

**Preliminary Report for Structures
Relative to Line and Grade Submittal
Wekiva Parkway (SR 429) from the
Wekiva River to S.R. 400 (I-4)
Seminole County, Florida
Financial Project No. 431081-4-32-01**

DRAFT



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Geotechnical, Environmental and
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July 2, 2012
File No. 11-6501

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ATKINS
482 S. Keller Road
Orlando, FL, 32810-6101

Attention: Mr. William Terwilleger, P.E.

Subject: Preliminary Report for Structures
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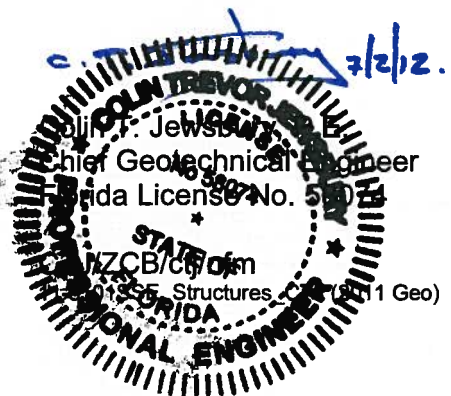
Dear Mr. Terwilleger:

As requested and authorized, we have completed a preliminary subsurface soil exploration for the subject project. The purpose of performing this exploration was to provide geotechnical engineering information for use during preliminary design of the project. This report documents our findings.

This report has been prepared in accordance with generally accepted geotechnical engineering practices for specific application to the project area indicated in this report. No other warranty, expressed or implied, is made. The soils information and recommendations submitted herein are based on the data obtained from the soil borings presented on Figures 6 through 50 and cone soundings presented on Figures 51 through 53. This report does not reflect any variations which may occur adjacent to or between the borings. The nature and extent of the variations adjacent to or between the borings may not become evident until further exploration or construction.

It is a pleasure assisting you with this project. If you have any questions, or when we may be of further assistance to you, please do not hesitate to contact us.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.
Certificate of Authorization No. 5950



DRAFT

Zan C. Bates, P.E.
Chief Transportation Engineer
Florida License No. 49917

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1.0 INTRODUCTION

1.1 Site Location

The various bridge sites are located in Sections 21, 22, 23, 25, 26, 27, 28, 30, 31 & 39 of Township 19 South, Ranges 29 and 30 East, in Seminole County, Florida. The project limits along the proposed S.R. 429 alignment extend from the Wekiva River to just east of the existing I-4/S.R. 417 interchange, between approximate Stations 921+00 and 1247+00, as referenced on the roadway PD&E documents.

The approximate limits of the project alignment together with the general bridge locations are shown superimposed on a composite of the Sanford SW and Sanford, Florida, U.S.G.S. quadrangle maps presented on Figures 1, 2 and 3.

1.2 Project Considerations

It is our understanding that the proposed improvements will consist of the construction of various new bridge and ramp structures as part of the Wekiva Parkway – Section 7 project. The approximate locations of these bridges are as follows:

Bridge Site	Approximate Station Limits
SR 429 Over Wekiva Park Drive	931+46 to 933+90
SR 429 Over Longwood Markham Road	964+20 to 967+30
SR 429 Over Yankee Lake Road	979+20 to 981+20
SR 429 Over Lake Markham Road	1021+21 to 1024+21
SR 429 Over Glade View Drive	1056+48 to 1059+58
SR 429 Over SR 46 Frontage Road	1081+58 to 1084+23
SR 429 Over South Orange Avenue	1099+28 to 1101+39
SR 429 Over CR 431 (Orange Boulevard)	1108+59 to 1109+75
SR 429 Over Wilson Road	1140+31 to 1141+22
Ramp HH Over Wilson Road	19+75 to 20+55
SR 429 Over International Parkway and Lake Sten	1155+63 to 1166+38
Ramp KK Over Lake Sten	12+00 to 16+55
Ramp OO-3 Over International Parkway, Ramp KK & Lake Sten	1155+63 to 1166+38
Ramp LL1 Over Lake Sten	27+83 to 30+98
Ramp JJ Over Lake Sten	12+00 to 21+60
Ramp LL2 Flyover	11+82 to 52+91
Ramp NN2 Flyover	10+60 to 52+06
Ramp OO-1 Over SR 429	172+63 to 177+53
I-4 Over SR 429	174+20 to 178+73
Ramp MM-1 and MM-3 Over SR 429	135+45 to 139+66
Ramp MM-1 Over Ramp NN-1	148+01 to 149+47
SR 417 Over Towne Center Blvd.	1201+05 to 1202+29
Ramp NN-1 Over Towne Center Blvd.	50+95 to 52+08
SR 417 Over Rinehart Road	1222+71 to 1225+18
EB I-4 Over SR 46	234+45 to 236+42

1.3 Purpose and Scope of Project

The purpose of this report is to present subsurface soil information for consideration during the preliminary bridge concept development. We accomplished this purpose by:

1. Obtaining and evaluating readily available geologic and soil survey data.
2. Conducting Standard Penetration Test (SPT) borings at the bridge locations.
3. Incorporating the results of three Cone Penetration Test (CPT) soundings performed by FDOT.
4. Observing the recovered soil samples in our laboratory and performing tests to aid in classification of the explored soils.
5. Analyzing and interpreting the field and laboratory data.

1.4 Review of Available Data

1.4.1 U.S.G.S. Topographic Map

Based on review of the Sanford SW and Sanford, Florida, USGS topographic maps, the prevailing natural ground surface elevations at the proposed bridge locations are as follows:

Bridge Site	Approximate Ground Surface Elevation (Feet, NGVD)
SR 429 Over Wekiva Park Drive	+30
SR 429 Over Longwood Markham Road	+55
SR 429 Over Yankee Lake Road	+55
SR 429 Over Lake Markham Road	+40
SR 429 Over Glade View Drive	+45
SR 429 Over SR 46 Frontage Road	+60
SR 429 Over South Orange Avenue	+70
SR 429 Over CR 431	+75
SR 429 Over Wilson Road	+75
Ramp HH Over Wilson Road	+75
SR 429 Over International Parkway and Lake Sten	+70 to +75
Ramp KK Over Lake Sten	+70
Ramp OO-3 Over International Pkwy, Ramp KK & Lake Sten	+70 to +75
Ramp LL1 Over Lake Sten	+70 to +75
Ramp JJ Over Lake Sten	+70 to +75
Ramp LL2 Flyover	+70 to +75
Ramp NN2 Flyover	+70 to +75
Ramp OO-1 Over SR 429	+70
I-4 Over SR 429	+70
Ramp MM-1 and MM-3 Over SR 429	+70
Ramp MM-1 Over Ramp NN-1	+70
SR 417 Over Towne Center Blvd.	+70
Ramp NN-1 Over Towne Center Blvd.	+70
SR 417 Over Rinehart Road	+60
EB I-4 Over SR 46	+70

1.4.2 Potentiometric Map

Based on review of the "Potentiometric Surface of the Upper Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida" Map (dated May, 2009) published by the United States Geological Survey, the potentiometric elevation within the general project alignment is approximately +30 feet NGVD. This potentiometric surface is below the existing ground surface elevations of approximately +40 to +75 feet NGVD, as determined by a review of the U.S.G.S. quadrangle maps, with the exception of the immediate vicinity of the Wekiva River, where an upward gradient exists.

1.4.3 Soil Survey Maps

Based on the 1990 Florida Soil Survey for Seminole County, Florida, as prepared by the U.S. Department of Agriculture Soil Conservation Service, various soil types exist along the proposed roadway alignment. The individual soil types and their characteristics are summarized and presented in Table 1. The type and location of the individual soils are also included on the Soil Survey Map presented as Figures 4 and 5.

