TALLAHASSEE
INTERNATIONAL AIRPORT

TALLAHASSEE
INTERNATIONAL AIRPORT

TALLAHASSEE, FLORIDA

TECHNICAL SPECIFICATIONS
VOLUME 2 OF 2

RENTAL CAR QUICK-TURNAROUND FACILITY

AT

TALLAHASSEE INTERNATIONAL AIRPORT (TLH)

PREPARED BY

Kimley»Horn

January 2025

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Kimley»Horn

APPENDIX A – GEOTECHNICAL REPORT

REPORT OF
SUBSURFACE INVESTIGATION

RENTAL CAR QUICK-TURNAROUND FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT
TALLAHASSEE, FLORIDA

Prepared For:

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Prepared By:

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December 2020
13-38-19-01

December 7, 2020

EGS File: 13-38-19-01

Kimley-Horn and Associates, Inc.
2615 Centennial Boulevard
Suite 102
Tallahassee, Florida 32308

ATTN: Cameron Snipes, P.E.
Project Manager

SUBJECT: Report of Subsurface Investigation
Rental Car Quick-Turnaround Facility
Tallahassee International Airport
Tallahassee, Florida

Dear Cameron:

Environmental and Geotechnical Specialists, Inc. (**EGS**) has completed the geotechnical investigation, as authorized by Kimley-Horn and Associates, Inc. (**KHA**), for the proposed Rental Car Quick-Turnaround (**QTA**) Facility at the Tallahassee International Airport. This Report includes a summary of the subsurface investigation, evaluation of field and laboratory test data, groundwater measurements, estimated "normal" seasonal high groundwater levels, geotechnical design recommendations, and construction considerations.

SCOPE OF SERVICES

The Scope of Services authorized for this investigation consisted of the following:

- Installation of 16 soil borings to depths of up to 25 feet below the existing ground surface within the limits of the proposed **QTA** Facility;
- Measuring the groundwater levels and estimating the "normal" seasonal high groundwater;
- Testing representative soil samples for uniformity and classification;
- Performing a Ground Penetrating Radar (**GPR**) survey within the limits of the proposed **QTA** Facility to determine the extents of the landfill material;
- Reviewing the Natural Resources Conservation Service (**NRCS**) Soil Survey for the project area and correlating the soil borings installed for this study with the subsurface conditions reported in the **NRCS** Soil Survey;
- Providing geotechnical design recommendations and construction considerations; and,
- Preparation of this Report.

SITE LOCATION AND EXISTING CONDITIONS

The project site is located at the Tallahassee International Airport, which is south of Capital Circle Southwest (SR 263) and 1 ¼ mile west of Springhill Road (CR 2203), in southwest Tallahassee. A Project Location Map has been provided as **Figure 1**.

An Aerial View Map, provided as **Figure 2**, shows the United States Geological Survey (**USGS**) elevations overlaid on an aerial image. As can be seen in this **Figure**, the **USGS** contours indicate that the general topography within the project area ranges from approximately elevation (EL) 52 feet to EL 72 feet. A portion of the project area is known to be a former landfill with portions of it still remaining. The locations of the remaining landfill cells are visible in the form of mounds as indicated by the topographic contours in **Figure 2**. Photographs taken by **EGS** personnel of the existing site conditions have been included as **Figures 3A** and **3B**.

SUBSURFACE INVESTIGATION

The subsurface investigation outlined in this Report was conducted from June to September 2020. Myron Hayden, PE, was the Geotechnical Project Engineer with Quality Assurance and Quality Control (**QA**/**QC**) provided by Chandra Samakur, PE, Senior Geotechnical Engineer.

Ground Penetrating Radar (GPR) - **GPR** is a geophysical tool that transmits a low frequency signal into the subsurface and collects the two-way signal travel time, which is the time required to transmit the signal into the subsurface plus the time required for a subsurface object to reflect the signal back to the antenna. Reflective objects vary but are typically in the form of strata boundaries, karst features, buried debris, voids, and underground utilities. It should be noted that the **GPR** signal has limited penetration into layers of clay or limestone; therefore, features within these layers are difficult to identify by this method. After the **GPR** data is collected, it is processed and converted to depth using the dielectric material velocity and adjusted using verification soil boring data.

The **GPR** survey performed for this investigation consisted of performing 12 parallel transect lines approximately 700 to 900 feet in length. The survey was performed using a 450 MHz frequency antenna manufactured by MALA Geosciences capable of imaging to depths of up to 45 feet in dry sandy conditions. The locations of the transect lines are shown on the Field Test Location Map provided as **Figure 4**. A typical **GPR** Scan along a transect line has been provided in **Figure 5**. The **GPR** Scan illustrates the visible distinction between the bottom of the buried debris and the top on underlying natural sand.

Soil Boring Installation - **EGS** installed 16 soil borings to depths of 7 ½ to 25 feet below the existing ground surface for this investigation. In order to evaluate the relative density and uniformity of the subsoils, the borings were sampled continuously in the top 12 feet then on 2 ½ feet intervals to the boring termination depth. The soil borings were installed using a mechanized rotary drill and Standard Penetration Tests (**SPT**) were conducted using an automatic hammer in accordance with ASTM D1586.

To minimize potential impacts to mismarked buried utilities, hand-auger sampling was performed to a depth of 5 ½ feet in each soil boring with samples collected on 1 foot intervals coupled with static hand Cone Penetrometer Index (**CPI**) tests at each interval. To facilitate uniformity of the test data, **CPI** values were converted to equivalent **SPT** "**N**" values using the correlation **N**=**CPI**/4. A Field Test Location Map has been provided as **Figure 4** with a summary of the location data in **TABLE 1**.

Samples of the subsoils were collected and sealed in the field by **EGS** personnel then transported to **EGS**' laboratory for classification testing. The testing performed during this investigation included water content, grain-size distribution, and Atterberg limits. The soils have been classified with respect to the American Association of State Highway and Transportation Officials (**AASHTO**) Soil Classification System. The testing performed for this investigation is summarized on the Report of Soil Borings plan sheet in **APPENDIX A** with detailed Soil Boring Logs and Classification Data Sheets provided as **APPENDICES B** and **C**, respectively.

SUBSURFACE CONDITIONS

Native Soils - The native surficial soils consist primarily of Loose Fine Sand (**SP-SM**) underlain by a Medium Dense Silty Fine to Clayey Sand (**SM**/**SC**) layer at a depth of 18 feet or greater. Although rock was not encountered in any of the soil borings installed for this study, rock has been encountered around EL 25 feet based on soil borings installed at the Airport for other studies.

Groundwater - Groundwater was not encountered in any of the soil borings installed for this investigation. ***EGS*** *estimates that the "normal" seasonal high groundwater level is below EL 40 feet*. A summary of the measured groundwater and estimated "normal" season high groundwater levels is provided in **TABLE 1**.

NRCS Soil Survey - As part of this investigation, **EGS** reviewed the National Resources Conservation Service (**NRCS**) Soil Survey for the project area, which has been superimposed on the Aerial View Map in **Figure 2**. The **NRCS** Soil Survey shows that native soils reported within the project area are primarily *Arents Sands*. The soils encountered in this investigation are relatively consistent with those reported in the **NRCS** Soil Survey for this area. It should be noted that the **NRCS** Soil Survey mapping is an approximation of likely soils that exist within the project area. Variations in soil properties will occur when comparing data from the **NRCS** Soil Survey and data obtained by soil sampling. Pertinent **NRCS** Soil Survey data has been summarized in **TABLE 2** with copies of select tables provided in **APPENDIX D**.

Corrosion Testing - EGS performed corrosion testing on representative soil samples collected during this subsurface investigation. The corrosion testing included determination of soil resistivity, pH, sulfate content, and chloride content performed in accordance with the **FDOT** recommended Florida Method. **EGS** classified the subsurface conditions in accordance with the **FDOT** Structures Design Guidelines. The test results and environmental classification have been summarized in **TABLE 3**.

Current Landfill Limits - Based on the results of the **GPR** Survey coupled with the conformation soil borings, the depths and approximate limits of the buried landfill debris were determined. **Figure 6** was developed to depict the limits of the existing buried landfill debris. As can be seen in **Figure 6**, currently there is buried landfill debris beneath about 80% of the proposed Quick Turnaround (**QTA**) area and not under the proposed Rental Car Buildings.

Using the results of the **GPR** Survey, **EGS** has estimated the thickness of the buried debris. The areas of the thickest buried debris, shown in **Figure 7**, "runs" north and south. This is consistent with the fact that the landfill cells were constructed of trenches dug in rows which "ran" north and south. The thickness of the existing cells are about 10 to 13 feet, which is consistent with landfill cells previously removed from the Airport. Using the topographic survey provided by Kimley Horn, **EGS** "overlaid" the thickness contours and developed **Figure 8**, which depicts the elevation of the ground beneath the landfill cells. **Figure 8** was developed to facilitate removal and site grading, if the landfill debris is to be removed.

The thickness of the sand cover over the top of the existing landfill cells varies from about 3 feet to over 6 feet. The thicknesses of the sand layer over the landfill cells is shown in **Figure 9** with the elevation of the bottom of the sand cover shown in **Figure 10**. It should be noted that some of the sand over the top of the landfill cells contains miscellaneous solid debris (i.e. paper, plastic, etc.). *If this sand cover is disturbed, it will need to be returned or removed off site to a properly licensed landfill*.

GEOTECHNICAL DESIGN CONSIDERATIONS

CAR RENTAL BUILDINGS - AREA 1 (FIGURE 11)

EGS recommends the following preparation for the subgrade for the buildings and parking areas within **AREA 1**, shown in **Figure 11**:

Clearing - *Clear and level the building and parking areas to a distance of 5 feet outside of the footprint for **AREA 1*** of all deleterious material. Any remnants of any previous pavement structure, foundations, or underground utilities should be removed completely. Fill all holes and depressions with structural fill, as described below, and compact to 95% of the soil's modified Proctor dry density.

Preparation of Subgrade - After **AREA 1** has been cleared and leveled,

> **AREA 1** should be initially compacted using a vibratory roller with a static weight of at least 8 tons and making a minimum of 5 overlapping passes with the vibratory action *turned on*;

After the initial densification is complete, **AREA 1** should be "proof rolled" using the same vibratory roller with the vibratory action *turned off*. The proof rolling should consist of at least 5 overlapping passes in the presence of a knowledgeable Engineer to verify that the rolled prepared surface is unyielding and capable of adequately supporting the proposed loads;

After proof rolling is complete, the rolled surface should be compacted to at least 98% of the soil's modified Proctor dry density for a depth of at least 24-inches below the compacted surface; and,

After the rolled surface is sufficiently compacted, it should be brought to grade with structural fill, as described below.

Structural Fill - All structural fill should consist of clean, free draining sand (**SP-SM**, **SP** and **SM**) that is free of debris and other deleterious materials containing less than 15% fines (passing No. 200 sieve), and an organic content that is less than 2% by weight. No particles exceeding 1½-inches in diameter should be used as structural fill. All fill shall be placed in loose lifts not to exceed 12-inches and compacted to at least 98% of the in-situ soil's modified Proctor maximum dry density.

Existing Soils - The existing soils are suitable for use as structural fill, *provided they do not contain landfill debris*. Based on the subsurface conditions encountered, **EGS** does not believe that overexcavation of the existing soils will be necessary.

Control of Surface Water - Surface water needs to be properly controlled to avoid water ponding within the limits of the proposed project area. The presence of ponded water coupled with machine and foot traffic could result in the previously compacted or prepared surfaces being unacceptable for use without additional compaction and/or partial replacement of the disturbed soils.

Temporary Excavations - Temporary excavations can be made to depths of 4 feet or less without the need for shoring. If excavations deeper than 4 feet are planned, then proper shoring or sidewalls sloped to at least 1(V) on 2(H) should be used. Heavy equipment should be kept back from the edge of the excavation at a distance equal to at least the depth of the excavation, unless proper shoring has been installed.

Footing Size - **EGS** recommends all footings have a minimum bearing surface width of 24-inches and be at least 18-inches below the surrounding grade.

Moisture Barrier - A waterproof moisture barrier should be placed below the floor slab and above the subgrade. Care should be taken to prevent damage to the barrier during placement of reinforcing steel and pouring of the foundation.

Downspouts and Drainage - All roof downspouts and drainage water should be collected and discharged away from the building to reduce the potential for water to undermine the foundations. The final grading and landscaping should be performed to shed surface water away from the building.

Corrosion Potential - The corrosion potential of the subsurface conditions in **AREA 1** are:

- *Extremely Aggressive with respect to corrosion of steel*; and
- *Moderately Aggressive with respect to corrosion of concrete.*

Testing - EGS recommends in-place density testing be performed as follows, or as *specified by the Engineer*:

- *Building Floor and Parking Subgrade - 1 test per 1,000 ft^2 of compacted surface per lift*; and,
- *Building Footings - 1 test per 50 linear foot (tested before the reinforcing steel is placed).*

Geotechnical Design Parameters - *If the above recommendations are implemented*, the following Geotechnical Design Parameters can be used:

- Net Allowable Bearing Capacity (q_{all}): 1,500 lb/ft^2
- Settlement (δ): < 1 inch
- Differential Movement: < 1 inch/100 ft
- Coefficient of Subgrade Reaction (k_v): 50,000 lb/ft^3
- Coefficient of Active Earth Pressure (k_a): 0.33
- Coefficient of Passive Earth Pressure (k_p): 3.00
- Effective Unit Weight of Soil (γ'): 115 lb/ft^3

PARKING AND ROADWAY - AREA 2 (FIGURE 11)

EGS recommends the following preparation of the subgrade for the parking and roadway areas in **AREA 2**, shown in **Figure 11**:

Clearing - *Clear and level the parking areas to a distance of 5 feet outside of the footprint for **AREA 2*** of all deleterious surface material to a depth of at least 5 feet below the final roadway grade. If landfill material is encountered then 1 of the following 2 Options can be used:

- Remove the landfill debris and properly dispose of it in a licensed landfill; or
- Dig a hole at least 2 feet deeper and wider than the size of the debris, place the debris in the hole and cover with onsite fill, densify the soil making at least 5 passes withf a roller having a static weight of at least 5 tons, with the vibratory action *turned off*..

Preparation of Subgrade - After the **AREA** has been cleared:

If the starting grade is lower than 5 feet below the final roadway grade, raise the grade to 5 feet below the final roadway grade using the structural fill described for **AREA 1**. The structural fill should be placed in lifts not to exceed 12-inches of loose soil and compact using static compactive effort with a roller weighting at least 5 tons and compacting the fill to at least 95% of the soil's modified Proctor dry density.

Geosynthetic Reinforcement - The subgrade in **AREA 2** shall contain 2 layers of geosynthetic material. The *recommended geosynthetic reinforcement shall be Mirafi RS 580i*, or as approved by the Engineer. A copy of the Product Data Sheet for Mirafi 580i has been provided in **APPENDIX E**.

- The first geosynthetic reinforcement layer (**LAYER 1**) should be placed at an elevation equal to 5 feet below the final roadway surface and unrolled in the north-south direction;
- All side seams and roll ends should be overlapped a minimum of 24-inches;
- Care should be taken during construction to ensure that the geosynthetic material sections do not separate at the overlaps;
- After placement, the geosynthetic material should be pulled tight by hand to a tension that removes all slacks and bulges in the material;
- After the geosynthetic reinforcement has been pulled tight and smoothed, place 12-inches of loose structural fill over the geosynthetic material and compact to 98% of the soil's modified Proctor dry density;
- Compaction of the fill over the geosynthetic reinforcement should be performed using a smooth wheel roller – no sheep's foot or other foot compactors should be used;
- Add a second lift of structural fill and compact to 98% of the soil's modified Proctor dry density;
- After the fill has been raise 1 foot above the first layer of geosynthetic, place the second layer (**LAYER 2**) of geosynthetic reinforcement in the east-west direction (*a direction that is perpendicular to **LAYER 1***);
- Like **LAYER 1**, all side seams and roll ends should be overlapped a minimum of 24-inches inches;
- Care should be taken during construction to ensure that the geosynthetic material sections do not separate at the overlaps;
- After placement, the geosynthetic material in **LAYER 2** should be pulled tight by hand to a tension that removes all slacks and bulges in the material;

- After the geosynthetic reinforcement has been pulled tight and smoothed, place 2 12-inches lifts of loose structural fill and compact both lifts to 98% of the soil's modified Proctor dry density;
- Compaction of the fill over the geosynthetic reinforcement should be performed using static compaction and a smooth wheel roller – no sheep's foot or other foot compactors should be used;
- Place sufficient stabilized structural fill (**FDOT** Type B Stabilization) to achieve the grade required to support the roadway base. The stabilized structural fill should be structural fill mixed (stabilized) with sufficient fines that when compacted to 98% of the soil's maximum modified Proctor dry density the compacted soil has a Limerock Bearing Ratio (**LBR**) value of at least 40. ***LBR*** *tests conducted on the existing structural fill soil indicates that maximum* ***LBR*** *achievable without the addition of fines (stabilizer) is only 30*. A summary of the **LBR** test results is provided in **TABLE 4** with copies of the test data sheets provided in **APPENDIX F**.

Testing - EGS recommends in-place density testing be performed for every 2,500 ft^2 of compacted subgrade area per lift, or as *specified by the Engineer.*

Base Preparation - Cover the prepared subgrade with 2 equal layers of limerock that when each layer is compacted to 98% of its modified Proctor dry density it has an **LBR** value of at least 100. The combined thickness of both layer should be at least 8 inches.

Structural Asphalt - Place and compact 2 to 3 inches of Superpave 12.0 mm (**SP-12.0**) after completion of the base preparation.

Testing - EGS recommends the prepared base and asphalt wearing surface be tested in accordance with **FDOT** recommended specifications, or as *specified by the Engineer.*

Structural Fill - All structural fill should consist of clean, free draining sand (**SP-SM**, **SP** and **SM**) that is free of debris and other deleterious materials containing less than 15% fines (passing No. 200 sieve), and an organic content that is less than 2% by weight. No particles exceeding 1½-inches in diameter should be used as structural fill.

Existing Soils - The existing soils are suitable for use as structural fill, provided it does not contain landfill debris.

Control of Surface Water - Surface water needs to be properly controlled to avoid water ponding during the placement of the fill over the geosynthetic material. The presence of ponded water coupled with the machine and foot traffic could result in the previously compacted or prepared lifts being unacceptable for use without additional compaction and/or partial replacement of the disturbed soils.

Corrosion Potential – If there is at least 1 foot of clean sand between the top of the upper geosynthetic layer and the bearing surface of any utility or foundation*, then the following corrosion potential likely exists:*

- *Moderately Aggressive with respect to corrosion of steel*; and
- *Slightly Aggressive with respect to corrosion of concrete.*

If there is less than 1 foot of clean sand between the top of the upper geosynthetic layer and the bearing surface of any utility or foundation, then the following corrosion potential likely exists:

- *Extremely Aggressive with respect to corrosion of steel*; and
- *Extremely Aggressive with respect to corrosion of concrete.*

Testing - EGS recommends at least 1 in-place density test be performed *at the locations specified by the Engineer* to verify the required density has been achieved:

- *Subgrade – 1 test per 1,000 ft^2 per lift*

Geotechnical Design Parameters - *If the above recommendations are implemented*, the following geotechnical design parameters can be used for any bearing surface within a depth of 2 feet of the final roadway grade:

- Net Allowable Bearing Capacity (q_{all}): 1,500 lb/ft^2
- Coefficient of Active Earth Pressure (k_a): 0.33
- Coefficient of Passive Earth Pressure (k_p): 3.00
- Effective Unit Weight of Soil (γ'): 115 lb/ft^3

Maximum Tolerable Settlement - The high strength geosynthetic system described above was designed to tolerate *a maximum settlement of 6 inches over 10 feet (typical cell width). It is unlikely that the parking area will experience this magnitude of settlement within the first 20 years*.

Construction Restrictions: - The following are concerns that should be addressed during the final design:

- Installation of a methane gas venting system capable of reducing the buildup of potentially explosive gas;
- Restricting the placement of concentrated heavy loads on the surface or within the backfill of the parking or roadway area - *the maximum applied bearing stress from any load should be limited to 250 lb/ft^2;*
- No excavation for drainage or other utility lines will be made with 12-inches of the top of **LAYER 2**; and,
- No geosynthetic layer should be damaged during construction without being repaired.

Pay Item - Geosynthetic Reinforcement

- Pay Item: XX-X Geosynthetic Reinforced Area - per square yard.

The price and payment for the above Pay Item should be full compensation for all work, materials, and services specified above, including geosynthetic materials, installation, testing, and required submittals. The cost and placement of all backfill should not be covered in this Pay Item. The quantity to be paid for this Pay Item should be the plan area, in square yards, of the reinforced area shown in the Plans, including all layers of geosynthetic reinforcement within the reinforced soil volume.

Damage to Geosynthetic Reinforcement during Construction - Any geosynthetic reinforcement layer damaged during construction should be repaired/replaced at no cost to the Owner. Repairs to the geosynthetic reinforcement damaged during or after installation can only be made after the supplier establishes that the strength and stability of the geosynthetic material is not affected ***and*** after obtaining the Engineer's approval.

Repairs to the geosynthetic layer should be made as follows:

- Remove all backfill material from the damaged area of the geosynthetic material, plus an additional 8 feet in all directions beyond the limits of damage;
- Place a patch consisting of the same geosynthetic material over the damaged area;
- Overlap the patch with the undamaged geosynthetic material a minimum of 6 feet in all directions; and,
- Then replace and compact backfill, as described above.

Submittals - The Contractor shall submit at least 30 days prior to the installation of any geosynthetic reinforcement material, details concerning the geosynthetic material proposed, construction methods, and method of handling and storage of the geosynthetic material.

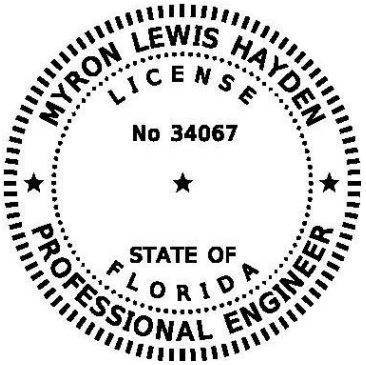
CLOSURE

The data and results presented in this Report of Geotechnical Investigation are intended for use by Kimley-Horn and Associates, Inc. for the proposed Rental Car QTA Facility at the Tallahassee International Airport, identified herein. This data may not be used without the expressed written consent of Kimley-Horn and Associates, Inc. This Report is not intended for any other use and will likely not be applicable. This Report shall not be reproduced, except in full, without the written approval of Environmental and Geotechnical Specialists, Inc. The data and recommendations presented in this Report are based on the tests performed at the specific locations and depths noted. Subsurface conditions at other locations may vary significantly from those presented herein. Should data become available which is different from the data presented herein, Environmental and Geotechnical Specialists, Inc. requests the opportunity to review the data and make any modifications to the design recommendations that may be appropriate.

If you have any questions concerning the information contained in this Report, please do not hesitate to call me at (850) 536-8350.

Sincerely,

Environmental & Geotechnical Specialists, Inc.
Certificate of Authorization: 6222



Myron L. Hayden

Myron L. Hayden, P.E.
Chief Geotechnical Engineer
FL P.E. No.: 34067

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MYRON HAYDEN ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TABLES

TABLE 1
SOIL BORING LOCATION AND GROUNDWATER DATA
RENTAL CAR QUICK TURNAROUND FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT
TALLAHASSEE, FLORIDA

SOIL BORING NUMBER	SOIL BORING DEPTH [1] (FEET)	GROUND SURFACE ELEVATION [2] (FEET)	DATE INSTALLED	STATE PLANE COORDINATES [3]		MEASURED GROUNDWATER		ESTIMATED "NORMAL" SEASONAL HIGH GROUNDWATER	
				NORTHING (FEET)	EASTING (FEET)	DEPTH (FEET)	ELEVATION (FEET)	DEPTH (FEET)	ELEVATION (FEET)
LANDFILL DELINEATION BORINGS									
P-1	2.0	67.0	9/2/20	507948	2020271	> 2.0	< 65.0	> 2.0	< 65.0
P-2	6.5	64.0	9/2/20	507848	2020463	> 6.5	< 57.5	> 6.5	< 57.5
P-3	3.0	65.4	9/2/20	508048	2020495	> 3.0	< 62.4	> 3.0	< 62.4
P-4	10.5	63.2	9/2/20	507997	2020662	> 10.5	< 52.7	> 10.5	< 52.7
QTA-1	9.0	60.9	5/27/20	507904	2020882	> 9.0	< 51.9	> 9.0	< 51.9
QTA-2	7.5	63.8	5/27/20	508048	2020849	> 7.5	< 56.3	> 7.5	< 56.3
PERIMETER SOIL BORINGS									
QTA-3	25.0	68.0	5/26/20	508327	2020795	> 25.0	< 43.0	> 25.0	< 43.0
QTA-4	25.0	72.1	5/26/20	508332	2020052	> 25.0	< 47.1	> 25.0	< 47.1
QTA-5	25.0	68.4	5/26/20	508073	2020083	> 25.0	< 43.4	> 25.0	< 43.4
QTA-6	25.0	63.5	5/26/20	507868	2020083	> 25.0	< 38.5	> 25.0	< 38.5
BUILDING SOIL BORINGS									
QTA-7	15.0	71.8	9/2/20	508287	2020143	> 15.0	< 56.8	> 15.0	< 56.8
QTA-8	15.0	71.2	9/2/20	508213	2020234	> 15.0	< 56.2	> 15.0	< 56.2
QTA-9	15.0	70.9	9/2/20	508289	2020424	> 15.0	< 55.9	> 15.0	< 55.9
QTA-10	15.0	70.1	9/2/20	508221	2020545	> 15.0	< 55.1	> 15.0	< 55.1
QTA-11	15.0	69.4	9/2/20	508290	2020729	> 15.0	< 54.4	> 15.0	< 54.4
QTA-12	15.0	67.1	9/2/20	508223	2020815	> 15.0	< 52.1	> 15.0	< 52.1

NOTES: 1. DEPTHS ARE BELOW EXISTING GROUND SURFACE.
2. ELEVATIONS APPROXIMATED FROM FILES PROVIDED BY KIMLEY-HORN AND ASSOCIATES, INC.
3. LOCATIONS BASED ON PLANS PROVIDED BY KIMLEY-HORN AND ASSOCIATES, INC. AND COORDINATES WERE DETERMINED IN THE FIELD USING A TRIMBLE GEOEXPLORER XH HANDHELD UNIT.

TABLE 2
NRCS SOIL SURVEY DATA
SUBSURFACE INVESTIGATION - RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT
TALLAHASSEE, FLORIDA

NRCS SOIL REFERENCE NUMBER	MATERIAL NAME	DEPTH (INCHES)	MATERIAL DESCRIPTION	MATERIAL CLASSIFICATION		REACTION (pH)	FDOT CORROSION POTENTIAL CLASSIFICATION		DEPTH TO SEASONAL HIGH GROUNDWATER (FEET)
				UNIFIED	AASHTO		UNCOATED STEEL	CONCRETE	
4	ARENTS, 0 TO 5 PERCENT SLOPES	0 - 20	LOAMY FINE SAND	SP, SP-SM	A-3, A-2-4	3.5 - 6.5	EXTREMELY	MODERATE	> 6.0
		20 - 30	SANDY CLAY LOAM, FINE SANDY LOAM, SANDY LOAM	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	4.5 - 6.0			
		30 - 50	SANDY CLAY, CLAY, CLAY LOAM	CH, CL, ML, SC	A-6, A-7	4.5 - 6.0			
		50 - 60	FINE SAND, SAND	SP, SP-SM	A-2-4, A-3	4.5 - 6.0			
18	KERSHAW SAND, 0 TO 5 PERCENT SLOPES	0 - 80	FINE SAND, SAND	SP-SM, SP	A-3, A-2	4.5 - 6.0	EXTREMELY	MODERATE	> 6.0

NOTES: 1. BASED ON THE NRCS SOIL SURVEY REPORT FOR LEON COUNTY, FLORIDA.
2. SEE APPENDIX D FOR DETAILED NRCS SURVEY INFORMATION.

TABLE 3
CORROSION CLASSIFICATION DATA
RENTAL CAR QUICK TURNAROUND FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT
TALLAHASSEE, FLORIDA

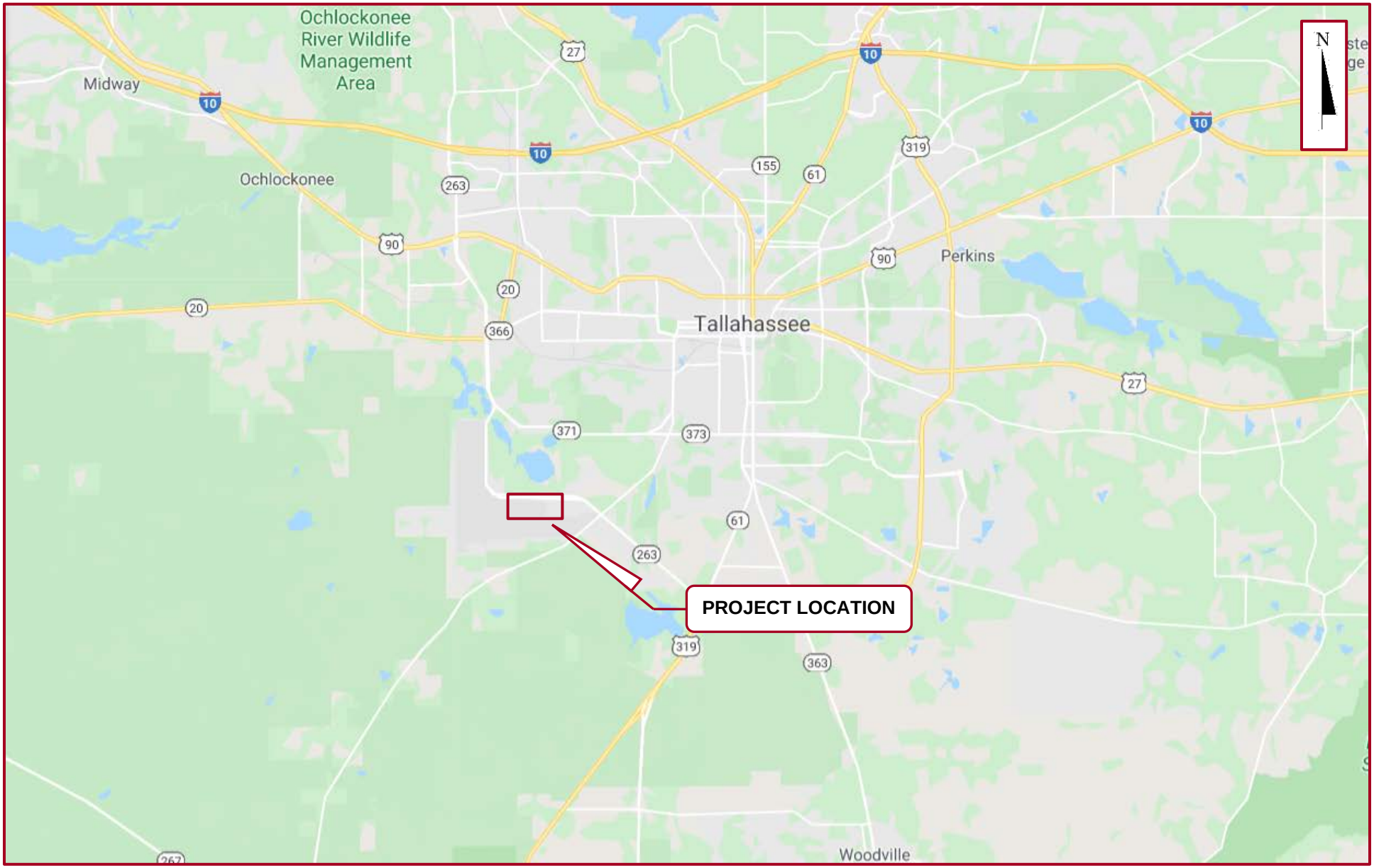
BORING NUMBER	DEPTH (FEET)	RESISTIVITY (OHM-CM)	pH	SULFATES (PPM)	CHLORIDES (PPM)	CORROSION CLASSIFICATION	
						STEEL	CONCRETE
LANDFILL AREA							
QTA - 1	6.0 - 7.5	110,000	4.39	12	15	EXTREMELY AGGRESSIVE	EXTREMELY AGGRESSIVE
QTA - 2	6.0 - 7.5	135,000	4.91	18	11	EXTREMELY AGGRESSIVE	EXTREMELY AGGRESSIVE
NON-LANDFILL AREA							
QTA - 5	6.0 - 7.5	185,000	5.89	12	18	EXTREMELY AGGRESSIVE	MODERATELY AGGRESSIVE
QTA - 10	5.0 - 5.5	175,000	5.75	20	24	EXTREMELY AGGRESSIVE	MODERATELY AGGRESSIVE

NOTE: TESTING PERFORMED IN ACCORDANCE WITH THE FLORIDA METHOD STANDARD PROCEDURES (FM 5-550, 5-551, 5-552, & 5-553).

