GEOTECHNICAL EXPLORATION

MISSION RISE SUBDIVISION
REVELS, SOUTH PALM, NUMBER 2, AND SILVERWOOD ROAD
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

UES PROJECT NO. 0130.2400259.0000
UES REPORT NO. 2109185v2

PREPARED FOR:

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Attention: Mr. Jason Humm, Project Manager

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Revised: January 21, 2025

November 18, 2024
Revised: January 21, 2025

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Reference: **Geotechnical Exploration**
Mission Rise Subdivision
Revels, South Palm, Number 2, and Silverwood Road
Howey-in-the-Hills, Lake County, Florida
UES Project No. 0130.2400259.0000
UES Report No. 2109185v2

Dear Mr. Humm:

UES Professional Solutions, LLC d/b/a UES, has completed the Geotechnical Exploration at the above referenced site in Howey-in-the-Hills, Florida. The scope of our exploration was planned in conjunction with and authorized by you. This exploration was performed in general accordance with UES Proposal No. 2100943 dated July 29, 2024, and generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

The following report presents the results of our field exploration with a geotechnical engineering interpretation of those results with respect to the project characteristics as provided to us. We have included our estimates of the seasonal high groundwater level at the boring locations and geotechnical recommendations for residential lot suitability, pavement design, site preparation, stormwater pond design parameters, and suitability of excavated soils for use as fill. *Generally, the site was found to be suitable for the proposed development following the typical site preparation procedures presented in this report.*

We appreciate the opportunity to have worked with you on this project and look forward to a continued association. 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 PROFESSIONAL SOLUTIONS, LLC
Florida Engineering Business Registry No. 549

Erfan Mobarezi, M.S.
Geotechnical Project Manager

RICARDO C. KIRIAKIDIS L. LICENSE No 70602 STATE OF FLORIDA PROFESSIONAL ENGINEER

Ricardo C Kiriakidis L. 2025.01.21 16:35:45 -05'00'

This item has been digitally signed and sealed by Ricardo C. Kiriakidis L. on the date adjacent to the seal.
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Ricardo C. Kiriakidis L., Ph.D., P.E.
Date: 1/21/2025
Geotechnical Department Manager
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1.0 PROJECT DESCRIPTION

UES understands that Turnstone Group is in the design process for a new single-family residential subdivision located in Lake County, Florida. The site is located at Revels, South Palm, Number 2, and Silverwood Road in Howey-in-the-Hills, Florida encompassing parcels identified with 27-20-25-0004-000-01200, 34-20-25-0001-000-00100, 34-20-25-0004-000-01003, 02-21-25-0002-000-04800 by the Lake County Property Appraiser. UES was provided with a conceptual plan showing the property and the proposed improvements. The site plan indicated individual residential lots and paved access roadways and stormwater ponds.

Should any of the above information or assumptions made by UES be inconsistent with the planned development and construction, we request that you contact us immediately to allow us the opportunity to review the new information in conjunction with our report and revise or modify our engineering recommendations accordingly, as needed.

No site or project facilities/improvements, other than those described herein, should be designed using the soil information presented in this report. Moreover, UES will not be responsible for the performance of any site improvement so designed and constructed.

2.0 PURPOSE

The purposes of this exploration were:

- to explore and evaluate the subsurface conditions at the site with special attention to potential problems that may impact the proposed development,
- to provide our estimates of the seasonal high groundwater level at the boring locations and
- to provide geotechnical engineering recommendations for residential lot suitability, pavement design, site preparation, stormwater pond design parameters, and suitability of excavated soils for use as fill.

This report presents an evaluation of site conditions on the basis of geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. We would be glad to provide you with a proposal for these services at your request.

Our exploration was not designed to specifically address the potential for surface expression of deep geological conditions, such as sinkhole development related to karst activity. This evaluation requires a more extensive range of field services than those performed in this study. We would be pleased to conduct an exploration to evaluate the probable effect of the regional geology upon the proposed construction, if you so desire.

3.0 SITE DESCRIPTION

The subject site is located within Section 2, and 34, Township 20, and 21 South, Range 25 East in Lake County, Florida. More specifically, the site is located at Revels, South Palm, Number 2, and Silverwood Road in Howey-in-the-Hills, Florida and several nearby parcels as shown on the attached Appendix. At the time of our field exploration, the site was observed to be

heavily covered with vegetation and densely wooded. There are several low elevation and wet areas across the site, most of which we understand will be left undeveloped.

3.1 Soil Survey

There are eleven (11) native soil types and Water (#99) mapped within the general vicinity of the site according to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey of Lake County (FL607). A brief summary of the mapped surficial soil types is presented in Table I. *Please note the native soil type and its associated engineering properties might have been altered during previous and current land use*.

TABLE I
SUMMARY OF PUBLISHED SOIL DATA [1]

Soil Symbol	Soil Type	Hydrologic Group	Drainage Characteristics	Depth to Published Seasonal High GWT (feet)
1	Sparr sand, 0 to 5 percent slopes	A/D	Somewhat poorly drained	2½ to 3½
5	Apopka sand, 0 to 5 percent slopes	A	Well drained	6½ <
8	Candler sand, 0 to 5 percent slopes	A	Excessively drained	6½ <
17	Arents	B	Somewhat poorly drained	2½ to 5
20	Immokalee sand	B/D	Poorly drained	½ to 2½
25	Kendrick sand, 5 to 8 percent slopes	A	Well drained	6½ <
28	Myakka-Myakka, wet, sands, 0 to 2 percent slopes	A/D	Poorly drained	2½ to 3½
30	Lochloosa sand	B	Somewhat poorly drained	2½ to 5
31	***Ocoee mucky peat***	A/D	Very poorly drained	***0***
40	Placid and Myakka sands, ***depressional***	A/D	Very poorly drained	***0***
45	Tavares sand, 0 to 5 percent slopes	A	Moderately well drained	3½ to 6
99	WATER			

[1] Data obtained from the NRCS online webpage, accessed on 9/10/2024
[2] GWT = Groundwater table

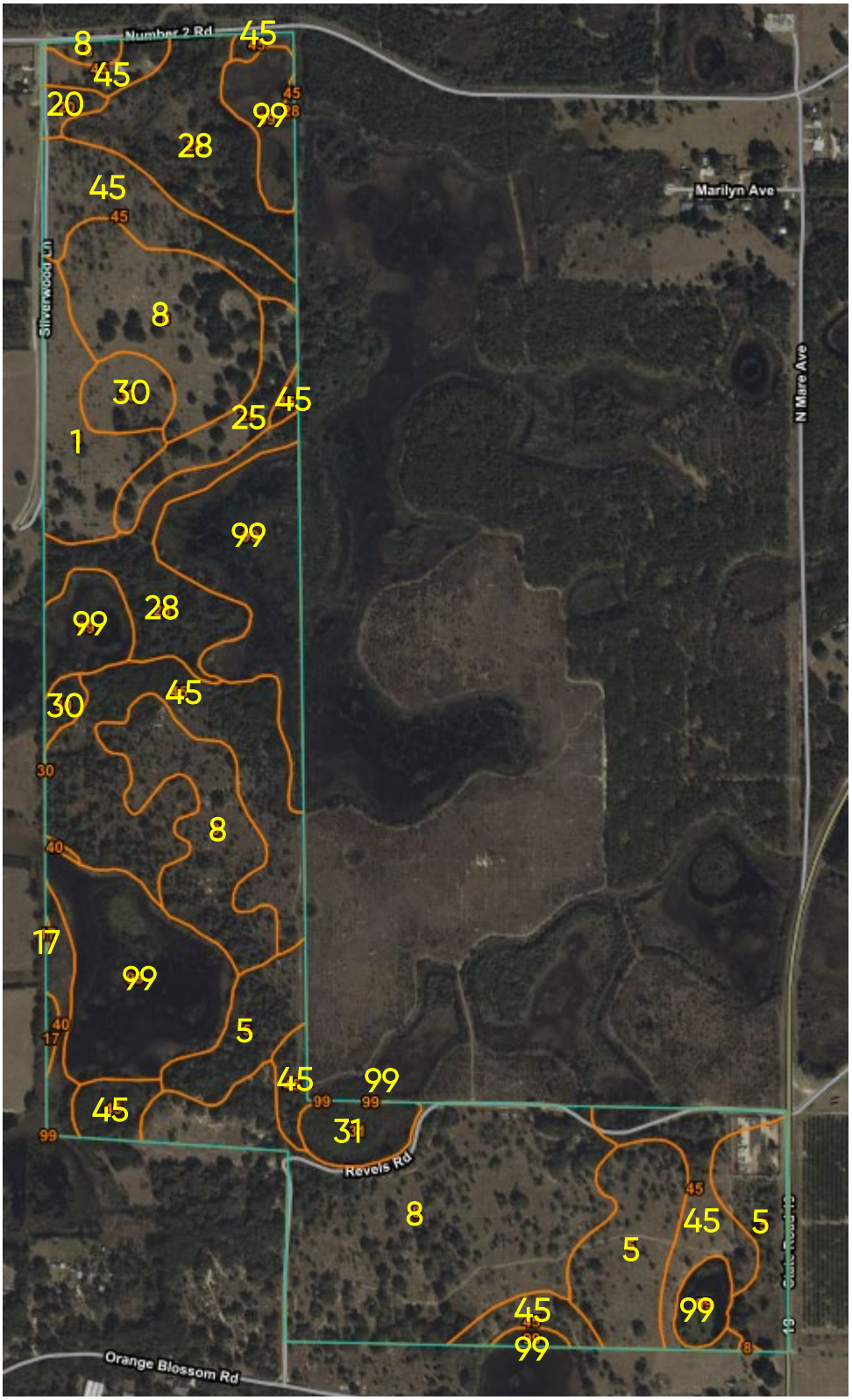


Figure I: Web Soil Survey
(Image obtained from the USDA NRCS Web Soil Survey online webpage, accessed on 9/10/2024)

3.2 TOPOGRAPHY

According to information obtained from the United States Geologic Survey (USGS) "Howey-in-the-Hills, Florida" quadrangle map, the pre-development ground surface elevation across the site area was approximately +85 to +100 feet National Geodetic Vertical Datum (NGVD). The topo plan provided by ATWELL indicates ground elevations across the site vary between XXX and XXX. A copy of a portion of the USGS Map is included in Appendix A.

4.0 SCOPE OF SERVICES

The services conducted by UES during our geotechnical explorations were as follows:

- Forty-five (45) Standard Penetration Test (SPT) borings along the proposed roadway alignments to a depth of 10 feet below existing land surface (bls).
- Nineteen (19) SPT borings within the stormwater pond footprints to a depth of 25 feet bls.
- Secured samples of representative soils encountered in the soil borings for review, laboratory analysis and classification by a Geotechnical Engineer.
- Measured the existing site groundwater levels and provided an estimate of the seasonal high groundwater level at the boring locations.
- Conducted laboratory testing on selected soil samples obtained in the field to determine their engineering properties.
- Assessed the existing soil conditions with respect to the proposed construction.
- Prepared a report which documents the results of our exploration and analysis with geotechnical engineering recommendations.

5.0 FIELD EXPLORATION

The SPT borings were performed with an ATV mounted drilling rig. UES located the test borings using the provided site plan, measurements from existing on-site landmarks shown on an aerial photograph, handheld GPS devices. the borings were surveyed after completion by ATWELL. The boring location plan is based on the data provided by ATWELL..