1.4.4 Regional Geology

According to W.F. Lichtler, Warren Anderson and B.F. Joyner (1968), the geologic sequence within the upper approximate 1000 feet of deposits in this area of Seminole County consists of, in descending order, the Pleistocene and Recent deposits; the Hawthorn Formation; the Ocala Group Limestone; the Avon Park Limestone; and the Lake City Limestone. The approximate elevations at which these geologic units can be encountered at the site are presented in the following table:

Estimated Elevation (feet NAVD)		Epoch	Geologic Formation Name
From	To		
+90	+50	Pleistocene / Holocene	Undifferentiated Deposits
+50	-50	Miocene	Hawthorn Formation
-50	-100	Eocene	Ocala Group Limestone
-100	-350	Eocene	Avon Park Limestone
-350	<-1000	Middle Eocene	Lake City Limestone

The undifferentiated deposits generally consist of quartz sand, clayey sand and sandy clay. The upper part consists of sandy soils while the lower part consists of clayey materials. They were probably deposited as a result of sea level fluctuations in the past, and the thickness of the deposit varies across the County, but at the site location, the thickness is approximately 50 feet.

The Hawthorn Formation of Miocene age typically consists of dark greenish gray clay, clayey sand and calcareous clay with sandy phosphatic limestone, mostly in the lower part. The Hawthorn is characterized by appreciable quantities of phosphorite. The formation also retards the vertical movement of water between the water-table aquifer and the underlying limestone of the Floridan aquifer.

The Ocala Group Limestone of Eocene Age is made up of the Crystal River, Williston, and Inglis Formations and consists of cream to tan, soft to medium hard, granular, porous sometimes dolomitic limestone. In Orange County, the Ocala Group was deeply eroded and in some areas entirely removed before the overlying formations were deposited.

The Avon Park Limestone of Eocene Age underlies the Ocala Group Limestone in Orange County. The formation is distinguished from overlying formations by the occurrence of many sand-sized cone-shaped foraminifera. In many areas of Orange County, the Avon Park Limestone is composed mostly of the shells of these tiny single-celled animals.

Beneath the Avon Park Limestone lies the Lake City Limestone of Middle Eocene age. The Lake City Limestone consists of alternating layers of hard, brown, porous to dense, crystalline dolomite and soft to hard, cream to tan, chalky, fossiliferous limestone and dolomitic limestone. The exact location of the top of the formation in Orange County is unknown because the top of the Lake City Limestone has been partly crystallized and the fossils have been badly damaged. The thickness of the formation is estimated to be more than 600 feet.

2.0 FIELD EXPLORATION PROGRAM

2.1 Test Locations

The field exploration program consisted of performing forty-five Standard Penetration Test (SPT) borings. The approximate locations of the SPT borings are schematically illustrated on the report of SPT Borings for Structures sheets presented as Figure 6 through 50. These locations were staked in the field by representatives of Ardaman & Associates and were subsequently surveyed by representatives of Atkins. The surveyed boring locations and ground surface elevations are presented on Figures 6 through 50.

2.2 Standard Penetration Test (SPT) Borings

The SPT borings were advanced to depths varying between 72½ and 170 feet below the existing ground surface elevation using the methodology outlined in ASTM D-1586. A summary of this field procedure is included in Appendix I. Split-spoon soil samples were recovered continuously to a depth of 15 feet and at every 2½ feet of penetration thereafter during performance of the boring. The recovered samples were visually classified in the field and representative portions were transported to our laboratory in sealed sample jars for further classification and laboratory testing. At the completion of the borings, the boreholes were grouted with a Portland cement grout. The results of the borings are presented on the Report of SPT Boring for Structures sheets, Figures 6 through 50.

2.3 Undisturbed Tube Sampling

Four relatively undisturbed tube samples of the clay soils encountered in the SPT borings were obtained for laboratory consolidation testing. The samples were retrieved using 3-inch diameter, thin-walled Shelby tubes. The samples were sealed in the Shelby tubes and transferred to our laboratory for classification and testing.

2.4 Cone Penetration Test (CPT) Soundings (by FDOT)

Cone penetration test (CPT) soundings were performed by FDOT representatives to depths ranging from 50 to 99 feet below ground surface. The CPT soundings were conducted using an FDOT owned and operated electric-type cone and hydraulic ram mounted on a ballasted truck. For the cone soundings, both tip and shaft loads were recorded with depth. The field data was provided to Ardaman & Associates and plotted using specialized computer software. A summary of the typical CPT field procedure is included in Appendix I.

3.0 LABORATORY TESTING PROGRAM

3.1 Visual Examination and Classification Testing

Representative soil samples obtained during our field sampling operation were packaged and transferred to our laboratory for further visual examination and classification. The soil samples were visually classified in general accordance with the Unified Soil Classification System (ASTM D-2488). The resulting soil descriptions are shown on the Report of SPT Boring for Structures sheets presented as Figures 6 through 50.

In addition to the visual examination of all samples, laboratory tests were conducted on representative samples to aid in classification of the explored soils. These tests included natural moisture content, percent fines, organic content and Atterberg limits. The results of these tests are presented on Figures 6 through 50 adjacent to the soil profiles at the respective depths from which the tested samples were recovered.

3.2 Consolidation Testing

Consolidation tests were performed on clayey and/or organic samples selected from Shelby tube samples obtained from borings conducted in the vicinity of Lake Sten. The testing was designed to provide information on the compressibility of the soils. The resulting void ratio versus log pressure curves of the tests are included in Appendix II.

3.3 Corrosion Testing

Composite soil samples obtained from the upper portions of the SPT borings were tested for their corrosion properties. Properties tested included pH, resistivity, chloride and sulfate content. The results of these tests are presented in Table 2.

4.0 GENERAL SUBSURFACE CONDITIONS

4.1 General Soil Profile

The results of the field exploration and laboratory testing programs are graphically summarized on the Report of SPT Boring for Structures sheets presented as Figures 6 through 50 and the Report of CPT Sounding for Structures sheets presented as Figures 51 through 53. The laboratory consolidation test results are included in Appendix II. The stratification of the soil boring profiles represents our interpretation of the field boring logs and the results of laboratory examinations of the recovered samples. The stratification lines represent the approximate boundary between soil types. The actual transitions may be more gradual than implied. The results of the soil borings indicate the following general soil profile.

Please refer to Figures 6 through 53 and Appendix II for soil profile details.

4.2 **Groundwater Levels**

An attempt was made to measure the groundwater level in the borings during the drilling process. Where encountered, the groundwater level is shown adjacent to the boring profile on the Report of SPT Boring for Structure sheets presented as Figures 6 through 50. At some boring locations groundwater was not encountered within the upper 10 feet of the borings and was not measured below this depth due to the mudded condition of the boreholes (referenced "GNM" on Figures 5 through 50).

The absence of groundwater data within the top 10 feet at some of the boring locations does not necessarily mean that groundwater would not be encountered within this depth increment at some other time. Fluctuation in the groundwater levels should be anticipated throughout the year primarily due to seasonal variations in rainfall and other factors that may vary from the time the borings were conducted.