TABLE 4
LIMROCK BEARING RATIO (LBR) SUMMARY
RENTAL CAR QUICK TURNAROUND FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT
TALLAHASSEE, FLORIDA

LBR TEST NUMBER	DEPTH (FEET)	SOIL CLASSIFICATION	MAXIMUM MODIFIED PROCTOR DRY DENSITY (LB/FT^3)	OPTIMUM MOISTURE CONTENT (%)	MAXIMUM LBR VALUE
I-3	0.5 - 1.5	FINE SAND (SP-SM)	**112.5**	**9.5**	**28**
I-7	0.5 - 1.5	FINE SAND (SP-SM)	**112.2**	**8.3**	**31**
I-10	0.5 - 1.5	FINE SAND (SP-SM)	**110.8**	**8.5**	**31**
AVERAGE			**111.8**	**8.8**	**30**

FIGURES



DRAWN: D. TALBOTT	CHECKED: C. SAMAKUR, P.E.	ENVIRONMENTAL AND GEOTECHNICAL SPECIALISTS, INC. 104 NORTH MAGNOLIA DRIVE TALLAHASSEE, FLORIDA 32301 OFFICE #: (850) 386-1253	TITLE: PROJECT LOCATION MAP RENTAL CAR QTA FACILITY TALLAHASSEE INTERNATIONAL AIRPORT TALLAHASSEE, FLORIDA
ENGINEER: M. HAYDEN, P.E.			
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.			
PROJ. NO.: 13-38-19-01			DATE: SEPTEMBER 2020 / FIGURE NO.: 1



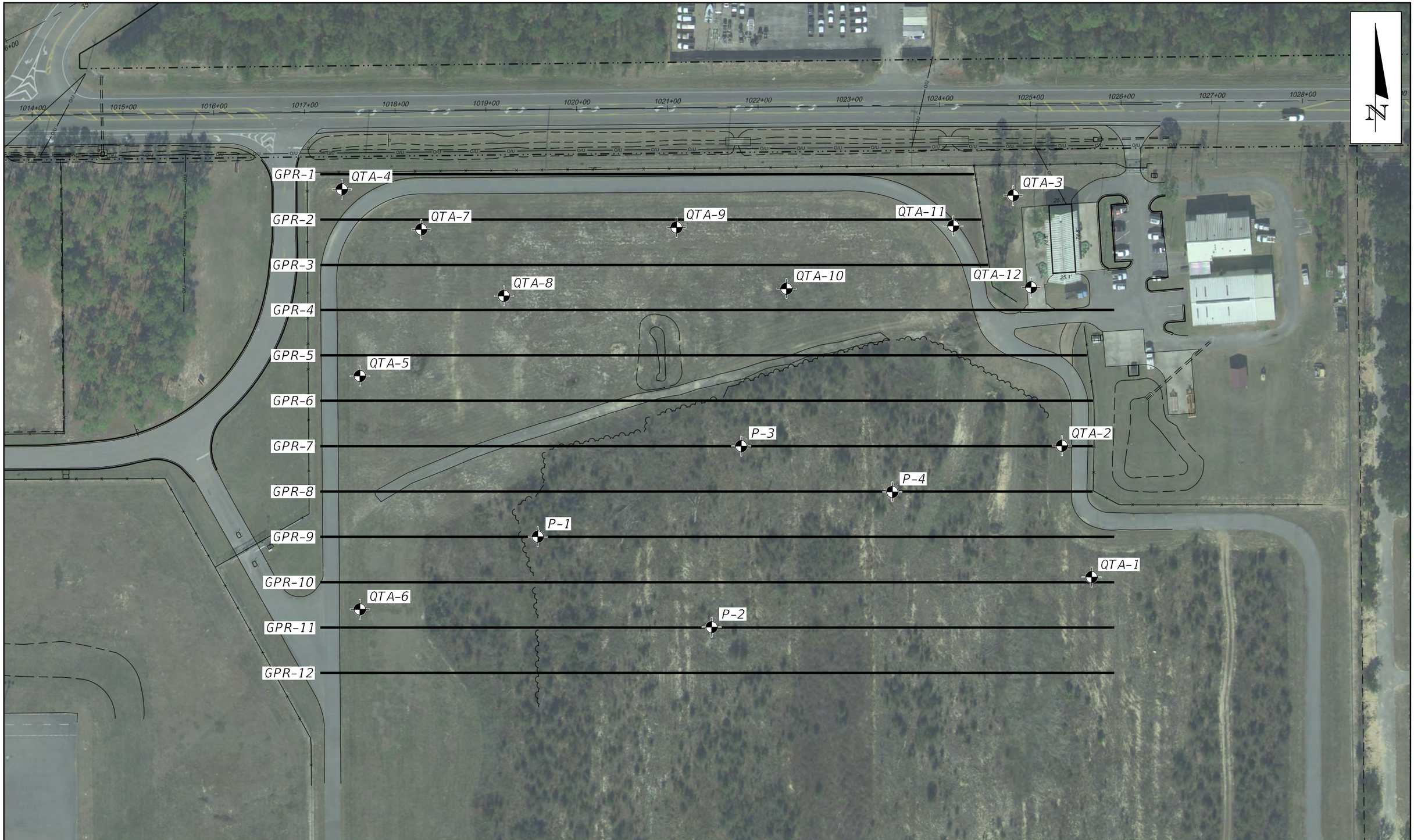
DRAWN: D. TALBOTT	CHECKED: C. SAMAKUR, P.E.	ENVIRONMENTAL AND GEOTECHNICAL SPECIALISTS, INC. 104 NORTH MAGNOLIA DRIVE TALLAHASSEE, FLORIDA 32301 OFFICE #: (850) 386-1253	TITLE: AERIAL VIEW MAP SUBSURFACE INVESTIGATION RENTAL CAR QTA FACILITY TALLAHASSEE INTERNATIONAL AIRPORT TALLAHASSEE, FLORIDA
ENGINEER: M. HAYDEN, P.E.			
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.			
PROJ. NO.: 13-38-19-01	SCALE: AS SHOWN		DATE: SEPTEMBER 2020 / FIGURE NO.: 2



FIGURE 3A: EXISTING SITE CONDITIONS NEAR **GPR-5** (FACING EAST)



FIGURE 3B: EXISTING SITE CONDITIONS NEAR **QTA-1** (FACING WEST)



LEGEND

SOIL BORING LOCATION

GPR TRANSECT LINE LOCATION

0 20 100

Feet

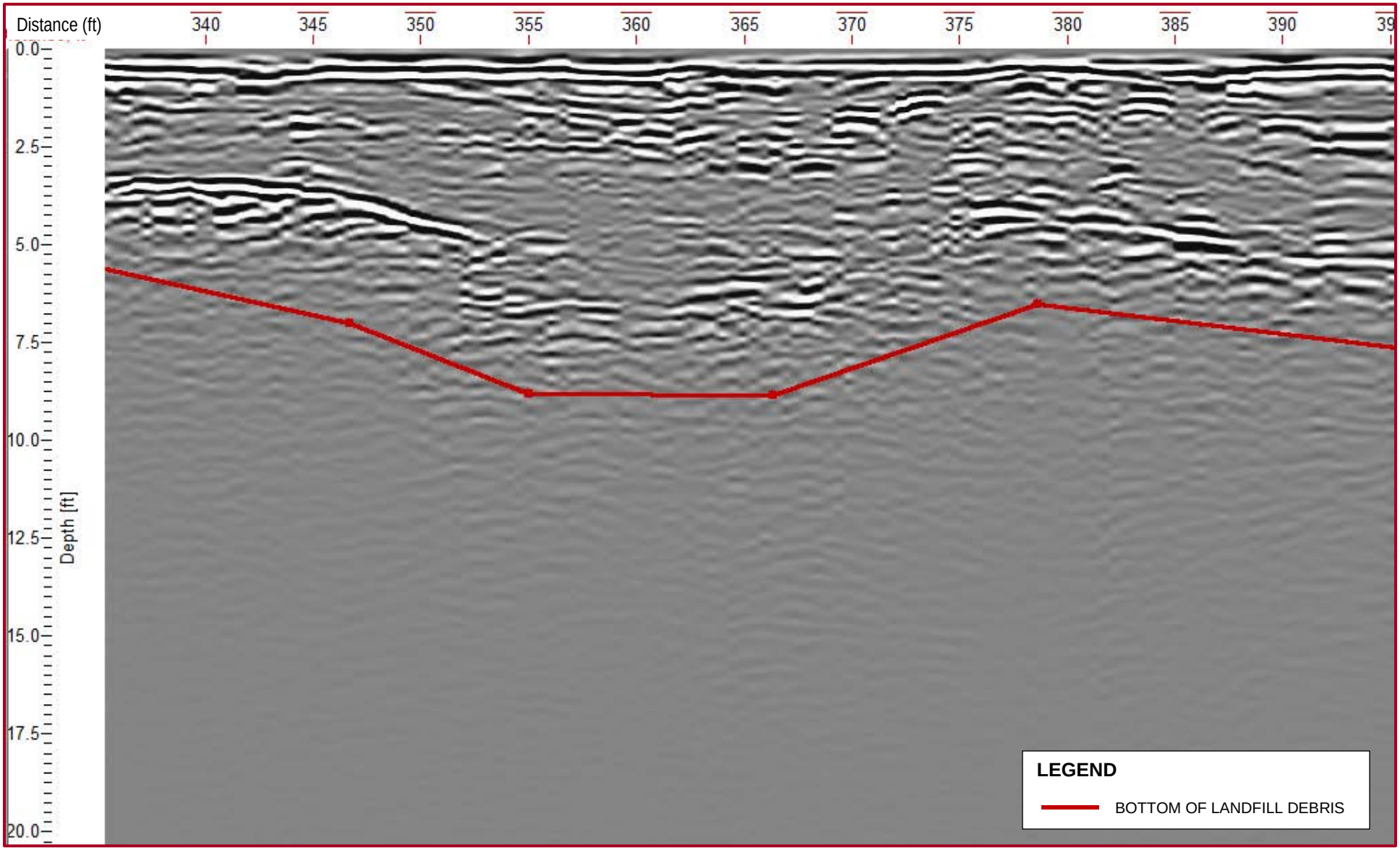
PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

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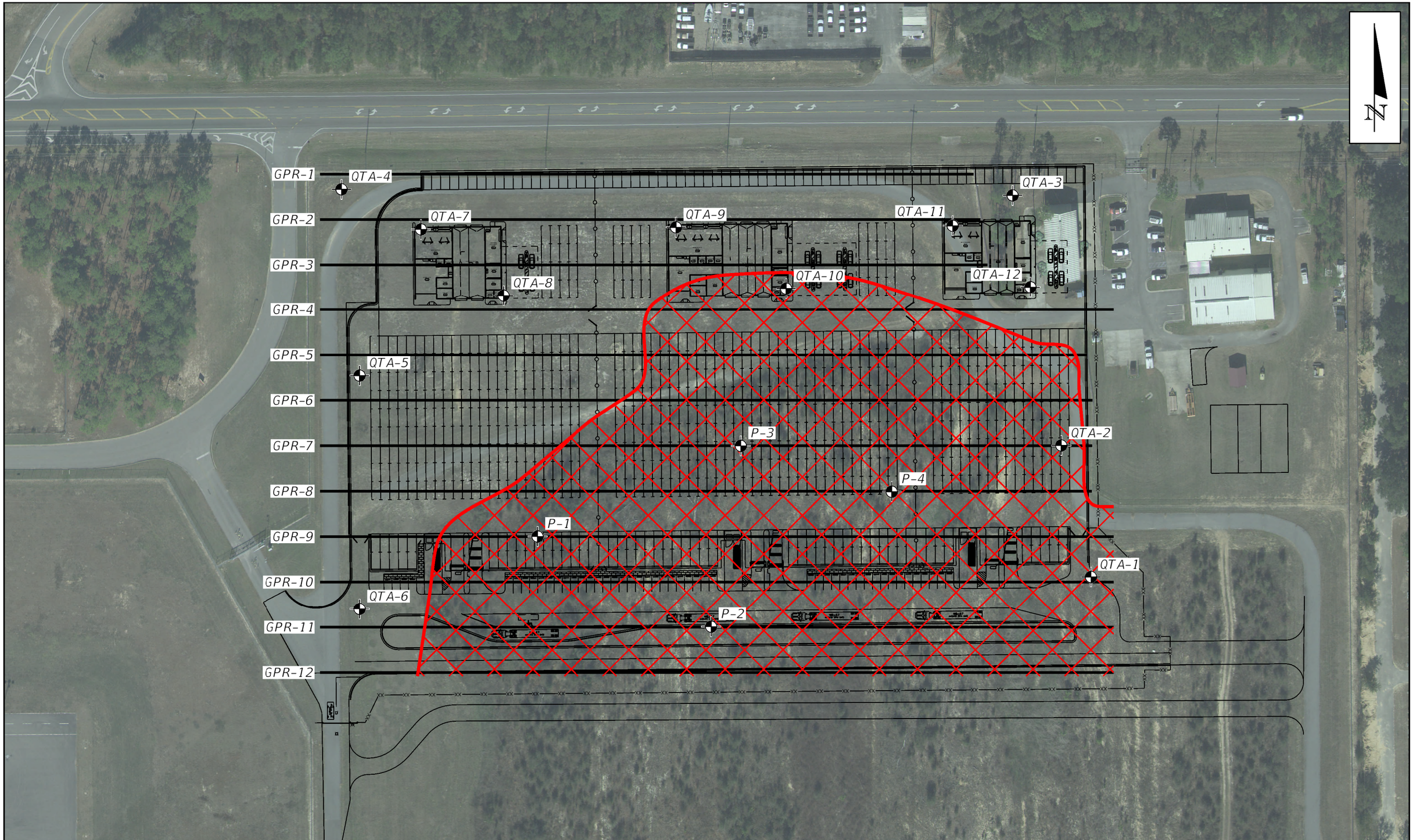
104 NORTH MAGNOLIA DRIVE
TALLAHASSEE, FLORIDA 32301
OFFICE : (850) 386-1253

FIELD TEST LOCATION MAP
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	SEPTEMBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	4



DRAWN: D. TALBOTT	CHECKED: C. SAMAKUR, P.E.	ENVIRONMENTAL AND GEOTECHNICAL SPECIALISTS, INC. 104 NORTH MAGNOLIA DRIVE TALLAHASSEE, FLORIDA 32301 OFFICE #: (850) 386-1253	TITLE: TYPICAL GPR SCAN RENTAL CAR QTA FACILITY TALLAHASSEE INTERNATIONAL AIRPORT TALLAHASSEE, FLORIDA
ENGINEER: M. HAYDEN, P.E.			
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.			
PROJ. NO.: 13-38-19-01			DATE: SEPTEMBER 2020 / FIGURE NO.: 5



LEGEND

- SOIL BORING LOCATION
- GPR TRANSECT LINE LOCATION
- APPROXIMATE LIMITS OF BURIED DEBRIS

0 20 100
Feet

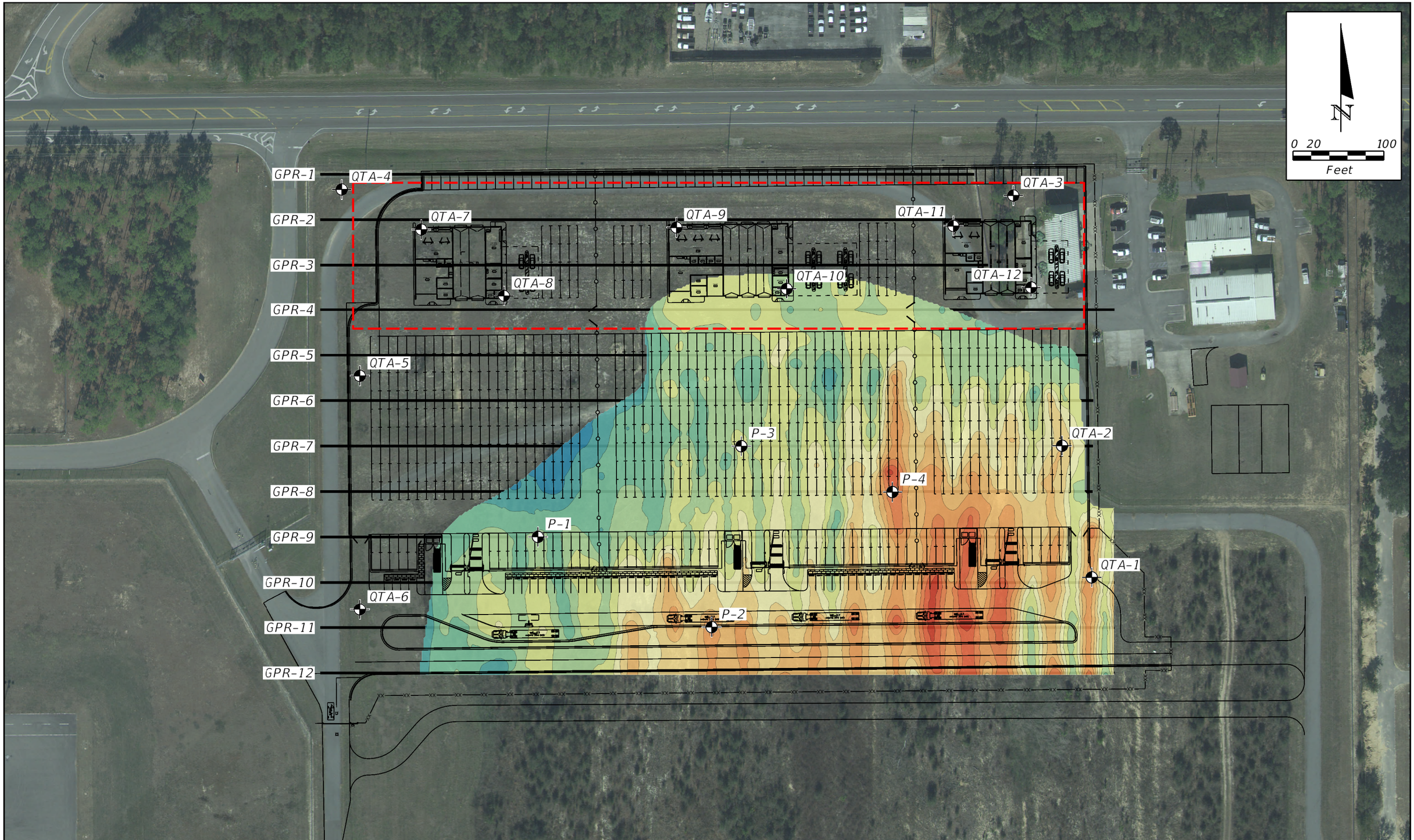
PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

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APPROXIMATE LANDFILL EXTENT
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	SEPTEMBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	6



LEGEND

- SOIL BORING LOCATION
- GPR TRANSECT LINE LOCATION
- BUILDING AND TANK AREA

COLOR SCALE

APPROXIMATE THICKNESS OF LANDFILL (FEET)

2 3 4 5 6 7 8 9 10 11 12 13 14 15

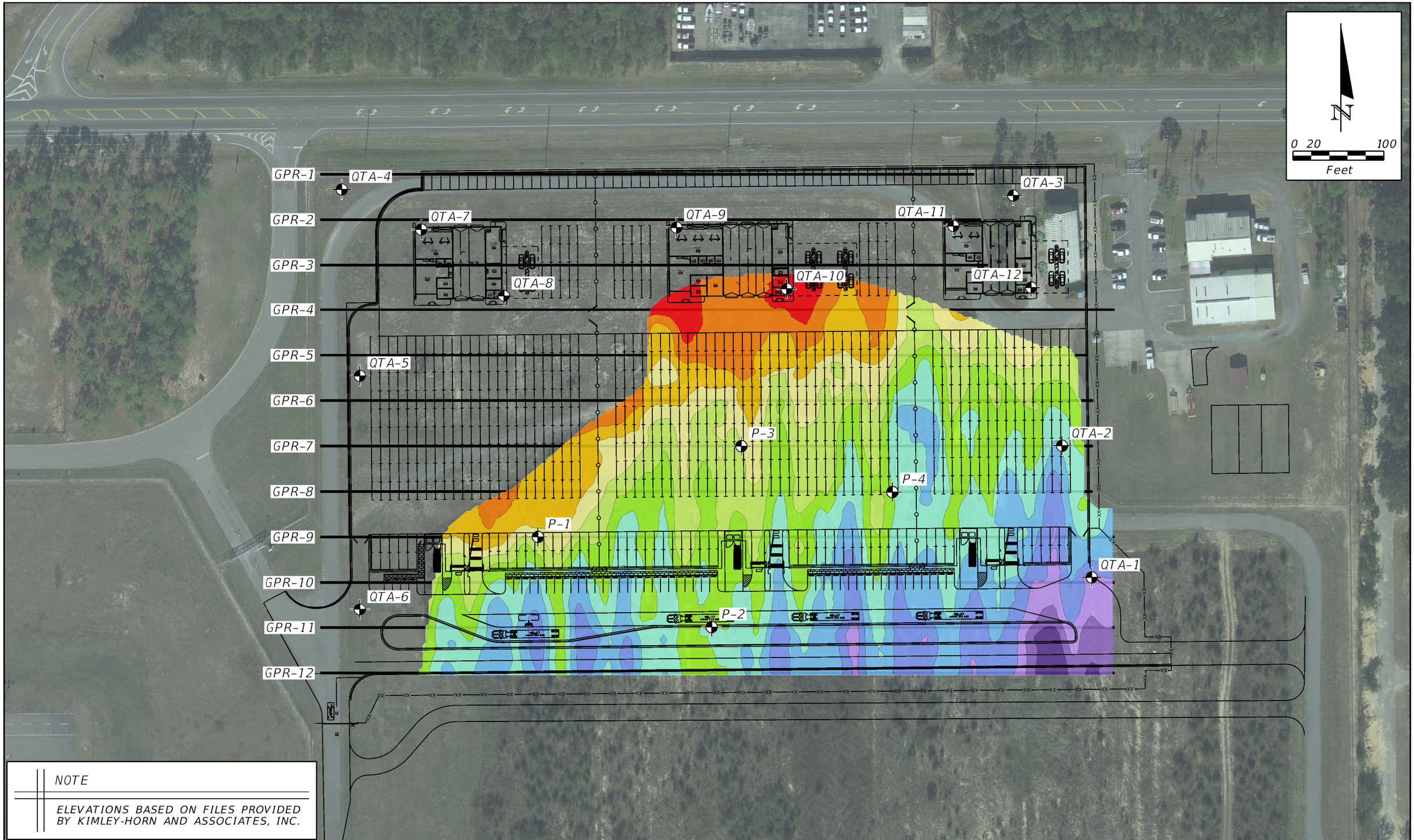
PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

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TALLAHASSEE, FLORIDA 32301
OFFICE : (850) 386-1253

LANDFILL THICKNESS MAP
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	OCTOBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	7



NOTE

ELEVATIONS BASED ON FILES PROVIDED BY KIMLEY-HORN AND ASSOCIATES, INC.

LEGEND

SOIL BORING LOCATION

GPR TRANSECT LINE LOCATION

COLOR SCALE

APPROXIMATE BOTTOM ELEVATION OF LANDFILL (FEET)

42 44 46 48 50 52 54 56 58 60 62 64 66

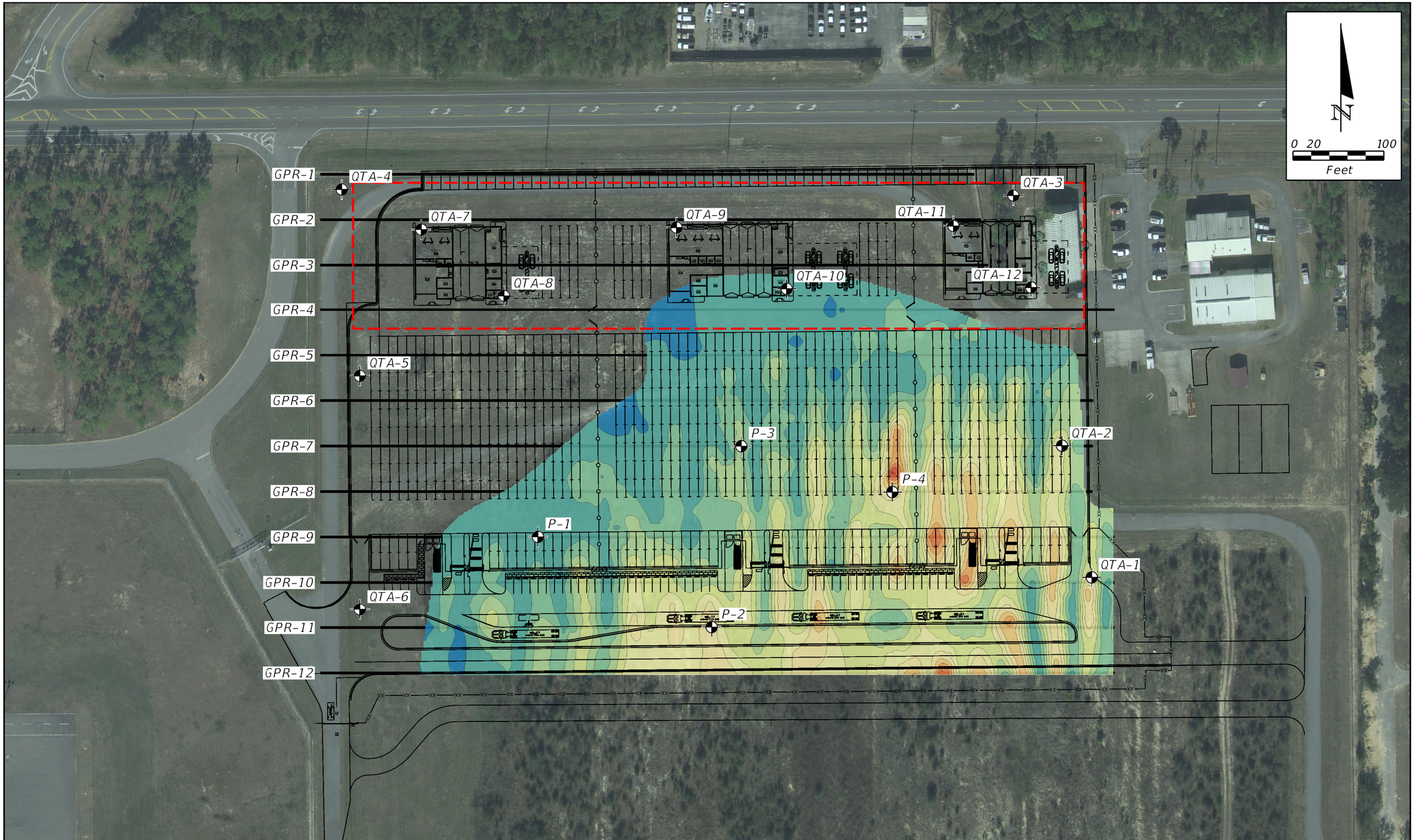
PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

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OFFICE : (850) 386-1253

BOTTOM OF LANDFILL ELEVATION MAP
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	OCTOBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	8



LEGEND

- SOIL BORING LOCATION
- GPR TRANSECT LINE LOCATION
- BUILDING AND TANK AREA

COLOR SCALE

APPROXIMATE THICKNESS OF RELATIVELY CLEAN SAND (FEET)

0 1 2 3 4 5 6 7 8 9 10 11 12

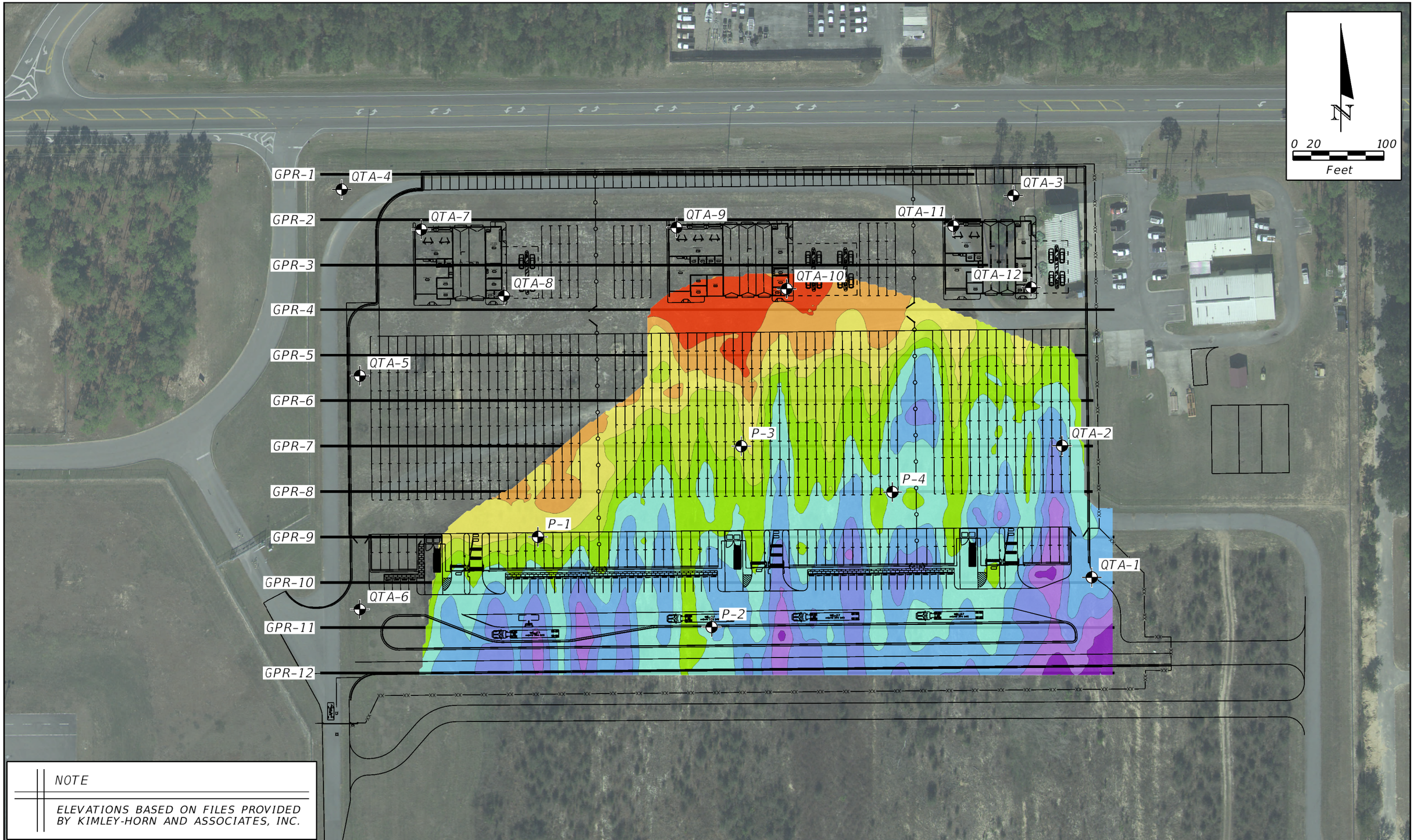
PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

ENVIRONMENTAL AND GEOTECHNICAL SPECIALISTS, INC.