5.1 STANDARD PENETRATION TEST (SPT) BORINGS

The SPT borings, designated R-01 through R-45, and P-01 through P-21 *(Please note that due to the dense vegetation and wetland areas, our drillers were unable to drill borings P-7 and P-8)*, as shown on the attached Boring Location Plan in Appendix B-1, were performed in general accordance with the procedures of ASTM D 1586 "Standard Method for Penetration Test and Split-Barrel Sampling of Soils". SPT sampling was performed continuously to 10 feet to detect variations in the near surface soil profile and on approximate 5 feet centers thereafter. The soil samples recovered from the test borings were returned to our laboratory and visually classified in general accordance with ASTM D 2487 "Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System – USCS).

6.0 LABORATORY TESTING

The soil samples recovered from the test borings were returned to our laboratory and visually classified in general accordance with ASTM D 2487 "Standard Classification of Soils for Engineering Purposes" (Unified Soil Classification System). We selected representative soil samples from the borings for laboratory testing to aid in classifying the soils and to help to evaluate the general engineering characteristics of the site soils. The results of these tests are shown on the boring logs in Appendix B. A summary of the tests performed is shown in Table II.

TABLE II
LABORATORY METHODOLOGIES

Test Performed	Number Performed	Reference
Grain Size Analysis (#200 wash only)	17	ASTM D 1140 "Amount of Material in Soils Finer than the No. 200 (75 - µm) sieve"
Permeability Test	19	Using the D10 method obtained from ASTM D 422 "Standard Test Method for Particle-Size Analysis of Soils"
Moisture Content	36	ASTM D 2216 "Laboratory Determination of Water (Moisture) Content of Soil by Mass"

7.0 SUBSURFACE CONDITIONS

7.1 GENERALIZED SOIL PROFILE

The results of our field exploration and laboratory analysis, together with pertinent information obtained from the SPT and hand auger borings, such as soil profiles, penetration resistance and groundwater levels are shown on the boring logs included in Appendix B. The Key to Boring Logs, Soil Classification Chart is also included in Appendix B. The soil profiles were prepared from field logs after the recovered soil samples were examined by a Geotechnical Engineer.

The stratification lines shown on the boring logs represent the approximate boundaries between soil types and may not depict exact subsurface soil conditions. The actual soil boundaries may be more transitional than depicted. A generalized profile of the soils encountered at our boring locations is presented in Table III. For detailed soil profiles, please refer to the attached boring logs.

TABLE III
GENERALIZED SOIL PROFILE

Typical Depth (feet, bls)		Soil Description	Range of SPT "N" Values (blows/ft)
From	To		
0	25*	Very loose to dense fine SAND [SP] or fine SAND with silt, and clay [SP-SM], [SP-SC], and silty, clayey fine SAND [SM], [SC]	2 to 45

* Denotes maximum termination depth of boring

7.2 NOTABLE FINDINGS

7.2.1 Very Loose Soils

Very loose soil was observed within the upper 10 feet bls at some boring locations. These soils exhibited "N" blow count values of 2 to 5 blows per foot. It has been our experience that very loose soils with SPT "N" blow counts less than approximately 5 blow count per foot may not provide adequate support for the proposed residential structures and proposed paved areas without some soil improvements.

7.2.2 Shallow Estimated Seasonal High Groundwater (SHGWT) Conditions

Due to the relatively shallow hydraulically restrictive clayey SAND layer [SC] encountered in some of the borings as well as the significant elevation relief across the site, a Shallow estimated SHGWT conditions should be expected, in some areas of the site, during wet seasons, such as near our boring location P-01.

Temporary dewatering program will be required to control the shallow groundwater conditions during excavation and construction of the underground utilities, <u>especially during rainy seasons</u>.

We also note that the estimated shallow estimated SHGWT will also cause soggy ground conditions, thus, landscape underdrain system may be needed to control the water conditions. Underdrain systems should also be utilized if the minimum separation required by the municipality between the estimated SHGWT and the bottom elevation of the base materials are not met.

8.0 GROUNDWATER CONDITIONS

8.1 EXISTING GROUNDWATER LEVEL

We attempted to measure the water levels in the boreholes in August of 2024 during our drilling operations. The encountered groundwater table ranged from approximately **4 feet to 25 feet** below existing grades at the time of our explorations. Please refer to the attached boring logs in Appendix B for boring location specific groundwater levels.

Fluctuations in groundwater levels should be anticipated throughout the year, primarily due to seasonal variations in rainfall, surface runoff, and other factors that may vary from the time the borings were conducted.

8.2 SEASONAL HIGH GROUNDWATER LEVEL

Based on historical data, the rainy season in Central Florida is between June and October of the year. In order to estimate the seasonal high water level at the boring locations, many factors are examined, including the following:

- Measured groundwater level
- Drainage characteristics of existing soil types
- Current & historical rainfall data
- Natural relief points (such as lakes, rivers, wetlands, etc.)
- Man-made drainage systems (ditches, canals, retention basins, etc.)
- On-site types of vegetation
- Review of available data (soil surveys, USGS maps, etc.)
- Redoximorphic features (mottling, stripping, etc.)

Based on the results of our field exploration and the factors listed above, we estimate that the seasonal high groundwater level at the boring locations will generally form **at depth of 0 feet to 23 feet bls** depending on the boring locations. *This large range of groundwater levels is attributed to the topographic relief across the site.* Site grading operations may influence the groundwater levels. The estimated seasonal high groundwater levels at the boring locations are shown on the individual boring logs as attached in Appendix B.

Table IV summarizes the ground and groundwater conditions at the boring locations. The ground elevations (provided by ATWELL) and estimated seasonal high groundwater level is also shown on the individual boring logs in Appendix B.

Table IV
Groundwater Conditions

Borings Name	Ground Elevation** (ft)	Measured GWT Depth (ft)	DATE	Measured GWT Depth (ft)	DATE	Elevation GWT Depth (ft) (ft)	Estimated Depth of SHGWT (ft)	Estimated Elevation of SHGWT (ft)
P-01	83.0	5.8	8/30/2024	-	-	77.2	0.0*	83
P-02	81.8	4.4	8/30/2024	-	-	77.4	3.5	78.3
P-03	84.7	8.5	8/30/2024	-	-	76.2	3.5*	81.2
P-04	91.7	10.9	8/27/2024	11.6	8/30/2024	80.8	3.5*	88.2
P-05	91.5	9.0	8/27/2024	12.6	8/30/2024	82.5	3.5*	88
P-06	86.2	16	8/27/2024	9.2	8/30/2024	77	3.5*	82.7
P-09	85.2	7.5	8/22/2024	7.8	8/24/2024	77.4	6.5*	78.7
P-10	-	14.9	8/21/2024	12.9	8/24/2024	-	6.5*	-
P-11	89.7	6.2	8/21/2024	5.6	8/24/2024	84.1	4.5	85.2
P-12	88.1	10.6	8/20/2024	10.5	8/24/2024	77.6	5.5*	82.6
P-13	87.7	10.6	8/19/2024	11.0	8/24/2024	77.1	8.5	81.2
P-14	-	11.7	8/19/2024	6.2	8/24/2024	-	3.5*	-
P-15	-	17.0	8/14/2024	17.0	8/23/2024	-	15<	-
P-16	93.7	8.0	8/15/2024	9.1	8/23/2024	84.6	7.5	86.2
P-17	87.8	8.6	8/15/2024	9.2	8/23/2024	78.6	7.5	80.3
P-18	86.2	11.4	8/15/2024	11.3	8/23/2024	74.9	3.5*	82.7
P-19	90.8	6.6	8/16/2024	6.8	8/23/2024	84	5.5	85.3
P-20	84.7	24.0	8/17/2024	N. E	8/23/2024	60.7	20<	64.7
P-21	97.9	19.0	8/17/2024	19.8	8/23/2024	78.9	15<	82.9

* Depth to base of surficial aquifer based on the depth to the hydraulically restrictive soils [SM, SC]
** Elevations provided by ATWELL

Please note that the elevations at the boring locations were determined using estimates based on survey control data provided by ATWELL, LLC on November 2024. The survey control information served as the basis for our elevation estimates.

It should be noted that the estimated seasonal high water levels provided should be considered accurate to approximately ±½ foot and do not provide any assurance that groundwater levels will not exceed these estimated levels during any given year in the future. Should the impediments to surface water drainage be present, or should rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, groundwater levels might exceed our seasonal high estimates. Further, it should be understood that changes in the surface hydrology and subsurface drainage from on-site

and/or off-site improvements could have significant effects on the normal and seasonal high groundwater levels.

9.0 RESIDENTIAL LOT SUITABILITY

The following recommendations are made based upon a review of the attached soil test data, our understanding of the proposed construction, and experience with similar projects and subsurface conditions. The applicability of geotechnical recommendations is very dependent upon project characteristics such as improvement locations, and grade alterations. UES must review the final site and grading plans to validate all recommendations rendered herein.

Additionally, the lot areas were not explored and therefore may require additional borings if subsurface conditions are encountered during construction, which were not encountered in the borings, report those conditions immediately to us for observation and recommendations. Note that the shallow clayey SAND [SC] conditions found at some of the borings bay result in perch conditions, which may require excavations, grade changes and or yard drains. During construction or prior to, Lots suspected of having clayey sands [SC] may need to be further evaluated.

General Lot Suitability: Based on the results of the soil borings, the near surface soils appear to be mostly very loose to dense fine SAND with varying fines [SP, SP-SM, SP-SC, SM & SC]**.** It is our opinion that the proposed structure can be supported on properly designed and constructed shallow foundation systems. Provided that the site preparation recommendations outlined in this report are followed, the parameters outlined below may be used for foundation design.

Structural Fill: All structural fill (if any) should consist of clean fine sands [SP] (less than 5 percent fines) placed in maximum 12-inch uniform loose lifts. Fill soils containing between 5 and 10 percent fines [SP-SM or SP-SC] may be also be used, however, strict moisture control may be required. Each lift of structural fill should be densified to at least 95 percent of the Modified Proctor test maximum dry density of the soil (ASTM D 1557) and tested for compaction and approved before the placement of subsequent lifts.

Shallow footing foundations: We assume that the proposed single family homes will consist of 1 to 2-story, typical Florida stucco, block and wood frame construction. We have assumed that the maximum column loads will not exceed 25 kips and that maximum wall loads will not exceed 4 kips per lineal foot for the proposed residential structures.

Provided the lots are properly prepared prior to construction, the proposed residence can be supported upon conventional, shallow footing foundations designed for a ***maximum allowable net soil bearing pressure of 2,000 pounds per square foot (psf)*** in an effort to keep total and differential settlements to tolerable levels (i.e. 1-inch or less total settlement and ½-inch or less of differential settlement). The allowable net soil bearing pressure is that pressure that may be transmitted to the soil in excess of the minimum surrounding overburden pressure. The allowable bearing pressure should include dead load plus sustained live load. Per the Florida Building Code (FLBC), the foundations should be designed for the most unfavorable effects due to the combinations of loads.

The foundations may bear on either the compacted suitable native soils or compacted structural fill. The bearing level soils should be densified to at least 95 percent of the maximum dry density as determined by ASTM D 1557 (Modified Proctor) to a depth of at least **2 feet** below foundation levels.

