GEOTECHNICAL EXPLORATION

Chipotle (Fishhawk Blvd)

16509 Fishhawk Blvd
Lithia, FL 33547
UES Project No. 0730.2400222
UES Document No. 2129542

Report Issuance Date: January 27, 2025

PREPARED FOR

Hill/Gray Seven LLC
415 S Orlando Avenue, Suite 221
Winter Park, Florida 32789

PREPARED BY

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UES™ Grounded in Excellence

January 27, 2025

Hill/Gray Seven LLC
415 S Orlando Avenue, Suite 221
Winter Park, Florida 32789

Attention: Drew Hill

Reference: **Geotechnical Exploration**
Chipotle (Fishhawk Blvd)
16509 Fishhawk Blvd
Lithia, FL 33547
UES Project No. 0730.2400222

UES has completed geotechnical explorations at the above-referenced site in Lithia, FL 33547. Our scope of services was in general accordance with UES Proposal #2125231, dated and authorized by you on December 30, 2024.

This report contains the results of our study, an engineering interpretation of the subsurface data obtained with respect to the project characteristics described to us, geotechnical design recommendations, and general construction and site preparation considerations.

We appreciate the opportunity to have worked with you on this project. Please do not hesitate to contact us if you should have any questions, or if we may further assist you as your plans proceed.

Respectfully submitted,

UES
Certificate of Authorization No. 549

JAMES FECHET STEPHENSON, III
LICENSE
No. 86378
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Digitally signed by James F Stephenson
Date: 2025.01.27 17:36:06 -05'00'

Pavan Kolukula, P.E.
Geotechnical Department Manager

James Stephenson, P.E.
Project Manager
Professional Engineer No. 86378
Date: January 27, 2025

This item has been digitally signed and sealed by James Stephenson, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 General

UES has completed a geotechnical evaluation of the site of the proposed Chipotle restaurant, located on 16509 Fishhawk Blvd in Lithia, Hillsborough County, Florida. This report contains the results of our study, an engineering interpretation of the subsurface data obtained with respect to the project characteristics described to us, and our recommendations for geotechnical design and general site preparation. Our scope of services was in general accordance with UES Proposal #2135231, dated and authorized by you on December 30, 2024.

1.2 Project Description

We understand that the repurposing of the existing building and the construction of new paved drive-thru lanes and parking areas. To aid in our exploration, we were provided with a copy of the Conceptual Site Plan.

Our geotechnical recommendations are based upon the above stated assumptions and considerations. If any of this information is incorrect or if you anticipate any changes, please inform UES so that we may review our recommendations, and make revisions as needed.

A Site Location Map is presented in **Figure 1**, an Aerial Photograph is provided in **Figure 2,** A USGS Site Topographic Map is presented in **Figure 3**, and Soil Survey Map is presented in **Figure 4.**

2.0 PURPOSE AND METHODOLOGIES

2.1 Purpose

The purpose of our services was:

- to explore the general subsurface conditions at the site using Standard Penetration Test (SPT) borings;
- to interpret and review the subsurface conditions with respect to the proposed construction as it was described to us; and
- to provide geotechnical engineering design information and recommendations, and general recommendations for site preparation.

This report presents an evaluation of site conditions on the basis of traditional geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards.

Our study was confined to the zone of soil likely to be influenced by the proposed structural foundation and pavement systems. Our scope of services did not address the potential for surface expression of deep geological conditions, such as sinkhole development related to karst activity.

2.2 Field Exploration

The subsurface conditions within the proposed drive through area were explored with a three (3) borings, each completed to depths between 10 and 15 feet below existing grade. These borings were advanced using the rotary wash method, and samples were collected while performing the SPT at regular intervals.

We performed the SPT test in general accordance with ASTM D1586. However, at depths of 10 feet or less we sampled continuously in order to detect slight variations in the soil profile. In general, a standard split-barrel sampler (split-spoon) is driven into the soil using a 140-pound hammer free-falling 30 inches. The number of hammer blows required to drive the sampler 12 inches, after first seating it 6 inches, is designated the penetration resistance, or N value. This value is used as an index to soil strength and consistency. The top 4 feet of all the SPT borings were advanced using a hand auger. This technique is a part of our safety procedure due to proximity of underground utility lines that may not have been located by Sunshine 811 as requested.

Consider the indicated locations and depths to be approximate. Our drilling crew located the borings based upon estimated distances and taped measurements from existing site features or GPS coordinates using a handheld GPS device. If more precise location and elevation data are desired, a registered professional land surveyor should be retained to locate the borings and determine their ground surface elevations. The Boring Location Plan is presented in Appendix B.

Unless other arrangements are agreed upon in writing, UES will store recovered soil samples for no more than 60 calendar days from the date of the report. After that date, UES will dispose of all samples.

2.3 Laboratory Testing

The soil samples recovered from the test borings were returned to our laboratory and visually classified by our technical staff. In order to further classify the soils at the site, we selected representative samples from our soil borings for laboratory analyses. In all, we performed the following tests.

- One (1) Moisture Content Test
- One (1) Wash 200 Analysis

The laboratory test results are presented on the Boring Logs in Appendix B, next to the soil samples tested.

3.0 FINDINGS

3.1 Surface Conditions

UES reviewed readily available aerial photographs, United States Geological Survey (USGS) topographic quadrangle maps, and the United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) Soil Survey of Hillsborough County for relevant information about the site. According to USGS topographic information, the ground elevation across the property is on the order of +90 feet National Geodetic Vertical Datum (NGVD).

3.2 Subsurface Conditions

3.2.1 Soil Survey

According to USDA-NRCS Soil Survey of Hillsborough County, there is one native, surficial soil group underlying this site. A summary of selected properties for the identified soil groups on the site is included below in Table 1. The location of these groups can be observed on the Soil Survey Map provided in **Figure 4**.

TABLE 1: SUMMARY OF SOIL INFORMATION

Soil Map Unit & Name	Hydrologic Soil Group	Drainage Characteristics	Depth of Published Seasonal High GWT (feet)
29-Myakka fine sand, 0 to 2 percent slopes	A/D	Poorly Drained	0.5 to 1.5

For all purposes the subject tract of land can be considered Urban land. Urban land consists of miscellaneous areas that are covered by concrete asphalt, buildings or other impervious surfaces that obscure or alter the soils so that identification is not feasible.

3.2.2 Soil Borings

The boring locations and detailed subsurface conditions are illustrated on the Boring Location Plan and the Boring Logs presented in **Appendix A**. The classifications and descriptions shown on the logs are based upon visual characterizations of the recovered soil samples. Please refer to the Soils Classification Chart, for further explanation of the symbols and placement of data on the Boring Logs. The general subsurface soil profile on the site, based on the soil boring information, is described below. For more detailed information, please refer to the boring logs.

Below the existing pavement, the borings generally encountered poorly graded sand [SP] to the maximum termination depth of 15 feet below existing grade. Boring B-2 encountered a layer of clayey sand [SC] between 4 to 6 feet below existing grade.

The sandy soils were typically classified as loose to medium dense. The water table was encountered at approximately 9 feet below existing grade in borings B-1 and B-3, and was not encountered within the upper 10 feet in boring B-2, measured upon first encounter. These readings were unstabilized and are subject to fluctuation.