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TALLAHASSEE, FLORIDA 32301
OFFICE : (850) 386-1253

SAND LAYER THICKNESS MAP
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	OCTOBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	9



NOTE

ELEVATIONS BASED ON FILES PROVIDED BY KIMLEY-HORN AND ASSOCIATES, INC.

LEGEND

SOIL BORING LOCATION

GPR TRANSECT LINE LOCATION

COLOR SCALE

APPROXIMATE BOTTOM ELEVATION OF RELATIVELY CLEAN SAND (FEET)

50 52 54 56 58 60 62 64 66 68 70

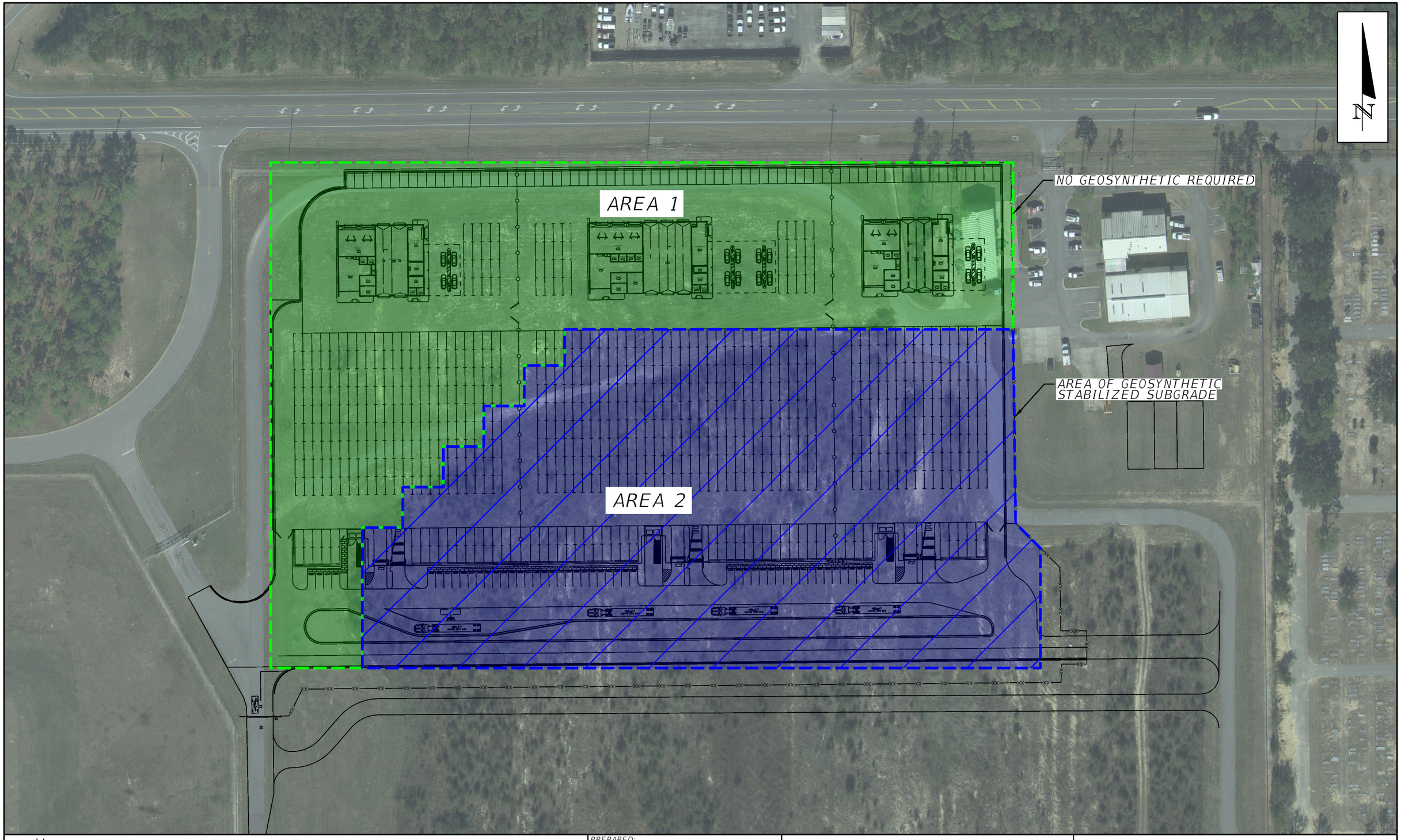
PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

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BOTTOM OF SAND LAYER ELEVATION MAP
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	OCTOBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	10



LEGEND

AREA 1 - NO GEOSYNTHETIC REQUIRED

AREA 2 - GEOSYNTHETIC STABILIZED SUBGRADE

0 20 100

Feet

PREPARED:	D. TALBOTT
CHECKED:	C. SAMAKUR, P.E.
REVISED:	D. TALBOTT
ENGINEER:	M. HAYDEN, P.E.

ENVIRONMENTAL AND GEOTECHNICAL SPECIALISTS, INC.

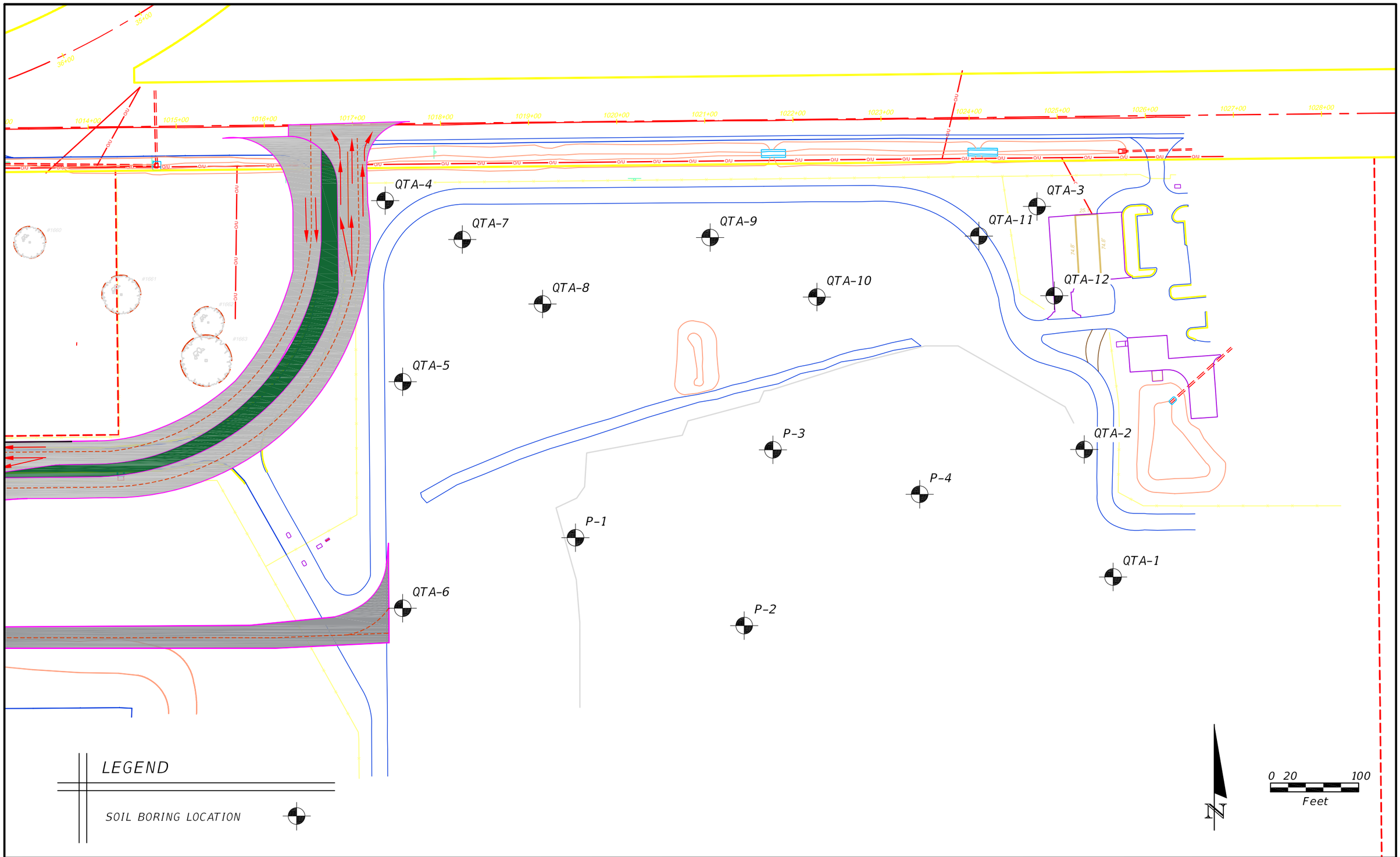
104 NORTH MAGNOLIA DRIVE
TALLAHASSEE, FLORIDA 32301
OFFICE : (850) 386-1253

LIMITS OF GEOSYNTHETIC STABILIZED SUBGRADE
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATION AIRPORT
TALLAHASSEE, FLORIDA

SCALE:	AS SHOWN	DATE:	OCTOBER 2020
PROJ. NO.:	13-38-19-01	FIGURE NO.:	11

APPENDIX A

GEOTECHNICAL PLAN SHEETS



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL:

MYRON L. HAYDEN, P.E.

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KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT TITLE

RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT

SOIL BORING LOCATION MAP

SHEET NO.

NOTES

1. NUMBERS LEFT OF BORING INDICATE STANDARD PENETRATION TEST (SPT) N-VALUES FOR 12 INCH PENETRATION (UNLESS OTHERWISE NOTED).
2. MEASURED WATER LEVEL SHOWN IS THE WATER LEVEL ENCOUNTERED DURING THE SUBSURFACE INVESTIGATION. WATER LEVEL FLUCTUATIONS SHOULD BE ANTICIPATED.
3. SOIL DESCRIPTIONS, TEST DATA, AND STANDARD PENETRATION VALUES SHOWN ARE FOR THE SOIL BORING ONLY AND MAY NOT APPLY TO ANY OTHER LOCATIONS EXCEPT AT THE LOCATIONS OF THE SOIL BORING. EXTRAPOLATION OF THE SOIL DATA TO OTHER LOCATIONS IS THE SOLE RESPONSIBILITY OF THE PERSON PERFORMING THE EXTRAPOLATION.
4. ELEVATIONS APPROXIMATED BASED ON FILES PROVIDED BY KIMLEY-HORN AND ASSOCIATES, INC.

AUTOMATIC HAMMER

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

SPLIT-SPOON:

INSIDE DIAMETER: 1.375 in.
OUTSIDE DIAMETER: 2.0 in.
AVG. HAMMER DROP: 30.0 in.
HAMMER WEIGHT: 140 lbs.

LEGEND

GROUNDWATER NOT ENCOUNTERED — GNE

LABORATORY TESTING RESULTS

WATER CONTENT (%) — Wc=
-200 SIEVE — -200=
LIQUID LIMIT — LL=
PLASTICITY INDEX — PI=
N-VALUE EQUIVALENT (NOTE 1) — *N

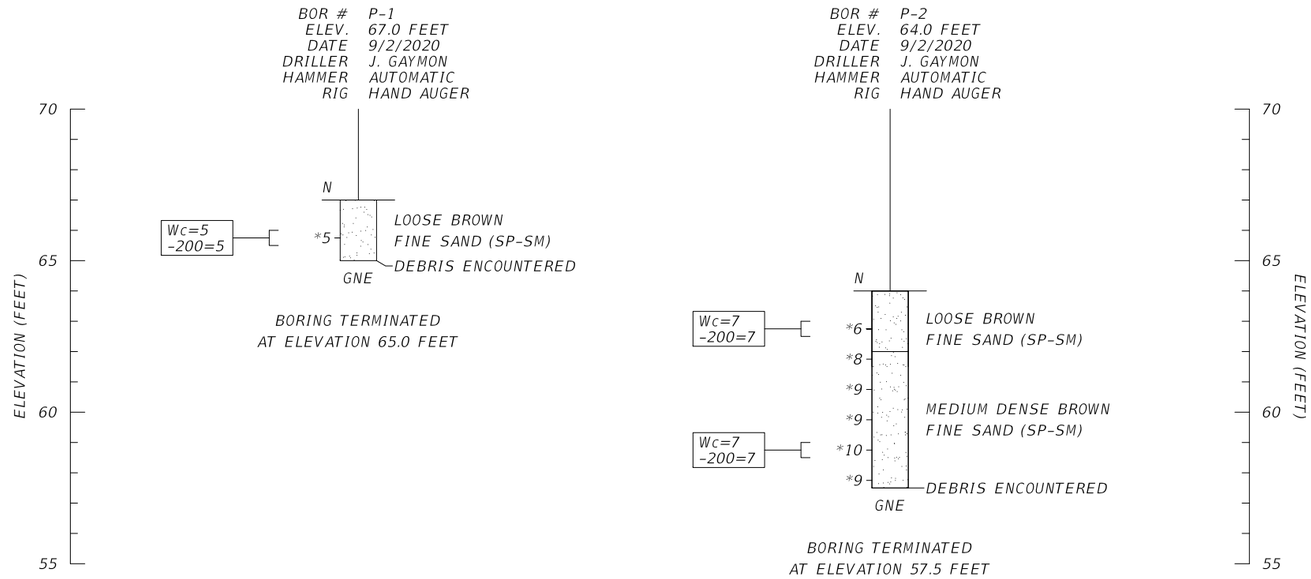
FINE SAND (SP-SM)

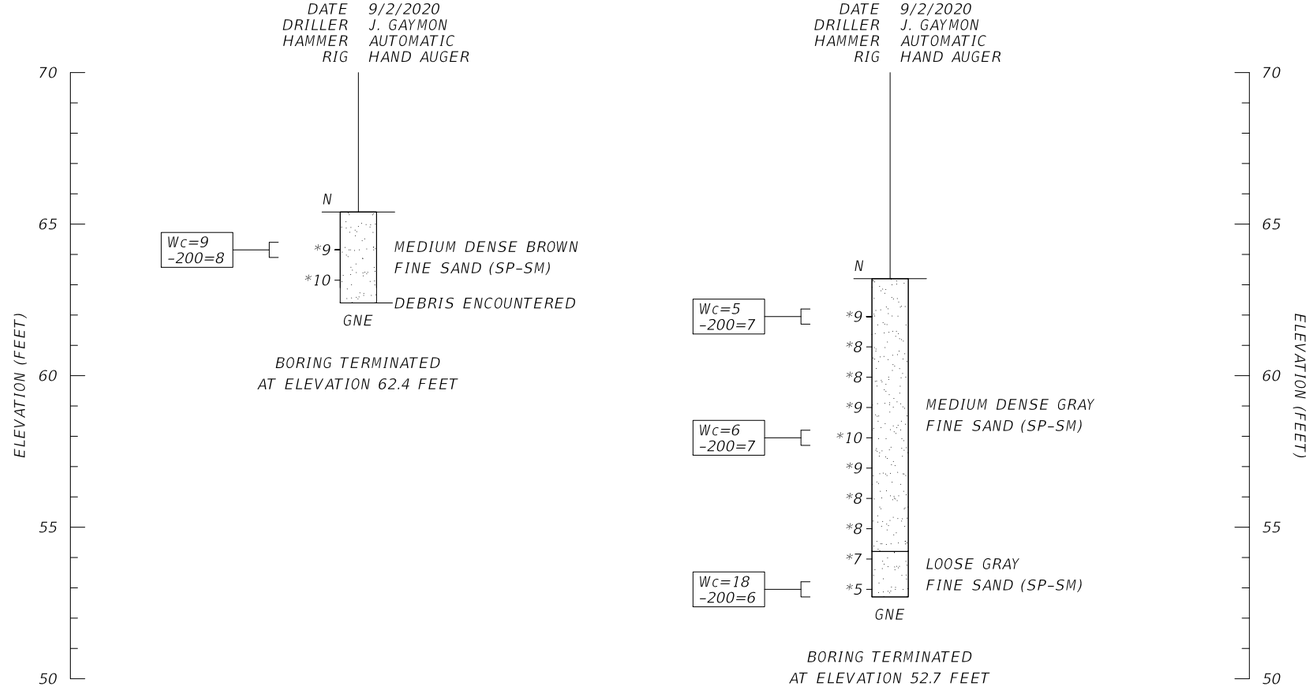
SILTY FINE SAND (SM)

CLAYEY SAND (SC)

UNIFIED SOIL CLASSIFICATION GROUP SYMBOL (SM)

LANDFILL DELINEATION





REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL:

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PROJECT TITLE

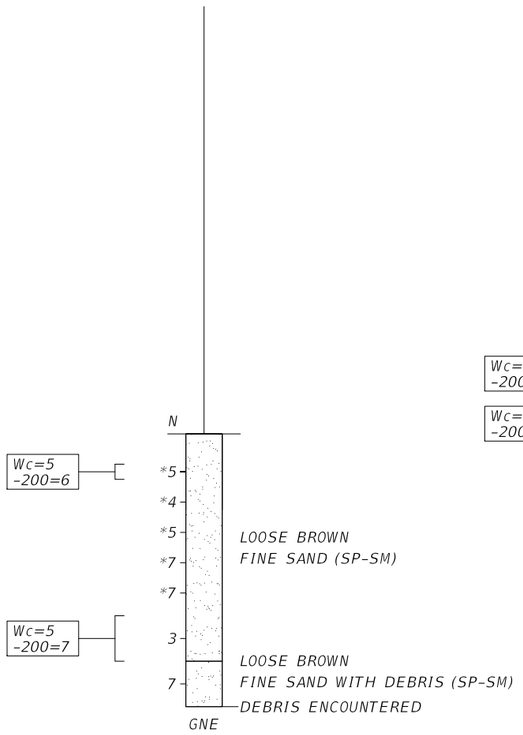
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT

REPORT OF SOIL BORINGS (1 OF 4)

SHEET NO.

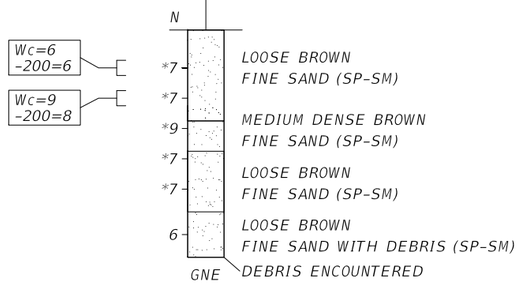
LANDFILL DELINEATION

BOR # QTA-1
ELEV. 60.9 FEET
DATE 5/27/2020
DRILLER J. GAYMON
HAMMER AUTOMATIC
RIG D-25



BORING TERMINATED
AT ELEVATION 51.9 FEET

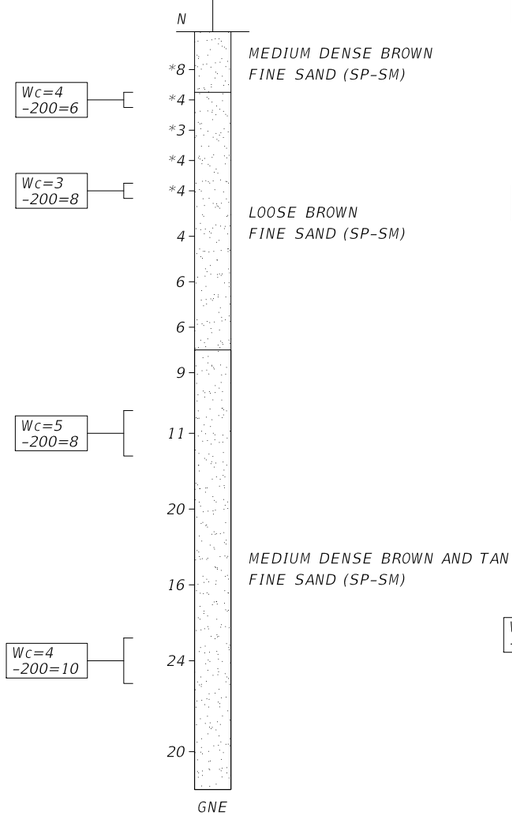
BOR # QTA-2
ELEV. 63.8 FEET
DATE 5/27/2020
DRILLER J. GAYMON
HAMMER AUTOMATIC
RIG D-25



BORING TERMINATED
AT ELEVATION 56.3 FEET

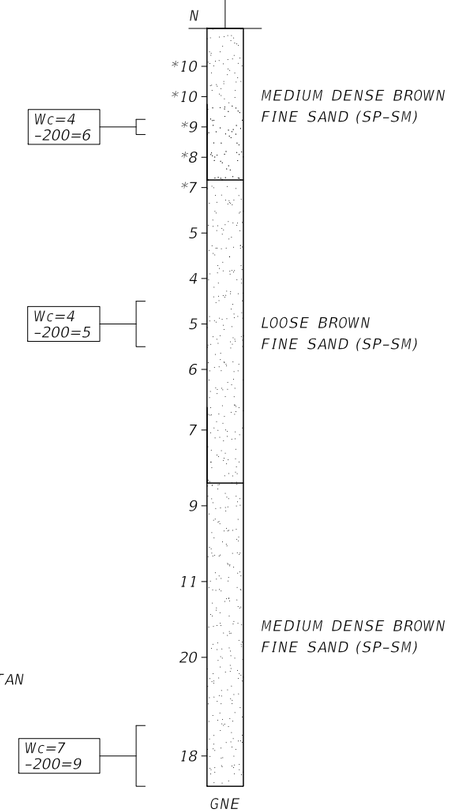
PERIMETER

BOR # QTA-3
ELEV. 68.0 FEET
DATE 5/26/2020
DRILLER J. GAYMON
HAMMER AUTOMATIC
RIG D-25



BORING TERMINATED
AT ELEVATION 43.0 FEET

BOR # QTA-4
ELEV. 72.1 FEET
DATE 5/26/2020
DRILLER J. GAYMON
HAMMER AUTOMATIC
RIG D-25



BORING TERMINATED
AT ELEVATION 47.1 FEET

ELEVATION (FEET)

75 70 65 60 55 50 45 40 35

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL:

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KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT TITLE

RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT

REPORT OF SOIL BORINGS (2 OF 4)

SHEET NO.

PERIMETER

BOR # QTA-5
ELEV. 68.4 FEET
DATE 5/26/2020
DRILLER J. GAYMON
HAMMER AUTOMATIC
RIG D-25

	N	
Wc=4 -200=7	*10 *8	MEDIUM DENSE DARK GRAY SILTY FINE SAND (SM) / MEDIUM DENSE BROWN FINE SAND (SP-SM)
Wc=3 -200=5	*5 *4 *4	
	5 6	LOOSE BROWN TO ORANGE FINE SAND (SP-SM)
Wc=8 -200=9	7 8 7	
	9	MEDIUM DENSE ORANGE FINE SAND (SP-SM)
Wc=18 -200=47 PI=16 LL=36	12	MEDIUM DENSE ORANGE AND GRAY CLAYEY SAND (SC)
	27	DENSE GRAY SILTY FINE SAND (SM)
Wc=12 -200=12	19	MEDIUM DENSE GRAY SILTY FINE SAND (SM)

GNE

BORING TERMINATED AT ELEVATION 43.4 FEET

BOR # QTA-6
ELEV. 63.5 FEET
DATE 5/26/2020
DRILLER J. GAYMON
HAMMER AUTOMATIC
RIG D-25

	N	
Wc=4 -200=6	*8 *8	MEDIUM DENSE BROWN FINE SAND (SP-SM)
	*7 *5 *7	
Wc=4 -200=7	4 5 6	LOOSE BROWN FINE SAND (SP-SM)
Wc=4 -200=8	6 7	
	11	MEDIUM DENSE BROWN FINE SAND (SP-SM)
	20 24	
Wc=11 -200=13	22	MEDIUM DENSE TAN SILTY FINE SAND (SM)

GNE

BORING TERMINATED AT ELEVATION 38.5 FEET

BUILDINGS

BOR # QTA-7
ELEV. 71.8 FEET
DATE 9/2/2020
DRILLER C. WEST
HAMMER AUTOMATIC
RIG D-25

	N	
Wc=6 -200=5	*10	MEDIUM DENSE GRAY TO BROWN FINE SAND (SP-SM)
Wc=6 -200=5	*9 *8 *6 *5	
Wc=5 -200=5	4 5 5	LOOSE TAN FINE SAND (SP-SM)
	9	MEDIUM DENSE TAN FINE SAND (SP-SM)
	12	

GNE

BORING TERMINATED AT ELEVATION 56.8 FEET

BOR # QTA-8
ELEV. 71.2 FEET
DATE 9/2/2020
DRILLER C. WEST
HAMMER AUTOMATIC
RIG D-25

	N	
Wc=6 -200=7	*8 *9 *8	MEDIUM DENSE BROWN FINE SAND (SP-SM)
	*6 *6 5	
Wc=5 -200=5	5 5	LOOSE BROWN TO TAN FINE SAND (SP-SM)
	10	MEDIUM DENSE TAN FINE SAND (SP-SM)
Wc=5 -200=6	27	DENSE GRAY FINE SAND (SP-SM)

GNE

BORING TERMINATED AT ELEVATION 56.2 FEET

ELEVATION (FEET): 75, 70, 65, 60, 55, 50, 45, 40, 35

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL:

MYRON L. HAYDEN, P.E.

P.E. NO.: 34067

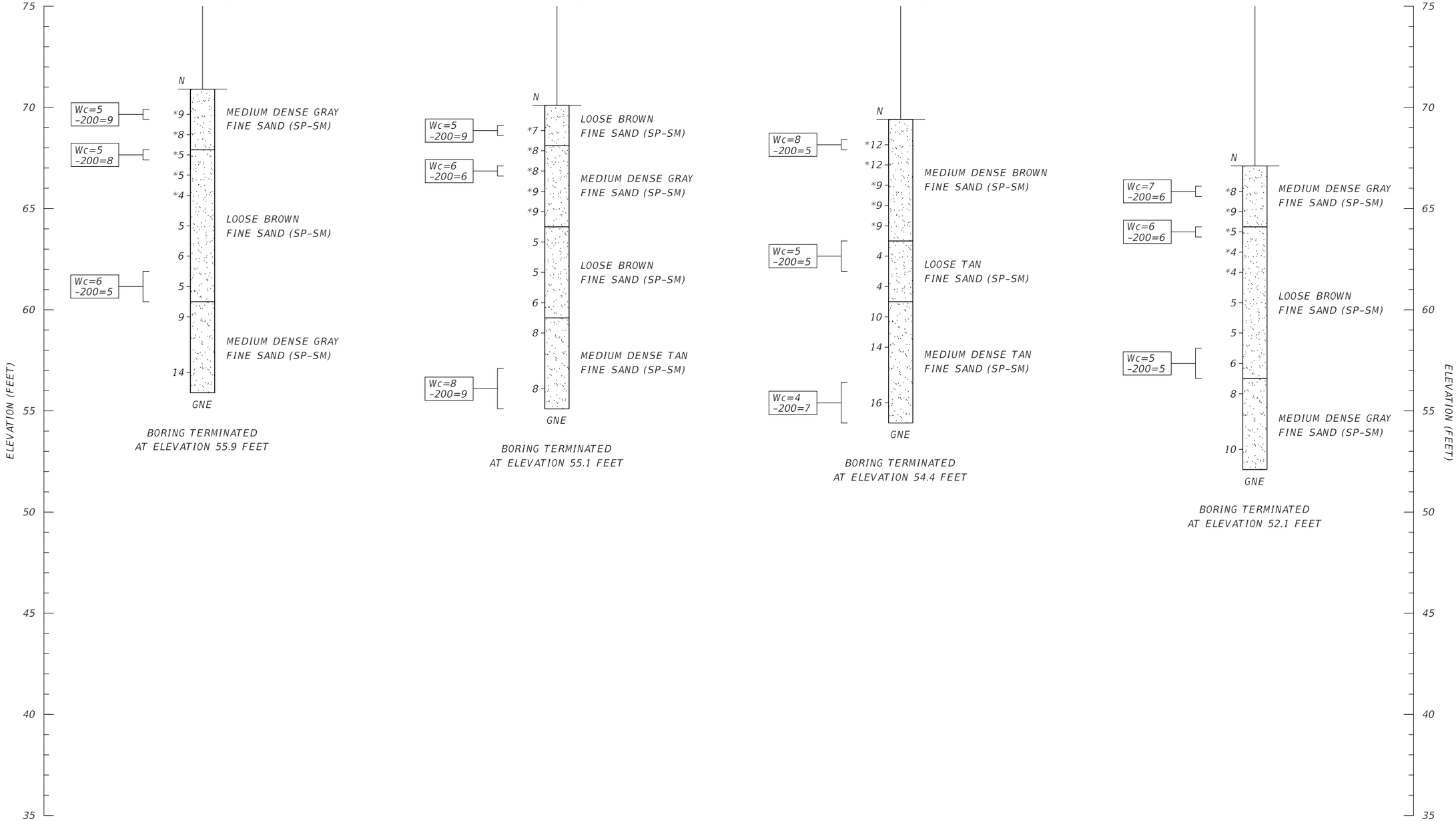
Environmental & Geotechnical Specialists, Inc.
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KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT TITLE
RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT

REPORT OF SOIL BORINGS (3 OF 4)

SHEET NO.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

SEAL:

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KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT TITLE

RENTAL CAR QTA FACILITY
TALLAHASSEE INTERNATIONAL AIRPORT

REPORT OF SOIL BORINGS (4 OF 4)

SHEET NO.