The minimum width recommended for an isolated column footing is 24 inches. For continuous wall or thickened edge monolithic slab footings, the minimum widths should comply with the current FLBC, but under no circumstances should be less than 12 inches in width. The base of all footings should bear at least 12 inches below finished grade elevation as required under the current FLBC.

10.0 PAVEMENT RECOMMENDATIONS

10.1 GENERAL

We assume that the proposed roadways will consist of a flexible pavement section with typical residential traffic. At the time of this exploration, specific traffic loading information was not provided to us. All streets to be established in a subdivision should be designed in accordance with the Lake County Roadway Design Standards.

10.2 ASPHALTIC PAVEMENTS

10.2.1 Layer Components

We recommend using a three-layer pavement section for the proposed roadways consisting of compacted subgrade (sub-base), base course, and surface course. The Lake County Transportation, Design and Construction Standard has divided the pavement requirements for local roads into categories as a function of average daily traffic (ADT). Table V summarizes the minimum pavement component thicknesses for roadway design.

TABLE V
MINIMUM ASPHALTIC PAVEMENT COMPONENT THICKNESSES

ADT (vpd)	Layer Component (inches)		
	Surface Course	Base Course	Subgrade
<500	1½	6	12
500 to 1,500	2	6	12
1,500 to 4,000	2	8	12

10.2.2 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 Florida Department of Transportation (FDOT). The stabilized subgrade should be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D 1557) value.

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 subgrade should be performed to full depth at a frequency of at least one (1) test per 10,000 square feet, or every 300 lineal feet of roadway, whichever is greater.

10.2.3 Base Course

Based on the results of our exploration and our experience in the project area, limerock, soil-cement and recycled crushed concrete are suitable base course materials for this project.

However, local municipality standards may govern the use of recycled crushed concrete use as an alternative base course material. We recommend the civil engineer consult with the local municipalities prior to selecting the base course material for this project.

For a limerock base, the base course should be compacted to a minimum density of 98 percent of the Modified Proctor maximum dry density and exhibit a minimum LBR of 100. The limerock material should comply with the latest edition of the Florida Department of Transportation (FDOT) Road and Bridge Construction specifications.

For a soil-cement base, we recommend the contractor perform a soil-cement design with a minimum seven (7)-day strength of 300 pounds per square inch (psi) on the materials he intends to use. Place soil-cement in maximum 6-inch lifts uniform and compact in place to a minimum density of 95 percent of the maximum dry density according to specifications in ASTM D-558, "Moisture Density Relations of Soil Cement Mixtures".

Place and finish the soil-cement according to Portland Cement Association requirements. Final review of the soil-cement base course should include manual "chaining" and/or "soundings" seven days after placement. Shrinkage cracks will form in the soil-cement mixture and you should expect reflection cracking on the surface course.

Recycled Concrete Aggregate (RCA) may provide a cost-effective alternative material in lieu of limerock or soil cement base courses. Local availability, along with municipality standards, typically governs the use of crushed concrete use as an alternative base course material. The advantages of using crushed concrete as a pavement base course include its high strength (stronger than limerock), resistance to groundwater related distress, and lack of reflection cracking caused by thermal expansion and contraction.

If RCA base is used, the base course material should be sourced from an FDOT approved supplier. The base should be compacted to a minimum density of 98 percent of the Modified Proctor maximum dry density and exhibit a minimum LBR of 150. The base material should comply with the latest edition of the FDOT Road and Bridge Construction Specifications.

Compaction testing of the base course should be performed to full depth at a frequency of at least one (1) test per 10,000 square feet.

10.2.4 Surface Course

For the pavements, 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 topped with SP-9.5 fine mix for heavy duty areas. The asphalt concrete should be placed within the allowable lift thicknesses for fine Type SP mixes per the latest edition of FDOT, Standard Specifications for Road and Bridge Construction.

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 and -1.2% of the design G_{mm}**. Specific requirements for the SuperPave asphaltic concrete structural course are outlined in the latest edition of FDOT, Standard Specifications for Road and Bridge Construction.

Note: If the Designer (or Contract Documents) limits compaction to the static mode only or lifts are placed one-inch thick, then the average field density should be 92 percent, with an individual test tolerance of + 3 percent, and -1.2% of the design G_{mm}.

After placement and field compaction, the wearing surface 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.

10.2.5 Effects of Groundwater

One of the most critical influences on the pavement performance in Central Florida is the relationship between the pavement base course and the seasonal high groundwater level. Sufficient separation will need to be maintained between the bottom of base course and the anticipated seasonal high groundwater level. According to Lake County's requirements seasonal high groundwater level should be at least **6-inches below the bottom of the stabilized subgrade.**

The separation should be confirmed by reviewing the final site grading and paving plan. If the separation is not provided by grading, the installation of underdrains will be required.

10.2.6 Landscape Underdrains

In the event that landscape areas adjacent to the pavements include large mounds (>1 foot) of poorly draining organic topsoils or silty/clayey sands, we recommend that landscape drains be provided to protect the roadway against adverse effects from over-irrigation or excess rainfall. Poorly draining silty and clayey material causes the irrigation and rainwater to perch and migrate laterally into the pavement components, which eventually compromises the integrity of the pavement section.

10.3 Concrete "Rigid" Pavements

Concrete pavement is a rigid pavement that transfers much lighter wheel loads to the subgrade soils than a flexible asphalt pavement; therefore, requiring less subgrade preparation. Concrete pavement is recommended in truck court areas, under the dumpster areas, and 10 feet in front of the trash enclosures, at a minimum.

We recommend using the existing surficial sands or approved structural fill densified to at least 98 percent of Modified Proctor test maximum dry density (ASTM D 1557) without additional stabilization under concrete pavement, with the following stipulation:

1. Prior to placement of concrete, the subgrade soils should be prepared as recommended in the Site Preparation section of this report.
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 seasonal high groundwater level by at least 12 inches.

Based on the results of the soil borings and review of the FDOT Rigid Pavement Design Manual, we recommend using the minimum design shown in Table VI for concrete pavements.

TABLE VI
MINIMUM CONCRETE PAVEMENT THICKNESSES

`	.	Maximum Control Joint Spacing	Recommended Saw Cut Depth
Light Duty	6 inches	12 feet x 12 feet	2 inches
Heavy Duty	7 inches	14 feet x 14 feet	2⅓ inches

We recommend using concrete with a minimum 28-day compressive strength of at least 4,000 pounds per square inch. Layout of the Saw cut control joints should form square panels, and the depth of Saw cut joints should be ⅓ 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. Specimens to verify the compressive strength of the pavement concrete should be obtained for at least every 50 cubic yards, or at least once for each day's placement, whichever is greater.

11.0 SITE PREPARATION

We recommend normal, good practice site preparation procedures for the new construction areas. These procedures include: stripping/clearing of the site to remove existing vegetation, roots, topsoils, surficial organics, debris, utility lines, etc. Following stripping, the exposed subgrade soils should be proof-rolled, and all subgrade and subsequent fill/backfill soils should be properly densified.

A more detailed description of this work is presented in this section.

1. Prior to construction, existing underground utility lines within the construction areas should be located. It should be noted that if underground pipes are not properly removed or plugged, they may serve as conduits for subsurface erosion which may lead to excessive settlement of overlying structures.

2. Perform any necessary remedial dewatering prior to any earthwork operations. Dewatering should be performed to a depth of at least **2 feet below the bottom of any excavations or compacted surface**.

3. Strip the proposed construction limits of existing vegetation, topsoil, roots, organic soils, debris and other deleterious materials within and 5 feet beyond the perimeter of the new construction areas. Expect clearing and grubbing to depths of 6 to 12 inches. We strongly recommend that the stripped/excavated surfaces be observed and probed by representatives of UES.

4. Proof-roll the exposed subsurface soils under the observation of UES, to locate any soft areas of unsuitable soils, and to increase the density of the shallow loose fine sand soils. If deemed necessary by UES, in areas that continue to "yield", remove any deleterious materials and replace with a clean, compacted sand backfill.

5. After approval of the stripped surface, within the building areas, compact the upper **2 feet of the exposed subgrade soils** (including the 5 feet margin) using a vibratory roller to at least 95 percent of the Modified Proctor test maximum dry density (ASTM D 1557).

6. Place fill/backfill as necessary. All fill should consist of clean sand with less than 11 percent soil fines and be free of organics, debris and other deleterious materials. Fill soils containing between 5 and 11 percent fines may require strict moisture control. Place fill in maximum 12-inch loose, uniform lifts and compact each lift at least 95 percent of the Modified Proctor maximum dry density.

7. Within the pavement areas, the upper 12 inches of subgrade beneath the base course or concrete slabs (sub-base) should be stabilized and compacted to at least 98 percent of the Modified Proctor maximum dry density.

8. Test the subgrade and each lift of fill for compaction at a frequency of not less than one test per 2,500 square feet in the building areas and 10,000 square feet of pavement areas, with a minimum of 4 tests in each area.

9. Prior to the placement of reinforcing steel and concrete, verify compaction within the footing trenches to a depth of 2 feet. We recommend testing every column footing and at least one test every 100 feet of wall footing, with a minimum of 4 tests per building. Re-compaction of the foundation excavation bearing level soils, if loosened by the excavation process, can typically be achieved by making several passes with a walk-behind vibratory sled or jumping jack.

Stability of the compacted soils is essential and independent of compaction and density control. If the near surface soils or the structural fill experience "pumping" conditions, terminate all earthwork activities in that area. Pumping conditions occur when there is too much water present in the soil-water matrix. Earthwork activities are actually attempting to compact the water and not the soil. The disturbed soils should be dried in place by scarification and aeration prior to any additional earthwork activities.

Vibrations produced during vibratory compaction operations at the site may be significantly noticeable within 100 feet and may cause distress to adjacent structures if not properly regulated. Provisions should be made to monitor these vibrations so that any necessary modifications in the compaction operations can be made in the field before potential damage occurs. UES can provide vibration monitoring services to help document and evaluate the effects of the surface compaction operation on existing structures. It is recommended that large vibratory rollers remain a minimum of 50 feet from existing structures. Within this zone, the use of a static roller or small hand guided plate compactors is recommended.

12.0 STORMWATER POND DESIGN CONSIDERATIONS

We understand that the project will include Twelve (12) stormwater ponds within the proposed development. Nineteen (19) SPT borings, P-01 through P-21, were performed in the general vicinity of the ponds. Please note that due to the dense vegetation and wetland areas, our drillers were unable to drill borings P-7 and P-8. Based on the soils encountered, the proposed stormwater ponds are suitable for either "wet" ponds or "dry" ponds depending on the groundwater and or final grades. Our recommended stormwater design parameters for the pond are shown below in Table VII, and Table VIII.

