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REPORT OF GEOTECHNICAL CONSULTING SERVICES

Wal★Mart SuperCenter Store No. 3873-00
SEC Interstate Highway 75 and U.S. Highway 441
City of Alachua, Alachua County, FL

UES Project No. 70080-077-06
UES Report No. 385573

Prepared for:

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April 30, 2005

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April 30, 2005

CPH Engineers, Inc.
500 West Fulton Street
Sanford, FL 32771

Attention: Maria C. Zapata, P.E.

Reference: **Report of Geotechnical Consulting Services**
Proposed Wal★Mart SuperCenter Store No. 3873-00
SEC Interstate Highway 75 and U.S. Highway 441
City of Alachua, Alachua County, Florida
UES Project No. 70080-077-06 UES Report No. 385573

Dear Ms. Zapata:

Universal Engineering Sciences, Inc. (UES) has completed the final geotechnical study for the above referenced site in the City of Alachua, Alachua County, Florida. The geotechnical exploration was conducted in general accordance with the Professional Services Subconsultant Agreement prepared by CPH Engineer on December 27, 2004 for the Final Geotechnical Evaluation. The geotechnical exploration program was performed in accordance with generally accepted soil and foundation engineering practices, and Wal★Mart's "Geotechnical Investigation Specifications and Report Requirements for Florida Projects" effective October 5, 2004.

This Report incorporates the findings of the final subsurface exploration program plus the findings of the preliminary exploration program as summarized in UES Report of Preliminary Geotechnical Consulting Services dated October 28, 2004. The information presented in this final Report supercedes our office's previous submittals for the referenced project.

This Report presents the results of our field and laboratory exploration programs, and provides recommendations for geotechnical site preparation, subgrade preparation, excavations, foundation design and construction, pavement design, retaining wall design, groundwater control, stormwater management system design, and other pertinent geotechnical concerns.

Respectfully submitted,

UNIVERSAL ENGINEERING SCIENCES, INC.

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UES Project No. 70080-077-06
UES Report No. 385573
Date: April 30, 2005

EXECUTIVE SUMMARY

This final Report incorporates the findings of the final subsurface exploration program plus the findings of the preliminary exploration program as summarized in UES Report of Preliminary Geotechnical Consulting Services dated October 28, 2004. The information presented in this final Report supercedes our office's previous submittals for the referenced project.

We have prepared this executive summary solely to provide a general overview. We recommend that you do not rely on this executive summary for any purpose except for which it was prepared. We recommend that you rely on the complete final geotechnical Report for information about findings, recommendations and other project-related concerns.

Project Location and Description

UES was provided a Conceptual Site Plan prepared by CPH Engineers, Inc. The drawing shows the proposed project as consisting of a Wal★Mart SuperCenter retail complex. The proposed project parcel is located adjacent to, and in the southeast quadrant of the intersection of, Interstate Highway 75 and U.S. 441 in the City of Alachua, Alachua County, Florida.

The proposed parcel lies within Sections 15 and 16, Township 8 South and Range 18 East, and covers approximately 31 acres. The parcel is undeveloped and historically has been used as agricultural pasture land.

The proposed parcel for the building, parking and stormwater management pond has approximate plan dimensions of about 1,000 feet by 1,300 feet. The main retail structure is shown to be single story, block construction with a gross plan area of approximately 183,347 square feet. Parcel access driveways and roadways will be sited to the east of the main project parcel.

The proposed project layout has the building complex located on the northern 1/3 portion of the main parcel, with the majority of the parking areas located in the central 1/3 of the same parcel, and the stormwater management pond located in the southern 1/3 of the parcel.

Based on the finished floor elevation and grading plan information provided to our office, it is anticipated that on the order of 2 to 20 feet of cut will be needed for building pad construction, as reflected by 13 out of 17 soil test borings, which suggests approximately 75% of the building footprint will require some degree of cut operations. The remaining building footprint will require on the order of 4 to 6 feet of fill placement.

Based on the finished pavement elevation and grading plan information provided to our office, it is anticipated that on the order of 2 to 23 feet of cut will be needed for proposed parking lot construction, as reflected by 46 out of 83 soil test borings, which suggests approximately 55% of the parking lot will require some degree of cut operations. The remaining portions of the parking lot will require on the order of 2 to 19 feet of fill placement.

Based on the finished pond elevation and grading plan information provided to our office, it is anticipated that on the order of 2 to 18 feet of cut will be needed for the retention pond construction, as reflected by 35 out of 37 soil test borings, which suggests approximately 95% of the retention pond will require some degree of cut operations during construction. The remaining portions of the retention pond will require on the order of 5 to 6 feet of fill placement.

Soil and Groundwater Condition

Groundwater levels were apparent and measured at only 12 soil test borings locations during the field exploration program. The groundwater level measurements ranged from about 3 to 23 feet below the existing site grades. Fluctuations in the measured groundwater level depths can most likely be attributed to topographic and soil compositional differences across the project site, and borehole disturbance associated with the soil drilling process. The potentiometric surface map of the upper Florida aquifer suggest groundwater elevations, outside perched zones, might be expected to be on the order of +40 feet NGVD in the general area of the project site.

Building Footprint - Generally a sand profile was encountered from ground surface to depths of 4 to 19 feet below the existing site grades. The upper 1 to 4 feet, with an average of about 2 feet, of the subsurface profile are primarily represented by relatively clean (percent fines of 10 or less) sands, and these are underlain by clayey to very clayey sands with thicknesses varying from 3 to 17 feet with an average of about 6 feet.

Underlaying the upper sands and clayey sands all the soil test borings encountered a sometimes sandy clay layer. The clay layer varied in thickness from 6 to 41 feet, with an average layer thickness of about 17 feet.

The clay zone was then found to be underlain by a clayey to slightly clayey sand varying in thickness from about 8 to 25 feet, with an average layer thickness of about 17 feet. The top of the limestone stratum was then encountered in 13 out of 17 soil test borings, representing about 76% of the test sites, at depths ranging from 27 to 57 feet, and with an average of about 39 feet, below the existing site grades. The limestone stratum was encountered continuous to the boring termination depths. Organic soils were not encountered in any of the soil test borings.

Stormwater Retention Pond - Generally a sand profile was encountered from ground surface to the boring termination depths, except where the top of the limestone stratum was encountered in the soil test borings. A total of 37 soil test borings were performed in this general area of the project parcel. In 35, or about 95% of those boring sites a relatively clean to slightly clayey sand layer was encountered from ground surface with a layer thickness range of 1 to 22 feet, and with an average layer thickness of approximately 6 feet.

Beneath the surficial sands, a clayey to slightly clayey sand zone was encountered with a thickness range of 6 to 40 feet, and with an average thickness of about 24 feet. This sand zone is characterized with laterally discontinuous clay lenses or seams found at various depths in the subsurface profile. The clay seams were found in 14, or about 38%, of the borings with thicknesses varying from 2 to 20 feet and average of about 7 feet.

The top of the limestone stratum was encountered in 21 out of 37 soil test borings, representing about 57% of the test sites, at depths ranging from 18 to 37 feet, and with an average of about 28 feet, below the existing site grades. The limestone stratum was encountered continuous to the boring termination depths. Organic soils were not encountered in any of the soil test borings.

Parking Lot - A total of 83 soil test borings were performed in this general area of the project parcel. Generally a sand profile, grading with increasing depth from relatively clean at ground surface to clayey to very clayey, was encountered overlying a sometimes sandy clay zone. In 45, or about 54%, of the borings the relatively clean surficial sand zone was found from ground surface with a layer thickness range of 1 to 8 feet, and with an average layer thickness of 2 feet.

In 82 out of 83 borings, the surficial sands were directly underlain by 3 to over 20 feet of clayey to very clayey sands. These clayey sands were sometimes encountered from ground surface, and were measured with an average layer depth of about 9 feet.

In 70, or about 84% of the soil test borings a sometimes sandy clay zone was encountered with a layer thickness range of 1 to 20 feet, and with an average layer thickness of approximately 8 feet. In one soil test boring the clay layer was encountered from ground surface.

Beneath the clay zone, a clayey to slightly clayey sand zone was encountered in 33, or about 40%, of the soil test borings with a thickness range of 1 to 12 feet, and with an average thickness of about 5 feet. Neither the limestone stratum nor organic soil layers were encountered in these soil test borings.

Groundwater Control

Groundwater levels and seasonal high groundwater levels will be significantly affected by the proposed construction and grading plans which will modify the surface and subsurface hydrology. Earthwork in both building and pavement areas is anticipated to encroach on the seasonal high water table. It may be necessary to provide a permanent subsurface drainage system for some improvements to maintain the recommended separation between the water table and various structural elements in the building and pavement areas.

Positive drainage measures should be established and maintained on the project site during construction and throughout the life of the project. Excavation dewatering may be required during site preparation and excavation activities during some phases of the proposed construction. Contract documents should provide for determining the depth to the groundwater table just prior to construction, and for any required remedial dewatering.

Geotechnical Site Preparation

Geotechnical site preparation on the subject parcel will consist of general site clearing and grubbing to remove the existing vegetation, organic topsoils, plant roots and other deleterious materials, followed by cut operations, proof-rolling, surface densification, and fill placement to construction grade with structural fill soils.

Foundation Design

Following completion of geotechnical site preparation activities and building pad construction, the proposed structure may be supported on conventional, shallow spread foundations designed with an allowable soil bearing pressure of 2,500 pounds per square foot (psf) provided the building pad preparation recommendations presented in this Report are followed. Foundation design and construction recommendations are also presented in this Report.

Pavement Design

Rigid and flexible pavement sections may be used on this project. The most readily available flexible pavement base material in Alachua County is crushed limerock. Pavements should be designed as a function of the anticipated traffic loadings. Flexible pavements should incorporate a stabilized subgrade, a base course, and a surface course. Rigid pavement sections should be used in areas subject to heavy truck traffic and impact loading. All pavement designs should incorporate the effects of groundwater, irrigated landscape areas, and construction traffic. Complete recommendations for both flexible and rigid pavements are presented in this Report.

Stormwater Retention Pond Design

Design recommendations for the proposed stormwater retention pond are presented in this Report. The subsurface conditions at the proposed stormwater management areas were evaluated in the field using standard penetration test borings. The soil profile encountered in the proposed retention pond area can be generalized as follows: 1 to 22 feet of relatively clean to slightly clayey sand layer (average layer thickness of approximately 6 feet), followed by a clayey to slightly clayey sand zone with a thickness range of 6 to 40 feet (average thickness of about 24 feet). This lower sand zone is characterized with laterally discontinuous clay lenses or seams found at various depths in the subsurface profile.

Groundwater levels were not apparent in any of the stormwater retention pond boreholes during the exploration work. Our best estimate for the pre-development wet season high groundwater level is approximately from the existing ground levels to 6 feet below ground surface. The results of the laboratory permeability tests on the surficial sands ranged from 1 to 9 feet per day indicating moderate infiltration characteristics.

Excavation Considerations

Geotechnical site preparation on the subject parcel will include significant cut and fill earthwork operations. Within the proposed building footprint, cut operations are anticipated to expose clayey to very clayey sand layers. Over-excavation of clayey soils may be recommended based on their engineering characteristics and/or seasonal groundwater and seepage considerations.

It also may be recommended to place an underdrain system along the toe of major cut areas up-slope of the building pad and pavement areas to intercept lateral seasonal seepage and stormwater runoffs that could affect performance of these improvements. Temporary groundwater control should be anticipated during certain excavation procedures. Typically, these measures are determined by the contractor but may consist of perimeter ditches and interior ditches, as necessary, which are graded to sumps so the groundwater can be pumped away from the excavated construction areas.

Within the proposed parking lot, cut operations are also anticipated to penetrate primarily clayey to very clayey sand layers. Excavations for retention pond construction are anticipated to yield mostly relatively clean to slightly clayey sands.

Suitability of the excavated soils will require further evaluation, however, as a rule the relatively clean sands should be appropriate for both structural fill and backfill purposes, where as the clayey to very clayey sands generally require more construction/compaction effort, are more sensitive to moisture content in the soil mass, and would require more attention from the Geotechnical Engineer during earthwork activities. Optimal use of the clayey sands might be found in the initial (deeper) fill lifts in both building footprint and parking lot areas. Appropriate compaction levels should be evaluated.

Due to the significant quantities of anticipated on-site excavated soils, and the cost impact associated with off-site fill soil sources, a comprehensive soils laboratory program will be warranted for the evaluation of soil engineering properties and applications suitability. These tests should be used to assess the following at a minimum: shrink/swell potential of clay and clay/sand soils; slope stability of planned cut banks including recommended slope inclinations and benching; and earth retaining structure design parameters. If needed, additional structural fill may be imported from local borrow pits.

1.0 INTRODUCTION

Universal Engineering Sciences, Inc. (UES) has completed various subsurface explorations for the above referenced site in Alachua, Alachua County, Florida. The geotechnical explorations were conducted in general accordance with the Professional Services Subconsultant Agreement prepared by CPH Engineer on December 27, 2004 for the Final Geotechnical Evaluation. The geotechnical exploration programs were performed in accordance with generally accepted soil and foundation engineering practices, and Wal★Mart's "Geotechnical Investigation Specifications and Report Requirements for Florida Projects" effective October 5, 2004.

This Report incorporates the findings of our recent subsurface exploration plus the findings of our previous explorations (Interim Preliminary Geotechnical Exploration Report dated October 20, 2004, and the Preliminary Geotechnical Exploration Report dated October 28, 2004) completed by UES. The information presented in this final Report supercedes our office's previous submittals for the referenced project.

2.0 PROJECT LOCATION AND DESCRIPTION

UES was provided a Conceptual Site Plan prepared by CPH Engineers, Inc. The drawing shows the proposed project as consisting of a Wal★Mart Supercenter retail complex. The proposed project parcel is located adjacent to, and in the southeast quadrant of, the intersection of Interstate Highway 75 and U.S. 441 in the City of Alachua, Alachua County, Florida.

The proposed parcel lies within Sections 15 and 16, Township 8 South and Range 18 East, and covers approximately 31 acres. The parcel is undeveloped and historically has been used as agricultural pasture land.

The proposed parcel for the building, parking and stormwater management pond has approximate plan dimensions of about 1,000 feet by 1,300 feet. The main retail structure is shown to be single story, block construction with a gross plan area of approximately 183,347 square feet. Parcel access driveways and roadways will be sited to the east of the main project parcel.

The proposed project layout has the building complex located on the northern 1/3 portion of the main parcel, with the majority of the parking areas located in the central 1/3 of the same parcel, and the stormwater management pond located in the southern 1/3 of the parcel.

2.1 Building

The proposed building finished floor elevation has been set at +118 feet MSL. Current ground surface elevations in this general area of the project parcel range from about +140 feet MSL (southwest end) to about +110 feet MSL (northeast end), with a fairly uniform downward slope to the north and northeast.

The above information suggests both cut and fill earthwork operations will be required for geotechnical site preparation and building pad construction. Based on the finished floor elevation and grading plan information provided to our office, it is anticipated that on the order of 2 to 20 feet of cut will be needed for building pad construction, as reflected by 13 out of 17 soil test borings, which suggests approximately 75% of the building footprint will require some degree of cut operations. The remaining building footprint will require on the order of 4 to 6 feet of fill placement.

2.2 Parking Lot

The proposed paved parking lot finished elevations will result in a downward slope (approximately 2.5%) to the north from elevation +117 feet MSL to elevation +107 feet MSL. Current ground surface elevations in this general area of the project parcel range from about +122 feet MSL (southwest end) to about +92 feet MSL (northeast end), with a fairly uniform downward slope to the north-northeast.

The above information suggests both cut and fill earthwork operations will be required for geotechnical site preparation and parking lot pavement construction. Based on the finished pavement elevation and grading plan information provided to our office, it is anticipated that on the order of 2 to 23 feet of cut will be needed for proposed parking lot construction, as reflected by 46 out of 83 soil test borings, which suggests approximately 55% of the parking lot will require some degree of cut operations. The remaining portions of the parking lot will require on the order of 2 to 19 feet of fill placement.

2.3 Stormwater Retention Pond

The proposed stormwater retention pond will have a bottom elevation of +77 feet MSL, with top of north bank elevation set at +88 feet MSL and a top of south bank elevation of +83 feet MSL. An earth retaining wall is proposed along the south side of the retention pond adjacent to the parking lot. Current ground surface elevations in this general area of the project parcel range from about +97 feet MSL (southwest end) to about +79 feet MSL (north end), with a fairly uniform downward slope to the north.

The above information suggests both cut and fill earthwork operations will be required for pond construction. Based on the finished pond elevation and grading plan information provided to our office, it is anticipated that on the order of 2 to 18 feet of cut will be needed for the retention pond construction, as reflected by 35 out of 37 soil test borings, which suggests approximately 95% of the retention pond will require some degree of cut operations during construction. The remaining portions of the retention pond will require on the order of 5 to 6 feet of fill placement.

We understand it would be desirable to reuse the excavated soils from the various project areas for general site grading purposes over other project areas..

2.4 Structural Loading Information

The proposed Wal★Mart SuperCenter will be a prototype C-176-SGR-OR, single story, high bay commercial structure. The retail store building will be constructed using a combination of concrete masonry shear walls (load-bearing and non-load-bearing), and steel columns supporting roof loads by means of steel joist girders and steel joists. Typical bay spacing between columns and walls is approximately 55 by 48 feet, with exterior columns spaced at about 48 feet apart. Typical gravity loads for interior columns are 85 kips with a maximum total loading under severe live load conditions of 150 kips.

Maximum column uplift force from wind is estimated at 30 kips. Typical gravity loads for exterior columns are 50 kips each. The concrete masonry wall gravity loads range from 1.5 to 2 kips per lineal foot for non-load bearing walls, and 4 to 6 kips per lineal foot for load bearing walls. The estimated maximum uniform floor slab live load is 125 pounds per square foot, and the estimated maximum concentrated floor slab load is 5 kips.

2.5 Pavement Design Information

Two types of pavement sections will be utilized on this project: standard duty pavement and heavy duty pavement. The standard duty pavement will have primarily car and pickup truck traffic which will exert equivalent 18 kip single axle loads (E_{18}SAL) of 109,500 over a 20-year design life. The heavy duty pavement section will have periodic heavy truck traffic exerting loadings of approximately 335,800 E_{18}SAL over the 20-year design life. Terminal serviceability, initial serviceability, and reliability for all pavement sections will be 2.0, 4.2 and 85%, respectively.

If any of the above information is incorrect or changes prior to construction, please contact Universal Engineering Sciences immediately so that we may revise the recommendations contained in this Report, as necessary. In order to verify that our recommendations are properly interpreted and implemented, Universal Engineering Sciences must be allowed to review the final design and specifications prior to the start of construction, and understand that this is part of the overall geotechnical contract.

3.0 SITE DESCRIPTION

3.1 General

The subject site is a proposed Wal★Mart Supercenter Store located in the city of Alachua at the Southern Quadrant of US HWY 441 and I-75 and lies within Sections 15 and 16, Township 8 South, Range 18 East in Alachua County, Florida.

The general location of the subject site is shown in the attached Site Location Map. The proposed Wal-mart site contains approximately 31 acres (Wal★Mart itself contains about 30 acres and the proposed gasoline station contains about 1 acre). The entrance roads contain approximately 5 acres.

UES engineering personnel visited the project parcel on several occasions prior to and during the performance of the field portion of this geotechnical study. The site is currently undeveloped. The parcel terrain was observed with a fairly uniform, downward slope from south to north. Most of the parcel is open pasture land with heavy grass cover. There are a number of trees, primarily concentrated along a natural shallow gully, found within the central portions of the parcel.

We did not observe evidence of shallow buried trash or debris or construction materials on the parcel. Fill soil conditions were not apparent. Surface soils were observed to be sands with fine roots, and with varying degrees of moisture content. We did not observe ponded surface water during our site visits except as noted below. The parcel is partially fenced.

The overall Wal★Mart site has a downward slope from south to north, from about +145 feet to +82 feet NGVD, and a natural ditch in the central section of the site ranging from about +150 feet to +110 feet NGVD. Ponded surface water was observed on the site at the time of our visit within the lateral limits of this natural ditch.

3.2 Soil Survey

The USDA Soil Survey of Alachua County, Florida describes the near-surface soil profile in the general project area as a mixture of Lochloosa fine sand with 2 to 8 percent slopes, Norfolk loamy fine sand with 2 to 8 percent slopes, Millhopper sand with 5 to 8 percent slopes, and Blichton sand with 2 to 5 percent slopes.

Lochloosa fine sand is characterized as gently sloping, somewhat poorly drained soils, with an estimated high water table in the range of 2.5 to 5 feet below ground under short-duration perched conditions.

Norfolk loamy fine sands are characterized as gentle sloping, well drained soils, with an estimated high water table in the range of 4 to 6 feet below ground under short-duration perched conditions.

Millhopper sand soils as sloping, moderately well drained soil, with an estimated high water table in the range of 3.5 to 6 feet below ground under short-duration perched conditions.

Blichton sand is characterized as gently sloping, poorly drained soils, with an estimated high water table in the range of 0 to 1 feet below ground under short-duration perched conditions.

Relevant engineering index properties of the sandy soils described above are summarized in Tables 1, 2, 3 and 4 on the following pages.

Table 1 - Engineering Index Properties of Lochloosa fine sand Soils

Depth (In)	Type	Classification	% Fines	Plasticity Index	Shrink-Swell Potential	Coef. of Perm., (In/Hr)	Risk of Corrosion	
							Steel	Concrete
0 - 31	Sand	SP-SM, SM A-3, A-2-4	8 to 20	NP	Low	2 to 20	High	High
31-35	Loamy Sand	SM, SM-SC A-2-4	18 to 30	NP to 6	Low	0.6 to 6	High	High
35-54	Sandy loam	SC, SM-SC A-2, A-4, A-6	25 to 40	5 to 18	Low	0.6 to 0.2	High	High
54-83	Sandy clay, sandy clay loam	SC	40 to 50	15 to 25	Low	0.06 to 0.2	High	High

Table 2 - Engineering Index Properties of Norfolk loamy fine sand Soils

Depth (In)	Type	Classification	% Fines	Plasticity Index	Shrink-Swell Potential	Coef. of Perm. (In/Hr)	Risk of Corrosion	
							Steel	Concrete
0 - 11	Loamy fine sand	SM A-2	13 to 30	Nonplastic	Low	2 to 20	Mod.	High
11- 46	Sandy loam, sandy clay loam	SC, SM-SC, CL, CL-ML A-2, A-4, A-6	30 to 55	4 to 15	Low	0.6 to 2	Mod.	High
46 - 75	Sandy clay, sandy clay loam	SC, SM-SC, Cl, CL-ML A-4, A-6, A-7-6	36 to 72	4 to 23	Low	<0.06 to 2	Mod.	High

Table 3 - Engineering Index Properties of Millhopper sand Soils

Depth (In)	Type	Classification	% Fines	Plasticity Index	Shrink-Swell Potential	Coef. of Perm. (In/Hr)	Risk of Corrosion	
							Steel	Concrete
0 - 58	Sand	SP-SM, SM A-3, A-2-4	5 to 20	Nonplastic	Low	6 to 20	Low	Moderate
58-64	Loamy Sand	SM A-2-4	15 to 22	Nonplastic	Low	2 to 6	Low	Moderate
64 - 89	Sandy loam, sandy clay loam	SM, SM-SC, SC A-2-4, A-4	18 to 40	NP to 10	Low	0.06 to 2	Low	Moderate

Table 4 - Engineering Index Properties of Blichton sand Soils

Depth (In)	Type	Classification	% Fines	Plasticity Index	Shrink-Swell Potential	Permeability (In/Hr)	Risk of Corrosion	
							Steel	Concrete
0 - 28	Sand	SP-SM, SM A-2-4, A-3	8 to 25	Nonplastic	Low	6 to 2	High	High
28- 62	Sandy clay loam	SC A-6	36 to 45	15 to 24	Low	0.06 to 0.6	High	High
62 - 80	Sandy clay loam, Sandy clay	SC A-2, A-6, A-7	30 to 50	11 to 24	Low	0.06 to 0.6	High	High

3.3 Regional Geology

The general geology of Alachua County is characterized by 30 to 50 feet of undifferentiated fine to medium grained sands and clayey sands of Holocene age (the last 10,000 years) overlying the Miocene age (circa 10 million years old) Hawthorn Formation.

The Hawthorn is approximately 100 feet thick and is comprised of interbedded layers of clay, clayey sand, sandy clay and phosphate carbonates. The underlying Tertiary age (circa 50 million years old) carbonates gently dip east under an increasing thickness of younger sediments. The general area of the proposed project parcel is characterized with unconsolidated and undifferentiated quartz sands near the surface, and karst (sinkhole) features such as collapse depressions, sinkholes, disappearing streams, springs, and mapped underground caves.

3.4 Topography

The natural topography of the proposed project parcel is best described as hilly. Current ground surface elevations in the southern one-third portion of the subject parcel range from about +140 feet MSL (southwest end) to about +110 feet MSL (northeast end), with a fairly uniform downward slope to the north and northeast.

Current ground surface elevations in the central one-third portion of the subject parcel range from about +122 feet MSL (southwest end) to about +92 feet MSL (northeast end), with a fairly uniform downward slope to the north-northeast.

Current ground surface elevations in the northern one-third portion of the subject parcel range from about +97 feet MSL (southwest end) to about +79 feet MSL (north end), with a fairly uniform downward slope to the north.

4.0 OBJECTIVE AND SCOPE OF SERVICES

4.1 Objective

The objectives of this geotechnical exploration were:

- to explore and evaluate the subsurface conditions at the subject site with special attention to potential geotechnical considerations that may impact the proposed design, construction, or serviceability of the proposed site improvements, and

- to provide geotechnical engineering recommendations for site preparation procedures, pavement and foundation design parameters, stormwater retention areas, gas station, and other pertinent geotechnical project concerns.

- Provide estimates for the high season ground water elevation.

This Report presents an evaluation of site conditions on the basis of traditional geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. UES previously performed a Phase I Environmental Assessment of the subject site and issued that report under a separate cover.

Our geotechnical exploration as presented in this Report was confined to the zone of soil likely to be stressed by the proposed construction after accounting for the significant cuts that will be performed to develop the site. Our work as summarized in this Report did not address the potential for surface expression of deep geological conditions, such as sinkhole development related to karst activity.

The proposed project parcel is located within a region in Florida that is characterized by karst topography, where the surface of the land has been shaped by faulting, fracturing and dissolution within the underlaying limestone bedrock. Karst related project parcel issues are addressed under separate cover.

4.2 Scope of Services

The preliminary services conducted by UES during the initial subsurface exploration program are documented on the Interim Report of Preliminary Geotechnical Exploration dated October 20, 2004, and the Report of Preliminary Geotechnical Consulting Services dated October 28, 2004, and are summarized as follows:

- Drilling of three (3) standard penetration test (SPT) borings in the area of the proposed Wal★Mart building footprint to maximum depths of 50 feet below the existing land surface.
- Drilling of four (4) standard penetration test (SPT) borings in the area of the proposed stormwater retention facility to depths of 40 feet below the existing land surface.
- Securing samples of representative soils encountered in the soil borings for examination, laboratory analysis and classification by members of UES geotechnical staff.
- Measuring the existing site groundwater levels at the boring locations and providing estimates of the wet season groundwater levels.
- Conducting laboratory tests on selected soil samples obtained in the field to evaluate their engineering properties.
- Assessing the existing soil conditions with respect to the proposed construction.
- Preparing Preliminary Reports which document the results of the preliminary subsurface exploration, discussions and engineering recommendations

The additional services conducted by UES during our recent subsurface exploration program are as follows:

- Drilling of seventeen (17) standard penetration test (SPT) soil borings in the area of the proposed Wal★Mart building footprint to maximum depths of 60 feet below the existing land surface.

- Drilling of four (4) standard penetration test (SPT) soil borings within the area of the proposed gasoline station to depths of 30 feet below the existing land surface.

- Drilling of thirty-seven (37) standard penetration test (SPT) soil borings within the area of the proposed stormwater retention facility to depths of 40 feet below the existing land surface.

- Drilling of eighty-three (83) standard penetration test (SPT) soil borings within the proposed parking lot and driveway areas to maximum depths of 25 feet below the existing land surface.

- Securing samples of representative soils encountered in the soil borings for examination, laboratory analysis and classification by members of UES geotechnical staff.

- Measuring the existing site groundwater levels at the boring locations and providing an estimate of the wet season groundwater levels.

- Conducting laboratory tests on selected soil samples obtained in the field to evaluate their engineering properties.

- Assessing the existing soil conditions with respect to the proposed construction.

- Preparing a Report which documents the results of our subsurface exploration and analysis with geotechnical engineering recommendations.

The site and planned construction are not located in a jurisdiction governed by International Building Code (IBC), and therefore the 100-foot deep test boring and IBC site classification were not performed as part of the subsurface exploration programs.

4.3 Limitations

This report is hereby certified to Wal-Mart Stores, Inc. and CPH Engineers, Inc. and its affiliates, successors and assigns. Accordingly, Wal-Mart has a right to rely on this report and all of the contents therein as though it were issued to Wal-Mart directly. This Report should aid the Architect/Engineer in the design of the proposed Wal★Mart SuperCenter Store No. 3873-00.

The scope is limited to the specific project and locations described herein. Our description of the project's design parameters represents our understanding of the significant aspects relevant to soil and foundation characteristics. In the event that any changes in the design or location or elevation of the structures as outlined in this Report are planned, we should be informed so the changes can be reviewed and the conclusions of this Report modified, if required, and approved in writing by Universal Engineering Sciences.

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

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

For a further description of the scope and limitations of this Report please review the document attached within Appendix G "Important Information About Your Geotechnical Engineering Report" prepared by the Association of Engineering Firms Practicing in the Geosciences.

5.0 FIELD EXPLORATION

5.1 General

The boring locations were field staked by UES and CPH engineering personnel. The approximate locations of the soil test borings are shown on the Boring Location Plans presented in Appendices B and C. Elevations of the existing ground surface adjacent to the boring locations were provided to our office and are shown on the individual Borings Logs included in the Appendices of this Report.

5.2 Standard Penetration Test Borings

As previously described in Section 4.0 above, and as shown on the Boring Location Plans in Appendices B and C, standard penetration test borings were advanced to maximum depths of 60 feet within the proposed building footprint, 30 feet within the proposed gas station area, 40 feet within the proposed stormwater retention pond area, and maximum of 25 feet within the proposed parking lot areas.

The standard penetration test borings were performed in general accordance with the procedures outlined in ASTM D-1586 (Standard Method for Penetration Test and Split-Barrel Sampling of Soils). In addition, continuous sampling was performed within the upper 10 feet of the subsurface profile at each soil test boring location.

The standard penetration test method involves driving a standard split-barrel sampler into the soil by dropping a 140-pound hammer, free falling 30 inches. The number of blows required to drive the sampler 1 foot, after an initial seating of 6 inches, is designated the standard penetration resistance, or N-value, an index to soil strength and consistency. This method is described on the Field Exploration Procedures included in the Appendices of this Report.

Recovered soil samples will be kept in our Gainesville facility and will be available for inspection for a period of 6 months in accordance with Wal★Mart requirements. At the end of 6 months we will discard these samples, unless we are instructed otherwise.

6.0 LABORATORY SOIL TESTING

Soil samples recovered from the soil test borings were returned to our Gainesville laboratory where an experienced Geotechnical Engineer visually examined and classified the samples, and reviewed the field stratifications. The soil samples were visually examined and classified in general accordance with the guidelines of ASTM D-2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System). Representative soil samples were then selected for testing in our laboratory. In all we performed the following tests:

- Fifty-seven (57) percent fines content determinations - ASTM Procedure D 1140, Amount of Material in Soils Finer than the #200 Sieve.
- Thirteen (13) Atterberg Limits tests - ASTM Procedure D 4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- Fifteen (15) Permeability tests - ASTM D-5084, Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.
- Four (4) Corrosion Series (pH) tests - FM5 -550 and FM5 -551.

Laboratory soil tests were performed to aid the Geotechnical Engineer with the soil descriptions, and to help evaluate the general engineering characteristics of the site soils. The laboratory data is presented on the Boring Logs at the approximate test sample depths, and is summarized in tabular format in Appendices E and F attached to this Report. The corrosion series tests and laboratory test procedures are also summarized in the Appendices. The quantity, and type of laboratory tests performed for the geotechnical exploration were determined and adjusted by UES based on the uniformity of the subsurface soil conditions encountered, and our experience and knowledge of local soil conditions.

7.0 SOIL STRATIGRAPHY

7.1 Generalized Subsurface Soil Profile

The results of our field exploration and laboratory analysis, together with pertinent information obtained from the standard penetration test borings, including penetration resistance values and stabilized groundwater levels, are shown on the Boring Logs included in Appendices B and C. The Key to Boring Logs is also included in the same Appendices.

The generalized subsurface soil profiles were prepared after the recovered soil samples were examined by our Geotechnical Engineer. Soil strata lines shown on the Boring Logs represent the approximate boundaries between soil types, and may not depict exact subsurface soil conditions. The actual soil boundaries may be more transitional than those depicted. Generalized subsurface soil profiles representing the soil conditions encountered at the soil test boring locations are presented in Appendix D.

7.2 Building Footprint

Twenty soil test borings were performed within the proposed building footprint. The standard penetration test (ASTM D-1586) was used to evaluate in-place relative density and collect soil samples. The soil test borings were advanced to maximum depths of 60 feet below ground surface, and the boreholes were grouted upon work completion.

The soil test borings encountered slightly clayey to very clayey sands (SM to SC) and sandy clays to clays (CL to CH) in the upper 27 to 57 feet of the subsurface profile. The sands are characterized with very loose to dense in-place relative densities. The clays are characterized with soft to very stiff in-place consistencies.

More specifically, a sand profile was encountered from ground surface to depths of 4 to 19 feet below the existing site grades. The upper 1 to 4 feet, with an average of about 2 feet, of the subsurface profile are primarily represented by relatively clean (percent fines of 10 or less) sands, and these are underlain by clayey to very clayey sands with thicknesses varying from 3 to 17 feet with an average of about 6 feet.

Underlaying the upper sands all the soil test borings encountered a sometimes sandy clay layer. The clay layer varied in thickness from 6 to 41 feet, with an average layer thickness of about 17 feet. The clay zone was then found to be underlain by a clayey to slightly clayey sand varying in thickness from about 8 to 25 feet, with an average layer thickness of about 17 feet.

The top of the limestone stratum was encountered in 16 out of 20 soil test boring locations at depths ranging from about 27 to 57 feet below ground surface, and with an average of about 39 feet. The limestone was generally encountered continuous to the boring termination depths, and can be characterized as moderately to well cemented. Organic soils were not encountered in these soil test borings.

The groundwater level was only apparent in one of the soil test borings and was measured at a depth of 20 feet below ground surface upon soil test boring work completion. Some of the boreholes were noted to have air releasing upward from the borehole once the limestone zone was approached or penetrated; this is indicative of a very porous rock matrix (perhaps cavernous) with significant confined, pressurized groundwater flow conditions.

7.3 Parking Lot

Eighty-three soil test borings were performed within the proposed at-grade parking and driveway project areas. The standard penetration test (ASTM D-1586) was used to evaluate in-place relative density and collect soil samples. The soil test borings were advanced to maximum depths of 25 feet below ground surface, and the boreholes were grouted upon work completion.

Generally a sand profile, grading with increasing depth from relatively clean at ground surface to clayey to very clayey, was encountered overlying a sometimes sandy clay zone. In 45, or about 54%, of the borings the relatively clean surficial sand zone was found from ground surface with a layer thickness range of 1 to 8 feet, and with an average layer thickness of 2 feet.

In 82 out of 83 borings, the surficial sands were directly underlain by 3 to over 20 feet of clayey to very clayey sands. These clayey sands were sometimes encountered from ground surface, and were measured with an average layer depth of about 9 feet.

In 70, or about 84% of the soil test borings a sometimes sandy clay zone was encountered with a layer thickness range of 1 to 20 feet, and with an average layer thickness of approximately 8 feet. In one soil test boring the clay layer was encountered from ground surface.

Beneath the clay zone, a clayey to slightly clayey sand zone was encountered in 33, or about 40%, of the soil test borings with a thickness range of 1 to 12 feet, and with an average thickness of about 5 feet. Neither the limestone stratum nor organic soil layers were encountered in these soil test borings.

The groundwater level was only apparent in 11 out of 83 of the soil test borings and was measured at a depths varying from about 3 to 23 feet below ground surface upon soil test boring work completion.

7.4 Stormwater Retention Pond

Forty-one soil test borings were performed within the proposed stormwater retention pond area. The standard penetration test (ASTM D-1586) was used to advance the borings and collect soil samples. The soil test borings were advanced to maximum depths of 40 feet below ground surface, and the boreholes were grouted upon work completion.