One (1) Constant Head Permeability Tests was completed on a soil sample collected at boring B-3. The test generally followed the ASTM D2434 guidelines, and was performed on samples from a depth of 4 to 6 feet below existing grade. The test results are presented in Table 2 below. Additionally, we have presented the estimated saturated horizontal hydraulic conductivity as well. We also estimate the porosity of the soils tested to be about 25 percent.

TABLE 2: PERMEABILITY TEST RESULTS

Relevant Boring Log	Measured Saturated Vertical Hydraulic Conductivity (in/hr)	Estimated Saturated Horizontal Hydraulic Conductivity (in/hr)
B-03	5	7.5

The boring logs and related information included in this report are indicators of subsurface conditions only at the specific locations and times noted. Subsurface conditions, including groundwater levels and the presence of deleterious materials, at other locations on the site may differ significantly from conditions which, in the opinion of UES, exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

4.0 RECOMMENDATIONS

4.1 General

In this section of the report we present our geotechnical design recommendations, general site preparation recommendations and information pertaining to the construction related services UES can provide. Our recommendations are made based upon a review of the attached soil test data, our understanding of the proposed construction as it was described to us, and our stated assumptions. If the site layout differs from that provided to us, we should be retained to review the new or updated information and amend our recommendations with respect to those changes. Additionally, if subsurface conditions are encountered during construction that were not encountered in the test borings, report those conditions immediately to us for observation and recommendations.

4.2 Groundwater

Based upon our visual inspection of the recovered soil samples, review of information obtained from Southwest Florida Water Management District (SWFWMD) and the USDA-NRCS Soil Survey of Hillsborough County, and our knowledge of local and regional hydrogeology, our best estimate is that the seasonal high groundwater table (SHWT) is estimated to be 6 feet below the existing grade at the test boring locations.

It should be noted that the estimated SHWT does not provide any assurance that groundwater levels will not exceed this level in the future. Should impediments to surface water drainage exist on the site, or should rainfall intensity and duration exceed the normally anticipated amounts, groundwater levels may exceed our seasonal high estimate. Also, future development around the site could alter surface runoff and drainage characteristics, and cause our seasonal high estimate to be exceeded. We therefore recommend positive drainage be established and maintained on the site during construction. Further, we recommend permanent measures be constructed to maintain positive drainage from the site throughout the life of the project. Finally, we recommend all foundation and pavement grades account for the seasonal high groundwater conditions.

Temporary dewatering may be required for some parts of this site if construction proceeds during the wet season, particularly if deep excavations are necessary or if pumping of the surficial materials is experienced during earthwork operations. Where they were encountered, sands with silts (SP-SM), silty fine sands (SM), and clayey sands (SC) near the surface may be prone to pumping in response to normal construction vehicular traffic and earthwork operations. Therefore, we recommend that the contract documents provide for determining the depth to the groundwater table just prior to construction, and for any required remedial dewatering. Further, we recommend that the groundwater table be maintained at least 24 inches below all earthwork and compaction surfaces.

4.3 Pavement Sections

4.3.1 Assumptions

We assume that a combination of flexible asphaltic and rigid concrete pavement sections will be used on this project. Our recommendations for both pavement types are listed in the following sections.

At the time of this exploration, specific traffic loading information was not provided to us. We have assumed the following conditions for our recommended minimum pavement design.

- the subgrade soils prepared as recommended
- resilient modulus of 7,500 psi (LBR = 20)
- a twenty (20) year design life
- terminal serviceability index (P_t) of 2.5
- reliability of 85 percent
- total equivalent 18 kip single axle loads (ESAL) up to 35,000 for light duty pavements - car and pickup truck traffic
- total ESAL up to 150,000 for heavy duty pavements – occasional heavy truck traffic (delivery, trash collection, service lanes, etc.)

4.3.2 Layer Components

For preliminary pavement designs, we recommend using a three-layer pavement section Based on the results of our soil borings, the assumed traffic loading information and review of the 2020 Florida Department of Transportation (FDOT) Flexible Pavement Design Manual, our minimum recommended pavement component thicknesses are presented in Table 3.

TABLE 3: MINIMUM ASPHALTIC PAVEMENT COMPONENT THICKNESS

Service Level	Maximum Traffic Loading	Layer Component		
		Surface Course (Inches	Base Course (Inches)	Stabilized Subgrade (Inches)
Light Duty	up to 35,000 $E_{18}SAL$	1 ½	6	12
Heavy Duty	up to 150,000 $E_{18}SAL$	2	8	12

4.3.3 Stabilized Subgrade

We recommend that the stabilized subgrade materials immediately beneath the base course exhibit a minimum Limerock Bearing Ratio (LBR) of 40 as specified by FDOT, or a minimum Florida Bearing Value (FBV) of 75 psi, compacted to at least 98 percent of the MPMDD per ASTM D1557.

Stabilized subgrade can be imported materials or a blend of on-site and imported materials. If a blend is proposed, we recommend that the contractor perform a mix design to find the optimum mix proportions.

Compaction testing of the stabilized subgrade should be performed to full depth at a frequency of at least one (1) test per 10,000 square feet, or a minimum of 3 tests, whichever is greater.

4.3.4 Base Course

We recommend using either limerock* or a crushed concrete base course material. Crushed concrete generally provides a cost-effective alternative material in lieu of limerock and is particularly resistant to adverse effects from high groundwater conditions. With either option, at least 12 inches of free-draining subgrade must exist below the base course to prevent moisture-induced base failure.

The base utilized should have a minimum LBR of 100, and should meet current FDOT requirements for graded aggregate base. Place the base in maximum 6-inch lifts and compact each lift to at least 98% MPMDD per ASTM D1557.

Perform compliance base density testing to a depth of 1-foot at a frequency of one test per 10,000 square feet, or at a minimum of three test locations, whichever is greater.

Note: If limerock base material is to be used, adequate separation between groundwater and the base must be maintained (see Section 4.4.7). Limerock is highly moisture sensitive and becomes unstable when saturated. Therefore, if the guidelines discussed in Section 4.4.7 cannot be met, the use of limerock base on this project is not recommended.

4.3.5 Flexible Surface Course

In light duty areas where there is occasional truck traffic, but primarily passenger cars, we recommend that the surfacing consist of FDOT SuperPave (SP) asphaltic concrete. The surface course should consist of FDOT SP-9.5 fine mix for light-duty areas and FDOT SP-12.5 and/or SP-9.5 fine mix for heavy duty areas. The asphaltic concrete should be compacted to an average field density of 93 percent of the laboratory maximum density determined from specific gravity (G_{mm}) methods, with an individual test tolerance of ±2 percent. Specific requirements for the SuperPave asphaltic concrete structural course are outlined in the latest edition of FDOT, Standard Specifications for Road and Bridge Construction.

After placement and field compaction, the surfacing should be cored to evaluate material thickness and density. Cores should be obtained at frequencies of at least one (1) core per 10,000 square feet of placed pavement or a minimum of two (2) cores per day's production.

4.3.6 Rigid Pavement Options

In heavily loaded and/or high traffic areas such as aprons and garbage corrals we recommend using a rigid pavement system for increased strength and durability and for longer life. Portland cement concrete pavement is a rigid system that distributes wheel loads to the subgrade soils over a larger area than a flexible asphalt pavement. This results in reduced localized stress to the subgrade soil. We recommend using a compacted subgrade below concrete pavement with the following stipulations:

1. Subgrade soils must be densified to at least 98% MPMDD to a depth of at least 1-foot directly below the bottom of concrete slab.