TABLE VII
STORMWATER MANAGMENT DESIGN PARAMETERS

	Estimated Average Values								
Pond	Pond 1			Pond 2		Pond 3	Pond 5	Pond 6	
Relevant Boring Logs	P-01	P-02	P-03	P-04	P-05	P-06	P-09	P-10	P-11
Ground Elevation (Ft)*	83.0	81.8	84.7	91.7	91.5	86.2	85.2	-	89.7
Depth to Base of Surficial Aquifer (bls)(ft) **	0	5.5	4	4	4	4	7	7	18.5
Estimated Fillable Porosity of Surficial in-situ sands (percent)	N/A	20	20	20	20	20	20	20	20
Estimated Seasonal High Groundwater Level (Feet)	0	3.5	3.5	3.5	3.5	3.5	6.5	6.5	4.5
Estimated Weighted Horizontal Saturated Hydraulic Conductivity of Surficial Aquifer (feet per day)	N/A	10	8	16	32	29	26	25	40
Estimated Weighted Vertical Unsaturated Hydraulic Conductivity of Surficial Aquifer (feet per day)	N/A	7	5	11	22	19	17	16	26

* Provided by ATWELL
**Depth to base of surficial aquifer based on the depth to the hydraulically restrictive soils [SM, SC]
N/A = not applicable

TABLE VIII
STORMWATER MANAGMENT DESIGN PARAMETERS

Design Parameter	Estimated Average Values									
Pond	Pond 7	Pond 8		Pond 9	Pond 11			Pond 12	Pond 10	
Relevant Boring Logs	P-12	P-13	P-14	P-15	P-16	P-17	P-18	P-19	P-20	P-21
Elevation (Ft)*	88.1	87.7	-	-	93.7	87.8	86.2	90.8	84.7	97.9
Depth to Base of Surficial Aquifer (bls)(ft) *	6	25+	4	25+	25+	25+	4	7	25+	25+
Estimated Fillable Porosity of Surficial in-situ sands (percent)	20	20	20	25	20	20	20	20	25	25
Estimated Seasonal High Groundwater Level (Feet)	5.5	8.5	3.5	15<	7.5	7.5	3.5	5.5	20<	15<
Estimated Weighted Horizontal Saturated Hydraulic Conductivity of Surficial Aquifer (feet per day)	40	40	40	40	40	40	20	25	40	40
Estimated Weighted Vertical Unsaturated Hydraulic Conductivity of Surficial Aquifer (feet per day)	26	26	26	26	26	26	13	17	26	26

* Provided by ATWELL
**Depth to base of surficial aquifer based on the depth to the hydraulically restrictive soils [SM, SC]
+Depth to base of surficial aquifer based on the termination depth of the boring

Please note that the seasonal high groundwater levels at some of the borings is the result of perching due to shallow hydraulically restrictive soils. Ground elevations at the borings were provided by ATWELL, LLC on November 2024. Appropriate factors of safety should be incorporated into the design process. The stormwater pond bottom, and side slopes should

be stabilized according to applicable Water Management District and local municipality guidelines. **Slope Stability analysis should be performed on all berm slopes once cross-sections are available.**

Also note that groundwater level in some of the ponds will be greatly influenced by the nearby wetlands, therefore prior to final pond design, the water levels in the wetland should be determined.

13.0 SUITABILITY OF ON-SITE MATERIAL FOR USE AS FILL

We understand that the site is intended for fill material at the adjacent development site. Table IX below lists the suitability of materials for use as structural fill based on percent fines content. Please refer to the boring logs in Appendix B for a detailed overview of the fill suitability encountered on site during our geotechnical exploration.

TABLE IX
SUITABILITY OF EXCAVATED MATERIAL FOR USE AS FILL

Designation	USCS Soil Classification	% Fines Passing No. 200 Sieve	Suitability for Use as Structural Fill
Group A	SP	0-5	Favorable, freely draining, "clean" sands
Group B	SP-SC, SP-SM	5-12	Suitable, will require aeration and moisture control
Group C	SM, SC, SC-SM	12-20	Poor, impedes infiltration, limit overall use, extremely sensitive to water, do not use in pavement or pond areas
Group D	SM, SC, SC-SM, CL, ML, CH, MH	>20	Very Poor, not recommended for structural fill, may be used as stabilizing material in pavement subgrade
Group E	PT, OL, SM-OL	Organic	Unsuitable, must be completely removed and replaced with Group A or B soils

Based on the results of our exploration and laboratory testing program, the sandy soils encountered at the boring locations generally consisted of **"Group A", "Group B", "Group C", and "Group D" soils**, within the stormwater pond to the maximum termination depth of 25 feet below existing grade. We note that the actual depth of the soil stratum depicted on our boring logs may vary especially within the unexplored areas. Please refer to the boring logs for a more detailed description of the soil.

Clean sandy soils (Group A) with less than 5 percent soil fines are best suited for fill usage, since they are typically free-draining and require minimal moisture control during placement and compaction. The sands with silt and clay (Group B), with contents of 6 to 12 percent soil fines, will require some extra care during placement and compaction. These soils are less freely-draining and might require aeration and drying prior to usage, during use in the rainy season and when placed near the groundwater table. We recommend that imported fill material meet the Group A and Group B qualifications.

Soils classified as silty or clayey, Group C (greater than 12 percent fines, but less than or equal to 20 percent fines), may impede infiltration and cause a perched water condition, especially when compacted. Although not preferable, these soils may be used by contractors experienced with using these materials as fill. These materials require stringent moisture control during stockpiling, placement and compaction. They will also be problematic during

compaction. These soils dry very slowly and will have to be compacted with no vibration (a sheep foot roller, for example) in smaller, 6 inch compacted lifts. A more common use for these materials is in construction of stabilized subgrade.

Soils classified as silty or clayey, Group D (greater than 20 percent fines), will impede infiltration and cause a perched water condition. We do not recommend using these soils as structural fill material as they will require stringent moisture control during stockpiling, placement and compaction. They will also be problematic during compaction. Group D soils also dry very slowly and will have to be compacted with no vibration (a sheep foot roller, for example) in smaller, 6 inch compacted lifts.

Soils containing organic materials, Group E, may not be used as structural fill. These materials may only be used in non-structural areas such as green areas or landscaping. We do not recommend that these materials are placed directly beneath sodded areas if they contain significant amounts of organic materials. Highly organic soils are typically poor drainage materials, and may cause ponding or wetness for some time following rain events if placed directly beneath sod.

14.0 DEWATERING AND EXCAVATION CONSIDERATIONS

Based on the anticipated groundwater level conditions, dewatering **will likely** be required especially any earthwork located within the northwest quadrant of the subject site. Where excavations will extend only a few feet below the groundwater table, a sump pump may be sufficient to control the groundwater table. Deeper excavations may require well points and/or sock drains to control the groundwater table.

Regardless of any method(s) used, we recommend drawing down the water level at least 2 feet below the bottom of the excavation. The actual method(s) of dewatering should be determined by the contractor. The design and discharge of the dewatering system must be performed in accordance with applicable regulatory criteria (i.e., water management district, etc.) and compliance with such criteria is the sole responsibility of the contractor.

Excavations should be sloped as necessary to prevent slope failure and to allow backfilling. As a minimum, temporary excavations below 4-foot depth should be sloped in accordance with OSHA regulations. Where lateral confinement will not permit slopes to be laid back, the excavation should be shored in accordance with OSHA requirements. During excavation, excavated material should not be stockpiled at the top of the slope within a horizontal distance equal to the excavation depth. Provisions for maintaining workman safety within excavations is the sole responsibility of the contractor.

15.0 CONSTRUCTION RELATED SERVICES

We recommend the owner retain UES to provide inspection services during the site preparation procedures for confirmation of the adequacy of the earthwork operations. Field tests and observations include verification of foundation and pavement subgrades by monitoring earthwork operations and performing quality assurance tests of the placement of compacted structural fill courses.

The geotechnical engineering design does not end with the advertisement of the construction documents. The design is an on-going process throughout construction. Because of our familiarity with the site conditions and the intent of the engineering design, we are most

qualified to address site problems or construction changes, which may arise during construction, in a timely and cost-effective manner.

16.0 LIMITATIONS

This report has been prepared for the exclusive use of ***Turnstone Group*** and other designated members of their design/construction team associated with the proposed construction 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.

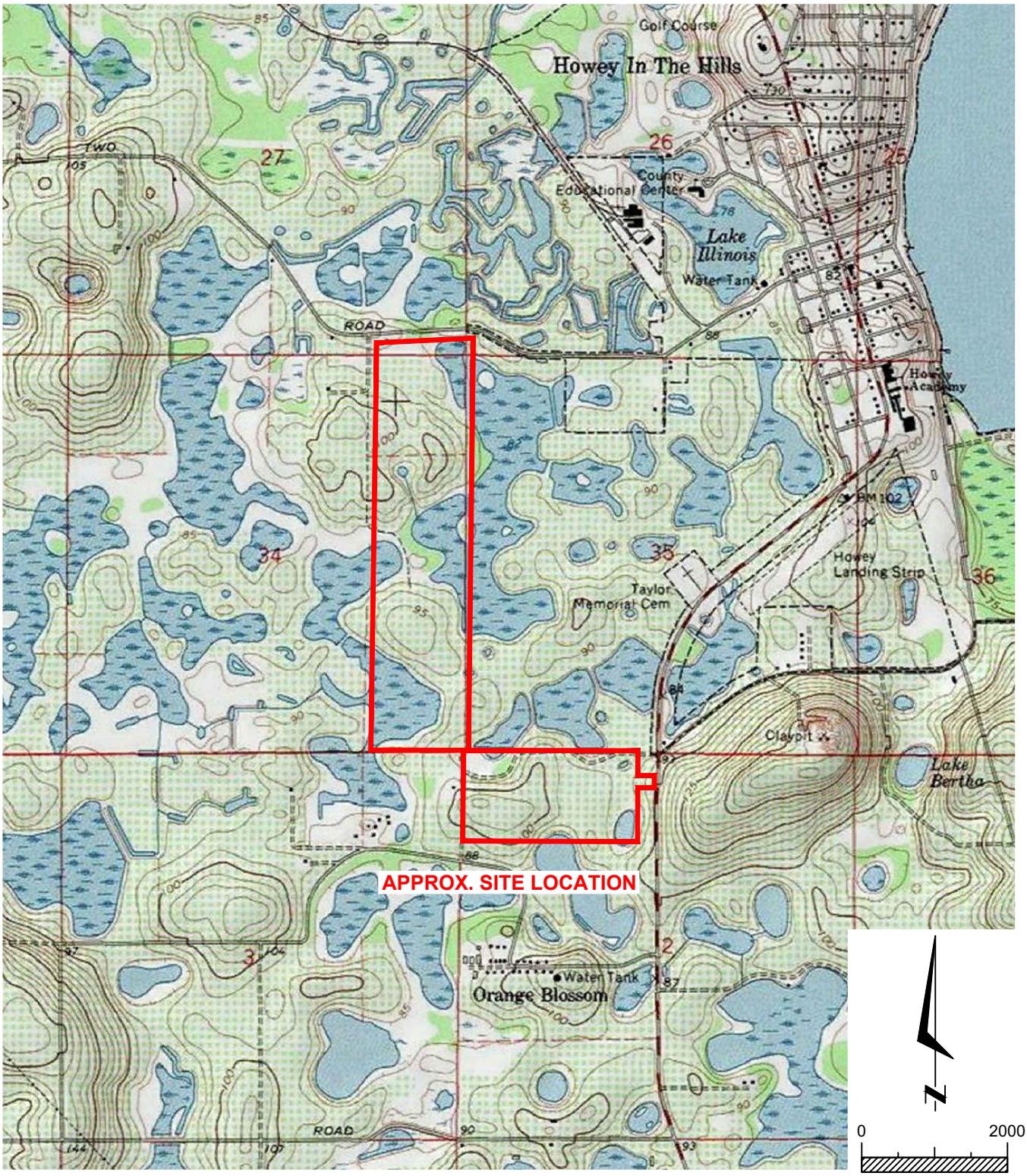
All users of this report are cautioned that there was no requirement for UES to attempt to locate any man-made buried objects or identify any other potentially hazardous conditions that may exist at the site during the course of this exploration. Therefore, no attempt was made by UES to locate or identify 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. A Geotechnical Business Council (GBC) publication, "Important Information About This Geotechnical Engineering Report" appears in Appendix C, and will help explain the nature of geotechnical issues. Further, we present documents in Appendix C: Constraints and Restrictions, to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

* * * * * * * * *

APPENDIX A

UES™



SOURCE: USGS QUADRANGLE MAP OF "HOWEY-IN-THE-HILLS, FLORIDA".