The soil test borings generally encountered a sand profile which varies from relatively clean (percent fines less than 10 or so) sand (SP), to slightly clayey to clayey sand (SM to SC). Laterally discontinuous sandy clay seams were encountered at various depths and with various thicknesses in the upper 40 feet of the subsurface profile in this portion of the site. The sandy profile is generally characterized with very loose to medium in-place relative densities.

More specifically, the sand profile was encountered from ground surface to the boring termination depths, except where the top of the limestone stratum was encountered in the soil test borings. A total of 37 soil test borings were performed in this general area of the project parcel. In 35, or about 95% of those boring sites a relatively clean to slightly clayey sand layer was encountered from ground surface with a layer thickness range of 1 to 22 feet, and with an average layer thickness of approximately 6 feet.

Beneath the surficial sands, a clayey to slightly clayey sand zone was encountered with a thickness range of 6 to 40 feet, and with an average thickness of about 24 feet. This sand zone is characterized with laterally discontinuous clay lenses or seams found at various depths in the subsurface profile. The clay seams were found in 14, or about 38%, of the borings with thicknesses varying from 2 to 20 feet and average of about 7 feet.

The top of the limestone stratum was encountered in 23 out of 41 soil test boring locations at depths ranging from about 18 to 39 feet below ground surface, and with an average of about 28 feet. Organic soils were not encountered in these soil test borings. Groundwater levels were not apparent in any of the stormwater retention pond boreholes during the exploration work.

7.5 Sinkhole Potential

The proposed project parcel is located within a region in Florida that is characterized by karst topography, where the surface of the land has been shaped by faulting, fracturing and dissolution within the underlying limestone bedrock.

The Mill Creel Sink Property consist of 8.8 acres of land lying on the north side of U.S. 441. Mill Creek Sink (previously known as the Alachua Sink) is located behind Sonny's BBQ on U.S. 441 east of I-75 and directly to the north of the proposed parcel. The Mill Creek Sink Property does not include any land on the high ground west of the sinkhole. The property is managed for diving, research, and education purposes.

The surface stream, Mill Creek and Townsend Branch, drains over 70 square miles north of Mill Creek Sink and is dissected by over ten sinkholes. Mill Creek goes completely underground north of the proposed project parcel. Mill Creek Sink is the only known window (or sinkhole) that allows access to the mapped underwater cave system. This general area has been documented with small short caves, solution pipes, and water-filled limestone sinkholes. A review of the United States Department of the Interior Geological Survey, High Springs Quadrangle sheet reveals the existence of a series of water filled sinkholes directly to the south and southwest of the proposed project parcel.

Based on current technology, there is no consistent method to predict sinkhole activity or to positively identify incipient sinkholes. Since the prediction is uncertain, the exploration programs attempt to locate and identify subsurface discontinuities, abnormalities, and other features in the bedrock and overlying sediments, as well as terrain, topographic, geologic, and hydrological research. Knowledge of the general geology of the area, coupled with geophysical techniques, physical site and structural features, and direct subsurface exploration, generally in the form of soil test borings, can provide a basis for assessment of "sinkhole activity". Karst related issues at the subject parcel are addressed in greater detail under separate cover.

7.6 Soil Corrosion Characteristics

According to the guidelines of the Florida Department of Transportation (FDOT) "Florida-Concrete Design, Environmental Classification and Construction Criteria" the results of the pH indicate the upper 15 feet of the subsurface soil profile may have a soil corrosion classification of "Extremely Aggressive" to steel and concrete (based on the three tier scale of slightly, moderately and extremely aggressive). The subsurface soil profile at depths of 20 feet and deeper may have a soil corrosion classification of "Moderately Aggressive" to steel and concrete.

The results of these tests are listed on the Report of Corrosion Parameters sheet enclosed with the laboratory test results in Appendix F.

Based on our review of the test results and past experience with similar soils, we recommend the use of Class IV concrete to counter the moderately aggressive corrosion potential. Further, adequate concrete cover must be provided for concrete substructures and protective galvanized coating is recommended for steel utility lines which extend below the seasonal high groundwater level. Accelerated corrosion conditions typically occur when below grade structures are in prolonged contact with groundwater, allowing the contact of corrosive compounds to the concrete and reinforcing steel.

8.0 GROUNDWATER CONDITIONS

8.1 Existing Groundwater Levels

Water levels were measured in some of the boreholes upon soil boring work completion, and it should be noted that the measurements may not reflect fully stabilized groundwater levels. The groundwater levels are shown on the attached Boring Logs. At the time the recent field exploration was conducted (January thru February 2005), the groundwater levels in the borings ranged from depths of about 3 feet 23 feet below existing grades. The variation of groundwater levels is attributed to topographic variations across the site, localized perched groundwater conditions, and insufficient time for stabilization in boreholes due to the presence of cohesive soils in the profiles.

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

The potentiometric surface map of the upper Floridan aquifer suggests groundwater elevations, outside perched zones, might be expected to be on the order of +40 feet NGVD in the general site area, which corresponds to depths of 40 to 100 feet below current ground surface elevations.

8.2 Typical Wet Season Groundwater Levels

The typical wet season groundwater level is defined as the highest groundwater level sustained for a period of 2 to 4 weeks during the "wet" season of the year, for existing site conditions, in a year with average normal rainfall amounts. Based on historical data, the rainy season in North Central Florida is normally between June and September and December and February. To estimate the wet season water level at the boring locations, many factors are considered, including the following:

a. Measured groundwater level
b. Drainage characteristics of existing soil types
c. Season of the year (wet/dry season)
d. Current & historical rainfall data (recent and year-to-date)
e. Natural relief points (such as lakes, rivers, swamp areas, etc.)
f. Man-made drainage systems (ditches, canals, etc.)
g. Distances to relief points and man-made drainage systems
h. On-site types of vegetation
i. Area topography (ground surface elevations)
j. Available Published Data

Based on site-specific information and factors listed above, we estimate that the pre-development wet season groundwater levels could range from approximately the existing ground levels to 6 feet below the existing site grades. Seasonal high groundwater levels will reflect transient perched groundwater conditions following periods of rainfall activity.

It should be noted that peak stage elevations immediately following various intense storm events, may be somewhat higher than the estimated typical wet season levels. Further, it should be understood that changes in the surface hydrology and subsurface drainage could have significant effects on the normal and seasonal high groundwater levels.

9.0 EVALUATION AND RECOMMENDATIONS

Our geotechnical engineering evaluation of the site and subsurface conditions with respect to the proposed construction, and our recommendations for site preparation and foundation design are based on (1) our site observations, (2) the collected field and laboratory data, and (3) our understanding of the project information and structural conditions as presented in this Report.

If the structural conditions or other project information is incorrect, please contact us so that we can review our recommendations. Also, the discovery of any site or subsurface conditions during construction which deviate from the data obtained during this geotechnical exploration should also be reported to us for further evaluation.

The recommendations presented in the subsequent sections of this Report present design and construction techniques which we consider appropriate for the planned construction. As part of the overall geotechnical contract, we recommend that UES be provided the opportunity to review the foundation plans and earthwork specifications to verify that our recommendations have been properly interpreted and incorporated into the design documents.

9.1 Foundation Design Recommendations

Based on the results of our exploration, we believe the subsurface conditions at the Wal★Mart Supercenter site are suitable for support of the proposed structure on a properly designed and constructed conventional shallow foundation system. Provided the site preparation and earthwork construction recommendations presented herein are implemented, the following parameters may be used for foundation design. The goal of the building pad earthwork shall be to create a uniformly compacted subgrade of non-expansive soil to a depth of at least 4 feet ***below the prevailing base of foundation elevation.***

9.1.1 Bearing Pressure

The maximum allowable soil bearing pressure for use in shallow foundation design should not exceed 2,500 psf. The foundations should be designed based on the maximum load which could be imposed by all loading conditions.

9.1.2 Foundation Size

The minimum width recommended for any isolated column or continuous wall footing is 24 and 18 inches, respectively. Even though the maximum allowable soil bearing pressure may not be fully achieved, this width recommendation should control the minimum size of the foundations.

9.1.3 Bearing Depth

The exterior foundations should bear at a depth of at least 18 inches below the finished exterior grades, and the interior foundations should bear at a depth of at least 18 inches below the finished floor elevation to provide confinement of the bearing level soils. We recommend stormwater and surface water run-off be diverted away from the building exterior, both during and after construction, to reduce the possibility of erosion beneath the exterior footings.

9.1.4 Bearing Material

The foundations and floor slabs may bear on either the compacted suitable natural sandy soils or compacted structural fill soils. The bearing level soils, after compaction, should be densified to at least 95 percent of the Modified Proctor maximum dry density (ASTM D 1557) to a depth of at least two feet below the base of the foundations. The bearing soils must also be firm and unyielding and should not "pump" under the action of the compaction equipment.

9.1.5 Settlement Estimates

Post-construction settlements of the structure will be influenced by several interrelated factors, such as (1) subsurface stratification and strength/compressibility characteristics of the bearing soils, (2) footing size, bearing level, applied loads, and resulting bearing pressures beneath the foundations, and (3) site preparation and earthwork construction techniques used by the contractor.

Our settlement estimates for the structure are based on the successful implementation of the site preparation/earthwork construction techniques recommended in this Report. Any deviation from these recommendations could result in an increase in the estimated post-construction settlements of the structure.

Using the recommended maximum bearing pressure, the indicated maximum structural loads, and the field and laboratory test data which we have correlated to geotechnical strength and compressibility characteristics of the subsurface soils, we estimate total settlements of the structure to be on the order of 3/4 inch. Without appropriate geotechnical site preparation procedures, total settlements could exceed our estimate. We expect a significant portion of the settlement to occur coincidental with, or shortly after, cut operations, fill placement, compaction operations and building dead load application.

Differential settlements result from differences in applied bearing pressures and variations in the compressibility characteristics of the subsurface soils. We anticipate differential settlements on the order of ½ inch or less for properly constructed building pads and shallow foundations. Differential settlements should be anticipated to occur over a lateral distance of 50 feet.

9.1.6 Ground Floor Slab

We understand that the proposed new free-standing Wal★Mart structure will utilize an exposed-concrete floor slab throughout the building footprint. The floor slab can be constructed as a slab-on-grade provided unsuitable material is removed and replaced with compacted clean structural fill with less than 10 percent fines. The floor slab can be designed using a subgrade reaction modulus of 150 pounds per cubic inch for well compacted fill soil.

The Wal★Mart geotechnical requirements prefer the use of a capillary break consisting of free-draining crushed aggregate. The specifications further allow the use of a plastic vapor barrier if justified by severe site conditions or if required by the local building code.

In addressing the requirements outlined in the Wal★Mart "Geotechnical Investigation Specifications and Report Requirement", the Florida Building Code (Revised 2003) requires the use of vapor barriers beneath floor slabs. Typically, polyethylene plastic sheets are used in Florida to reduce floor dampness and minimize moisture emissions through floor slabs. In conformance with the Florida Building Code, we recommend the use of a vapor barrier beneath the floor slab.

The vapor barrier should consist of a plastic sheet or membrane (10 MIL polyethylene) and care should be exercised during construction to prevent tearing or puncturing of the sheet prior to slab placement. The vapor barrier should be placed directly under the slab and underlain by 6 inches of compacted aggregate material to provide a permeable absorptive base beneath the slab.

The latest Wal★Mart geotechnical requirements for exposed floor slabs specify 2 inches of fine aggregate and 4 inches of coarse aggregate with specified gradation requirements. Based on the choices offered, we recommend the fine aggregate meet the gradation requirements of ASTM D-448, #10 with 6 to 12% material passing the #200 sieve and the coarse aggregate meet the requirements of ASTM D-448, #67.

9.1.7 Retaining Walls and Tire Lube Express (TLE) Service Pit

9.1.7.1 Cast-In-Place Walls

Assuming the retaining walls and the subsurface walls in the tire lube express (TLE) service pit will be smooth concrete, we recommend using the following parameters for the upper 3 to 5 feet of in-situ sands and/or on-site and imported free draining sand backfill soil compacted to 95 percent of the Modified Proctor test maximum dry density for your retaining wall design.

Rigid or unmoving structures should be designed to resist soil pressures developed in the "at-rest" condition. Where retaining structure are allowed to rotate or translate, the "active" and "passive" soil pressure conditions apply. The Table 5 values do not include a factor of safety and therefore, the designer should incorporate an appropriate factor of safety.

It should be noted that uplift and lateral hydrostatic pressures could be exerted on the structure during the time the groundwater level behind the walls is at peak levels due to natural or man-induced causes. We recommend that the hydrostatic effects of groundwater be considered as a part of the lateral earth pressure diagram. The hydrostatic pressures can result in net "uplift" conditions requiring the use of ballast or other anchorage to prevent displacement of the buried structures.

Retaining walls and subsurface walls should be provided with appropriate wall drains/underdrains to prevent water from accumulating and exerting excessive hydrostatic pressures. Also, retaining walls with adjacent sloping earth embankments or structural loadings may require special considerations.

TABLE 5
Lateral Earth Pressure Design Parameters (Level Backfill)

Design Parameter	Recommended Value
At-rest Earth Pressure Coefficient, K_o	0.50
* Minimum Equivalent Fluid Pressure, pcf	120
Active Earth Pressure Coefficient, K_a	0.33
Passive Earth Pressure Coefficient, K_p	3.0
Saturated Unit Weight of Soil , pcf	120
Submerged Unit Weight of Soil, pcf	50
Coefficient of Friction (sliding)	0.4
Angle of Internal Friction, ϕ	30 degrees

* Includes Hydrostatic Force

The above parameters apply to the surficial sandy soils or imported sand backfill with less than 5 percent soil fines, extending a minimum of 5 feet behind the retaining structure or equal to the wall height (whichever is greater). Variations of these values may occur within deeper site soils and other soil types imported for backfill purposes.

The equivalent fluid pressure noted above includes the hydrostatic pressure associated with the rise in the groundwater level due to seasonal high conditions; an estimated seasonal high groundwater table of 2.5 feet below existing grade in the general location of the TLE pit. Other factors, such as surcharge loads imposed by equipment, internal structures or vehicular traffic, may significantly increase lateral earth pressures. The equivalent fluid pressure recommended above does not include the effects of any surcharge loads.

9.1.7.2 Mechanically Stabilized Earth (MSE) Walls

If proprietary MSE walls are used in this project they should be backfilled in accordance with the manufacturer's recommendations. In the absence of specific requirements from the manufacturer or in the interest of local availability of materials, we recommend that the MSE backfill soils meet the requirements of Section 145 (Subsection 145-3.2) of the current FDOT "Standard Specifications for Road and Bridge Construction".

9.1.8 Excavation Recommendations

Excavations should be sloped as necessary to prevent slope failure and to allow backfilling. Based upon the soil types and conditions encountered during our subsurface investigation we recommend that all excavations less than 20 feet in depth follow OSHA regulations (Standards - 29 CFR) for maximum allowable slopes as summarized in Table 6.

Where lateral confinement will not permit slopes to be laid back, the excavation should be shored in accordance with OSHA requirements. During excavation, excavated material should not be stockpiled at the top of the slope within a horizontal distance equal to the excavation depth. Provisions for maintaining workman safety within excavations is the sole responsibility of the contractor.

TABLE 6 - OSHA MAXIMUM ALLOWABLE SLOPES

Soil or Rock Type	Typical Depth of Subsurface Profile	Maximum Allowable Slopes (H:V) (1) for Excavations Less Than 20 Feet Deep (3)
Stable Rock	35 to 50 feet	Vertical (90 Deg.)
Type A (2)	32 to 35 feet	3/4:1 (53 Deg.)
Type B	6 to 32 feet	1:1 (45 Deg.)
Type C	0 to 6 feet	1-1/2:1 (34 Deg.)

Footnote (1): Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.

Footnote (2): A short-term maximum allowable slope of 1/2:1 H:V (63 degrees) is allowable in excavations in Type A soil that are 12 feet (3.67 m) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4:1 H:V (53 degrees)

Footnote (3): Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer per OSHA design regulations.

9.1.9 Seismic Considerations

Universal Engineering Sciences reviewed the Standard Building Code (Section 1607) in regard to seismic considerations for the site. Per Figures 1607.1.5A and B, all of Florida falls below coefficient values of 0.05 g for both peak ground acceleration and peak velocity-related acceleration. Accordingly, the liquefaction potential of this site due to earthquake forces is negligible.

Per Table 1607.1.6, a typical Wal★Mart facility could be considered a Group II Seismic Hazard Exposure, due to potential occupancy of over 250. Based on the above, the Seismic Performance category for the structure is A per Table 1607.1.8.

Based on the soil stratigraphy disclosed by the soil borings performed, review of the published site geologic data, and per Table 1607.3.1, this property is assigned a Site Coefficient equal to 1.0.

9.2 Pavement Recommendations

9.2.1 General

Either rigid or flexible pavement sections may be used on this project. Flexible pavement combines the strength and durability of several layer components to produce an appropriate and cost-effective combination of available construction materials. Concrete pavement has the advantage of the ability to "bridge" over isolated soft areas, it requires less security lighting, and it typically has a longer service life than asphalt pavement. Disadvantages of rigid pavement include an initial higher cost and more difficult patching of distressed areas than occurs with flexible pavement.

Referencing the "Geotechnical Investigation Specifications and Report Requirements" as provided by Wal★Mart, the Minimum Pavement Surface Thickness is specified as follows:

A. Standard Duty
   Asphalt - 3 inches
   Concrete - 5 inches

B. Heavy Duty
   Asphalt - 4 inches
   Concrete - 6 inches

Within the following tables, we have provided our recommendations for pavement design based on the above minimum values and FDOT Pavement Design Guidelines (which are based on AASHTO methodology). We note however, that the recommended flexible pavement sections are generally thicker than those typically specified for similar traffic loading conditions. Certainly, no detriment will be realized in constructing the pavements with the thicker sections; however, we can provide alternative pavement recommendations based upon local experience with similar pavement conditions to those proposed and upon Florida Department of Transportation guidelines that will produce acceptable, durable pavements at a cost savings.

9.2.2 Asphalt (Flexible) Pavements

Standard duty pavement areas are defined as having car and pickup truck loading conditions. Heavy duty areas are defined as having delivery, storage, and garbage truck loading conditions along with service drives. Assuming:

1. The 12" of subgrade soils below the base course are compacted to 98 percent of Modified Proctor test maximum dry density (ASTM D 1557) with a design LBR value of 40 (after stabilization),

2. A 20-year design life,

3. Terminal serviceability index (P_t) of 2,

4. Reliability of 85 percent, standard deviation of 0.45,and total equivalent 18-kip single axle loads (E_{18}SAL) of 109,500,

5. An asphalt section that consists of two layers, a structural course and a separate wearing surface.

We recommend the design shown in the following Table 7 for a standard duty asphalt pavement.

TABLE 7
STANDARD DUTY ASPHALT/LIMEROCK PAVEMENT

Pavement Layer		Thickness	Minimum Requirements
Asphalt Wearing Surface	Type S-III (max 25% recycle)	1"	96% Laboratory Marshall Density, Mix to be approved by Universal.
Asphalt Structural Course	Type S-I (max 50% recycle)	2"	
Limerock		6 inch minimum	98% Modified Proctor test maximum dry density, Limerock Bearing Ratio (LBR) of at least 100.
Stabilized Subgrade		6 inch minimum	98% Modified Proctor test maximum dry density, Limerock Bearing Ratio (LBR) of 40.

Our recommendations for a heavy duty flexible asphalt pavement for total equivalent 18-kip single axle loads (E_{18}SAL) of 335,800 are shown in Table 8 below.

TABLE 8
HEAVY DUTY ASPHALT/LIMEROCK PAVEMENT

Pavement Layer		Thickness	Minimum Requirements
Asphalt Wearing Surface	Type S-III (max 25% recycle)	1½ "	96% Laboratory Marshall Density, Mix to be approved by Universal.
Asphalt Structural Course	Type S-I (max 50% recycle)	2½ "	
Limerock		6 inch minimum	98% Modified Proctor test maximum dry density, Limerock Bearing Ratio (LBR) of at least 100.
Stabilized Subgrade		6 inch minimum	98% Modified Proctor test maximum dry density, Limerock Bearing Ratio (LBR) of 40.

9.2.2.1 Stabilized Subgrade

We recommend that subgrade materials be compacted in place according to the requirements in the "Site Preparation" section of this report. Stabilize the subgrade materials to a minimum Limerock Bearing Ratio (LBR) of 40 percent as specified by FDOT requirements for Type B Stabilized Subgrade. The subgrade material should be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D 1557, AASHTO T-180) value. The 98 percent compaction requirement (as opposed to the 95 percent Wal★Mart requirement) is an FDOT Standard which results in a higher subgrade resilient modulus.

The single LBR test result indicates that some of the surficial in-situ sands may not meet the LBR requirements for a stabilized subgrade material. Additional LBR testing should be performed on representative in-situ and/or imported soil samples prior to reaching a final conclusion on subgrade material suitability. The stabilized subgrade can be a blend of existing soil and imported material such as crushed limerock. If a blend is proposed, we recommend that the contractor perform a mix design to find the optimum mix proportions.

Depending upon the soil type, the subgrade material from an off-site source may have sufficient stability to provide the needed support without additional stabilizing material. Generally sands with crushed limerock have sufficient stability and do not require additional stabilizing material. UES should observe the finished subgrade conditions to evaluate whether or not additional stabilization will be required prior to base course construction.

9.2.2.2 Base Course

We recommend the base course consist of locally available crushed limerock complying with the requirements of Section 911 and Section 200 of the current FDOT Standard Specifications for Roadway and Bridge Construction. The crushed limerock materials should have a minimum LBR of 100 percent and should be mined from an FDOT approved source. The crushed limerock should be placed using maximum 6-inch lifts, and each lift should be compacted to a minimum density of 98 percent of the Modified Proctor maximum dry density.

9.2.2.3 Wearing Surface

The wearing surface should consist of FDOT Type S asphaltic concrete having a minimum Marshall Stability of 1,800 lbs and a flow range of 0.07 to 0.12 inches. Specific requirements for Type S asphaltic concrete wearing surface are outlined in the current Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, 2004 Edition.

The asphaltic concrete should be placed in two layers. Specifically for regular duty areas, the lower binder course should consist of a minimum of 2 inches of FDOT Type S-1. The surface course should be a minimum of 1 inch of FDOT Type S-III. For heavy duty pavements, the binder should consist of a minimum of 2.5 inches of FDOT Type S-1 with a surface course consisting of a minimum 1.5 inches of FDOT Type S-III. The S-1 binder may contain up to 50 percent recycled asphaltic concrete while the S-III mix may contain up to 25 percent recycled asphaltic concrete.

After placement and field compaction, the wearing surface should be cored to evaluate material thickness and to perform laboratory densities. Cores should be obtained at frequencies of at least one core per 10,000 square feet of placed pavement or a minimum of two cores per day's production.

9.2.2.4 Curbing

We recommend that curbing around the landscaped sections adjacent to the parking lots and driveways be constructed with full-depth curb sections. Using extruded curb sections which lie directly on top of the final asphalt level, or eliminating the curbing entirely, can allow migration of irrigation water from the landscape areas to the interface between the asphalt and the base. This migration often causes separation of the wearing surface from the base and subsequent rippling and pavement deterioration. Topsoil placement behind curbs should be limited to 6 inches in vertical thickness within 5 feet of pavement structure. Alternatively, the landscape island could be equipped with underdrains manifolded to a common discharge point.

9.2.2.5 Landscape Areas

In the event, the landscape areas are constructed with poorly draining silty/clayey sands, we recommend that landscape drains be installed around the landscaped sections adjacent to the parking lots and driveways to protect the asphalt pavements from excess rainfall and over irrigation. Migration of irrigation water from the landscape areas to the interface between the asphalt and the base usually occurs unless landscape drains are installed. This migration often causes separation of the wearing surface from the base and subsequent rippling and pavement deterioration. The underdrains or strip drains should be routed to a positive outfall at the pavement area catch basins.

9.2.3 Concrete (Rigid) Pavements

Concrete pavement is a rigid pavement that transfers less wheel pressure to the subgrade soils than a flexible asphalt pavement. Current Wal★Mart specifications require the use of a base course and stabilized subgrade beneath concrete pavement. Our recommendations for the pavement system are presented below:

1. The stabilized subgrade materials should be a minimum of 4 inches thick, be free-draining, and have a minimum LBR value of 40.

2. The stabilized subgrade and base materials must be densified to at least 98 percent of Modified Proctor test maximum dry density (ASTM D 1557, AASHTO T180).

3. The base course should be a minimum of 4 inches thick, and the base materials should be free-draining and have a minimum LBR of 100. The surface of the base course must be level and any disturbances or wheel rutting corrected prior to placement of concrete.

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

5. The bottom of the pavement should be separated from the estimated typical wet season groundwater level by at least 18 inches.

6. Base and stabilized subgrade courses beneath concrete pavements shall have a minimum permeability (K) greater than or equal to 0.001 cm/sec. The free-draining subgrade material should be at least 12 inches thick and sloped to positive drainage outfall so that a "trapped" water or "bathtub" condition is avoided.

Our recommendations for a standard duty concrete pavement section are based on a modulus of subgrade reaction (k) equal to 150 pounds per cubic inch for clean native sands or imported fill soils compacted to a minimum density of 98 percent of the Modified Proctor maximum dry density according to ASTM D-1557. Our recommendations also consider a 20-year design life, a standard deviation of 4.5, and total equivalent 18-kip single axle loads (E_{18}SAL) of 109,500. We recommend using the design shown in Table 9 on the following page.

TABLE 9 STANDARD DUTY (UNREINFORCED) CONCRETE PAVEMENT		
Minimum Pavement Thickness	**Maximum Control Joint Spacing**	**Minimum Sawcut Depth**
5 Inches	10 Feet x 10 Feet	1¼ Inches

Our recommendations for concrete slab thickness for heavy duty concrete pavements for total equivalent 18-kip single axle loads (E_{18}SAL) of 335,800 are shown in Table 10 below.

TABLE 10 HEAVY DUTY (UNREINFORCED) CONCRETE PAVEMENT		
Minimum Pavement Thickness	**Maximum Control Joint Spacing**	**Minimum Sawcut Depth**
6 Inches	12 Feet x 12 Feet	1½ Inches

We recommend using concrete with a minimum 28-day flexural strength (modulus of rupture) of at least 650 pounds per square inch, based on three point loading of concrete beam test samples. We recommend the rigid pavements be constructed of un-reinforced Portland cement concrete providing a minimum 28-day compressive strength of 4,000 psi; Portland cement should be Type I.

Layout of the sawcut control joints should form square panels, and the depth of sawcut joints should be at least 1/4 of the concrete slab thickness. The saw cut joints should be constructed within six hours of concrete placement, or as soon as the concrete develops sufficient strength to support workers and equipment. We recommend allowing Universal to review and comment on the final concrete pavement design, including section and joint details (type of joints, joint spacing, etc.), prior to the start of construction.

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

9.2.4 Effects of Groundwater

One of the most critical influences on pavement performance in North Central Florida is the relationship between the pavement subgrade and the seasonal high groundwater level. Many roadways and parking areas have been damaged as a result of deterioration of the base and the base/surface course bond. We recommend that the seasonal high groundwater and the bottom of the crushed limerock base course be separated by at least 24 inches.

For concrete pavement the minimum separation may be reduced to 18 inches provided the compacted subgrade is "free-draining" material with positive outfall. The separation should be confirmed by reviewing the final site grading and paving plan. If the separation is not provided by grading and/or permanent surface drainage improvements, underdrains should be provided.

9.2.5 Construction Traffic

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

9.3 Site Preparation

We recommend normal, good practice site preparation procedures. These procedures include: stripping the site of existing vegetation and top soils, proof-rolling and compacting the subgrade, cut operations to grade, and filling to grade with compacted structural fill.

Geotechnical site preparation on the subject parcel will include significant cut and fill earthwork operations. Within the proposed building footprint, cut operations are anticipated to expose clayey sand and clay subgrade soils. Over-excavation of clayey sand soils may be recommended based on their engineering characteristics and/or seasonal groundwater and seepage considerations. Over-excavation of clay soils is recommended.

It also may be recommended to place an underdrain system along the toe of major cut areas up-slope of the building pad and pavement areas to intercept lateral seasonal seepage and stormwater runoffs that could affect performance of these improvements.

Within the proposed parking lot areas, cut operations are anticipated to expose subgrade soils consisting primarily of clayey sands and clay layers. Over-excavation of such clayey sand and clay soils is recommended.

Excavations for retention pond construction are anticipated to yield primarily a mixture of relatively clean sands, slightly clayey sands, and clayey sands. The excavation work may intercept laterally discontinuous clay seams.

Suitability of the excavated soils will require further evaluation, however, as a rule the relatively clean sands should be appropriate for both structural fill and backfill purposes, where as the clayey to very clayey sands generally require more construction/compaction effort, are more sensitive to moisture content in the soil mass, and would require more attention from the Geotechnical Engineer during earthwork activities. Optimal use of the clayey sands might be found in the initial (deeper) fill lifts in both building footprint and parking lot areas. Appropriate compaction levels should be evaluated.

Due to the nature of pinnacled limestone in the area and the differential depth to limestone found in the borings conducted, limestone and in particular hard limestone could be encountered in the deeper cuts. If so, localized blasting and undercutting of the limestone below finished grades could be required to achieved a relatively uniform foundation building pad.

More specifically, we recommend the following:

1. Prior to construction, the location of any existing underground utility lines within the construction area should be established. Provisions should be made to relocate interfering utilities to appropriate locations. It should be noted that if underground pipes and septic systems are not properly removed or plugged, they may serve as conduits for subsurface erosion which may subsequently lead to excessive settlement of overlying structures.

2. The shallow groundwater level was encountered from about 3 to 23 feet below the existing site grades. Pre-development seasonal high groundwater levels are anticipated to occur in the range from the existing ground levels to 6 feet below the existing site grades. Groundwater control measures may be required during site stripping, and site cut operations. If required, shallow groundwater control can probably be achieved by pumping from sumps located in perimeter ditches or pits. All sump pumps should be located outside the bearing areas to avoid loosening of the fine sandy bearing soils. For deeper excavations where sustained, positive groundwater control is needed, a system of fully sanded vacuum well points may be required. The groundwater level should be maintained at least two feet below the bottom of any excavations during construction, and two feet below the surface of any vibratory compaction operations.

3. Strip the proposed construction limits of all vegetation, roots, topsoil, and other deleterious materials within and 10 feet beyond the perimeter of the proposed building and paved areas. Expect clearing and grubbing to an average depth of 6 to 12 inches in most areas. Some areas may require more than a foot of stripping or undercutting to remove the root systems of large trees. Any unsuitable material not encountered in the soil test borings should be removed during site clearing and grubbing operations.

4. Cut the various project areas to rough subgrade elevations. A minimum separation of 4 feet should be provided between the prevailing foundation system bearing elevations and the underlying natural clay soils. This may require undercutting to more than 6 feet below finished floor elevations in some areas of the pad. Selective undercutting should be performed under the direction of the geotechnical engineer. A minimum separation of 2 feet should be provided between the bottom of base course in pavement areas and the underlying natural clay soils.

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

If difficult compaction conditions are encountered during the site work operations, the compaction efforts should stop and the UES geotechnical engineer should be contacted. The Geotechnical Engineer should observe proof-rolling of the exposed subgrade to determine if additional compaction is warranted or if any material needs to be over-excavated and replaced.

6. After stripping and proof-rolling operations are completed, the exposed surface soils in the building construction area should be compacted with a vibratory drum roller having a minimum static, at-drum weight of 20 tons. We recommend no less than eight overlapping passes, in 2 perpendicular directions, be completed with the vibratory roller while it operates at its maximum vibrational frequency and a travel speed of not more than 2 mph. Typically, the material should exhibit moisture contents within ± 2 percent of the Modified Proctor optimum moisture content (ASTM D 1557) during the compaction operations. Compaction should continue until densities of at least 95 percent of the Modified Proctor maximum dry density (ASTM D 1557) have been uniformly achieved within the upper 12 inches of the compacted soil surface.

   Should the surface soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting or (3) the area de-watered and the soils dried.

7. Test the subgrade for compaction at a frequency of not less than one test per 2,500 square feet in the building area and one test per 10,000 square feet in pavement areas.

8. Place fill material, as required. The fill should consist of sand with less than 10 percent soil fines. Place fill uniformly with loose lift thicknesses not exceeding 12 inches, and compact each lift to a minimum density of at least 95 percent of the Modified Proctor maximum dry density. The last 12 inches of subgrade fill beneath the flexible pavement parking areas should be compacted to 98 percent of the Modified Proctor maximum dry density. Stabilize this subgrade zone with limerock as necessary to obtain a minimum LBR of 40.

9. Perform compliance tests within the fill at a frequency of not less than one test per 2,500 square feet per lift in the building areas. In paved areas, perform compliance tests at a frequency of not less than one test per 10,000 square feet per lift.

10. Test the bottom of all footing excavations for compaction to a depth of 1 foot below bearing level. We recommend testing of every column footing, and conduct one test for every 100 lineal feet of wall footing.

11. If site preparation work is performed during the rainy season, special care should be taken to maintain positive drainage from the building pad and paved areas to drains or ditches around the site. Unexpected wet periods can also occur in Florida during the "dry" season. Such events can raise water tables to levels above seasonal highs without the associated high temperatures to evaporate ponded water. Therefore, the contractor should practice wet weather means and methods for earthwork during the "dry" season as well. Groundwater and surface water control, use of granular fill material and aeration are the normal means to accommodate wet weather construction. All fill materials that are excavated from below the water table should be stockpiled for a sufficiently long period to allow drainage.

9.4 Groundwater Control

The groundwater table will fluctuate seasonally depending upon local rainfall. The rainy seasons in North Central Florida is normally between June to September and December to February. Estimates of the pre-development seasonal high groundwater levels are provided in previous sections of this report.

It should be noted that the estimated seasonal high groundwater levels do not provide any assurance that groundwater levels will not exceed these estimated levels during any given year in the future. Should impediments to surface water drainage exist on the site, or should rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, groundwater levels may exceed the seasonal high estimates. We recommend positive drainage be established and maintained on the site during construction. We further recommend permanent measures be constructed to maintain positive drainage from the site throughout the life of the project. All foundation designs, pavement designs, and stormwater retention designs should consider of the seasonal high groundwater conditions.

Due to the anticipated high groundwater conditions, temporary dewatering may be required at this site if construction proceeds during the wet season, particularly for the installation of underground utility structures and below grade structures such as truck loading docks, TLE pit, etc. We recommend that the contract documents provide for determining the depth to groundwater just prior to construction, and for any remedial dewatering which may be required. Further, we recommend that the groundwater table be maintained at least 24 inches below all earthwork and compaction surfaces during construction.

9.5 Weather Considerations

As noted in the previous section, the rainy seasons in North Central Florida normally occur between the months of June through September and December through February, with the potential for additional heavy rainfall continuing through the end of the hurricane season in November. During this period, frequent afternoon thunderstorms are likely, with short periods of intense rainfall.

The groundwater level typically rises to the estimated perched seasonal high level during the latter part of the rainy season, and earthwork extending below the perched seasonal high groundwater levels will require temporary dewatering measures. Further, the short periods of intense rainfall can saturate surface soils, leading to instability during compaction and placement.

Where the subgrade soils become saturated and unstable due to rainfall, the contractor should be prepared to windrow and aerate the subgrade soils to promote drying. In cases of extreme saturation, temporary dewatering or over-excavation and replacement of saturated soils may be required. In contrast, if construction proceeds during the drier portions of the year (December through May), additional applications of water may be required to maintain soil moisture contents in the optimum range during compaction activities. During dry periods, the contractor should be prepared with sufficient equipment (water trucks, tanker or hydrant meters) to adequately wet the subgrade soils to maintain the appropriate moisture contents.

To minimize the potential for moisture related instability during compaction of imported fill soils, we recommend that fill soils to be used on the subject site contain less than 5 percent material passing the No. 200 sieve. Materials with soil fines contents up to 10 percent or so may also be used; however, these soils may require stricter moisture control measures during stockpiling, placement, and compaction.

9.6 Stormwater Retention Pond

9.6.1 General

The subsurface conditions at the proposed stormwater management areas were evaluated in the field using standard penetration test borings. The soil profile encountered in the proposed retention pond area can be generalized as follows: 1 to 22 feet of relatively clean to slightly clayey sand layer (average layer thickness of approximately 6 feet), followed by a clayey to slightly clayey sand zone with a thickness range of 6 to 40 feet (average thickness of about 24 feet). This lower sand zone is characterized with laterally discontinuous clay lenses or seams found at various depths in the subsurface profile.

