

REPORT OF GEOTECHNICAL ENGINEERING SERVICES
PROPOSED ALDI STORE #50
NORTHLAKE BOULEVARD AND COCONUT BOULEVARD
PALM BEACH GARDENS, PALM BEACH COUNTY, FLORIDA
ANTICUS PROJECT NO. 01.6065.23

1.0 INTRODUCTION

1.1 GENERAL DISCUSSION

Anticus conducted a subsurface exploration for the proposed Aldi located along the south side of Northlake Boulevard at the southwest quadrant of Northlake Boulevard and Coconut Boulevard in Palm Beach Gardens, Palm Beach County, Florida. We provided our services in general accordance with Aldi's current *Geotechnical Subsurface Investigation Requirements*, and our Proposal No. 01.6065.23, dated July 12, 2023 and revised on July 20, 2023 authorized by you utilizing Anticus's Proposal Acceptance Sheet (PAS). The purpose of the exploration was to evaluate subsurface conditions for the proposed construction and to provide geotechnical engineering recommendations regarding site preparation, earthwork procedures, and foundation and pavement design. This report presents a brief discussion of our understanding of the project, the exploration procedures and results, and our conclusions and recommendations regarding the above considerations.

1.2 REPORT SUMMARY

Nine (9) Standard Penetration Test (SPT) borings were performed to evaluate the subsurface soils and ground water conditions with respect to the proposed building and five (5) SPT borings were performed to explore the soil conditions within the proposed pavement areas. The following is an overview of the exploration findings and our geotechnical recommendations. This summary should not be used for planning and design without reading the entire report, which contains more detailed information and the assumptions made in developing the recommendations.

1. Our SPT borings B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8 and B-9 (structure borings) generally encountered SAND to SAND With Silt (SP/SP-SM) and Silty SAND (SM) to the approximate boring termination depths of 20 to 50 feet below grade. SPT borings P-1, P-2, P-3, P-4, and P-5 (pavement borings) generally encountered SAND to SAND With Silt (SP/SP-SM) to the approximate boring termination depths of 10 feet below grade.
2. The groundwater table was encountered in the SPT borings from approximately 2 to 7 feet below existing grade. The SPT borings performed in the proposed building pad generally encountered the groundwater table from 6 to 7 feet below existing ground surface and the SPT borings performed within the proposed pavement areas generally encountered the groundwater table at approximately 2 feet below existing ground surface with the exception of SPT boring P-4 which encountered groundwater at approximately 6 feet below existing ground surface. Based on the Soil Survey of Palm Beach County, Florida,

- prepared by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS), the historic SHGWT at this site is at natural ground surface.
3. After proper subgrade preparation, the proposed structure can be supported by shallow spread and continuous wall footings supported on subgrade soils designed for a maximum net allowable soil bearing pressure of 2,500 psf. Based on the loading and the site preparation recommendations contained in this report the total settlement should be less than 1 inch with differential settlement less than ½ of an inch.
 4. The preferred soil used for structural fill is fine sand free of organics and debris and containing less than 12 percent material by weight that is finer than a number 200 sieve (fines) (materials conforming to SP and SP-SM in the Unified Soil Classification System [USCS]). We would not anticipate deep excavations or over excavation, however for purposes of providing on-site fill, SP/SP-SM sand is generally present from the existing ground surface to approximately 8 to 10 feet and may be considered as a source of structural fill. All fill must be approved by the Engineer prior to use on site.
 5. A site grading plan is not available at this time. We understand approximately 4 feet of fill was placed within the proposed building pad. We generally assume that a maximum of 2 feet of fill may be utilized to bring the site up to finished grades in the vicinity of the pavement areas for grading the site/conveyance of stormwater in accordance with Florida Building Code).

2.0 PROJECT INFORMATION

2.1 EXISTING SITE

The subject property proposed for development is located along the south side of Northlake Boulevard at the southwest quadrant of Northlake Boulevard and Coconut Boulevard in Palm Beach Gardens, Palm Beach County, Florida. The site is currently vacant and was recently mass graded for development. We understand approximately 4 feet of fill was placed within the proposed building pad.

2.2 PROPOSED CONSTRUCTION

We understand that the proposed construction will consist of an approximate 19,500 square foot single story commercial structure with associated pavement areas and a stormwater pond on the northeastern portion of the site. We have not been provided column or wall loadings, but we have assumed that maximum column loads will not exceed 150 kips and maximum wall loads will not exceed 5 kips per linear foot. We have assumed that the existing structure and pavement areas will be demolished for construction of the new structure and pavement areas. **Once final loading and final grading plan become available, we should be retained to review and modify our recommendations as needed.**

3.0 SITE INFORMATION

3.1 SOIL SURVEY INFORMATION

According to the Web Soil Survey of Palm Beach County, Florida, prepared by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS, formerly the Soil

Conservation Service), the subject property is primarily underlain by Map Unit 37 – Riviera fine sand, frequently ponded, 0 to 1 percent slopes. Riviera fine sand, frequently ponded, 0 to 1 percent slopes has a landform setting of depressions on marine terraces with a parent material consisting of sandy and loamy marine deposits. Riviera fine sand, frequently ponded, 0 to 1 percent slopes soil profile consists of sandy material (SP, SP-SM, SC-SM and SM) with possible clayey soils (CL) to an approximate depth of 80 inches with a historic seasonal high groundwater table of at natural ground surface during normal years.

It should be noted that information contained in the USDA Soil Survey may not be reflective of current subsurface conditions, particularly if recent development in the project vicinity (which includes man-made ditches, earthwork and water features) has modified existing soils or surface/subsurface drainage.

4.0 EXPLORATION AND TESTING METHODS

Fourteen (14) SPT borings were drilled with a ATV-mounted drilling rig - at the locations shown on the accompanying Field Test Location Plan, Sheet 1 in the Appendix. SPT borings were performed and split-barrel soil samples obtained at intervals of 2 feet to a depth of 10 feet and intervals of 5 feet thereafter. Conventional rotary drilling procedures were utilized along with a bentonite drilling fluid to stabilize the boreholes. Borings within the proposed structure footprint extended to a depth of approximately 20 to 50 feet and borings in the proposed paved areas extended to approximately 10 feet.

The following is a brief description of this field test procedure. The exploratory borings were performed in accordance with ASTM D 1586, entitled "Standard Method for Penetration Test and Split-Barrel Sampling of Soils." After drilling to the required depth and cleaning the bore hole, the sampler (2" O.D.) was driven 18 or 24 inches into the undisturbed soil by a 140-pound auto hammer falling 30 inches. The number of blows required to drive the sampler the second and third 6-inch increments is known as the Standard Penetration Resistance (N). The various soils encountered in the borings were visually classified in the field and representative soil samples obtained for further examination by a geotechnical engineer. The soils encountered in the borings were classified utilizing the USCS. At the completion of the drilling operations, the boreholes were grouted in accordance with local Water Management District guidelines.