UES

DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

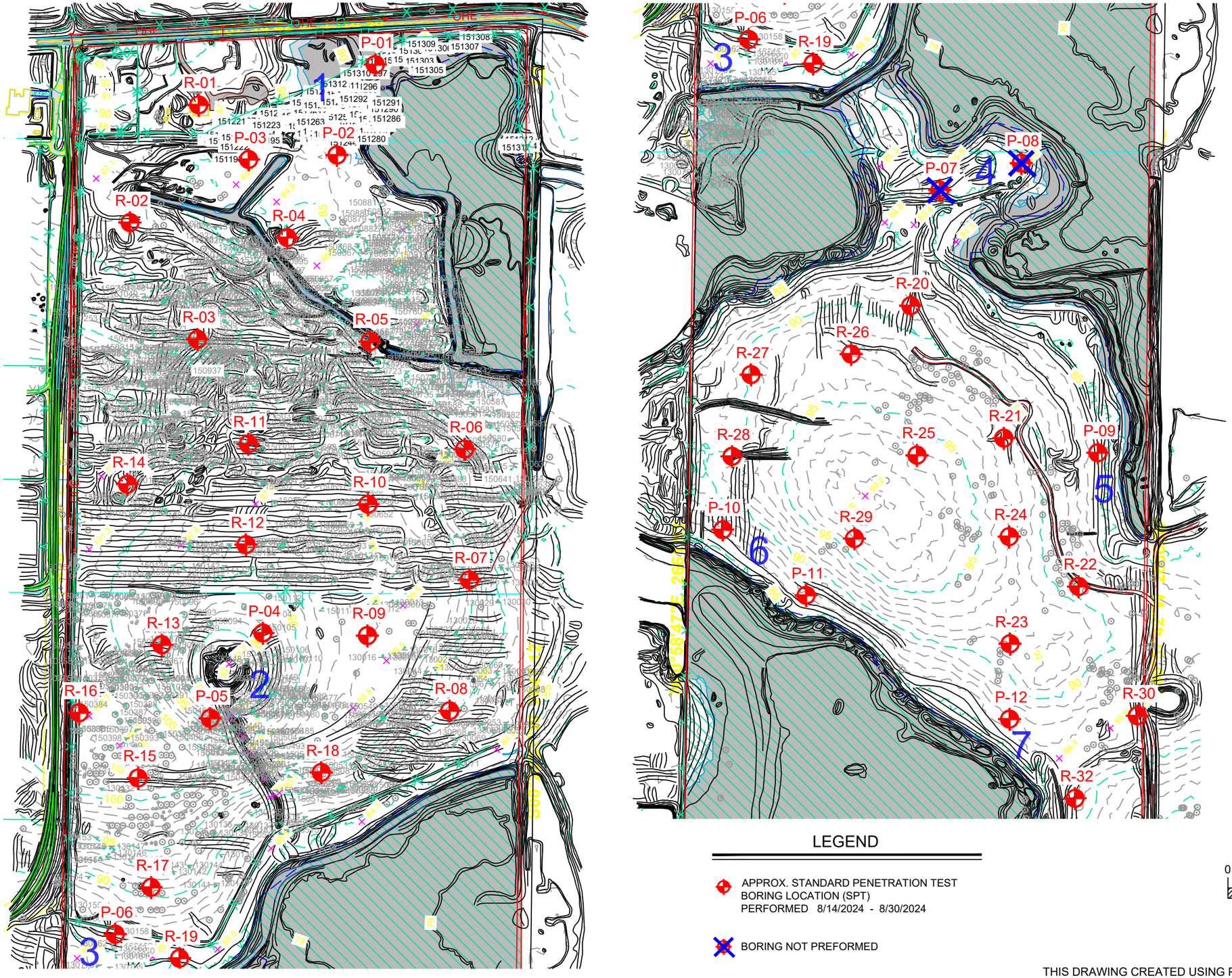
SITE LOCATION MAP

DRAWN BY:	N.F.	**DATE:**	8 - 29 - 2024	**CHECKED BY:**	E.M.	**DATE:**	9 - 11 - 2024
SCALE:	AS SHOWN	**PROJECT NO:**	0130.2400259.0000	**REPORT NO:**	2109185	**PAGE NO:**	A-1

24-0576-01

APPENDIX B

UES™



THIS DRAWING CREATED USING PLAN PROVIDED BY CLIENT.

24-0576-01

DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

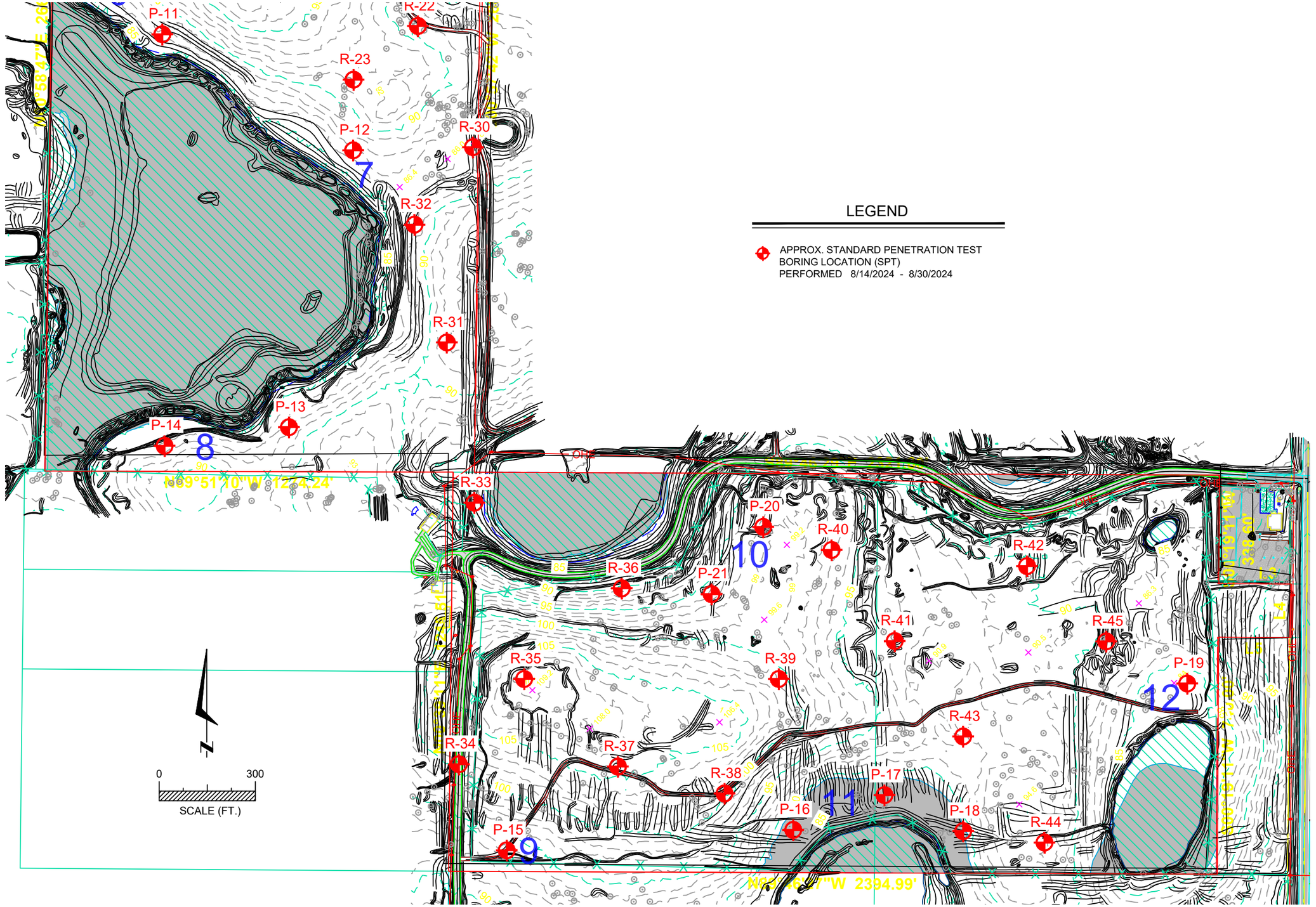
BORING LOCATION PLAN

FOR: TURMSTONE GROUP

DRAWN BY:	N.F.	DATE:	9 - 11 - 2024
CHECKED BY:	E.M.	DATE:	11 - 11 - 2024
REPORT NO:	2109185	SCALE:	AS SHOWN
PROJECT NO:	0130.2400259.0000		

UES

PAGE NO: B-1.1



LEGEND

APPROX. STANDARD PENETRATION TEST BORING LOCATION (SPT)
PERFORMED 8/14/2024 - 8/30/2024

THIS DRAWING CREATED USING PLAN PROVIDED BY CLIENT.