Groundwater levels were not apparent in any of the stormwater retention pond boreholes during the exploration work. The results of the field exploration programs suggest groundwater levels in the proposed stormwater retention pond area will be at depths greater than 35 feet below site grade, outside perched groundwater areas. The results of the laboratory permeability tests on the surficial sands ranged from 1 to 9 feet per day indicating moderate infiltration characteristics.

The coefficients of permeability from the laboratory test and those shown on the Soil Survey are intended to provide an indication of the soil's drainage characteristics. The actual exfiltration rate may vary due to pond geometry, retention volume, soil stratification and groundwater mounding effects.

The USDA Soil Survey of Alachua County, Florida describes the near-surface soil profile in the proposed retention pond area (north end of site) as Norfolk loamy fine sand with 2 to 8 percent slopes. Norfolk soils are characterized as sloping, well drained soils. The Norfolk loamy fine sand soils have an estimated high water table in the range of 4 to 6 feet below ground. It should be noted that the impact that the near-surface soils may have on retention pond design and performance will be directly related to the finished pond elevations.

It should be noted that estimated seasonal high groundwater levels are not a guarantee that groundwater levels will not exceed these estimated levels during any given year in the future. Should impediments or enhancements to surface water drainage exist on the site or adjacent off-site, or should rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, localized groundwater levels may exceed seasonal high estimates.

9.6.2 Groundwater Levels

As discussed in the preceding Groundwater Control section of this Report, the groundwater table can be expected to fluctuate seasonally depending upon local rainfall, with the groundwater levels rising to the normal peak near the end of the rainy season that normally occurs between June and September. Based upon our review of the soil and groundwater conditions encountered during the field investigation, Soil Survey data, and regional hydrogeology, our best estimate for the pre-development seasonal high groundwater table at the boring locations performed in the stormwater management area is from the existing ground levels to 6 feet below the existing site grades.

It should be noted that the estimated seasonal high groundwater levels do not provide any assurance that groundwater levels will not exceed these estimated levels during any given year in the future. Should impediments or enhancements to surface water drainage exist on the site or adjacent off-site, or should rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, localized groundwater levels may exceed seasonal high estimates. We recommend positive drainage be established and maintained on the site during construction and that permanent measures be constructed to maintain positive drainage from the site throughout the life of the project. We also recommend that all stormwater retention analyses incorporate consideration of the seasonal high groundwater conditions.

Based on our local project and general site area knowledge, the anticipated pre-development wet season water table levels, and the presence of relatively shallow groundwater conditions , we recommend that a wet stormwater retention pond be considered for this project. Temporary dewatering will likely be required during the excavation of the stormwater management areas.

9.6.3 Borrow Fill Suitability

Based on the results of the subsurface exploration programs completed for the subject project, it is our professional opinion that a significant portion of the subsurface soils encountered within the proposed stormwater retention pond area would be classified as belonging to either Group "A" or Group "B" or Group "C" soils. This section explains the applicability/purpose of fill reuse of the different soil types encountered. Presented in the following paragraphs are our recommendations concerning the suitability of the soils encountered for use as structural fill.

Group "A": These soils consist of clean sands which have less than 5 percent soil fines. Group "A" soils are the most desirable for use as engineered fill because they drain freely when excavated from beneath the groundwater table, and are not as susceptible to moisture related instability.

Group "B": These soils consist of sand with silt or sand with clay which contain between 5 and 12 percent soil fines. Group "B" soils are good sources of engineered fill, but require some extra care during placement and compaction. The moisture content of these soils should not be higher than the optimum during placement and compaction in order to reduce the potential for moisture related instability. These soils drain fairly well, but may require some stockpiling and aeration time if allowed to become saturated during earthwork activities.

Group "C": These soils consist of silty and clayey sands which contain 12 to 20 percent soil fines. Group "C" soils are more difficult to use because they are more moisture sensitive. The moisture content of these soils should be maintained below the optimum moisture content in order to help mitigate the potential for moisture-related instability during placement and compaction. If these materials are successfully placed and compacted, they should be graded to shed water from the site and prevent ponding, both during and after construction. If water ponds atop these soils, previously compacted soils can become overly wet and lose stability. Caution should be used when placing these soils during the rainy season and the contractor should be prepared to aerate and dry, and/or excavate and replace these soils when moisture contents exceed the optimum levels.

Group "D": These soils consist of silty and clayey sands and clays which have greater than 20 percent soil fines. These soils are not recommended for use as engineered fill because they will be too difficult to practically dry and work. During the rainy season it is virtually impossible to obtain stable compaction of these soils.

9.6.3.1 Additional Steps for Use of Group C and D Soils

We understand that the economics of the site development tends to force contractors and developers to use soils with higher fines content such as Group C and some Group D soils for fill material. In consideration of this we offer the following discussion.

It is possible to use Groups C and D soils as fill material. However, due to the frequent rains, the high moisture content of these soils when excavated from below the water table, as these will be, unfamiliarity with these soils, and the time constraints placed on most construction projects, it is sometimes more practical to over-excavate borrow areas where more suitable soils are encountered, or use more suitable imported fill material. In order to use Group "D" and some Group "C" a prospective contractor should be prepared to incorporate the following steps:

1. Dewater the borrow area, prior excavation of the soils so they may be excavated in a dry manner.

2. Aerate the soils until they are at their optimum moisture content, as determined by laboratory testing, prior to placement and compaction.

3. Place and compact the soils in 6-inch thick loose lifts using only static compaction. A sheepsfoot or a raised pad roller can be useful for this purpose.

4. Work in small areas that are graded to shed water and avoid ponding. Positive drainage must be maintained both during and after construction in order to get rainwater off the compacted fill area as quickly as possible.

5. Disc and aerate areas that are subjected to rainfall or otherwise become wet. Do not leave these soils exposed to the elements for long periods as soils that have already been compacted may become wet and unstable. Protect the fill soil each night and before rain by mounding the soil and smooth-rolling the surface to allow water to shed off to reduce the amount of water infiltration.

6. Do not place lifts of Group "A" or "B" soils on top of Group "C" and "D" soils for final grade. This will provide a medium for a "perched" groundwater table to occur, which may result in pavement and/or landscape area saturation.

It is our experience that implementation of the above steps, which we are imperative for successful placement and compaction of these soils, can become difficult and expensive for site work contractors, and must be considered during the bidding process. Consequently, we recommend that the construction documents include information advising prospective site work contractors of the soils present on the site.

9.7 Sewer and Utility Lines

9.7.1 General

Sands and slightly clayey sands should be suitable for support of the planned utility lines and for reuse as backfill.

The slightly clayey sands, when excavated from below the water table, may require spreading and drying prior to reuse to achieve a moisture content sufficient to obtain the recommended degree of compaction. However, the clayey to very clayey sands and clays (SC,CL and CH) are not suitable for structural fill use, and should be removed and replaced with compacted structural fill to a depth of two feet below the invert of any conduit.

9.7.2 Trench Excavation and Backfill Recommendations

The following are our recommendations for construction of the project's buried utility lines.

1. If dictated by site conditions at the time of construction and/or deemed necessary by the contractor, install a dewatering system capable of maintaining the groundwater level at least 3 feet below the anticipated bottom of conduit.

2. After excavation to design invert elevations, the in-situ bedding soils should be compacted to at least 95 percent of the Modified Proctor test maximum dry density (ASTM D 1557) to a depth of 12 inches below the bedding level. Compaction in confined areas can probably be achieved using jumping jacks or light weight walk-behind vibratory sleds and/or rollers.

3. After installing the conduits, backfill with suitable sand fill placed in 4 to 6 inch loose lifts. Starting 12 inches above the top of the conduit, the lifts should be compacted to at least 95 percent of the Modified Proctor test maximum dry density (ASTM D 1557). Beneath pavement areas, the top 12 inches of backfill should be compacted to at least 98 percent.

4. If difficult compaction operations are encountered beneath the utilities due to excessive fines and/or wet conditions, saturated soils may be overexcavated and replaced with FDOT No. 57 stone.

5. Excavation work will be required to meet OSHA Excavation Standard Subpart P regulations, Type C Soils. Either a trench box, braced sheet pile structure or an excavation with temporary side slopes cut back at 1.5:1 (H:V) can be implemented. The 1.5:1 side slope is contingent upon the dewatering system adequately controlling slope seepage. Sheet piling should be designed according to OSHA sheeting and bracing requirements. We recommend a Florida registered Professional Engineer design any required sheeting/bracing system.

6. Backfill above and around thrust blocks should consist of clean fine sands (SP) compacted at least 98 percent of Modified Proctor maximum dry density (ASTM D 1557). For a design criteria, we recommend using an allowable passive earth pressure coefficient of K_p=3.0.

9.8 Additional Considerations

Based on the limited borings performed, the soil conditions encountered beneath the gasoline station lot area were similar to those found across the Wal★Mart site. Therefore, in general, the recommendations contained in this Report should be suitable for planning, design and construction on the out parcel.

9.9 Construction Related Services

We recommend that the owner retain Universal Engineering Sciences to perform construction materials tests and observations on this project. Field tests and observations include verification of foundation and pavement subgrades by monitoring proof-rolling operations, undercutting of potential shrink/swell clays beneath building and pavement areas, and performing quality assurance tests on the placement of compacted structural fill and pavement courses. The geotechnical engineering design does not end with the advertisement of the construction documents. The design is an on-going process throughout construction. Because of our familiarity with the site conditions and the intent of the engineering design, we are most qualified to address problems that might arise during construction in a timely and cost-effective manner.

10.0 LIMITATIONS

During the early stages of most construction projects, all pertinent geotechnical issues may not be fully addressed in the geotechnical report document. Because of the natural limitations inherent in working with the subsurface, it is not possible for a geotechnical engineer to predict and address all possible problems. An Association of Engineering Firms Practicing in the Geosciences (ASFE) publication, "Important Information About Your Geotechnical Engineering Report" appears in Appendix G, and will help explain the nature of geotechnical issues.

Further, we present documents in Appendix G: Constraints and Restrictions, to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

11.0 CLOSURE

Our interpretation of the site soil and groundwater conditions is based on our general knowledge of the area, subsurface borings performed and laboratory analysis conducted. UES did not identify any geotechnical considerations that will significantly impact the planned building or parking areas at the site, as we currently understand it, using conventional construction practices. Standard methods of surficial stripping, excavation, proof rolling, compaction and backfilling should adequately prepare the site. This Report has been prepared for the exclusive use of Wal-Mart Stores, Inc., and CPH Engineers, Inc., and their respective successors and assigns.

APPENDIX A

Site Location Map

Note: United States Geological Survey Topographic Map, Alachua, Alachua County.

UNIVERSAL
ENGINEERING SCIENCES

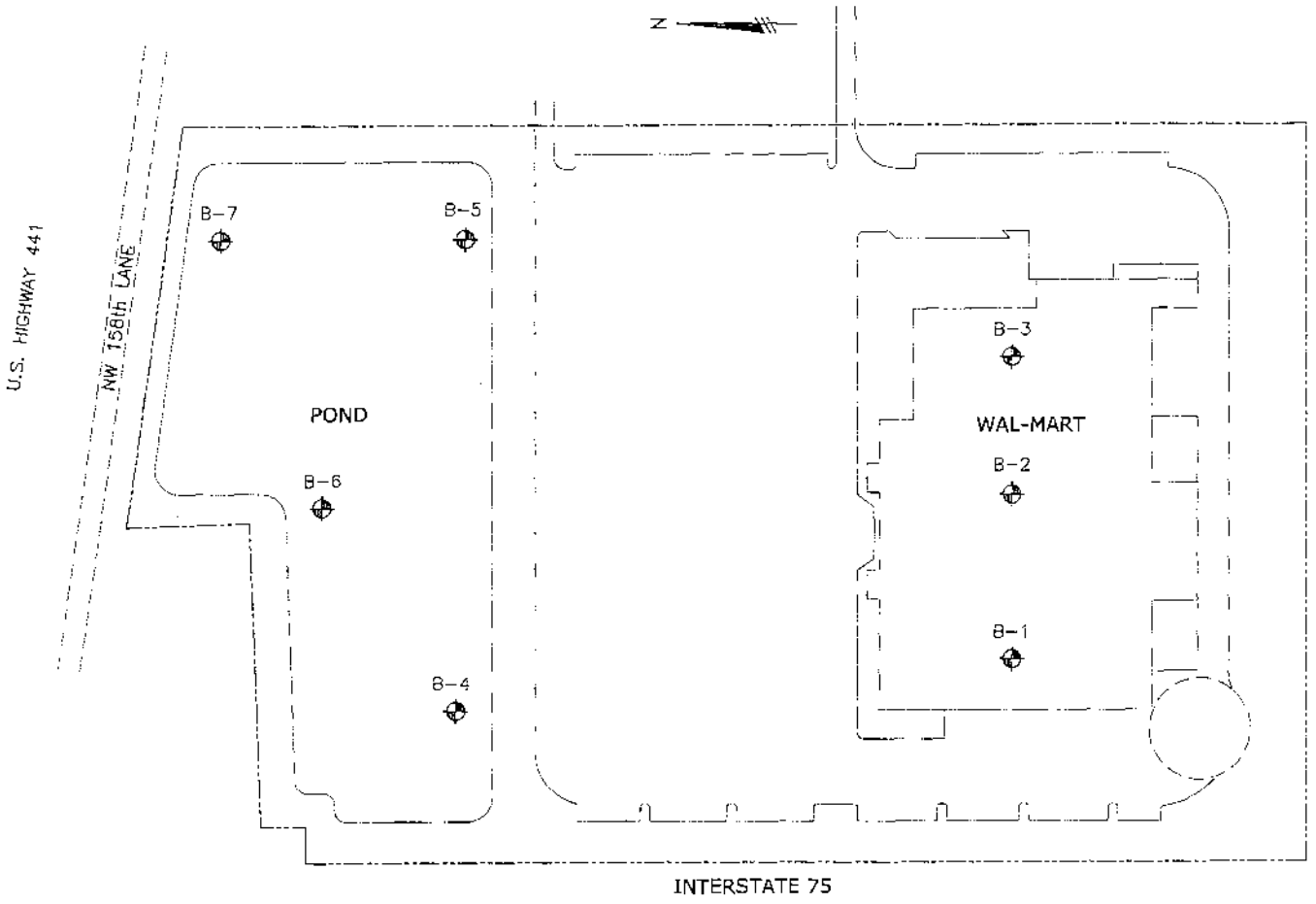
WAL-MART STORE TRACKING No. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

SITE LOCATION MAP

DRAWN BY:	FAA	DATE:	3/25/05	CHECKED BY:	FA	DATE:	5/18/05
SCALE:	NOT TO SCALE	ORDER NO:	70080-077-06	REPORT NO:	383573	PAGE NO:	A-1

APPENDIX B

Preliminary Study Boring Location Plan
Preliminary Study Boring Logs
Key to Boring Logs
Field Exploration Procedures



LEGEND

⊕ STANDARD PENETRATION TEST BORING

NOTE: TEST BORING LOCATIONS SHOWN ARE ONLY APPROXIMATE.

NOTES:
REFERENCE DRAWING: CONCEPTUAL SITE PLAN, WAL-MART STORE TRACKING NO. 95484-00, (S.E. CORNER OF I-75 & HIGHWAY 441) FLORIDA, PREPARED BY CPH ENGINEERS, INC. JOB NO. W13392, REVISED JUNE 2004.

CLIENT: CPH ENGINEERS, INC.

DRAWN BY: KD	DATE: 10/13/04	PROJECT NO: 70080-077-03	REPORT NO: 367801
CHECKED BY: TFH	DATE: 5/19/05		
SCALE: N.T.S.	ACADFILE: 70080-F		

WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING LOCATION PLAN

UNIVERSAL ENGINEERING SCIENCES

PAGE NO: B - 1

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-2

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: B-1 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS: AIR BLOWING OUT OF BOREHOLE AT DEPTH OF 40 TO 45 FEET

GS ELEVATION(ft): +132 (MSL) DATE STARTED: 10/12/04
WATER TABLE (ft): NE DATE FINISHED: 10/12/04
DATE OF READING: N.A. DRILLED BY: R. WOODARD
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Firm brown SANDY CLAY [CH]						
		1-4-5	9									
		3-4-4	8			Loose light brown, orange & tan CLAYEY to very CLAYEY SAND [SC]						
5		4-3-4	7			...loose						
		4-3-3	6			...loose						
		4-5-4	9			...loose						
		5-7-8	15			...firm						
10												
		1-2-2	4			...soft clay lense						
15						...loose tan & brown						
		1-2-3	5									
20						Light tan to white SAND [SP]						
		3-4-5	9			...loose						
25												
		3-4-6	10			...loose						
30												
		2-2-2	4			...very loose						
35						Very loose light green to light tan CLAYEY SAND [SC]						
		1-0-1	1									
40						Very soft green CLAY, trace of limestone fragments [CH]						
		WOH-1-1	2									
45						Tan LIMESTONE						
		7-7-11	18									
50						Boring terminated at 50'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-3

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS: AIR BLOWING OUT OF BOREHOLE AT DEPTH OF 34 FEET

BORING DESIGNATION: B-2 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): +125 (MSL) DATE STARTED: 10/12/04
WATER TABLE (ft): NE DATE FINISHED: 10/12/04
DATE OF READING: N.A. DRILLED BY: R. WOODARD
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0												
	X	1-1-2	3			Brown & gray CLAYEY SAND [SC] ...very loose						
	X	3-4-5	9			...loose						
5	X	3-4-5	9			Loose green & orange very CLAYEY SAND [SC/CL]						
	X	6-4-5	9			...loose						
	X	5-7-5	12			...firm						
10	X	6-6-7	13			...firm						
						Stiff green slightly SANDY CLAY [CH]						
15	X	2-3-5	8									
						Light tan to white SAND [SP]						
20	X	2-3-4	7			...loose						
25	X	2-3-4	7			...loose						
						Tan LIMESTONE						
30	X	10-50/4"	50/4"									
	X	13-50/3"	50/3"			Extremely hard						
						Boring terminated at 34.5'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-4

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: B-3 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS: AIR BLOWING OUT OF BOREHOLE AT DEPTH OF 35 TO 38 FEET

GS ELEVATION(ft): +116 (MSL) DATE STARTED: 10/12/04
WATER TABLE (ft): NE DATE FINISHED: 10/13/04
DATE OF READING: N.A. DRILLED BY: R. WOODARD
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	WOH-1	1			Brown & gray CLAYEY SAND [SC]						
	X	1-1-1	2			...very loose						
5	X	1-1-1	2			...very loose						
	X	2-3-4	7			...loose tan, gray & orange						
	X	5-5-4	9			...loose						
	X	5-6-6	12			...firm						
10						Stiff green & orange SANDY CLAY [CH]						
15	X	2-4-6	10									
	X	3-4-5	9			Loose tan CLAYEY SAND [SC]						
20						Light tan to white SAND [SP]						
25	X	4-4-5	9			...loose						
30	X	3-4-4	8			...loose						
						Tan LIMESTONE						
35	X	24-21-14	35									
40	X	35-50/4"	50/4"									
45	X	50/5"	50/5"									
50	X	52-27-60	87			Boring terminated at 50'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-5

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: B-4 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): +95 (MSL) DATE STARTED: 10/12/04
WATER TABLE (ft): NE DATE FINISHED: 10/12/04
DATE OF READING: N.A. DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP-SM]						
	X	2-2-3	5			...loose						
	X	1-2-2	4			...very loose						
5	X	1-3-5	8			Loose brown & orange CLAYEY SAND [SC]						
	X	6-2-3	5			...very loose						
	X	5-7-5	12			Very stiff green & orange slightly SANDY CLAY [CH]						
10	X	9-10-12	22			Loose brown CLAYEY SAND [SC]						
	X	4-5-5	10			Loose tan & orange SAND [SP-SM]						
15												
	X	2-3-4	7									
20												
	X	3-5-5	10			...loose						
25												
	X	2-3-4	7			...loose						
30												
	X	7-10-11	21			Tan LIMESTONE						
35												
	X	23-36-16	52									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-6

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: B-5 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): +89 (MSL) DATE STARTED: 10/13/04
WATER TABLE (ft): NE DATE FINISHED: 10/13/04
DATE OF READING: N.A. DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0												
	X	1-1-1	2			Very loose brown & orange SAND [SP]						
	X	1-2-2	4			...very loose						
5	X	2-3-3	6			...loose clayey zone						
	X	4-3-3	6									
	X	4-5-3	8			Loose brown very CLAYEY SAND [SC]						
	X	4-5-5	10			...loose						
10						...brown, gray & orange						
	X	3-6-7	13			...firm						
15						...orange & gray						
	X	4-4-6	10			...loose						
20												
	X	2-3-3	6			Loose light brown, tan & orange SAND [SP-SM]						
25												
	X	3-5-4	9			...loose light brown, gray & orange						
30						...tan & orange						
	X	6-10-5	15			...firm						
35						Tan & orange CLAYEY SAND, w/limestone fragments [SC]						
	X	2-3-3	6									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-7

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: B-6 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): +86 (MSL) DATE STARTED: 10/12/04
WATER TABLE (ft): NE DATE FINISHED: 10/12/04
DATE OF READING: N.A. DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Very loose brown SAND [SP]						
	X	1-2-1	3									
	X	1-1-1	2			...brown & orange ...very loose						
5	X	1-0-0	0			...very loose						
	X	1-1-0	1			...very loose						
	X	1-1-1	2			...very loose						
	X	1-0-1	1			...very loose						
10												
						Firm brown & orange CLAYEY SAND [SC]						
15	X	2-5-6	11									
20	X	2-3-4	7			...loose gray, brown & orange						
25	X	7-11-11	22			...very firm, very clayey						
						...gray & orange						
30	X	4-5-7	12			...firm						
						Loose gray, tan & orange SAND [SP-SM]						
35	X	3-4-6	10									
						...tan & orange						
	X	3-5-5	10			...loose						
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-03
REPORT NO.:	367801
PAGE:	B-8

PROJECT: WAL-MART STORE TRACKING NO. 95484-00
S.E. CORNER OF I-75 & HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: B-7 SHEET: 1 of 1
SECTION: 15/16 TOWNSHIP: 8S RANGE: 18E

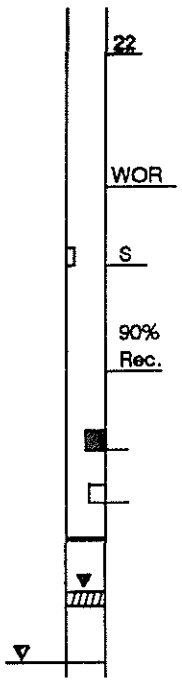
GS ELEVATION(ft): +79 (MSL) DATE STARTED: 10/12/04
WATER TABLE (ft): NE DATE FINISHED: 10/13/04
DATE OF READING: N.A. DRILLED BY: R. WOODARD
EST. WSWT (ft): N.A. TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Firm brown & orange SANDY CLAY [CH]						
	X	2-3-4	7									
	X	4-5-6	11			Brown CLAYEY to very CLAYEY SAND [SC]						
5	X	2-2-3	5			...loose						
	X	4-3-3	6			...loose						
	X	4-4-2	6			...loose						
	X	3-5-6	11			...firm brown & orange						
10						...orange & gray						
	X	7-10-12	22			...very firm						
15						...firm gray & white						
	X	3-8-5	13									
20						Loose tan, orange & brown SAND [SP-SM]						
	X	2-3-3	6									
25						...tan & orange, w/limestone fragments						
	X	5-3-2	5			...loose						
30												
	X	4-17-14	31			Light brown SANDY CLAY, w/limestone [CH]						
35						Tan LIMESTONE						
	X	8-21-10	31									
40						Boring terminated at 40'						

UNIVERSAL
ENGINEERING SCIENCES

KEY TO BORING LOGS

SYMBOLS



22	Number of Blows of a 140-lb Weight Falling 30 in. Required to Drive Standard Spoon One Foot
WOR	Weight of Drill Rods
S	Thin-Wall Shelby Tube Undisturbed Sampler Used
90% Rec.	Percent Core Recovery from Rock Core-Drilling Operations
	Sample Taken at this Level
	Sample Not Taken at this Level
	Change in Soil Strata
	Free Ground Water Level
	Seasonal High Ground Water Level

RELATIVE DENSITY (sand-silt)

Very Loose - Less Than 4 Blows/Ft.
Loose - 4 - 10 Blows/Ft.
Medium - 10 to 30 Blows/Ft.
Dense - 30 to 50 Blows/Ft.
Very Dense - More Than 50 Blows/Ft.

CONSISTENCY (clay)

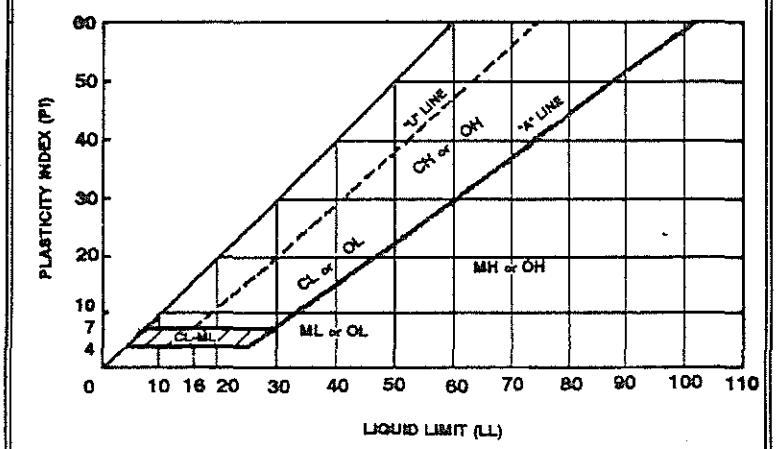
Very Soft - Less Than 2 Blows/Ft.
Soft - 2 to 4 Blows/Ft.
Medium - 4 to 8 Blows/Ft.
Stiff - 8 to 15 Blows/Ft.
Very Stiff - 15 to 30 Blows/Ft.
Hard - More Than 30 Blows/Ft.

UNIFIED CLASSIFICATION SYSTEM

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

* Based on the material pasing the 3-in. (75-mm) sieve.

PLASTICITY CHART



Field Exploration Procedures

Standard Penetration Test Borings

The penetration borings were made in general accordance with the latest revision of ASTM D 1586, "Penetration Test and Split-Barrel Sampling of Soils". The borings were advanced by rotary drilling techniques using a circulating bentonite fluid for borehole flushing and stability. At 2 ½ to 5 foot intervals, the drilling tools were removed from the borehole and a split-barrel sampler inserted to the borehole bottom and driven 18 inches into the soil using a 140 pound hammer falling on the average 30 inches per hammer blow. The number of blows for the final 12 inches of penetration is termed the "penetration resistance, blow count, or N-value". This value is an index to several in-place geotechnical properties of the material tested, such as relative density and Young's Modulus.

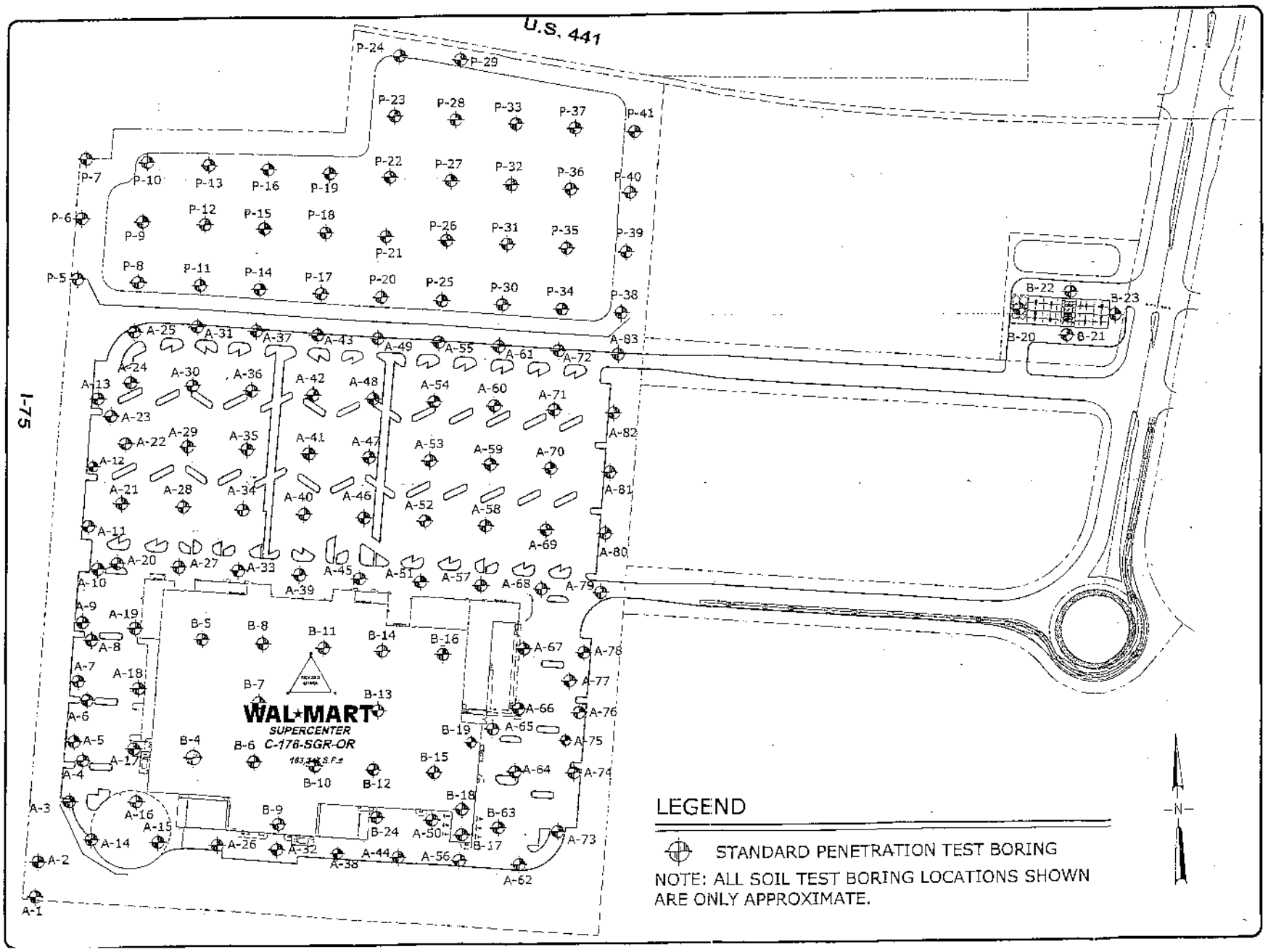
After driving the sampler 18 inches (or less if in hard rock-like material), the sampler was retrieved from the borehole and representative samples of the material within the split-barrel were placed in plastic containers and sealed. After completing the drilling operations, the samples for each boring were transported to our laboratory where they were examined by our geotechnical engineer in order to verify the driller's field classification.

Auger Borings

The auger borings were performed mechanically by the use of a continuous-flight auger attached to the drill rig and in general accordance with the latest revision of ASTM D 1452, "Soil Investigation and Sampling by Auger Borings". Representative samples of the soils brought to the ground surface by the augering process were placed in plastic containers, sealed and transported to our laboratory where they were examined by our geotechnical engineer to verify the driller's field classification.

APPENDIX C

Final Study Boring Location Plan
Final Study Boring Logs
Key to Boring Logs
Field Exploration Procedures



CLIENT: CPH ENGINEERS, INC.

DRAWN BY:	KD	DATE:	3/25/05
CHECKED BY:	TA	DATE:	5/18/05
SCALE:	1"=150'	ACADFILE:	70080-6
PROJECT NO:	70080-077-06	REPORT NO:	383573

WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING LOCATION PLAN

UNIVERSAL ENGINEERING SCIENCES

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-2

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-1 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 135.30 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-1-3	4			Very loose...						
	X	4-6-7	13			Medium gray, orange & tan, w/lenses of clay						
5	X	5-7-7	14			Medium...						
	X	9-7-8	15			Medium...						
	X	9-9-8	17			Medium...						
	X	9-9-8	17			Medium...						
10												
						Green & orange CLAY [CH]						
	X	3-5-6	11			Stiff...						
15												
	X	2-3-3	6			Medium...						
20												
						Medium light gray clayey SAND [SC]						
	X	4-6-8	14									
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-2 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 135.00 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-1-3	4			Very loose brown & orange clayey SAND [SC]						
	X	3-4-6	10			Loose gray & orange...						
5	X	4-5-6	11			Green, orange & gray CLAY, trace of sand [CH] Stiff...						
	X	8-7-8	15			Stiff...						
	X	8-8-9	17			Very stiff...						
	X	9-10-10	20			Medium gray & orange very clayey SAND [SC]						
10						Green & orange CLAY [CH]						
	X	2-2-3	5			Medium...						
15						Green, w/trace of limestone fragments						
	X	2-2-3	5			Medium...						
20						Light gray to white clayey SAND [SC]						
	X	4-5-6	11			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-4

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-3 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 136.30 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-3	5			Loose...						
	X	4-5-7	12			Medium orange & gray very clayey...						
5	X	5-7-5	12			Medium gray & orange clayey...						
	X	6-5-6	11			Medium...						
	X	7-8-6	14			Medium...						
	X	6-8-8	16			Medium...						
10												
						Green & orange CLAY [CH]						
	X	2-3-4	7			Medium...						
15												
	X	2-3-3	6			Medium...						
20												
						Light tan to white clayey SAND [SC]						
	X	3-6-6	12			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-5

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-4 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 134.70 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-1-2	3			Very loose brown slightly clayey SAND [SM]						
	X	2-2-4	6			Loose brown very clayey SAND [SC]						
5	X	7-6-6	12			Medium orange & light gray clayey...						
	X	6-7-7	14			Medium...						
	X	6-7-6	13			Medium...						
	X	5-6-7	13			Medium...						
10												
						Green & orange CLAY, w/trace of sand [CH]						
	X	3-3-5	8			Medium...						
15												
	X	2-3-5	8			Medium...						
20												
						Light gray to white clayey SAND [SC]						
	X	1-2-2	4			Very loose...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-5 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 133.90 DATE STARTED: 2/8/05
WATER TABLE (ft): 23 DATE FINISHED: 2/8/05
DATE OF READING: 2/9/05 DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	4-6-7	13			Stiff orange & gray sandy CLAY [CH]						
	X	2-5-7	12			Loose orange & brown clayey SAND [SC]						
5	X	2-5-8	13			Loose orange & gray...						
	X	4-5-8	13			Loose...						
	X	3-4-6	10			Loose...						
	X	3-6-6	12			Medium orange & gray very clayey...						
10												
						Green & orange CLAY [CH]						
	X	3-5-6	11			Stiff...						
15												
	X	3-4-5	9			Stiff...						
20												
				▼		Light gray clayey SAND [SC]						
	X	3-5-7	12			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-6 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 132.90 DATE STARTED: 2/8/05
WATER TABLE (ft): NE DATE FINISHED: 2/8/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown fine SAND						
	X	4-4-6	10			Loose brown & orange very clayey SAND [SC]						
	X	4-5-8	13			Medium clayey...						
5	X	4-5-8	13			Medium...						
	X	4-8-8	16			Medium...						
	X	4-6-8	14			Medium...						
	X	4-5-7	12			Stiff green & orange very sandy CLAY [CH]						
10						Stiff...						
	X	5-5-7	12			Stiff...						
15												
	X	3-3-4	7			Medium, slightly sandy...						
20												
	X	3-4-6	10			Stiff...	87					
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-8

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-7 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 131.00 DATE STARTED: 2/8/05
WATER TABLE (ft): NE DATE FINISHED: 2/8/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	4-5-6	11			Medium brown & orange very clayey SAND [SC]						
	X	4-5-5	10			Loose...						
5	X	3-6-11	17			Medium light brown, light gray & orange...						
	X	3-3-7	10			Loose...						
	X	3-3-4	7			Medium orange & green very sandy CLAY [CH] Medium...						
	X	3-4-5	9			Stiff green & orange...						
10												
	X	3-4-6	10			Stiff...						
15												
						Light gray slightly clayey SAND [SM]						
	X	4-4-4	8			Loose...						
20												
	X	5-6-7	13			Medium...						
25						Boring terminated at 25'						