The procedures used by Anticus for field and laboratory sampling and testing are in general accordance with ASTM procedures and established engineering practice.

4.1 FIELD EXPLORATION AND TESTING

The field exploration for the proposed construction consisted of: nine (9) SPT borings advanced to depths of 20 to 50 feet in the proposed footprint of the building; and five (5) SPT borings advanced to depths of approximately 10 feet within the proposed pavement areas. The drillers advanced the borings using wet rotary methods and collected soil samples using a split-barrel sampler driven by a cathead and safety hammer system according to ASTM D1586.

The SPT borings were located by a representative of Anticus in the field utilizing a handheld Global Positioning System (GPS) unit. Therefore, the boring locations shown on the Field Test Location Plan, Sheet 1 in the Appendix, should be considered approximate.

The Soil Profile, Sheet 1 represents our interpretation of the conditions encountered at each boring location. The stratification lines indicated on the Soil Profile represent the approximate boundaries between soil types; however these transitions may be more gradual than indicated.

5.0 SUBSURFACE CONDITIONS

5.1 GENERAL SOIL PROFILE CONDITIONS

Detailed descriptions are presented on the soil profile. When reviewing the soil profile, the indicated boundaries between soil strata are approximate and the transitions between strata are typically more gradual. Also, variations in subsurface conditions from those encountered may exist between the boring locations.

5.2 GROUNDWATER

The groundwater table was encountered in the SPT borings from approximately 2 to 7 feet below existing grade. The SPT borings performed in the proposed building pad generally encountered the groundwater table from 6 to 7 feet below existing ground surface (where approximately 4 feet of fill was placed for the proposed building pad) and the SPT borings performed within the proposed pavement areas generally encountered the groundwater table at approximately 2 feet below existing ground surface with the exception of SPT boring P-4 which encountered groundwater at approximately 6 feet below existing ground surface.

Groundwater levels fluctuate with time due to seasonal moisture changes and locally heavy precipitation events and the groundwater level is controlled by canals in this area. Therefore, future ground water levels may be encountered at depths different from those identified in our borings.

5.3 TYPICAL SEASONAL HIGH WATER TABLE

Based on the subsurface exploration and the Soil Survey of Palm Beach County, Florida, prepared by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), the historic SHGWT at natural ground surface. Based on the water levels encountered in our borings during the dry season. A SHGWT hand auger was not completed during our field services. If a more specific SHGWT estimate is necessary, we can be retained to complete additional field services to evaluate the SHGWT.

The seasonal high water table is typically encountered during late summer following the rainy season. Several factors affect the seasonal high water table including the amount of rainfall, the drainage characteristics of the soils; the land surface elevation; relief points such as lakes, canals, rivers or swamps; and distance to relief points.

5.4 SITE SEISMIC DESIGN RECOMMENDATIONS

This site is located in southeastern Florida, a region of the country which does not have a significant seismic risk.

Based on the methodology outlined in ASCE/SEI 7-22 and in accordance with the current Florida Building Code (FBC), and considering the average N-values and soil types in the top 100 feet

(based on the project soil profiles and our experience in this area), it is our opinion that Site Class D (Stiff Soils) may be used for the soil conditions at the site. Based on the referenced methodology, for 0.2 and 1-second spectral response accelerations, the mapped spectral acceleration values are 0.056 g and 0.025 g for S_s and S_1 , respectively, with design spectral response acceleration parameters of 0.05 g and 0.035 g for S_{DS} and S_{D1} , respectively (Site Class D).

6.0 CONCLUSIONS

We base the following conclusions in part on the preceding project information and the results of the subsurface exploration. The following describes our conclusions concerning geotechnical issues associated with the project:

Our SPT borings B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8 and B-9 (structure borings) generally encountered SAND to SAND With Silt (SP/SP-SM) and Silty SAND (SM) to the approximate boring termination depths of 20 to 50 feet below grade. SPT borings P-1, P-2, P-3, P-4, and P-5 (pavement borings) generally encountered SAND to SAND With Silt (SP/SP-SM) to the approximate boring termination depths of 10 feet below grade.

After proper subgrade preparation, the proposed structure can be supported by shallow spread and continuous wall footings supported on subgrade soils which can be designed for a maximum net allowable soil bearing pressure of 2,500 psf. Based on the loading and the site preparation recommendations contained in this report the total settlement should be less than 1 inch with differential settlement less than $\frac{1}{2}$ of an inch.

The groundwater table was encountered in the SPT borings from approximately 2 to 7 feet below existing grade. The SPT borings performed in the proposed building pad generally encountered the groundwater table from 6 to 7 feet below existing ground surface and the SPT borings performed within the proposed pavement areas generally encountered the groundwater table at approximately 2 feet below existing ground surface with the exception of SPT boring P-4 which encountered groundwater at approximately 6 feet below existing ground surface. Based on the Soil Survey of Palm Beach County, Florida, prepared by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS), the historic SHGWT at this site is at natural ground surface. A SHGWT hand auger was not completed during our field services. If a more specific SHGWT estimate is necessary, we can be retained to complete additional field services to evaluate the SHGWT. De-watering may be required during excavation of the proposed structure footings, with a greater likelihood if the construction is performed during the rainy season. De-watering can be accomplished as described below in Section 7.8.

Surface or subsurface indicators of active sinkhole development were not encountered in our borings performed for this project.

7.0 RECOMMENDATIONS

7.1 SITE PREPARATION

7.1.1 Site Stripping

To prepare the site for construction, all existing vegetation and large root systems should be removed. All existing utilities (including septic tanks and lines, if any) should be abandoned properly. Clean sand may be stockpiled for reuse and deleterious material, if encountered, may be used in the green space on site, with approval of the geotechnical engineer. Any cavities formed should be replaced with compacted structural fill. At a minimum, it is recommended that the stripped operations extend at least five (5) feet beyond the development perimeters.