2. The surface of the subgrade soils must be smooth, and any disturbances or wheel rutting corrected prior to placement of concrete.

3. The subgrade soils must be moistened prior to placement of concrete.

4. Concrete pavement thickness should be uniform throughout, with exception to the thickened edges (curb or footing).

5. The bottom of the pavement should be separated from the estimated seasonal high groundwater level by at least 12 inches.

Our recommendations on slab thickness for standard duty concrete pavements are based on (1) the subgrade soils densified to at least 98% MPMDD, (2) modulus of subgrade reaction (k) equal to 150 pci, (3) a 30-year design life, and (4) total equivalent 18 kip single axle loads (ESAL) of 45,000. We recommend using the design shown in the following table for standard duty concrete pavements.

TABLE 4: RIGID COMPONENT RECOMMENDATIONS – LIGHT DUTY

Minimum Pavement Thickness	Maximum Control Joint Spacing	Minimum Sawcut Depth
5 inches	10 feet x 10 feet	1.25 inches

Our recommendations on slab thickness for heavy duty concrete pavements are based on the same factors as above with the exception of the total ESAL increased to 300,000. Our recommended design for heavy duty concrete pavement is shown in Table 5 below.

TABLE 5: RIGID COMPONENT RECOMMENDATIONS – HEAVY DUTY

Minimum Pavement Thickness	Maximum Control Joint Spacing	Minimum Sawcut Depth
6 inches	14 feet x 14 feet	1.5 INCHES

For both standard duty and heavy duty rigid pavement sections, we recommend using normal weight concrete having a 28 day compressive strength (f'_c) of 4,000 psi, and a minimum 28-day flexural strength (modulus of rupture) of at least 600 psi (based on the 3 point flexural test of concrete beam samples).

Layout of the sawcut control joints should form square panels, and the depth of sawcut joints should be at least ¼ of the concrete slab thickness.

We recommend allowing UES to review and comment on the final concrete pavement design, including section and joint details (type of joints, joint spacing, etc.), prior to the start of construction.

For further details on concrete pavement construction, please reference the "Guide to Jointing of Non-Reinforced Concrete Pavements" published by the Florida Concrete and Products Association, Inc., and "Building Quality Concrete Parking Areas," published by the Portland Cement Association.

4.3.7 Effects of Groundwater

One of the most critical influences on pavement performance in Florida is the relationship between the pavement subgrade and the seasonal high groundwater level.

It has been our experience that many roadways and parking areas have been damaged as a result of deterioration of the base and the base/surface course bond due to moisture intrusion. Regardless of the type of base selected, we recommend that the seasonal high groundwater and the bottom of the base course be separated by at least 24-inches for limerock or 12-inches for crushed concrete, in conjunction with underdrains.

At this site pavement constructed on or above existing grade should meet the minimum required separation.

4.3.8 Curbing

Most pavement curbing is currently extruded curb which lies directly atop of the final asphaltic concrete surface course. Use of extruded curb or elimination of curb entirely, can allow lateral migration of irrigation water from the abutting landscape areas into the base and/or interface between the asphaltic concrete and base. This migration of water may cause base saturation and failure, and/or separation of the asphaltic concrete wearing surface from the base with subsequent rippling and pavement deterioration. For extruded curbing, we recommend that underdrain be installed behind the curb wherever anticipated storm, surface or irrigation waters may collect. In addition, landscape islands should be drained of excess water buildup using an underdrain system. Alternatively, we recommend that curbing around the landscape sections adjacent to the parking lots be constructed using full depth curb sections.

4.3.9 Underdrains

When deemed necessary underdrains should consist of 6-inch perforated plastic pipe wrapped in a drain sock. The pipe should be surrounded by filter material meeting FDOT requirement Section 902.2. The pipe should be encased within filter material with at least 6 inches below, 6 inches above, and 6 inches around each side. The invert of the drain pipe should be located at least 36 inches below the bottom of the pavement base course. For parallel underdrains, the center to center spacing of the pipes should be no greater than 15 feet.

Additional underdrain action can be achieved by bedding any stormwater pipe trenches with coarse gravel, such as FDOT #57 stone, beneath the pipes for at least 6 inches and for at least 6 inches up the sides of the pipes.

4.3.10 Construction Traffic

Light duty roadways and incomplete pavement sections will not perform satisfactorily under construction traffic loadings. We recommend that construction traffic (construction equipment, concrete trucks, sod trucks, garbage trucks, dump trucks, etc.) be re-routed away from these roadways or that the pavement section be designed for these loadings.

4.4 Site Preparation

We recommend normal, good-practice site preparation procedures. These procedures include clearing and grubbing the site, proof-rolling and proof-compacting the subgrade, and filling to grade with engineered fill as needed.

A more detailed synopsis of this work is as follows:

1. If required, perform remedial dewatering prior to any earthwork operations. We recommend temporary dewatering to reduce the likelihood of pumping of the shallow subgrade soils during normal construction operations. Maintain groundwater levels at least 24 inches below the lowest anticipated cut and/or all compaction surfaces.

2. Strip the proposed construction limits of all grass, roots, topsoil, construction debris, and other deleterious materials within and 5 feet beyond the perimeter of all paved areas. Expect clearing and grubbing to depths of 6 inches, on average. Deeper clearing and grubbing depths may be required where major root systems are encountered.

3. Proof-roll the subgrade with a heavily loaded, rubber-tired vehicle under the observation of a UES geotechnical engineer or his representative. Proof-rolling will help locate any zones of especially loose or soft soils not encountered in the soil test borings. Then undercut, or otherwise treat these zones as recommended by the engineer.

4. Prior to any filling of the site, proof-compact the subgrade from the surface using suitable compaction equipment, until you obtain a minimum density of 95% MPMDD to a depth of 2 feet below stripped grade. In order to achieve the required degree of compaction, the soils may need to be moisture conditioned until the in-situ water content is within +/- 2% of the optimum moisture content (OMC).

5. Test the stabilized subgrade for full depth at a frequency of one test per 10,000 square feet, or at a minimum of two test locations, whichever is greater.

6. Place fill material, as required. The fill should consist of fine to medium sand with less than 5 percent soil fines. You may use fill materials with soil fines between 5 and 12 percent, but strict

moisture control may be required. Place fill in uniform 10 to 12 inch loose lifts and compact each lift to a minimum density of 95% MPMDD at a moisture content of +/- 2% of OMC. In paved areas, the stabilized subgrade materials immediately beneath the base course should be compacted to at least 98% MPMDD.

7. Fill material with soil fines up to 35 percent may be utilized, however these soils will be sensitive to even slight changes in moisture content and may prove difficult to compact if the in-situ moisture contents are greater than about 2 percent above or below the optimum moisture content. These soils will need to be placed in 6-inch loose lifts. Specialty equipment such as sheep's foot rollers will be required to achieve proper compaction. Disking will also be useful to breakdown larger clods of clayey soils. The placement and compaction of moisture sensitive soils of this type will require time and effort beyond that typically associated with sandy soils. A grading contractor experienced with placing and compaction of clayey soils can likely reduce costly project delays due to soil conditions.

8. Perform compliance tests within the fill at a frequency of not less than one test per 10,000 square feet per lift, or at a minimum of two test locations, whichever is greater.