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BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-8 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 128.40 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-3-6	9			Loose brown & orange clayey SAND [SC]						
	X	2-3-6	9									
5	X	2-4-6	10			Loose very clayey...						
	X	3-4-5	9			Loose orange & gray clayey...						
	X	3-4-5	9			Loose...						
	X	3-4-4	8			Medium green & orange very sandy CLAY						
10												
						Stiff...						
	X	4-4-9	13									
15						Light gray & orange clayey SAND [SC]						
	X	2-3-6	9			Loose...						
20												
						Light gray slightly clayey SAND [SM]						
	X	5-5-5	10			Loose...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-9 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 126.20 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown slightly clayey SAND [SM]						
		2-2-2	4			Very loose brown clayey SAND [SC]						
		2-3-3	6			Loose...						
5		2-3-5	8			Loose brown & light brown...						
		3-4-4	8			Loose orange & light brown...						
		3-4-5	9			Loose...						
		3-5-8	13			Medium orange & light gray...						
10												
						Green & orange CLAY [CH]						
		3-7-9	16			Very stiff...						
15												
		4-5-6	11			Stiff...						
20												
						Light gray clayey SAND [SC]						
		3-5-6	11			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-10 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 124.30 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
		2-4-6	10			Brown & orange very clayey SAND [SC]						
		2-3-6	9			Loose orange & brown...						
5		3-3-6	9			Orange & green sandy CLAY [CH]						
		2-3-5	8			Medium...						
		2-3-6	9			Stiff...						
10		3-3-6	9			Stiff...						
						Loose light gray clayey SAND [SC]						
15		2-4-5	9									
						Loose tan & light gray...						
20		3-4-5	9									
						Light gray SAND [SP]						
25		2-5-6	11			Medium...						
						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-11 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 120.60 DATE STARTED: 1/28/05
WATER TABLE (ft): NE DATE FINISHED: 1/28/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND						
	X	4-4-3	7			Brown & orange clayey SAND [SC]						
	X	4-6-6	12			Stiff tan, brown & orange very sandy CLAY [CH]						
5	X	2-3-3	6			Medium green & orange sandy...						
	X	2-3-4	7			Medium...						
	X	3-5-6	11									
10	X	2-3-5	8			Medium...						
15	X	2-2-3	5			Medium light green & orange...						
						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-12 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 115.80 DATE STARTED: 2/1/05
WATER TABLE (ft): NE DATE FINISHED: 2/1/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown & orange sandy CLAY [CH]						
	X	2-2-4	6									
	X	4-3-5	8			Medium...						
	X	5-6-5	11			Medium... Stiff...						
5	X	4-5-7	12			Stiff gray & orange...						
	X	5-5-6	11			Stiff...						
	X	5-7-7	14			Stiff...						
10												
						Loose light gray & tan slightly clayey SAND [SM]						
	X	2-2-4	6									
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-13 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 108.90 DATE STARTED: 2/2/05
WATER TABLE (ft): NE DATE FINISHED: 2/2/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-2	4			Very loose brown...						
	X	2-2-3	5			Loose...						
5	X	3-4-4	8			Loose orange & brown very clayey...						
	X	4-6-7	13			Stiff green & orange CLAY [CH]						
	X	5-7-9	16			Very stiff...						
10	X	5-7-8	15			Stiff...						
	X	2-4-8	12			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-14 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 138.90 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
		1-1-3	4			Very loose brown clayey SAND [SC]						
		3-4-5	9									
5		4-5-6	11			Medium orange, tan & gray very clayey... Medium...						
		7-5-5	10			Loose...						
		6-7-7	14			Medium...						
		7-9-9	18			Medium...						
10												
						Green & orange CLAY [CH]						
		2-2-3	5			Medium...						
15												
		3-3-3	6			Medium...						
20												
						Light gray to white clayey SAND [SC]						
		4-5-6	11			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-15 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 140.10 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-2-2	4			Very loose brown clayey SAND [SC]						
	X	2-3-4	7			Loose...						
5	X	5-7-9	16			Very stiff orange & gray sandy CLAY [CH]						
	X	10-8-8	16			Medium gray & orange very clayey SAND, w/lenses of clay [SC]						
	X	8-8-6	14									
10	X	7-7-8	15			Medium...						
						Green & orange CLAY [CH]						
15	X	3-4-4	8									
20	X	2-3-4	7									
						Light gray clayey SAND [SC]						
25	X	3-3-3	6			Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-16 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 139.40 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-1-2	3			Very loose brown clayey SAND [SC]						
	X	1-2-3	5			Loose...						
5	X	2-3-5	8			Loose...						
	X	5-3-5	8			Loose light gray & orange, w/lenses of clay						
	X	5-6-4	10			Loose...						
	X	5-6-7	13			Medium...						
10						Green & orange CLAY [CH]						
	X	3-4-4	8			Medium...						
15												
	X	1-2-3	5			Medium...						
20						Green, w/lenses of sand						
	X	2-3-4	7			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-18

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-17 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 136.70 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown very clayey SAND [SC]						
	X	1-2-3	5			Loose...						
	X	3-3-5	8			Loose...						
5	X	7-8-12	20			Very stiff orange & gray very sandy CLAY [CH]						
	X	10-10-10	20			Very stiff...						
	X	11-10-9	19			Very stiff...						
	X	8-8-8	16			Gray & orange clayey SAND [SC] Medium...						
10												
						Green & orange CLAY [CH]						
	X	2-3-4	7			Medium...						
15												
	X	2-2-4	6			Medium...						
20												
						Light gray to white clayey SAND [SC]						
	X	4-5-6	11			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-19

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-18 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 133.30 DATE STARTED: 2/8/05
WATER TABLE (ft): NE DATE FINISHED: 2/8/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown very clayey SAND [SC]						
	X	1-3-4	7			Loose orange, light gray & tan clayey, w/lenses of clay						
	X	5-6-7	13			Medium...						
5	X	7-8-9	17			Medium...						
	X	8-7-7	14			Medium...						
	X	8-8-6	14			Orange, green & gray CLAY, trace of clayey sand [CH]						
	X	6-7-8	15			Stiff...						
10						Green , w/lenses of sand						
	X	2-3-4	7			Medium...						
15												
						Light gray to white clayey SAND [SC]						
	X	2-2-3	5			Loose...						
20												
	X	5-5-5	10			Loose...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-20

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-19 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 128.60 DATE STARTED: 2/8/05
WATER TABLE (ft): NE DATE FINISHED: 2/8/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-3	5			Loose...						
	X	3-6-7	13			Medium brown very clayey...						
						Stiff gray & orange sandy CLAY [CH]						
5	X	4-6-7	13			Medium brown & tan clayey SAND, w/lenses of clay [SC]						
	X	7-7-8	15			Orange & tan...						
	X	8-8-7	15			Medium...						
	X	6-9-8	17			Medium, very clayey...						
10						Orange & green very sandy CLAY [CH]						
	X	2-3-4	7			Medium...						
15												
						Light gray & orange clayey SAND [SC]						
	X	2-2-2	4			Very loose...						
20												
						White...						
	X	4-6-7	13			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-21

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-20 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 124.80 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	3-3-5	8			Loose brown & orange clayey SAND [SC]						
	X	3-3-4	7			Loose orange & light gray...						
5	X	2-4-6	10			Green & orange sandy CLAY [CH]						
	X	3-4-6	10			Stiff clay						
	X	3-4-5	9			Stiff...						
	X	3-4-4	8			Medium...						
10												
	X	3-3-5	8			Loose light gray & orange clayey SAND [SC-SM]						
15												
	X	3-4-7	11			Medium...	27					
20												
						Light gray slightly clayey...						
	X	3-6-7	13			Medium...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-22

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-21 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 119.60 DATE STARTED: 1/28/05
WATER TABLE (ft): NE DATE FINISHED: 1/28/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	4-5-5	10			Loose tan, brown & orange clayey SAND [SC] Loose...						
	X	5-4-4	8			Loose...						
5	X	5-6-6	12									
	X	2-4-3	7			Medium green & orange sandy CLAY [CH] Stiff, w/trace of clayey sand						
	X	5-7-7	14			Stiff...						
	X	3-3-4	7			Medium...						
10												
	X	3-4-4	8									
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-23

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-22 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 114.00 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-3	5			Loose...						
	X	2-2-3	5									
	X	3-4-4	8			Green & orange CLAY [CH]						
5						Medium...						
	X	3-4-4	8			Medium...						
	X	4-5-5	10			Stiff...						
	X	5-7-8	15			Stiff...						
10												
						Loose light gray to tan clayey SAND [SC]						
	X	3-4-5	9									
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PAGE:	C-24

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-23 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 110.50 DATE STARTED: 2/2/05
WATER TABLE (ft): NE DATE FINISHED: 2/2/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-2	4			Loose...						
	X	2-2-3	5									
5	X	3-4-4	8			Loose brown & orange...						
	X	3-4-5	9			Loose...						
	X	4-6-10	16			Medium light gray & orange...						
	X	5-7-9	16			Medium light gray & orange very clayey...						
10						Green & orange CLAY [CH]						
	X	3-5-7	12			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-25

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-24 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 107.20 DATE STARTED: 2/2/05
WATER TABLE (ft): NE DATE FINISHED: 2/2/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-3	5			Loose...						
	X	3-4-6	10			Stiff brown & orange sandy CLAY [CH]						
5	X	5-6-7	13									
	X	5-7-8	15			Stiff green & orange...						
	X	4-5-7	12			Medium light brown to tan clayey SAND [SC]						
10	X	6-8-8	16				26					
	X	3-5-5	10			Loose...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-26

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-25 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 102.00 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown slightly clayey SAND [SM]						
	X	WOH-1	1			Very loose...						
	X	WOH-1-0	1			Very loose dark brown clayey SAND [SC]						
5	X	1-1-2	3			Very loose...						
	X	2-1-2	3			Very loose...						
	X	1-2-2	4			Very loose...						
	X	2-2-2	4			Very loose...						
10						Brown...						
	X	2-2-3	5			Loose...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-27

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-26 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 137.20 DATE STARTED: 2/4/05
WATER TABLE (ft): NE DATE FINISHED: 2/4/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown very clayey SAND [SC]						
	X	1-2-3	5			Loose orange & gray...						
	X	5-6-7	13			Medium...						
5	X	4-5-5	10			Loose tan; orange & gray...						
	X	6-7-9	16			Medium...						
	X	9-10-9	19			Medium orange & gray slightly clayey SAND [SM]						
	X	8-8-8	16			Medium gray & orange clayey SAND [SC]						
10						Green & orange slightly sandy CLAY [CH]						
	X	1-2-3	5			Medium...						
15						Light gray to tan clayey SAND [SC]						
	X	2-3-4	7			Loose...						
20												
	X	2-3-5	8			Loose...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-28

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-27 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 124.40 DATE STARTED: 2/7/05
WATER TABLE (ft): NE DATE FINISHED: 2/7/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	3-6-7	13			Medium brown & orange clayey SAND [SC]						
	X	3-4-7	11			Medium light brown & light gray...						
5	X	3-4-8	12			Medium...						
	X	3-4-8	12			Stiff orange & gray sandy CLAY [CH]						
	X	4-4-8	12			Stiff...						
	X	4-6-9	15			Stiff green & orange...						
10												
	X	7-8-9	17			Very stiff...						
15												
	X	4-5-8	13			Medium light gray & orange clayey SAND [SC]						
20												
						Medium light gray...						
	X	7-8-9	17									
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-29

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-28 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 119.30 DATE STARTED: 1/28/05
WATER TABLE (ft): NE DATE FINISHED: 1/28/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-3-3	6			Loose brown & orange clayey SAND [SC]						
	X	4-5-4	9			Loose light brown & orange...						
5	X	4-4-5	9			Medium light green & orange sandy CLAY [CH]						
	X	4-4-4	8									
	X	3-3-3	6			Medium, w/trace of sand						
	X	4-6-8	14			Stiff sandy...						
10												
						Loose tan & orange very clayey SAND [SC]						
	X	1-3-3	6									
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-30

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-29 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 113.40 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown slightly clayey SAND [SM]						
	X	1-2-5	7			Loose clayey sand						
	X	3-4-6	10									
	X	4-4-4	8			Loose light gray, orange & brown...						
5	X	4-5-4	9			Stiff green & orange sandy CLAY [CH] Stiff...	78					
	X	4-6-6	12			Stiff...						
	X	4-5-7	12			Stiff...						
10												
						Loose light gray to tan clayey SAND [SC]						
	X	2-4-6	10									
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-30 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 106.40 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0												
	X	1-2-4	6			Brown very clayey SAND [SC] Loose...						
	X	3-4-5	9									
5	X	4-4-5	9			Green & orange sandy CLAY [CH]						
	X	5-6-6	12									
	X	5-7-8	15			Stiff green & orange...						
10	X	3-4-6	10									
						Tan & orange clayey SAND [SC]						
	X	3-4-6	10			Loose...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-31 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 101.00 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0												
	X	1-1-2	3			Brown very clayey SAND [SC] Very loose...	38					
	X	1-2-2	4			Very loose...						
5	X	3-4-6	10			Stiff green & orange CLAY, w/trace of sand [CH]						
	X	6-6-5	11			Stiff...						
	X	5-6-6	12									
	X	6-7-7	14			Medium tan clayey SAND [SC]						
10												
	X	2-3-4	7			Loose...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-33

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-32 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 129.50 DATE STARTED: 2/4/05
WATER TABLE (ft): 4.5 DATE FINISHED: 2/4/05
DATE OF READING: 2/5/05 DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Light brown slightly clayey SAND [SM]						
	X	1-1-1	2			Very loose brown clayey...						
	X	1-3-4	7	▼		Loose brown slightly clayey...						
5	X	3-3-4	7			Loose...						
	X	6-4-4	8									
	X	5-6-5	11			Loose brown clayey... Medium...						
	X	4-6-8	14			Medium...						
10												
	X	3-4-4	8			Loose...						
15												
						Brown slightly clayey...						
	X	3-5-6	11			Medium...						
20												
						Very loose gray & brown clayey...						
	X	1-2-2	4									
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-34

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-33 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 120.90 DATE STARTED:
WATER TABLE (ft): NE DATE FINISHED:
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-2-3	5			Loose brown & orange clayey SAND [SC]						
	X	4-5-5	10			Loose very clayey...						
5	X	5-7-8	15			Medium...	34					
	X	4-4-4	8			Medium tan...						
	X	5-5-5	10			Stiff green & orange CLAY [CH]						
	X	5-6-6	12			Stiff...						
10												
	X	3-3-4	7			Loose brown & tan very clayey SAND [SC]						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-35

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-34 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 116.20
WATER TABLE (ft): NE
DATE OF READING: NA
EST. WSWT (ft): NA

DATE STARTED: 1/28/05
DATE FINISHED: 1/28/05
DRILLED BY: M. BOATRIGHT
TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0												
	X	2-4-4	8			Brown SAND [SP]						
	X	3-4-5	9			Brown & orange clayey SAND [SC] Tan, brown & orange very clayey...						
5	X	4-5-6	11			Stiff green & orange sandy CLAY [CH]						
	X	4-4-5	9									
	X	3-4-5	9			Stiff...						
	X	4-6-8	14									
10						Tan & brown clayey SAND [SC]						
	X	2-3-4	7									
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-36

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-35 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 110.40 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0												
	X	1-2-4	6			Brown clayey SAND [SC]						
	X	2-3-4	7			Loose light brown, gray & orange...						
5	X	3-3-4	7									
	X	3-5-6	11			Medium gray & orange...						
	X	7-8-10	18									
	X	3-4-5	9			Stiff light gray & orange sandy CLAY [CH]						
10						Stiff green & orange...						
	X	4-5-7	12			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-37

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-36 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 104.10 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-2	4			Very loose...						
	X	2-2-3	5			Loose...						
5	X	2-2-3	5			Loose brown...						
	X	2-3-5	8			Loose brown & orange very clayey...						
	X	5-8-8	16			Very stiff green & orange CLAY [CH]						
	X	3-4-5	9			Stiff...						
10												
	X	3-5-7	12			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-38

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-37 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 98.10 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	WOH	WOH			Very loose...						
	X	WOH-1-1	2			Very loose...						
5	X	1-0-1	1			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
	X	2-2-3	5			Loose brown very clayey...						
10						Gray & orange clayey...						
	X	5-6-8	14			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-39

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-38 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 132.30 DATE STARTED: 2/4/05
WATER TABLE (ft): NE DATE FINISHED: 2/4/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-2	4			Loose brown silty very clayey...						
	X	2-3-4	7			Medium light gray & orange...						
5	X	4-6-8	14			Medium...						
	X	8-8-8	16			Very stiff green & tan slightly sandy CLAY [CH]						
	X	10-10-9	19			Very stiff...						
	X	7-10-10	20			Very stiff green...						
10												
	X	3-4-5	9			Stiff...						
15												
	X	2-2-4	6			Medium...						
20												
						Light green very sandy...						
	X	3-4-7	11			Stiff...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-40

PROJECT: WAL★ MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-39 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 116.10 DATE STARTED: 1/27/05
WATER TABLE (ft): NE DATE FINISHED: 1/27/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-2-5	7			Loose brown & orange very clayey SAND, w/trace of roots [SC]						
	X	4-5-6	11			Medium brown slightly clayey SAND [SM]						
5	X	6-8-7	15			Medium brown & orange...						
	X	3-3-3	6			Green & orange sandy CLAY [CH]						
	X	3-5-6	11			Stiff...						
	X	2-2-3	5			Medium...						
10												
	X	3-2-3	5			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-41

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-40 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 111.60 DATE STARTED: 1/28/05
WATER TABLE (ft): NE DATE FINISHED: 1/28/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	3-1-2	3			Very loose brown clayey SAND [SC]						
	X	3-4-4	8			Loose brown & orange...						
5	X	3-4-4	8			Loose...						
	X	4-4-5	9			Loose...						
	X	3-4-6	10			Loose gray, brown & orange very clayey...						
	X	4-5-7	12			Stiff gray, light green & orange sandy CLAY [CH]						
10						Green & orange...						
	X	5-6-6	12			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-42

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-41 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 106.50 DATE STARTED: 2/2/05
WATER TABLE (ft): NE DATE FINISHED: 2/2/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-3-4	7			Loose brown clayey SAND [SC] Loose...						
	X	2-1-2	3			Very loose...						
5	X	1-2-2	4			Very loose...						
	X	2-3-4	7			Loose very clayey...						
	X	3-4-5	9			Loose orange & gray...						
10	X	2-5-7	12			Medium...						
15	X	3-4-6	10			Loose light gray...						
						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-43

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-42 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 101.50 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-2	4			Very loose...						
	X	2-2-2	4			Very loose...						
5	X	2-2-2	4			Very loose...						
	X	2-3-5	8			Loose gray, brown & orange...						
	X	4-6-8	14			Stiff green & orange CLAY [CH]						
	X	3-5-6	11			Stiff...						
10						Orange & green sandy...						
	X	3-4-6	10			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-44

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-43 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 96.30 DATE STARTED: 2/4/05
WATER TABLE (ft): NE DATE FINISHED: 2/4/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	WOH	WOH			Very loose...						
	X	1-1-1	2			Very loose...						
5	X	1-0-1	1			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
10	X	1-1-1	2			Very loose...						
	X	2-3-4	7			Loose...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-45

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-44 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 133.70 DATE STARTED: 2/4/05
WATER TABLE (ft): 4 DATE FINISHED: 2/4/05
DATE OF READING: 2/5/05 DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown slightly clayey SAND [SM]						
	X	1-1-1	2			Very loose...						
	X	1-1-0	1	▼								
5	X	1-2-3	5			Loose light gray & orange...						
	X	3-5-8	13			Medium...						
	X	9-10-10	20			Medium...						
	X	10-11-11	22			Medium gray clayey SAND [SC]						
10												
						Green & orange CLAY, w/trace of sand & limestone fragments [CH]						
	X	4-5-6	11			Stiff...						
15												
						Light gray, green & orange sandy...						
	X	3-3-4	7			Medium...						
20												
						Green & orange clay, w/lenses of sand						
	X	3-4-5	9			Stiff...						
25						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-45 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 110.60 DATE STARTED: 1/27/05
WATER TABLE (ft): NE DATE FINISHED: 1/27/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
		2-2-2	4			Very loose brown slightly clayey SAND [SM]						
		2-3-4	7			Loose brown, gray & orange...						
5		3-3-5	8			Loose gray, orange & brown clayey SAND [SC]						
		4-5-7	12			Gray & orange very clayey...						
		8-8-10	18									
		4-4-6	10			Stiff green & orange sandy CLAY [CH]						
10												
		3-3-5	8			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: A-46 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 106.40 DATE STARTED: 1/28/05
WATER TABLE (ft): NE DATE FINISHED: 1/28/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0												
	X	2-2-2	4			Brown SAND [SP-SM] Very loose brown & orange...						
	X	2-2-2	4			Very loose brown & orange clayey SAND [SC]						
5	X	3-3-4	7			Loose...						
	X	4-5-5	10			Medium...						
	X	4-5-5	10			Medium...						
	X	3-4-4	8			Loose brown, gray & orange...						
10												
						Green & orange sandy CLAY [CH]						
	X	2-3-5	8			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-47 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 103.30 DATE STARTED: 2/2/05
WATER TABLE (ft): NE DATE FINISHED: 2/2/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-1-1	2			Very loose...						
	X	1-2-1	3			Very loose brown clayey SAND [SC]						
5	X	2-2-2	4			Loose gray & orange very clayey...						
	X	2-3-5	8									
	X	4-5-6	11			Medium...						
	X	4-5-7	12									
10						Medium light gray to orange...						
						Orange & gray sandy CLAY [CH]						
	X	2-3-4	7			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-48 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 99.50 DATE STARTED: 2/3/05
WATER TABLE (ft): NE DATE FINISHED: 2/3/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-2	4			Loose...						
	X	2-2-2	4			Loose...						
5	X	2-3-2	5			Loose...						
	X	2-2-2	4			Loose...						
	X	2-3-3	6			Loose...						
	X	5-6-7	13			Medium...						
10												
						Green & orange CLAY [CH], w/lenses of clayey sand						
	X	2-3-5	8			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-50

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-49 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 95.10 DATE STARTED: 2/4/05
WATER TABLE (ft): NE DATE FINISHED: 2/4/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	WOH	WOH			Very loose...						
	X	WOH-1-1	2			Very loose...						
5	X	1-1-2	3			Very loose...						
	X	2-2-2	4			Very loose...						
	X	2-2-2	4			Very loose gray & orange very clayey sand						
	X	4-4-4	8			Loose...						
10												
						Green, orange & gray CLAY [CH]						
	X	3-3-5	8			Medium...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS: OFFSET 30' SOUTHEAST (NO ACCESS)

BORING DESIGNATION: A-50 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 125.50 DATE STARTED: 2/7/05
WATER TABLE (ft): 3 DATE FINISHED: 2/7/05
DATE OF READING: 2/8/05 DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-2-2	4	▼		Very loose...						
	X	1-2-2	4			Very loose gray & orange clayey SAND [SC]						
5	X	1-2-3	5									
	X	2-2-3	5			Loose...						
	X	2-4-4	8			Gray & orange very clayey...						
10	X	4-5-6	11			Medium light brown SAND [SP]						
						Gray clayey SAND [SC]						
15	X	2-2-2	4			Very loose...						
20	X	2-6-7	13			Medium...						
25	X	3-6-6	12			Stiff green slightly sandy CLAY [CH]						
						Boring terminated at 25'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-51 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 106.70 DATE STARTED: 1/27/05
WATER TABLE (ft): NE DATE FINISHED: 1/27/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-2-4	6			Loose brown clayey SAND [SC]						
	X	5-5-5	10			Loose...						
5	X	3-4-5	9			Loose dark brown...						
	X	5-7-7	14			Medium brown & gray slightly clayey SAND [SM]						
	X	2-3-3	6			Green & orange CLAY, w/trace of sand [CH]						
	X	3-4-7	11			Stiff...						
10												
						Sandy...						
	X	3-4-6	10			Stiff...						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-52 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 102.70 DATE STARTED: 1/31/05
WATER TABLE (ft): NE DATE FINISHED: 1/31/05
DATE OF READING: NA DRILLED BY: G. WHITAKER
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown clayey SAND [SC]						
	X	1-2-3	5			Loose brown very clayey...						
	X	2-2-2	4			Very loose...						
5	X	3-4-6	10			Loose...						
	X	2-3-4	7			Medium green & orange CLAY [CH]	87					
	X	4-5-7	12			Stiff...						
10	X	5-6-6	12			Stiff...						
	X	4-4-5	9			Loose light gray clayey SAND [SC]						
15						Boring terminated at 15'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: A-53 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 99.10 DATE STARTED: 2/2/05
WATER TABLE (ft): 11 DATE FINISHED: 2/2/05
DATE OF READING: 2/3/05 DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
		1-2-1	3			Very loose brown slightly clayey SAND [SM]						
		1-2-3	5			Loose brown clayey SAND [SC]						
5		3-4-5	9									
		3-3-5	8			Loose brown & gray...						
		3-3-3	6			Loose...						
		2-2-2	4									
10				▼		Very loose brown & gray very clayey...						
						Gray & orange sandy CLAY [CH]						
		4-5-6	11			Stiff...						
15						Boring terminated at 15'						

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BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-10 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 90.80 DATE STARTED: 1/24/05
WATER TABLE (ft): NE DATE FINISHED: 1/24/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-3-4	7									
	X	2-2-2	4			Light brown...						
5	X	3-4-5	9			Very loose brown clayey SAND [SC] Loose gray & tan...						
	X	4-4-5	9									
	X	6-6-7	13			Stiff green & tan CLAY [CH]						
10	X	5-6-8	14			Medium light green & brown slightly clayey SAND [SM]						
15	X	2-3-5	8			Loose tan & orange...						
						Light gray & orange clayey SAND [SC]						
20	X	3-4-4	8			Loose...	27				2	
						Light green & orange...						
25	X	2-2-2	4			Very loose...						
						Light green & orange...						
30	X	2-2-3	5			Loose...						
						Tan & orange...						
35	X	3-4-3	7			Loose...						
						Tan, gray & orange...						
40	X	3-2-3	5			Loose...						
						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-113

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-11 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 97.40 DATE STARTED: 1/24/05
WATER TABLE (ft): NE DATE FINISHED: 1/24/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Dark brown SAND [SP-SM]						
	X	1-1-1	2			Very loose dark brown...						
	X	2-2-3	5			Loose brown...						
5	X	2-2-3	5									
	X	4-3-4	7			Loose...						
	X	5-6-5	11			Medium brown clayey SAND [SC]						
	X	6-7-7	14			Stiff light green, gray & orange sandy CLAY [CH]						
10												
	X	2-4-4	8			Medium...						
15												
						Light brown & orange clayey SAND [SC]						
	X	3-3-3	6			Loose...						
20						Light green & orange...						
	X	2-2-3	5			Loose...						
25												
						Tan SAND, w/lenses of clay [SP-SM]						
	X	1-2-2	4			Very loose...						
30												
	X	1-1-2	3			Very loose tan...	15				8	
35												
	X	1-1-1	2			Very loose...						
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-12 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 92.70 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0												
	X	2-1-1	2			Brown SAND [SP-SM] Very loose dark brown to orange...						
	X	1-2-2	4			Very loose...						
5	X	2-3-4	7									
	X	3-4-5	9			Loose brown & light green clayey SAND [SC]						
	X	3-3-3	6			Loose light brown & orange slightly clayey SAND [SM]						
	X	3-4-3	7			Loose...						
10												
						Tan to white SAND [SP]						
15	X	5-6-6	12			Medium...						
						Orange & gray slightly clayey SAND [SM]						
20	X	5-5-6	11									
						Gray & orange clayey SAND [SC]						
25	X	3-4-4	8			Loose...	23				23	
						Loose gray...						
30	X	1-2-3	5									
						Tan LIMESTONE						
35	X	11-17-25	42									
40	X	20-25-19	44									
						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-13 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 89.00 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/24/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP-SM]						
	X	1-1-1	2			Very loose...						
	X	1-1-2	3			Very loose dark brown to orange...						
5	X	1-2-1	3			Very loose dark brown to orange & tan clayey SAND [SC]						
	X	3-3-3	6			Loose...						
	X	3-3-2	5			Loose light brown & tan...						
10	X	3-4-5	9									
15	X	4-5-6	11			Medium...						
						Brown, gray & tan...						
20	X	2-3-4	7			Loose...						
						Tan LIMESTONE						
25	X	32-18-30	48									
30	X	8-15-17	32									
35	X	22-30-25	55									
40	X	14-25-26	51									
						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-14 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 94.70 DATE STARTED: 1/25/05
WATER TABLE (ft): NE DATE FINISHED: 1/25/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown to orange SAND, w/lenses of clay [SP-SM]						
	X	1-1-1	2			Very loose...						
	X	1-0-1	1			Very loose...						
5	X	1-0-0	0			Very loose...						
	X	1-0-1	1			Very loose...						
	X	1-1-1	2			Very loose...						
10	X	1-1-1	2			Very loose...						
						Brown clayey SAND [SC]						
15	X	2-3-4	7			Loose...						
						Light green, gray & orange sandy CLAY [CH]						
20	X	3-5-6	11			Stiff...						
						Gray & orange clayey SAND [SC]						
25	X	4-5-6	11			Medium...						
30	X	3-4-5	9			Loose...						
						Light green & orange...						
35	X	3-4-5	9			Loose...						
						Tan & orange SAND, w/lenses of clay [SP]						
40	X	2-3-4	7			Loose...						
						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-15 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 90.60 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown to orange SAND [SP]						
	X	2-2-1	3			Very loose...						
	X	1-2-1	3			Very loose...						
5	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
	X	2-2-2	4			Very loose...						
10												
						Gray & orange clayey SAND [SC]						
	X	5-7-7	14			Medium...						
15												
	X	3-5-7	12			Medium...						
20												
	X	4-5-7	12			Medium...						
25												
						Loose tan to white slightly clayey SAND [SM]						
	X	3-4-5	9									
30												
						Stiff orange & gray CLAY [CH], w/lenses of sand & trace of limestone fragments						
	X	4-5-6	11									
35												
	X	2-2-2	4			Soft...						
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-16 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 88.20 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND, trace of clay [SP-SM]						
	X	1-1-1	2			Very loose...						
	X	1-1-2	3			Very loose dark brown to orange...						
5	X	1-1-2	3			Very loose...						
	X	2-1-2	3			Very loose...						
	X	2-2-2	4			Very loose...						
	X	3-4-4	8			Very loose...						
10						Light brown & tan...						
	X	3-3-4	7									
15						Loose light brown & tan clayey SAND [SC]						
	X	3-3-4	7			Loose...	22				3	
20						Light green, orange & gray...						
	X	3-4-6	10			Loose...						
25												
						Tan LIMESTONE						
	X	4-7-23	30									
30												
	X	3-2-3	5									
35												
	X	6-11-12	23									
40						Boring terminated at 40'						

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BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-119

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-17 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 93.50
WATER TABLE (ft): NE
DATE OF READING: NA
EST. WSWT (ft): NA

DATE STARTED: 1/25/05
DATE FINISHED: 1/25/05
DRILLED BY: R. WOODARD
TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown to orange SAND, w/lenses of clay [SP-SM]						
	X	1-1-1	2			Very loose...						
	X	WOH-1	1			Very loose...						
5	X	1-1-0	1			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-2-1	3			Very loose...						
10	X	1-1-1	2			Very loose...						
						Brown & orange...						
15	X	4-4-3	7			Loose...						
						Light brown to orange...						
20	X	4-5-5	10			Loose...						
						Gray & orange clayey SAND [SC]						
25	X	3-5-5	10			Loose...	34				4	
						Medium gray & orange sandy CLAY [CH]						
30	X	1-2-4	6									
35	X	2-4-6	10			Stiff...						
						Light green & tan clayey SAND [SC]						
40	X	3-4-6	10			Loose...						
						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-18 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 89.20 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-1-1	2			Dark brown to orange...						
	X	1-1-1	2			Very loose...						
5	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-2-2	4			Very loose...						
10												
	X	2-2-2	4			Very loose gray & orange clayey SAND [SC]						
15						Gray...						
	X	3-4-5	9			Loose...	35				2	
20												
	X	4-6-11	17									
25						Gray & orange...						
	X	3-5-6	11			Medium...						
30						Light green & orange slightly clayey SAND [SM]						
	X	7-8-9	17			Medium...						
35						Very stiff gray & orange sandy CLAY [CH]						
	X	4-7-10	17									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-19 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 87.60 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-1-2	3			Very loose...						
	X	1-2-1	3									
5	X	1-1-1	2			Very loose dark brown to orange slightly clayey SAND [SM]						
	X	1-1-1	2			Very loose...						
	X	1-2-1	3			Very loose...						
	X	1-2-2	4			Very loose...						
10												
	X	4-3-4	7			Loose...						
15												
						Light brown, orange & tan clayey SAND [SC]						
	X	4-7-6	13			Medium...						
20												
	X	4-5-7	12			Medium...						
25												
						Light brown to tan slightly clayey SAND [SM]						
	X	3-4-6	10			Loose...						
30												
						Light tan to white...						
	X	3-4-3	7			Loose...						
35												
	X	2-2-3	5			Loose...						
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-20 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 91.90 DATE STARTED: 1/24/05
WATER TABLE (ft): NE DATE FINISHED: 1/24/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Very loose brown to orange SAND, w/trace of clay [SP-SM]						
	X	2-2-1	3									
	X	1-0-1	1									
5	X	1-1-1	2			Very loose...						
	X	1-1-1	2									
	X	2-1-2	3			Very loose light brown...						
	X	3-3-3	6			Loose brown & orange...						
10						Loose brown...						
	X	4-4-3	7									
15												
						Stiff gray & orange sandy CLAY [CH]						
	X	5-6-7	13									
20						Stiff gray, orange & light green...						
	X	4-4-6	10									
25						Stiff light green & orange...						
	X	5-6-6	12									
30						Stiff gray, tan & orange...						
	X	3-4-5	9									
35						Stiff brown, gray & orange...						
	X	3-5-6	11									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-21 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 87.80 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown fine SAND [SP-SM]						
	X	1-2-2	4			Dark brown sand Very loose...						
	X	1-1-2	3			Very loose...						
5	X	1-2-1	3			Very loose dark brown to orange...						
	X	1-2-1	3			Very loose...						
	X	1-2-2	4			Loose orange & gray clayey SAND [SC]						
10	X	1-2-3	5									
15	X	5-6-6	12			Medium...						
20	X	8-8-8	16			Medium...						
						Medium gray & orange slightly clayey SAND [SM], w/trace of limestone fragments						
25	X	6-9-10	19									
						Medium gray & brown clayey SAND [SC], w/trace of limestone fragments						
30	X	6-10-10	20									
						Tan LIMESTONE						
35	X	14-14-15	29									
40	X	20-19-16	35									
						Boring terminated at 40'						

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BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-22 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 86.90 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: R. WOODARD
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown & tan SAND [SP]						
	X	1-2-2	4									
	X	3-2-1	3			Very loose dark brown to orange...						
5	X	WOH	WOH			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
	X	1-2-2	4									
10						Very loose dark brown to orange clayey SAND [SC]						
	X	3-3-4	7			Loose...	23				3	
15						Brown, gray & orange...						
	X	3-6-7	13			Medium...						
20						Gray & orange sandy CLAY [CH]						
	X	2-4-6	10			Stiff...						
25						Gray & orange clayey SAND [SC]						
	X	5-9-9	18			Medium...						
30												
	X	3-6-8	14			Medium...						
35						Tan & orange...						
	X	3-5-7	12									
40						Boring terminated at 40'						