7.1.2 Subgrade Preparation and Fill Placement

Following the stripping operations, the exposed subgrade should be evaluated and proofrolled as directed by representatives of Anticus to evaluate the subgrade soils for any weak or yielding subgrade areas. The proofrolling should consist of compaction using a large diameter, heavy vibratory drum roller. The vibratory drum roller should have a static drum weight on the order of eight (8) to ten (10) tons and should be capable of exerting a minimum impact force of 36,000 pounds (DYNAPAC CA-250 or equivalent); this is expected to provide adequate results. **The vibratory roller should not be used within 50 feet of existing structures (if any). These areas should be compacted using a fully loaded 2 cubic yard capacity front-end loader or equivalent.**

Proofrolling should be monitored by a representative of our firm. If unusual or excessive deflection is observed, then the areas should be undercut to firm soils and backfilled with structural fill placed in maximum one-foot thick loose lifts. Some undercutting and backfilling should be expected and budgeted accordingly. The proofrolling equipment should make a minimum of eight (8) overlapping passes over the structure and pavement areas with the successive passes aligned perpendicular. It is recommended that within the building area, the natural ground, to a minimum depth of one (1) foot below stripped grade, be compacted to a dry density of at least 95% of the modified Proctor maximum dry density (ASTM D1557) to achieve a minimum K-value of 90 pci.

Following satisfactory completion of the initial proofrolling, the structure and pavement areas may be brought up to finished subgrade levels, as needed. Backfill soils and soils used to bring the structure and pavement areas up to finished subgrade levels should be of the same composition and be compacted to the same criteria as structural fill soils, as subsequently discussed. If soft pockets are encountered in the footing excavations, the unsuitable materials should be removed and the proposed footing elevation may be re-established by backfilling after the undesirable material has been removed. This backfilling may be done with a very lean concrete or with a well-compacted, suitable fill such as clean sand, gravel, or crushed FDOT No. 57 or FDOT No. 67 stone. Sand backfill should be compacted to a minimum density of 95% of the modified Proctor maximum dry density (ASTM D1557).

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

to beginning compaction, soil moisture contents may need to be controlled in order to facilitate proper compaction. If additional moisture is necessary to achieve compaction objectives, then water should be applied in such a way that it will not cause erosion or removal of the subgrade soils. Moisture content within the percentage range needed to achieve compaction is recommended prior to compaction of the natural ground and fill.

After compaction and proofrolling, the building foundation excavations can begin. Foundation excavations should be observed by the Geotechnical Engineer or a representative to explore the extent of any loose, soft, or otherwise undesirable materials. If the foundation excavations appear suitable as load bearing materials, the bottom of the foundation excavations should be compacted to a minimum density of 95% of the modified Proctor maximum dry density for a minimum depth of one (1) foot below the bottom of the footing depth, as determined by field density compaction tests.

Backfill soils placed adjacent to footings or walls should be carefully compacted with a light rubber-tired roller or vibratory plate compactor to avoid damaging the footings or walls. Approved sand fills to provide foundation embedment constraint should be placed in loose lifts not exceeding 6 inches and should be compacted to a minimum density of 95% of the modified Proctor maximum dry density.

Immediately prior to reinforcing steel placement, it is recommended that the bearing surfaces of all footing and floor slab areas be compacted using hand operated mechanical tampers. In this manner, any localized areas, which have been loosened by excavation operations, should be adequately recompacted.

7.2 STRUCTURAL FILL

7.2.1 Structural Fill Definition

The preferred soil used for structural fill is fine sand free of organics and debris and containing less than 12 percent material by weight that is finer than a number 200 sieve (fines) (materials conforming to SP and SP-SM in the USCS or A-3 and A-2-4 [with less than 12 percent fines] in the AASHTO soil classification system). All fill must be approved for use by the Engineer before placement.

7.2.2 Structural Fill Availability

We would not anticipate deep excavations or over-excavation, however for purposes of providing on-site fill, SP and SP-SM sands are generally present from the existing ground surface to depths of approximately 8 to 10 feet and may be used as a source of structural fill.

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

7.2.3 Structural Fill Placement and Compaction

Structural fill should be placed in lifts not to exceed one foot thick. The fill material should be compacted to at least 95 percent of its modified Proctor maximum dry density (ASTM D1557). We recommend the upper 1-foot below the slab be compacted to at least 98 percent of modified Proctor maximum dry density.

7.3 SITE DEGRADATION DURING CONSTRUCTION

It has been our experience that prior to slab construction, slab subgrades can be significantly disrupted by construction equipment, utility construction, and inclement weather. The soils exposed at the slab subgrade will consist primarily of sands. These materials are particularly susceptible to disturbance. Placement of concrete or fill upon these areas must occur promptly, or these areas will need re-compaction and re-testing.

7.4 FOUNDATIONS

7.4.1 Spread Footings

Based on the information revealed by our exploration, the single story masonry structure can be supported by the preferred foundation system bearing on densified residual soil or properly compacted fill. After proper subgrade preparation, the proposed structure can be supported by shallow spread and continuous wall footings supported on subgrade soils which may be designed for a maximum allowable soil bearing pressure of 2,500 psf. Total settlement is anticipated to be less than 1 inch with differential settlement less than ½ inches.

Even though computed footing dimensions may be less, column footings should have a minimum width of at least 24 inches and strip footings should be at least 18 inches wide. These dimensions facilitate densification and hand cleaning of footing subgrades disturbed by the excavation process and the placement of reinforcing steel. They also reduce the potential for localized punching shear failure. Footings should bear at least 24 inches below the finished exterior grade as a bearing capacity requirement.

Foundation excavation will produce a thin veneer of disturbed soil at the footing subgrade. We recommend that the surficial soils exposed at the bottom of the foundation excavation be compacted to at least 95 percent of the soil's modified Proctor maximum dry density. Hand guided vibrating plates can be used. The compaction should be performed and checked prior to placement of reinforcing steel.

7.5 FLOOR SLAB

We assess that no unusual floor loads will be applied to the floor slab. No extraordinary floor slab performance criteria, such as very low allowable deflection/settlement, are expected. The upper 1-foot of soil beneath the slab area should be compacted to at least 98 percent of its modified Proctor maximum dry density. To reduce the possibility of slab cracking due to minor differential settlement, transitions from foundation-supported building elements to soil supported floors should be reinforced.

Use of a vapor retarder should be determined by the structural engineer. Any vapor retarder should be placed in accordance with ACI guidelines.

It has been our experience that prior to slab construction, slab subgrades can be significantly disrupted by construction equipment, utility construction, and inclement weather. The soils exposed at the slab subgrade will consist primarily of sands. These materials are particularly susceptible to disturbance. Placement of concrete in these areas must occur promptly, or these areas will likely need re-compaction and re-testing.

7.6 RETAINING WALLS

Retaining walls were not observed within the plans provided to us for review, however, depending upon final grades, retaining wall systems may be necessary in some areas. Retaining wall foundations should be designed for a maximum net allowable soil bearing pressure of 2,500 psf.