**TABLE 1 - Review of Soil Survey Maps
Wekiva Parkway Line and Grade
Seminole County, Florida**

Soil Map Unit	Description	Permeability		Approximate Depth to Normal Seasonal High Groundwater Level
		Depth (feet)	inch/hour	
2 - Adamsville-Sparr Fine Sands	Nearly level somewhat poorly drained sandy soil on low ridges on the uplands and on low knolls on the flatwoods.	0 - 80	6.0 - 20	Between 12 and 36 inches for up to 6 months.
6 - Astatula-Apopka fine sands, 0 to 5 percent slopes	Nearly level to gently sloping well drained soil on hillsides and ridges on the uplands. Slopes are smooth to convex.	0 - 64 64 - 80	6.0 - 20 0.6 - 2.0	Greater than 80 inches.
7 - Astatula-Apopka fine sands, 5 to 8 percent slopes	Sloping and well drained soil on hillsides on the uplands. Slopes are smooth to convex.	0 - 65 65 - 80	6.0 - 20 0.6 - 2.0	Greater than 80 inches.
10 - Basinger, Samsula and Hontoon soils, depressional	Nearly level and very poorly drained soils in swamps and depressions. The slopes are dominantly less than 2 percent.	0 - 80	6.0 - 20	Ponded for 6 to 9 months or more.
11 - Basinger and Smyrna fine sands, depressional	Nearly level and very poorly drained soils in depressions. Basinger soils includes surface layer of black mucky fine sand.	0 - 15 15 - 25 25 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20	Ponded for 6 to 9 months.
13 - Eau Gallie and Immokalee Fine Sands	Nearly level and poorly drained sandy soils on broad plains on the flatwoods.	0 - 18 18 - 30 30 - 45 45 - 64 64 - 80	6.0 - 20 0.6 - 6 6.0 - 20 0.06 - 2 0.6 - 6	Within 12 inches for 1 to 4 months.
16 - Immokalee Sand	Nearly level and poorly drained sandy soil on broad plains on the flatwoods.	0 - 36 36 - 56 56 - 80	6.0 - 20 0.6 - 2.0 6.0 - 20	Within 12 inches for 1 to 4 months.
20 - Myakka and EauGallie fine sands	Nearly level and poorly drained soil on broad plains on the flatwoods.	0 - 18 18 - 30 30 - 41 41 - 60 60 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20 0.06 - 2.0 0.6 - 6.0	Within 12 inches of the surface for 1 month to 4 months.
24 - Paola-St. Lucie Sands, 0 to 5 percent slopes	Nearly level to gently sloping and excessively drained sandy soil on upland rides.	0 - 80	>20	80 inches or more.
27 - Pomello fine sand, 0 to	Nearly level to gently sloping and moderately well drained	0 - 31	>20	36 to 60 inches for 1 to 4 months.

**TABLE 1 - Review of Soil Survey Maps
Wekiva Parkway Line and Grade
Seminole County, Florida
(Continued)**

Soil Map Unit	Description	Permeability		Approximate Depth to Normal Seasonal High Groundwater Level
		Depth (feet)	inch/hour	
5 percent slopes	sandy soil on low ridges and knolls on the flatwoods.	31 - 40 40 - 80	2.0 - 6.0 6.0 - 20	
28 - Pompano fine sand, occasionally flooded	Nearly level and poorly drained sandy soil on the floodplains	0 - 80	6.0 - 20	Within 12 inches for 2 to 6 months.
31 - Tavares-Milhopper fine sands, 0 to 5 percent slopes	Nearly level to gently sloping soil on low ridges and knolls on the uplands. The slopes are nearly smooth to slightly convex.	0 - 45 45 - 80	6.0 - 20 0.2 - 0.6	Between 36 and 60 inches for 2 to 6 months.
35 - Wabasso fine sand	Nearly level and poorly drained sandy soil on broad plains on the flatwoods.	0 - 18 18 - 25 25 - 27 27 - 70 70 - 80	6.0 - 20 0.6 - 2 6.0 - 20 <0.2 6.0 - 20	Within 12 inches for 2 to 6 months.

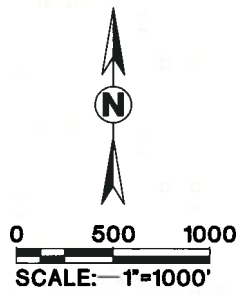
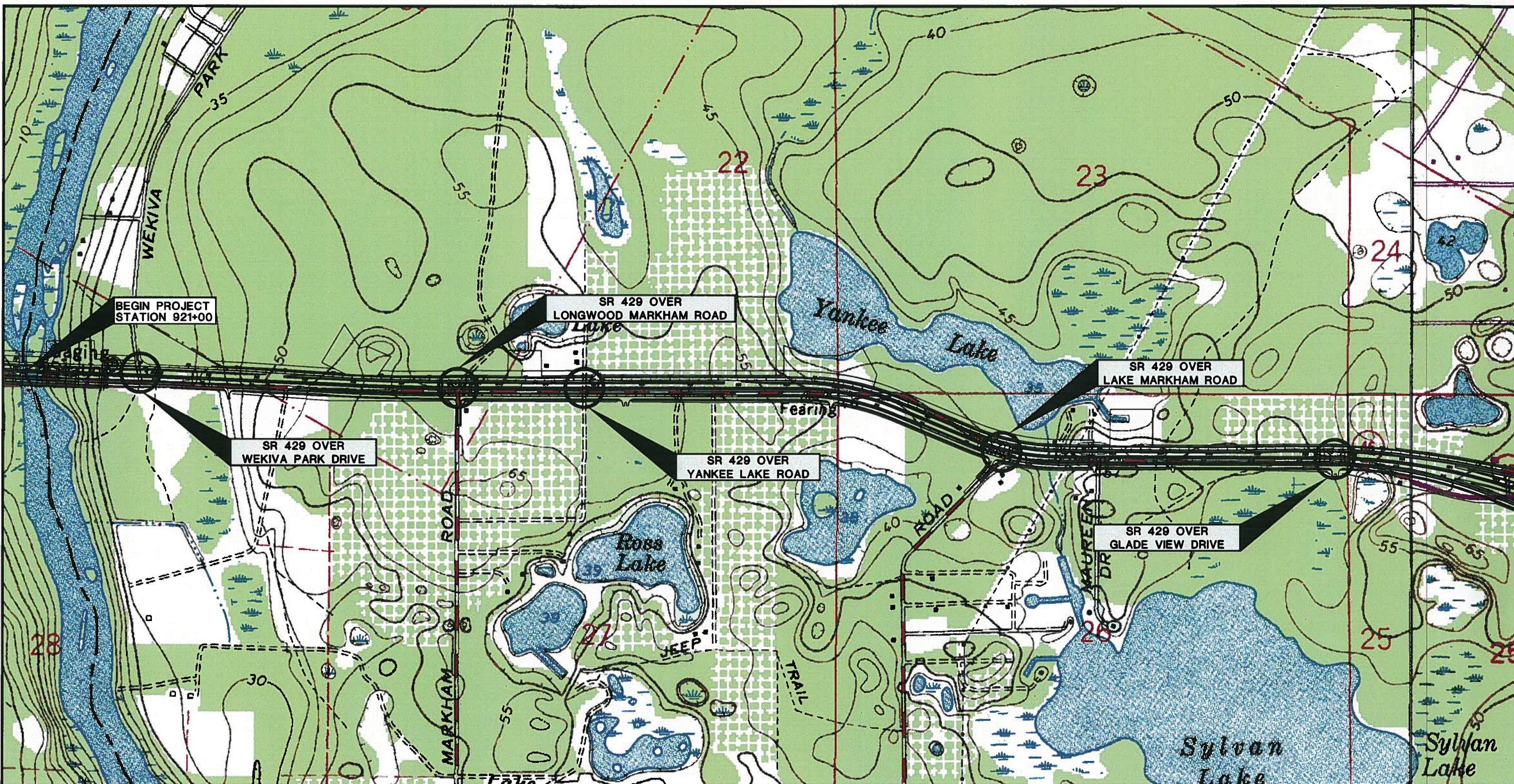
**TABLE 2
SUMMARY OF CORROSION SERIES TESTING
Wekiva Parkway Line and Grade
Seminole County, Florida**