24-0576-01

FOR: TURMSTONE GROUP

DRAWN BY:	N.F.	DATE:	9 - 11 - 2024
CHECKED BY:	E.M.	DATE:	18 - 11 - 2024
REPORT NO:	2109185	SCALE:	AS SHOWN
PROJECT NO:	0130.2400259.0000		

DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

BORING LOCATION PLAN

UES

PAGE NO: B-1

UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
PAGE:	B-2.1

PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-01** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 83.0
WATER TABLE (ft): 5.8
DATE OF READING: 8/30/2024
EST. SHGWT (ft): +0.0

DATE STARTED: 8/30/24
DATE FINISHED: 8/30/24
DRILLED BY: ORL - CM/JP/AI
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0				▽								
						Loose grey clayey fine SAND [SC], [GROUP D]						
		3-5-5	10				26	13			0	
						-- medium dense						
		5-7-10	17									
5		8-10-12	22	▼								
		13-14-15	29									
		12-9-10	19									
						Medium dense gray silty fine SAND [SM], [GROUP C]	14	14				
10		11-13-16	29									
15		8-7-6	13									
20		7-6-6	12									
25		10-13-16	29									
						BORING TERMINATED AT 25.0 FEET						

W-13668.GPJ

UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
PAGE:	B-2.2

PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-02** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 81.8
WATER TABLE (ft): 4.4
DATE OF READING: 8/30/2024
EST. SHGWT (ft): 3.5

DATE STARTED: 8/30/24
DATE FINISHED: 8/30/24
DRILLED BY: ORL - CM/JP/AI
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Medium dense grey fine SAND with silt [SP-SM], [GROUP B]						
		4-7-9	16									
		8-9-8	17	▽ ▼			8	11			10	
5		7-9-10	19			Medium dense grey clayey fine SAND [SC], [GROUP D]						
		8-11-14	25				42	14				
		11-13-15	28									
10		9-11-12	23									
						-- dense						
15		12-14-17	31									
						Medium dense grey fine SAND [SP], [GROUP A]						
20		11-13-15	28									
25		10-12-14	26			BORING TERMINATED AT 25.0 FEET						

W-13668.GPJ

UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
PAGE:	B-2.3

PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-03** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 84.7
WATER TABLE (ft): 8.5
DATE OF READING: 8/30/2024
EST. SHGWT (ft): 3.5

DATE STARTED: 8/30/24
DATE FINISHED: 8/30/24
DRILLED BY: ORL - CM/JP/AI
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with silt [SP-SM], [GROUP B]						
		2-3-4	7				9	5			8	
		3-4-5	9	▽			11	12				
						Loose grey clayey fine SAND [SC], [GROUP D]						
5		4-4-6	10			-- medium dense, grey tan						
		6-7-9	16									
		6-7-8	15	▼		-- grey						
10		8-9-8	17									
15		8-9-9	18									
20		6-8-8	16									
25		5-6-7	13			BORING TERMINATED AT 25.0 FEET						

W-13668.GPJ

UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
PAGE:	B-2.4

PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-04** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 91.7
WATER TABLE (ft): 10.9
DATE OF READING: 8/30/2024
EST. SHGWT (ft): 3.5

DATE STARTED: 8/27/24
DATE FINISHED: 8/27/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with silt & roots [SP-SM], [GROUP B]						
		2-2-3	5				7	6			16	
						-- medium dense						
		4-4-7	11	▽								
						Medium dense grey clayey fine SAND [SC], [GROUP D]	31	15				
5		10-12-14	26									
		11-12-15	27									
		10-13-14	27			-- dense						
		12-15-17	32									
10				▼								
						-- medium dense						
		11-13-14	27									
15												
		11-12-14	26									
20												
		10-11-13	24									
25						BORING TERMINATED AT 25.0 FEET						

W-13668.GPJ

UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
PAGE:	B-2.5

PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-05** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 91.5
WATER TABLE (ft): 9.0
DATE OF READING: 8/30/2024
EST. SHGWT (ft): 3.5
DATE STARTED: 8/27/24
DATE FINISHED: 8/27/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with roots [SP], [GROUP B]						
		2-2-2	4			-- medium dense						
		3-5-7	12	▽			5	3			32	
5						Medium dense grey tan clayey fine SAND [SC], [GROUP D]						
		5-9-13	22			-- dense						
		14-15-18	33			-- medium dense, grey						
		11-12-11	23	▼		-- grey tan						
10		11-13-15	28									
						-- grey						
15		7-7-9	16									
20		6-5-8	13									
						-- grey tan						
25		5-7-6	13									
						BORING TERMINATED AT 25.0 FEET						

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UES
BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-06** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 86.2
WATER TABLE (ft): 9.2
DATE OF READING: 8/30/2024
EST. SHGWT (ft): 3.5

DATE STARTED: 8/27/24
DATE FINISHED: 8/27/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND [SP], [GROUP A]						
		2-2-3	5			-- medium dense, grey						
		5-7-8	15	▽			5	3			28	
						Medium dense grey claye fine SAND [SC], [GROUP D]						
5		6-7-11	18									
		11-13-17	30			-- grey tan -- dense	58	34				
		13-15-18	33									
		13-15-16	31	▼		-- grey						
10												
						-- medium dense						
15		14-13-13	26									
						-- grey tan						
20		6-7-8	15									
25		6-7-7	14			BORING TERMINATED AT 25.0 FEET						

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BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-09** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 85.2
WATER TABLE (ft): 7.8
DATE OF READING: 8/24/2024
EST. SHGWT (ft): 6.5

DATE STARTED: 8/22/24
DATE FINISHED: 8/22/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose mix dark grey fine SAND [SP], [GROUP A]						
		3-4-5	9			-- medium dense						
		6-6-7	13			-- loose, light grey						
5		4-5-5	10			-- medium dense	5	4			26	
		4-5-6	11	▽								
		3-3-3	6	▼		Loose light grey clayey fine SAND [SC], [GROUP D]						
		3-3-3	6			-- grey						
10												
						-- medium dense						
15		7-9-14	23									
20		11-13-15	28									
						-- dense, grey tan						
25		13-17-21	38			BORING TERMINATED AT 25.0 FEET						

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-10** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): N.S.
WATER TABLE (ft): 12.9
DATE OF READING: 8/24/2024
EST. SHGWT (ft): 6.5
DATE STARTED: 8/21/24
DATE FINISHED: 8/21/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND with root [SP], [GROUP A]						
		1-1-1	2			-- grey	4	4			25	
		2-2-1	3			-- loose light grey						
5		2-2-2	4			-- medium dense						
		2-5-7	12	▽								
						Medium dense grey tan pink red clayey fine SAND [SC], [GROUP D]						
		7-9-14	23			-- dense, grey pink						
10		13-16-18	34									
				▼								
						-- grey pink tan						
15		13-16-19	35									
							40	20				
20		13-16-17	33									
25		14-16-20	36			BORING TERMINATED AT 25.0 FEET						

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BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-11** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 89.7
WATER TABLE (ft): 5.6
DATE OF READING: 8/24/2024
EST. SHGWT (ft): 4.5

DATE STARTED: 8/21/24
DATE FINISHED: 8/21/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with root [SP], [GROUP A]						
		2-2-2	4			-- grey	3	3			40	
		2-3-3	6	▽		-- light grey						
5		3-3-3	6	▼								
		3-3-7	10			-- medium dense						
		4-7-11	18									
10		7-9-13	22			Medium dense light grey tan fine SAND with clay [SP-SC], [GROUP B]						
						-- light grey						
15		8-11-11	22									
						-- light grey tan						
20		9-12-14	26									
		13-15-18	33			Dense grey tan clayey fine SAND [SC], [GROUP D]						
25						BORING TERMINATED AT 25.0 FEET						

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BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-12** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 88.1
WATER TABLE (ft): 10.5
DATE OF READING: 8/24/2024
EST. SHGWT (ft): 5.5

DATE STARTED: 8/20/24
DATE FINISHED: 8/20/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP], [GROUP A]						
		1-2-2	4									
		2-2-3	5									
5		2-4-4	8	▽			5	4			40	
		5-8-11	19			Medium dense grey tan clayey fine SAND [SC], [GROUP D]						
		8-11-12	23									
10		11-13-15	28	▼								
15		11-12-13	25									
20		11-12-12	24									
						-- tan						
25		12-13-13	26			BORING TERMINATED AT 25.0 FEET						

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-13** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 87.7
WATER TABLE (ft): 10.6
DATE OF READING: 8/24/2024
EST. SHGWT (ft): 8.5

DATE STARTED: 8/19/24
DATE FINISHED: 8/19/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND with roots [SP], [GROUP A]						
		1-1-1	2									
		1-1-1	2									
5		1-1-1	2			-- loose						
		1-2-2	4				3	6			40	
		2-2-3	5	▽								
		3-4-5	9									
10				▼								
						Medium dense dark gray fine SAND with silt [SP-SM], [GROUP B]						
15		6-7-9	16									
20		6-8-9	17									
25		9-11-14	25			BORING TERMINATED AT 25.0 FEET						

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-14** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): N.S.
WATER TABLE (ft): 6.2
DATE OF READING: 8/24/2024
EST. SHGWT (ft): 3.5
DATE STARTED: 8/19/24
DATE FINISHED: 8/19/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND [SP], [GROUP B]						
		1-2-1	3				5	5			43	
		3-6-7	13	▽		-- medium dense						
5		9-10-10	20			Medium dense grey clayey fine SAND [SC], [GROUP D]						
		8-11-14	25	▼		-- grey tan						
		11-13-13	26									
10		9-11-12	23									
15		11-12-13	25									
20		8-13-12	25									
25		11-12-14	26			BORING TERMINATED AT 25.0 FEET						

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-15** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): N.S.
WATER TABLE (ft): 17.0
DATE OF READING: 8/23/2024
EST. SHGWT (ft): +15

DATE STARTED: 8/14/24
DATE FINISHED: 8/14/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND with roots [SP], [GROUP A]						
		2-1-1	2			-- loose, no roots						
		2-2-2	4			-- very loose						
5		1-1-1	2			-- loose						
		1-2-2	4			-- very loose	4	4			40	
		1-1-1	2			-- loose						
10		1-2-2	4									
15		3-3-5	8	▽								
				▼								
						-- light grey						
20		4-5-5	10									
25		5-4-5	9			BORING TERMINATED AT 25.0 FEET						

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PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-16** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 93.7
WATER TABLE (ft): 9.1
DATE OF READING: 8/23/2024
EST. SHGWT (ft): 7.5

DATE STARTED: 8/15/24
DATE FINISHED: 8/15/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND [SP], [GROUP A]						
		2-2-1	3			-- loose, grey						
		1-2-2	4			-- very loose, light grey						
5		1-1-1	2									
		1-1-1	2	▽			3	2			40	
		1-1-1	2	▼								
10		1-0-1	1									
						-- loose						
15		2-4-6	10									
						-- medium dense, dark grey						
20		8-8-9	17									
						-- light grey tan						
25		6-5-6	11			BORING TERMINATED AT 25.0 FEET						

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UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-17** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 87.8
WATER TABLE (ft): 9.2
DATE OF READING: 8/23/2024
EST. SHGWT (ft): 7.5

DATE STARTED: 8/15/24
DATE FINISHED: 8/15/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND [SP], [GROUP A]						
		1-2-2	4									
						-- grey	3	3			40	
		2-4-6	10									
						-- light grey						
5		4-5-5	10									
		4-5-4	9									
				▽								
		4-3-3	6									
				▼								
		3-4-4	8			Loose mix grey fine SAND with silt [SP-SM], [GROUP B]						
10												
						-- medium dense, dark grey						
15		4-5-6	11									
20		9-10-8	18									
						Medium dense light grey fine SAND [SP], [GROUP A]						
25		5-6-6	12			BORING TERMINATED AT 25.0 FEET						

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UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
PAGE:	B-2.16

PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-18** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 86.2
WATER TABLE (ft): 11.3
DATE OF READING: 8/23/2024
EST. SHGWT (ft): 3.5

DATE STARTED: 8/15/24
DATE FINISHED: 8/15/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with silt [SP-SM], [GROUP B]						
		1-2-2	4									
		2-4-5	9	▽			7	5			20	
						Medium dense grey tan clayey fine SAND [SC], [GROUP C]						
5		9-12-16	28									
		12-13-16	29			-- desne	19	10				
		12-14-18	32									
10		13-16-18	34									
				▼								
						-- medium dense, light grey						
15		15-14-13	27									
20		9-10-11	21									
25		11-11-11	22			BORING TERMINATED AT 25.0 FEET						

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BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-19** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 90.8
WATER TABLE (ft): 6.8
DATE OF READING: 8/23/2024
EST. SHGWT (ft): 5.5