APPENDIX B

SOIL BORING LOGS

SOIL BORINGS FOR
LANDFILL DELINEATION

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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Tallahassee, Florida 32301
Office #: (850) 386-1253
Fax #: (850) 385-8050

PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** CPI
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 67.0
BORING NO.: P-1 **DATE:** 9/2/2020
DRILLER: K. JAMES **FLUID LOSS:** N/A
DEPTH TO WATER: **INITIAL:** ▽ > 2.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	Wc (%)	N	N-Value	N-Value
								10 20 30 40 60			10 20 30 40 60 80
0	0			LOOSE BROWN FINE SAND	SP-SM	-200%=5	6 6	● ●	5	●	
				DEBRIS ENCOUNTERED							
	4										
2	8										
	12										
4	16										
	20										
6	24										
8	28										

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

104 North Magnolia Drive
Tallahassee, Florida 32301
Office #: (850) 386-1253
Fax #: (850) 385-8050

PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** CPI
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 64.0
BORING NO.: P-2 **DATE:** 9/2/2020
DRILLER: K. JAMES **FLUID LOSS:** N/A
DEPTH TO WATER: **INITIAL:** ▽ > 6.5' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	Wc (%)	N	N-Value
								10 20 30 40 60		10 20 30 40 60 80
0	0			LOOSE BROWN FINE SAND	SP-SM	-200%=7	5			
							7		6	
							7		8	
							7		9	
4				MEDIUM DENSE BROWN FINE SAND	SP-SM		8		9	
						-200%=7	7		10	
2							9		9	
				DEBRIS ENCOUNTERED						
	8									
	12									
4										
	16									
6	20									
	24									
8										
	28									

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** CPI
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 65.4
BORING NO.: P-3 **DATE:** 9/2/2020
DRILLER: K. JAMES **FLUID LOSS:** N/A
DEPTH TO WATER: INITIAL: ▽ > 3.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE BROWN FINE SAND	SP-SM	-200%=8	8, 9, 13	9, 10	
				DEBRIS ENCOUNTERED					
2	4								
	8								
4	12								
	16								
6	20								
	24								
8	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

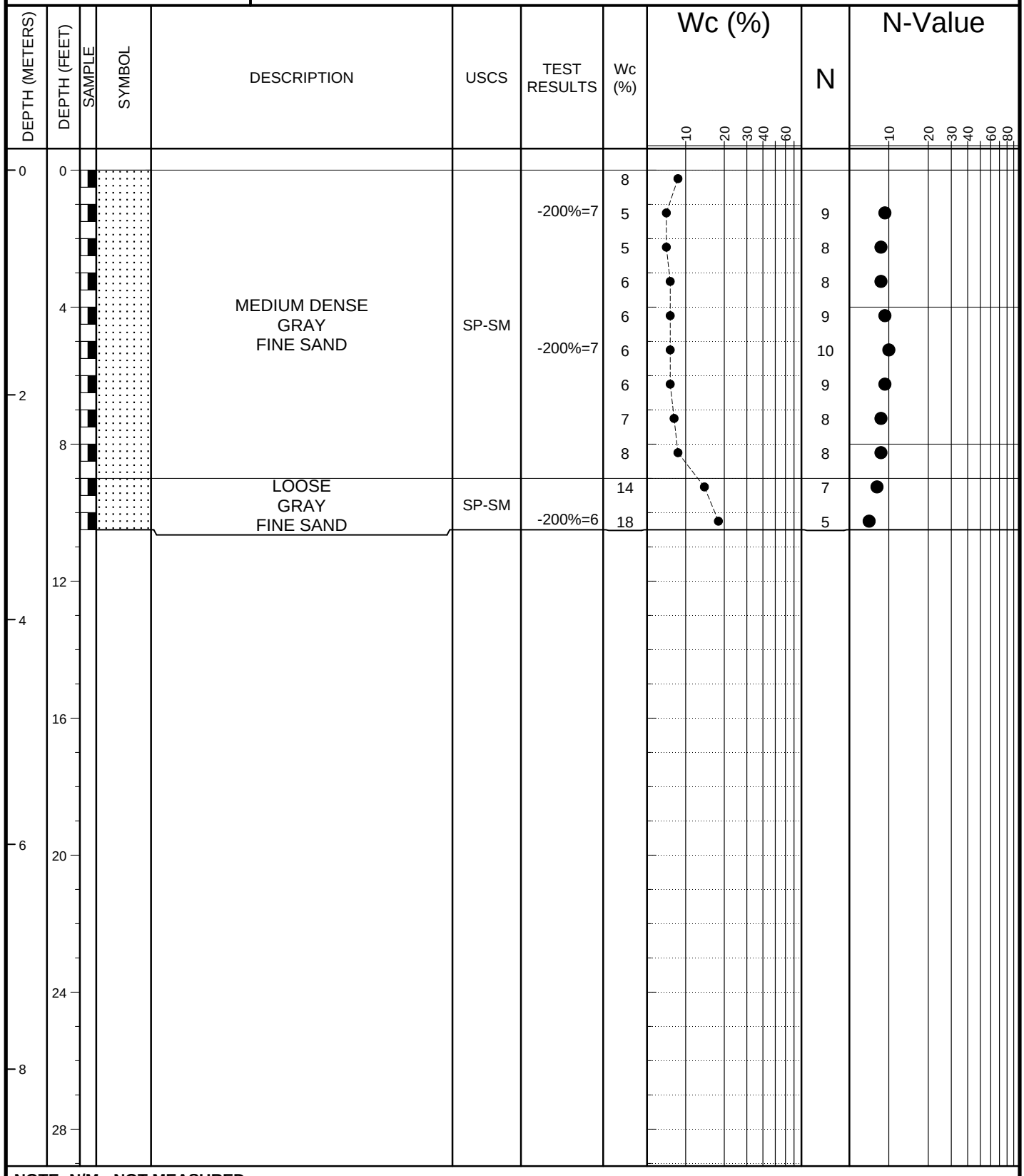
NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** CPI
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 63.2
BORING NO.: P-4 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** N/A
DEPTH TO WATER: **INITIAL:** ▽ > 10.5' **24 HR:** ▽ N/M **CAVING:** C NONE



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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

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Fax #: (850) 385-8050

PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 60.9
BORING NO.: QTA-1 **DATE:** 5/27/2020
DRILLER: J. GAYMON **FLUID LOSS:** N/A
DEPTH TO WATER: **INITIAL:** ▽ > 9.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0						5		
						-200%=6	5	5	
							6	4	
				LOOSE BROWN FINE SAND	SP-SM		7	5	
	4						5	7	
							5	7	
2						-200%=7	5	3	
	8			LOOSE BROWN FINE SAND WITH DEBRIS	SP-SM		14	7	
				DEBRIS ENCOUNTERED					
	12								
4									
	16								
6	20								
	24								
8									
	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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Office #: (850) 386-1253
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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 63.8
BORING NO.: QTA-2 **DATE:** 5/27/2020
DRILLER: J. GAYMON **FLUID LOSS:** N/A
DEPTH TO WATER: **INITIAL:** ▽ > 7.5' **24 HR:** ▽ N/M **CAVING:** ℄ NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			LOOSE BROWN FINE SAND	SP-SM	-200%=6	8, 6	7	
						-200%=8	9	7	
				MEDIUM DENSE BROWN FINE SAND	SP-SM		10	9	
2	4			LOOSE BROWN FINE SAND	SP-SM		5, 5	7, 7	
				LOOSE BROWN FINE SAND WITH DEBRIS	SP-SM		25	6	
4	8			DEBIRS ENCOUNTERED					
6	12								
8	16								
	20								
	24								
	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

PERIMETER
SOIL BORINGS

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

104 North Magnolia Drive
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Office #: (850) 386-1253
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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 68.0
BORING NO.: QTA-3 **DATE:** 5/26/2020
DRILLER: J. GAYMON **FLUID LOSS:** N/A
DEPTH TO WATER: **INITIAL:** ▽ > 25.0' **24 HR:** ▽ N/M **CAVING:** ⌭ NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE BROWN FINE SAND	SP-SM	-200%=6	4 4	8	
				LOOSE BROWN FINE SAND	SP-SM	-200%=8	4 4 3 3 3 4 4	4 3 4 4 4 6 6	
2	4								
	8								
4	12			MEDIUM DENSE BROWN FINE SAND	SP-SM	-200%=8	4 5	9 11	
	16			MEDIUM DENSE BROWN AND TAN FINE SAND		-200%=10	4 4 4 7	20 16 24 20	
6	20								
8	24								
	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

104 North Magnolia Drive
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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 72.1
BORING NO.: QTA-4 **DATE:** 5/26/2020
DRILLER: J. GAYMON **FLUID LOSS:** N/A
DEPTH TO WATER: INITIAL: ▽ > 25.0' **24 HR:** ▽ N/M **CAVING:** ℄ NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE BROWN FINE SAND	SP-SM	-200%=6	4	10	
							5	10	
							4	9	
	4						4	8	
2	8			LOOSE BROWN FINE SAND	SP-SM	-200%=5	4	7	
							3	5	
							5	4	
							4	5	
	12						4	6	
4							4	7	
6	16			MEDIUM DENSE BROWN FINE SAND	SP-SM		5	9	
							5	11	
	20						4	20	
	24					-200%=9	7	18	
8	28								

Wc (%) axis: 10 20 30 40 60
N-Value axis: 10 20 30 40 60 80

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 68.4
BORING NO.: QTA-5 **DATE:** 5/26/2020
DRILLER: J. GAYMON **FLUID LOSS:** N/A
DEPTH TO WATER: INITIAL: > 25.0' **24 HR:** N/M **CAVING:** NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE DARK GRAY SILTY FINE SAND	SM		9		
						-200%=7	4	10	
				MEDIUM DENSE BROWN FINE SAND	SP-SM		3	8	
							3	5	
	4						3	4	
				LOOSE BROWN FINE SAND		-200%=5	3	4	
2							3	5	
	8						3	6	
					SP-SM		4	7	
						-200%=9	8	8	
	12			LOOSE ORANGE FINE SAND			6	7	
4									
	16			MEDIUM DENSE ORANGE FINE SAND	SP-SM		8	9	
				MEDIUM DENSE ORANGE AND GRAY CLAYEY SAND	SC	-200%=47 LL=36 PI=16	18	12	
6	20			DENSE GRAY SILTY FINE SAND	SM		7	27	
	24			MEDIUM DENSE GRAY SILTY FINE SAND	SM	-200%=12	12	19	
8									
	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 63.5
BORING NO.: QTA-6 **DATE:** 5/26/2020
DRILLER: J. GAYMON **FLUID LOSS:** N/A
DEPTH TO WATER: INITIAL: ▽ > 25.0' **24 HR:** ▽ N/M **CAVING:** ℄ NONE

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N
0	0			MEDIUM DENSE BROWN FINE SAND	SP-SM	-200%=6	6 4 5	8 8
	4						4 4 4	7 5 7
2	8			LOOSE BROWN FINE SAND	SP-SM	-200%=7	4 7 5 4	4 5 6 6
4	12					-200%=8	4	7
	16			MEDIUM DENSE BROWN FINE SAND	SP-SM		4 4 4	11 20 24
6	20							
	24			MEDIUM DENSE TAN SILTY FINE SAND	SM	-200%=13	11	22
8	28							

N-Value: 10, 20, 30, 40, 60, 80

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

SOIL BORINGS FOR BUILDINGS

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 71.8
BORING NO.: QTA-7 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** NONE
DEPTH TO WATER: **INITIAL:** ▽ > 15.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE GRAY FINE SAND	SP-SM	-200%=5	7 6	10	
				MEDIUM DENSE BROWN FINE SAND		-200%=5	6 5	9 8	
	4			LOOSE TAN FINE SAND	SP-SM		6 4 4 6	6 5 4 5	
2	8					-200%=5	5	5	
	12			MEDIUM DENSE TAN FINE SAND	SP-SM		5 5	9 12	
4	16								
6	20								
	24								
8	28								

Wc (%) axis: 10 20 30 40 60
N-Value axis: 10 20 30 40 60 80

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 71.2
BORING NO.: QTA-8 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** NONE
DEPTH TO WATER: **INITIAL:** ▽ > 15.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE BROWN FINE SAND	SP-SM	-200%=7	7 6 6 5	8 9 8	
2	4			LOOSE BROWN FINE SAND	SP-SM	-200%=5	5 4 4	6 6 5	
	8			LOOSE TAN FINE SAND			5 5	5 5	
	12			MEDIUM DENSE TAN FINE SAND	SP-SM		5	10	
4				DENSE GRAY FINE SAND	SP-SM	-200%=6	5	27	
6	20								
8	24								
	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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Office #: (850) 386-1253
Fax #: (850) 385-8050

PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 70.9
BORING NO.: QTA-9 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** NONE
DEPTH TO WATER: **INITIAL:** ▽ > 15.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			MEDIUM DENSE GRAY FINE SAND	SP-SM	-200%=9	5		
							5	9	
							5	8	
						-200%=8	5	5	
	4			LOOSE BROWN FINE SAND	SP-SM		5	5	
							5	4	
2							5	5	
	8						4	6	
						-200%=5	6	5	
	12			MEDIUM DENSE GRAY FINE SAND	SP-SM		6	9	
4							5	14	
	16								
6	20								
	24								
8	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

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NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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Office #: (850) 386-1253
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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 70.1
BORING NO.: QTA-10 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** NONE
DEPTH TO WATER: **INITIAL:** ▽ > 15.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0			LOOSE BROWN FINE SAND	SP-SM	-200%=5	8, 9	7	
	4			MEDIUM DENSE GRAY FINE SAND	SP-SM	-200%=6	6, 6, 6, 5	8, 8, 9, 9	
2	8			LOOSE GRAY FINE SAND	SP-SM	-200%=7	5, 5, 6	5, 5, 6	
4	12			MEDIUM DENSE TAN FINE SAND	SP-SM	-200%=9	6, 8	8, 8	
6	20								
8	28								

Wc (%) axis: 10, 20, 30, 40, 60
N-Value axis: 10, 20, 30, 40, 60, 80

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

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PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 69.4
BORING NO.: QTA-11 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** NONE
DEPTH TO WATER: **INITIAL:** ▽ > 15.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N	N-Value
0	0						10 20 30 40 60		10 20 30 40 60 80
							6		
						-200%=5	8	12	
				MEDIUM DENSE BROWN FINE SAND	SP-SM		6	12	
							6	9	
	4						6	9	
							5	9	
2						-200%=5	5	4	
	8			LOOSE TAN FINE SAND	SP-SM		4	4	
							5	10	
				MEDIUM DENSE TAN FINE SAND	SP-SM		5	14	
	12								
4						-200%=7	4	16	
	16								
6	20								
	24								
8									
	28								

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

104 North Magnolia Drive
Tallahassee, Florida 32301
Office #: (850) 386-1253
Fax #: (850) 385-8050

PROJECT: TLH QUICK-TURNAROUND FACILITY
CLIENT: KIMLEY-HORN AND ASSOCIATES, INC.
PROJECT NO.: 13-38-19-01 **HAMMER TYPE:** AUTOMATIC
PROJECT LOCATION: TALLAHASSEE, FLORIDA **ELEVATION (FEET):** 67.1
BORING NO.: QTA-12 **DATE:** 9/2/2020
DRILLER: C. WEST **FLUID LOSS:** NONE
DEPTH TO WATER: **INITIAL:** ▽ > 15.0' **24 HR:** ▽ N/M **CAVING:** C NONE

DEPTH (METERS)	DEPTH (FEET)	SAMPLE	SYMBOL	DESCRIPTION	USCS	TEST RESULTS	Wc (%)	N
0	0			MEDIUM DENSE GRAY FINE SAND	SP-SM	-200%=6	11	
							7	8
							5	9
				LOOSE BROWN FINE SAND	SP-SM	-200%=6	6	5
	4						5	4
							6	4
2							5	5
	8						4	5
						-200%=5	5	6
				MEDIUM DENSE TAN FINE SAND	SP-SM		4	8
	12							
4							5	10
	16							
6	20							
	24							
8								
	28							

Wc (%) axis: 10 20 30 40 60
N-Value axis: 10 20 30 40 60 80

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

NOTE: N/M - NOT MEASURED
N/A - NOT AVAILABLE

APPENDIX C

SOIL CLASSIFICATION DATA

SOIL BORINGS FOR
LANDFILL DELINEATION

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: P-1 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	6												SP-SM	LOOSE BROWN FINE SAND
1.0-1.5	6	100	100	97	65	31	15	5				5	SP-SM	LOOSE BROWN FINE SAND
2.0														DEBRIS ENCOUNTERED

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: P-2 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	5												SP-SM	LOOSE BROWN FINE SAND
1.0-1.5	7	100	100	98	68	32	16	7				6	SP-SM	LOOSE BROWN FINE SAND
2.0-2.5	7											8	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	7											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
4.0-4.5	8											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
5.0-5.5	7	100	100	97	55	31	17	7				10	SP-SM	MEDIUM DENSE BROWN FINE SAND
6.0-6.5	9											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
6.5														DEBRIS ENCOUNTERED

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: P-3 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	8												SP-SM	MEDIUM DENSE BROWN FINE SAND
1.0-1.5	9	100	100	98	73	39	18	8				9	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	13											10	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0														DEBRIS ENCOUNTERED

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: P-4 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	8												SP-SM	MEDIUM DENSE GRAY FINE SAND
1.0-1.5	5	100	100	97	51	28	14	7				9	SP-SM	MEDIUM DENSE GRAY FINE SAND
2.0-2.5	5											8	SP-SM	MEDIUM DENSE GRAY FINE SAND
3.0-3.5	6											8	SP-SM	MEDIUM DENSE GRAY FINE SAND
4.0-4.5	6											9	SP-SM	MEDIUM DENSE GRAY FINE SAND
5.0-5.5	6	100	100	97	57	32	17	7				10	SP-SM	MEDIUM DENSE GRAY FINE SAND
6.0-6.5	6											9	SP-SM	MEDIUM DENSE GRAY FINE SAND
7.0-7.5	7											8	SP-SM	MEDIUM DENSE GRAY FINE SAND
8.0-8.5	8											8	SP-SM	MEDIUM DENSE GRAY FINE SAND
9.0-9.5	14											7	SP-SM	LOOSE GRAY FINE SAND
10.0-10.5	18	100	100	95	55	26	12	6				5	SP-SM	LOOSE GRAY FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-1 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	5												SP-SM	LOOSE BROWN FINE SAND
1.0-1.5	5	100	100	90	49	21	9	6				5	SP-SM	LOOSE BROWN FINE SAND
2.0-2.5	6											4	SP-SM	LOOSE BROWN FINE SAND
3.0-3.5	7											5	SP-SM	LOOSE BROWN FINE SAND
4.0-4.5	5											7	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	5											7	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	5	100	100	96	48	21	11	7				3	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	14											7	SP-SM	LOOSE BROWN FINE SAND WITH DEBRIS
9.0														DEBRIS ENCOUNTERED

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-2 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	8												SP-SM	LOOSE BROWN FINE SAND
1.0-1.5	6	100	100	95	64	27	12	6				7	SP-SM	LOOSE BROWN FINE SAND
2.0-2.5	9	100	100	94	57	23	12	8				7	SP-SM	LOOSE BROWN FINE SAND
3.0-3.5	10											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
4.0-4.5	5											7	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	5											7	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	25											6	SP-SM	LOOSE BROWN FINE SAND WITH DEBRIS
7.5														DEBIRS ENCOUNTERED

PERIMETER
SOIL BORINGS

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-3 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	4												SP-SM	MEDIUM DENSE BROWN FINE SAND
1.0-1.5	4	100	100	96	60	30	12	6				8	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	4											4	SP-SM	LOOSE BROWN FINE SAND
3.0-3.5	4											3	SP-SM	LOOSE BROWN FINE SAND
4.0-4.5	3											4	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	3	100	100	96	69	34	15	8				4	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	3											4	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	4											6	SP-SM	LOOSE BROWN FINE SAND
9.0-10.5	4											6	SP-SM	LOOSE BROWN FINE SAND
10.5-12.0	4											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
12.5-14.0	5	100	100	94	65	35	15	8				11	SP-SM	MEDIUM DENSE BROWN FINE SAND
15.0-16.5	4											20	SP-SM	MEDIUM DENSE BROWN AND TAN FINE SAND
17.5-19.0	4											16	SP-SM	MEDIUM DENSE BROWN AND TAN FINE SAND
20.0-21.5	4	100	100	95	54	33	16	10				24	SP-SM	MEDIUM DENSE BROWN AND TAN FINE SAND
23.0-25.0	7											20	SP-SM	MEDIUM DENSE BROWN AND TAN FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-4 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	4												SP-SM	MEDIUM DENSE BROWN FINE SAND
1.0-1.5	5											10	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	4	100	100	97	58	25	12	6				10	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	4											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
4.0-4.5	4											8	SP-SM	MEDIUM DENSE BROWN FINE SAND
5.0-5.5	4											7	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	3											5	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	5											4	SP-SM	LOOSE BROWN FINE SAND
9.0-10.5	4	100	100	95	60	27	10	5				5	SP-SM	LOOSE BROWN FINE SAND
10.5-12.0	4											6	SP-SM	LOOSE BROWN FINE SAND
12.5-14.0	4											7	SP-SM	LOOSE BROWN FINE SAND
15.0-16.5	5											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
17.5-19.0	5											11	SP-SM	MEDIUM DENSE BROWN FINE SAND
20.0-21.5	4											20	SP-SM	MEDIUM DENSE BROWN FINE SAND
23.0-25.0	7	100	100	98	72	44	17	9				18	SP-SM	MEDIUM DENSE BROWN FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-5 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	9												SM	MEDIUM DENSE DARK GRAY SILTY FINE SAND
1.0-1.5	4	100	100	99	68	38	16	7				10	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	3											8	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	3											5	SP-SM	LOOSE BROWN FINE SAND
4.0-4.5	3											4	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	3	100	100	97	90	35	13	5				4	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	3											5	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	3											6	SP-SM	LOOSE BROWN FINE SAND
9.0-10.5	4											7	SP-SM	LOOSE BROWN FINE SAND
10.5-12.0	8	100	100	96	67	51	25	9				8	SP-SM	LOOSE ORANGE FINE SAND
12.5-14.0	6											7	SP-SM	LOOSE ORANGE FINE SAND
15.0-16.5	8											9	SP-SM	MEDIUM DENSE ORANGE FINE SAND
17.5-19.0	18	100	100	100	94	84	71	47	36	16		12	SC	MEDIUM DENSE ORANGE AND GRAY CLAYEY SAND
20.0-21.5	7											27	SM	DENSE GRAY SILTY FINE SAND
23.0-25.0	12	100	100	100	93	60	24	12				19	SM	MEDIUM DENSE GRAY SILTY FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-6 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	6												SP-SM	MEDIUM DENSE BROWN FINE SAND
1.0-1.5	4	100	100	98	61	27	13	6				8	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	5											8	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	4											7	SP-SM	LOOSE BROWN FINE SAND
4.0-4.5	4											5	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	4											7	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	4	100	100	98	66	30	14	7				4	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	7											5	SP-SM	LOOSE BROWN FINE SAND
9.0-10.5	5											6	SP-SM	LOOSE BROWN FINE SAND
10.5-12.0	4											6	SP-SM	LOOSE BROWN FINE SAND
12.5-14.0	4	100	100	98	65	38	18	8				7	SP-SM	LOOSE BROWN FINE SAND
15.0-16.5	4											11	SP-SM	MEDIUM DENSE BROWN FINE SAND
17.5-19.0	4											20	SP-SM	MEDIUM DENSE BROWN FINE SAND
20.0-21.5	4											24	SP-SM	MEDIUM DENSE BROWN FINE SAND
23.0-25.0	11	100	100	99	92	68	31	13				22	SM	MEDIUM DENSE TAN SILTY FINE SAND

SOIL BORINGS FOR BUILDINGS

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-7 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	7												SP-SM	MEDIUM DENSE GRAY FINE SAND
1.0-1.5	6	100	100	98	51	22	11	5				10	SP-SM	MEDIUM DENSE GRAY FINE SAND
2.0-2.5	6	100	100	97	60	28	11	5				9	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	5											8	SP-SM	MEDIUM DENSE BROWN FINE SAND
4.0-4.5	6											6	SP-SM	LOOSE TAN FINE SAND
5.0-5.5	4											5	SP-SM	LOOSE TAN FINE SAND
6.0-7.5	4											4	SP-SM	LOOSE TAN FINE SAND
7.5-9.0	6											5	SP-SM	LOOSE TAN FINE SAND
9.0-10.5	5	100	100	97	65	31	9	5				5	SP-SM	LOOSE TAN FINE SAND
10.5-12.0	5											9	SP-SM	MEDIUM DENSE TAN FINE SAND
13.0-15.0	5											12	SP-SM	MEDIUM DENSE TAN FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-8 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	7												SP-SM	MEDIUM DENSE BROWN FINE SAND
1.0-1.5	6	100	100	98	56	21	13	7				8	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	6											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	5											8	SP-SM	MEDIUM DENSE BROWN FINE SAND
4.0-4.5	5											6	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	4											6	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	4											5	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	5	100	100	96	62	28	8	5				5	SP-SM	LOOSE TAN FINE SAND
9.0-10.5	5											5	SP-SM	LOOSE TAN FINE SAND
10.5-12.0	5											10	SP-SM	MEDIUM DENSE TAN FINE SAND
13.0-15.0	5	100	100	96	65	35	12	6				27	SP-SM	DENSE GRAY FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-9 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	5												SP-SM	MEDIUM DENSE GRAY FINE SAND
1.0-1.5	5	100	100	97	52	27	16	9				9	SP-SM	MEDIUM DENSE GRAY FINE SAND
2.0-2.5	5											8	SP-SM	MEDIUM DENSE GRAY FINE SAND
3.0-3.5	5	100	100	96	52	23	13	8				5	SP-SM	LOOSE BROWN FINE SAND
4.0-4.5	5											5	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	5											4	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	5											5	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	4											6	SP-SM	LOOSE BROWN FINE SAND
9.0-10.5	6	100	100	95	51	22	11	5				5	SP-SM	LOOSE BROWN FINE SAND
10.5-12.0	6											9	SP-SM	MEDIUM DENSE GRAY FINE SAND
13.0-15.0	5											14	SP-SM	MEDIUM DENSE GRAY FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-10 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	8												SP-SM	LOOSE BROWN FINE SAND
1.0-1.5	9	100	100	96	66	35	11	5				7	SP-SM	LOOSE BROWN FINE SAND
2.0-2.5	6											8	SP-SM	MEDIUM DENSE GRAY FINE SAND
3.0-3.5	6	100	100	97	50	23	11	6				8	SP-SM	MEDIUM DENSE GRAY FINE SAND
4.0-4.5	6											9	SP-SM	MEDIUM DENSE GRAY FINE SAND
5.0-5.5	5											9	SP-SM	MEDIUM DENSE GRAY FINE SAND
6.0-7.5	5	100	100	96	58	26	12	7				5	SP-SM	LOOSE GRAY FINE SAND
7.5-9.0	5											5	SP-SM	LOOSE GRAY FINE SAND
9.0-10.5	6											6	SP-SM	LOOSE GRAY FINE SAND
10.5-12.0	6											8	SP-SM	MEDIUM DENSE TAN FINE SAND
13.0-15.0	8	100	100	97	65	38	16	9				8	SP-SM	MEDIUM DENSE TAN FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-11 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	6												SP-SM	MEDIUM DENSE BROWN FINE SAND
1.0-1.5	8	100	100	97	68	29	9	5				12	SP-SM	MEDIUM DENSE BROWN FINE SAND
2.0-2.5	6											12	SP-SM	MEDIUM DENSE BROWN FINE SAND
3.0-3.5	6											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
4.0-4.5	6											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
5.0-5.5	5											9	SP-SM	MEDIUM DENSE BROWN FINE SAND
6.0-7.5	5	100	100	94	52	24	10	5				4	SP-SM	LOOSE TAN FINE SAND
7.5-9.0	4											4	SP-SM	LOOSE TAN FINE SAND
9.0-10.5	5											10	SP-SM	MEDIUM DENSE TAN FINE SAND
10.5-12.0	5											14	SP-SM	MEDIUM DENSE TAN FINE SAND
13.0-15.0	4	100	100	96	69	36	15	7				16	SP-SM	MEDIUM DENSE TAN FINE SAND

SOIL CLASSIFICATION DATA

Project: TLH QUICK-TURNAROUND FACILITY

Client: KIMLEY-HORN AND ASSOCIATES, INC. **Project No.: 13-38-19-01**

Boring: QTA-12 **Location: TALLAHASSEE, FLORIDA**

DEPTH (FEET)	Wc (%)	-4 (%)	-10 (%)	-20 (%)	-40 (%)	-60 (%)	-100 (%)	-200 (%)	LL	PI	Org. (%)	N Value	USCS	Description
0.0-0.5	11												SP-SM	MEDIUM DENSE GRAY FINE SAND
1.0-1.5	7	99	99	95	51	23	11	6				8	SP-SM	MEDIUM DENSE GRAY FINE SAND
2.0-2.5	5											9	SP-SM	MEDIUM DENSE GRAY FINE SAND
3.0-3.5	6	100	100	95	56	20	11	6				5	SP-SM	LOOSE BROWN FINE SAND
4.0-4.5	5											4	SP-SM	LOOSE BROWN FINE SAND
5.0-5.5	6											4	SP-SM	LOOSE BROWN FINE SAND
6.0-7.5	5											5	SP-SM	LOOSE BROWN FINE SAND
7.5-9.0	4											5	SP-SM	LOOSE BROWN FINE SAND
9.0-10.5	5	100	100	94	63	26	7	5				6	SP-SM	LOOSE BROWN FINE SAND
10.5-12.0	4											8	SP-SM	MEDIUM DENSE TAN FINE SAND
13.0-15.0	5											10	SP-SM	MEDIUM DENSE TAN FINE SAND

APPENDIX D

NRCS SOIL SURVEY DATA

Chemical Soil Properties–Leon County, Florida								
Map symbol and soil name	**Depth**	**Cation-exchange capacity**	**Effective cation-exchange capacity**	**Soil reaction**	**Calcium carbonate**	**Gypsum**	**Salinity**	**Sodium adsorption ratio**
	In	*meq/100g*	*meq/100g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
4—Arents, 0 to 5 percent slopes								
Arents	0-20	—	1.6-5.3	3.5-6.5	0	0	0.0-2.0	0-4
	20-30	0.8-8.0	0.6-7.5	4.5-6.0	0	0	0.0-2.0	0-4
	30-50	—	2.0-6.0	4.5-6.0	0	0	0.0-2.0	0-4
	50-60	—	0.1-1.9	4.5-6.0	0	0	0.0-2.0	0-4
18—Kershaw sand, 0 to 5 percent slopes								
Kershaw	0-7	—	0.4-2.1	4.5-6.0	0	0	0.0-2.0	0-4
	7-80	0.8-4.0	—	4.5-6.0	0	0	0.0-2.0	0-4

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Leon County, Florida														
Map unit symbol and soil name	**Pct. of map unit**	**Hydrologic group**	**Depth**	**USDA texture**	**Classification**		**Pct Fragments**		**Percentage passing sieve number—**				**Liquid limit**	**Plasticity index**
					Unified	**AASHTO**	**>10 inches**	**3-10 inches**	**4**	**10**	**40**	**200**		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
4—Arents, 0 to 5 percent slopes														
Arents	86	B	0-20	Loamy fine sand	SM, SP-SM	A-3, A-2-4	0- 0- 0	0- 0- 0	100-100-100	100-100-100	80-85-90	5-13- 20	0-7 -14	NP
			20-30	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0- 0- 0	0- 0- 0	100-100-100	95-98-100	69-82-95	25-38-50	12-29-45	3-13-22
			30-50	Sandy clay, clay, clay loam	CH, CL, ML, SC	A-6, A-7	0- 0- 0	0- 0- 0	98-99-100	95-98-100	75-87-99	45-59-72	25-39-52	11-18-25
			50-60	Sand, fine sand	SP, SP-SM	A-2-4, A-3	0- 0- 0	0- 0- 0	100-100-100	100-100-100	50-75-100	1- 7- 12	0-7 -14	NP
18—Kershaw sand, 0 to 5 percent slopes														
Kershaw	85	A	0-7	Sand	SP-SM, SP	A-3, A-2	0- 0- 0	0- 0- 0	98-99-100	98-99-100	50-65-80	1- 4- 7	0-7 -14	NP
			7-80	Sand, fine sand	SP-SM, SP	A-3, A-2	0- 0- 0	0- 0- 0	98-99-100	98-99-100	50-65-80	1- 4- 7	0-7 -14	NP

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Physical Soil Properties–Leon County, Florida														
Map symbol and soil name	**Depth**	**Sand**	**Silt**	**Clay**	**Moist bulk density**	**Saturated hydraulic conductivity**	**Available water capacity**	**Linear extensibility**	**Organic matter**	**Erosion factors**			**Wind erodibility group**	**Wind erodibility index**
										Kw	**Kf**	**T**		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
4—Arents, 0 to 5 percent slopes														
Arents	0-20	-82-	0- 8- 30	5-10- 15	1.30-1.50-1.70	42.00-91.00-141.00	0.02-0.04-0.08	0.0- 1.5- 2.9	0.5- 0.8-1.0	.10	.10	5	2	134
	20-30	-60-	0-19- 30	12-21- 30	1.60-1.65-1.70	4.20-9.20-14.00	0.10-0.13-0.15	0.0- 1.5- 2.9	0.0- 0.3-0.5	.24	.24			
	30-50	-40-	0-10- 20	35-50- 60	1.55-1.60-1.65	4.00-9.00-14.00	0.12-0.15-0.18	0.0- 1.5- 2.9	0.0- 0.3-0.5	.10	.10			
	50-60	-92-	0- 5- 15	1- 4- 6	1.45-1.55-1.65	141.00-247.00-353.00	0.02-0.05-0.08	0.0- 1.5- 2.9	0.0- 0.3-0.5	.02	.02			
18—Kershaw sand, 0 to 5 percent slopes														
Kershaw	0-7	-94-	0- 5- 15	1- 2- 5	1.35-1.45-1.55	141.00-247.00-353.00	0.02-0.04-0.05	0.0- 1.5- 2.9	0.3- 0.5-1.0	.15	.15	5	1	220
	7-80	-98-	0- 1- 15	1- 1- 5	1.35-1.45-1.55	141.00-247.00-353.00	0.02-0.04-0.05	0.0- 1.5- 2.9	0.0- 0.1-0.5	.02	.02			

Soil Features–Leon County, Florida									
Map symbol and soil name	**Restrictive Layer**				**Subsidence**		**Potential for frost action**	**Risk of corrosion**	
	Kind	**Depth to top**	**Thickness**	**Hardness**	**Initial**	**Total**		**Uncoated steel**	**Concrete**
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
		In	*In*		*In*	*In*			
4—Arents, 0 to 5 percent slopes									
Arents		—	—		—	—	None	Moderate	Moderate
18—Kershaw sand, 0 to 5 percent slopes									
Kershaw		—	—		—	—	None	Low	High

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
4—Arents, 0 to 5 percent slopes											
Arents	B	Negligible	Jan-Dec	—	—	—	—	—	None	—	None
18—Kershaw sand, 0 to 5 percent slopes											
Kershaw	A	Negligible	Jan-Dec	—	—	—	—	—	None	—	None

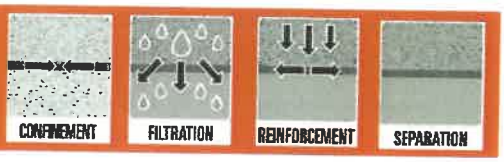
APPENDIX E

GEOSYNETHETIC REINFORCEMENT

TENCATE
Mirafi®

TENCATE GEOSYNTHETICS
Americas

Mirafi® RS580*i*



Mirafi® RS580*i* is a specially designed geosynthetic that integrates the key performance characteristics to maximize performance. Extensive performance testing has been performed per AASHTO and FHWA guidelines to validate performance for both paved and unpaved roads.