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BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-23 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 81.00 DATE STARTED: 1/19/05
WATER TABLE (ft): NE DATE FINISHED: 1/19/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown fine SAND [SP]						
	X	10-10-10	20			Medium dark brown to orange slightly clayey SAND [SM]						
	X	8-9-7	16			Very loose dark brown to orange clayey SAND [SC]						
5	X	2-2-2	4									
	X	2-3-5	8			Loose gray & orange...						
	X	4-4-5	9									
	X	4-5-6	11			Medium...						
10												
	X	4-5-7	12			Medium...						
15												
	X	5-6-7	13			Medium...						
20												
						Hard green & orange slightly sandy CLAY [CH]						
	X	7-12-19	31									
25												
						Medium orange clayey SAND [SC]						
	X	4-7-8	15									
30												
						Tan weathered LIMESTONE						
	X	4-7-4	11									
35												
	X	12-10-12	22									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-24 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 77.50 DATE STARTED: 1/25/05
WATER TABLE (ft): NE DATE FINISHED: 1/25/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Dark brown to orange clayey SAND [SC]						
	X	5-2-2	4			Very loose dark brown to orange fine SAND [SP]						
	X	1-2-2	4									
5	X	2-2-2	4			Very loose orange clayey SAND [SC]						
	X	1-2-2	4			Very loose...						
	X	3-5-6	11			Medium...						
10	X	4-5-8	13			Medium...						
15	X	4-6-9	15			Medium orange & gray...						
20	X	4-8-9	17			Medium...						
						Tan LIMESTONE						
25	X	6-9-11	20									
30	X	10-10-26	36									
35	X	18-20-20	40									
40	X	18-10-21	31			Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-25 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 91.10 DATE STARTED: 1/24/05
WATER TABLE (ft): NE DATE FINISHED: 1/25/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Very loose brown SAND [SP-SM] Brown & orange...						
	X	1-1-1	2									
	X	1-2-1	3			Very loose dark brown & orange clayey SAND [SC]						
5	X	2-1-1	2									
	X	2-2-4	6			Loose...						
	X	3-4-7	11			Loose light brown very clayey...						
	X	5-7-9	16			Very stiff orange & tan sandy CLAY [CH]						
10						Stiff light green & orange...						
	X	3-5-6	11									
15						Lose gray & tan clayey SAND [SM-SC]						
	X	3-5-5	10									
20						Loose tan & yellow...						
	X	3-5-4	9				16				9	
25						Loose tan & orange...						
	X	3-4-4	8									
30						Stiff gray & tan sandy CLAY [CH], w/limestone fragments						
	X	7-7-5	12									
35												
	X	9-13-15	28			LIMESTONE						
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-26 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 87.40 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP-SM]						
	X	1-2-2	4			Very loose dark brown to orange...						
	X	1-2-2	4			Very loose...						
5	X	1-2-2	4			Very loose...						
	X	1-2-3	5			Dark brown to orange clayey SAND [SC]						
	X	2-3-4	7			Loose dark brown...						
	X	4-5-7	12			Medium...						
10						Light green...						
	X	4-9-11	20			Medium...						
15												
	X	5-6-10	16			Medium...						
20						Light gray & orange slightly clayey SAND [SM]						
	X	4-5-8	13			Medium...						
25												
	X	3-4-5	9			Loose...						
30						Loose gray & orange clayey SAND [SC]						
	X	3-3-5	8									
35						Tan LIMESTONE						
	X	20-10-20	30									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-27 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 85.80 DATE STARTED: 1/20/05
WATER TABLE (ft): NE DATE FINISHED: 1/20/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP-SM]						
						Dark brown...						
	X	4-4-4	8			Loose dark brown to orange clayey SAND [SC]						
	X	3-2-3	5			Loose...						
5	X	3-3-3	6			Loose...						
	X	3-4-5	9			Loose...						
	X	5-6-6	12			Medium...						
	X	5-6-8	14			Medium...						
10						Gray & orange...						
	X	7-10-15	25			Medium...						
15												
	X	4-7-10	17			Medium...						
20												
						Light gray & orange slightly clayey SAND [SM]						
	X	7-6-5	11			Medium...						
25												
	X	4-4-4	8			Loose...						
30												
	X	2-2-3	5			Loose...						
35												
						Gray & orange clayey SAND [SC]						
	X	1-2-2	4			Very loose...						
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-28 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 80.40 DATE STARTED: 1/19/05
WATER TABLE (ft): NE DATE FINISHED: 1/19/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0												
	X	2-2-2	4			Brown SAND [SP-SM] Very loose dark brown to orange...						
	X	2-1-2	3			Very loose...						
5	X	2-2-2	4			Dark brown to orange clayey SAND [SC]						
	X	2-2-2	4			Very loose...						
	X	2-3-6	9			Dark brown to orange & gray...						
10	X	3-6-8	14			Medium...						
						Light gray & orange...						
15	X	4-7-9	16			Medium gray & orange...						
20	X	4-6-5	11			Medium...						
						Light gray...						
25	X	3-6-7	13			Medium...						
30	X	2-3-8	11			Tan weathered LIMESTONE						
35	X	11-5-1	6									
40	X	20-12-50/1"	50/1"			Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-29 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 77.40 DATE STARTED: 1/19/05
WATER TABLE (ft): NE DATE FINISHED: 1/19/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	5-5-7	12			Medium dark brown to orange slightly clayey SAND [SM]						
	X	4-4-5	9			Loose...						
5	X	2-3-5	8			Loose...						
	X	4-5-6	11			Medium...						
	X	5-6-6	12			Stiff gray & orange sandy CLAY [CH]						
	X	4-7-9	16			Very stiff...						
10						Gray & orange clayey SAND [SC]						
	X	4-5-7	12			Medium...						
15						Gray & brown...						
	X	3-6-7	13			Medium...						
20						Stiff gray & orange CLAY [CH]						
	X	3-4-9	13			Tan weathered LIMESTONE						
25												
	X	2-3-3	6									
30												
	X	5-4-3	7									
35												
	X	P-P-4	4									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-132

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-30 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 89.50 DATE STARTED: 1/25/05
WATER TABLE (ft): NE DATE FINISHED: 1/25/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Very loose brown SAND [SP-SM]						
	X	1-1-1	2									
	X	2-3-4	7			Loose dark brown clayey SAND [SC]						
5	X	5-5-6	11									
	X	4-5-5	10									
	X	5-4-3	7									
	X	2-2-3	5									
10												
	X	4-6-9	15									
15						Stiff brown & orange sandy CLAY [CH]						
	X	4-6-6	12									
20						Stiff light green & tan...						
	X	4-5-6	11									
25						Medium light green & orange...						
	X	3-3-5	8									
30						Medium brown, orange & tan clayey SAND [SC]						
	X	3-5-6	11									
35						Medium tan & orange...						
	X	5-6-9	15									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-133

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-31 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 86.70 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	1-2-3	5			Loose dark brown to orange clayey SAND [SC]						
	X	2-3-4	7									
5	X	2-3-3	6			Loose brown...						
	X	2-4-4	8									
	X	4-5-7	12			Medium dark brown to orange...						
10	X	4-5-7	12			Medium brown to orange...						
15	X	3-5-6	11			Medium...						
						Tan to orange...						
20	X	3-4-4	8			Loose...	21				3	
25	X	4-4-4	8			Loose...						
						Very loose tan to yellow...						
30	X	3-2-2	4									
35	X	1-1-1	2			Very loose...						
						Tan LIMESTONE						
40	X	3-5-4	9			Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-134

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-32 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 84.90 DATE STARTED: 1/20/05
WATER TABLE (ft): NE DATE FINISHED: 1/20/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown fine SAND [SP-SM]						
	X	2-2-2	4			Dark brown to orange...						
	X	2-3-3	6			Loose...						
5	X	3-4-4	8			Loose...						
	X	3-4-5	9			Loose...						
	X	4-5-5	10			Loose...						
	X	4-5-6	11			Medium...						
10						Dark brown clayey SAND [SC]						
						Medium gray & orange...						
	X	3-5-6	11				28				2	
15												
	X	5-7-7	14									
20												
						Light green & orange slightly clayey SAND [SM]						
	X	5-7-8	15			Medium...						
25												
						Very stiff gray CLAY [CH], w/trace of limestone fragments						
	X	4-8-25	33			Tan LIMESTONE						
30												
	X	7-12-15	27									
35												
	X	8-15-15	30									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-135

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: P-33 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 79.50 DATE STARTED: 1/19/05
WATER TABLE (ft): NE DATE FINISHED: 1/19/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	4-4-4	8			Loose dark brown clayey SAND [SC] Loose...						
	X	4-5-6	11			Medium...						
5	X	6-7-8	15			Medium...						
	X	6-8-10	18									
	X	6-9-11	20			Medium light brown... Medium...						
	X	6-11-11	22			Medium...						
10												
	X	4-7-6	13			Medium tan to yellow very clayey...	45				1	
15												
						Tan weathered LIMESTONE						
	X	6-6-6	12									
20												
	X	10-11-4	15									
25												
	X	10-14-29	43									
30												
	X	10-12-15	27									
35												
	X	12-20-20	40									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-136

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-34 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 88.70 DATE STARTED: 1/25/05
WATER TABLE (ft): NE DATE FINISHED: 1/25/05
DATE OF READING: NA DRILLED BY: M. BOATRIGHT
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Very loose dark brown clayey SAND [SC]						
	X	1-1-1	2									
	X	1-1-1	2									
5	X	1-2-2	4			Loose...						
	X	1-2-2	4			Loose dark brown...						
	X	3-4-4	8									
	X	3-4-5	9			Loose light brown...						
10						Stiff green & orange sandy CLAY [CH]						
	X	4-5-8	13									
15						Stiff light green & orange...						
	X	4-4-5	9									
20						Medium orange & tan slightly clayey SAND [SM]						
	X	7-7-6	13									
25												
	X	4-6-8	14			Medium...						
30						Medium tan & orange clayey SAND [SC]						
	X	4-9-8	17									
35						Medium gray, tan & orange...						
	X	5-6-12	18									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-137

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-35 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 86.20 DATE STARTED: 1/21/05
WATER TABLE (ft): NE DATE FINISHED: 1/21/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0												
						Brown SAND [SP-SM]						
		1-2-2	4			Very loose dark brown to orange... Very loose...						
		2-2-3	5			Loose...						
5		3-3-4	7			Loose...						
		4-4-4	8			Loose...						
		3-4-7	11			Medium brown clayey SAND [SC]						
10		3-5-7	12			Medium...						
15		4-5-6	11			Medium...						
20		1-2-2	4			Very loose...						
						Orange slightly clayey SAND [SC]						
25		3-4-2	6			Loose...						
						Loose brown SAND [SP]						
30		3-3-3	6									
						Orange clayey SAND [SC]						
35		2-3-4	7			Loose...						
						Brown...						
40		1-2-3	5			Loose...						
						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PAGE:	C-138

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-36 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 83.60 DATE STARTED: 1/20/05
WATER TABLE (ft): NE DATE FINISHED: 1/20/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-2-3	5			Dark brown to orange clayey SAND [SC]						
	X	2-3-3	6			Loose...						
5	X	3-4-4	8			Loose...						
	X	3-4-5	9			Loose dark brown...						
	X	4-5-6	11			Medium...						
	X	5-6-6	12			Medium...						
10												
						Medium gray & orange...						
15	X	4-6-8	14									
	X	5-6-7	13			Medium...						
20												
	X	6-7-12	19			Tan LIMESTONE						
25												
	X	10-15-10	25									
30												
	X	10-10-15	25									
35												
	X	8-10-21	31									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-139

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-37 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 78.90 DATE STARTED: 1/19/05
WATER TABLE (ft): NE DATE FINISHED: 1/19/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
	X	2-2-2	4			Very loose dark brown clayey SAND [SC]						
	X	2-2-2	4			Very loose...						
5	X	2-2-3	5			Loose...						
	X	2-3-4	7			Loose...						
	X	3-4-4	8			Light gray & orange...						
10	X	3-5-7	12									
	X	2-2-4	6			Loose...						
15						Medium gray & orange...						
	X	4-5-6	11									
20						Tan LIMESTONE						
	X	16-5-23	28									
25												
	X	30-50/5"	50/5"									
30												
	X	25-50/4"	50/4"									
35												
	X	33-50/3"	50/3"									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-140

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-38 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 88.70 DATE STARTED: 1/25/05
WATER TABLE (ft): NE DATE FINISHED: 1/25/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Loose brown SAND [SC]						
	X	2-2-3	5			Loose dark brown to orange clayey SAND [SC]						
	X	2-3-4	7									
5	X	3-3-4	7			Medium orange & brown sandy CLAY [CH]						
	X	3-4-4	8									
	X	6-7-8	15			Medium orange & brown clayey SAND [SC]						
10	X	6-8-8	16									
	X	4-5-6	11			Stiff light green & orange sandy CLAY [CH]						
15												
	X	5-6-7	13			Medium light green & orange slightly clayey SAND [SM]						
20												
	X	3-5-6	11									
25						Tan weathered LIMESTONE						
	X	5-4-3	7									
30												
	X	17-23-20	43									
35												
	X	20-32-30	62									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-141

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-39 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 84.60 DATE STARTED: 1/20/05
WATER TABLE (ft): NE DATE FINISHED: 1/20/05
DATE OF READING: NA DRILLED BY: J. STILLSON
EST. WSWT (ft): NA TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Dark brown to orange clayey SAND [SC]						
	X	2-2-2	4			Very loose...						
	X	1-2-2	4			Very loose...						
5	X	1-2-3	5			Loose...						
	X	3-4-5	9			Loose...						
	X	4-5-6	11			Medium brown to orange...						
10	X	6-6-6	12			Medium...						
						Layered tan & orange SAND [SP]						
15	X	4-5-5	10			Loose...						
						Tan to light green sand						
20	X	6-5-6	11			Medium...						
25	X	10-15-28	43			Tan LIMESTONE						
30	X	15-18-29	47									
35	X	18-18-33	51									
40	X	25-33-30	63			Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
REPORT NO.:	385573
PAGE:	C-142

PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

BORING DESIGNATION: P-40 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

GS ELEVATION(ft): 81.90
WATER TABLE (ft): NE
DATE OF READING: NA
EST. WSWT (ft): NA

DATE STARTED: 1/20/05
DATE FINISHED: 1/20/05
DRILLED BY: J. STILLSON
TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Dark brown to orange SAND [SP]						
	X	2-1-1	2			Very loose...						
	X	1-1-1	2			Very loose...						
5	X	2-2-3	5			Loose dark brown clayey SAND [SC]						
	X	3-3-5	8			Loose...						
	X	6-7-8	15			Medium gray & orange...						
	X	7-8-9	17			Medium...						
10												
15	X	6-6-8	14			Loose...						
						Tan to light green slightly clayey SAND [SM]						
20	X	4-3-4	7									
						Gray & orange sandy CLAY [CH]						
25	X	4-4-5	9			Stiff...						
	X	8-9-10	19			Tan LIMESTONE						
30												
35	X	10-20-20	40									
	X	18-20-21	41									
40						Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	70080-077-06
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PROJECT: WAL★MART STORE TRACKING NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

CLIENT: CPH ENGINEERS, INC.

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: P-41 SHEET: 1 of 1
SECTION: 16 TOWNSHIP: 8S RANGE: 18E

GS ELEVATION(ft): 78.50
WATER TABLE (ft): NE
DATE OF READING: NA
EST. WSWT (ft): NA

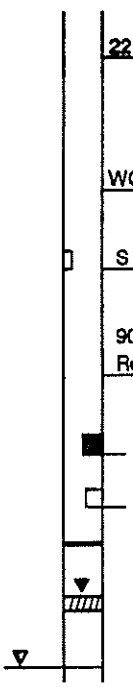
DATE STARTED: 1/20/05
DATE FINISHED: 1/20/05
DRILLED BY: J. STILLSON
TYPE OF SAMPLING: ASTM D-1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./DAY)	ORG. CONT. (%)
0						Brown SAND [SP]						
		7-4-4	8			Brown...						
		3-3-2	5			Loose dark brown to orange slightly clayey SAND [SM]						
5		1-1-1	2			Loose dark brown to orange clayey SAND [SC] Very loose...						
		1-2-2	4			Very loose...						
		3-4-5	9			Loose...						
10		4-4-5	9			Loose...						
						Tan to yellow slightly clayey SAND [SM]						
15		6-6-6	12			Medium...						
						Tan LIMESTONE						
20		25-50/5"	50/5"									
25		20-20-18	38									
30		10-18-23	41									
35		15-25-17	42									
40		15-17-16	33			Boring terminated at 40'						

UNIVERSAL ENGINEERING SCIENCES

KEY TO BORING LOGS

SYMBOLS



22	Number of Blows of a 140-lb Weight Falling 30 in. Required to Drive Standard Spoon One Foot
WOR	Weight of Drill Rods
S	Thin-Wall Shelby Tube Undisturbed Sampler Used
90% Rec.	Percent Core Recovery from Rock Core-Drilling Operations
	Sample Taken at this Level
	Sample Not Taken at this Level
	Change in Soil Strata
	Free Ground Water Level
	Seasonal High Ground Water Level

RELATIVE DENSITY (sand-silt)

Very Loose - Less Than 4 Blows/Ft.
Loose - 4 - 10 Blows/Ft.
Medium - 10 to 30 Blows/Ft.
Dense - 30 to 50 Blows/Ft.
Very Dense - More Than 50 Blows/Ft.

CONSISTENCY (clay)

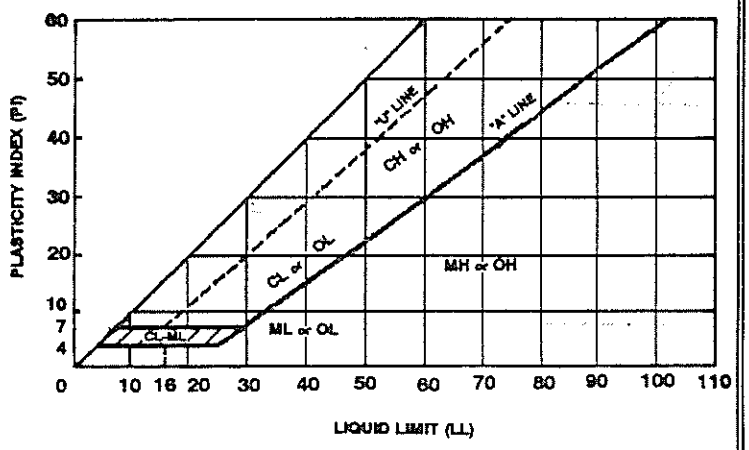
Very Soft - Less Than 2 Blows/Ft.
Soft - 2 to 4 Blows/Ft.
Medium - 4 to 8 Blows/Ft.
Stiff - 8 to 15 Blows/Ft.
Very Stiff - 15 to 30 Blows/Ft.
Hard - More Than 30 Blows/Ft.

UNIFIED CLASSIFICATION SYSTEM

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

* Based on the material pasing the 3-in. (75-mm) sieve.

PLASTICITY CHART



Field Exploration Procedures

Standard Penetration Test Borings

The penetration borings were made in general accordance with the latest revision of ASTM D 1586, "Penetration Test and Split-Barrel Sampling of Soils". The borings were advanced by rotary drilling techniques using a circulating bentonite fluid for borehole flushing and stability. At 2 ½ to 5 foot intervals, the drilling tools were removed from the borehole and a split-barrel sampler inserted to the borehole bottom and driven 18 inches into the soil using a 140 pound hammer falling on the average 30 inches per hammer blow. The number of blows for the final 12 inches of penetration is termed the "penetration resistance, blow count, or N-value". This value is an index to several in-place geotechnical properties of the material tested, such as relative density and Young's Modulus.

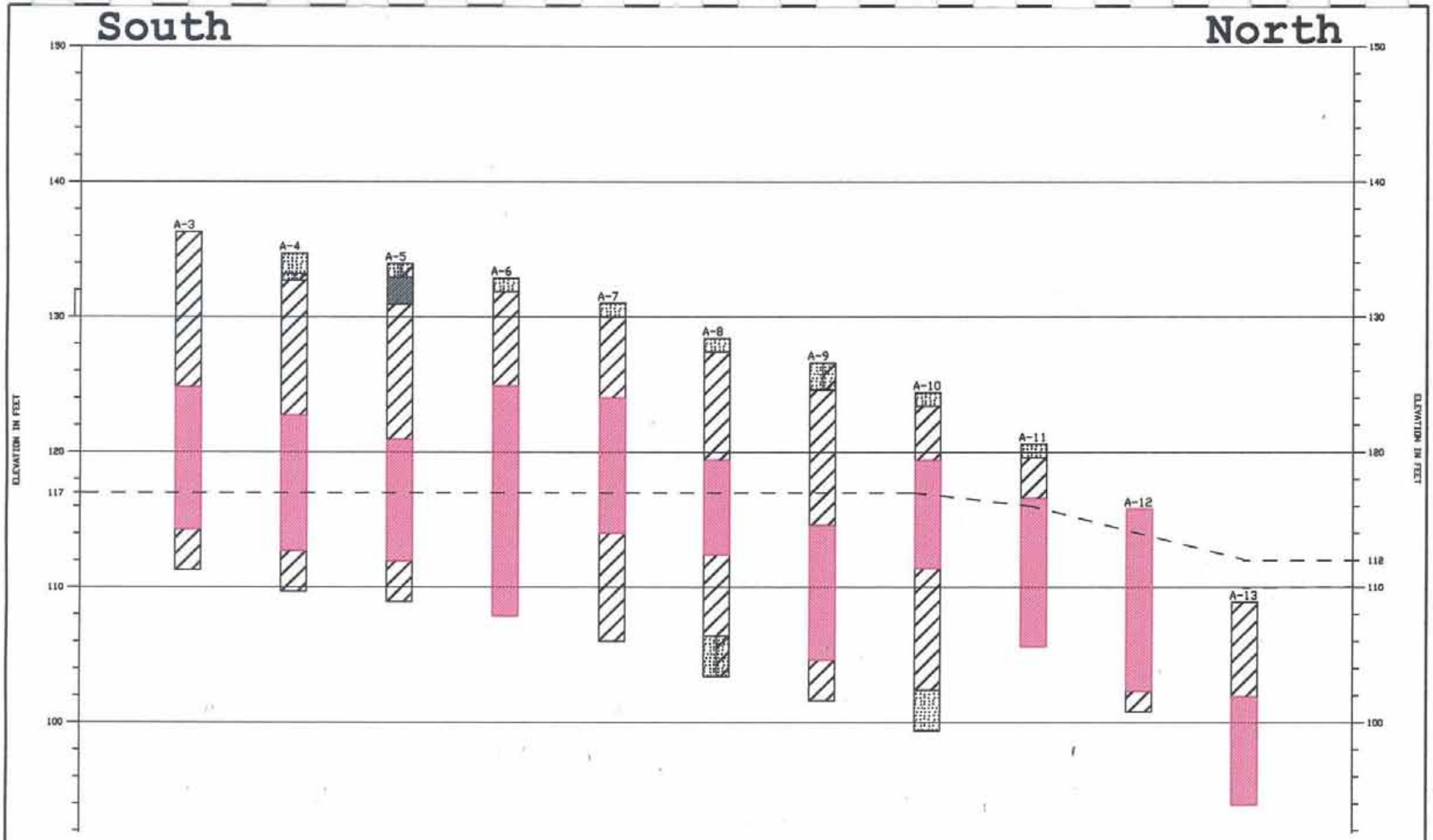
After driving the sampler 18 inches (or less if in hard rock-like material), the sampler was retrieved from the borehole and representative samples of the material within the split-barrel were placed in plastic containers and sealed. After completing the drilling operations, the samples for each boring were transported to our laboratory where they were examined by our geotechnical engineer in order to verify the driller's field classification.

Auger Borings

The auger borings were performed mechanically by the use of a continuous-flight auger attached to the drill rig and in general accordance with the latest revision of ASTM D 1452, "Soil Investigation and Sampling by Auger Borings". Representative samples of the soils brought to the ground surface by the augering process were placed in plastic containers, sealed and transported to our laboratory where they were examined by our geotechnical engineer to verify the driller's field classification.

APPENDIX D

Final Study Generalized Subsurface Profile
Cross-Sections at Proposed Parking Lot Areas
Cross-Sections at Proposed Building Footprint
Cross-Sections at Proposed Retention Pond



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-3, A-4, A-5, A-6, A-7, A-8, A-9, A-10, A-11, A-12, and A-13
3. Ground surface elevation at borings locations are approximate

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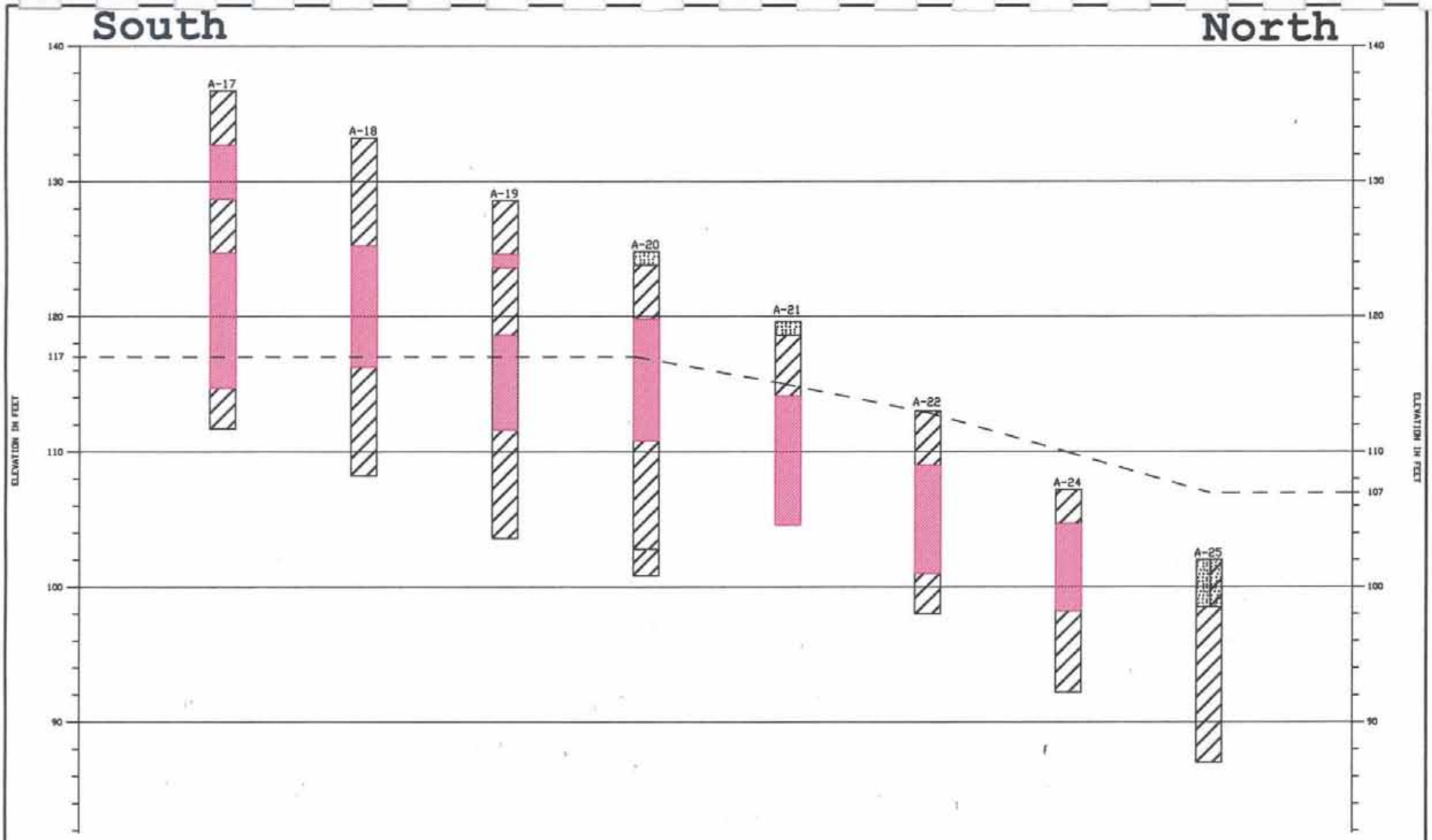
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-1



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-17, A-18, A-19, A-20, A-21, A-22, A-24, and A-25
3. Ground surface elevation at borings locations are approximate

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GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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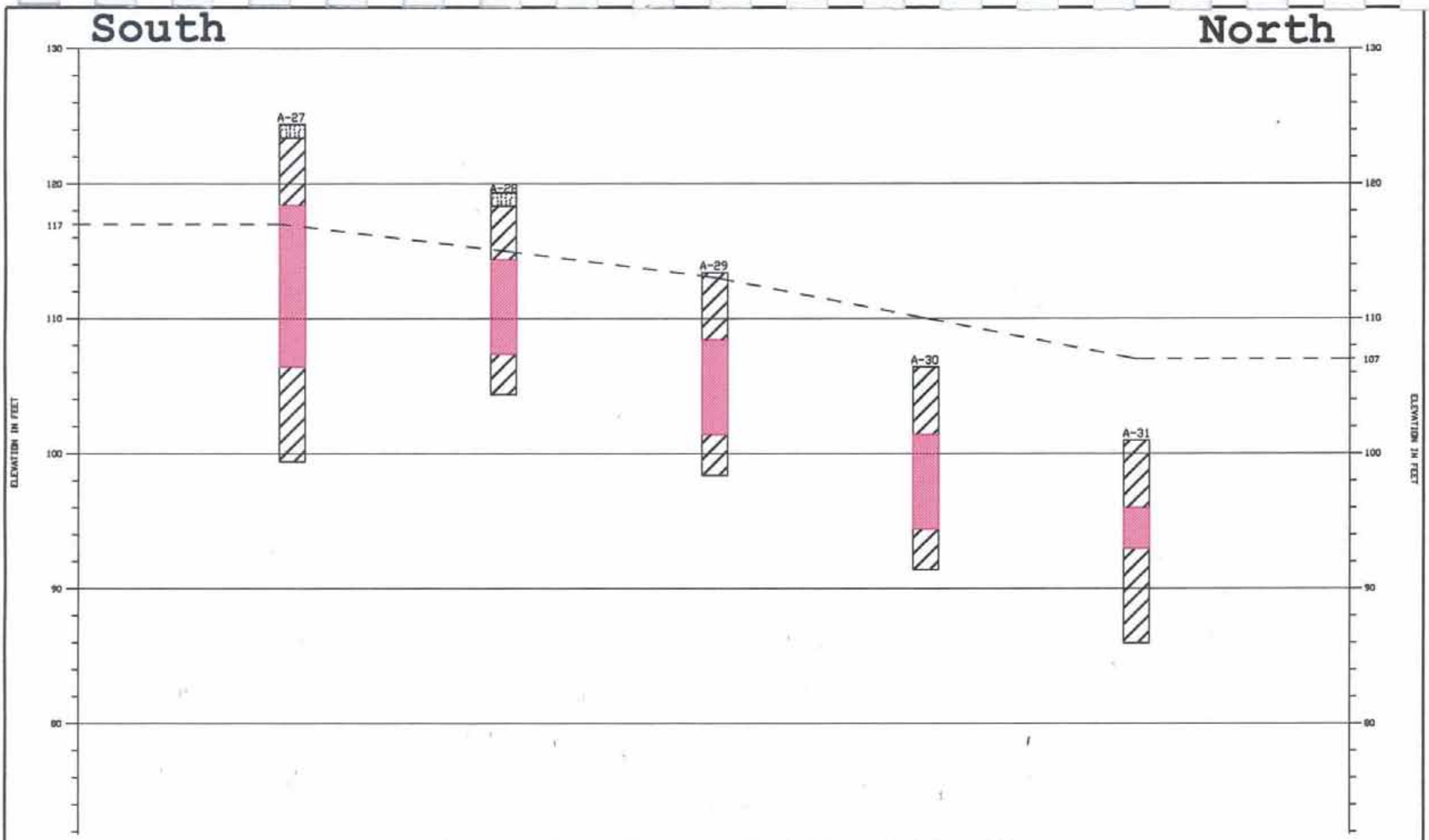

CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-27, A-28, A-29, A-30, and A-31
3. Ground surface elevation at borings locations are approximate

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GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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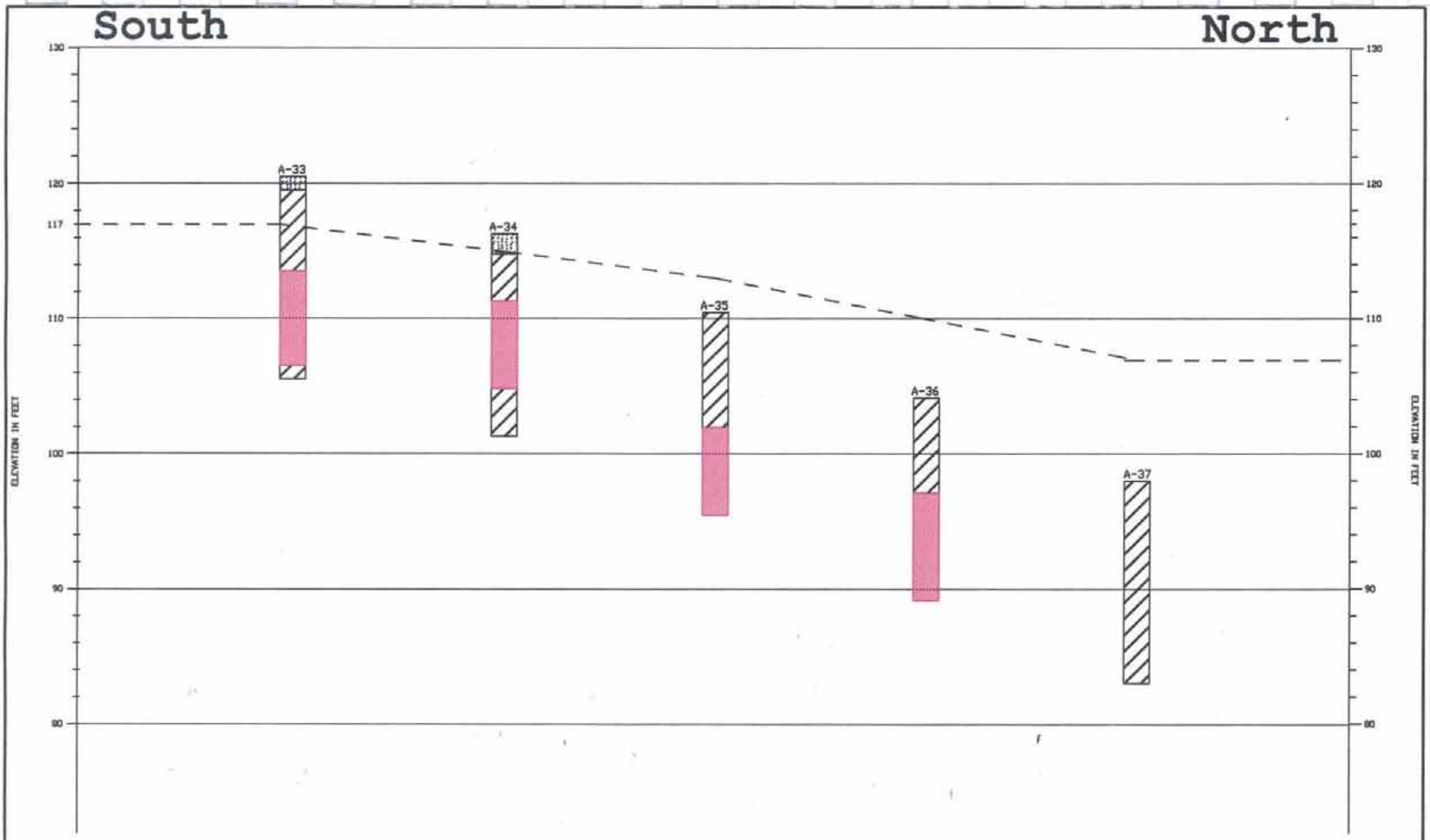

CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-33, A-34, A-35, A-36, and A-37
3. Ground surface elevation at borings locations are approximate

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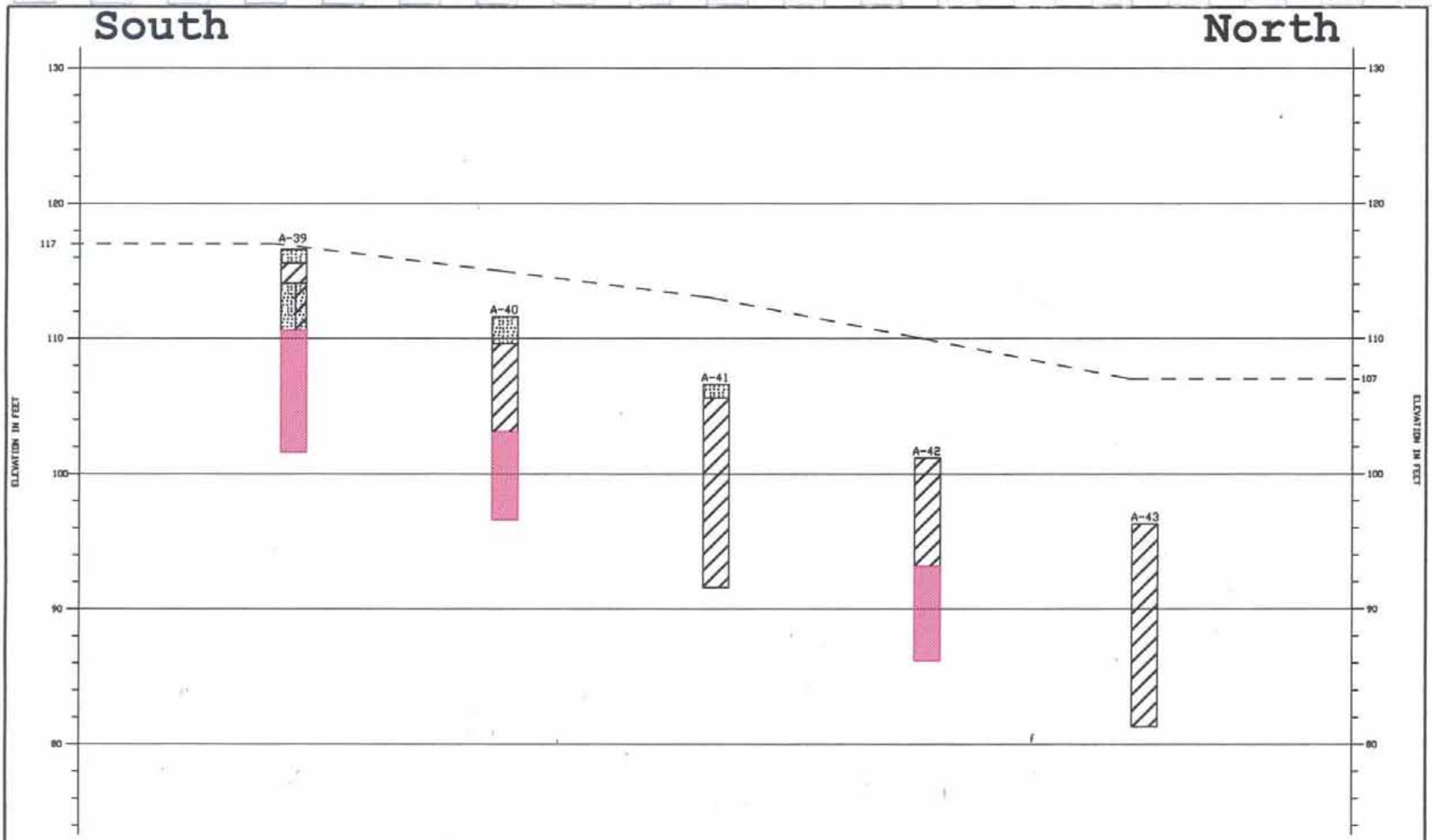
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-4