Soils behind the retaining walls are assumed to exert a triangular stress distribution which can be modeled in terms of an "equivalent fluid" for both the active and at-rest cases. If the top of the wall is free to rotate, the active earth pressure condition can be used. If the top of the wall is fixed and not free to rotate, the at-rest earth pressure condition should be used. If a uniform area surcharge is applied behind the wall, a portion of the surcharge is transferred to the wall in the form of a uniform or rectangular lateral stress distribution. The magnitude of the lateral stress transferred to the wall is a function of the soil's strength and the permissible degree of deflection or rotation. It is computed by multiplying the soil's "earth pressure coefficient" by the magnitude of the surcharge. We would recommend using 0.40 for the coefficient of sliding friction between concrete and imported or native structural fill soils.

The following table presents values for earth pressure coefficients and equivalent fluid unit weights for both the at-rest and active conditions previously discussed. These values assume a horizontal backfill behind the walls.

Earth Pressure Condition	Earth Pressure Coefficient	Recommended Equivalent Fluid Unit Weight, pcf
Active, Horizontal Backfill	0.33	36
At-Rest, Horizontal Backfill	0.5	55

The recommended equivalent fluid unit weights also assume that constantly functioning drainage systems are installed between walls and soil backfill to prevent the build-up of hydrostatic pressures and lateral stresses in excess of those calculated for drained conditions.

Passive earth pressure of soil adjacent to the footing as well as soil friction of the footing base can be used to resist sliding. The ultimate soil friction force can be computed by multiplying the footing's applied compressive force by 0.63 and can be applied to both import fill and native soils. The ultimate passive restraint of wall footings embedded adjacent to a horizontal grade can be modeled assuming a fluid with an equivalent unit weight of 330 pcf. We recommend that a safety factor of at least 2 be used when computing restraining forces, as no strength test analysis was performed and a simplified (Rankine) earth pressure distribution was used.

Sand with less than 5 percent finer than the Number 200 sieve (SP sand) should be used as backfill directly behind the retaining walls. This material should be compacted to at least 95 percent of its standard Proctor maximum dry density. Either light, hand-operated compaction equipment must be used within 4 feet of walls to reduce the risk of over-stressing the walls or the walls must be designed to resist the stressed imposed by large compaction equipment.

7.7 PAVEMENT

The recommended pavement sections have been based on traffic patterns that we believe are consistent with similar developments and site conditions, assuming maximum 20 year, 18,000 pound equivalent single axle loads (ESALs), Light Duty classification with an average daily traffic (ADT) volume of 1,100, and Heavy Duty Classification with an ADT volume of 1,106 for entrance/exit/loading dock areas. These design parameters need to be verified by the design Engineer once actual traffic loading conditions become available.

We have also assumed that compacted fill material in pavement areas will exhibit a Limerock Bearing Ratio (LBR) value of at least 20, and that stabilization of the subgrade will be necessary to exhibit an LBR of 40. The LBR is used specifically in Florida and similar to the California Bearing Ratio (CBR), but uses a different baseline load. If site preparation work is performed as described above, the following pavement sections may be utilized:

Section Description Flexible Pavement Sections	Minimum Thickness (in)	
	Light Duty	Heavy Duty
Surface Course Asphalt Superpave Surface - Type SP-9.5/12.5 Fine, Traffic level "C". Structural Coefficient (0.44) (1.5 inches) = (0.66) or 2 inches = (0.88)	1.5	2
Base Course Crushed Concrete having a minimum LBR of 150 and compacted to at least 98 percent of ASTM D-1557. Structural Coefficient (0.18) (6 inches) = (1.08) or 8 inches = (1.44) or If SHGWT is greater than one foot below base layer then use: Limerock having a minimum LBR of 100 and compacted to at least 98 percent of ASTM D-1557. Structural Coefficient (0.18) (6 inches) = (1.08) or 8 inches = (1.44)	6	8
Subgrade Stabilized to a minimum LBR of 40 and compacted to at least 98 percent of ASTM D-1557. Structural Coefficient (0.08) (12 inches) = (0.96)	12	12
Total Structural Coefficient Light Duty = 2.70 Total Structural Coefficient Heavy Duty = 3.28		

- (1) Limerock base course requires a minimum separation of 18 inches between the bottom of base and the SHGWT.

We recommend that a confirmatory LBR test be performed prior to paving. If the LBR test indicates a value less than 40, thicker pavement sections will be required.

Note that the common base course material in Florida (limerock) is not free draining and deteriorates if in contact with water.

The choice of pavement base type will depend on final pavement grades. If a minimum separation of 18 inches between the bottom of the base and the seasonal high groundwater level is obtained, then a limerock, shell, or crushed concrete base can be utilized (thickness as noted above). A

soil cement base should be utilized if the separation between final grade and the seasonal high groundwater is a minimum of 12 inches and less than 18 inches. Base material elevations should not be designed for saturated conditions. The SHGWT should be re-established relative to a known elevation prior to setting final grades.

A soil cement base should be designed according to FDOT or PCA modified short cut design procedures. Strength of 300 psi should be achieved on laboratory cured compressive strength specimens molded from samples taken from the base material as it is placed. A stabilized subgrade need not be incorporated with a soil cement base. Traffic should not be allowed on the subgrade as the base is placed to avoid rutting. Before paving, the subgrade should be checked for soundness and be true to line and grade prior to paving.

Crushed concrete should be graded in accordance with FDOT Standard Specification Section 901-5. As a guideline for pavement design, we recommend that the base course be a minimum of 6 inches thick in parking areas and 8 inches thick in heavily traveled drives. Before paving, the base should be checked for soundness.

This approach projects an approximate pavement life of 20 years, provided there are no major changes in the project characteristics. We expect that the pavement will not be maintenance free. Any distressed areas should be promptly repaired to prevent the failure from spreading due to loading and water infiltration. Cracks and joints should be sealed annually.

The following rigid pavement section can be considered as an alternative to the flexible pavement section described above:

Section Description Rigid Pavement Sections	Thickness (in)	
	Light Duty	Heavy Duty
Surface Course (1) Concrete with minimum compressive strength of 4,000 psi at 28 days when tested in accordance with ASTM C-39.	5	6
Subbase Compacted soils compacted to at least 98% of the modified Proctor maximum dry density (ASTM D-1557). The soil subgrade should be prepared to achieve a minimum LBR of 40.	12	12

1. Concrete meeting the requirements specified in the SSRBC 2014, Section 921 initiating on page 991

The thickness of concrete pavement was determined from methods developed by the American Concrete Pavement Association. The method assumes that the subgrade is firm, well compacted and non-pumping and that all joints are properly designed and sealed to minimize moisture inflow in the subgrade. Also, it is important to ensure that proper concrete curing practices will be employed (e.g.-applying curing compound to prevent moisture loss during the hydration process and traffic will not be allowed until the concrete has had sufficient time to cure).