Roadway Design and Performance Properties	Guidance Document / Test Method	Unit	Design / Calibration Value	
Base Course M_R Improvement Factor[1]	AASHTO R50-09	---	1.40	
Subgrade M_R Improvement / Increase[2]	AASHTO R50-09	lb/in² (MPa)	9,000 (62.0)	
Cyclic Tensile Modulus: J_{cyclic}[3]	ASTM D7556	kip/ft (kN/m)	MD	CD
			60 (876)	160 (2,336)
Resilient Interface Shear Stiffness: G_i[3]	ASTM D7499	kip/in² (MPa)	329 (2,268)	
Traffic Benefit Ratio: TBR[4,5,6]	AASHTO R50-09	---	9.0 / 13.1 / 39.0	
Interaction Coefficient: C_i[7]	ASTM D6706	---	0.90	
Pore Pressure Dissipation Ratio[4]	Measured	---	2.0	
Typical Dynamic Filtration Pore Size O_{95} / O_{50} [8]	ASTM D6767	microns	337 / 192	
Maximum Percent Open Area: MPOA[9]	ASTM D6767	Percent	7.3	
Tensile Strength @ 2% Strain (MARV)	ASTM D4595	lb/ft (kN/m)	480 (7.0)	1,800 (26.3)
Tensile Strength @ 5% Strain (MARV)	ASTM D4595	lb/ft (kN/m)	1,440 (21.0)	4,380 (63.9)

Index Properties	Test Method	Unit	Roll Value
Apparent Opening Size, AOS (Maximum Roll Value)	ASTM D4751	U.S Sieve (mm)	40 (0.425)
Hydraulic Flow Rate (MARV)	ASTM D4491	gal/min/ft² (l/min/m²)	75 (3,056)
Permittivity (MARV)	ASTM D4491	sec^{-1}	1.0
UV Resistance (at 500 hours exposure)	ASTM D4355	% strength retained	90

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QUALITY ASSURANCE ACCREDITED LABORATORY
GAI-LAP-25-97

TENCATE GEOSYNTHETICS
Americas

Notes:

[1] Value Determined from Results of Independent Testing Performed at Kansas State University in accordance with NCHRP Report 512 "Accelerated Pavement Testing: Data Guidelines" and AASHTO R50-09 Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures." Multiplier for Unbound Granular Material; for SG M_R between 4.5 and 6.9 ksi (30.9 and 47.4 MPa).

[2] Value Determined from Results of Independent Testing and Geosynthetic Calibrations to AASHTOWare ME Reported by NCHRP 01-50 "Quantifying the Influence of Geosynthetics on Pavement Performance." Subgrade M_R Increase for SG M_R between 5 and 25 ksi (69 and 172 MPa).

[3] Value Determined from Results of Independent Testing and Geosynthetic Calibrations Reported by WTI / MTSU "Relative Operational Performance of Geosynthetics Used as Subgrade Stabilization." Cyclic Tensile Modulus Measured at 2% Permanent Strain; Resilient Interface Shear Stiffness Normal Stress = 5.08 psi (35 kPa); Interface Shear Stress = 0.73 psi (5 kPa).

[4] Value Determined from Results of Independent Testing Performed at GeoTesting Express (GeoComp) "A Laboratory Evaluation of the Performance of TenCate Mirafi® Geosynthetics in Roadway Stabilization Applications – Georgia Silt Subgrade," September 1, 2011. 9-kip {40 kN} Wheel Load, SG CBR = 1%, 12-inch (300-mm) Crushed Aggregate BC (CBR > 25%), 3-inch (75-mm) Rut Depth.

[5] Value Determined from Results of Independent Testing Performed at LTRC "Performance of Reinforced–Stabilized Unpaved Test Sections Built Over Native Soft Soil Under Full-Scale Moving Wheel Loads," TRR Volume 2511, 2015. Measured at 0.34-inch (8.64 mm) Rut Depth; Peak Pore Pressure 6-inches (150 mm) Below Geosynthetic.

[6] Value Determined from Results of Independent Testing Performed at GeoTesting Express (GeoComp) "A Laboratory Evaluation of the Performance of TenCate Mirafi® Geosynthetics in Roadway Stabilization Applications – Montana Clay Subgrade," September 1, 2011. 9-kip (40 kN) Wheel Load, SG CBR = 1.8%, 8-inch (200-mm) Rounded Aggregate BC (CBR > 25%), 3-inch (75-mm) Rut Depth.

[7] Interaction Coefficient value is for sand (SP) or gravel (GW) based on testing conducted by SGI Testing Services.

[8] Typical Value Determined from Specimen Results of Independent Testing Performed at TRI Environmental, Various Dates.

[9] Maximum Value Determined from Specimen Results of Independent Testing Performed at TRI Environmental, Various Dates.

U.S. Patent 8,333,220 and 8,598,054

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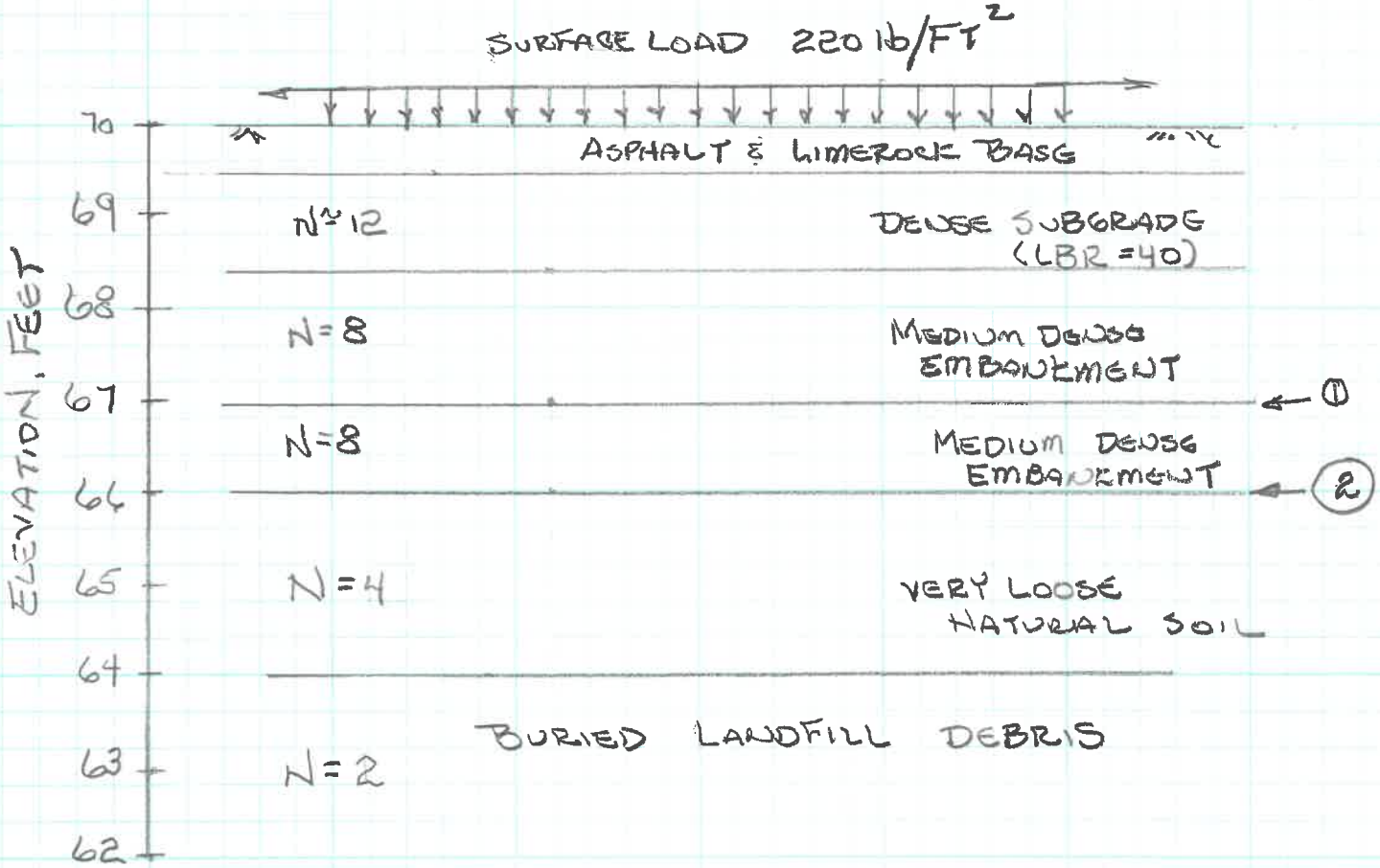
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GAI-LAP-25-97

DESIGN OF GEOSYNTHETIC BELOW PARKING AREA (AREA 2)



LAYER 2 ②

ANTICIPATED SETTLEMENT

$$q_{NET} = \frac{N}{4}\left(\frac{B+1}{B}\right)^2 \cdot \gamma_d \cdot S$$

$$q_{NET} = \frac{2}{4} = 0.5\ \text{KIP/FT}^2 = 500\ \text{lb/FT}^2$$

NET APPLIED LOAD = 220 lb/FT

SETTLEMENT (ΔY) = $\alpha = \frac{T_r}{P_b}$

$T_r = P_b \alpha$ ← BASED ON LOSS OF SUPPORT

$$\alpha = \frac{1440\ lb/FT + 4,380\ lb/FT}{10\ FT * 220\ lb/FT} = \frac{5820\ lb/FT}{2200\ lb}$$

$\alpha = 2.64$

$\frac{\Delta Y}{b} = 0.05$ $\quad \Delta Y = 0.05(10\ FT)$

$\Delta Y = 0.5\ FT = 6\text{-INCHES}$

CHECK:

MAX TENSILE STRENGTH AT 5% STRAIN

DEPRESSION = 10 FT x 0.05 = 6-INCHES

→ COMPATIBLE

2 LAYERS OF RS580i ARE NEEDED TO MAINTAIN ONLY 6-INCHES IN SURFACE SETTLEMENT DUE TO A MAJOR LOSS OF SUPPORT OVER A SPAN OF 10-FT.

→ FACTOR OF SAFETY IN BEARING = $\frac{500}{220} \geq 2.0$

OK

Design Procedure for Geotextiles on Local Subsidence

It is a common engineering practice to reinforce roads or sidewalks with geogrids or high strength geotextiles to accommodate effects of voids or local subsidence and remove the differential settlements. The design of the geosynthetic reinforcement is based on a worst-case scenario with the assumption that a void is located immediately underneath the liner. The liner is then treated as a plate bridging the void and carrying the load of the proposed overlying waste. Figure 1 shows schematic diagrams of the design models for reinforced soil support layers over circular void.

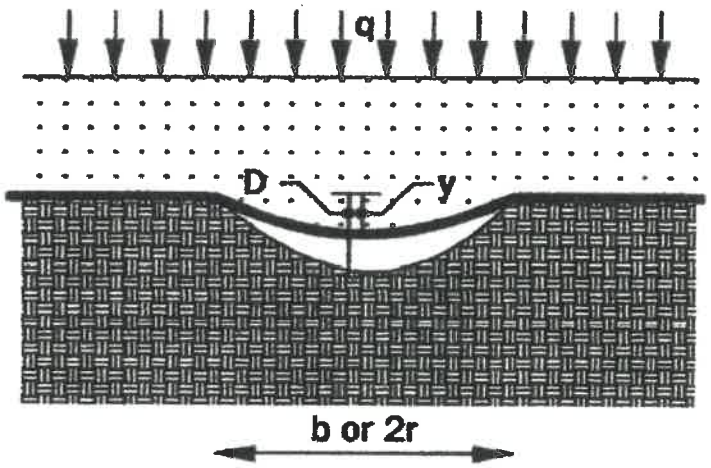


Figure 1: schematic diagrams of reinforced soil support layers over circular void.

The design method has been developed using arching theory and tensioned membrane theory. The calculation formulas are expressed as:

$$P = 2\gamma b\left[1 - e^{-\frac{0.5H}{b}}\right] + qe^{-\frac{0.5H}{b}}$$

Where: P = pressure on the geosynthetic [psf],
H = thickness of the soil layer [ft],
γ = unit weight of soil [pcf],
b = diameter of the void [ft],
and,

$$T_r = Pb\alpha$$

Where: T_r = tension in geosynthetic [lb/ft],
α = dimensionless factor measured from table 1.

Table 1: Values for α as a Function of Deflection

y/b	α	y/r	α
0.01	12.51	0.123	1.08
0.02	6.26	0.13	1.03
0.03	4.18	0.138	0.97
0.04	3.15	0.14	0.96
0.05	2.53	0.15	0.91
0.06	2.11	0.151	0.9
0.061	2.07	0.16	0.86
0.07	1.82	0.164	0.84
0.08	1.6	0.17	0.82
0.087	1.47	0.175	0.8
0.09	1.43	0.18	0.78
0.1	1.3	0.186	0.76
0.107	1.23	0.19	0.75
0.11	1.19	0.197	0.73
0.12	1.1	0.2	0.72

APPENDIX F

LIMEROCK BEARING RATIO (LBR)

TEST RESULTS

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE: 10/20/2020 **SET:** A

PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 1

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

TEST DATA:

TARE NO.	1	2	3	4	5	
WT. OF TARE (g)	0.45	0.45	0.45	0.45	0.45	
WT. WET SOIL + TARE (g)	31.87	32.94	25.54	40.97	34.99	
WT. DRY SOIL + TARE (g)	29.99	30.44	23.37	36.49	30.76	
WATER CONTENT,%	6.4	8.3	9.5	12.4	14.0	

MOLD NO.	1	2	3	4	5	
WEIGHT OF SOIL + MOLD (g)	11,085.0	11,179.0	11,225.0	11,320.0	11,297.0	
WEIGHT OF MOLD (g)	7,074.0	7,073.0	7,034.0	7,091.0	7,105.0	
WEIGHT OF WET SOIL (g)	4,011.0	4,106.0	4,191.0	4,229.0	4,192.0	
MOLD VOLUME (ft^3)	0.075	0.075	0.075	0.075	0.075	
WET DENSITY OF SOIL (lb/ft^3)	117.9	120.7	123.2	124.3	123.2	
DRY DENSITY OF SOIL (lb/ft^3)	110.8	111.4	112.5	110.6	108.1	
WATER CONTENT, %	6.4	8.3	9.5	12.4	14.0	
LBR	**20**	**25**	**28**	**25**	**21**	

TEST RESULTS:

MAX. DRY DENSITY: **112.5** (lb/ft^3)

OPT. MOISTURE CONTENT: **9.5** (%)

MAX. LBR VALUE: **28**

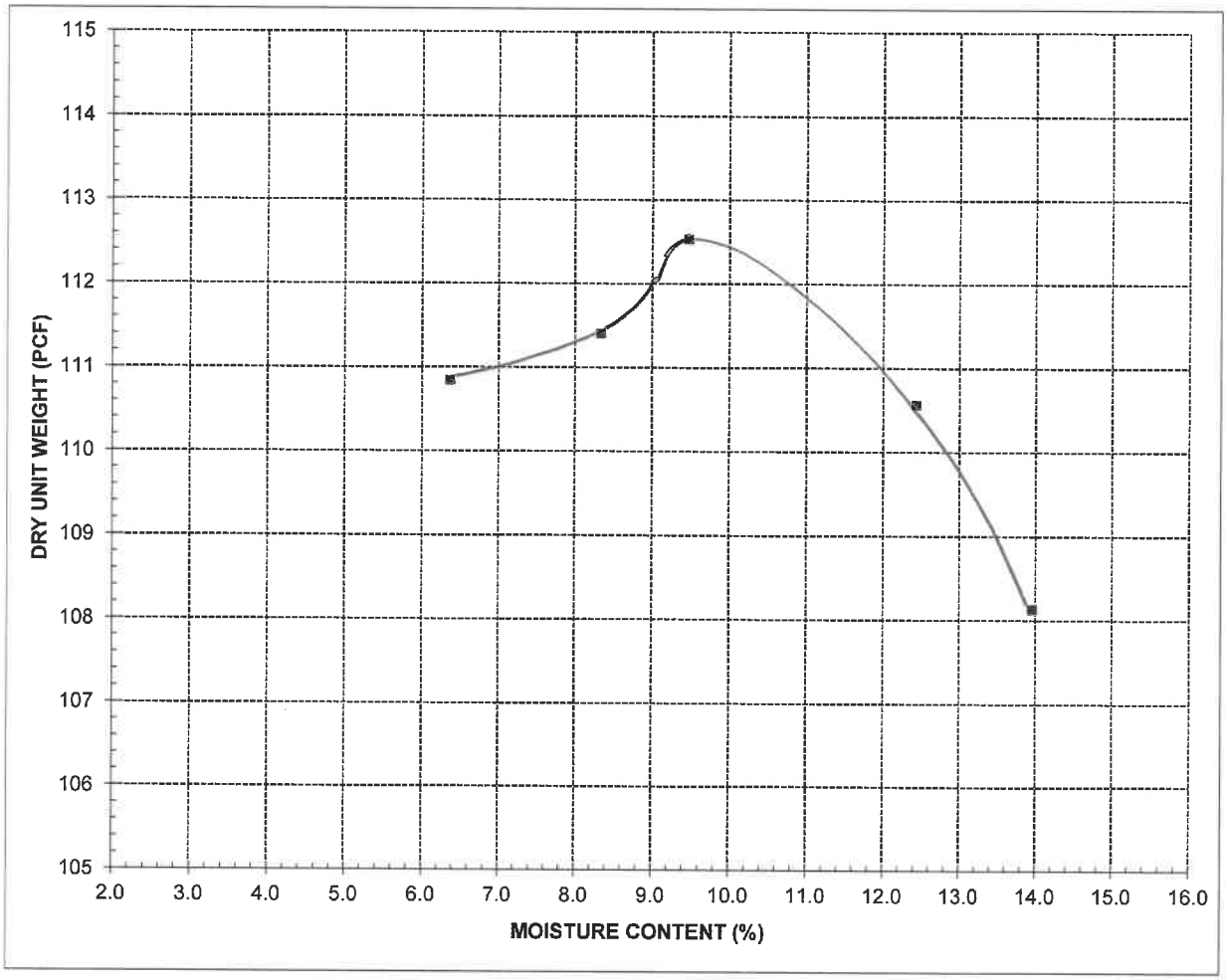
CHECKED BY: **T. HAYDEN, P.E.**

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE:	10/20/2020	**SET:**	A
PROJECT NO:	13-38-19-01	**BORING NO:**	LBR - 1
DEPTH:	0.5 - 1.5 FEET	**TESTED BY:**	C. RICHARDS
SOIL DESCRIPTION:	(SP/SM / A-2-4)		
	GRAY FINE SAND		

MODIFIED PROCTOR TEST RESULTS:



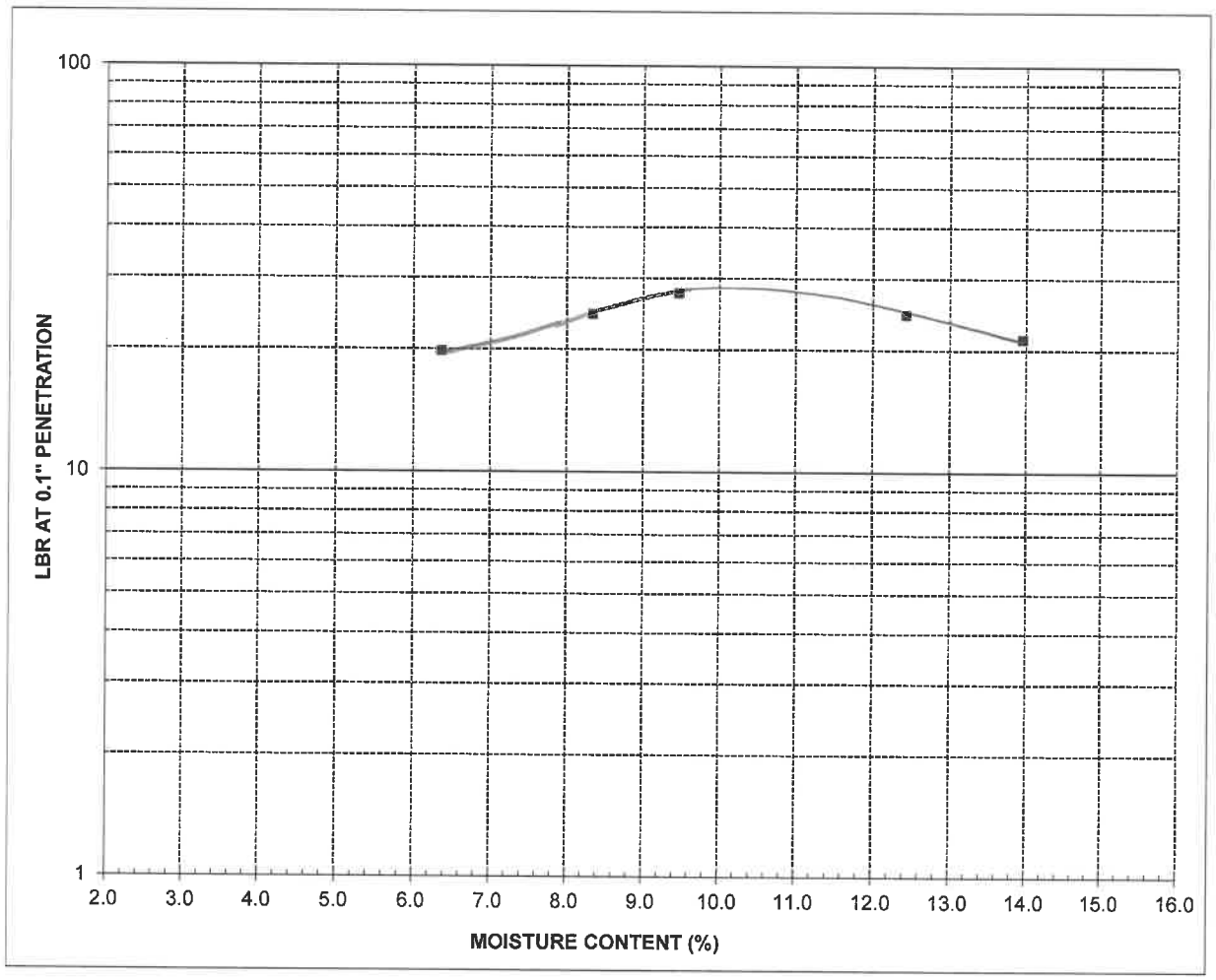
CHECKED BY: T. HAYDEN, P.E.

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE:	10/20/2020	**SET:**	A
PROJECT NO:	13-38-19-01	**BORING NO:**	LBR - 1
DEPTH:	0.5 - 1.5 FEET	**TESTED BY:**	C. RICHARDS
SOIL DESCRIPTION:	(SP/SM / A-2-4)		
	GRAY FINE SAND		

LBR TEST RESULTS:



CHECKED BY: T. HAYDEN, P.E.

PENETRATION VS LOAD: MOLD 1

DATE: 10/20/2020 **SET:** A

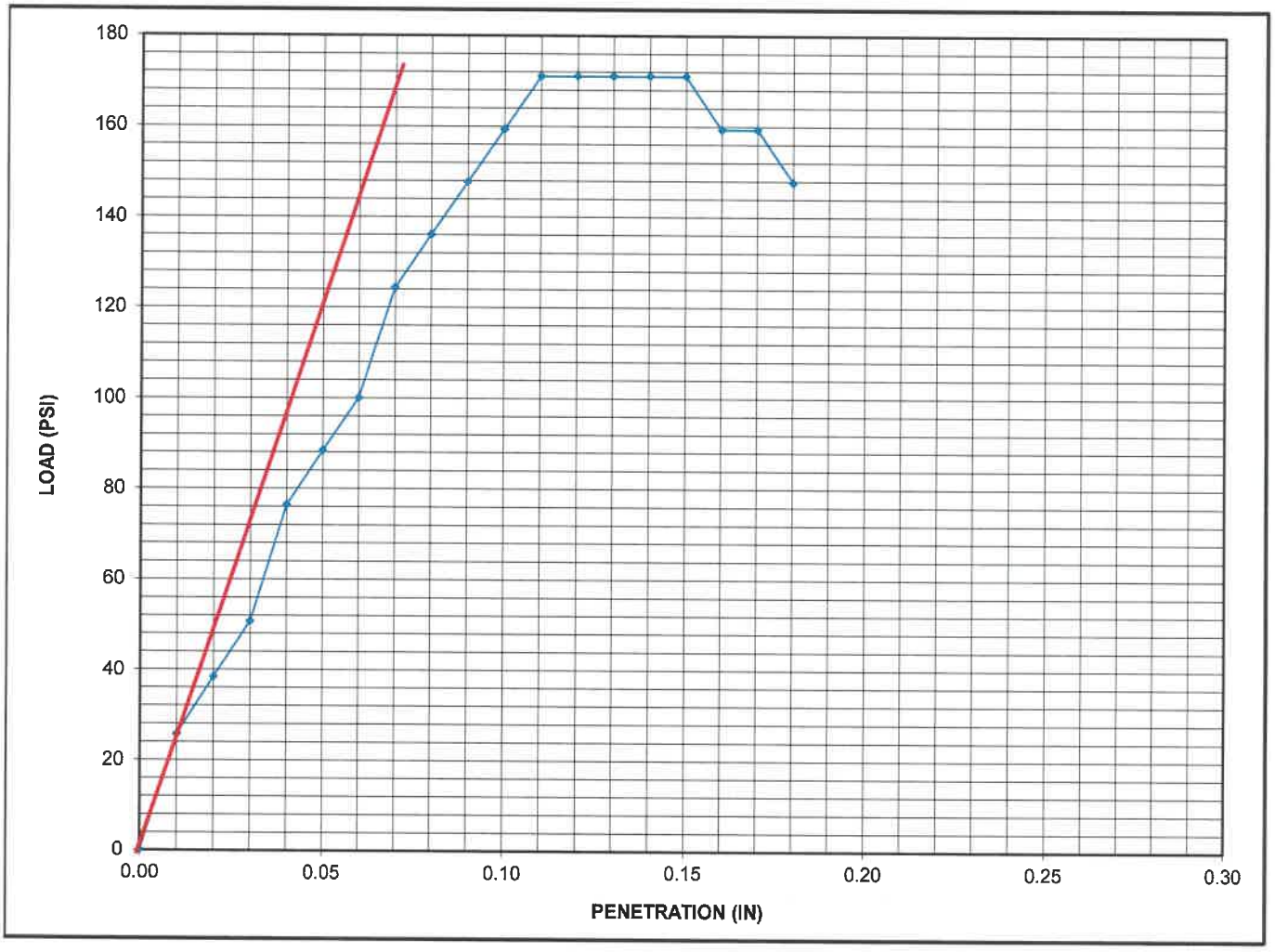
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 1

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 159 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 20

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 2

DATE: 10/20/2020 **SET:** A

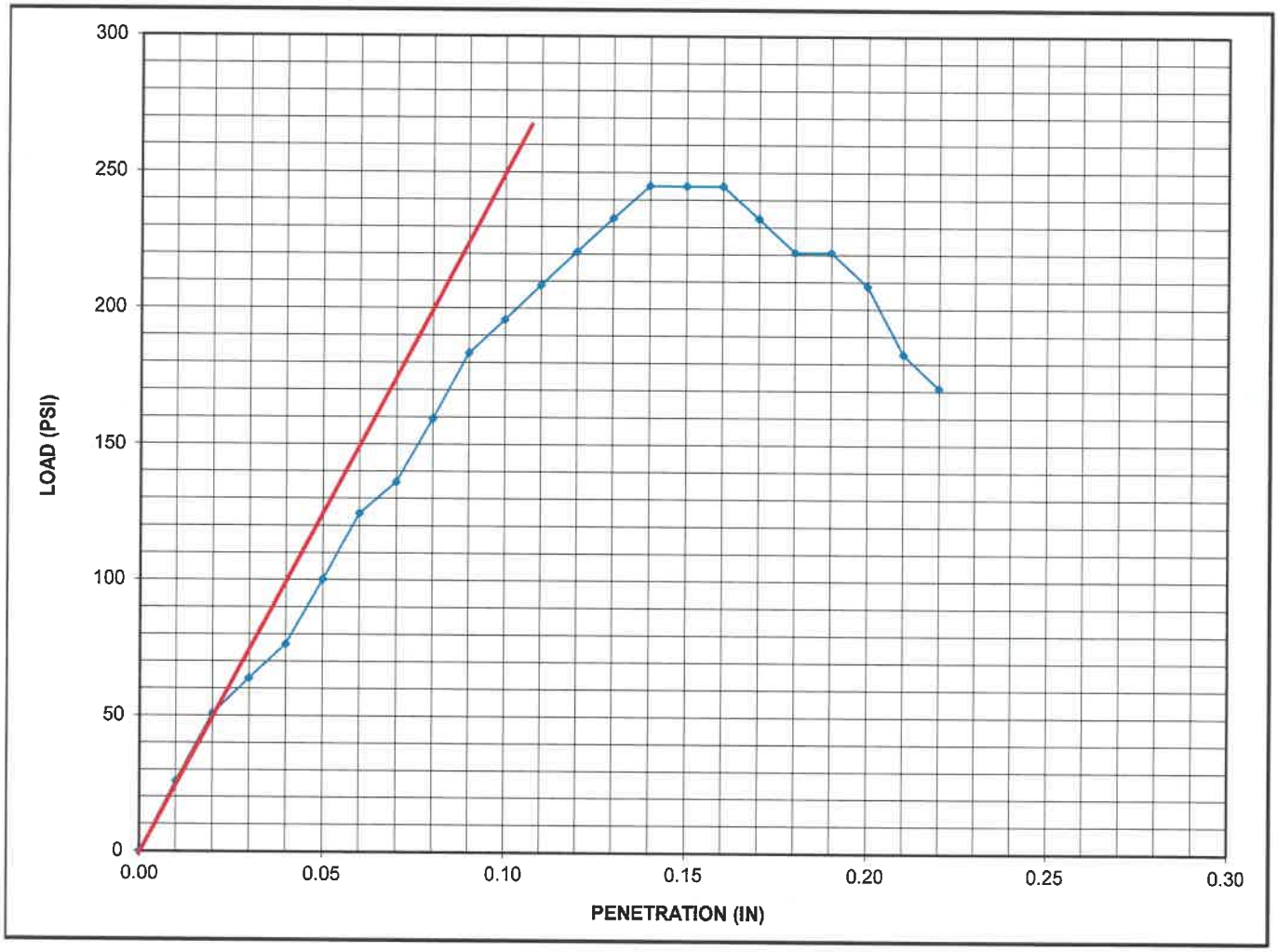
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 1