Sample Location	Sample Elevation (feet NAVD)	pH	Resistivity (ohm-cm)	Chlorides (ppm)	Sulfates (ppm)	Environmental Classification (Substructure)	
						Concrete	Steel
TH-965	+51 to +44	6.3	67,000	30	2.4	Slightly Aggressive	Moderately Aggressive
TH-1023	+36 to +30	5.5	17,000	30	12	Moderately Aggressive	Extremely Aggressive
TH-1058	+40 to +33	5.4	55,000	30	9.6	Moderately Aggressive	Extremely Aggressive
TH-1083	+50 to +42	5.2	26,000	30	30	Moderately Aggressive	Extremely Aggressive
TH-1100	+66 to +57	5.2	39,000	30	54.6	Moderately Aggressive	Extremely Aggressive
TH-1110	+68 to +62	6.7	3,000	30	2.4	Slightly Aggressive	Moderately Aggressive
TH-1140	+71 to +64	6.4	37,000	30	2.4	Slightly Aggressive	Moderately Aggressive
TH-1166	+64 to +57	6.9	9,000	60	2.4	Slightly Aggressive	Moderately Aggressive
TH-LL2_11	+68 to +63	5.2	12,000	30	25	Moderately Aggressive	Extremely Aggressive
TH-OO3_20	+68 to +63	4.8	30,000	30	19.5	Extremely Aggressive	Extremely Aggressive
TH-OO3_24	+68 to +62	6.0	8,000	60	61.8	Moderately Aggressive	Extremely Aggressive
TH-OO3_30	+69 to +62	5.6	13,000	30	30	Moderately Aggressive	Extremely Aggressive
TH-KK_12	+67 to +63	6.1	10,000	45	34.8	Slightly Aggressive	Moderately Aggressive
TH-LL1_31	+69 to +62	5.4	20,000	30	4.8	Moderately Aggressive	Extremely Aggressive
TH-LL2_11	+70 to +66	5.2	12,000	30	25	Moderately Aggressive	Extremely Aggressive
TH-LL2_21	+70 to +63	6.1	23,000	30	2.4	Slightly Aggressive	Moderately Aggressive

TABLE 2 (Continued)
SUMMARY OF CORROSION SERIES TESTING
Wekiva Parkway Line and Grade
Seminole County, Florida


Sample Location	Sample Elevation (feet NAVD)	pH	Resistivity (ohm-cm)	Chlorides (ppm)	Sulfates (ppm)	Environmental Classification (Substructure)	
						Concrete	Steel
TH-LL2_25	5-12	4.6	12,000	30	108	Extremely Aggressive	Extremely Aggressive
TH-LL2_28	+66 to +60	4.5	15,000	30	91	Extremely Aggressive	Extremely Aggressive
TH-LL2_31	5-12	5.2	60,000	30	2.4	Moderately Aggressive	Extremely Aggressive
TH-LL2_36	+65 to +59	4.8	10,800	60	108	Extremely Aggressive	Extremely Aggressive
TH-LL2_45	4.5-12	5.0	55,000	30	12	Moderately Aggressive	Extremely Aggressive
TH-LL2_47	6-15	5.2	50,000	30	4.8	Moderately Aggressive	Extremely Aggressive
TH-LL2_50	2-10.5	6.7	22,000	30	14.4	Slightly Aggressive	Moderately Aggressive
TH-LL2_53	4.5-9	5.3	54,000	30	2.4	Moderately Aggressive	Extremely Aggressive
TH-NN2_11	7.5-15	8.0	10,000	30	2.4	Slightly Aggressive	Slightly Aggressive
TH-NN2_15	+64 to +58	5.1	30,000	30	33	Moderately Aggressive	Extremely Aggressive
TH-NN2_18	0-7	5.5	26,000	30	37.2	Moderately Aggressive	Extremely Aggressive
TH-NN2_22	6-13.5	7.8	7,300	30	9.6	Slightly Aggressive	Slightly Aggressive
TH-NN2_33	2-9	5.7	16,000	30	37.2	Moderately Aggressive	Extremely Aggressive
TH-NN2_35	7.5-15	5.2	23,000	30	34.8	Moderately Aggressive	Extremely Aggressive
TH-NN2_49	4-12	5.7	25,000	30	34.8	Moderately Aggressive	Extremely Aggressive
TH-NN2_52	8-15	5.1	41,000	30	12	Moderately Aggressive	Extremely Aggressive

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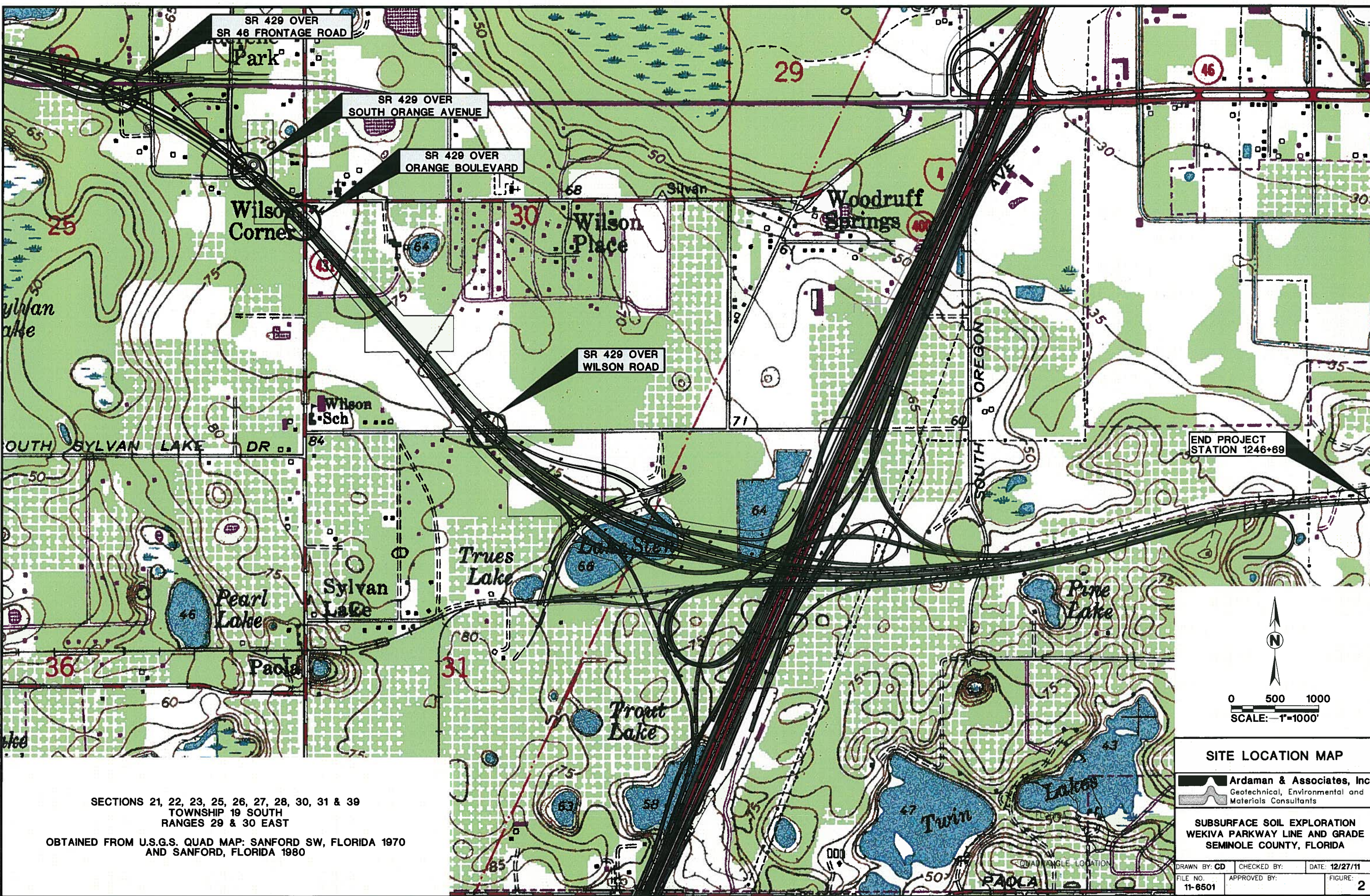