DATE STARTED: 8/16/24
DATE FINISHED: 8/16/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND [SP], [GROUP A]						
		1-2-3	5									
		3-4-6	10			-- medium dense						
5		4-6-7	13	▽		-- grey	4	6			25	
		6-7-9	16	▼								
						Medium dense grey clayey fine SAND [SC], [GROUP D]						
		5-6-9	15									
		6-6-10	16				31	17				
10												
						Medium dense grey fine SAND with clay [SP-SC], [GROUP B]						
15		6-7-6	13									
20		4-5-6	11									
25		5-6-7	13			BORING TERMINATED AT 25.0 FEET						

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BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-20** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 84.7
WATER TABLE (ft): 24.0
DATE OF READING: 8/23/2024
EST. SHGWT (ft): +20

DATE STARTED: 8/17/24
DATE FINISHED: 8/17/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey tan fine SAND with roots [SP], [GROUP A]						
		1-1-1	2									
		1-1-1	2									
5		1-1-1	2			-- no roots						
		1-1-2	3				2	4			40	
		2-2-3	5			-- loose						
10		3-4-4	8									
						Loose light grey fine SAND with clay [SP-SC], [GROUP B]						
15		3-4-5	9									
						-- medium dense, grey						
20		5-6-7	13	▽			7	12				
				▼		-- dark grey						
25		3-7-9	16			BORING TERMINATED AT 25.0 FEET						

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UES
BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **P-21** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 97.9
WATER TABLE (ft): 19
DATE OF READING: 8/17/2024
EST. SHGWT (ft): +15

DATE STARTED: 8/17/24
DATE FINISHED: 8/17/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey tan fine SAND [SP], [GROUP A]						
		1-2-1	3									
		2-1-2	3									
5							2	3			40	
		2-2-1	3									
		1-1-1	2			-- loose						
		2-2-2	4									
10		2-2-3	5									
						-- medium dense, light grey						
15		5-7-7	14	▽								
				▼								
20		6-7-8	15									
						-- grey						
25		4-6-8	14			BORING TERMINATED AT 25.0 FEET						

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UES
BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-01** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 91.2
WATER TABLE (ft): NE
DATE OF READING: 8/29/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/29/24
DATE FINISHED: 8/29/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-2-1	3			-- loose						
		1-2-2	4			-- very loose, light grey tan						
5		1-1-2	3			-- loose, light grey						
		1-2-3	5									
		2-3-3	6									
		2-3-4	7	▽		-- light grey tan						
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-02** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 87.0
WATER TABLE (ft): NE
DATE OF READING: 8/29/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/29/24
DATE FINISHED: 8/29/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with silt & roots [SP-SM]						
		2-2-2	4									
		3-5-5	10	▽								
						Medium dense grey tan clayey fine SAND [SC]						
5		4-6-8	14									
		9-11-12	23									
		10-13-14	27									
		11-13-17	30									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-03** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.6
WATER TABLE (ft): NE
DATE OF READING: 8/29/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/29/24
DATE FINISHED: 8/29/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP]						
		2-2-2	4									
						-- light grey, with roots						
		3-4-5	9	▽								
						Medium dense grey tan clayey fine SAND [SC]						
5		5-6-9	17									
		8-12-15	27									
		11-13-17	30			-- dense						
		12-15-19	34									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-04** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.6
WATER TABLE (ft): NE
DATE OF READING: 8/29/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/29/24
DATE FINISHED: 8/29/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with silt & roots [SP-SM]						
		3-5-4	9			-- dark grey						
		4-5-5	10	▽		Medium dense grey tan clayey fine SAND [SC]						
5		5-8-18	26									
		11-15-13	28			-- grey tan brown						
						-- brown grey						
		15-12-11	23			-- grey						
10		10-8-7	15			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-05** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 84.7
WATER TABLE (ft): NE
DATE OF READING: 8/29/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/29/24
DATE FINISHED: 8/29/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Medium dense mix grey fine SAND with roots [SP]						
		4-6-6	12									
				▽		Medium dense mix grey brown fine SAND with silt [SP-SM]						
		5-8-10	18			Medium dense grey clayey fine SAND [SC]						
5		8-9-13	22			-- dense, grey tan						
		12-14-17	31									
		11-15-16	31			-- medium dense						
10		10-14-14	28			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-06** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 85.8
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +5.0

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with silt [SP-SM]						
		1-2-3	5									
		2-4-5	9			Medium dense light grey fine SAND [SP]						
5		4-5-7	12	▽		Medium dense grey tan clayey fine SAND [SC]						
		6-6-6	12									
		12-14-15	29			-- dense, grey						
10		13-15-18	33			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-07** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 91.1
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +5.0

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark gery fine SAND [SP]						
		2-2-2	4									
						-- grey						
		2-2-2	4									
5				▽								
		2-2-6	8			Medium dense grey tan clayey fine SAND [SC]						
		11-13-15	28			-- dense						
		13-17-22	39									
		14-19-21	40									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-08** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.3
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +5.0

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with roots [SP]						
		2-2-3	5									
		2-2-2	4			-- very loose, grey						
5		2-1-2	3	▽		Medium dense grey tan clayey fine SAND [SC]						
		9-13-15	28			-- dense						
		12-15-18	33									
		13-16-20	36			-- grey tan pink						
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-09** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 98.7
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +8.0

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2									
		1-1-2	3			-- light grey						
5		1-1-2	3			-- loose						
		2-2-3	5									
		2-3-4	7	▽								
		4-9-14	23			Medium dense light grey tan clayey fine SAND [SC]						
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-10** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 97.6
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +5.0

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with roots [SP]						
		2-2-2	4									
		2-2-2	4									
5		2-2-2	4	▽								
						Medium dense grey tan clayey fine SAND [SC]						
		3-8-14	22									
		12-14-14	28			-- dense						
10		13-15-17	32			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-11** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 93.9
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND with silt & roots [SP-SM]						
		2-1-2	3									
				▽		-- loose						
		2-2-3	5									
						Medium dense grey tan clayey fine SAND [SC]						
5		3-4-9	13									
		12-14-16	30			-- dense						
		11-16-20	36									
		13-18-23	41									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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UES
BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-12** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 95.5
WATER TABLE (ft): NE
DATE OF READING: 8/28/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/28/24
DATE FINISHED: 8/28/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose gery fine SAND with roots [SP]						
		2-1-2	3			-- loose						
		2-2-2	4			-- very loose, light grey						
5		2-2-1	3			-- loose						
		2-2-3	5									
		1-2-3	5									
10		2-3-5	8	▽		BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-13** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 94.8
WATER TABLE (ft): NE
DATE OF READING: 8/26/2024
EST. SHGWT (ft): +7.5

DATE STARTED: 8/26/24
DATE FINISHED: 8/26/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP]						
		3-3-4	7			-- light grey						
		2-2-3	5									
5		3-5-5	10									
		4-4-4	8	▽		-- medium dense						
		4-5-8	13			Medium dense light grey clayey fine SAND [SC] -- grey						
10		12-15-19	34			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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BORING LOG

PROJECT NO.:	0130.2400259.0000
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-14** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 101.9
WATER TABLE (ft): NE
DATE OF READING: 8/26/2024
EST. SHGWT (ft): +2.5

DATE STARTED: 8/26/24
DATE FINISHED: 8/26/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND with silt [SP-SM]						
		1-1-1	2	▽								
		1-1-7	8			Loose grey tan clayey fine SAND [SC] -- dense						
5		12-14-18	32									
		17-19-22	41									
		14-17-19	36									
		13-15-18	33									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-15** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 102.5
WATER TABLE (ft): NE
DATE OF READING: 8/26/2024
EST. SHGWT (ft): +10

DATE STARTED: 8/26/24
DATE FINISHED: 8/26/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with silt & roots [SP-SM]						
		2-2-3	5			-- medium dense, grey tan						
		8-11-16	27			-- dense, grey tan pink						
5		16-17-21	38									
		13-18-23	41									
		15-21-24	45									
		13-18-22	40	▽								
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-16** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 102.2
WATER TABLE (ft): NE
DATE OF READING: 8/26/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/26/24
DATE FINISHED: 8/26/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP]						
		2-2-2	4									
		2-2-2	4	▽								
						Loose light grey clayey fine SAND [SC]						
5		2-2-6	8			-- medium dense, grey tan						
		8-13-17	30			-- dense						
		11-16-17	32									
		13-16-21	37									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-17** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.9
WATER TABLE (ft): NE
DATE OF READING: 8/26/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/26/24
DATE FINISHED: 8/26/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND with silt [SP-SM]						
		1-1-1	2									
				▽		-- grey						
		1-1-2	3									
						Medium dense grey tan clayey fine SAND [SC]						
5		3-8-9	17									
		8-10-14	24			-- dense						
		16-18-21	39									
		13-14-20	34									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-18** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 93.5
WATER TABLE (ft): NE
DATE OF READING: 8/26/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/26/24
DATE FINISHED: 8/26/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with silt [SP-SM]						
		2-2-2	4			-- medium dense, grey tan						
		11-13-15	28	▽		Dense grey tan clayey fine SAND [SC]						
5		13-17-21	38									
		15-18-24	42			-- medium dense						
		9-11-13	24			-- dense						
10		13-17-20	37			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-19** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 85.3
WATER TABLE (ft): NE
DATE OF READING: 8/27/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/27/24
DATE FINISHED: 8/27/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with silt & roots [SP-SM]						
		2-4-2	6									
		2-2-3	5			-- grey						
5		2-3-6	9			-- medium dense dark grey						
		1-012-14	26									
		6-8-7	15									
		8-11-13	24	▽			7	14				
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-20** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 86.7
WATER TABLE (ft): NE
DATE OF READING: 8/22/2024
EST. SHGWT (ft): +5.0

DATE STARTED: 8/22/24
DATE FINISHED: 8/22/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with roots [SP]						
		2-3-3	6									
		3-4-5	9			-- medium dense, light grey						
5		4-5-7	12	▽								
		6-8-12	20			Medium dense light grey clayey fine SAND [SC]						
		8-8-8	16			-- grey						
10		8-11-15	26			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-21** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.8
WATER TABLE (ft): NE
DATE OF READING: 8/22/2024
EST. SHGWT (ft): +7.0

DATE STARTED: 8/22/24
DATE FINISHED: 8/22/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND [SP]						
		2-1-1	2			-- grey						
		1-1-1	2			-- light grey						
5		1-1-1	2			-- loose						
		1-2-2	4	▽								
		2-2-3	5			Loose light grey clayey fine SAND [SC]						
						-- grey						
10		2-3-5	8			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-22** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 95.6
WATER TABLE (ft): NE
DATE OF READING: 8/21/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/21/24
DATE FINISHED: 8/21/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND [SP]						
		2-2-2	4			-- grey						
		2-2-2	4			-- loose light grey						
5		2-2-3	5			-- medium dense						
		4-5-7	12									
		5-5-6	11									
		6-5-9	14	▽								
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-23** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 91.7
WATER TABLE (ft): NE
DATE OF READING: 8/20/2024
EST. SHGWT (ft): +6.5

DATE STARTED: 8/20/24
DATE FINISHED: 8/20/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with roots [SP]						
		2-2-3	5			-- no roots						
		3-2-2	4									
5		2-2-4	6			-- grey tan red -- medium dense						
		5-7-9	16	▽								
		8-11-14	25			Medium dense grey tan red pink clayey fine SAND [SC] -- grey tan						
10		10-13-15	28			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-24** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 91.4
WATER TABLE (ft): NE
DATE OF READING: 8/21/2024
EST. SHGWT (ft): +8.0