4.5 Construction Related Services

UES operates and maintains an in-house, FDOT certified Construction Materials Testing laboratory. Our technicians are highly trained and experienced, and our engineering staff is already familiar with the details of your project. Therefore, we recommend the owner retain UES to perform construction materials testing and field observations on this project. This includes monitoring all stripping and grading, observation of foundation excavation and construction, verification of pavement subgrade and all other construction testing and inspection services that may be needed on this project.

The geotechnical engineering design does not end with the advertisement of the construction documents. It is an on-going process throughout construction. Because of our familiarity with the site conditions and the intent of the engineering design, our engineers are the most qualified to address problems that might arise during construction in a timely and cost-effective manner.

Using vibratory compaction equipment at this site may disturb adjacent structures. We recommend you monitor nearby structures before and during proof-compaction. If disturbance is noted, halt vibratory compaction and inform UES immediately. We will review the compaction procedures and evaluate if the compactive effort results in a satisfactory subgrade complying with our original design assumptions.

5.0 LIMITATIONS

This report has been prepared for the exclusive use of **Hill/Gray Seven LLC** for the specific project discussed in this report. No other site or project facilities should be designed using the soil information contained in this report. As such, UES will not be responsible for the performance of any other site improvement designed using the data in this report.

This report should not be relied upon for final design recommendations or professional opinions by unauthorized third parties without the expressed written consent of UES. Unauthorized third parties that rely upon the information contained herein without the expressed written consent of UES assume all risk and liability for such reliance.

The recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated on the Boring Location Plan and from other information as referenced. This report does not reflect any variations which may occur between the boring locations. The nature and extent of such variations may not become evident until the course of construction. If variations become evident, it will then be necessary for a re-evaluation of the recommendations of this report after performing on-site observations during the construction period and noting the characteristics of the variations.

Borings for a typical geotechnical report are widely spaced and generally not sufficient for reliably detecting the presence of isolated, anomalous surface or subsurface conditions, or reliably estimating unsuitable or suitable material quantities. Accordingly, UES does not recommend relying on our boring information for estimation of material quantities unless our contracted services specifically include sufficient exploration for such purpose(s) and within the report we so state that the level of exploration provided should be sufficient to detect anomalous conditions or estimate such quantities. Therefore, UES will not be responsible for any extrapolation or use of our data by others beyond the purpose(s) for which it is applicable or intended.

All users of this report are cautioned that there was no requirement for UES to attempt to locate any man-made buried objects or identify any other potentially hazardous conditions that may exist at the site during the course of this exploration. Therefore, no attempt was made by UES to locate or identify such concerns. UES cannot be responsible for any buried man-made objects or environmental hazards which may be subsequently encountered during construction that are not discussed within the text of this report. We can provide this service if requested.

During the early stages of most construction projects, geotechnical issues not addressed in this report may arise. Because of the natural limitations inherent in working with the subsurface, it is not possible for a geotechnical engineer to predict and address all possible problems. Geotechnical Business Council of the Geoprofessional Business Association (GBA) publication, "Important Information about This Geotechnical-Engineering Report" appears in **Appendix B**, and will help explain the nature of geotechnical issues.

FIGURES

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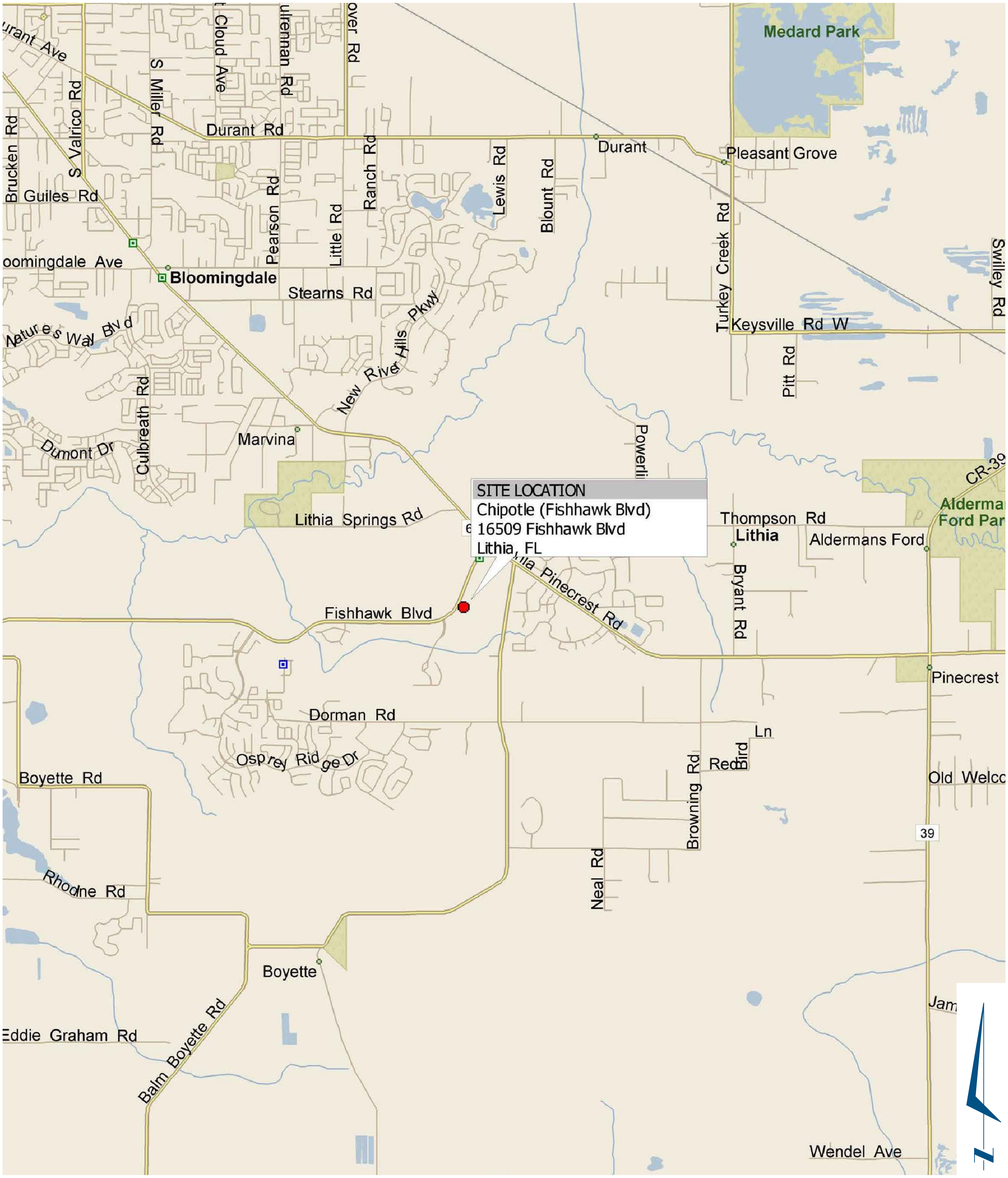