The concrete should have a minimum compressive strength of 4,000 psi at 28 days when tested in accordance with ASTM C-39. Based on our experience, a minimum thickness of six (6) inches should be utilized for heavy-duty applications and a minimum thickness of five (5) inches should

be utilized for light-duty applications. The soil subgrade should be prepared to achieve a minimum LBR of 40 as mixed and pulverized to a depth of 12 inches below the pavement base elevation. The subgrade soils should be compacted to a minimum density of 98% of the modified Proctor maximum dry density.

The performance of the pavement sections is highly dependent on controlling the moisture of the subgrade soils. It is important that surface drainage be controlled to prevent water from ponding in pavement areas. If free draining material is to be employed we suggest crushed recycled concrete.

Please refer to FDOT Design Standard 505 which references suitable soils utilized for road construction.

7.8 GROUNDWATER CONTROL

The groundwater levels presented in this report are the levels that were measured at the time of our field activities. Fluctuation should be anticipated. We recommend that the Contractor determine the actual groundwater levels at the time of the construction to determine groundwater impact on this construction procedure. Groundwater control may be necessary for the construction of the proposed structure foundations. Groundwater within the overburden soils can normally be controlled in shallow excavations or rim ditches with a sump pump, however, due to the porosity of the limestone in this area, groundwater control within the limestone layer may require specialized groundwater control. During subgrade soil preparation, any soils below design grade could become disturbed by construction activities. If this becomes the case, the contractor may be directed by the owner's representative to remove the disturbed or pumping soils to a depth of 12 to 18 inches below design grade and backfill the area with structural fill.

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

7.9 EARTH SLOPE RECOMMENDATIONS

Stability of a slope depends on many factors including the geometry of the slopes, height of the slope, type of soils and surface pressures, if any. Therefore, the maximum slope for fill and virgin soils should not exceed 1 vertical (V):2 horizontal (H) for temporary embankments and 1V:3H for permanent embankments.

We recommend a building setback of at least 10 feet from the tops of all slopes and a setback of at least 3 feet for parking area curbs. Drop inlets or storm sewers should not be installed at the crests of slopes because leakage can result in maintenance problems or possible slope failure. Crest areas should be sloped to prevent surface runoff from flowing over the slope faces.

It is difficult to construct fill on the specified slopes without leaving a loose, poorly compacted zone on the slope face. For this reason, we recommend that the fill slopes be slightly over-built, then

cut back to firm, well compacted soils prior to applying a vegetative cover. If the slopes cannot be slightly over-built and cut back, we recommend that finished soil slopes be compacted to reduce, as much as practical, the thickness of this soft surficial veneer.

7.10 EXCAVATIONS

In general, the majority of the fine sands (SP/SP-SM), can be moved and used for grading purposes, site leveling, general engineering fill, structural fill and backfill in other areas, provided the fill is free of organic materials, clay, debris or any other material deemed unsuitable for construction. All fill should be placed in accordance with the recommendations provided in this report.

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its “Construction Standards for Excavations, 29 CFR, Part 1926, Subpart P”. This document was issued to better ensure the safety of workmen entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavations or footing excavations, be constructed in accordance with the new OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractors “responsible persons”, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor’s safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in all local, state, and federal safety regulations.

We are providing this information solely as a service to our client. Anticus, Inc. does not assume responsibility for construction site safety or the contractor’s or other party’s compliance with local, state, and federal safety or other regulations.

8.0 FOLLOW-UP SERVICES

Our services do not end with the submission of this geotechnical report. Anticus should be kept involved throughout the design and construction process to maintain continuity and to verify that our recommendations are properly interpreted and implemented. To achieve this, we should review project plans and specifications with the designers to see that our recommendations are fully incorporated.

Anticus’s familiarity with the site and with the foundation recommendations make us a valuable part of your construction quality assurance team. Anticus recommends that we be retained by the owner to observe earthwork and foundation construction. Our personnel are uniquely qualified to recognize unanticipated ground conditions and can offer responsive remedial recommendations should these unanticipated conditions occur.

9.0 LIMITATIONS OF REPORT

This report has been prepared for the exclusive use of **Sweetgum Environmental and Aldi, Inc.** and their designers for specific application to the project previously discussed. Our conclusions and recommendations have been prepared using generally accepted standards of geotechnical engineering and engineering geology practice in the State of Florida. No other warranty is expressed or implied.

Our conclusions and recommendations are based on the design information furnished to us, the data obtained from the previously described exploration and our experience. They do not necessarily reflect variations in the subsurface conditions, which are likely to exist intermediate of our borings and in unexplored areas of the site due to the inherent variability of the subsurface conditions in this geologic region as well as past land use. Should such variations become apparent during construction, it will be necessary to re-evaluate our conclusions and recommendations based upon on-site observation of the conditions.

If changes are made in the overall design or location of the building and grading scheme, then the recommendations presented in this report may no longer be valid. In such cases, our firm should review the proposed changes to evaluate whether our recommendations need to be modified. The results of this review should be provided in writing. We also request the opportunity to review the foundation plan, grading plan and applicable portions of the project specifications when the design is finalized. This review will allow us to check whether these documents are consistent with the intent of our recommendations.