DATE STARTED: 8/21/24
DATE FINISHED: 8/21/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP]						
		2-2-2	4				3	3				
		2-2-2	4			-- very loose light gray						
5		2-1-2	3			-- loose						
		2-2-3	5									
		2-3-3	6	▽								
						Medium dense light grey tan fine SAND with clay [SP-SC]						
10		3-4-7	11			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-25** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): N.S.
WATER TABLE (ft): NE
DATE OF READING: 8/22/2024
EST. SHGWT (ft): +6.5

DATE STARTED: 8/22/24
DATE FINISHED: 8/22/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND with roots [SP]						
		1-1-1	2			-- no roots						
		2-1-2	3			-- light grey, with roots						
5		1-1-2	3			-- loose, no roots						
		2-3-2	5	▽								
						Medium dense grey tan red clayey fine SAND [SC]						
		6-8-11	19									
10		10-12-14	26			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-26** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 92.3
WATER TABLE (ft): NE
DATE OF READING: 8/23/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/23/24
DATE FINISHED: 8/23/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0												
		2-2-2	4			Loose grey fine SAND with silt & roots [SP-SM]						
		2-1-2	3	▽		-- very loose						
5		1-4-10	14			Medium dense grey tan clayey fine SAND [SC]						
		8-10-12	22									
		10-13-14	27			-- dense, grey						
10		12-14-18	32			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-27** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.4
WATER TABLE (ft): NE
DATE OF READING: 8/23/2024
EST. SHGWT (ft): +10

DATE STARTED: 8/23/24
DATE FINISHED: 8/23/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with roots [SP]						
		1-2-2	4									
		2-2-2	4			-- very loose, light grey						
5		1-1-2	3			-- loose						
		2-3-4	7									
		4-5-5	10			-- medium dense						
		5-7-9	16	▽								
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-28** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 89.3
WATER TABLE (ft): NE
DATE OF READING: 8/23/2024
EST. SHGWT (ft): +7.0

DATE STARTED: 8/23/24
DATE FINISHED: 8/23/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose dark grey fine SAND with roots [SP]						
		1-1-1	2			-- grey						
		1-1-1	2			-- light grey						
5		1-1-1	2			-- loose						
		1-3-7	10	▽								
		4-5-6	11			Medium dense light grey tan fine SAND with clay [SP-SC]						
10		7-9-12	21			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-29** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 96.3
WATER TABLE (ft): NE
DATE OF READING: 8/21/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/21/24
DATE FINISHED: 8/21/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0												
		2-2-2	4			Loose grey fine SAND with silt [SP-SM]						
		2-2-2	4	▽								
						Loose light grey tan clayey fine SAND [SC]						
5		2-3-5	8			-- grey tan						
		11-13-16	29									
		10-14-14	28									
		9-8-8	16									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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BORING LOG

PROJECT NO.:	0130.2400259.0000
REPORT NO.:	2109185
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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-30** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 87.6
WATER TABLE (ft): 7.4
DATE OF READING: 8/20/2024
EST. SHGWT (ft): 6.0

DATE STARTED: 8/20/24
DATE FINISHED: 8/20/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose dark grey fine SAND with root [SP]						
		2-3-3	6			-- medium dense, grey	5	7				
		4-7-9	16			-- loose, light grey						
5		5-4-4	8	▽								
		4-4-4	8	▼		-- very loose						
		2-1-2	3			-- loose						
10		2-2-2	4			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-31** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 84.8
WATER TABLE (ft): NE
DATE OF READING: 8/19/2024
EST. SHGWT (ft): +7.0

DATE STARTED: 8/19/24
DATE FINISHED: 8/19/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose mix dark grey fine SAND [SP]						
		2-2-3	5									
		2-3-3	6			-- grey						
5		2-2-2	4			-- medium dense						
		3-5-6	11	▽								
		6-8-12	20			Medium dense grey tan clayey fine SAND [SC]						
		11-12-11	23			-- grey tan red						
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-32** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 89.1
WATER TABLE (ft): NE
DATE OF READING: 8/20/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/20/24
DATE FINISHED: 8/20/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with roots [SP]						
		1-2-2	4									
		2-2-3	5			-- light grey						
5		2-3-3	6			-- no roots						
		3-4-6	10									
		4-5-5	10			-- medium dense						
		5-6-7	13	▽								
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-33** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED

G.S. ELEVATION (ft): 87.9
WATER TABLE (ft): 5.7
DATE OF READING: 8/19/2024
EST. SHGWT (ft): 4.0

DATE STARTED: 8/19/24
DATE FINISHED: 8/19/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Medium dense dark grey fine SAND with roots [SP]						
		3-4-7	11			-- light grey						
		4-6-5	11	▽		-- loose						
5		3-4-4	8	▼								
		2-3-3	6									
		3-5-5	10									
						Medium dense grey tan clayey fine SAND [SC]						
10		4-7-9	16			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-34** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 84.6
WATER TABLE (ft): NE
DATE OF READING: 8/14/2024
EST. SHGWT (ft): +4.0

DATE STARTED: 8/14/24
DATE FINISHED: 8/14/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2									
		1-1-1	2	▽								
5		1-3-9	12			Medium dense grey red tan clayey fine SAND [SC]						
		11-13-15	28			-- grey tan						
		13-15-15	30			-- dense, tan red						
10		16-18-21	39			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-35** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 103.5
WATER TABLE (ft): NE
DATE OF READING: 8/14/2024
EST. SHGWT (ft): +4.0

DATE STARTED: 8/14/24
DATE FINISHED: 8/14/24
DRILLED BY: ORL - CM/CA
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND with roots [SP]						
		1-2-2	4			-- very loose						
		1-1-2	3	▽								
5		1-4-9	13			Medium dense grey red clayey fine SAND with roots [SC]						
						-- grey red tan						
		10-12-13	25			-- grey tan						
		12-14-16	30			-- dense, tan red						
10		15-17-19	36			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-36** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 108.6
WATER TABLE (ft): NE
DATE OF READING: 8/17/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/17/24
DATE FINISHED: 8/17/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP]						
		1-2-2	4			-- very loose						
		1-1-2	3			-- light grey						
5		1-1-2	3			-- loose						
		2-4-5	9			-- medium dense						
		3-5-6	11									
10		5-6-7	13	▽		BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-37** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 106.3
WATER TABLE (ft): NE
DATE OF READING: 8/15/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/15/24
DATE FINISHED: 8/15/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND with roots [SP]						
		2-1-1	2			-- loose, no roots						
		1-2-4	6	▽								
						Medium dense tan red clayey fine SAND [SC]	38	17				
5		4-6-6	12									
		6-7-7	14			-- tan						
		6-8-10	18									
		10-9-14	23									
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-38** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 100.3
WATER TABLE (ft): NE
DATE OF READING: 8/15/2024
EST. SHGWT (ft): +5.5

DATE STARTED: 8/15/24
DATE FINISHED: 8/15/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Loose grey fine SAND [SP]						
		1-2-2	4									
						-- very loose, with roots	2	4				
		2-1-1	2									
						-- loose, light grey						
5		2-2-2	4	▽								
						Medium dense tan clayey fine SAND [SC]						
		2-6-13	19									
		7-10-11	21									
10		11-10-16	26			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-39** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 99.7
WATER TABLE (ft): NE
DATE OF READING: 8/15/2024
EST. SHGWT (ft): +8.0

DATE STARTED: 8/15/24
DATE FINISHED: 8/15/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2			-- with roots						
		1-1-2	3			-- light grey						
5		1-1-2	3			-- loose						
		2-2-2	4									
		2-3-2	5	▽								
						Loose tan red clayey fine SAND [SC]						
10		2-2-3	5			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-40** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 96.9
WATER TABLE (ft): NE
DATE OF READING: 8/16/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/16/24
DATE FINISHED: 8/16/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2									
		1-1-1	2			-- grey tan						
5		1-1-1	2									
		1-1-2	3			-- loose, light grey						
		1-2-2	4									
10		2-2-2	4	▽		BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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BORING LOG

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-41** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft):	92.8	DATE STARTED:	8/16/24
WATER TABLE (ft):	NE	DATE FINISHED:	8/16/24
DATE OF READING:	8/16/2024	DRILLED BY:	ORL - CM/CM
EST. SHGWT (ft):	+10.0	TYPE OF SAMPLING:	ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND with roots [SP]						
		1-1-1	2									
		1-1-1	2			-- light grey						
5		1-1-1	2			-- loose						
		1-3-3	6									
		2-3-3	6									
		3-5-5	10	▽								
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-42** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 90.0
WATER TABLE (ft): NE
DATE OF READING: 8/16/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/16/24
DATE FINISHED: 8/16/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2			-- medium dense						
		1-6-9	15	▽								
5						Medium dense grey tan clayey fine SAND [SC]						
		6-7-11	18									
		11-14-13	27				24	12				
		6-8-10	18									
10		9-11-13	24			BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-43** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 91.7
WATER TABLE (ft): NE
DATE OF READING: 8/16/2024
EST. SHGWT (ft): +6.5

DATE STARTED: 8/16/24
DATE FINISHED: 8/16/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2									
		1-1-2	3			-- loose, grey tan						
5		1-2-2	4				4	8				
		3-7-9	16	▽		-- medium dense						
		15-13-11	24			Medium dense grey tan clayey fine SAND [SC]						
		14-15-13	28			Medium dense grey fine SAND with clay [SP-SC]						
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
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HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-44** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP

LOCATION: SEE BORING LOCATION PLAN

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 92.9
WATER TABLE (ft): NE
DATE OF READING: 8/16/2024
EST. SHGWT (ft): +10.0

DATE STARTED: 8/16/24
DATE FINISHED: 8/16/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey tan fine SAND with roots [SP]						
		1-1-1	2									
		2-1-2	3									
5		2-1-2	3			-- loose						
		3-4-3	7									
		2-3-3	6			-- medium dense, light grey						
10		3-6-7	13	▽		BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

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PROJECT: DESIGN LEVEL GEOTECHNICAL EXPLORATION
MISSION RISE SUBDIVISION
HOWEY-IN-THE-HILLS, FLORIDA

BORING I.D.: **R-45** SHEET: **1 of 1**
SECTION: 2 & 34 TOWNSHIP: 21 & 20 S RANGE: 25 E

CLIENT: TURNSTONE GROUP
LOCATION: SEE BORING LOCATION PLAN
REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, NE = NOT ENCOUNTERED, + = PERCHED

G.S. ELEVATION (ft): 88.9
WATER TABLE (ft): NE
DATE OF READING: 8/16/2024
EST. SHGWT (ft): +3.5

DATE STARTED: 8/16/24
DATE FINISHED: 8/16/24
DRILLED BY: ORL - CM/CM
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT/ DAY)	ORG. CONT. (%)
0						Very loose grey fine SAND [SP]						
		1-1-1	2									
				▽		-- loose						
		1-4-5	9									
						Medium dense grey tan pink clayey fine SAND [SC]						
5		8-11-13	24			-- grey tan						
		11-15-13	28									
		13-16-12	28			-- dense						
		15-18-17	35				50	19				
10						BORING TERMINATED AT 10.0 FEET						
15												
20												
25												

W-13668.GPJ

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 C

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.

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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