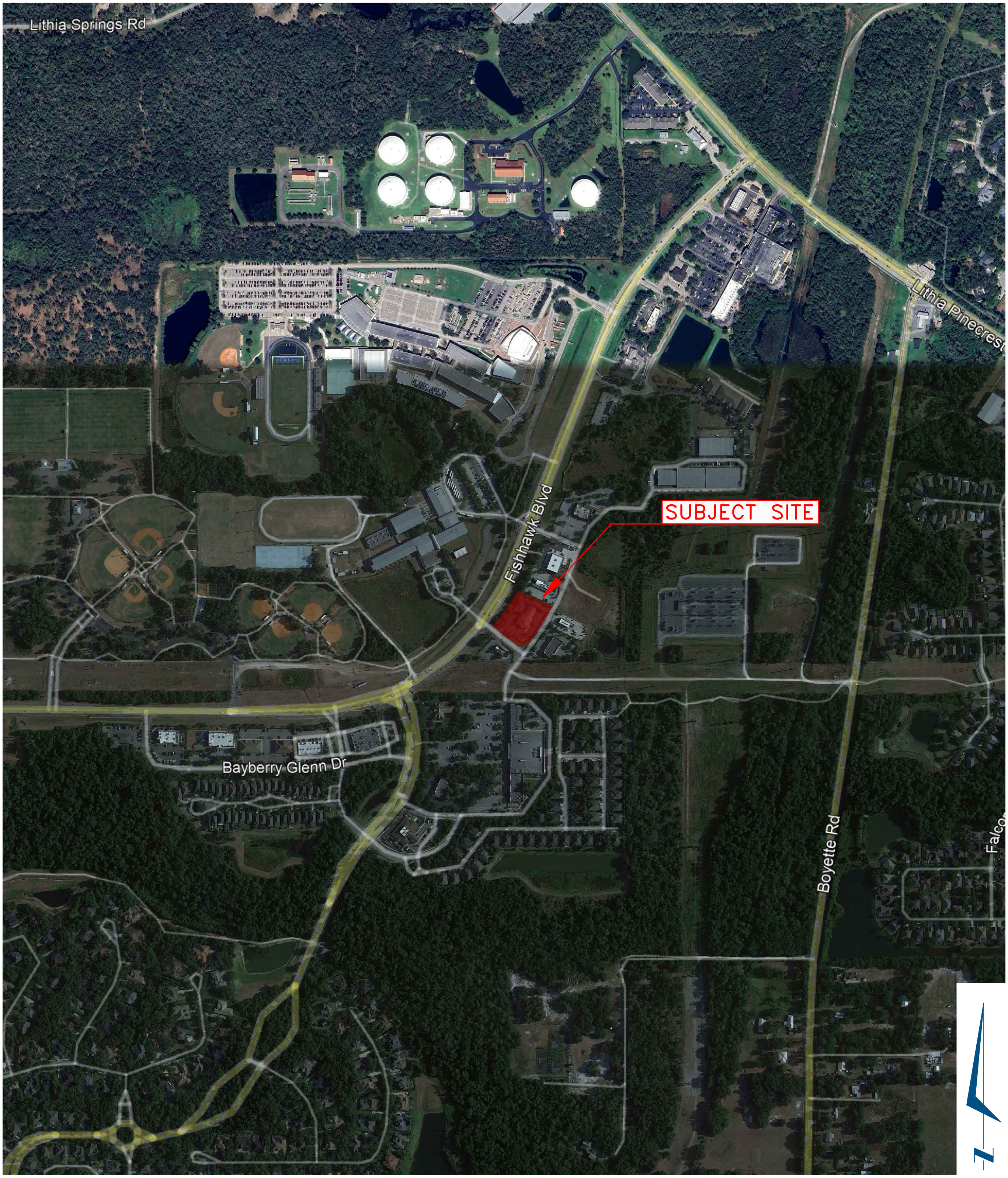
CHIPOTLE (FISHHAWK BLVD)
16509 FISHHAWK BLVD
LITHIA, HILLSBOROUGH COUNTY, FLORIDA

SITE LOCATION MAP

UES™

REVIEWED BY: JS	CLIENT: HILL GRAY SEVEN			
PROJECT No: 0730.2400222	DRILLING DATE: 1/8/2025	DRAWING DATE: 1/13/2025	DRAWN BY: SC	SCALE:

FIGURE 1



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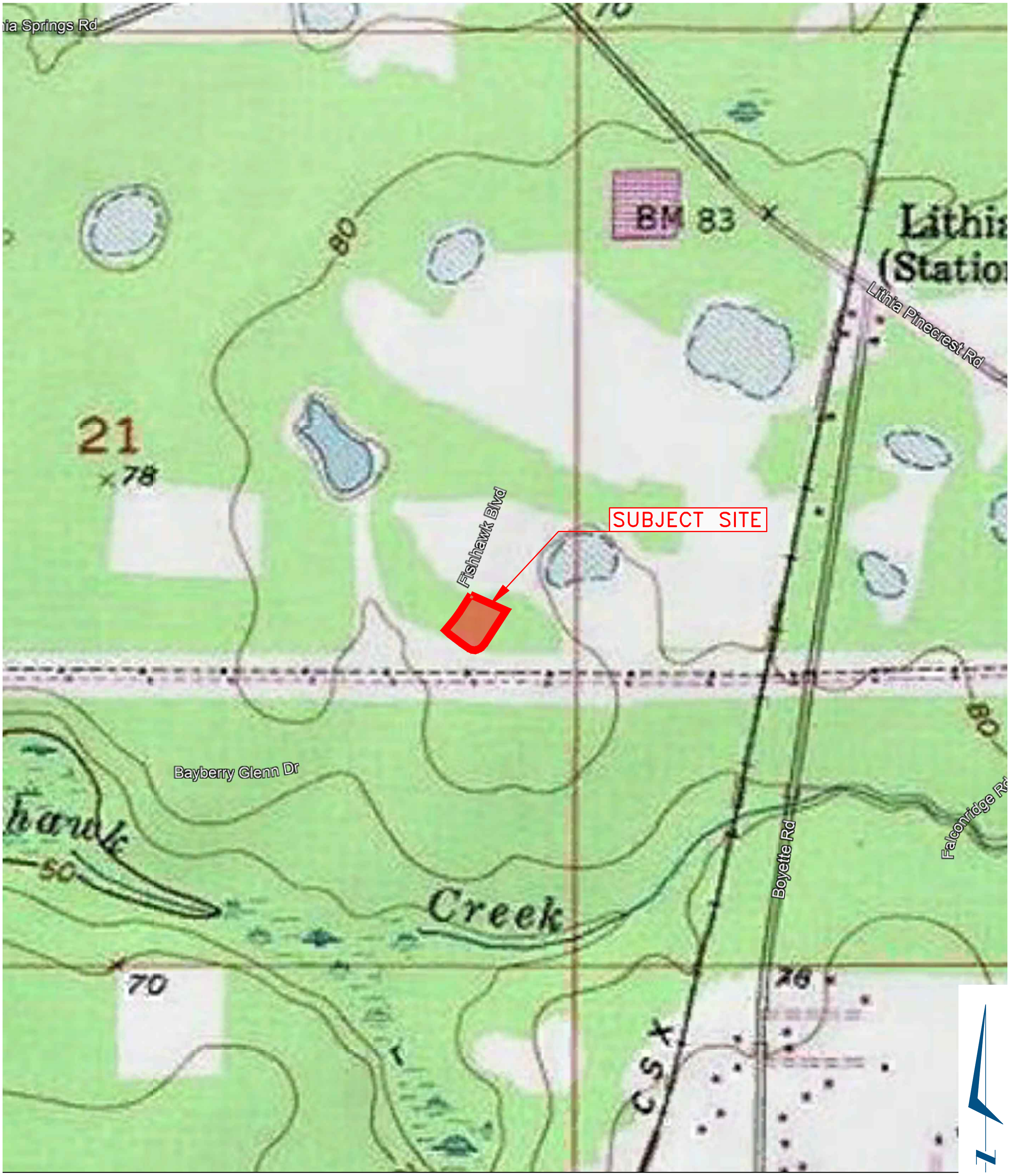
CHIPOTLE (FISHHAWK BLVD)
16509 FISHHAWK BLVD
LITHIA, HILLSBOROUGH COUNTY, FLORIDA