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 196 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 25

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 3

DATE: 10/20/2020 **SET:** A

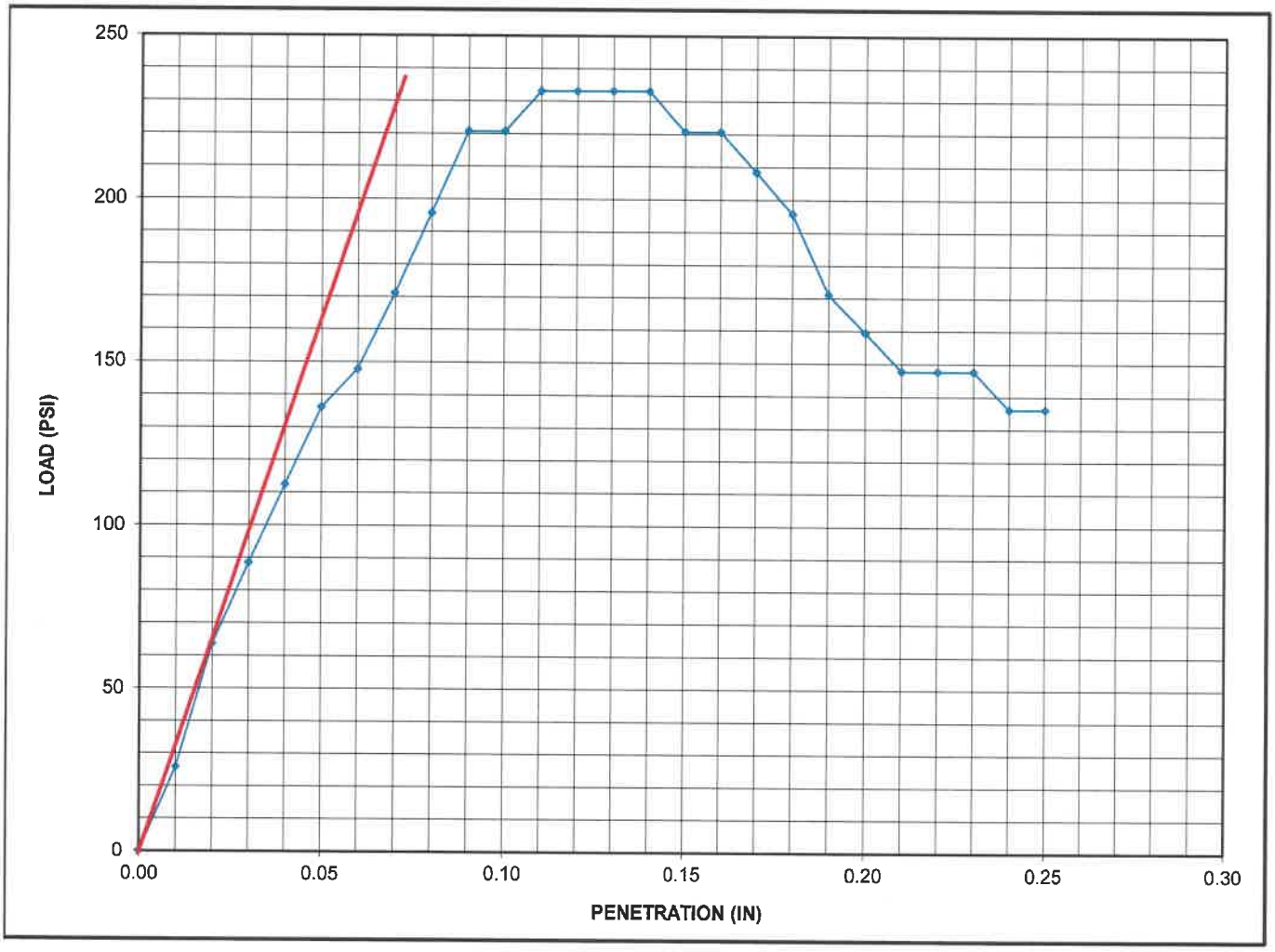
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 1

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 221 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 28

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 4

DATE: 10/20/2020 **SET:** A

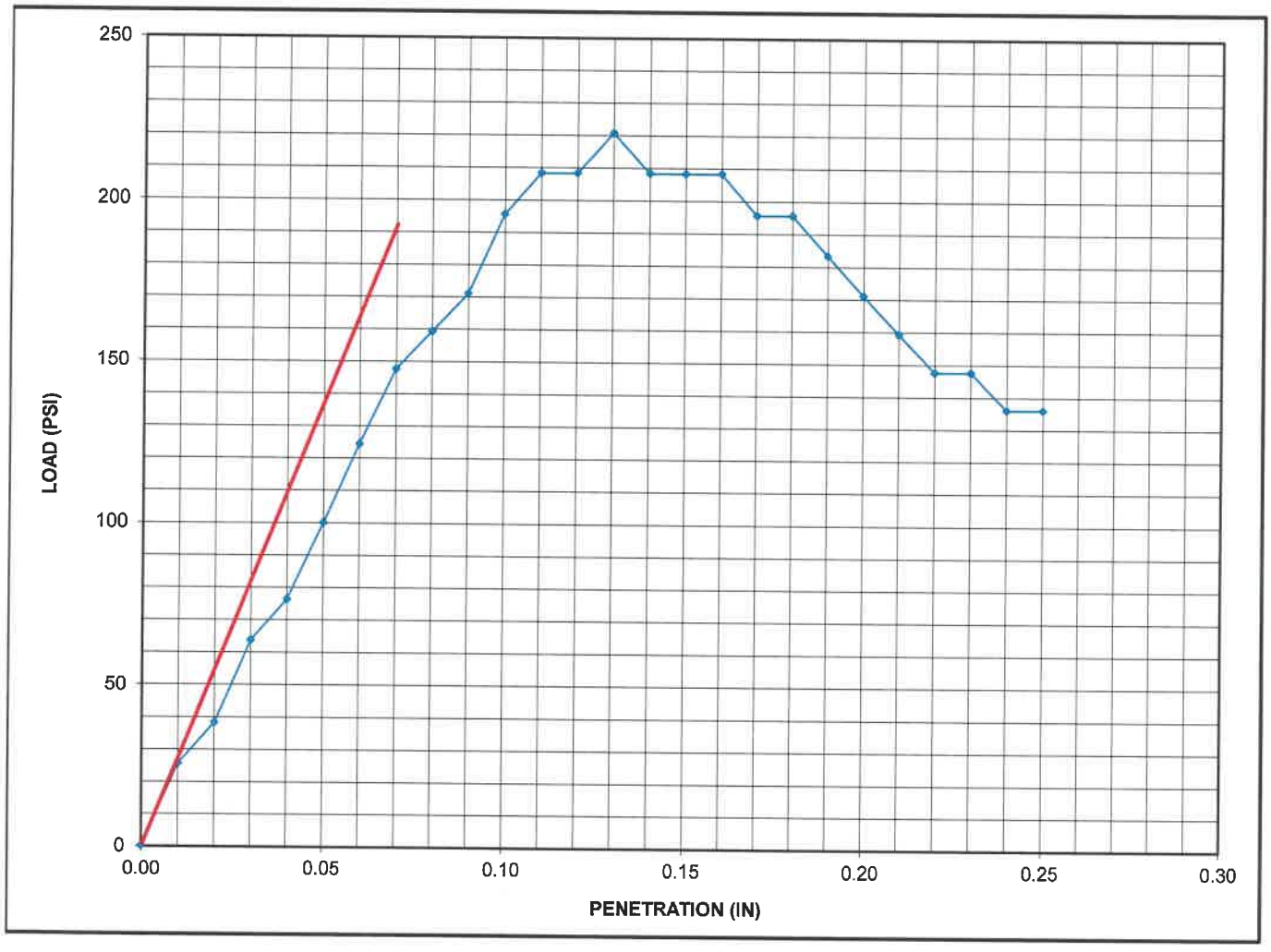
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 1

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 196 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 25

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 5

DATE: 10/20/2020 **SET:** A

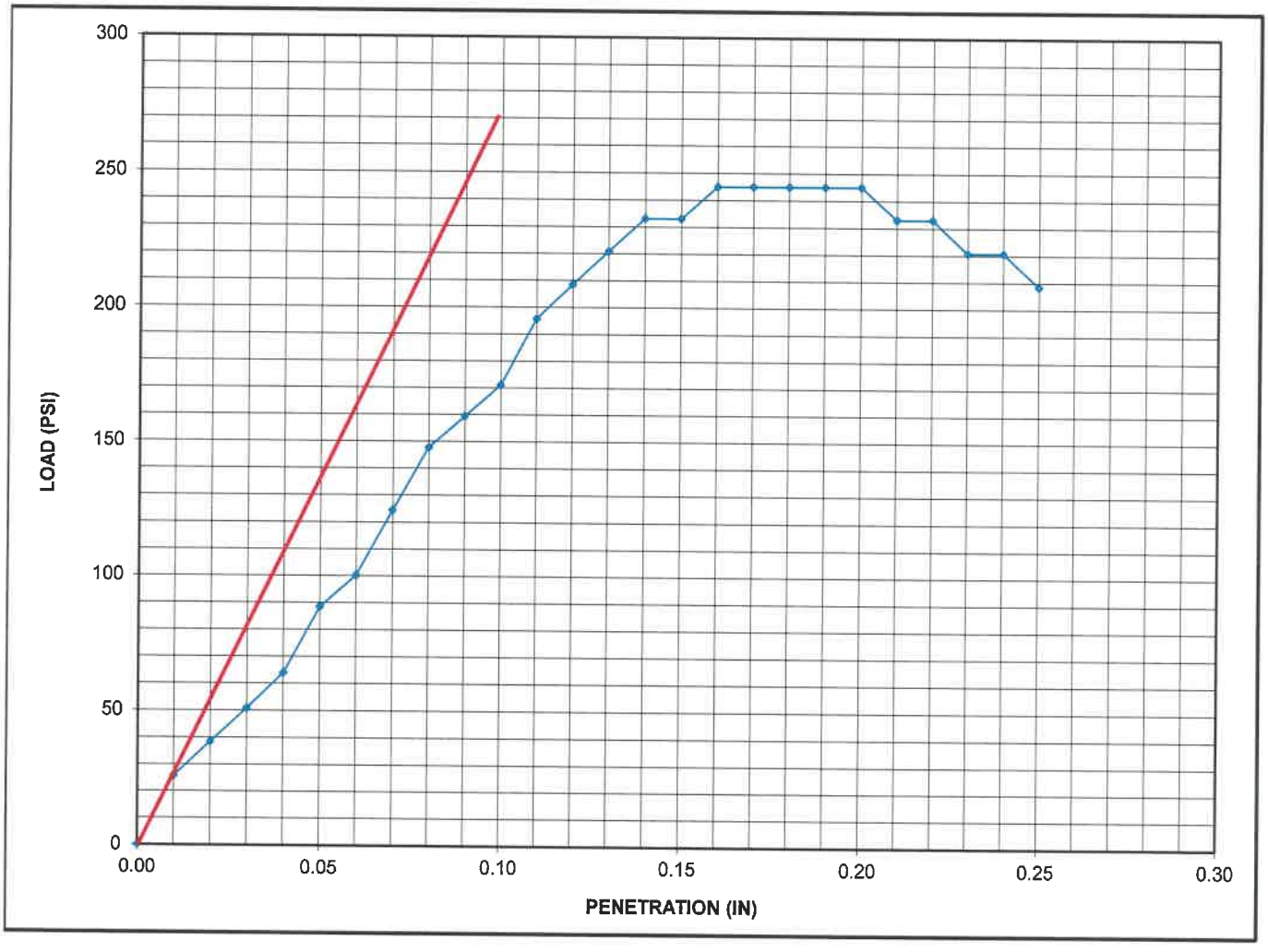
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 1

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 171 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 21

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE: 10/20/2020 **SET:** A

PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 2

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-3)

GRAY FINE SAND

TEST DATA:

TARE NO.	1	2	3	4	5	
WT. OF TARE (g)	0.45	0.45	0.45	0.45	0.45	
WT. WET SOIL + TARE (g)	31.87	32.94	30.76	32.35	40.97	
WT. DRY SOIL + TARE (g)	29.99	30.44	28.09	29.27	36.49	
WATER CONTENT,%	6.4	8.3	9.7	10.7	12.4	

MOLD NO.	1	2	3	4	5	
WEIGHT OF SOIL + MOLD (g)	11,027.0	11,345.0	11,375.0	11,455.0	11,383.0	
WEIGHT OF MOLD (g)	7,170.0	7,211.0	7,193.0	7,239.0	7,216.0	
WEIGHT OF WET SOIL (g)	3,857.0	4,134.0	4,182.0	4,216.0	4,167.0	
MOLD VOLUME (ft^3)	0.075	0.075	0.075	0.075	0.075	
WET DENSITY OF SOIL (lb/ft^3)	113.4	121.5	122.9	123.9	122.5	
DRY DENSITY OF SOIL (lb/ft^3)	106.6	112.2	112.1	112.0	108.9	
WATER CONTENT, %	6.4	8.3	9.7	10.7	12.4	
LBR	**26**	**29**	**28**	**31**	**25**	

TEST RESULTS:

MAX. DRY DENSITY: **112.2** (lb/ft^3)

OPT. MOISTURE CONTENT: **8.3** (%)

MAX. LBR VALUE: **31**

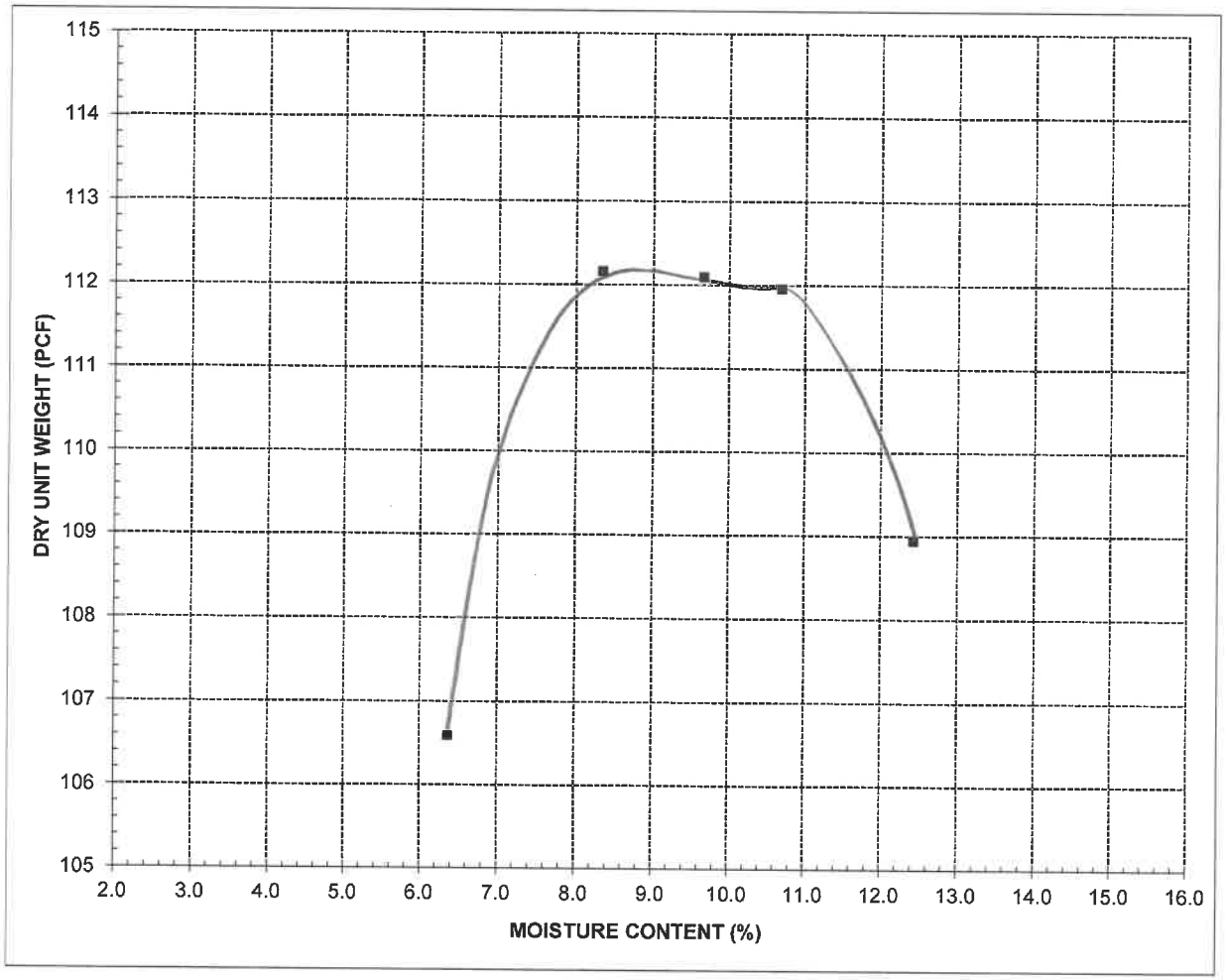
CHECKED BY: **T. HAYDEN, P.E.**

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE:	10/20/2020	**SET:**	A
PROJECT NO:	13-38-19-01	**BORING NO:**	LBR - 2
DEPTH:	0.5 - 1.5 FEET	**TESTED BY:**	C. RICHARDS
SOIL DESCRIPTION:	(SP/SM / A-3)		
	GRAY FINE SAND		

MODIFIED PROCTOR TEST RESULTS:



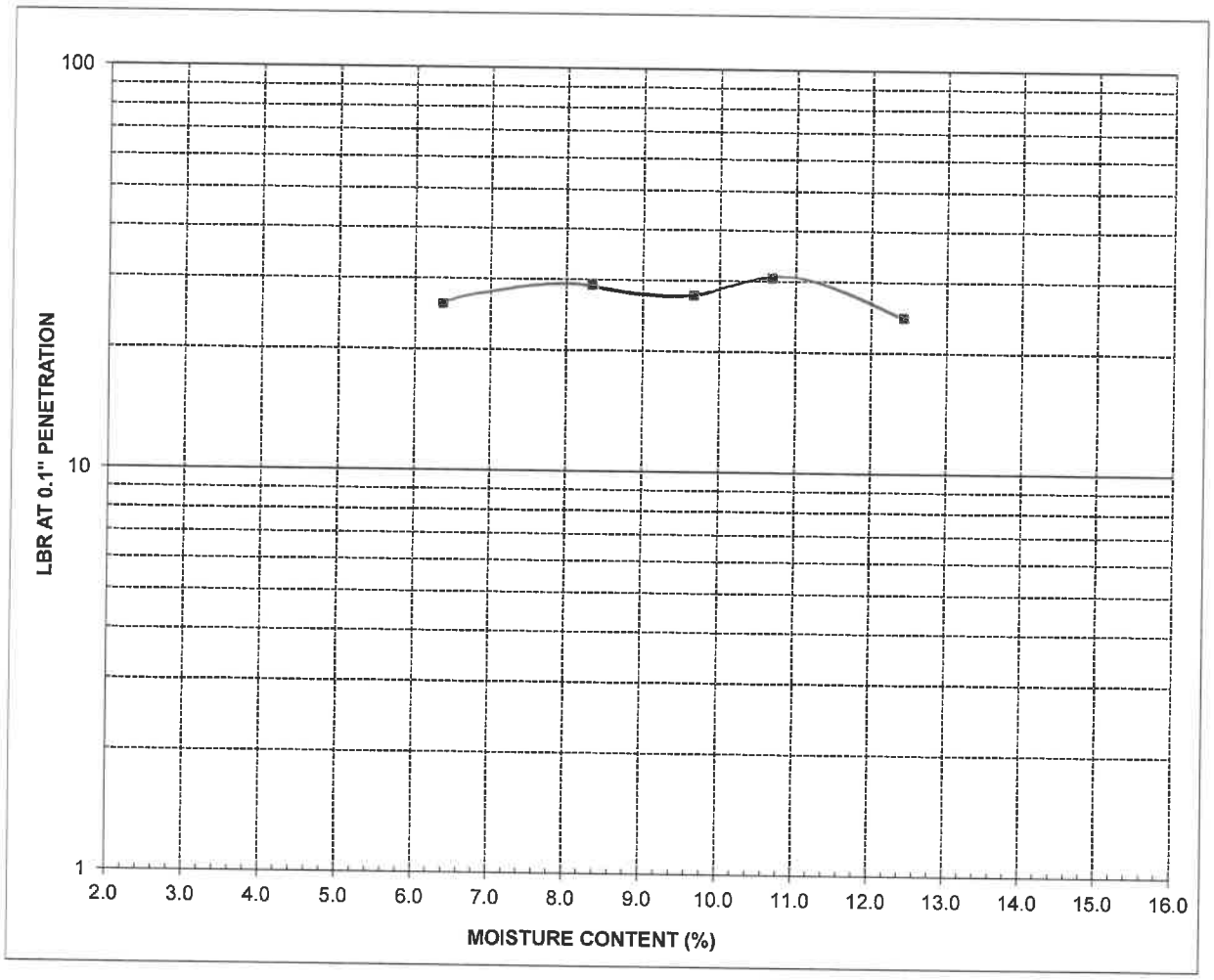
CHECKED BY: T. HAYDEN, P.E.

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE:	10/20/2020	**SET:**	A
PROJECT NO:	13-38-19-01	**BORING NO:**	LBR - 2
DEPTH:	0.5 - 1.5 FEET	**TESTED BY:**	C. RICHARDS
SOIL DESCRIPTION:	(SP/SM / A-3)		
	GRAY FINE SAND		

LBR TEST RESULTS:



CHECKED BY: T. HAYDEN, P.E.

PENETRATION VS LOAD: MOLD 1

DATE: 10/20/2020 **SET:** A

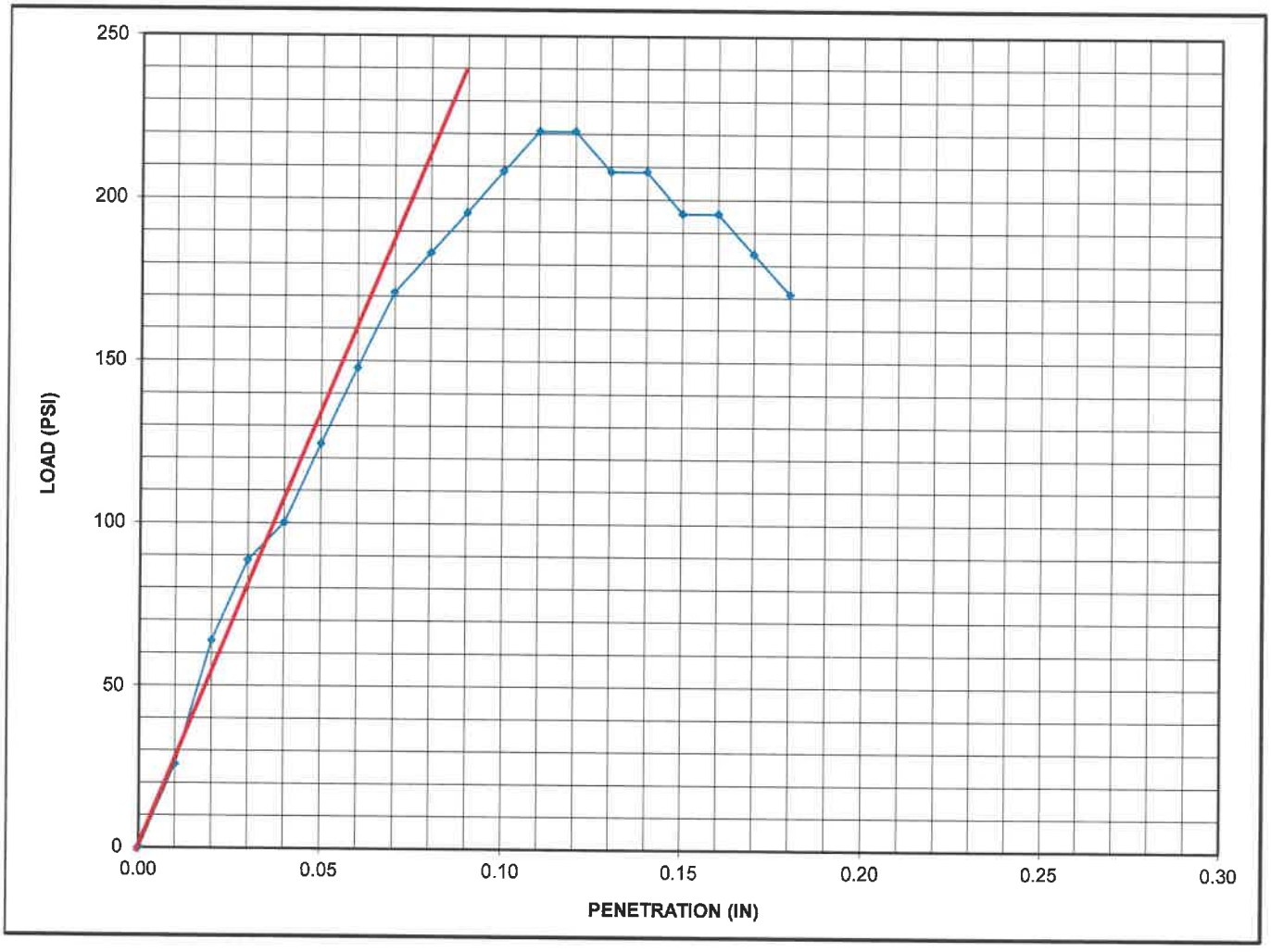
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 2

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-3)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 208 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 26

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 2

DATE: 10/20/2020 **SET:** A

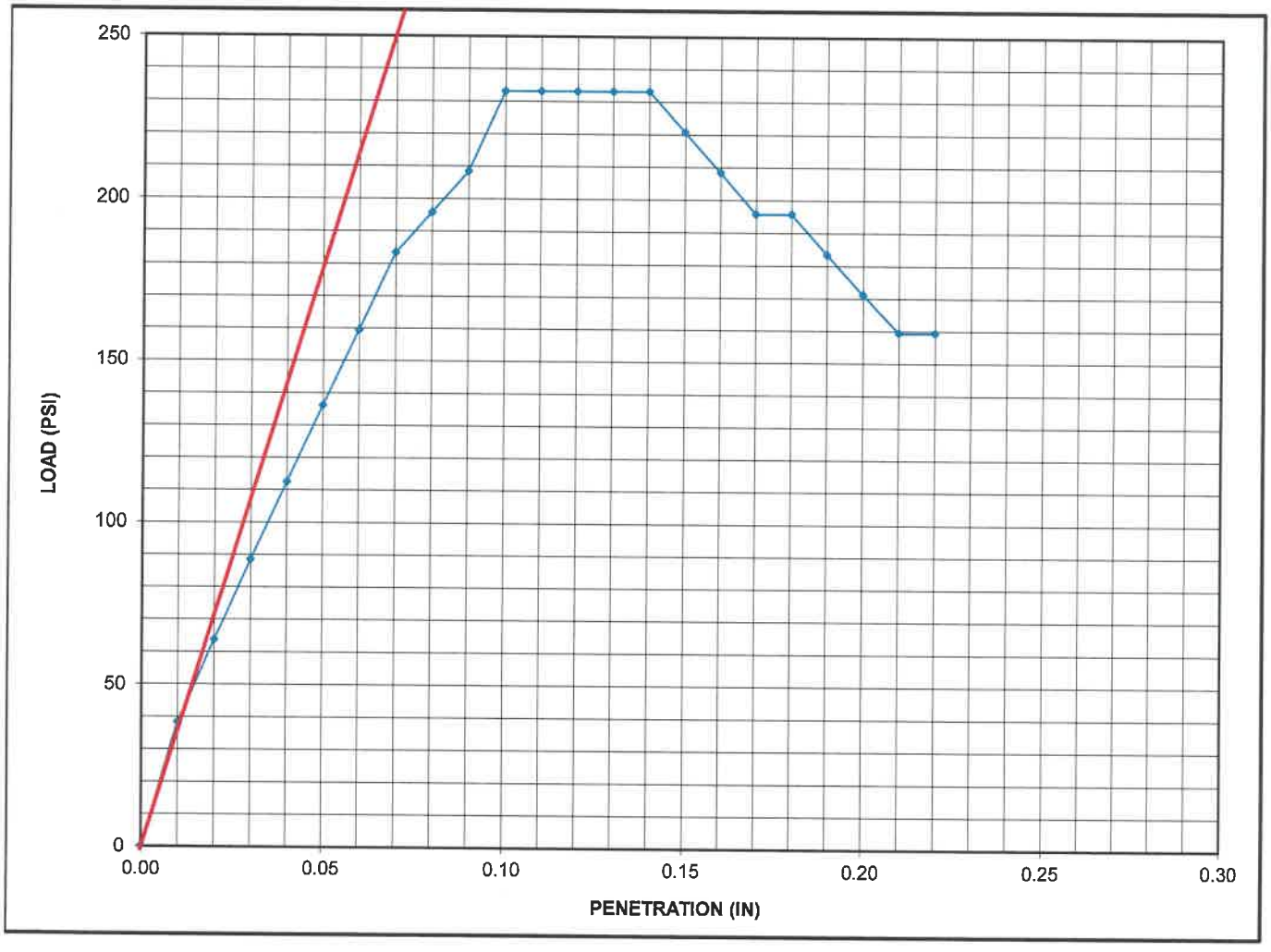
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 2

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-3)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 233 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 29