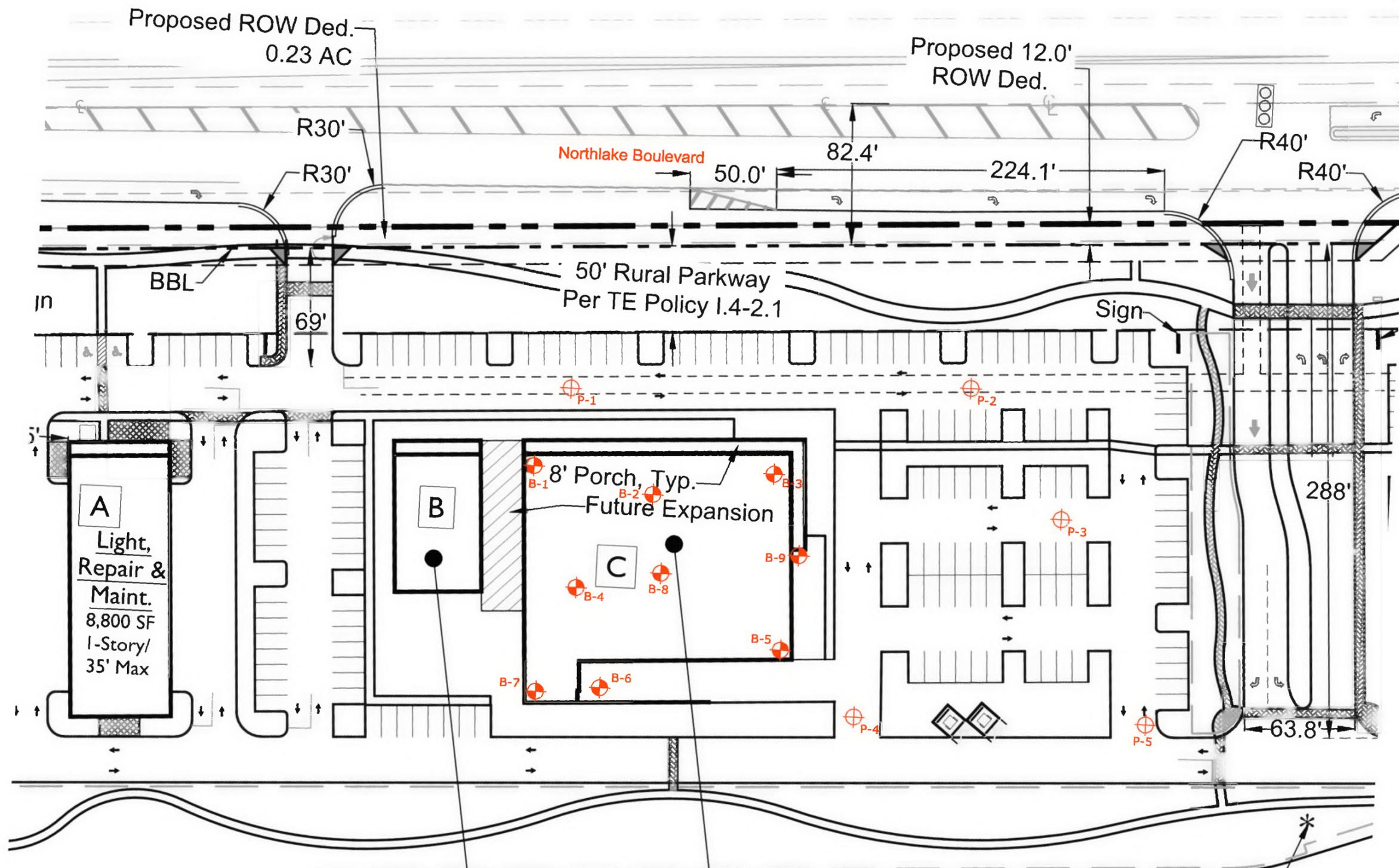
Sampling and testing of the soil, rock, groundwater, surface water and air for the presence of environmental contamination was beyond the scope of this exploration. We will be glad to provide these services at your request.

The borings were not located by a survey crew. The boring locations are accurate only to the degree implied by the method used.

The lines on the boring logs designating the interface between the various strata may only be approximate boundaries when the transition is gradual or could not be detected by the drilling operations.

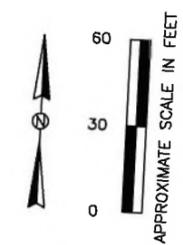
The depth to the groundwater table measured at the site during the investigation is only indicative of the conditions at that time. The estimated seasonal high water levels do not provide any assurance that groundwater levels will not exceed these estimated levels during any given year in the future. Should the impediments of surface water drainage be present, or should rainfall intensity and duration, or total rain quantities, exceed the normally anticipated rainfall quantities, groundwater levels might exceed our seasonal high estimates.

The site is underlain by limestone bedrock that is susceptible to dissolution and the subsequent development of karst features such as voids and sinkholes in the natural soil overburden. Construction in a sinkhole prone area is therefore accompanied by some risk that internal soil erosion and ground subsidence could affect new structures in the future. It is not possible to investigate or design to completely eliminate the possibility of future sinkhole related problems. In any event, the Owner must understand and accept this risk.



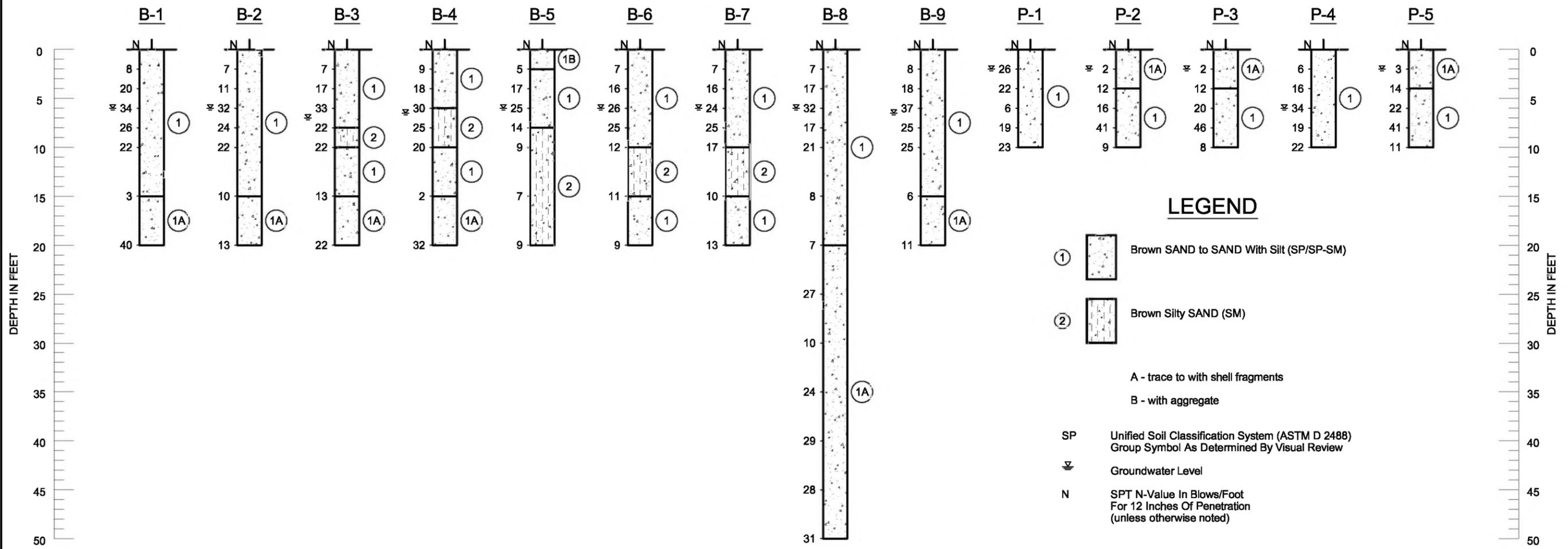
- LEGEND**
- B-1 APPROXIMATE STRUCTURE SPT BORING LOCATION
 - P-1 APPROXIMATE PAVEMENT SPT BORING LOCATION