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

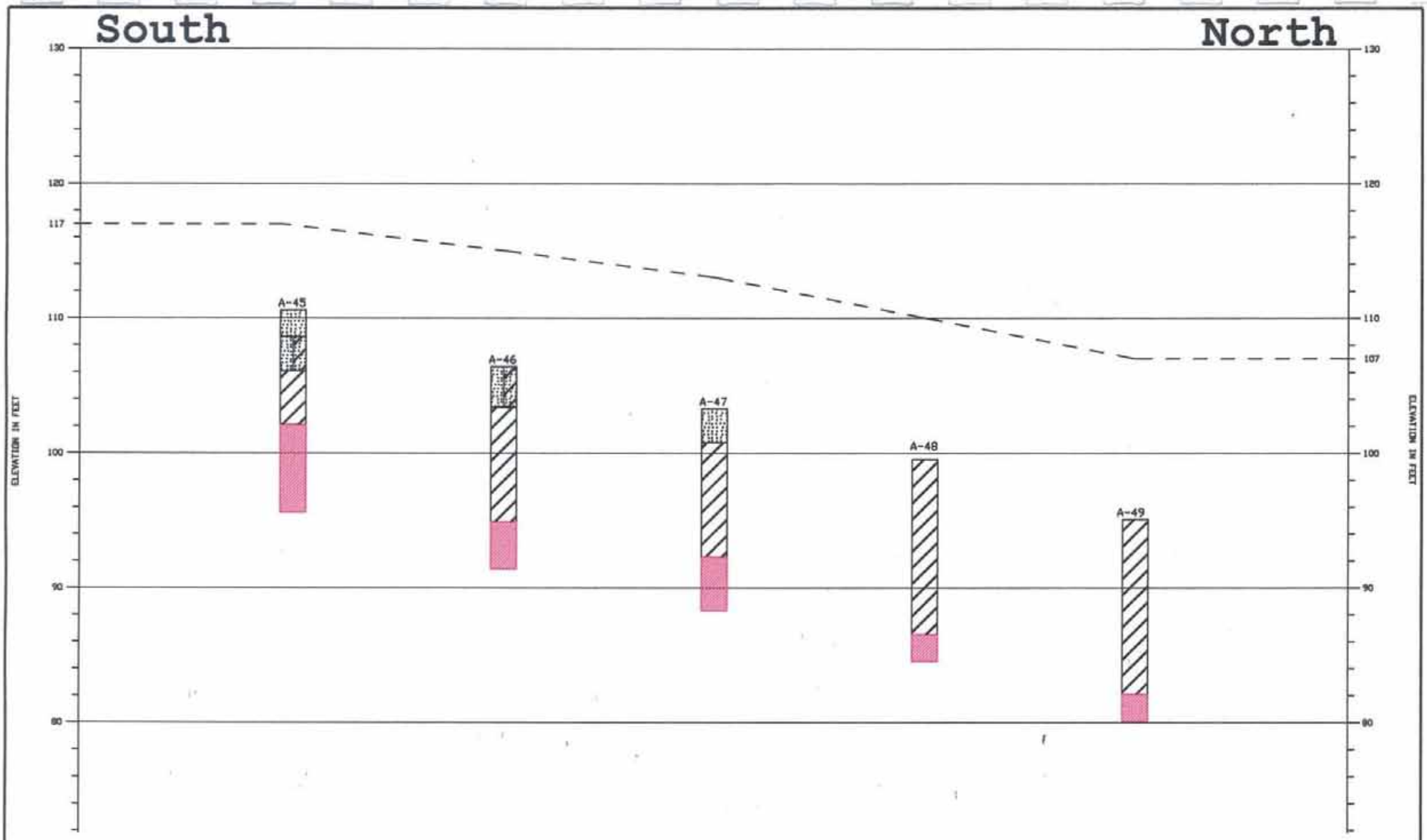
Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-39, A-40, A-41, A-42, and A-43
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-5



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

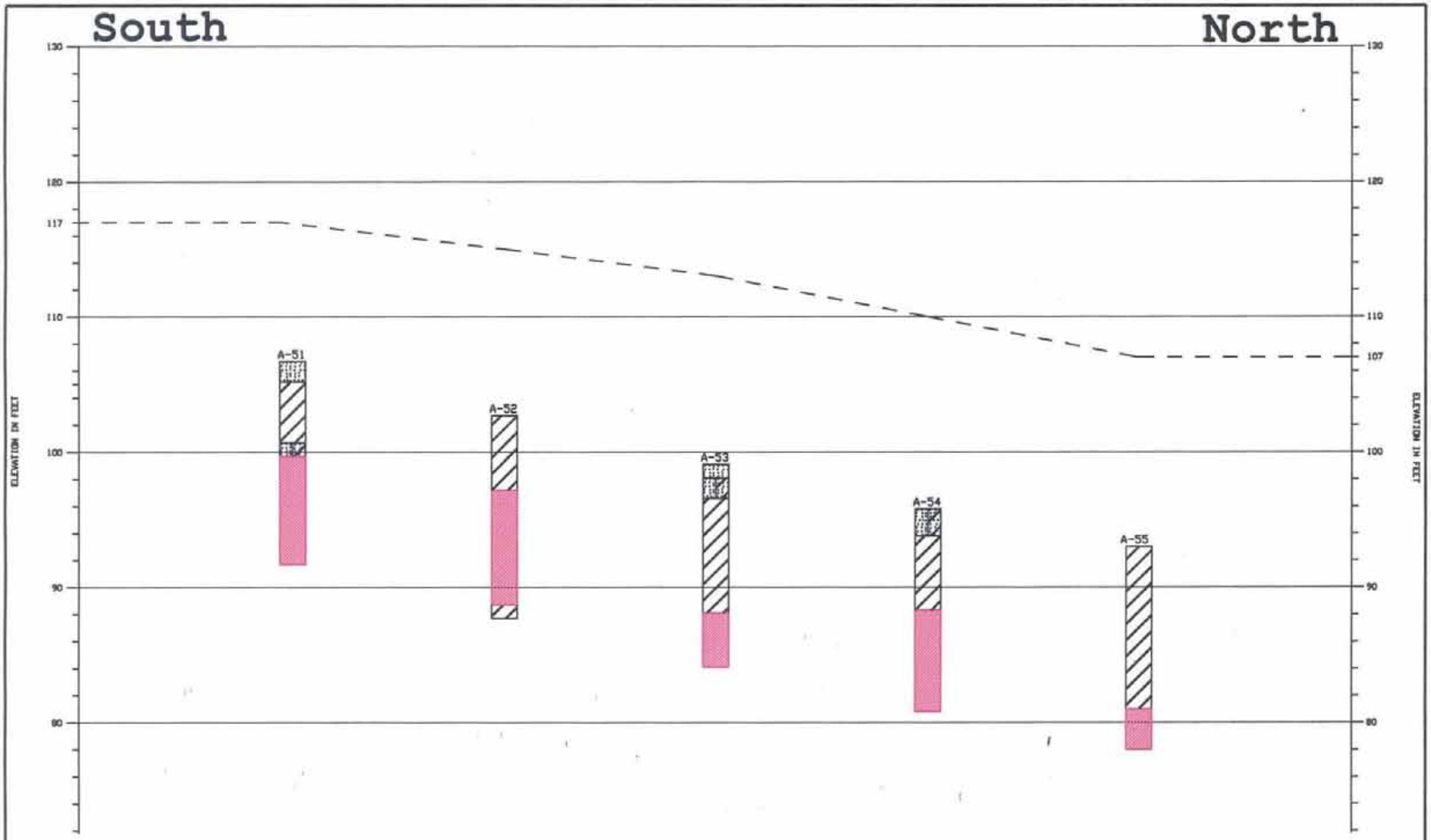
Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-45, A-46, A-47, A-48, and A-49
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-6



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-51, A-52, A-53, A-54 and A-55
3. Ground surface elevation at borings locations are approximate

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GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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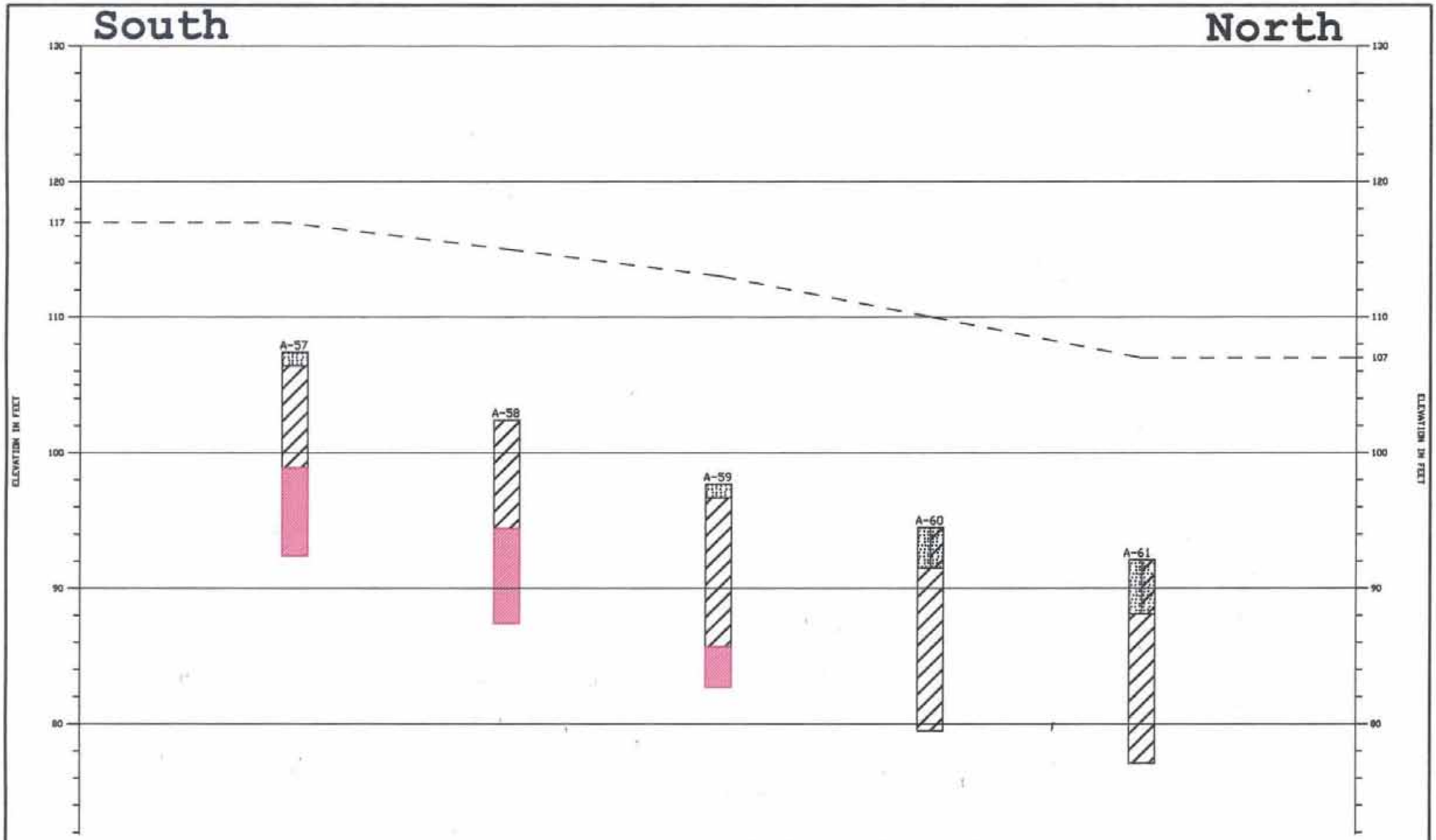

CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Linestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-57, A-58, A-59, A-60, and A-61
3. Ground surface elevation at borings locations are approximate

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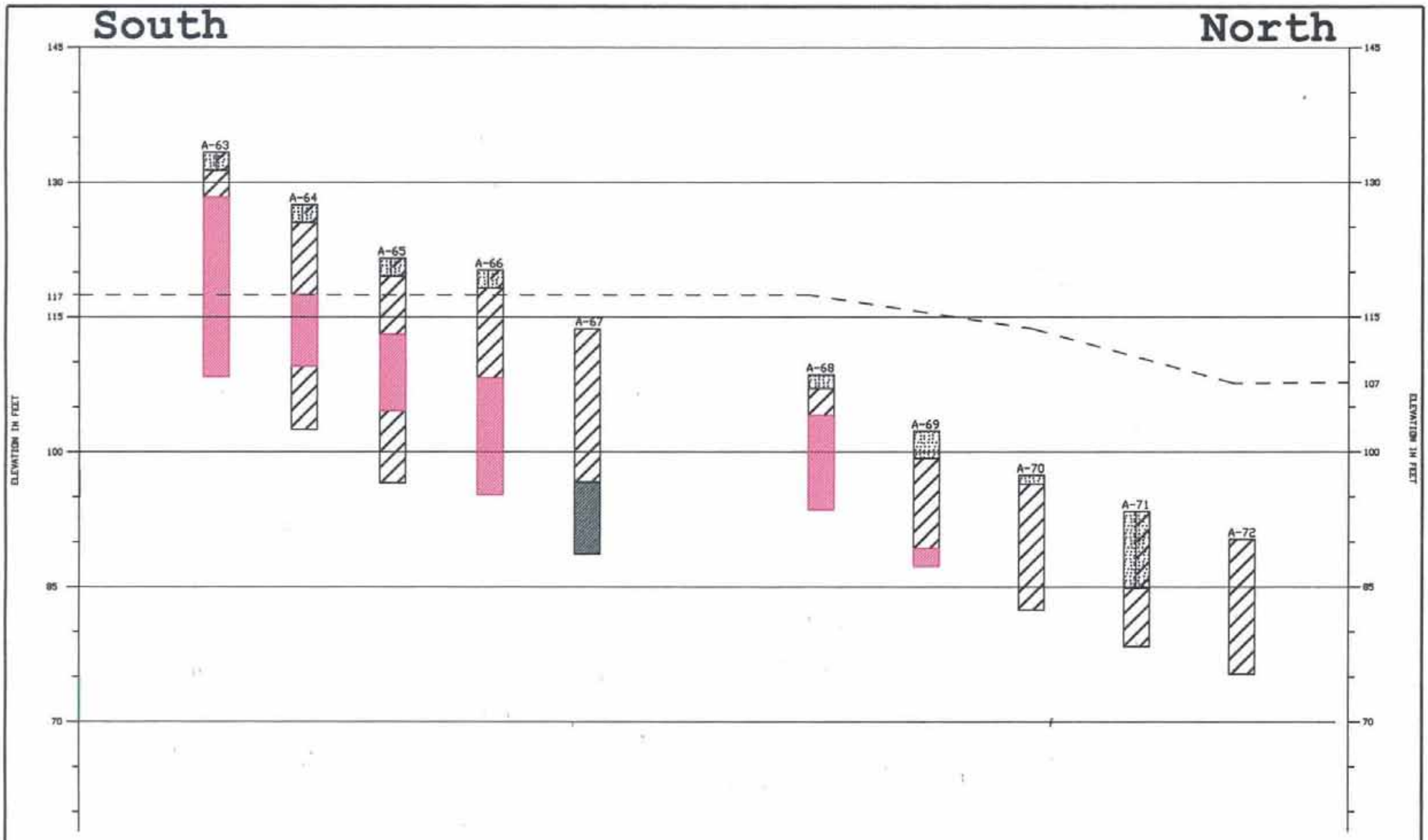
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-8



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-63, A-64, A-65, A-66, A-67, A-68, A-69, A-70, A-71, and A-72
3. Ground surface elevation at borings locations are approximate

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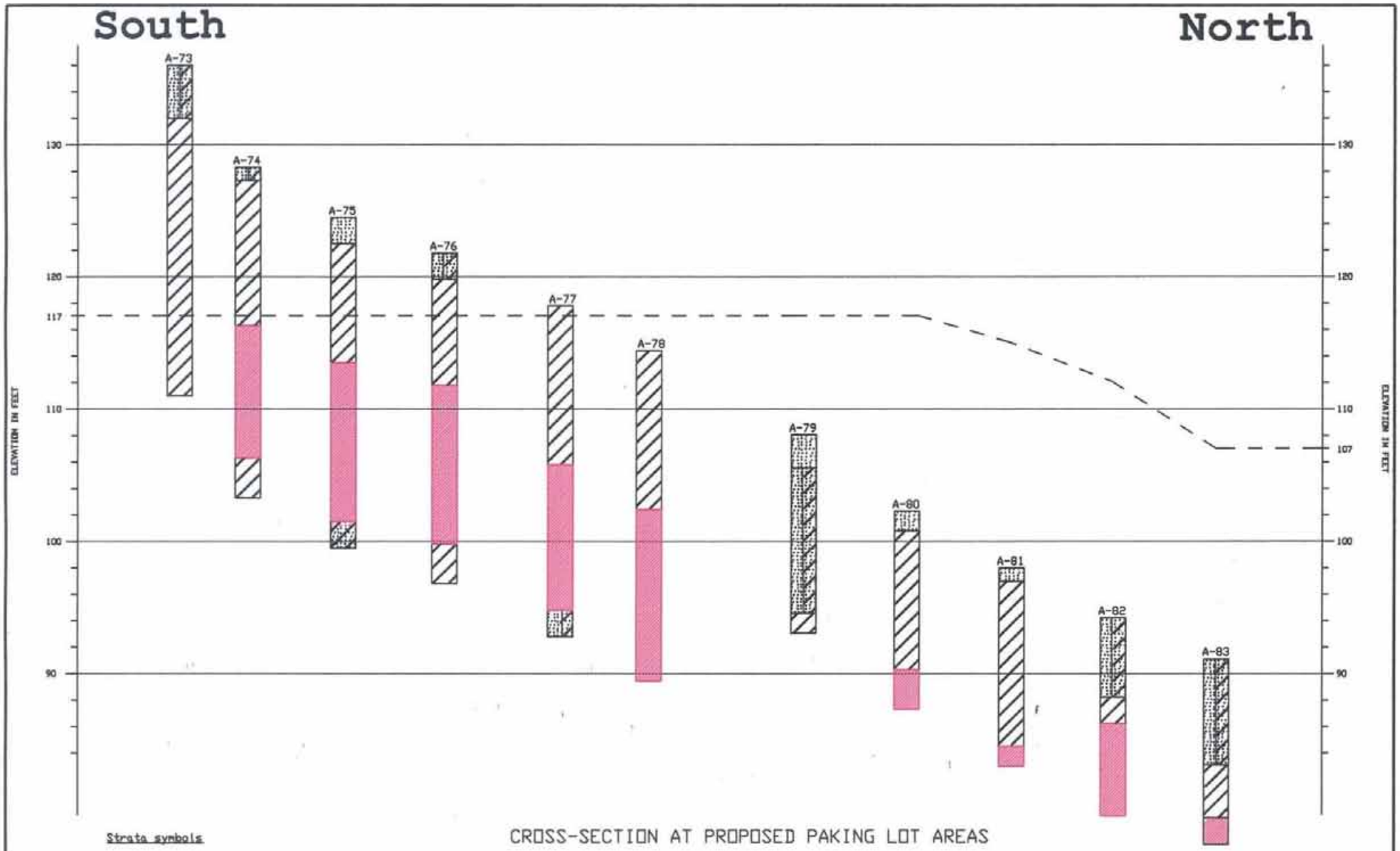
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-9



CROSS-SECTION AT PROPOSED PAKING LOT AREAS

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed parking lot pavement elevation — — —
2. Profile represented by soil borings A-73, A-74, A-75, A-76, A-77, A-78, A-79, A-80, A-81, A-82, and A-83
3. Ground surface elevation at borings locations are approximate

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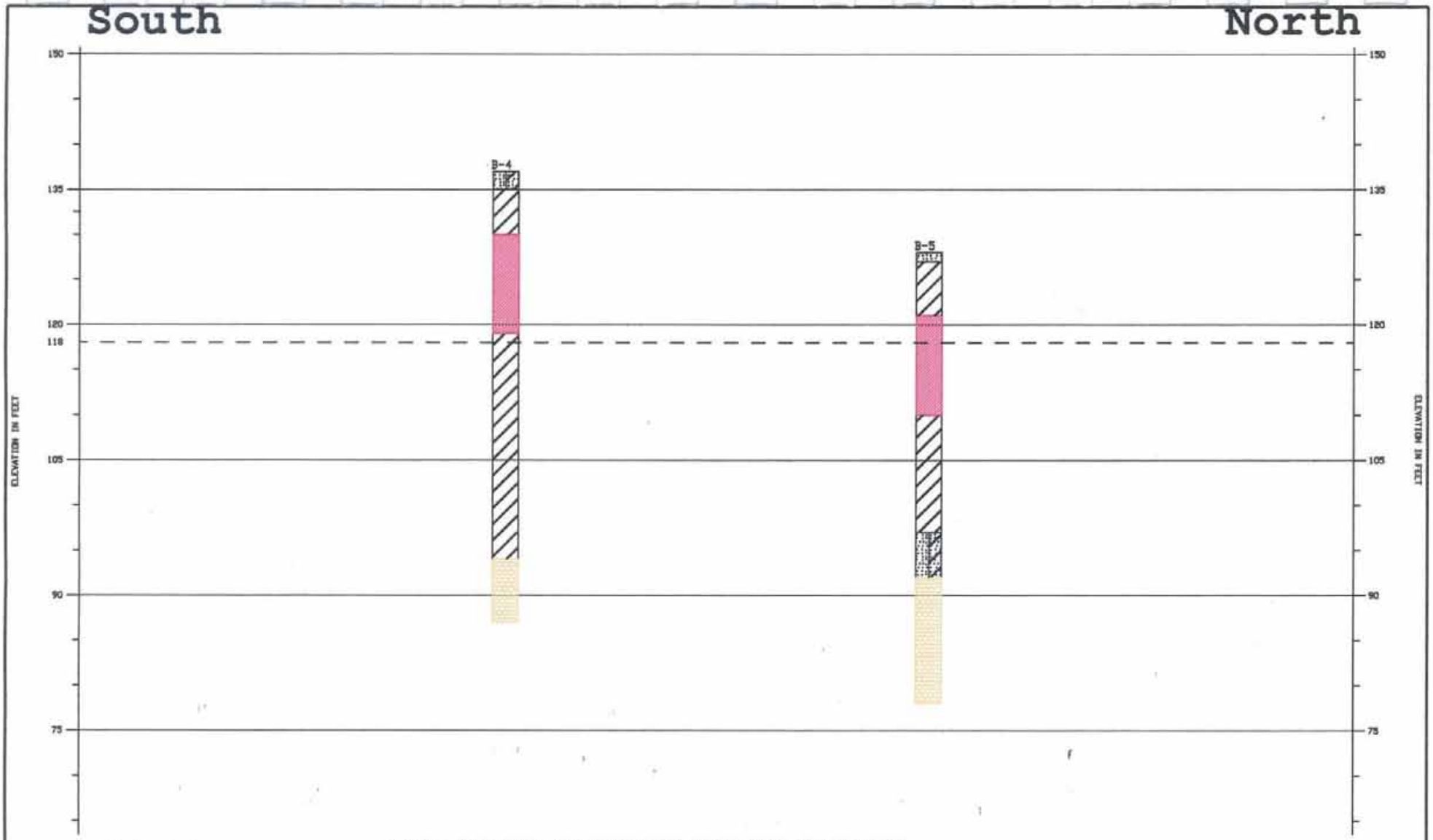
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-10



CROSS-SECTION AT PROPOSED BUILDING FOOTPRINT

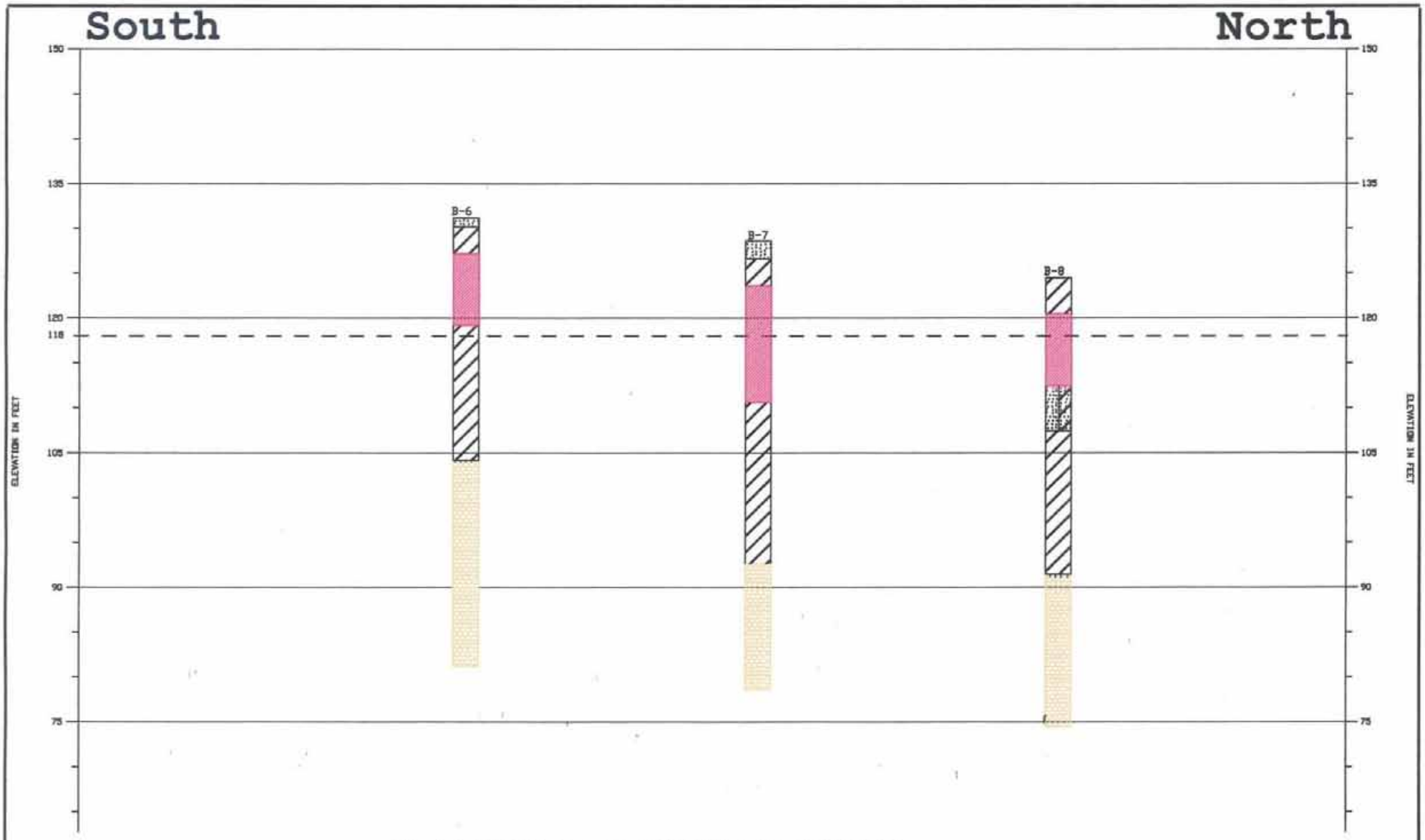
Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed building finished floor elevation — — —
2. Profile represented by soil borings B-4 and B-5
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences GENERALIZED SUBSURFACE PROFILE		
Wal-Mart store tracking No 3873-00		
Project No. 70080-077-06	Date 3/25/05	Page Number D-11



CROSS-SECTION AT PROPOSED BUILDING FOOTPRINT

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed building finished floor elevation — — —
2. Profile represented by soil borings B-6, B-7 and B-8
3. Ground surface elevation at borings locations are approximate

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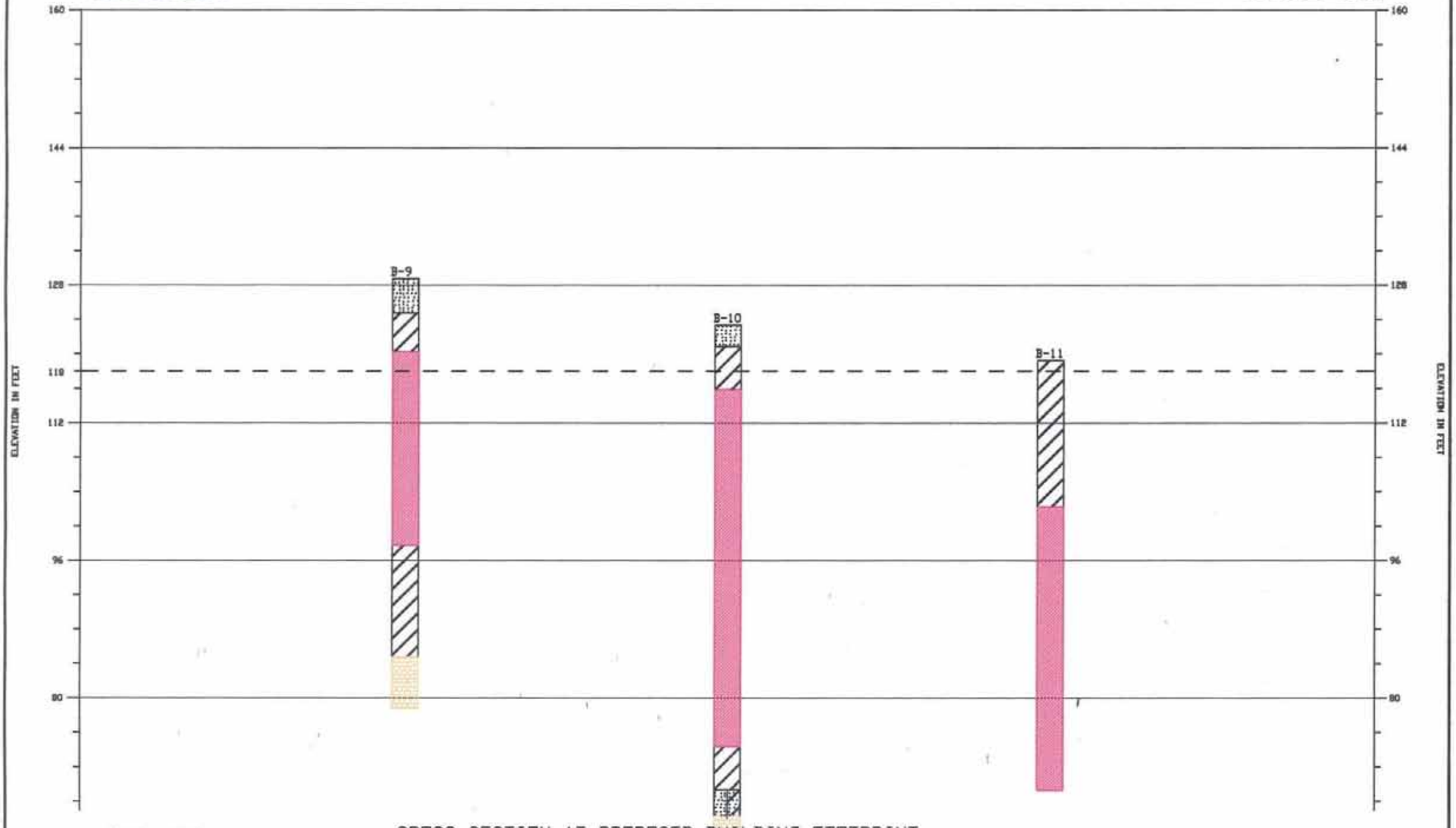
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-12

South

North



CROSS-SECTION AT PROPOSED BUILDING FOOTPRINT

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed building finished floor elevation — — —
2. Profile represented by soil borings B-9, B-10, and B-11
3. Ground surface elevation at borings locations are approximate

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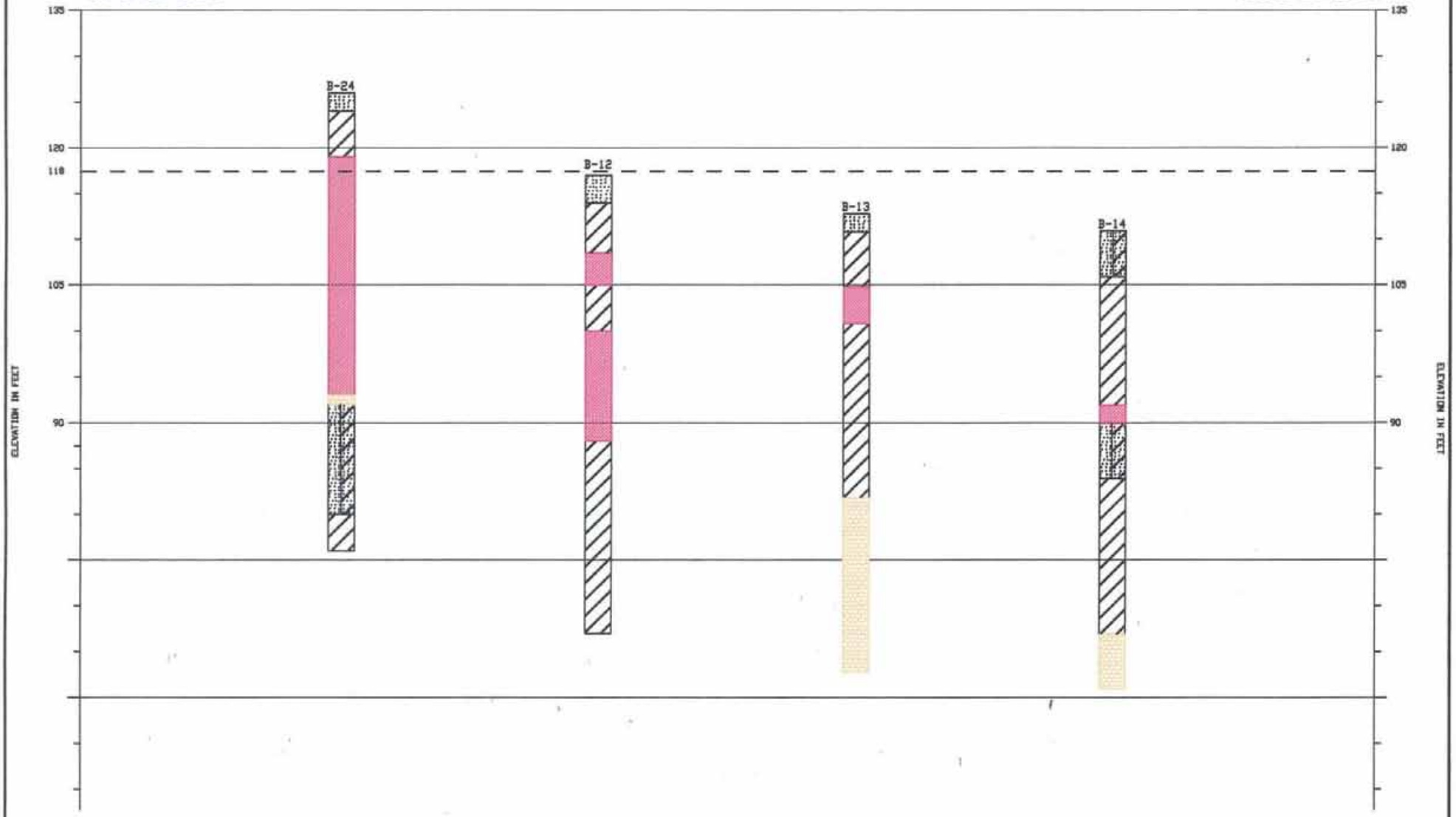
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-13

South

North



CROSS-SECTION AT PROPOSED BUILDING FOOTPRINT

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed building finished floor elevation — — —
2. Profile represented by soil borings B-24, B-12, B-13, and B-14
3. Ground surface elevation at borings locations are approximate

