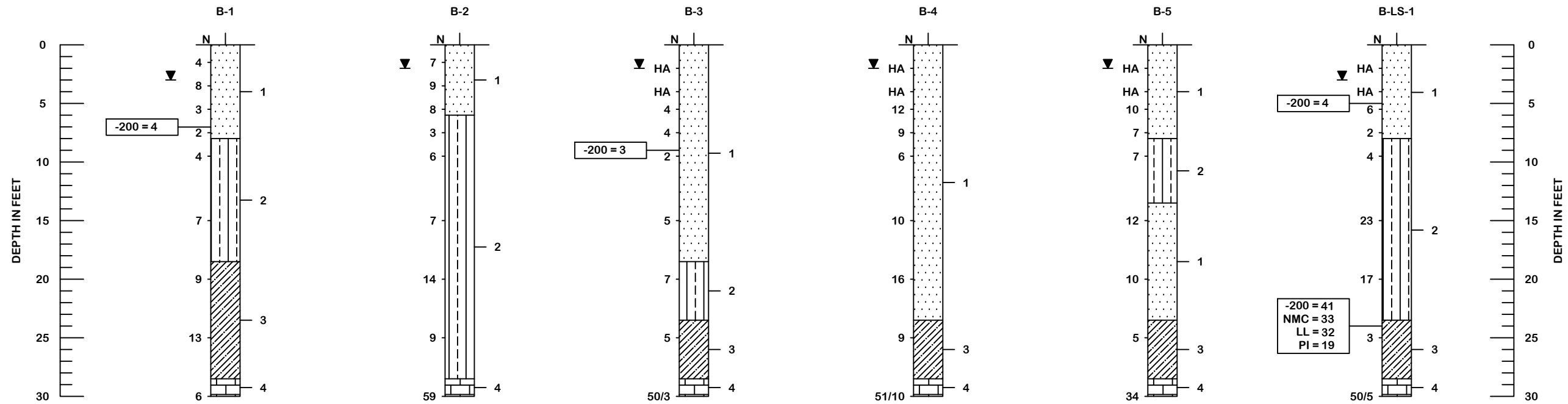
SCALE:
NOTED

PROJECT NUMBER:
6511-25-164

GEOTECHNICAL ENGINEERING SERVICES
PCSO BUILDING A
PASCO COUNTY, FLORIDA

SHEET 1

SOIL PROFILES



LEGEND

- 1 LIGHT BROWN TO GRAY SAND TO SAND WITH SILT (SP/SP-SM)
- 2 LIGHT BROWN TO GRAY SILTY SAND (SM)
- 3 LIGHT GRAY TO BROWN CLAYEY SAND (SC)
- 4 CALCAREOUS CLAY TO WEATHERED LIMESTONE

- ▼ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION
- N SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)
- SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW
- 50/4 NUMBER OF BLOWS FOR 4 INCHES OF PENETRATION
- HA HAND AUGERED TO VERIFY UTILITY CLEARANCES

- 200 PERCENT PASSING #200 SIEVE
- NMC NATURAL MOISTURE CONTENT (%)
- LL LIQUID LIMIT (%)
- PI PLASTICITY INDEX (%)

AUTOMATIC HAMMER	
GRANULAR MATERIALS- RELATIVE DENSITY	SPT (BLOWS/FT.)
VERY LOOSE	LESS THAN 3
LOOSE	3 TO 8
MEDIUM	8 TO 24
DENSE	24 TO 40
VERY DENSE	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT (BLOWS/FT.)
VERY SOFT	LESS THAN 1
SOFT	1 TO 3
FIRM	3 TO 6
STIFF	6 TO 12
VERY STIFF	12 TO 24
HARD	GREATER THAN 24

DRAWN BY:
SW

CHECKED BY:
TJ

APPROVED BY:
TEM

DATE:
JUL 2025

ENGINEER OF RECORD:
THOMAS E. MUSGRAVE, JR., P.E.
FLORIDA LICENSE NO.:
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GEOTECHNICAL ENGINEERING SERVICES
PCSO BUILDING A
PASCO COUNTY, FLORIDA

SHEET 2



NOTE: BASE MAP PROVIDED BY PASCO COUNTY SHERIFF'S OFFICE

GPR SURVEY PLAN



10 → PATH OF GPR TRANSECT LINES WITH DESIGNATION NUMBER (250 MHz ANTENNA)

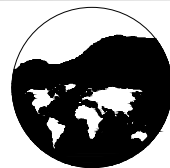
DRAWN BY:
SW

CHECKED BY:
TJ

APPROVED BY:
TEM

DATE:
JUL 2025

ENGINEER OF RECORD:
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GEOTECHNICAL ENGINEERING SERVICES
PCSO BUILDING A
PASCO COUNTY, FLORIDA

SHEET 3