SECTIONS 21, 22, 23, 25, 26, 27, 28, 30, 31 & 39
TOWNSHIP 19 SOUTH
RANGES 29 & 30 EAST
OBTAINED FROM U.S.G.S. QUAD MAP: SANFORD SW, FLORIDA 1970
AND SANFORD, FLORIDA 1980



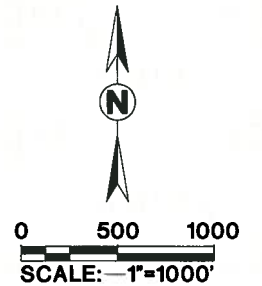
SITE LOCATION MAP		
 Ardaman & Associates, Inc. Geotechnical, Environmental and Materials Consultants		
SUBSURFACE SOIL EXPLORATION WEKIVA PARKWAY LINE AND GRADE SEMINOLE COUNTY, FLORIDA		
DRAWN BY: CD	CHECKED BY:	DATE: 12/27/11
FILE NO: 11-6501	APPROVED BY:	FIGURE: 1

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SECTIONS 21, 22, 23, 25, 26, 27, 28, 30, 31 & 39
TOWNSHIP 19 SOUTH
RANGES 29 & 30 EAST
OBTAINED FROM U.S.G.S. QUAD MAP: SANFORD SW, FLORIDA 1970
AND SANFORD, FLORIDA 1980

END PROJECT
STATION 1246+69



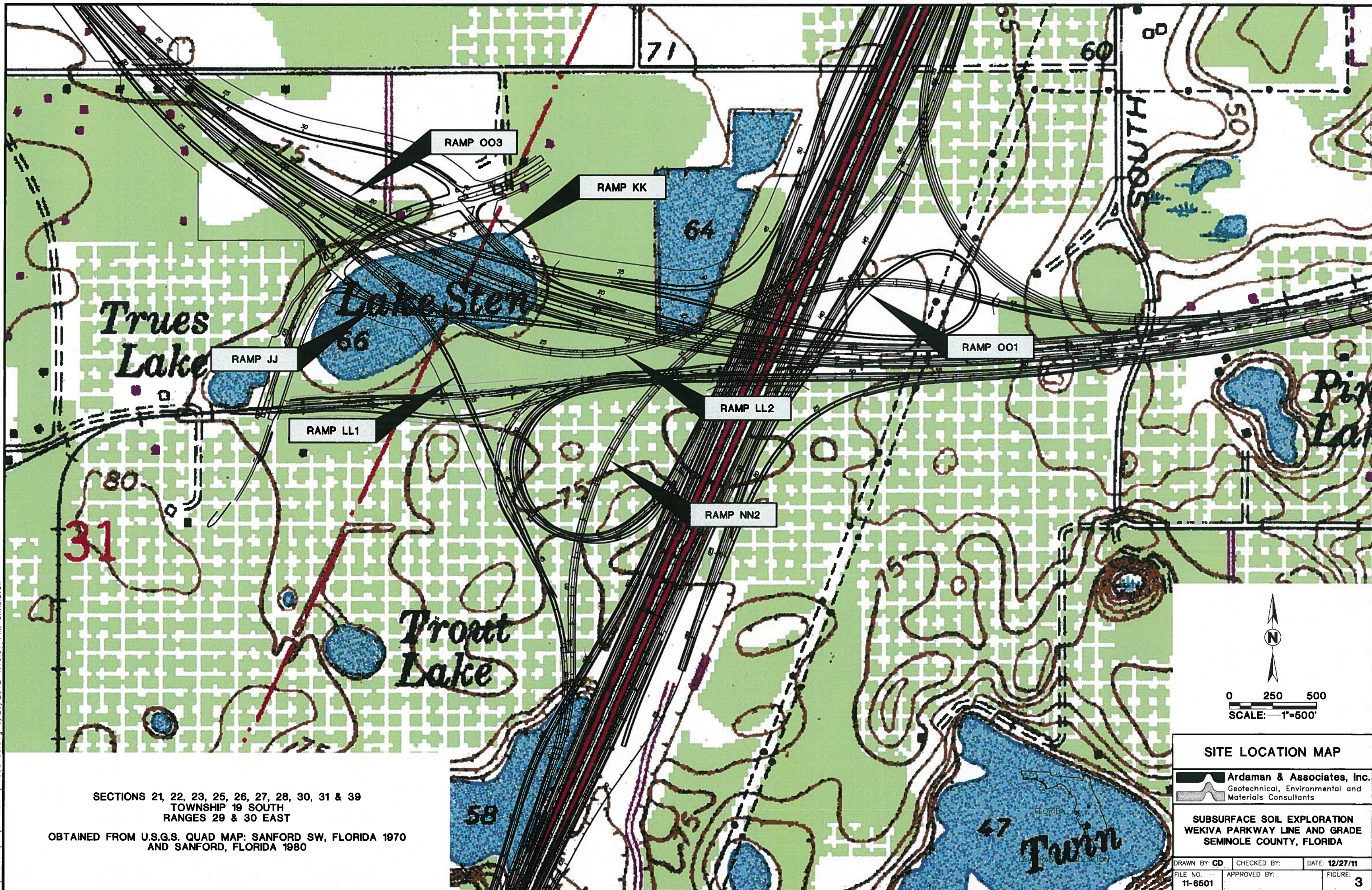
SITE LOCATION MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental and
Materials Consultants

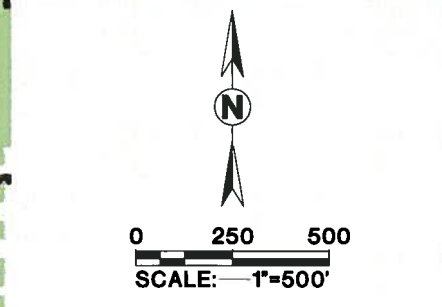
**SUBSURFACE SOIL EXPLORATION
WEKIVA PARKWAY LINE AND GRADE
SEMINOLE COUNTY, FLORIDA**

DRAWN BY: CD	CHECKED BY:	DATE: 12/27/11
FILE NO. 11-6501	APPROVED BY:	FIGURE: 2

T:\Orlando\11-6501\11650150.dwg 6/26/2012 4:16:07 PM, Chris Drew



SECTIONS 21, 22, 23, 25, 26, 27, 28, 30, 31 & 39
TOWNSHIP 19 SOUTH
RANGES 29 & 30 EAST
OBTAINED FROM U.S.G.S. QUAD MAP: SANFORD SW, FLORIDA 1970
AND SANFORD, FLORIDA 1980