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 3

DATE: 10/20/2020 **SET:** A

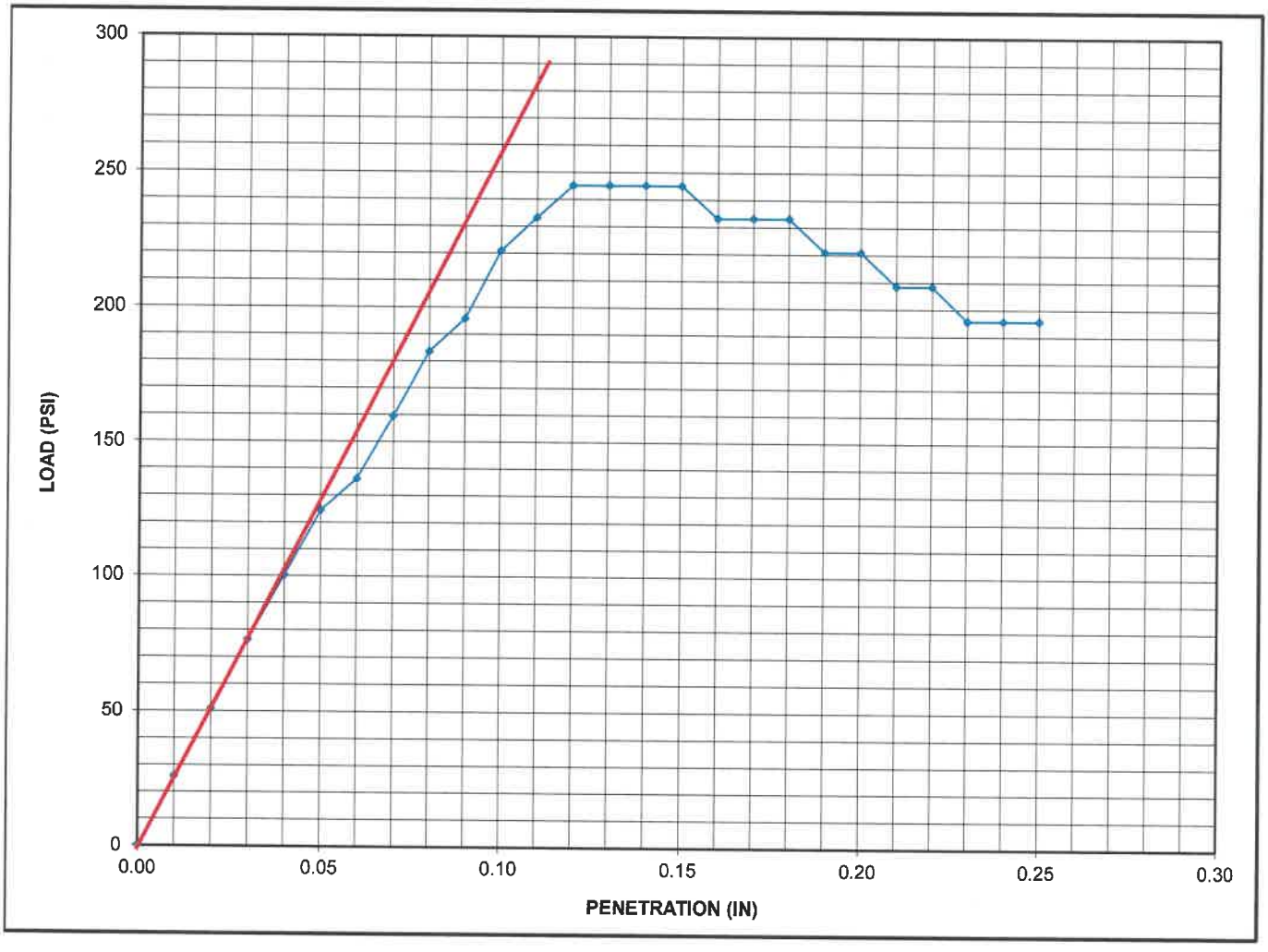
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 2

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-3)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 221 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 28

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 4

DATE: 10/20/2020 **SET:** A

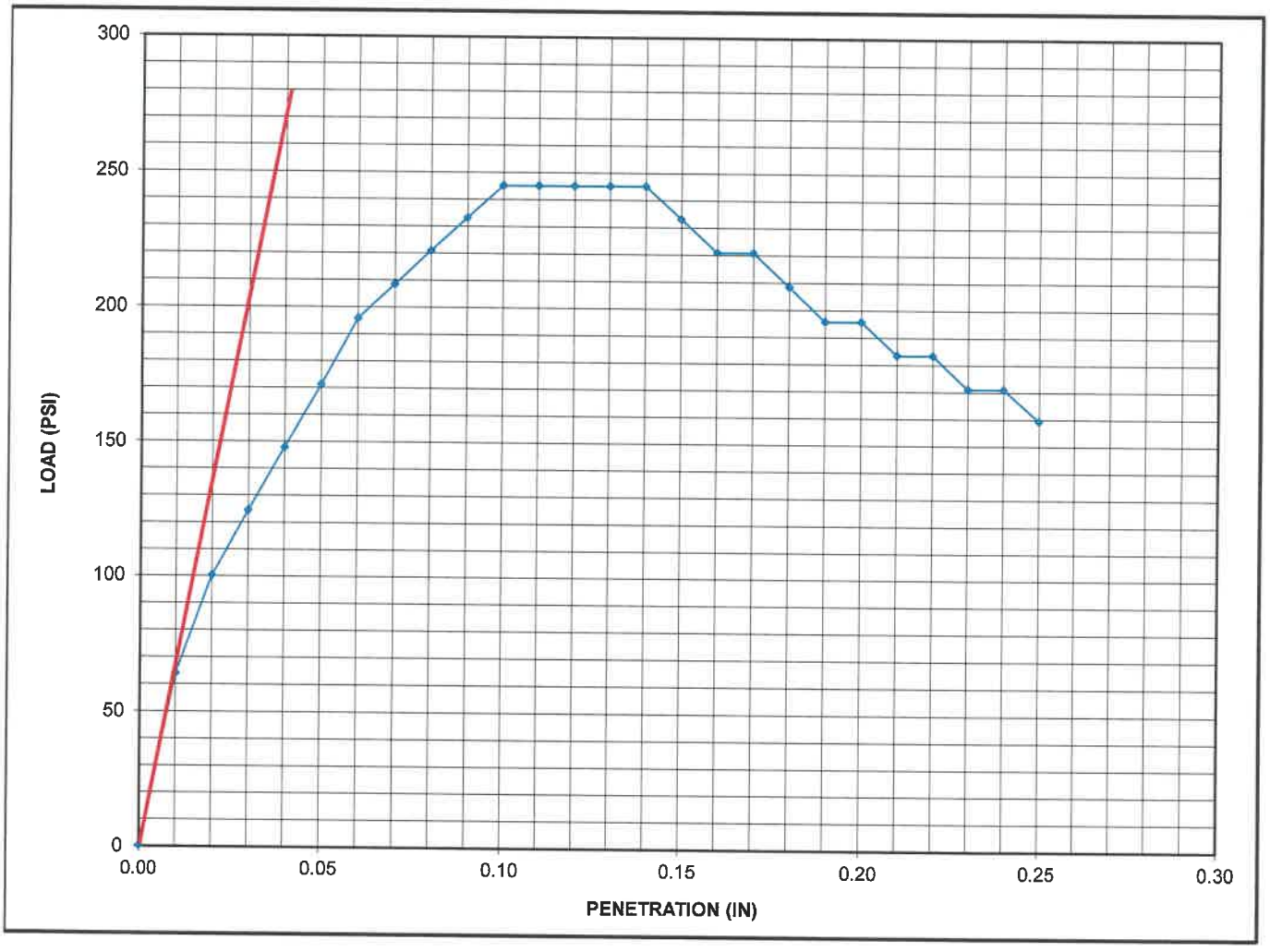
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 2

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-3)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 245 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 31

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 5

DATE: 10/20/2020 **SET:** A

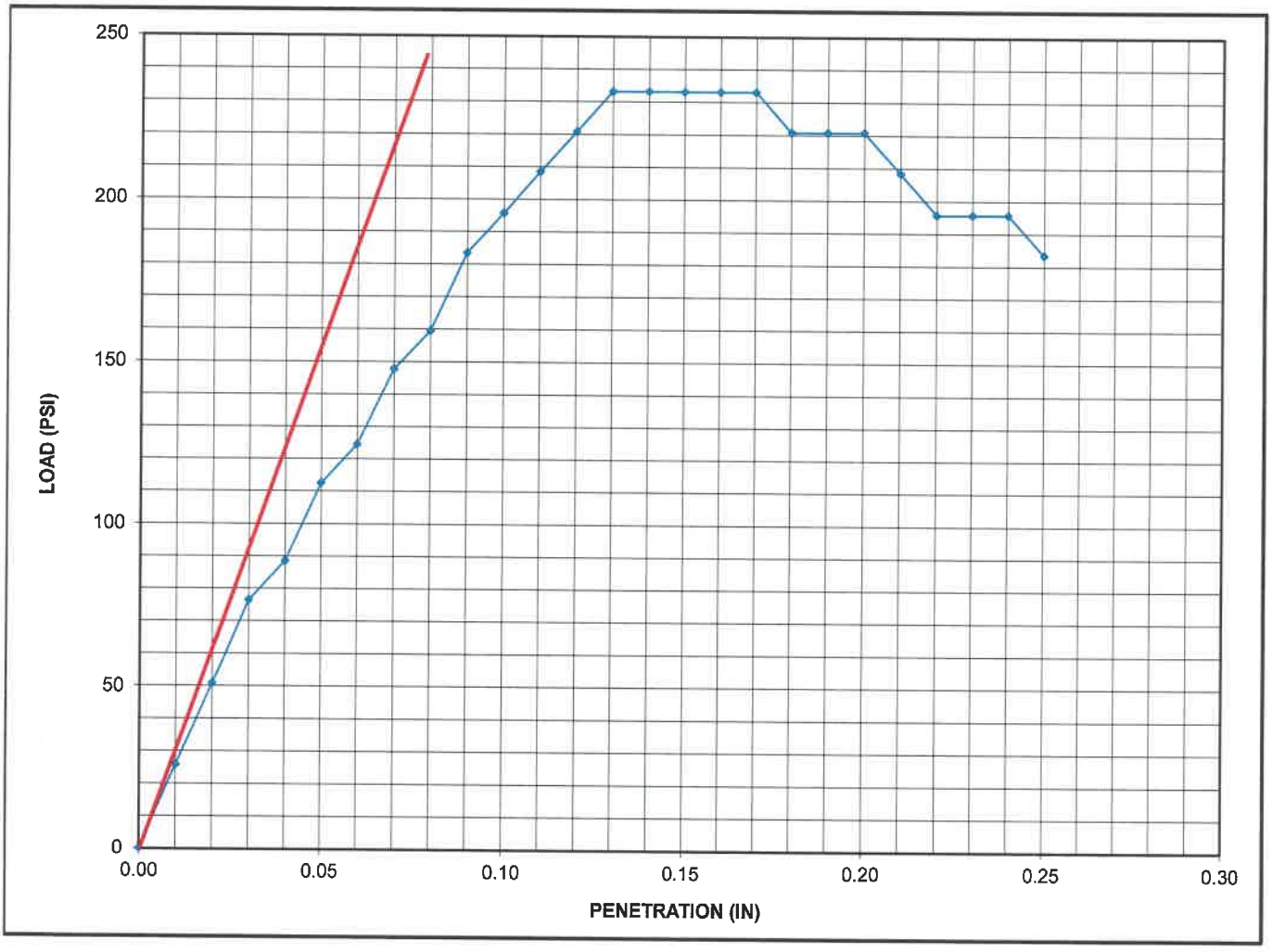
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 2

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-3)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 196 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 25

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE: 10/20/2020 **SET:** A

PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 3

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

TEST DATA:

TARE NO.	1	2	3	4	5	
WT. OF TARE (g)	0.45	0.45	0.45	0.45	0.45	
WT. WET SOIL + TARE (g)	23.46	26.31	24.21	24.44	29.45	
WT. DRY SOIL + TARE (g)	22.15	24.43	22.28	22.35	26.40	
WATER CONTENT,%	6.0	7.8	8.8	9.5	11.8	

MOLD NO.	1	2	3	4	5	
WEIGHT OF SOIL + MOLD (g)	11,134.0	11,281.0	11,287.0	11,340.0	11,238.0	
WEIGHT OF MOLD (g)	7,197.0	7,239.0	7,193.0	7,212.0	7,186.0	
WEIGHT OF WET SOIL (g)	3,937.0	4,042.0	4,094.0	4,128.0	4,052.0	
MOLD VOLUME (ft^3)	0.075	0.075	0.075	0.075	0.075	
WET DENSITY OF SOIL (lb/ft^3)	115.7	118.8	120.3	121.3	119.1	
DRY DENSITY OF SOIL (lb/ft^3)	109.1	110.2	110.6	110.8	106.6	
WATER CONTENT, %	6.0	7.8	8.8	9.5	11.8	
LBR	**25**	**31**	**26**	**28**	**16**	

TEST RESULTS:

MAX. DRY DENSITY: **110.8** (lb/ft^3)

OPT. MOISTURE CONTENT: **9.5** (%)

MAX. LBR VALUE: **31**

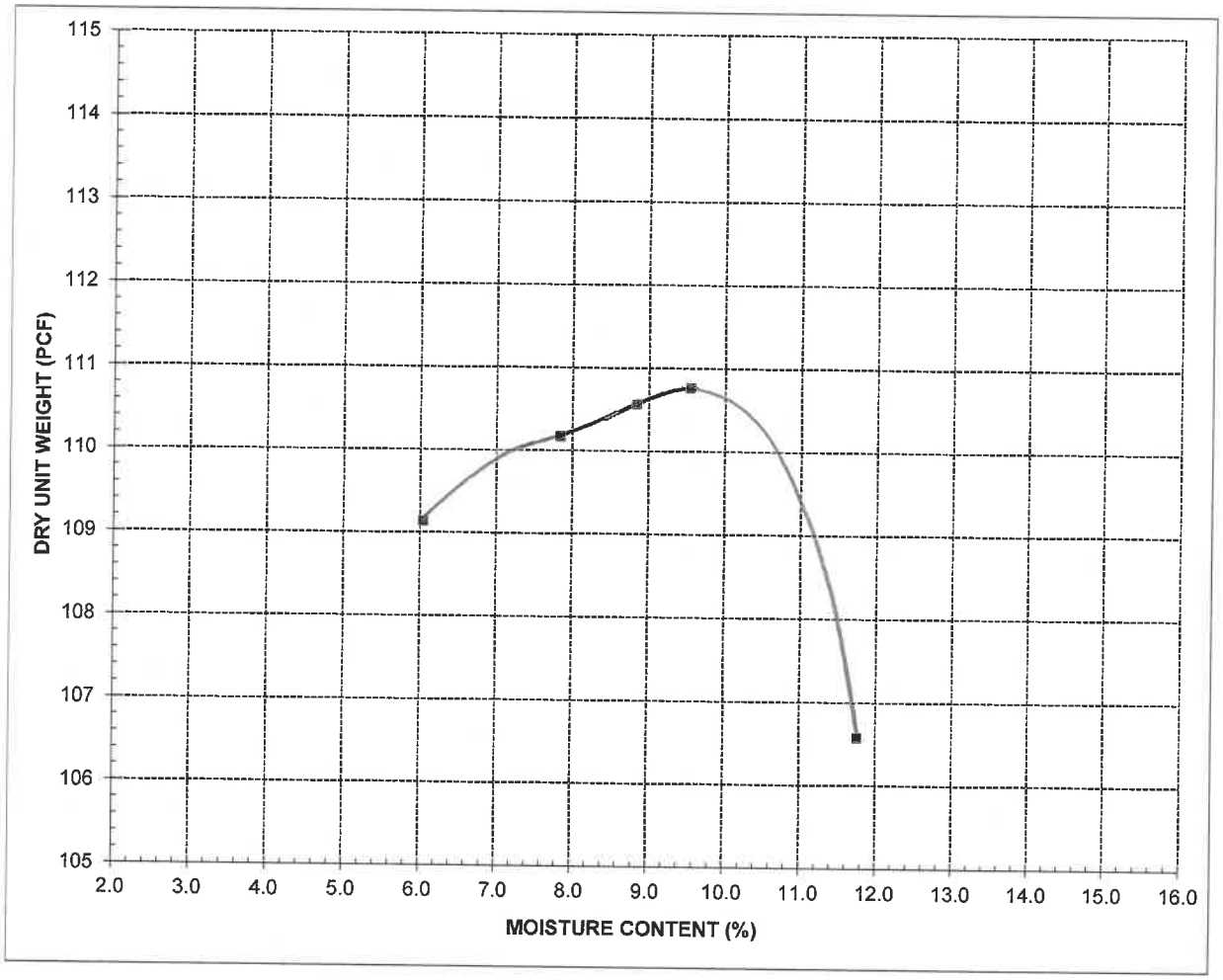
CHECKED BY: **T. HAYDEN, P.E.**

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE:	10/20/2020	**SET:**	A
PROJECT NO:	13-38-19-01	**BORING NO:**	LBR - 3
DEPTH:	0.5 - 1.5 FEET	**TESTED BY:**	C. RICHARDS
SOIL DESCRIPTION:	(SP/SM / A-2-4)		
	GRAY FINE SAND		

MODIFIED PROCTOR TEST RESULTS:



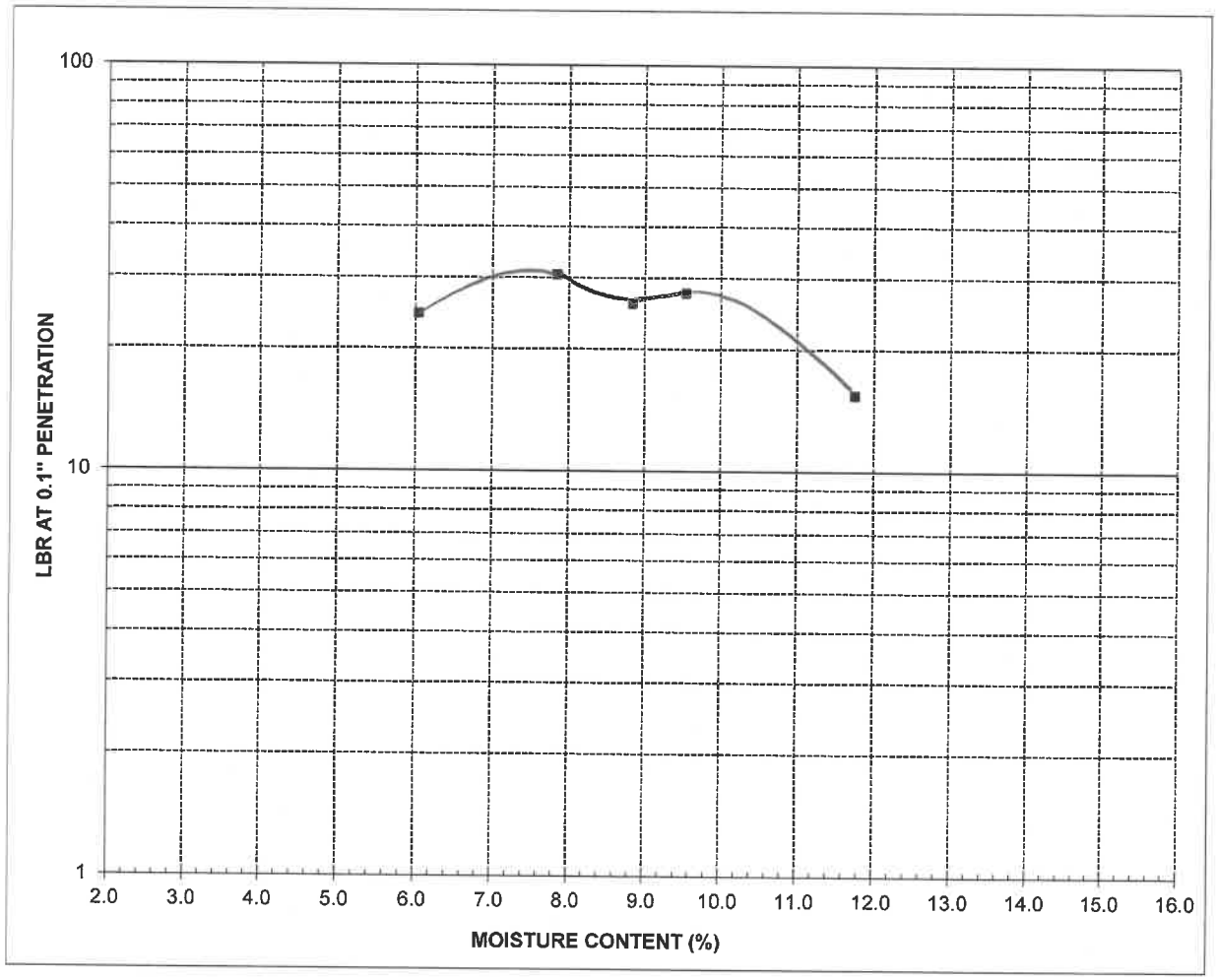
CHECKED BY: T. HAYDEN, P.E.

LABORATORY DATA SHEET
LIMEROCK BEARING RATIO (FM 5-515)
MOISTURE DENSITY RELATIONS OF SOIL (FM 1 T-180)

TEST IDENTIFICATION:

DATE:	10/20/2020	**SET:**	A
PROJECT NO:	13-38-19-01	**BORING NO:**	LBR - 3
DEPTH:	0.5 - 1.5 FEET	**TESTED BY:**	C. RICHARDS
SOIL DESCRIPTION:	(SP/SM / A-2-4)		
	GRAY FINE SAND		

LBR TEST RESULTS:



CHECKED BY: T. HAYDEN, P.E.

PENETRATION VS LOAD: MOLD 1

DATE: 10/20/2020 **SET:** A

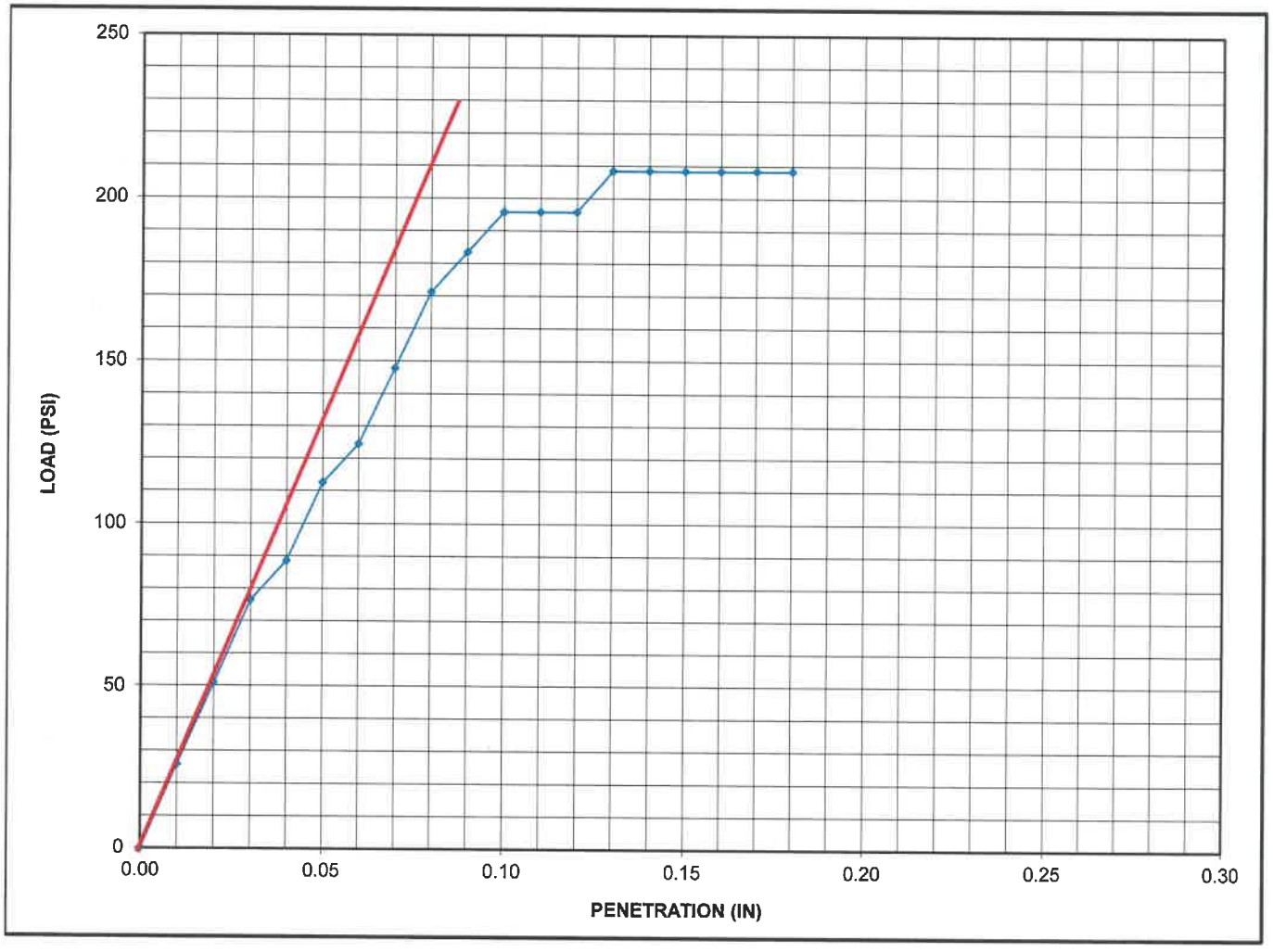
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 3

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 196 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 25

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 2

DATE: 10/20/2020 **SET:** A

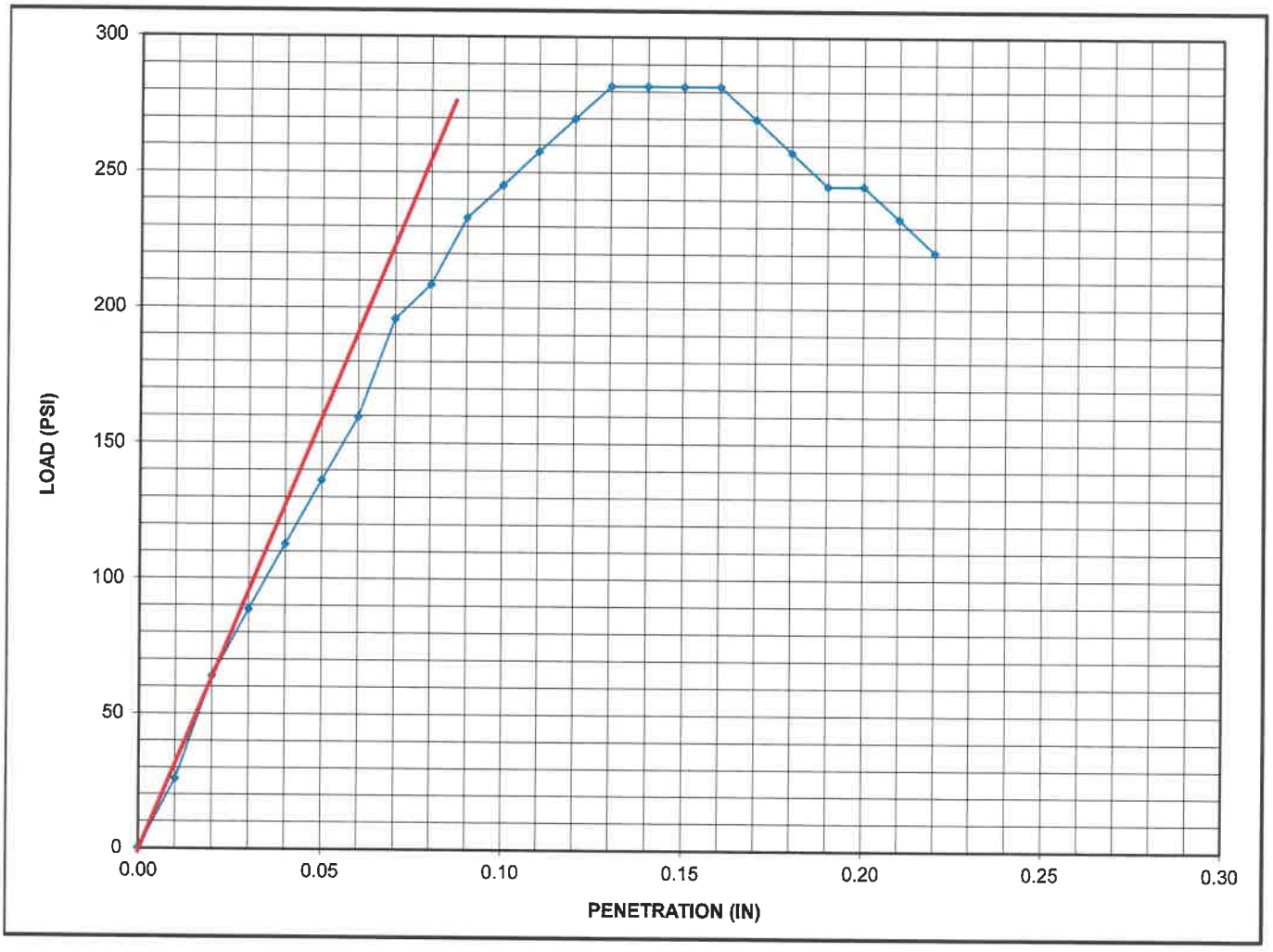
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 3

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 245 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 31

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 3

DATE: 10/20/2020 **SET:** A

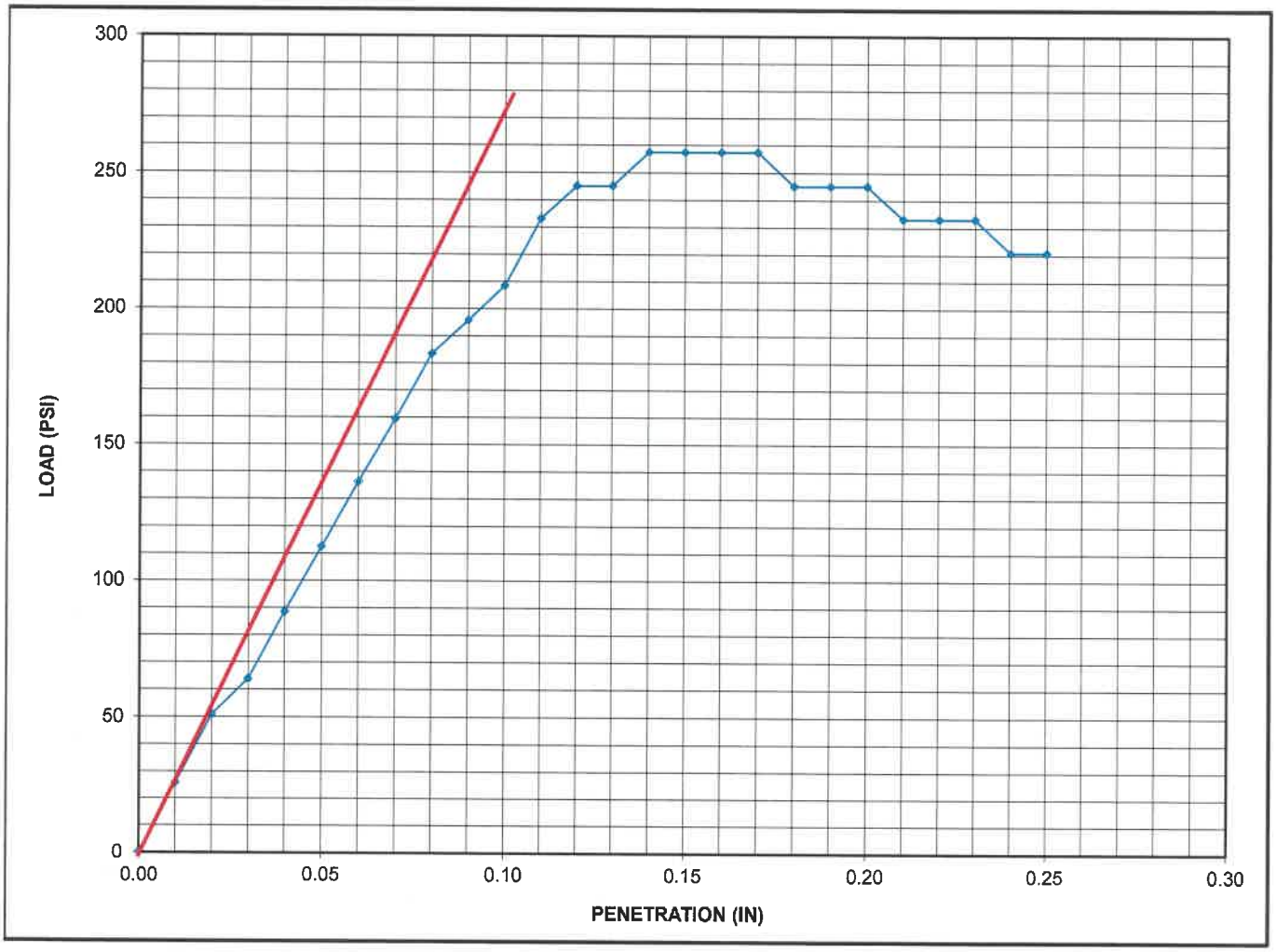
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 3