SITE AERIAL PHOTOGRAPH

FIGURE 2

REVIEWED BY: JS	CLIENT: HILL GRAY SEVEN			
PROJECT No: 0730.2400222	DRILLING DATE: 1/8/2025	DRAWING DATE: 1/13/2025	DRAWN BY: SC	SCALE:



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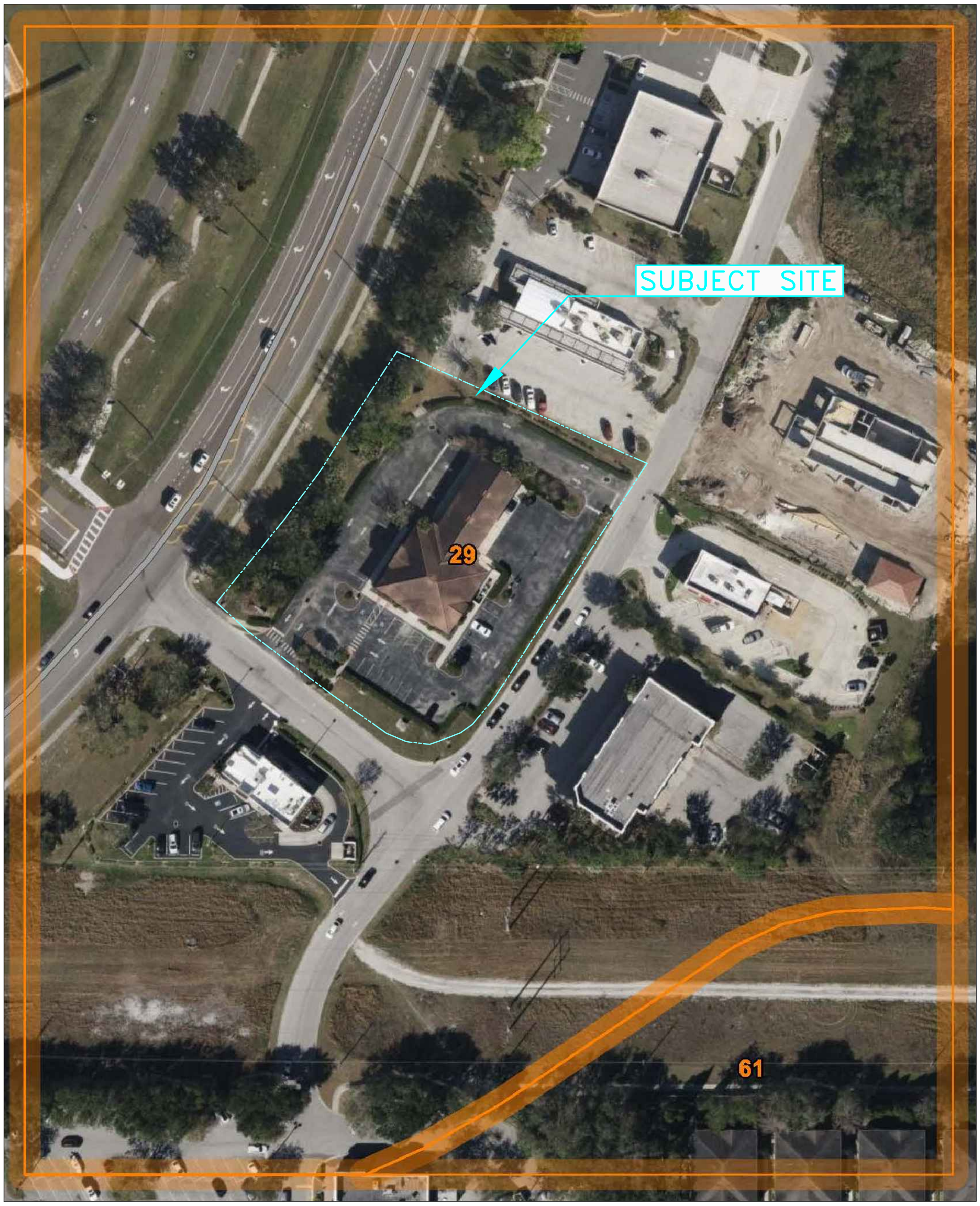
CHIPOTLE (FISHHAWK BLVD)
16509 FISHHAWK BLVD
LITHIA, HILLSBOROUGH COUNTY, FLORIDA

SIDE TOPOGRAPHIC MAP

REVIEWED BY: JS	CLIENT: HILL GRAY SEVEN			
PROJECT No: 0730.2400222	DRILLING DATE: 1/8/2025	DRAWING DATE: 1/13/2025	DRAWN BY: SC	SCALE:

FIGURE 3



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
29	Myakka fine sand, 0 to 2 percent slopes	14.1	91.0%
61	Zolfo fine sand, 0 to 2 percent slopes	1.4	9.0%
Totals for Area of Interest		**15.5**	**100.0%**

LEGEND

Area of interest (AQI)

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CHIPOTLE (FISHHAWK BLVD)
16509 FISHHAWK BLVD
LITHIA, HILLSBOROUGH COUNTY, FLORIDA