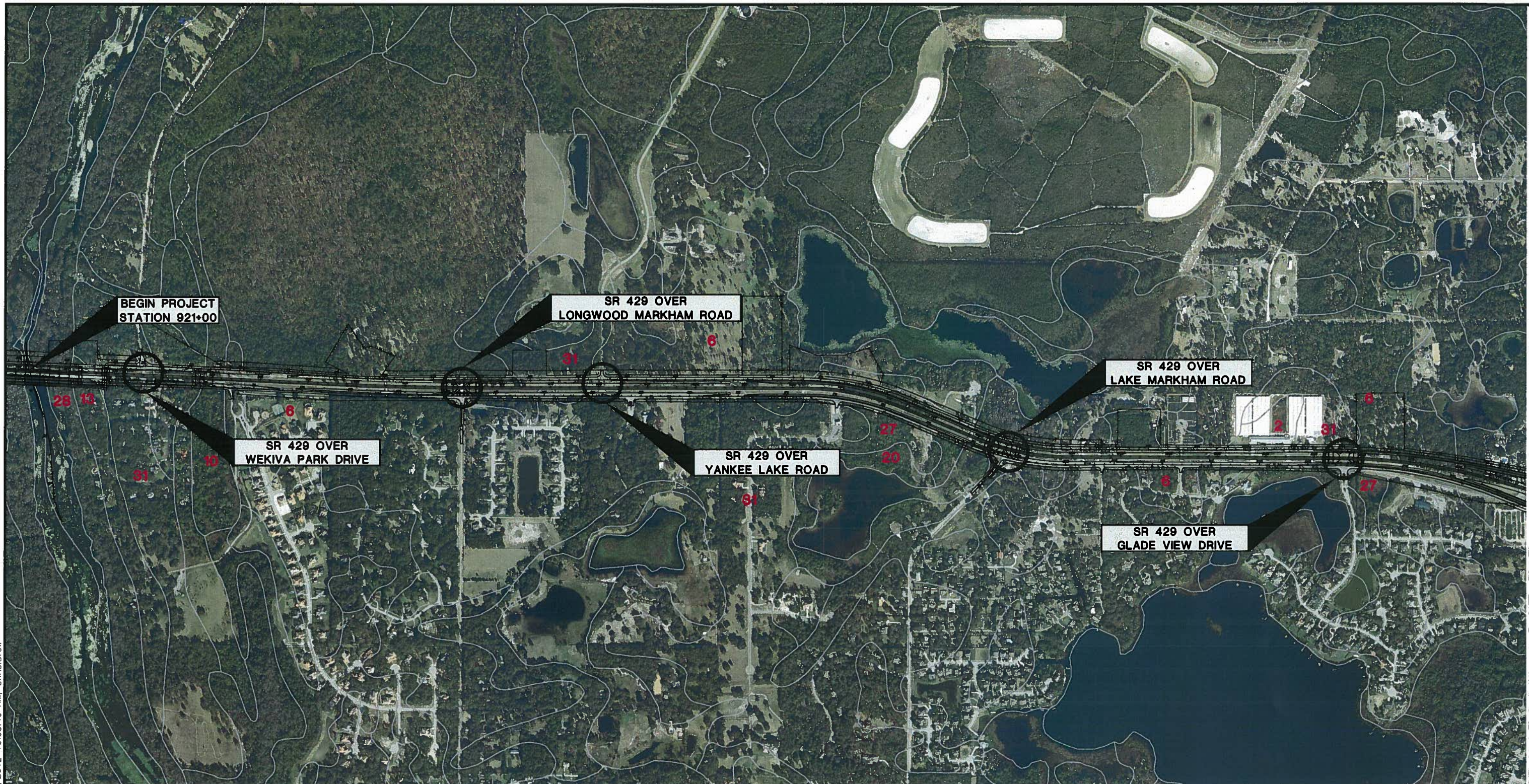
SITE LOCATION MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental and
Materials Consultants

**SUBSURFACE SOIL EXPLORATION
WEKIVA PARKWAY LINE AND GRADE
SEMINOLE COUNTY, FLORIDA**

DRAWN BY: CD	CHECKED BY:	DATE: 12/27/11
FILE NO.: 11-6501	APPROVED BY:	FIGURE: 3

T:\Orlando\11\11-6501\11650151.dwg 7/02/2012 10:03:46 AM, Chris.Drew



BEGIN PROJECT
STATION 921+00

SR 429 OVER
LONGWOOD MARKHAM ROAD

SR 429 OVER
WEKIVA PARK DRIVE

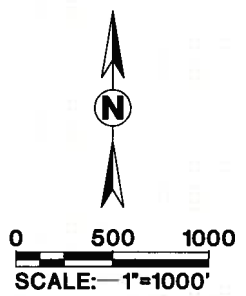
SR 429 OVER
YANKEE LAKE ROAD

SR 429 OVER
LAKE MARKHAM ROAD

SR 429 OVER
GLADE VIEW DRIVE

LEGEND

- NOTES:
1. AERIAL PHOTO OBTAINED FROM FLORIDA RESOURCES & ENVIRONMENTAL ANALYSIS CENTER, DATED 2009.
 2. SOIL SURVEY INFORMATION OBTAINED FROM U.S. DEPARTMENT OF AGRICULTURAL, NATURAL RESOURCES CONSERVATION SERVICE, DATED 08/28/07.



SOIL LEGEND

- 2 - ADAMSVILLE-SPARR FINE SANDS
- 6 - ASTATULA-APOPKA FINE SANDS, 0 TO 5 PERCENT SLOPES
- 7 - ASTATULA-APOPKA FINE SANDS, 5 TO 8 PERCENT SLOPES
- 10 - BASINGER, SAMSULA, AND HONTOON SOILS, DEPRESSIONAL
- 11 - BASINGER AND SMYRNA FINE SANDS, DEPRESSIONAL
- 13 - EAU GALLIE AND IMMOKALEE FINE SANDS
- 16 - IMMOKALEE SAND
- 20 - MYAKKA AND EAU GALLIE FINE SANDS
- 24 - PAOLA-ST. LUCIE SANDS, 0 TO 5 PERCENT SLOPES
- 27 - POMELLO FINE SAND, 0 TO 5 PERCENT SLOPES
- 28 - POMPANO FINE SAND, OCCASIONALLY FLOODED
- 31 - TAVARES-MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES
- 35 - WABASSO FINE SAND