FIELD TEST LOCATION PLAN



Project Description and Address: Proposed Aldi Store 50 Northlake Boulevard and Coconut Boulevard Palm Beach Gardens, FL	Sheet	1
	Project 01.6065.23	Date April 9, 2025
Engineer of Record: James M. LaCava, PE License No. 73080		
Revisions:		
<small> Post Office Box 821 Palm Beach Gardens, FL 33466 Phone/Fax (813) 942-9065 Certificate of Authorization No. 30546 </small>		

SOIL PROFILE



Soil Profile Notes:

- The profiles depicted are of a generalized nature to highlight the major subsurface stratification features and material characteristics. The soil profiles include soil description, stratifications and penetration resistances. The stratifications shown on the boring profiles represent the conditions only at the actual boring location. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.
- Groundwater levels generally fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. In addition, a seasonal effect will also occur in which higher groundwater levels or temporary perched conditions are normally recorded in rainy seasons.
- SPT borings performed utilizing a safety hammer.

Granular Materials			Silts and Clays		
Relative Density	Safety Hammer SPT N-Value (Blow/Foot)	Automatic Hammer SPT N-Value (Blow/Foot)	Consistency	Safety Hammer SPT N-Value (Blow/Foot)	Automatic Hammer SPT N-Value (Blow/Foot)
Very Loose	Less than 4	Less than 3	Very Soft	Less than 2	Less than 1
Loose	4 - 10	3 - 8	Soft	2 - 4	1 - 3
Medium Dense	10 - 30	8 - 24	Firm	4 - 8	3 - 6
Dense	30 - 50	24 - 40	Stiff	8 - 15	6 - 12
Very Dense	Greater than 50	Greater than 40	Very Stiff	15 - 30	12 - 24
			Hard	Greater than 30	Greater than 24

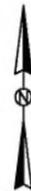


LEGEND

 Approximate Site Location

 Note: Yellow number indicates Web Soil Survey Map Unit

WEB SOIL SURVEY/TOPO MAP
 (PRODUCED BY THE NATIONAL COOPERATIVE SOIL SURVEY)



Revisions:

Project Description and Address:

Proposed Aldi Store 50
 Northlake Boulevard and Coconut Boulevard
 Palm Beach Gardens, FL

Engineer of Record:

James M. LaCava, PE
 License No. 73090

Project 01.6065.23

Date April 9, 2025

Scale Not To Scale

Sheet

3



Post Office Box 921
 Riverview, FL 33568
 Phone/Fax (813) 642-9666
 Certificate of Authorization No. 30346



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 6 feet
Boring # : B-1	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	2 / 3	8	Brown SAND to SAND With Silt (SP/SP-SM)	
	5 / 8			
	5 / 9			
5	11 / 10	20	Brown SAND to SAND With Silt (SP/SP-SM)	
	11 / 17			
10	17 / 10	34	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 15			
15	11 / 13	26	Brown SAND to SAND With Silt (SP/SP-SM)	
	8 / 10			
20	12 / 12	22	Brown SAND to SAND With Silt (SP/SP-SM)	
	12 / 12			
15		3	Brown SAND to SAND With Silt (SP/SP-SM)	
	3 / 1			
20		40	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	10 / 19			
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 6 feet
Boring # : B-2	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	3 / 3	7	Brown SAND to SAND With Silt (SP/SP-SM)	
	4 / 7			
	6 / 5	11	Brown SAND to SAND With Silt (SP/SP-SM)	
	6 / 10			
	8 / 14	32	Brown SAND to SAND With Silt (SP/SP-SM)	
	18 / 19			
	15 / 12	24	Brown SAND to SAND With Silt (SP/SP-SM)	
	12 / 13			
10	10 / 9	22	Brown SAND to SAND With Silt (SP/SP-SM)	
	13 / 9			
15	5 / 5	10	Brown SAND to SAND With Silt (SP/SP-SM)	
	5 / 5			
20	6 / 6	13	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	5 / 8			
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 7 feet
Boring # : B-3	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	3 / 3	7	Brown SAND to SAND With Silt (SP/SP-SM)	
	4 / 6			
	5 / 7	17	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 13			
	12 / 16	33	Brown SAND to SAND With Silt (SP/SP-SM)	
	17 / 18			
	13 / 10	22	Brown SAND to SAND With Silt (SP/SP-SM)	
	12 / 10			
10	13 / 10	22	Brown Silty SAND (SM)	
	12 / 10			
15	6 / 6	13	Brown SAND to SAND With Silt (SP/SP-SM)	
	6 / 7			
20	9 / 9	22	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	12 / 10			
25				

Notes:

Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 6.5 feet
Boring # : B-4	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	3 / 3	9	Brown SAND to SAND With Silt (SP/SP-SM)	
	6 / 7			
	6 / 8			
	10 / 13	18	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 15			
	15 / 23	30	Brown SAND to SAND With Silt (SP/SP-SM)	
	11 / 14			
	11 / 11	25	Brown Silty SAND (SM)	
	7 / 9			
10	11 / 10	20	Brown Silty SAND (SM)	
		2	Brown SAND to SAND With Silt (SP/SP-SM)	
15	1 / 1	32	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
		32	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
20	9 / 14			
	18 / 14			
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 6 feet
Boring # : B-5	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	2 / 2	5	Brown SAND to SAND With Silt (SP/SP-SM) with aggregate	
	3 / 5			
	6 / 8	17	Brown SAND to SAND With Silt (SP/SP-SM)	
	9 / 11			
	8 / 12	25	Brown SAND to SAND With Silt (SP/SP-SM)	
	13 / 13			
	9 / 9	14	Brown SAND to SAND With Silt (SP/SP-SM)	
	5 / 5			
10	3 / 4	9	Brown Silty SAND (SM)	
	5 / 6			
		7	Brown Silty SAND (SM)	
15		9	Brown Silty SAND (SM)	
		9	Brown Silty SAND (SM)	
20		9	Brown Silty SAND (SM)	
		9	Brown Silty SAND (SM)	
25		9	Brown Silty SAND (SM)	