SOIL SURVEY MAP

FIGURE 4

REVIEWED BY: JS | CLIENT: HILL GRAY SEVEN

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APPENDIX A

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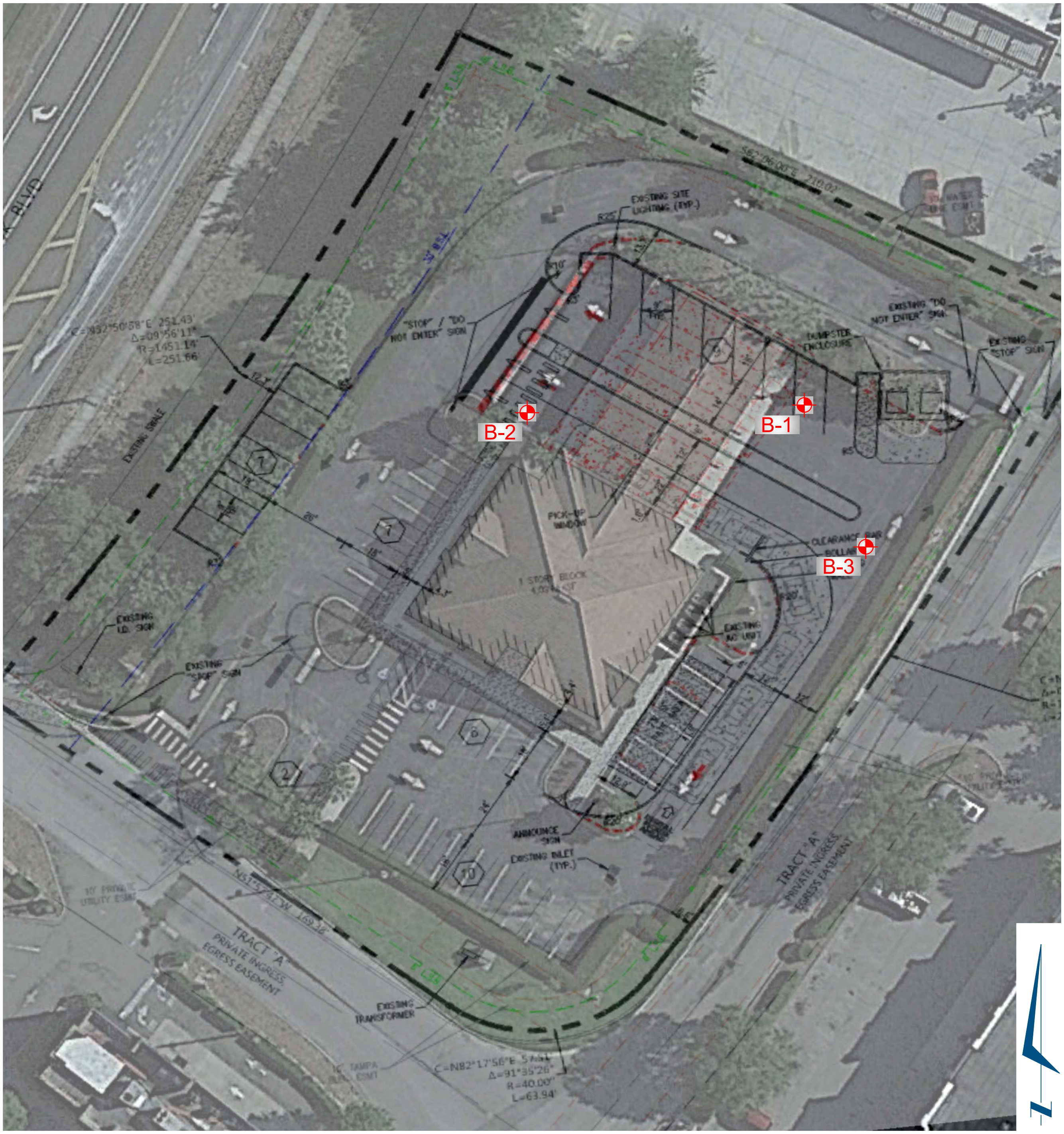


LEGEND

B-1 Approximate SPT boring location

![UES logo]

CHIPOTLE (FISHHAWK BLVD) 16509 FISHHAWK BLVD LITHIA, HILLSBOROUGH COUNTY, FLORIDA				
BORING LOCATION PLAN				APPENDIX: A
REVIEWED BY: JS	CLIENT: HILL GRAY SEVEN			
PROJECT No: 0730.2400222	DRILLING DATE: 1/8/2025	DRAWING DATE: 1/13/2025	DRAWN BY: SC	SCALE:

UES
9802 Palm River Road
Tampa, Florida 33619
(813) 740-8506

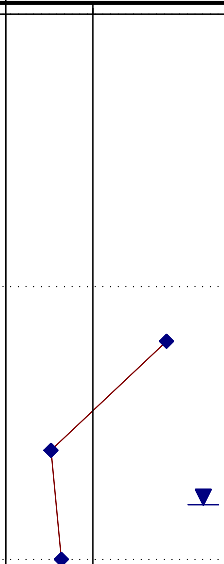
BORING LOG

PROJECT NO.: 0730.2400222
APPENDIX:
PAGE: 1

PROJECT: Chipotle (Fishhawk Blvd) - Lithia
16509 Fishhawk Blvd
Lithia, Hillsborough County, Florida
ENGINEER: James F. Stephenson, P.E.
CLIENT: Hill Gray Seven
LOCATION: SEE BORING LOCATION PLAN
REMARKS:

BORING DESIGNATION: **B-1** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:
ELEVATION: DATE STARTED: 1/8/2024
WATER TABLE (ft): 9.0 DATE FINISHED: 1/8/2024
DATE OF READING: 1/8/2024 DRILLED BY: UES
EST. W.S.W.T. (ft): TYPE OF SAMPLING: SPT

DEPTH (ft)	BLOWS PER 6"	N (bpf)	DESCRIPTION	-200 (%)	MC (%)	LL	PL	PI	ORG (%)
0			Asphaltic concrete pavement (2" of asphalt over)						
			Light brown sand (SP)						
			-Light brown						
			-Brownish gray						
5									
	17-22-24-23	46	-Light brown						
	8-7-6-7	13							
10	7-8-8-8	16							
			Boring terminated at 10 ft.						



UES
9802 Palm River Road
Tampa, Florida 33619
(813) 740-8506

BORING LOG

PROJECT NO.: 0730.2400222
APPENDIX:
PAGE: 2

PROJECT: Chipotle (Fishhawk Blvd) - Lithia
16509 Fishhawk Blvd
Lithia, Hillsborough County, Florida

ENGINEER: James F. Stephenson, P.E.

CLIENT: Hill Gray Seven

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: **B-2**
SHEET: **1 of 1**
SECTION:
TOWNSHIP:
RANGE:

ELEVATION:
WATER TABLE (ft): >10.0
DATE OF READING: 1/8/2024
EST. W.S.W.T. (ft):

DATE STARTED: 1/8/2024
DATE FINISHED: 1/8/2024
DRILLED BY: UES
TYPE OF SAMPLING: SPT

DEPTH (ft)	SAMPLE	BLOWS PER 6"	N (bpf)	SPT-N vs DEPTH (bpf) 0 25 50	GWT	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	PL	PI	ORG (%)
0							Asphaltic concrete pavement (2" of asphalt over)						
							Light brown sand with limestone base (SP) - FILL						
							Grayish brown sand (SP)						
							-Light brown clayey sand (SC)						
5								14.3	11.2				
		7-7-5-7	12				Brown sand (SP)						
		9-5-5-4	10				-Light brown						
10		6-5-8-7	13				Boring terminated at 10 ft.						

ALT UES BORING LOG 730.2400222 - CHIPOTLE (FISHHAWK BLVD).GPJ UES_NEW.GDT 1/14/25

UES
9802 Palm River Road
Tampa, Florida 33619
(813) 740-8506

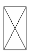
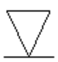
BORING LOG

PROJECT:	Chipotle (Fishhawk Blvd) - Lithia 16509 Fishhawk Blvd Lithia, Hillsborough County, Florida	BORING DESIGNATION:	**B-3**
		SHEET:	**1 of 1**
		SECTION:	
		TOWNSHIP:	
		RANGE:	
ENGINEER:	James F. Stephenson, P.E.	ELEVATION:	
		DATE STARTED:	1/8/2024
CLIENT:	Hill Gray Seven	WATER TABLE (ft):	9.0
		DATE FINISHED:	1/8/2024
LOCATION:	SEE BORING LOCATION PLAN	DATE OF READING:	1/8/2024
		DRILLED BY:	UES
REMARKS:		EST. W.S.W.T. (ft):	
		TYPE OF SAMPLING:	SPT

DEPTH (ft)	SAMPLE	BLOWS PER 6"	N (bpf)	SPT-N vs DEPTH (bpf)	GWT	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	PL	PI	ORG (%)
0							Asphaltic concrete pavement (2" of asphalt over)						
							Brown sand (SP)						
							-Brown/light brown						
							-Dark gray						
5													
	X	9-10-14-16	24				-Light brown						
	X	10-7-7-8	14										
					▼ (9.0)								
10	X	6-6-8-8	14										
15	X	8-8-9	17				Boring terminated at 15 ft.						