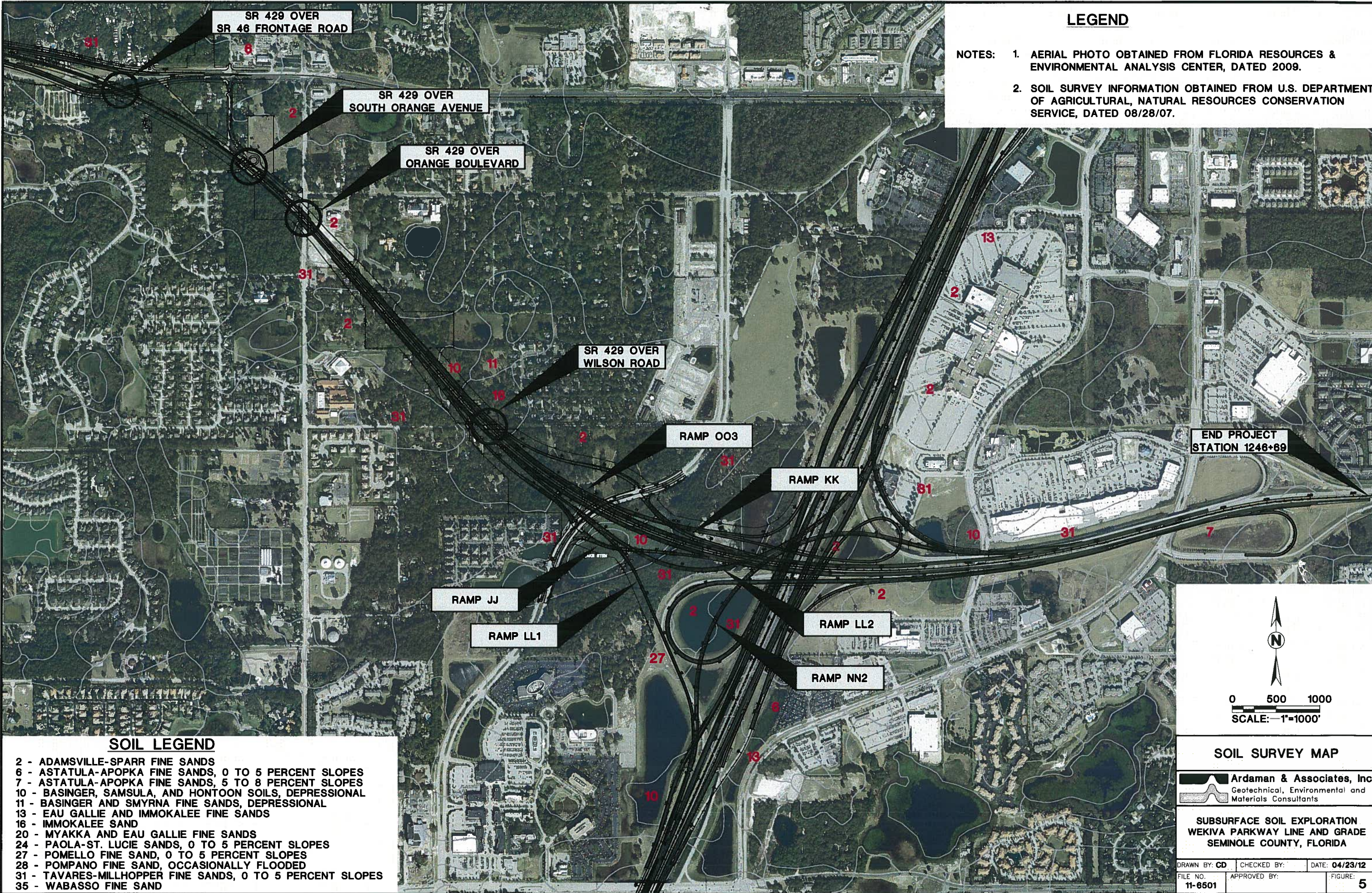
SOIL SURVEY MAP



SUBSURFACE SOIL EXPLORATION
WEKIVA PARKWAY LINE AND GRADE
SEMINOLE COUNTY, FLORIDA

DRAWN BY: CD	CHECKED BY:	DATE: 04/23/12
FILE NO. 11-6501	APPROVED BY:	FIGURE: 4

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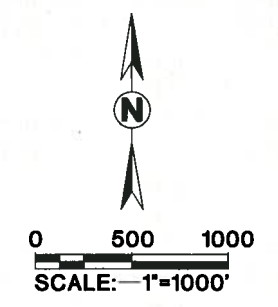
LEGEND

- NOTES:
1. AERIAL PHOTO OBTAINED FROM FLORIDA RESOURCES & ENVIRONMENTAL ANALYSIS CENTER, DATED 2009.
 2. SOIL SURVEY INFORMATION OBTAINED FROM U.S. DEPARTMENT OF AGRICULTURAL, NATURAL RESOURCES CONSERVATION SERVICE, DATED 08/28/07.

SOIL LEGEND

- 2 - ADAMSVILLE-SPARR FINE SANDS
- 6 - ASTATULA-APOPKA FINE SANDS, 0 TO 5 PERCENT SLOPES
- 7 - ASTATULA-APOPKA FINE SANDS, 5 TO 8 PERCENT SLOPES
- 10 - BASINGER, SAMSULA, AND HONTOON SOILS, DEPRESSIONAL
- 11 - BASINGER AND SMYRNA FINE SANDS, DEPRESSIONAL
- 13 - EAU GALLIE AND IMMOKALEE FINE SANDS
- 16 - IMMOKALEE SAND
- 20 - MYAKKA AND EAU GALLIE FINE SANDS
- 24 - PAOLA-ST. LUCIE SANDS, 0 TO 5 PERCENT SLOPES
- 27 - POMELLO FINE SAND, 0 TO 5 PERCENT SLOPES
- 28 - POMPANO FINE SAND, OCCASIONALLY FLOODED
- 31 - TAVARES-MILLHOPPER FINE SANDS, 0 TO 5 PERCENT SLOPES
- 35 - WABASSO FINE SAND

END PROJECT
STATION 1246+69

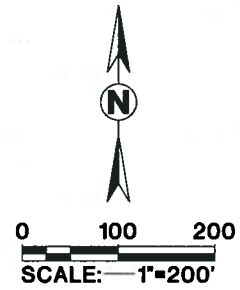


SOIL SURVEY MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental and
Materials Consultants

SUBSURFACE SOIL EXPLORATION
WEKIVA PARKWAY LINE AND GRADE
SEMINOLE COUNTY, FLORIDA

DRAWN BY: CD	CHECKED BY:	DATE: 04/23/12
FILE NO. 11-6501	APPROVED BY:	FIGURE: 5



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 14D lbs.
 HAMMER TYPE= SAFETY

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

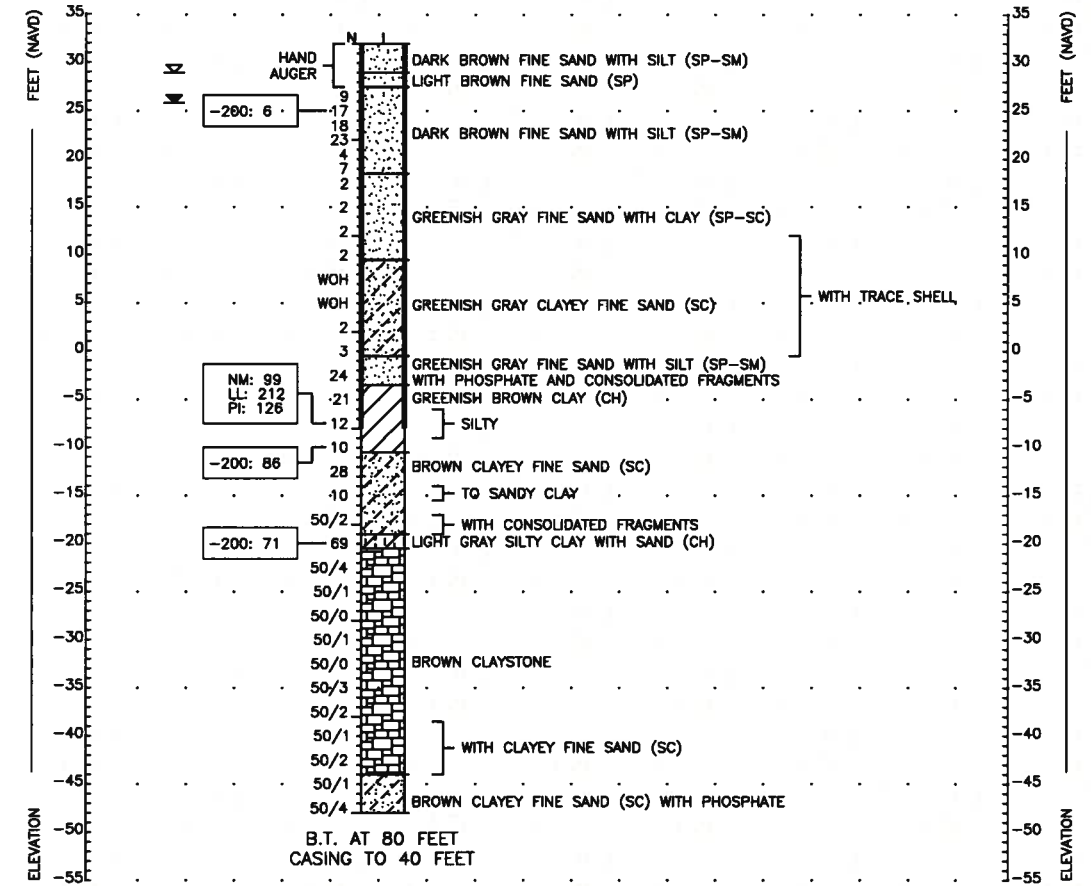
II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-933
 05/24/12
 GSE=32.0
 STA: 933+10
 OFFSET: 50R
 LATITUDE: 28.81494
 LONGITUDE: -81.41584