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 6 feet
Boring # : B-6	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	2 / 3	7	Brown SAND to SAND With Silt (SP/SP-SM) with aggregate	
	4 / 5			
	6 / 7	16	Brown SAND to SAND With Silt (SP/SP-SM)	
	9 / 10			
	10 / 12	26	Brown SAND to SAND With Silt (SP/SP-SM)	
	14 / 15			
	9 / 12	25	Brown SAND to SAND With Silt (SP/SP-SM)	
	13 / 14			
10	5 / 5	12	Brown SAND to SAND With Silt (SP/SP-SM)	
	7 / 11			
		11	Brown Silty SAND (SM)	
15	3 / 3			
	5 / 6			
		9	Brown SAND to SAND With Silt (SP/SP-SM)	
20	4 / 4			
	3 / 6			
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-2-25	Date Completed: 4-2-25	Measured GWT : 6 feet
Boring # : B-7	Station :	Offset :	Date Measured: 4-2-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	3 / 3	7	Brown SAND to SAND With Silt (SP/SP-SM) with aggregate	
	4 / 5			
	5 / 7	16	Brown SAND to SAND With Silt (SP/SP-SM)	
	9 / 11			
	9 / 11	24	Brown SAND to SAND With Silt (SP/SP-SM)	
	13 / 15			
	10 / 11	25	Brown SAND to SAND With Silt (SP/SP-SM)	
	14 / 14			
10	6 / 7	17	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 11			
15	4 / 4	10	Brown Silty SAND (SM)	
	5 / 5			
20	5 / 5	13	Brown SAND to SAND With Silt (SP/SP-SM)	
	6 / 7			
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 2
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 6 feet
Boring # : B-8	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	3 / 3	7	Brown SAND to SAND With Silt (SP/SP-SM)	
	4 / 7			
	7 / 7	17	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 13			
	12 / 17	32	Brown SAND to SAND With Silt (SP/SP-SM)	
	15 / 16			
	8 / 10	17	Brown SAND to SAND With Silt (SP/SP-SM)	
	7 / 9			
10	10 / 10	21	Brown SAND to SAND With Silt (SP/SP-SM)	
	11 / 13			
15	3 / 3	8	Brown SAND to SAND With Silt (SP/SP-SM)	
	4 / 4			
20	5 / 5	7	Brown SAND to SAND With Silt (SP/SP-SM)	
	4 / 3			
25	12 / 12	27	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	12 / 15			

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm beach Gardens		Boring Sheet # : 2 OF 2
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 6 feet
Boring # : B-8	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
25		10	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
30		24	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
35		29	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
40		28	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
45		31	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
50				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 6.5 feet
Boring # : B-9	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	3 / 4	8	Brown SAND to SAND With Silt (SP/SP-SM) with aggregate	
	4 / 5			
	8 / 9	18	Brown SAND to SAND With Silt (SP/SP-SM)	
	9 / 8			
	15 / 20	37	Brown SAND to SAND With Silt (SP/SP-SM)	
	17 / 18			
	9 / 11	25	Brown SAND to SAND With Silt (SP/SP-SM)	
	14 / 10			
10	11 / 11	25	Brown SAND to SAND With Silt (SP/SP-SM)	
	14 / 12			
15	4 / 3	6	Brown SAND to SAND With Silt (SP/SP-SM)	
	3 / 3			
20	4 / 4	11	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	5 / 6			
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 2 feet
Boring # : P-1	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	7 / 10	26	Brown SAND to SAND With Silt (SP/SP-SM)	
	16 / 19			
	9 / 11	22	Brown SAND to SAND With Silt (SP/SP-SM)	
	11 / 14			
	6 / 3	6	Brown SAND to SAND With Silt (SP/SP-SM)	
	3 / 1			
	9 / 9	14	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 14			
10	8 / 10	23	Brown SAND to SAND With Silt (SP/SP-SM)	
	13 / 10			
15				
20				
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 2 feet
Boring # : P-2	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	1 / 1	2	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	1 / 2			
	3 / 4	12	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	8 / 9			
	6 / 6	16	Brown SAND to SAND With Silt (SP/SP-SM)	
	10 / 16			
	15 / 21	41	Brown SAND to SAND With Silt (SP/SP-SM)	
	20 / 20			
10	14 / 4	9	Brown SAND to SAND With Silt (SP/SP-SM)	
	5 / 6			
15				
20				
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 2 feet
Boring # : P-3	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	2 / 1	2	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	1 / 1			
	4 / 4	12	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments	
	8 / 10			
	7 / 6	20	Brown SAND to SAND With Silt (SP/SP-SM)	
	14 / 15			
	17 / 23	46	Brown SAND to SAND With Silt (SP/SP-SM)	
	23 / 16			
10	15 / 4	8	Brown SAND to SAND With Silt (SP/SP-SM)	
	4 / 6			
15				
20				
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 6 feet
Boring # : P-4	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes
0	2 / 3	6	Brown SAND to SAND With Silt (SP/SP-SM)	
	3 / 3			
	6 / 7			
	9 / 14	16	Brown SAND to SAND With Silt (SP/SP-SM)	
	11 / 18			
	16 / 16	34	Brown SAND to SAND With Silt (SP/SP-SM)	
	9 / 9			
	10 / 9	19	Brown SAND to SAND With Silt (SP/SP-SM)	
	11 / 10			
10	12 / 14	22	Brown SAND to SAND With Silt (SP/SP-SM)	
15				
20				
25				

Notes:



Project # : 01.6065.23		Project Name : ALDI Store 50 - Palm Beach Gardens		Boring Sheet # : 1 OF 1
Rig Type : ATV	Drilled By: J&R Precision	Date Started: 4-3-25	Date Completed: 4-3-25	Measured GWT : 2 feet
Boring # : P-5	Station :	Offset :	Date Measured: 4-3-25	
Offset From Original Location :		Casing Size & Length :	Stabilize Time : IMMEDIATE	
Remarks :		Hammer Type : Auto	Existing Ground Elevation :	

BORING LOG

Depth	Blows Per 6 Inches	N-Value	Soil Description	Notes																																												
0	1	3	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments																																													
	2					4	14	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments		8		5	22	Brown SAND to SAND With Silt (SP/SP-SM)		15		10	41	Brown SAND to SAND With Silt (SP/SP-SM)		19	10	10	11	Brown SAND to SAND With Silt (SP/SP-SM)		6							15						20						25	
	4	14	Brown SAND to SAND With Silt (SP/SP-SM) trace to with shell fragments																																													
	8					5	22	Brown SAND to SAND With Silt (SP/SP-SM)		15		10	41	Brown SAND to SAND With Silt (SP/SP-SM)		19	10	10	11	Brown SAND to SAND With Silt (SP/SP-SM)		6							15						20						25							
	5	22	Brown SAND to SAND With Silt (SP/SP-SM)																																													
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	10	41	Brown SAND to SAND With Silt (SP/SP-SM)																																													
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