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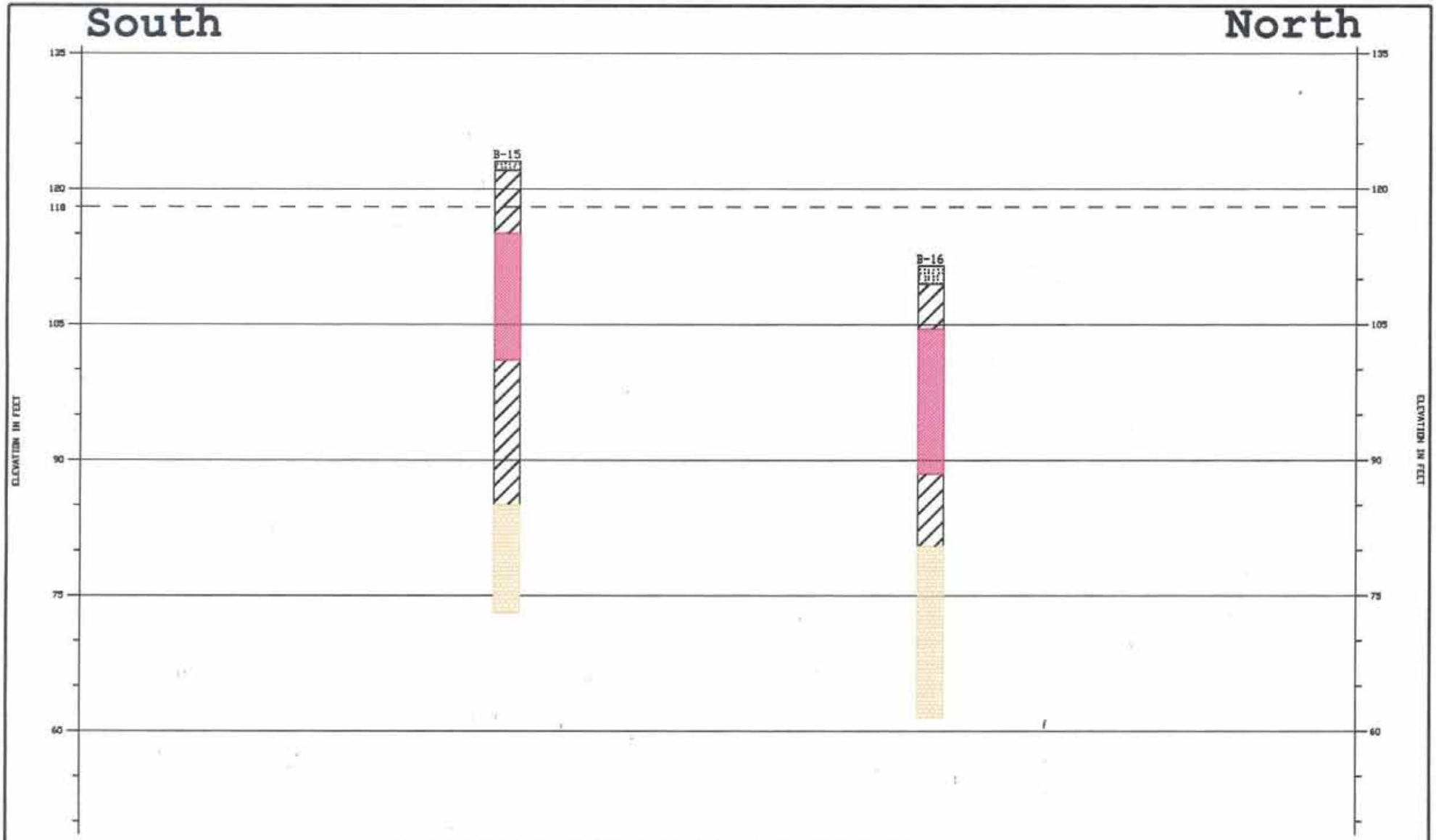
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-14



CROSS-SECTION AT PROPOSED BUILDING FOOTPRINT

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed building finished floor elevation — — —
2. Profile represented by soil borings B-15 and B-16
3. Ground surface elevation at borings locations are approximate

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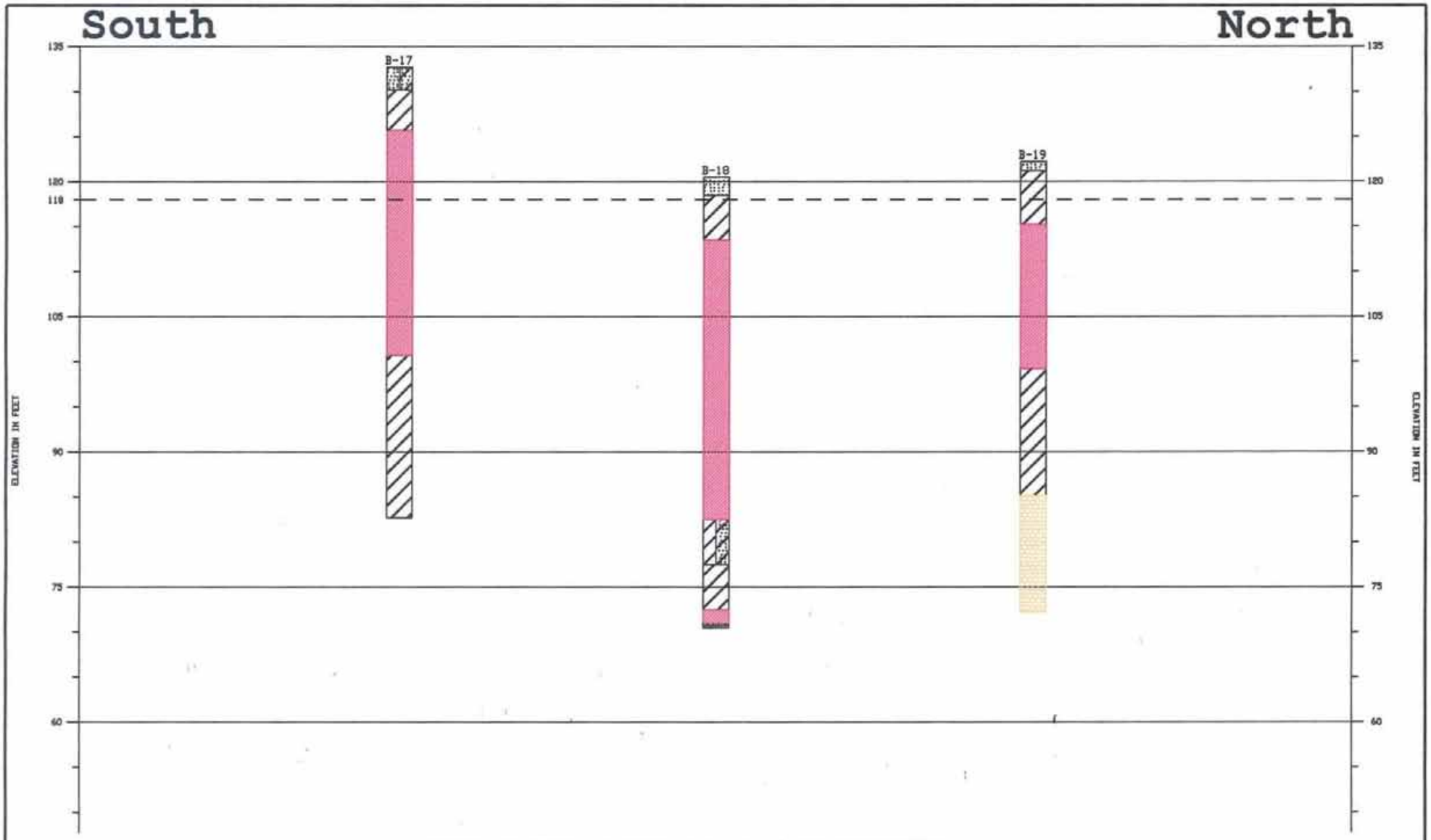
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-15



CROSS-SECTION AT PROPOSED BUILDING FOOTPRINT

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed building finished floor elevation — — —
2. Profile represented by soil borings B-17, B-18, and B-19
3. Ground surface elevation at borings locations are approximate

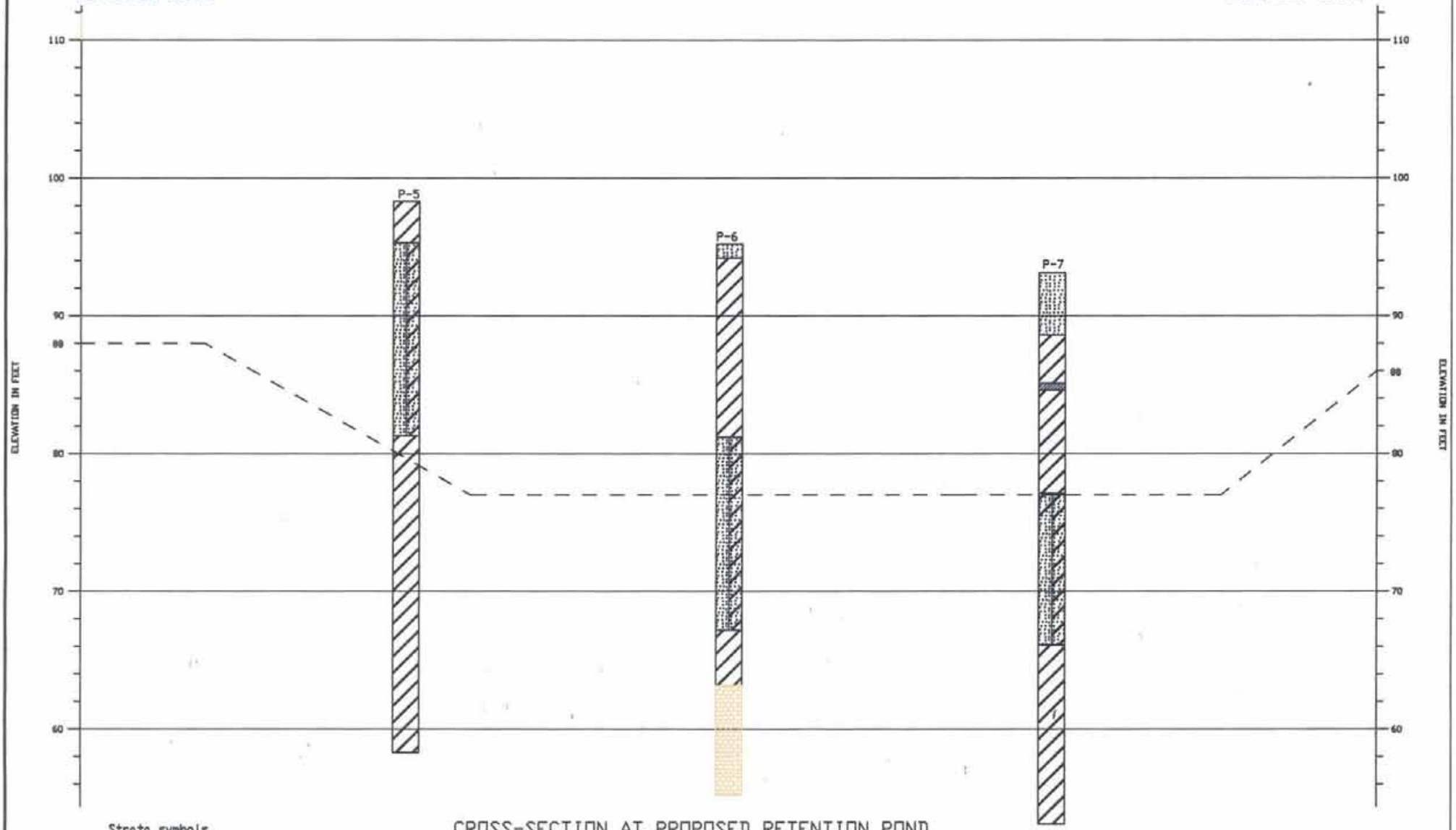
Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-16

South

North



CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Note:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-5, P-6, and P-7
3. Ground surface elevation at borings locations are approximate

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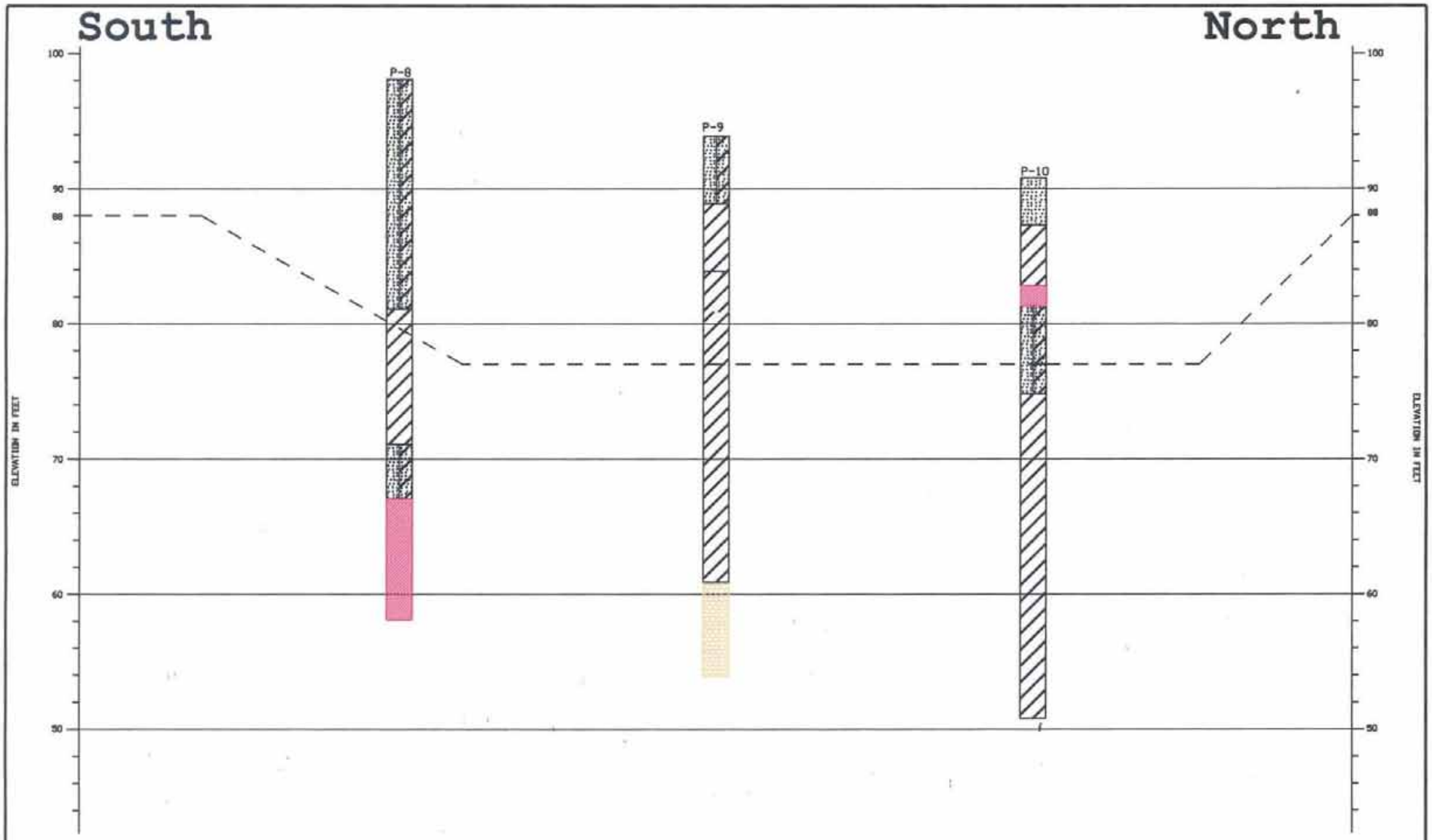
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-17



CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Note:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-8, P-9, and P-10
3. Ground surface elevation at borings locations are approximate

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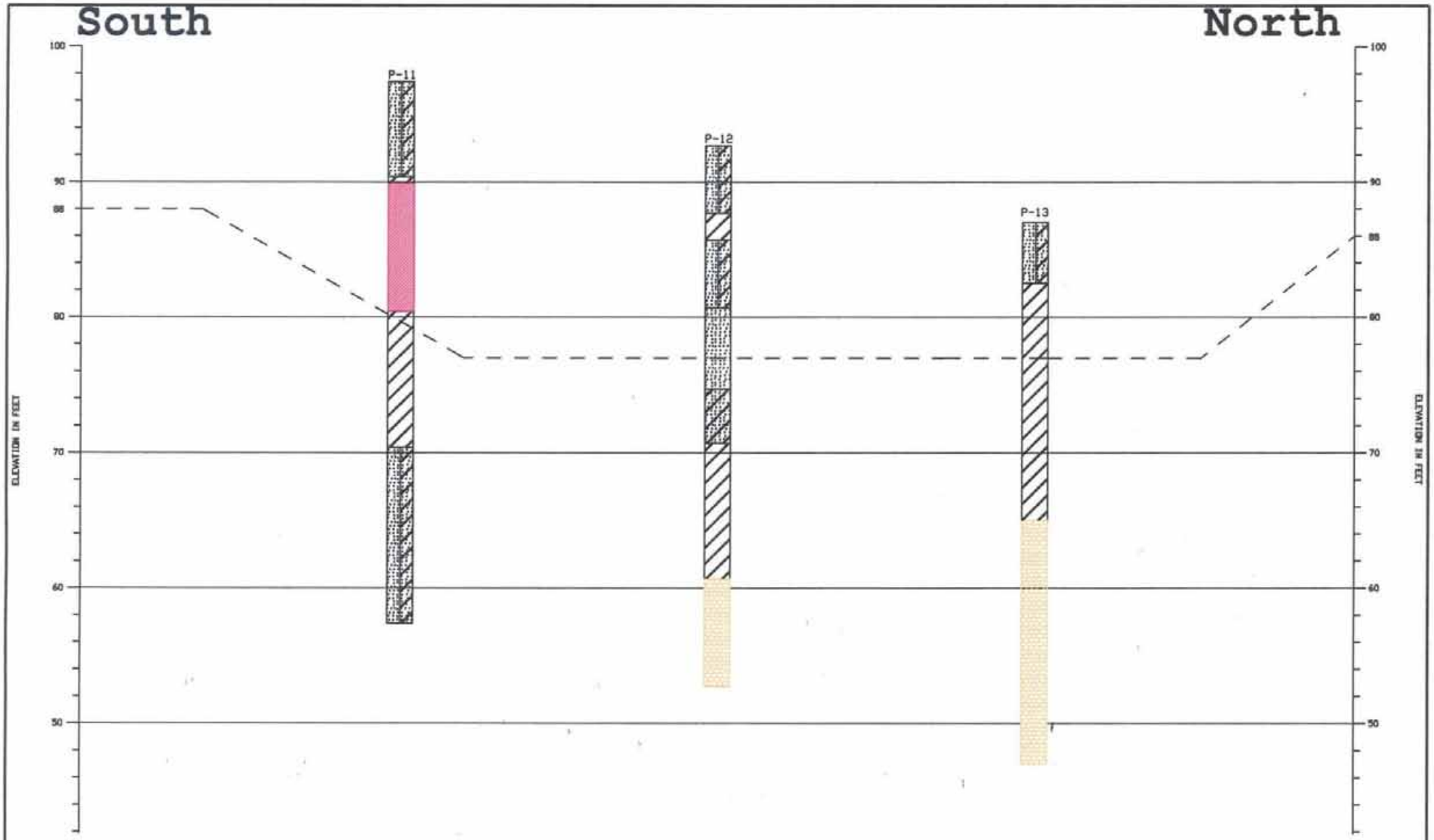
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-18



CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Note:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-11, P-12 and P-13
3. Ground surface elevation at borings locations are approximate

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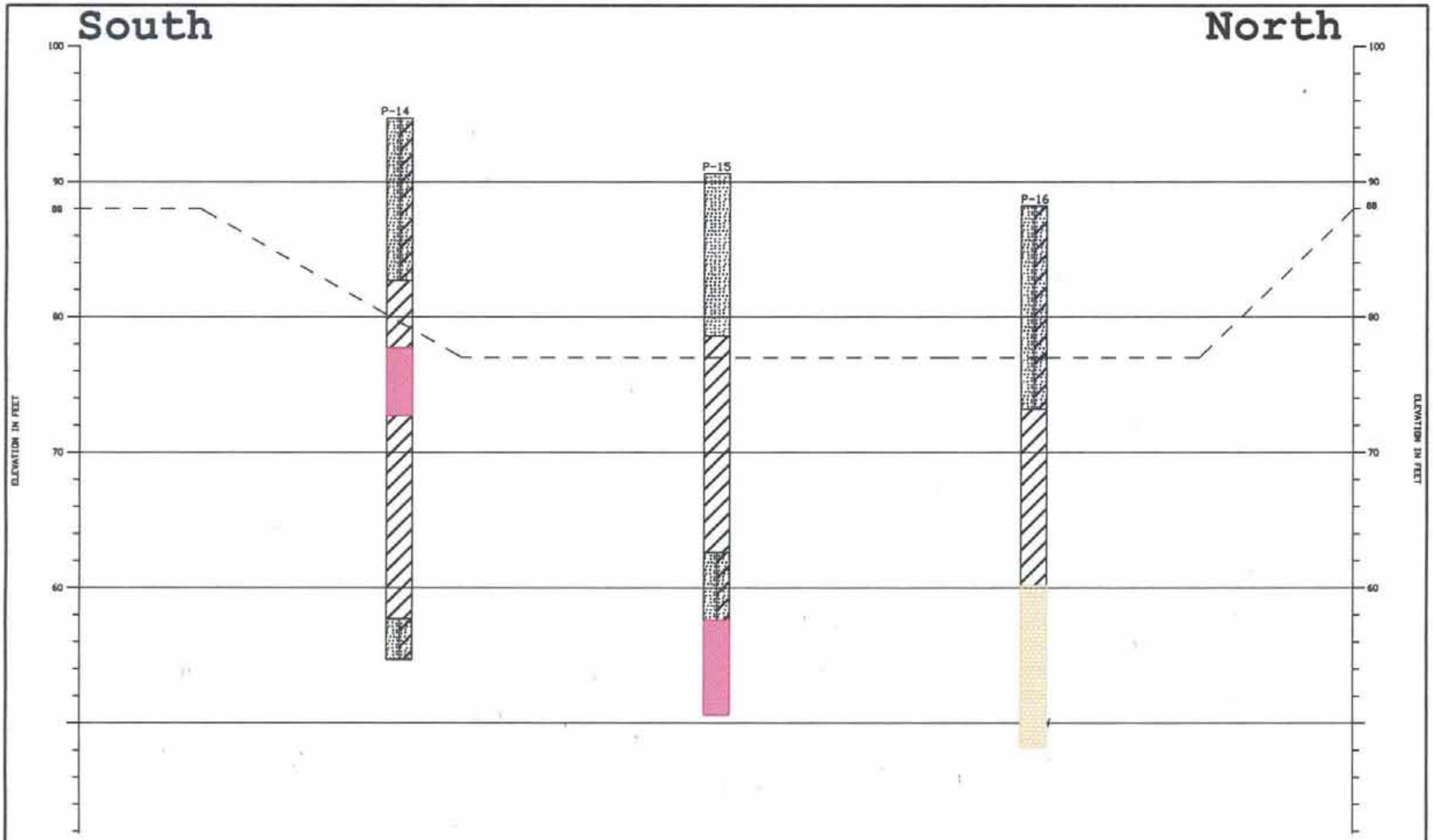
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-19



CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Note:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-14, P-15 and P-16
3. Ground surface elevation at borings locations are approximate

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GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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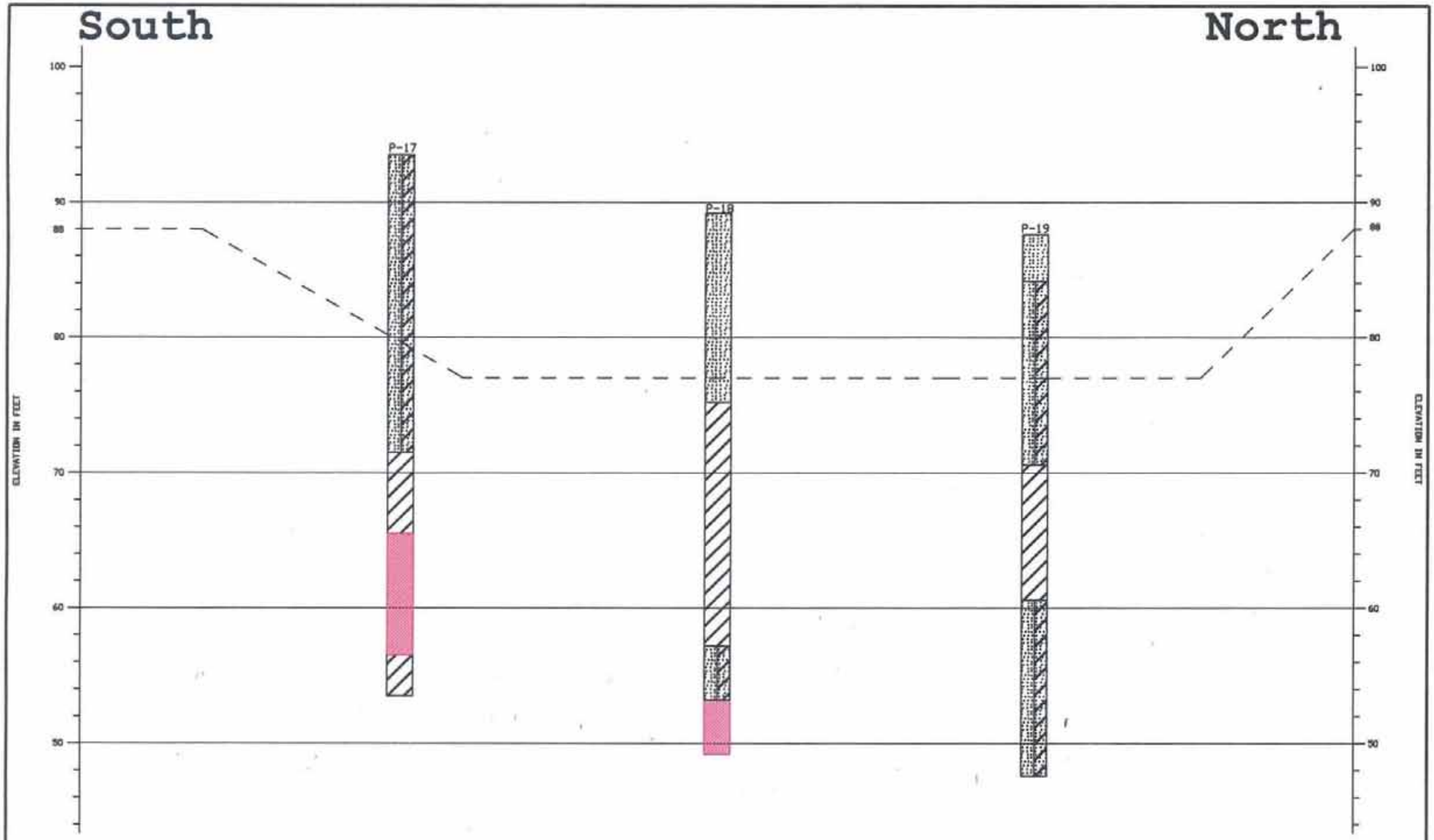

CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Note:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-17, P-18 and P-19
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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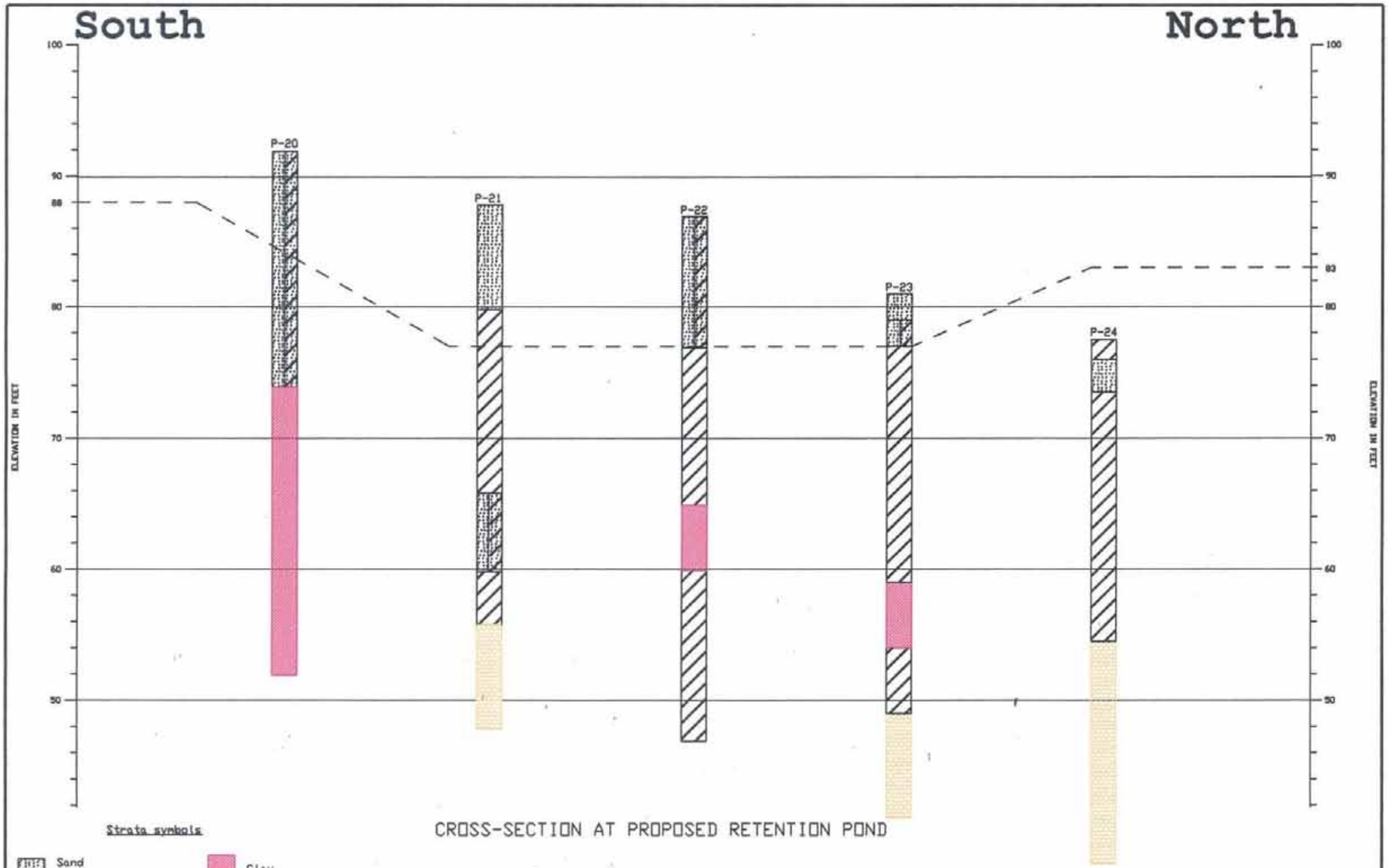


CROSS-SECTION AT PROPOSED RETENTION POND

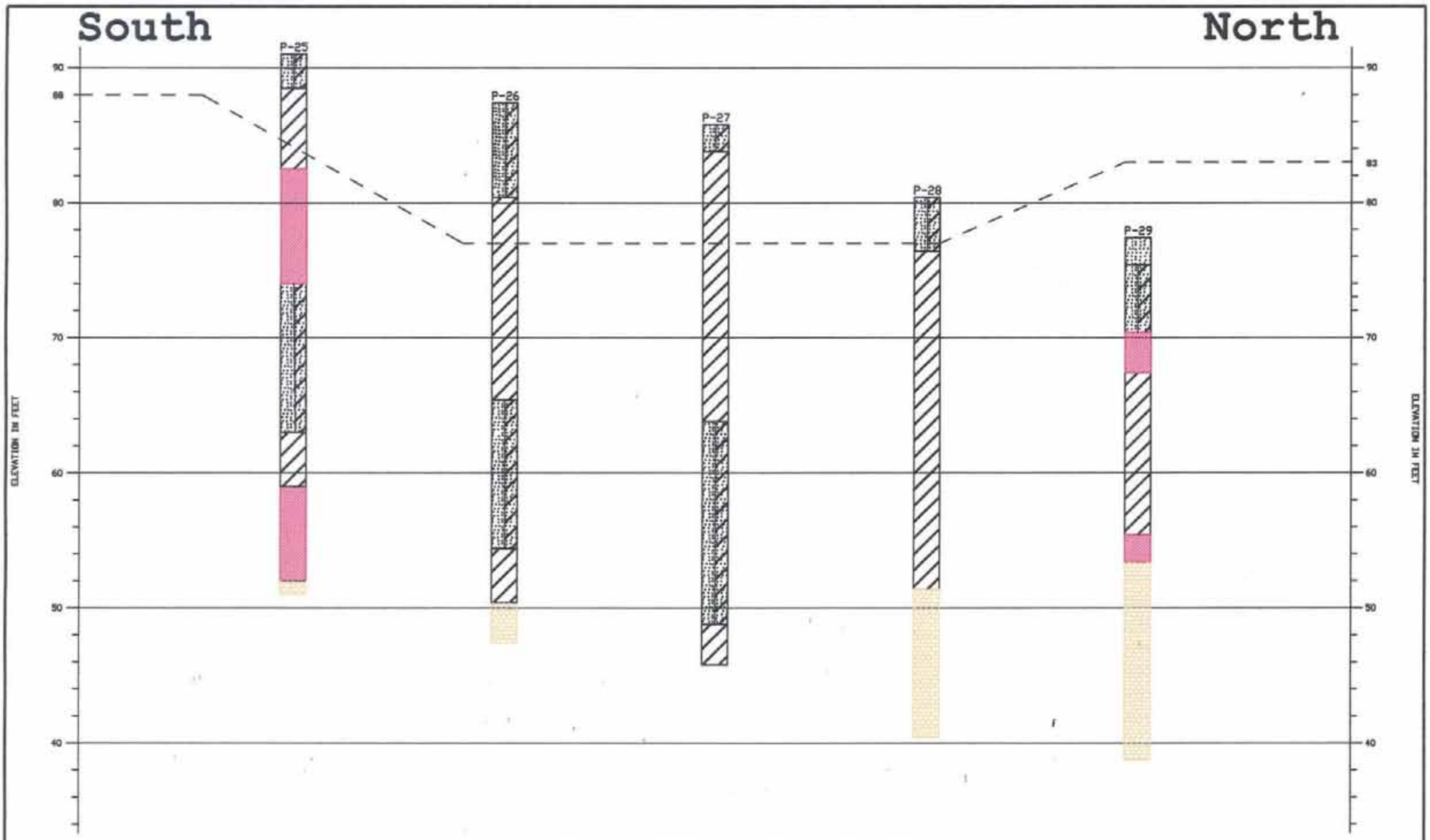
Notes:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-20, P-21, P-22, P-23, and P-24
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-22



CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-25, P-26, P-27, P-28 and P-29
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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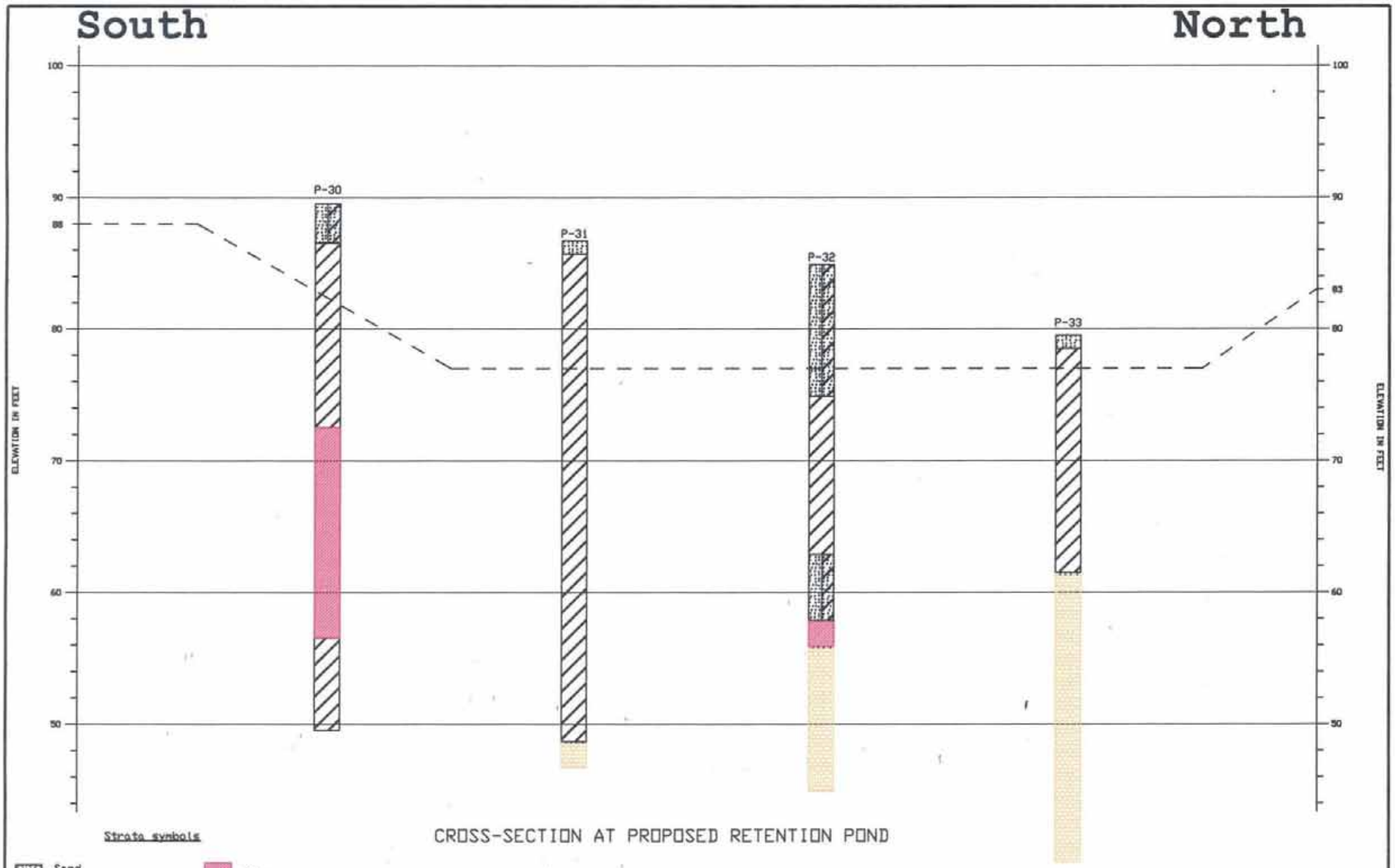

CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-30, P-31, P-32, and P-33
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
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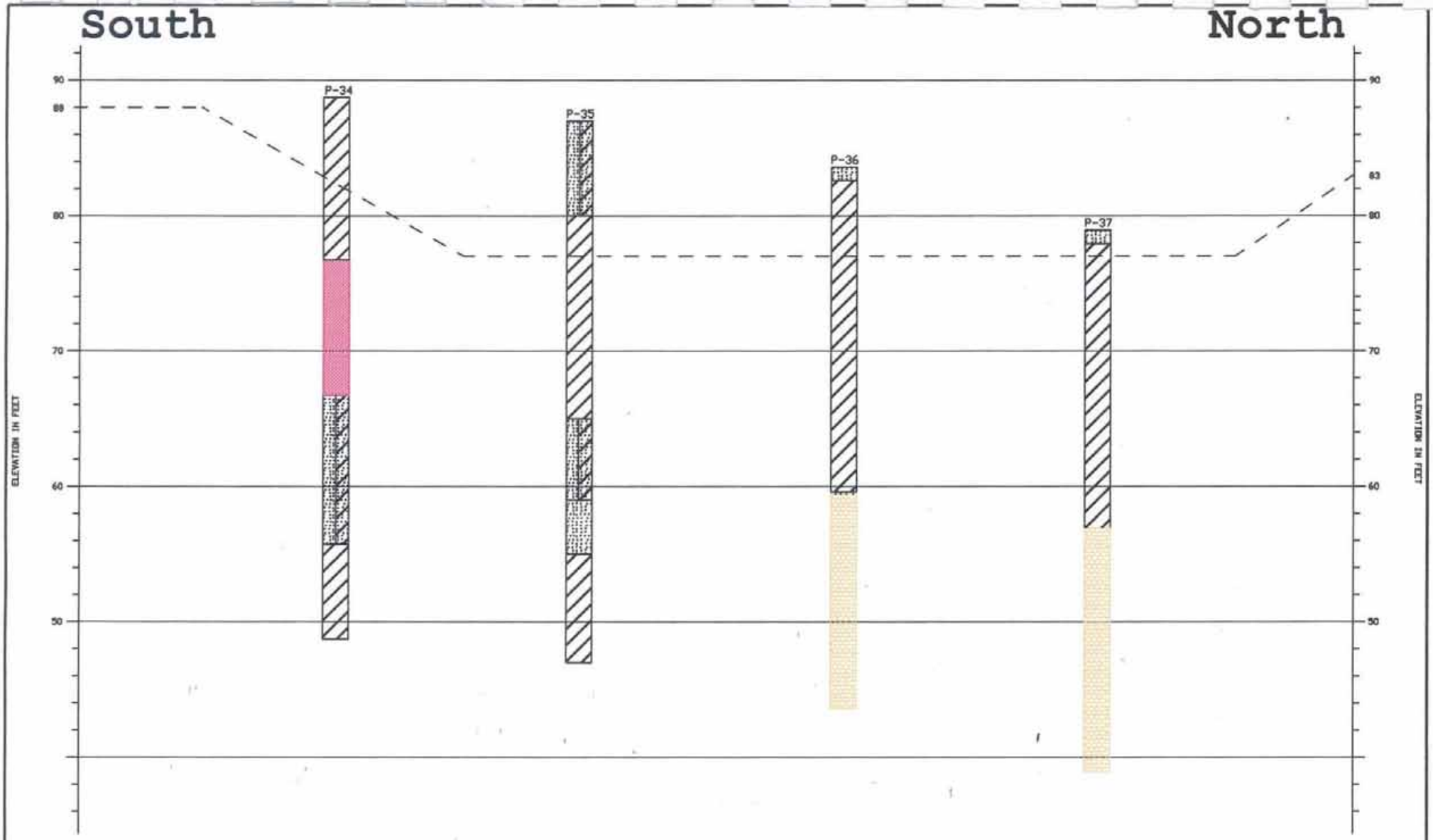


CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

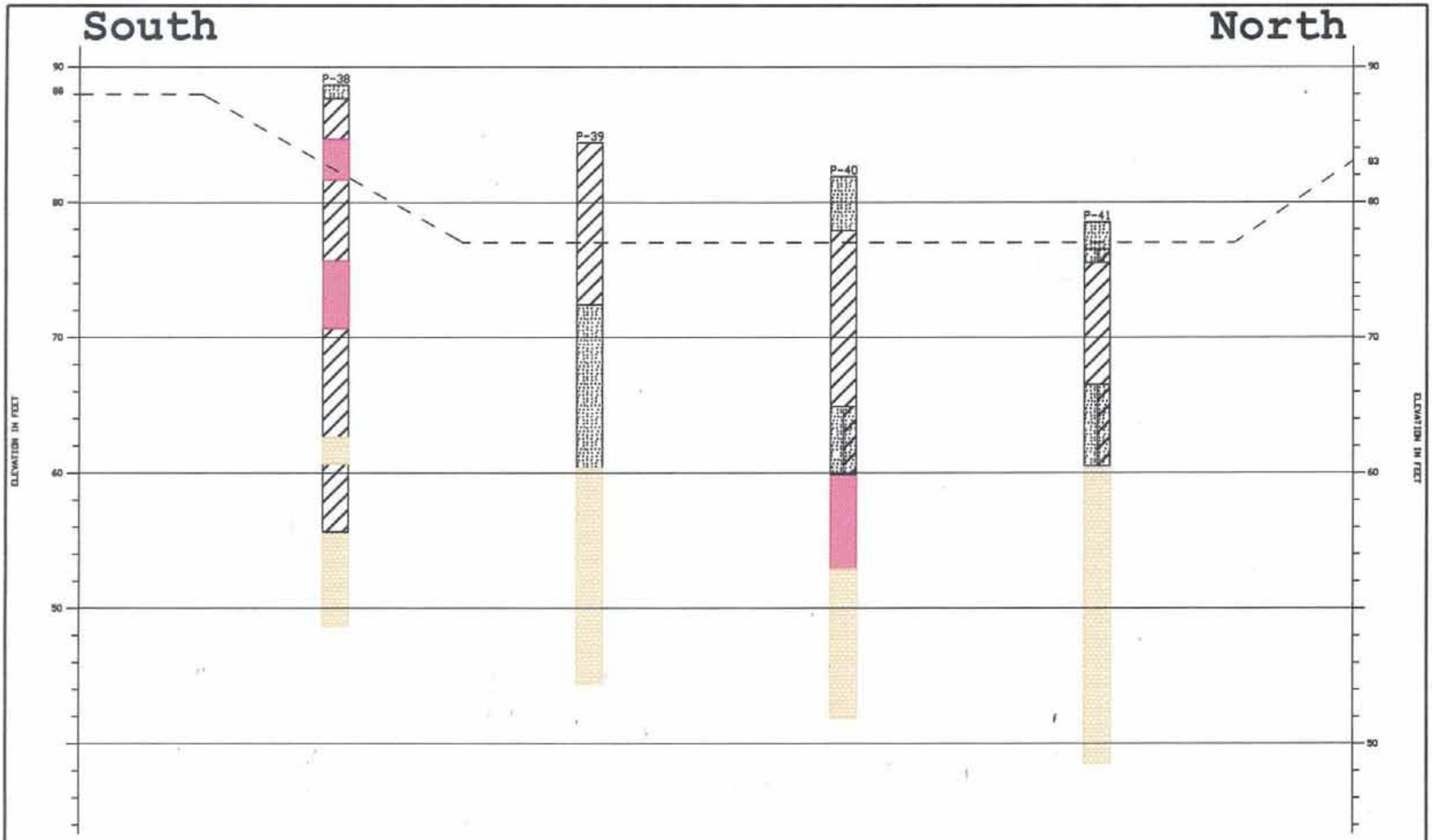
Notes:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-34, P-35, P-36, and P-37
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-25



CROSS-SECTION AT PROPOSED RETENTION POND

Strata symbols

- Sand
- Clayey Sand
- Slightly Clayey Sand
- Clay
- Limestone

Notes:

1. Proposed retention pond bottom elevation — — —
2. Profile represented by soil borings P-38, P-39, P-40, and P-41
3. Ground surface elevation at borings locations are approximate

Universal Engineering Sciences
GENERALIZED SUBSURFACE PROFILE

Wal-Mart store tracking No 3873-00

Project No.	Date	Page Number
70080-077-06	3/25/05	D-26

APPENDIX E

Summary of Classifications and Index Testing
for Preliminary Study
Laboratory Testing Procedures

Summary of Classification and Index Testing for Preliminary Report

Boring No.	Sample Depth, Ft.	Permeability (ft/day)	Fine Content (%)	Soil Description	Unified Soil Classification
B-1	0 to 2	--	58%	Very sandy Clay	CH
B-1	2 to 8.5	--	43%	Very clayey Sand	SC
B-1	15 to 17	--	94%	Clay	CH
B-1	41 to 45	--	73%	Sandy Clay	CH
B-2	6 to 8	--	89%	Sandy Clay	CH
B-4	3 to 5	0.7	36%	Clayey Sand	SC
B-4	5 to 8	--	48%	Very clayey Sand	SC
B-5	17 to 23	--	67%	Very sandy Clay	CH
B-6	6 to 8	2	23%	Clayey Sand	SC
B-6	12to 15	3	21%	Clayey Sand	SC
B-7	11 to 17	--	59%	Very sandy Clay	CH
B-7	17 to 21	--	39%	Very clayey Sand	SC
B-7	21 to 27	1	24%	Clayey Sand	SC

LABORATORY TESTING PROCEDURES

PERCENT FINES DETERMINATION ASTM D-1140

The percent fines or material passing the No. 200 mesh sieve was determined. The percent fines are the soil particles in the silt and clay size range.

pH DETERMINATION (CALIFORNIA DOT 643)

The pH is measured by mixing distilled water with a soil sample until the soil particles are dispersed. Then the sample is checked for pH, using a pH meter.

ORGANIC CONTENT DETERMINATION ASTM D-2974

This test method evaluates the moisture content, ash content, and organic matter in peats and other organic soils, such as organic clay, silt, sand, and "muck".

The organic content measurement was performed by placing a sample of soil in a low temperature oven. The soil is then dried (as described above) to measure the initial moisture content. The soil is then transferred to a high temperature kiln which burns off the organic materials. The organic content is then calculated as the ratio of the weight loss to the dry weight of the soil measured from the low temperature oven; it is expressed as a percent.

MOISTURE CONTENT DETERMINATION ASTM D-2216

Moisture content is the ratio of the weight of water to the dry weight of soil. Moisture content is measured by drying a sample at 105 degrees Celsius. The moisture content is expressed as a percent of the oven dried soil mass.

CORROSION TESTING - FM 5-550 and FM5 - 551

Testing for corrosion parameters included pH and resistivity.

FALLING HEAD PERMEABILITY TEST - ASTM D - 5084

A number of recovered soil samples were selected to determine to determine Darcy's Coefficient of Permeability (k) of the soil. A falling head permeability test was performed on each soil specimen.

ATTERBERG LIMITS - ASTM D - 4318

Certain recovered soil samples were selected for Atterberg Limits testing to determine the soil plasticity characteristics. The soil's Plasticity Index (PI) is the range of moisture content over which the soil deforms as a plastic material. It is bracketed by the Liquid Limit (LL) and the Plastic Limit (PL). The LL is the moisture content at which the soil will flow as a heavy viscous fluid. The PL is the lowest moisture content at which the soil is sufficiently plastic so as to be manually rolled into a 1/8-inch diameter thread.

APPENDIX F

Summary of Classifications and Index Testing
for Final Study
Report of Corrosion Parameters
for Final Study
Laboratory Testing Procedures

Summary of Classification and Index Testing for Final Study

SUMMARY OF FINAL STUDY LABORATORY TEST RESULTS							
Boring No.	**Sample Depth, Ft.**	**Fines Content (%)**	**Atterberg Limits**		**Permeability (Ft/day)**	**Organic Content (%)**	**Unified Soil Classification**
			LL	**PI**			
A-6	20	87	--	--	--	--	CH
A-20	18	27	–	–	–	–	SC
A-24	8.5	26	–	–	–	–	SC
A-31	2	38	–	–	–	–	SC
A-33	4	34	–	–	–	–	SC
A-52	5.5	87	–	–	–	–	CH
A-59	1	41	–	–	–	–	SC
A-71	1	30	–	–	–	–	SC
A-77	10	41	–	–	–	–	SC
B-1	16	76	88	54	--	--	CH
B-1	18	29	–	–	–	–	SC
B-2	10	89	102	57	–	--	MH
B-2	15	83	85	46	–	--	MH
B-3	20	16	–	–	–	--	SM
B-4	18	31	–	–	–	–	SC
B-5	4	86	71	31	–	--	MH
B-5	10	83	62	34	–	--	MH
B-6	28	79	–	–	–	–	CH
B-8	9	25	–	–	–	–	SC
B-8	19	73	88	51	–	--	CH-MH
B-9	29	45	36	13	--	--	SC
B-10	8	84	60	33	–	--	CH
B-10	22	24	–	–	–	–	SC
B-11	14	37	41	20	–	–	SC
B-11	19	85	73	46	–	--	CH
B-12	31	19	–	–	–	–	SC
B-13	19	38	41	18	–	–	SC

SUMMARY OF FINAL STUDY LABORATORY TEST RESULTS							
Boring No.	Sample Depth, Ft.	Fines Content (%)	Atterberg Limits		Permeability (Ft/day)	Organic Content (%)	Unified Soil Classification
			LL	PI			
B-14	38	22	–	–	–	–	SC
B-15	34	55	60	34	–	–	CH
B-15	38	16	–	–	–	–	SM
B-16	8	82	–	–	–	--	CH
B-16	22	18	–	–	–	–	SC
B-21	24	51	52	29	–	–	CH
P-6	16	27	--	--	2	--	SC
P-7	31	15	--	--	8	---	SP-SM
P-8	23	23	--	--	2	--	SC
P-12	17	22	--	--	3	--	SC
P-13	22	34	--	--	4	--	SC
P-14	18	35	--	--	2	--	SC
P-18	13	23	--	--	3	--	SC
P-21	21	16	--	--	9	--	SP-SM
P-27	18	21	--	--	3	--	SC
P-28	13	28	--	--	2	--	SC
P-29	13	45	--	--	1	--	SC

REPORT OF CORROSION PARAMETERS FOR FINAL STUDY

Boring No.	Sample Depth, ft.	Sample Description	pH	Environmental Classification	
				Steel	Concrete
A-20	15	Light gray & orange clayey Sand (SC)	4.19	Extremely Aggressive	Extremely Aggressive
A-24	8	Light brown to tan clayey Sand (SC)	5.54	Extremely Aggressive	Moderately Aggressive
B-3	20	Tan & light gray slightly clayey Sand (SM-SC)	6.08	Moderately Aggressive	Moderately Aggressive
B-12	31	Light gray clayey Sand (SC)	6.59	Moderately Aggressive	Moderately Aggressive

LABORATORY TESTING PROCEDURES

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APPENDIX G

Important Information About Your Geothechnical Report
Constrain and Restrictions

Important Information About Your Geotechnical Engineering Report

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

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique; each geotechnical engineering report is uniquely prepared for the client. No one except you should rely on your geotechnical engineering report without first confiding with the geotechnical engineer who prepared it. And no one-not even you-should apply the report for any purpose or project except the one originally contemplated.

A Geotechnical Engineering Report is Based on A Unique Set of Project Specific Factors

Geotechnical engineers consider a number of unique project specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conduced the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership

As a general rule, always inform your geotechnical engineer of project changes-even minor ones-and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of when they were not informed.

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events such as flood, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report, to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ-sometimes significantly-from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

CONSTRAINTS AND RESTRICTIONS

WARRANTY

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

UNANTICIPATED SOIL CONDITIONS

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

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

CHANGED CONDITIONS

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

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

MISINTERPRETATION OF SOIL ENGINEERING REPORT

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

CHANGED STRUCTURE OR LOCATION

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

USE OF REPORT BY BIDDERS

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

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

STRATA CHANGES

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

OBSERVATIONS DURING DRILLING

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

WATER LEVELS

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

LOCATION OF BURIED OBJECTS

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

TIME

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

APPENDIX H

Geotechnical Investigation Fact Sheet
Foundation Design Criteria
Foundation Subsurface Preparation
Pavement Design Calculations
Pavement Section Design

GEOTECHNICAL INVESTIGATION FACT SHEET

PROJECT LOCATION: Wal-Mart SuperCenter Store No. 3873-00
SEC I-75 and U.S. 441, Alachua, Alachua County, Florida

ENGINEER: David Barreiro, P.E. PHONE #: 352-372-3392

GEOTECHNICAL ENGINEERING COMPANY: Universal Engineering Sciences

REPORT DATE: April 30, 2005

Ground Water Depth: 3 to 23 feet below existing site grades

Date Groundwater Measured: January 27, 2005 through February 9, 2005

Topsoil/Stripping Depth: 6 to 12 inches

Modified Proctor Results: N/A

Recommended Compaction Control Tests:

1 Test for Each 2,500 Sq. Ft. each Lift (bldg. area)

1 Test for Each 10,000 Sq. Ft. each Lift (parking area)

Structural Fill Maximum Lift Thickness 12 in. (Measured loose)

Subgrade Design CBR value = 26 (LBR = 40)

Fill Soils Characteristics:

Maximum Liquid Limit: 40

Maximum Plasticity Index: 10

Specified Compaction: 95% Modified Proctor

Moisture Content Range: +/-2% of Optimum

COMPONENT	ASPHALT		CONCRETE	
	Standard	Heavy	Standard	Heavy
Stabilized Subgrade* (If Applicable)	6"	6"	4"	4"
Base Material* (Limerock or Crushed Concrete)	6"	6"	4"	4"
* Free draining materials				
Asphaltic Base Course	N/A	N/A		
Leveling Binder Course	2.0"	2.5"		
Surface Course	1.0"	1.5"	5" (conc. thickness)	6"

FOUNDATION DESIGN CRITERIA

PROJECT LOCATION: Wal-Mart SuperCenter Store No. 3873-00
SEC I-75 and U.S. 441, Alachua, Alachua County, Florida

ENGINEER: David Barreiro, P.E. PHONE #: 352-372-3392

GEOTECHNICAL ENGINEERING COMPANY: Universal Engineering Sciences

REPORT DATE: April 30, 2005

Foundation Type: Spread Footings

Allowable bearing pressure: 2,500 psf

Factor of Safety: +2

Minimum footing dimensions: Individual: 24" Continuous: 18"

Minimum footing Embedment: Exterior: 18" Interior: 18"

Frost depth: None

Maximum foundation settlements: Total: ¾"

Differential ½"

Slab: Potential vertical rise: None anticipated if undercut recommendations are followed

Vapor barrier or capillary break (describe): Plastic Sheet (10 MIL Polyethylene)

Subgrade reaction modulus: 150 psi/in Method obtained: NAVFAC Dm 7.1, page 219, Figure 6 Perimeter Drains (describe): Building: Underdrains for TLE pit

Retaining Walls: Wall drains/underdrains to prevent excessive hydrostatic pressures

Pavements: Underdrains as dictated by seasonal high groundwater levels

Cement Type: Type I

Retaining Wall: At rest pressure: $K_o = 0.5$

Coefficient of friction: 0.4

COMMENTS: N/A

NOTE: This information should not be used separately from the geotechnical report.

FOUNDATION SUBSURFACE PREPARATION

WAL★MART SUPERCENTER STORE NO. 3873-00
SEC I-75 AND U.S. 441, ALACHUA, ALACHUA COUNTY, FLORIDA

UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF THIS SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 10 FEET BEYOND THE BUILDING AND APPURTENANCES. APPURTENANCES ARE THOSE ITEMS ATTACHED TO THE BUILDINGS PROPER (REFER TO DRAWING SHEET SP1) AND TYPICALLY INCLUDE, BUT ARE NOT LIMITED TO, THE BUILDING SIDEWALKS, GARDEN CENTER, PORCHES, RAMPS, STOOPS, TRUCK WELLS/DOCKS, CONCRETE APRONS AT THE AUTOMOTIVE CENTER, COMPACTOR PAD, ETC. THE SUB-BASE AND THE VAPOR BARRIER, WHERE REQUIRED, DO NOT EXTEND BEYOND THE LIMITS OF THE ACTUAL BUILDING AND APPURTENANCES.

IN CONSIDERATION OF THE INTENDED USE OF AN EXPOSED CONCRETE FLOOR, ESTABLISH THE FINAL SUB-GRADE ELEVATION AT 11.5 INCHES BELOW THE FINISHED CONCRETE ELEVATION TO ALLOW FOR A 5.5-INCH SLAB, OR AT 10 INCHES BELOW THE FINISHED FLOOR TO ALLOW FOR A 4 INCH SLAB, UNDERLAIN BY A 10 MIL THICK POLYETHYLENE VAPOR BARRIER, ATOP A 6 INCH AGGREGATE SUBBASE. PER WAL-MART SPECIFICATIONS, THE SUBBASE SHALL CONSIST OF 4 INCHES OR COARSE AGGREGATE MEETING THE GRADATION REQUIREMENTS OF ASTM D-448 (#67) COVERED BY 2 INCHES OF FINE AGGREGATE MEETING THE GRADATION REQUIREMENTS OF ASTM D-448 (#10) WITH 6% TO 12% MATERIAL PASSING THE NO. 200 SIEVE. MATERIAL SUCH AS CLEAN SAND OR MORE UNIFORMLY GRADED AGGREGATE SUCH AS #57 STONE FOR THE SUBBASE ARE NOT ACCEPTABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE MEASUREMENTS OF ALL CUT AND FILL DEPTHS REQUIRED.

STRIP ALL UNSUITABLE SURFACE MATERIALS INCLUDING SURFACE VEGETATION, ORGANICS, TOPSOIL, ROOTS AND ANY UNSUITABLE SURFACE SOILS FROM THE CONSTRUCTION AREA. THESE MATERIALS SHALL BE WASTED FROM THE SITE OR IF APPROVED BY THE OWNER AND ENGINEER, USED AS TOPSOIL IN LANDSCAPE AREAS WHERE PERMITTED. ANY ANTICIPATED FOUNDATION, FLOOR-SLAB, OR FILL AREA SHALL BE DENSIFIED AND THEN PROOFROLLED TO DETERMINE IF ANY UNSTABLE SOIL CONDITIONS EXIST. ANY UNSTABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH COMPACTED STRUCTURAL FILL.

STRUCTURAL FILL PLACED IN THE BUILDING AREA SHALL CONSIST OF INORGANIC, NON PLASTIC GRANULAR SOILS WITH LESS THAN THAT 10 PERCENT PASSING THE #200 SIEVE (RELATIVELY CLEAN SAND WITH UNIFIED SOIL CLASSIFICATION OF SP, SW, SP-SM OR SW-SM). THE FILL SHALL BE PLACED IN MAXIMUM 12 INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557). THE MOISTURE CONTENT SHALL BE CONTROLLED TO AT LEAST PLUS OR MINUS 2 PERCENT OF OPTIMUM.

STRUCTURAL FILL SHALL MEET THE FOLLOWING REQUIREMENT:

LOCATION WITH RESPECT TO FINAL GRADE	**P.I.**	**L.L.**
BUILDING AREA, BELOW UPPER 4 FEET	10	40
BUILDING AREA, UPPER 4 FEET	NP	NP

HIGH PERCHED GROUNDWATER LEVEL CONDITIONS MAY PREVAIL IN SOME AREAS OF THE SITE AND GROUNDWATER CONTROL SHOULD BE ANTICIPATED, PARTICULARLY IN AREAS THAT ARE DEEPLY STRIPPED OR UNDERCUT. SHALLOW GROUNDWATER CONTROL CAN TYPICALLY BE MAINTAINED BY PUMPING FROM SUMPS IN PERIMETER DITCHES OR PITS.

THE FOUNDATION SYSTEM SHALL BE CONTINUOUS STRIP FOOTINGS AT THE WALLS AND ISOLATED SPREAD FOOTINGS AT THE COLUMN LOCATIONS. THE SOILS TO A DEPTH OF 1 FOOT BELOW THE BASE OF ALL FOUNDATION EXCAVATIONS SHALL BE COMPACTED TO 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557).

THIS FOUNDATION SUBSURFACE PREPARATION DOES NOT CONSTITUTE A COMPLETE SITE WORK SPECIFICATION. INFORMATION COVERED IN THIS PREPARATION GOVERNS OVER THE CONTRACT SPECIFICATIONS. REFER TO THE SITE WORK SPECIFICATIONS AND THE GEOTECHNICAL REPORT BY UNIVERSAL ENGINEERING SCIENCES DATED APRIL 30, 2005, UES PROJECT NO. 70080-077-06 AND REPORT NO. 385573, FOR SPECIFIC INFORMATION NOT COVERED IN THIS PREPARATION. THE GEOTECHNICAL REPORT IS FOR INFORMATION ONLY AND IS NOT CONSIDERED A DESIGN SPECIFICATION.

AN E-MAIL ADDRESS FOR THE GEOTECHNICAL ENGINEER David Barreiro, P.E.:

dbarreiro@uesorl.com

(A FINAL REVIEW OF THE PAD PREP BEFORE THE CONSTRUCTION DOCUMENTS ARE COMPLETED IS REQUIRED.)

PAVEMENT DESIGN CALCULATIONS
Wal-Mart Supercenter
Minimum Pavement Design Recommendations per Wal-Mart (revised 4/19/04)

Standard Duty
- design life of 20 years
- Equilvalent 18 kip Single Axle Load (ESAL) = 109,500 for 20 yrs (Supercenter)
- Daily ESAL = 15
- Reliability = 85%
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.0
- Standard Deviation = 0.45 for flexible 0.35 for rigid
- Minimum thickness = 3" of Asphalt and 5" of Concrete

Heavy Duty
- design life of 20 years
- Equilvalent 18 kip Single Axle Load (ESAL) = 335,800 for 20 yrs (Supercenter)
- Daily ESAL = 29
- Reliability = 85%
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.0
- Standard Deviation = 0.45 for flexible 0.35 for rigid
- Minimum thickness = 4" of Asphalt and 6" of Concrete

All concrete pavements must be underlain by 4 inches of compacted granular base course or sand with LBR minimum of 20.

<u>Flexible Pavement Design</u>

Florida Department of Transportation - Flexible Pavement Design Manual (Jan 2002)

Structural Numbers are calculated by the AASHTO Methods

AASHTO Design Equation for Flexible Pavement

$$\log_{10} W_{18} = Z_R * 9.36 * \log_{10}(SN_R + 1) - 0.20 + \frac{\log_{10}(\frac{\Delta PSI}{4.2 - 1.5})}{0.40 + \frac{1094}{(SN_R + 1)^{5.19}}} + 2.32 * \log_{10}(M_R) - 8.07$$

SN_R = Structural Number required
W_{18} = Equilvalent 18 kip Single Axle Load (given by Wal-Mart)
Z_R = Standard Normal Deviate (taken from Page A.3.0 relative to Reliability)
M_R = Resilient Modulus psi (Table 5.1 from estimated LBR results of 20)
S_O = Standard Deviation (given by Wal-Mart)
ΔPSI = Change in serviceability (Terminal Serviceability normally assumed 2.5 by

FDOT Calculations continued

Standard Duty - SN_R calculated to be 2.27
Heavy Duty - SN_R calculated to be 2.78

Layer Thickness Calculations for Proposed Pavement Sections (SN_C)

$$SN_C = (a_1 * D_1) + (a_2 * D_2) + (a_3 * D_3) + \ldots + (a_N * D_N)$$

SN_C = Structural Number calculated
a_N = Layer coefficient of layer (FDOT Table 5.4 Structural Coefficients)
D_N = Layer thickness

Standard Duty
Proposed Pavement Section

Type	d	*	a		
Asphalt	3 inches		0.44		1.32
Shell Base (LBR 100)	6 inches		0.18		1.08
Type B Stabilized (LBR 40)	6 inches		0.08		0.48
				Total	2.88

SN_C = 2.88 for Asphalt greater than SN_R = 2.27 Good

Heavy Duty
Proposed Pavement Section

Type	d	*	a		
Asphalt	4 inches		0.44		1.72
Shell Base (LBR 100)	6 inches		0.18		1.08
Type B Stabilized (LBR 40)	6 inches		0.08		0.48
				Total	3.32

SN_C = 3.32 for Asphalt greater than SN_R = 2.71 Good

Rigid Pavement Design

AASHTO - Design of Pavement Systems (1993)

Depths of Concrete Required are calculated by the AASHTO Methods

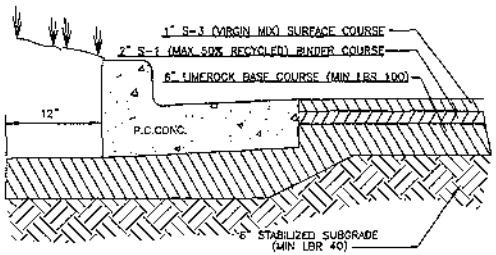
AASHTO Design Equation for Rigid Pavement

$$\log_{10} W_{18} = z_R * s_O + 7.35 * \log_{10}(D+1) - 0.06 + \frac{\log_{10}\left[\frac{\Delta PSI}{4.5-1.5}\right]}{1+\frac{1.624*10^7}{(D+1)^{8.46}}} + (4.22 - 0.32 p_t) * \log_{10}\left[\frac{s'_c * c_d\left[D^{0.75} - 1.132\right]}{215.63 * J\left[D^{0.75} - \frac{18.42}{(E_c/k)^{0.25}}\right]}\right]$$

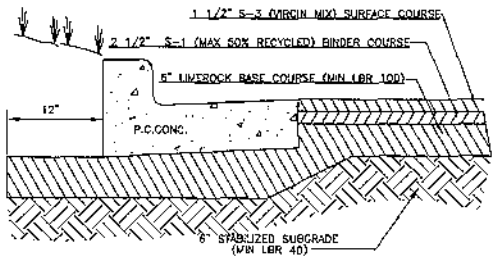
D	= Depth of concrete required
W_{18}	= Equivalent 18 kip Single Axle Load (given by Wal-Mart)
k	= Effective Modulus of Subgrade Reaction (determined from onsite soils)
s'_c	= Mean Concrete Modulus of Rupture (typically 650 psi)
J	= Load Transfer Coefficient (typically 3.2)
c_d	= Drainage Coefficient (typically 1.0)
DPSI	= Design Serviceability loss (given by Wal-Mart)
S_O	= Standard Deviation (given by Wal-Mart)

The thickness of concrete calculated for standard duty is: 3.16 Required: 5 inches

The thickness of concrete calculated for heavy duty is: 4.65 Required: 6 inches

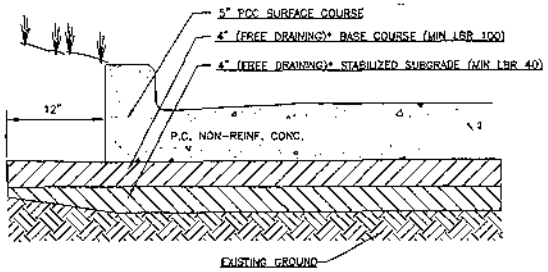


REGULAR DUTY
ASPHALT PAVING

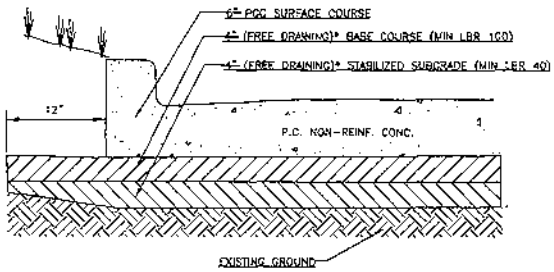


HEAVY DUTY
ASPHALT PAVING

STANDARD ASPHALT PAVING



REGULAR DUTY
CONCRETE PAVING



HEAVY DUTY
CONCRETE PAVING

PC CONCRETE

NOTES:

1. FOR PREPARATION OF SUBGRADE, FILL PLACED WITHIN 12 INCHES OF BOTTOM OF STABILIZED SUBGRADE SHOULD BE COMPACTED TO AT LEAST 98% OF THE MATERIAL'S MODIFIED PROCTOR (AASHTO T 180) MAXIMUM DRY DENSITY. FILL PLACED BELOW THIS LEVEL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MATERIAL'S MAXIMUM DRY DENSITY.
2. STABILIZED SUBGRADE SHOULD BE COMPACETED TO A MINIMUM OF 98% OF THE MATERIAL'S MODIFIED PROCTOR (AASHTO T 180) MAXIMUM DRY DENSITY.
3. LIMEROCK BASE COURSE SHOULD CONFORM TO THE REQUIREMENTS OF SECTION 200 OF THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION AND BE COMPACTED TO AT LEAST 98% OF THE MATERIAL'S MODIFIED PROCTOR (AASHTO T 180) MAXIMUM DRY DENSITY.
4. ASPHALTIC SURFACE COURSE MIXTURES SHOULD BE IN ACCORDANCE WITH TYPE REFERENCED IN SECTION 330 OF THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION. THE MIXTURE SHOULD HAVE A MINIMUM MARSHALL STABILITY OF 1,800 POUNDS, AND THE SURFACE COURSE SHOULD BE COMPACTED TO A MINIMUM OF 96% MARSHALL DENSITY (ASTM SPECIFICATION D 1559).
5. THE PORTLAND CEMENT CONCRETE PAVEMENT MIXTURE SHOULD BE IN ACCORDANCE WITH THE AIR-ENTRAINED CONCRETE FOR PAVEMENT SECTION 350 OF THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION. THE MIXTURE SHOULD BE DESIGNED TO DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS WITH A 4 INCH MINIMUM SLUMP AND 5% TO 7% ENTRAINED AIR.
6. APPLY A PRIME COAT AND TACK COAT TO FACE OF CURB WHERE CURB CONTACTS ASPHALT.
7. (*) BASE AND STABILIZED SUBGRADE COURSES BENEATH CONCRETE PAVEMENT SHALL HAVE A MINIMUM PERMEABILITY - (K) GREATER THAN OR EQUAL TO 0.001cm/sec.

PAVING DETAILS
NTS

CLIENT: CPH ENGINEERS, INC.

DRAWN BY: KO	DATE: 4/5/05	SCALE: N.T.S.	ACADFILE: 70080-N
CHECKED BY: TA	DATE: 6/19/05	PROJECT NO: 70080-077-06	REPORT NO: 383573

WAL★MART SUPERCENTER STORE NO. 3873-00
S.E. CORNER OF I-75 & U.S. HIGHWAY 441
ALACHUA, ALACHUA COUNTY, FLORIDA

PAVEMENT SECTION DETAILS

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