KEY TO BORING LOGS

SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION
N-Value	No. of Blows of a 140-lb. Weight Falling 30 Inches Required to Drive a Standard Spoon 1 Foot
WOR	Weight of Drill Rods
WOH	Weight of Drill Rods and Hammer
	Sample from Auger Cuttings
	Standard Penetration Test Sample
	Thin-wall Shelby Tube Sample (Undisturbed Sampler Used)
RQD	Rock Quality Designation
	Stabilized Groundwater Level
	Seasonal High Groundwater Level (also referred to as the W.S.W.T.)
NE	Not Encountered
GNE	Groundwater Not Encountered
BT	Boring Terminated
-200 (%)	Fines Content or % Passing No. 200 Sieve
MC (%)	Moisture Content
LL	Liquid Limit (Atterberg Limits Test)
PI	Plasticity Index (Atterberg Limits Test)
NP	Non-Plastic (Atterberg Limits Test)
K	Coefficient of Permeability
Org. Cont.	Organic Content
G.S. Elevation	Ground Surface Elevation

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than 50% retained on the No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	GM	Silty gravels and gravel-sand-silt mixtures
			GC	Clayey gravels and gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS 5% or less passing No. 200 sieve	SW**	Well-graded sands and gravelly sands, little or no fines
			SP**	Poorly graded sands and gravelly sands, little or no fines
		SANDS with 12% or more passing No. 200 sieve	SM**	Silty sands, sand-silt mixtures
			SC**	Clayey sands, sand-clay mixtures
FINE-GRAINED SIOLS 50% or more passes the No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diamicaceous fine sands or silts, elastic silts
			CH	Inorganic clays or clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
			PT	Peat, muck and other highly organic soils

*Based on the material passing the 3-inch (75 mm) sieve
** Use dual symbol (such as SP-SM and SP-SC) for soils with more than 5% but less than 12% passing the No. 200 sieve

RELATIVE DENSITY
(Sands and Gravels)
Very loose – Less than 4 Blow/Foot
Loose – 4 to 10 Blows/Foot
Medium Dense – 11 to 30 Blows/Foot
Dense – 31 to 50 Blows/Foot
Very Dense – More than 50 Blows/Foot

CONSISTENCY
(Silts and Clays)
Very Soft – Less than 2 Blows/Foot
Soft – 2 to 4 Blows/Foot
Firm – 5 to 8 Blows/Foot
Stiff – 9 to 15 Blows/Foot
Very Stiff – 16 to 30 Blows/Foot
Hard – More than 30 Blows/Foot

RELATIVE HARDNESS
(Limestone)
Soft – 100 Blows for more than 2 Inches
Hard – 100 Blows for less than 2 Inches

MODIFIERS

These modifiers Provide Our Estimate of the Amount of Minor Constituents (Silt or Clay Size Particles) in the Soil Sample
Trace – 5% or less
With Silt or With Clay – 6% to 11%
Silty or Clayey – 12% to 30%
Very Silty or Very Clayey – 31% to 50%

These Modifiers Provide Our Estimate of the Amount of Organic Components in the Soil Sample
Trace – Less than 3%
Few – 3% to 4%
Some – 5% to 8%
Many – Greater than 8%

These Modifiers Provide Our Estimate of the Amount of Other Components (Shell, Gravel, Etc.) in the Soil Sample
Trace – 5% or less
Few – 6% to 12%
Some – 13% to 30%
Many – 31% to 50%

APPENDIX B

UES™

Important Information about This

Geotechnical-Engineering Report

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

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

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 constructor — 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 this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply this 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.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many 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;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the 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 geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by*: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this 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 geotechnical-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 confirmation-dependent recommendations included in your report. *Confirmation-dependent 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 confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront 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. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical 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 Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors 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 constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors 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 constructors fail to 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.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental 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 environmental 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, many 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 GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you GBC-Member geotechnical engineer for more information.

GBC GEOTECHNICAL BUSINESS COUNCIL
of the Geoprofessional Business Association

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

CONSTRAINTS & RESTRICTIONS

The intent of this document is to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

WARRANTY

Universal Engineering Sciences has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

UNANTICIPATED SOIL CONDITIONS

The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

CHANGED CONDITIONS

We recommend that the specifications for the project require that the contractor immediately notify Universal Engineering Sciences, as well as the owner, when subsurface conditions are encountered that are different from those present in this report.

No claim by the contractor for any conditions differing from those anticipated in the plans, specifications, and those found in this report, should be allowed unless the contractor notifies the owner and Universal Engineering Sciences of such changed conditions. Further, we recommend that all foundation work and site improvements be observed by a representative of Universal Engineering Sciences to monitor field conditions and changes, to verify design assumptions and to evaluate and recommend any appropriate modifications to this report.

MISINTERPRETATION OF SOIL ENGINEERING REPORT

Universal Engineering Sciences is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If the conclusions or recommendations based upon the data presented are made by others, those conclusions or recommendations are not the responsibility of Universal Engineering Sciences.

CHANGED STRUCTURE OR LOCATION

This report was prepared in order to aid in the evaluation of this project and to assist the architect or engineer in the design of this project. If any changes in the design or location of the structure as outlined in this report are planned, or if any structures are included or added that are not discussed in the report, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions modified or approved by Universal Engineering Sciences.

USE OF REPORT BY BIDDERS

Bidders who are examining the report prior to submission of a bid are cautioned that this report was prepared as an aid to the designers of the project and it may affect actual construction operations.

Bidders are urged to make their own soil borings, test pits, test caissons or other investigations to determine those conditions that may affect construction operations. Universal Engineering Sciences cannot be responsible for any interpretations made from this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which will affect construction operations.

STRATA CHANGES

Strata changes are indicated by a definite line on the boring logs which accompany this report. However, the actual change in the ground may be more gradual. Where changes occur between soil samples, the location of the change must necessarily be estimated using all available information and may not be shown at the exact depth.

OBSERVATIONS DURING DRILLING

Attempts are made to detect and/or identify occurrences during drilling and sampling, such as: water level, boulders, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation of driving resistance, obstructions, etc.; however, lack of mention does not preclude their presence.

WATER LEVELS

Water level readings have been made in the drill holes during drilling and they indicate normally occurring conditions. Water levels may not have been stabilized at the last reading. This data has been reviewed and interpretations made in this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, tides, and other factors not evident at the time measurements were made and reported. Since the probability of such variations is anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based upon such assumptions of variations.

LOCATION OF BURIED OBJECTS

All users of this report are cautioned that there was no requirement for Universal Engineering Sciences to attempt to locate any man-made buried objects during the course of this exploration and that no attempt was made by Universal Engineering Sciences to locate any such buried objects. Universal Engineering Sciences cannot be responsible for any buried man-made objects which are subsequently encountered during construction that are not discussed within the text of this report.

TIME

This report reflects the soil conditions at the time of exploration. If the report is not used in a reasonable amount of time, significant changes to the site may occur and additional reviews may be required.

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