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 208 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 26

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 4

DATE: 10/20/2020 **SET:** A

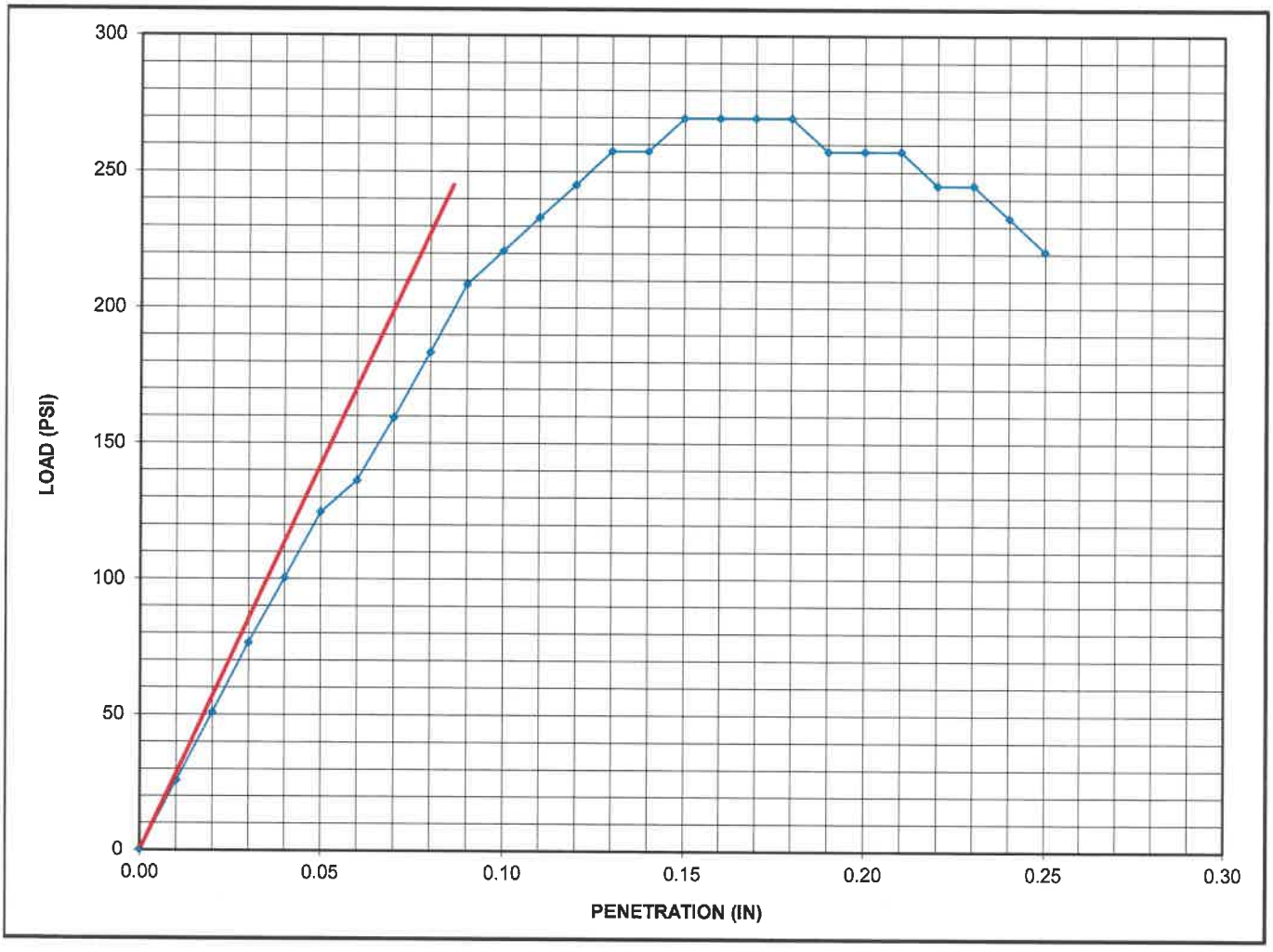
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 3

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 221 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 28

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

PENETRATION VS LOAD: MOLD 5

DATE: 10/20/2020 **SET:** A

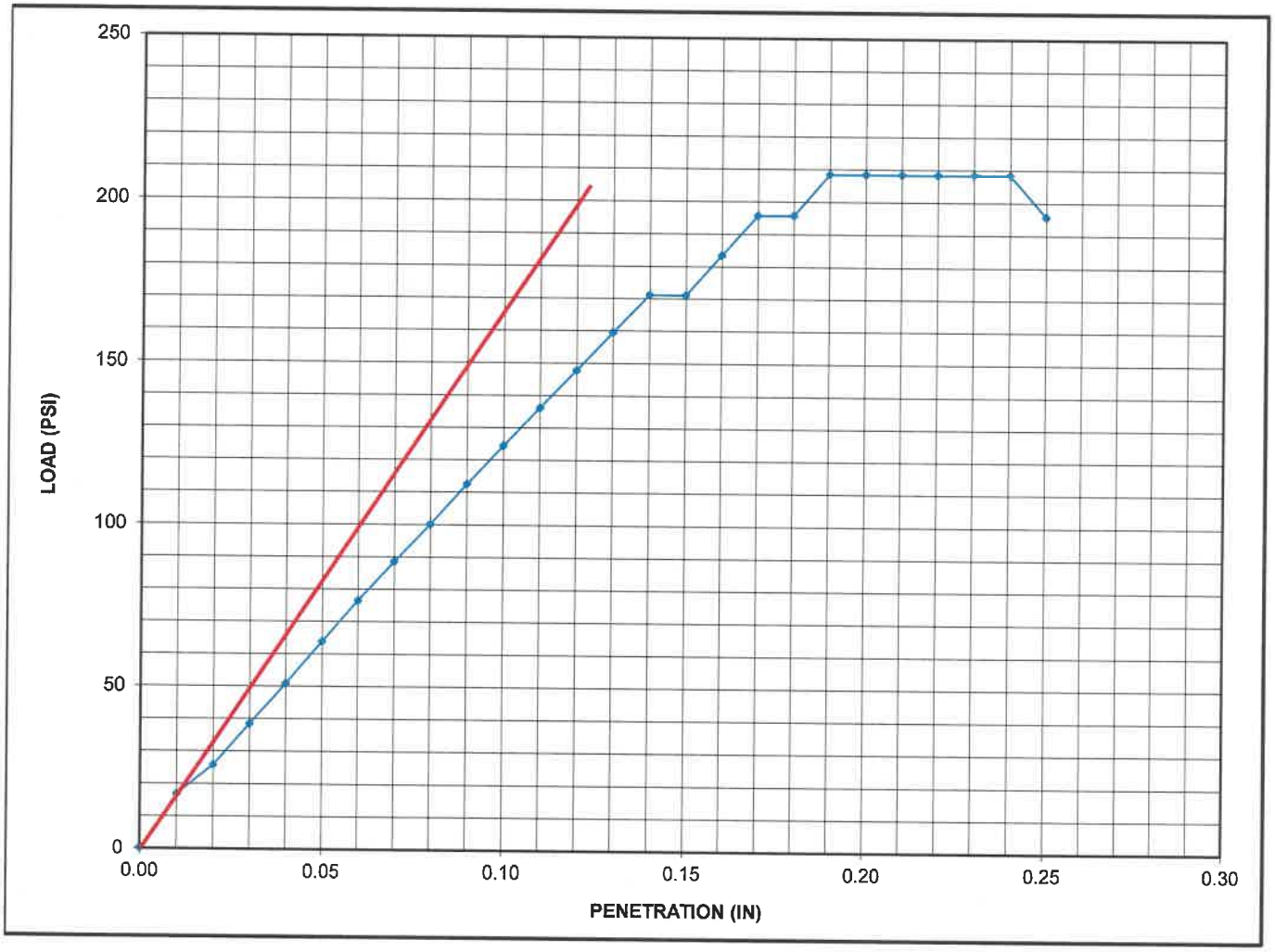
PROJECT NO: 13-38-19-01 **BORING NO:** LBR - 3

DEPTH: 0.5 - 1.5 FEET **TESTED BY:** C. RICHARDS

SOIL DESCRIPTION: (SP/SM / A-2-4)

GRAY FINE SAND

GRAPHICAL TEST RESULTS:



Resistance at 0.1-inch of Penetration (lb/in^2): 124 *Graphical Determination*

Standard Strength of Limerock (lb/in^2): 800

LBR VALUE: 16

ENVIRONMENTAL & GEOTECHNICAL SPECIALISTS, INC.

Kimley»Horn

APPENDIX B – SOIL AND WASTE MANAGEMENT PLAN

SOIL AND WASTE MANAGEMENT PLAN

SOIL AND WASTE MANAGEMENT PLAN
Tallahassee International Airport
Rental Car Facility

Prepared for:

Solid Waste Section
Northwest District Office
Florida Department of Environmental Protection
160 West Government Street, Suite 308
Pensacola, Florida 32502-5794

April 2021

Prepared By:

Kimley»Horn

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Kimley-Horn and Associates, Inc. Job No.: 144124059

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2.0 REGULATORY BACKGROUND 4
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ATTACHMENTS

ATTACHMENT A - Figures

1.0 INTRODUCTION

This Soil and Waste Management Plan (SWMP) has been developed for construction related tasks at the Tallahassee International Airport located southwest of Tallahassee, Florida. The Airport is relocating rental car facilities to a location closer to the Airport Terminal (Figures 1 and 2 in Attachment). The new proposed location of the rental car facilities is within the boundaries of the Old City of Tallahassee Landfill, also known as City of Tallahassee Dump and referred to herein as the Airport Landfill. This Soil and Waste Management Plan (SWMP) provides information and direction for managing landfill waste and soil that may be generated or disturbed during site development, construction or future utility installation activities. These procedures will be followed during site development tasks, construction tasks and any future subsurface tasks on the Site.

This plan is designed to be used in conjunction with the Construction Drawings (CDs) which are provided separately. The CDs will indicate the areas which may be disturbed during site Work.

This SWMP describes the following:

- Background information about the Site;
- Information on the nature and extent of the former landfill;
- Requirements for the management of landfill waste and soil that might be generated or disturbed during construction, maintenance, or other activities;
- Requirements for the disposal of wastes generated during construction, maintenance, or other activities;
- Requirements for any future work that might disturb landfill waste;

Site disturbing activities include geotechnical borings, excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring landfill waste to the surface. The plan applies to such work regardless of the entity performing the work. The SWMP specific tasks that are to be implemented during construction are provided below.

2.0 REGULATORY BACKGROUND

2.1 SITE HISTORY

The landfill operated from 1959 to 1976 accepting municipal waste from the City of Tallahassee. The landfill site comprises 120 acres and is situated at the eastern portion of the Tallahassee International Airport (Figure 1). On January 2, 1975, a Temporary Operation Permit was issued to the City by the Florida Department of Pollution Control to operate a 25-acre Resource Recovery and Management facility where a trench method of operation would be utilized. The site mainly received household and commercial waste but was approved by the Florida Department of Environmental Regulation, now the Florida Department of Environmental Protection (FDEP), to dispose of "certain ethers, solvents and acids" from the Florida State University. Ground water samples collected during field investigations and ground water monitoring activities from February 1986 to March 1997 detected the presence of several volatile organic compounds (VOCs), metals, and nitrate in excess of regulatory standards.

The Tallahassee International Airport received a Site Rehabilitation Completion Order (SRCO) dated 24 May 2013 indicating the site met state cleanup standards. Based on the documentation submitted to date, the FDEP indicates that they have reasonable assurance that the City of Tallahassee has met the criteria for site assessment and remedial action, including the commitments set forth in the technical submittals with respect to the recordation of institutional controls. The technical submittals indicate that acceptable Alternative Cleanup Target Levels (ACTL's) have been established for groundwater contaminants remaining at the site, in conjunction with appropriate institutional controls. Based on this the site has satisfied rehabilitation requirements and are released from any further obligation to conduct site rehabilitation at the contaminated site. The institutional controls consist of a capped area located approximately 1,500 feet east-southeast of the proposed rental car development (Figure 1). A Declaration of Restrictive Covenant was recorded by Mr. Sunil Harman, Tallahassee International Airport on November 28, 2012, in Official Record Book 4447, Pages 1128-1135, Public Records of Leon County, Florida. Site activities and construction activities proposed for this project will not encounter the area included in the Declaration of Restrictive Covenant.

Groundwater monitoring wells were subsequently installed, and groundwater quality samples were collected quarterly for a number of years. Groundwater occurs at approximately 25 ft below ground surface (bgs) and groundwater flow is to the west-southwest. Groundwater analytical data from monitoring wells located near the proposed rental car development were evaluated. Based on the most recent analytical results groundwater concentrations of chemicals of concern were well below the ACTLs for the site.

2.2 Extent of Landfill Waste

In 1976 an engineering study completed for a runway expansion identified the extent of the landfill and indicated a trench and fill waste disposal method was used at the unlined landfill. Subsequent studies indicate that buried waste to the south of the rental car area, occurs at depths of 10 ft or less and is underlain by fine sand.

The landfill was operated as a trench and fill landfill. The landfill was filled beginning at the eastern site boundary and progressed to the west. Figure 1 indicates the extent of the landfill. The waste was deposited in unlined, north-south oriented, parallel trenches that were 20 ft deep and 45 ft across in the west portion of the landfill. The waste trenches were filled level then covered with native materials, consisting mostly of sand.

Previous test pits and trench investigations determined waste in the vicinity of Taxiway B2 (approximately 1,200 feet southwest of the proposed rental car area) occurs from 7 feet to 10 feet below ground surface (bgs). Due to waste compaction and degradation, cross-sections of the trenches show lenses of waste 2 to 4 feet thick. These lenses thin and rise at the trench sides.

2.3 Landfill Gas

Based on the scope of this project, landfill gas is not anticipated to be encountered during the geotechnical boring tasks. Work will be completed in an open-air environment; however, landfill gas monitoring equipment should be on-hand. If odors or vapors are observed measurements should be conducted. A meter capable of measuring combustible gases such as a VRAE brand hand-held 5-gas surveyor or similar device. This gas monitor will be used to survey for the presence of methane (CH4), oxygen (O2), carbon dioxide (CO2), hydrogen sulphide (H2S), and the lower explosive limit (LEL) of methane. The goal of this monitoring will be to confirm that the atmospheric conditions are within proper safety parameters for O2, CH4, H2S and LEL. If landfill waste excavation is conducted, periodic monitoring will be required to ensure worker safety.

3.0 DEVELOPMENT SUMMARY

The proposed site development includes the grading and site preparation for the relocation of airport rental car facilities. The facilities will include four buildings of slab-on-grad construction, car wash area, and paved parking areas. Site fill may be required. The proposed fill material used for raising the surface elevation will be obtained from an uncontaminated off-site source.

Basic construction elements include the following:

- Geo-technical borings/investigation;
- Clearing/grubbing/tree removal;
- Side grading/excavation;
- Subsurface utility installation.

4.0 GENERAL WASTE MANAGEMENT

The SWMP specific tasks that are to be implemented during construction elements at the Site. Soil under the site may contain degraded solid waste and debris. This document provides general and specific management procedures to limit the contact and manage disposal.

The following are general conditions of the Soil Management Plan.

A. The soil beneath the construction site area is assumed to contain solid waste.

B. Contractors, whose workers have the potential to encounter solid waste, are responsible for implementing proper Health and Safety procedures.

C. To ensure the health and safety of on-site workers, persons involved in site activities which involve soil and waste handling are required to wear a minimum of Level D personal protection equipment, including gloves, work boots and eye protection. Workers are also required to wash their hands with soap and water prior to eating, drinking, smoking, or leaving the site.

D. During site work, the appropriate precautions will be taken to restrict unauthorized access to the work areas this will include, but not limited to, temporary fencing and signage. Excavation and grading activities shall be conducted in a manner that will prevent the migration of contaminated soil and prevent impacts to other areas of the site, off-site properties, stormwater or roadways.

E. Air monitoring for dust is not anticipated for this project. Dust suppression (e.g. watering, etc.) techniques must be employed at all times during all construction activities. Dust-control measures shall be implemented in compliance with all applicable laws and regulations. During excavation, all exposed soil surfaces shall be kept visibly moist by water spray or covered with continuous heavy-duty plastic sheeting or other covering to minimize emissions of particulates into the atmosphere.

F. Air monitoring for landfill gas will be required for excavation activities. Landfill gas can be combustible. A meter capable of measuring combustible gases such as a VRAE brand hand-held 5-gas surveyor or similar device. This gas monitor will be used to survey for the presence of methane (CH4), oxygen (O2), carbon dioxide (CO2), hydrogen sulfide (H2S), and the lower explosive limit (LEL) of methane.

G. Stormwater Best Management Practices (BMPs) shall be used to minimize impacts to stormwater, surface water and wetlands during site activities. Stormwater will be managed under an Individual NPDES Permit for Stormwater Discharge Associated with Construction Activities. Standard BMPs for Construction Activities will be followed and will be specified on the Storm Water Pollution Prevention Plan (SWPPP). Excavated soil shall be managed in a way that will not

cause sediment to enter storm water runoff. The best management practices listed below shall be applied to any excavation or construction work or maintenance work. Best management practices include:

- Designating a completely contained area away from storm drains for refueling or maintenance work that must be performed at the site.
- Cleaning up all spills and leaks using dry methods (e.g., absorbent materials, rags).
- Protecting storm drains, using earth dikes, straw bales, sandbags, absorbent socks, or other controls to divert or trap and filter runoff.
- Not allowing rainfall or runoff to contact landfill waste or debris.
- Scheduling excavation work for dry-weather periods, when possible.
- Avoiding over-application by water trucks for dust control.

H. In the event hazardous waste is identified on the Site during construction, FDEP approval will be required prior to implementation of corrective actions.

I. Clean fill is defined as soil that meets the geotechnical requirements for intended use and meets the residential direct exposure in accordance with the FDEP SCTLs. Soil is considered clean fill if it meets both the direct exposure residential soil cleanup target levels and the leachability soil cleanup target levels based on groundwater criteria of contaminants of concern pursuant to Table II of Chapter 62-777, F.A.C.

J. Prior to placement of clean fill on the property, the Contractor shall provide the source of the fill and testing data (if required) showing the fill meets the definition of “clean fill”. Additional testing may be requested prior to use of the material. Testing will be in accordance the FDEP Standard Operating Procedure FS 3000 and appropriate subsections.

K. Upon completion of site work activities and prior to leaving the site, all loose materials, soil, landfill waste will be removed from equipment, drums, roll-off containers.

L. Groundwater is not expected to be encountered during the site construction activities.

M. Leachate is not anticipated during excavation activities, nor is leachate handling. Should leachate be encountered that requires disposal, it will be collected and containerized pending sample results. No leachate will be discharged without testing.

4.1 GEOTECHNICAL BORINGS AND EXCAVATION

4.1.1 Soil

Soil generated during geotechnical investigations or site excavation work may be relocated and reused on the Site provided that the soil will be relocated under the footprint of the proposed building or under paved parking areas. Soil that is determined to be contaminated cannot be relocated or reused on the Property. Soil displaying evidence of free phase petroleum product cannot be relocated on the Property. Relocation and reuse of soil on the Property will be subject to the following:

A. Soil that is generated from site activities and is free of landfill waste may be stockpiled on the ground surface on the Site and secured as appropriate.

B. Excavated soils storage locations will be selected to limit the unauthorized access to the materials (e.g., away from public roadways/walkways).

C. Soil that is generated may be stockpiled on the ground surface until it is reused on the Property as long as Stormwater BMPs are followed.

D. Soil that cannot be used onsite and must be disposed of offsite shall follow the requirements described in Section 4.2.

E. Any soil that requires offsite disposal shall be stockpiled on and covered with minimum 6 mil visqueen as described above. Soil requiring offsite disposal may also be placed in roll-off containers that are covered with tarp or similar and labeled with a sign indicating contaminated soil is present in the container. The roll-off cover shall be maintained at all times by the Contractor until the material has been removed from the Site.

4.1.2 Landfill Waste

A. Landfill waste and debris generated during site work will be containerized in either 55-gallon drums or roll-off containers.

B. Landfill waste will not be staged on the ground during geotechnical or excavation activities.

C. If, due to unforeseen circumstances, staging becomes necessary, excavated material shall be placed on the ground surface and clean fill will be separated from the waste. Staged waste will be placed on and covered with 6-millimeter plastic sheeting, until placed in drum or roll-off container.

4.2 WASTE CHARACTERIZATION AND DISPOSAL

A. Any soil or landfill waste that requires offsite disposal shall be managed as described above. Soil requiring offsite disposal, depending on the volume, may also be placed in roll-off containers or DOT certified drums. All containers will be labeled with a sign indicating contents. Roll-off containers shall have a tarp or visqueen cover that shall be maintained at all times by the Contractor until the material has been removed from the Site.

B. The locations of all stockpiles or roll-offs of contaminated soil will be determined by the Contractor and subject to approval by Kimley-Horn.

C. Landfill waste and soil that require off-site disposal, shall be subject to the following testing by Kimley-Horn and based on the following sample matrix:

Table 2. Waste Analytical Requirements

- Toxic Characteristic Leaching Procedure (TCLP) Metals: (Ag - Silver, As - Arsenic, Ba - Barium, Cd - Cadmium, Cr - Chromium, Pb - Lead, Se - Selenium, Hg - Mercury);
- Pesticides
- Herbicides
- Volatile Organic Compounds
- Semi-Volatile Organic Compounds
- Total and Amenable Cyanide
- Ignitability
- Sulfide (Reactivity)
- pH (Corrosivity)
- TCLP (Toxicity)

D. Sampling shall be performed by an environmental consultant in accordance with the number of samples collected for characterization will be in accordance the FDEP SOP requirements. FS3000 Soil Sampling, FS3100 Surface Soil Sampling,

E. Soil that is found to exceed a Toxicity Characteristic Leaching Procedure (TCLP) limit or otherwise be classified as a hazardous waste cannot be returned to the excavation or relocated on the Site and must be properly handled and disposed in accordance with state and federal regulations. These determinations will be made by and environmental professional.

F. All soil sampling activities are to be conducted in accordance with the FDEP SOPs. All analyses shall be conducted pursuant to the National Environmental Laboratory Accreditation Program (NELAP) certification requirements. If any additional sampling plans are developed by the Contractor outside of this Soil Management Plan, the additional plan will need to be submitted to the FDEP for approval prior to implementation.

G. Best management practices will be required for the transportation of materials requiring offsite disposal. This will include proper tarping of dump bodies or roll-off containers. Any entity hauling soil off the site will be compliant to applicable local, State, and Federal permits or other regulatory requirements.

H. The Contractor will be required to provide copies of waste manifests and weight tickets from the landfill to Kimley-Horn.

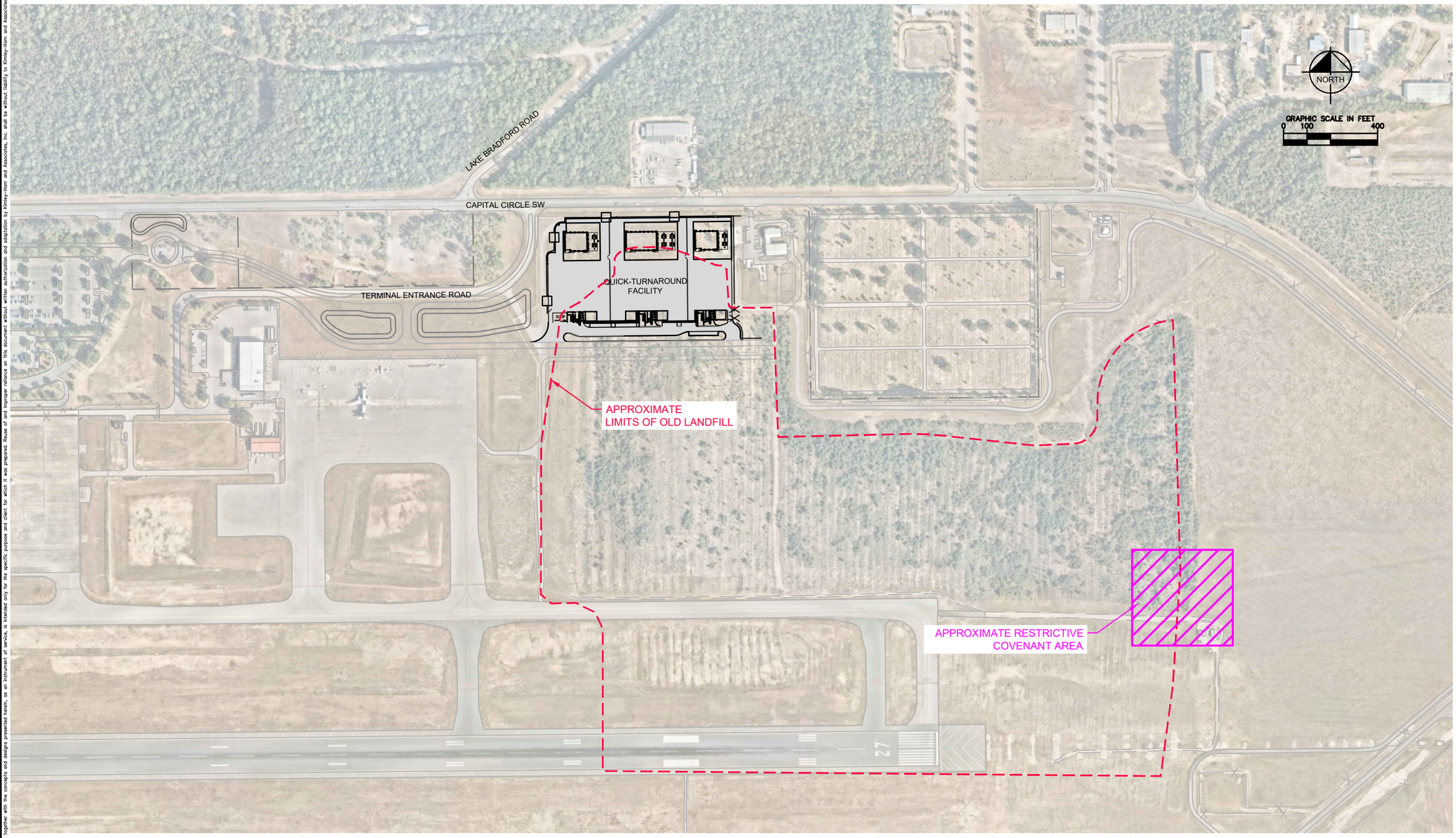
I. Based on the analytical results, Kimley-Horn will determine the appropriate disposal options for the soil that must be removed off site. Contaminated soil that must be removed off site shall be disposed of in accordance with local, state, and federal laws.

J. Kimley-Horn will instruct transporters of the best management practices for the transportation of materials requiring offsite disposal. This will include proper tarping of dump bodies or roll-off containers. Any entity hauling soil off the site will be compliant to applicable local, State, and Federal permits or other regulatory requirements.

K. Upon completion of site earthwork activities, all loose materials will be removed from truck bodies, earth moving equipment and roll-off containers prior to such equipment leaving the Site. All earthwork equipment will be pressure washed onsite prior to leaving the site. The water used for pressure washing can be allowed to seep back into the ground. Additional decontamination procedures may be included in the site-specific HASP.

ATTACHMENT A

Figures



PROJECT DATUM NAVD88

No.	REVISIONS	DATE	BY

Kimley»Horn
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TALLAHASSEE, FL 32308 PHONE: 850-553-3500
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KHA PROJECT	144124059
DATE	04/16/2021
SCALE	AS SHOWN
DESIGNED BY	
DRAWN BY	
CHECKED BY	

QUICK-TURNAROUND FACILITY
PREPARED FOR
TALLAHASSEE INTERNATIONAL AIRPORT
CITY OF TALLAHASSEE FLORIDA

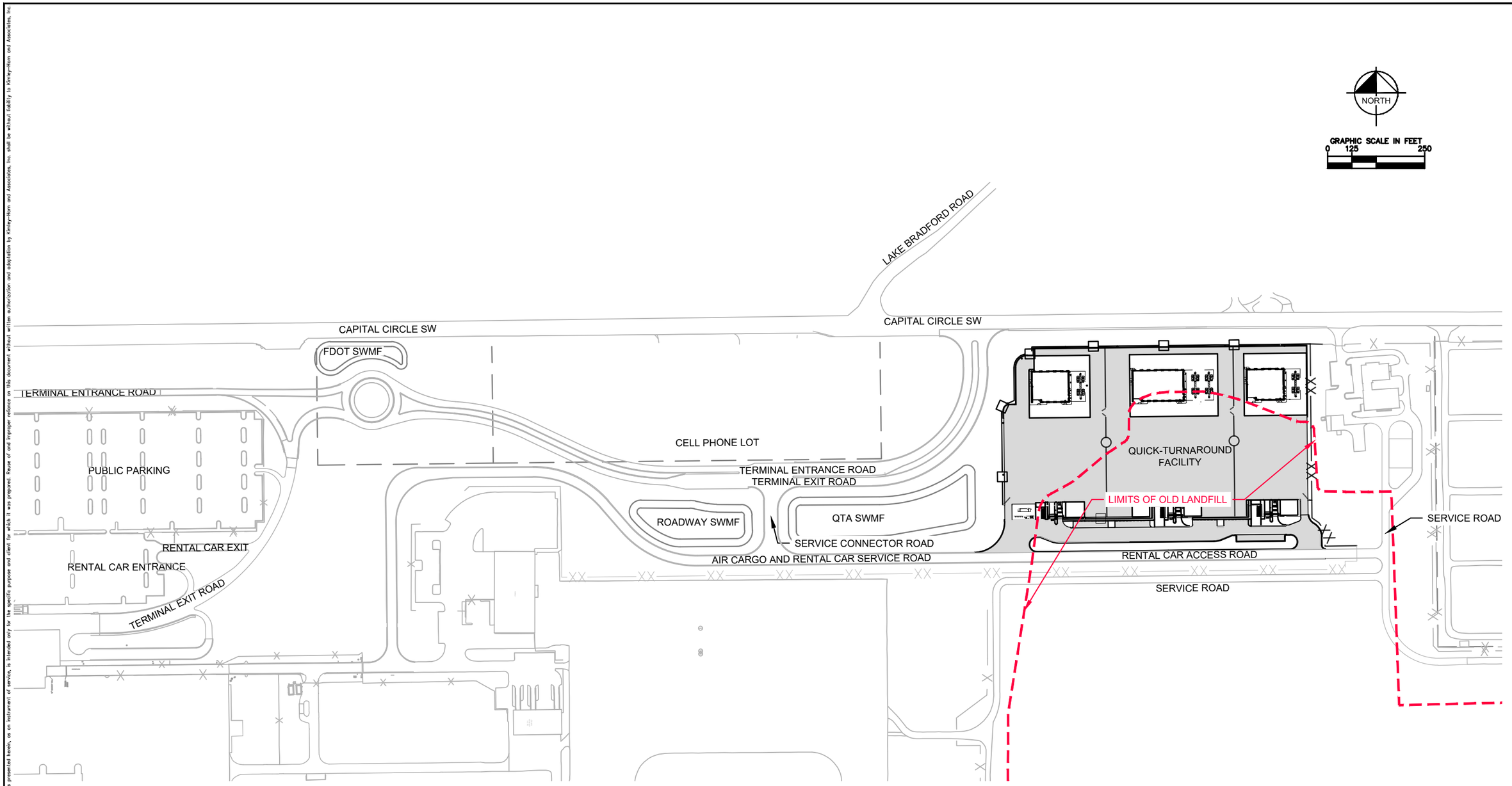
LICENSED PROFESSIONAL
DATE:

PROJECT LAYOUT

SHEET NUMBER
1

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Plotted By:Chambliss, Connor Sheet Set:AIRPORT ACCESS AND ROADWAY REALIGNMENT Layout:1 April 16, 2021 01:41:12pm
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