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- LL** LIQUID LIMIT IN PERCENT (ASTM D-4318)
- WOH** SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description

Drawn by	CD	Date	04/12
Checked by	CTJ	Date	04/12
Designed by			
Checked by			
Approved by	C.T. JEWBSURY		

ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074

Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 593003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950

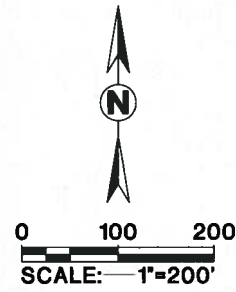


SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE	
REPORT OF SPT BORING FOR STRUCTURE	
PROJECT NAME:	WEKIVA PARKWAY
SHEET NO.	-

T:\Orlando\1111-6501\11650152.dwg 7/02/2012 10:32:51 AM, Chris.Drew



TH-965
12/28/11
GSE=56.9
STA: 965+04
OFFSET: 1L
LATITUDE: 28.81480
LONGITUDE: -81.40592

LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- CONE PENETRATION TEST SOUNDING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- GNM** GROUND WATER NOT MEASURED
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
- OC** ORGANIC CONTENT IN PERCENT (ASTM D-2974)
- COMPLETE LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
SPOON O.D.= 2.0"
HAMMER DROP= 30"
HAMMER WEIGHT= 140 lbs.
HAMMER TYPE= SAFETY TO 15, AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: SLIGHTLY AGGRESSIVE
STEEL: MODERATELY AGGRESSIVE

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
FEW 5 TO 10%
LITTLE 15 TO 25%
SOME 30 TO 45%
MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

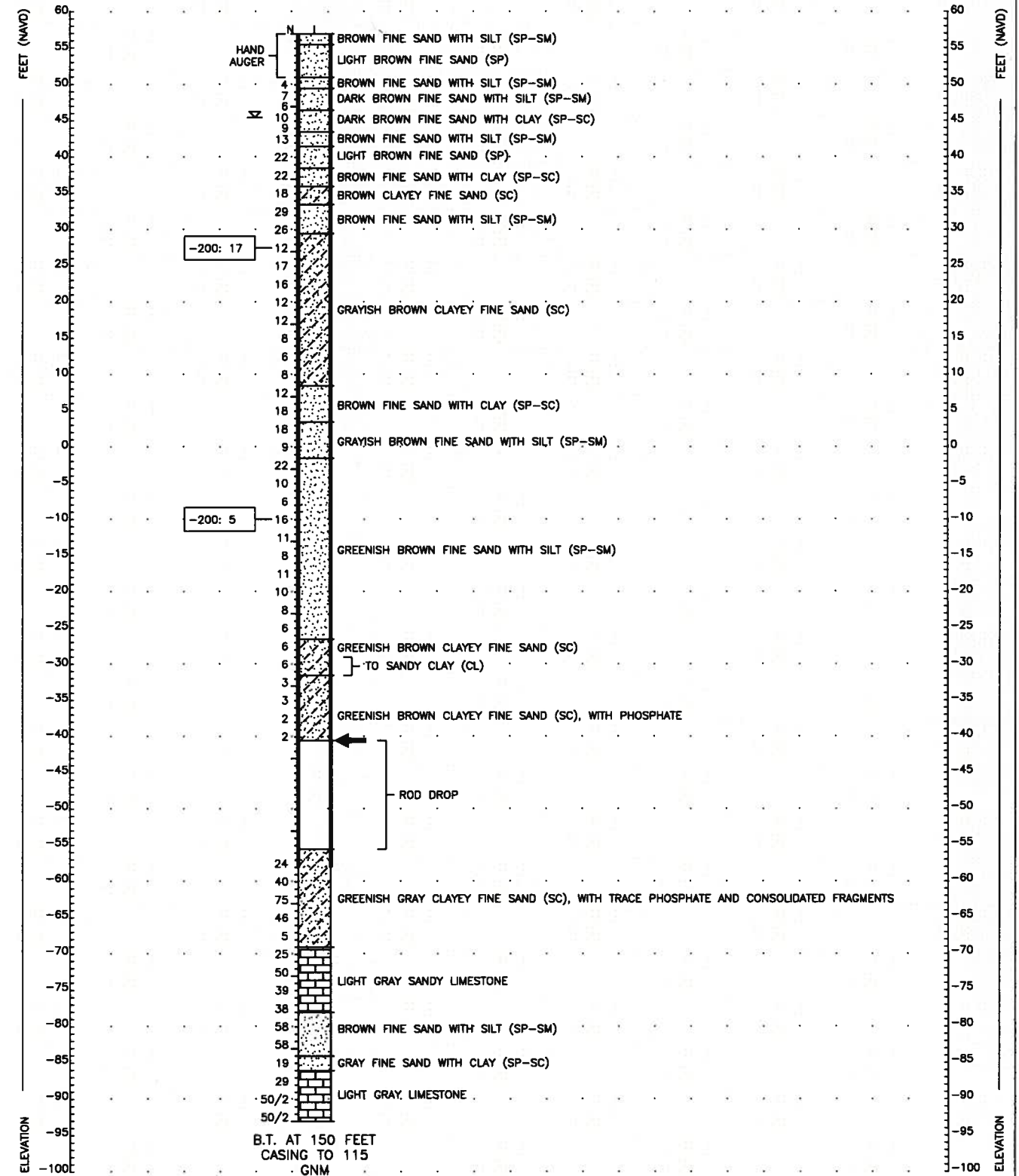
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

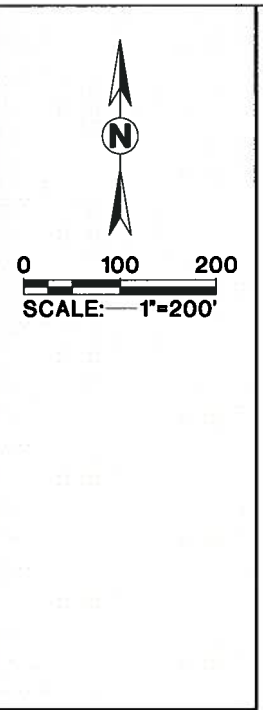
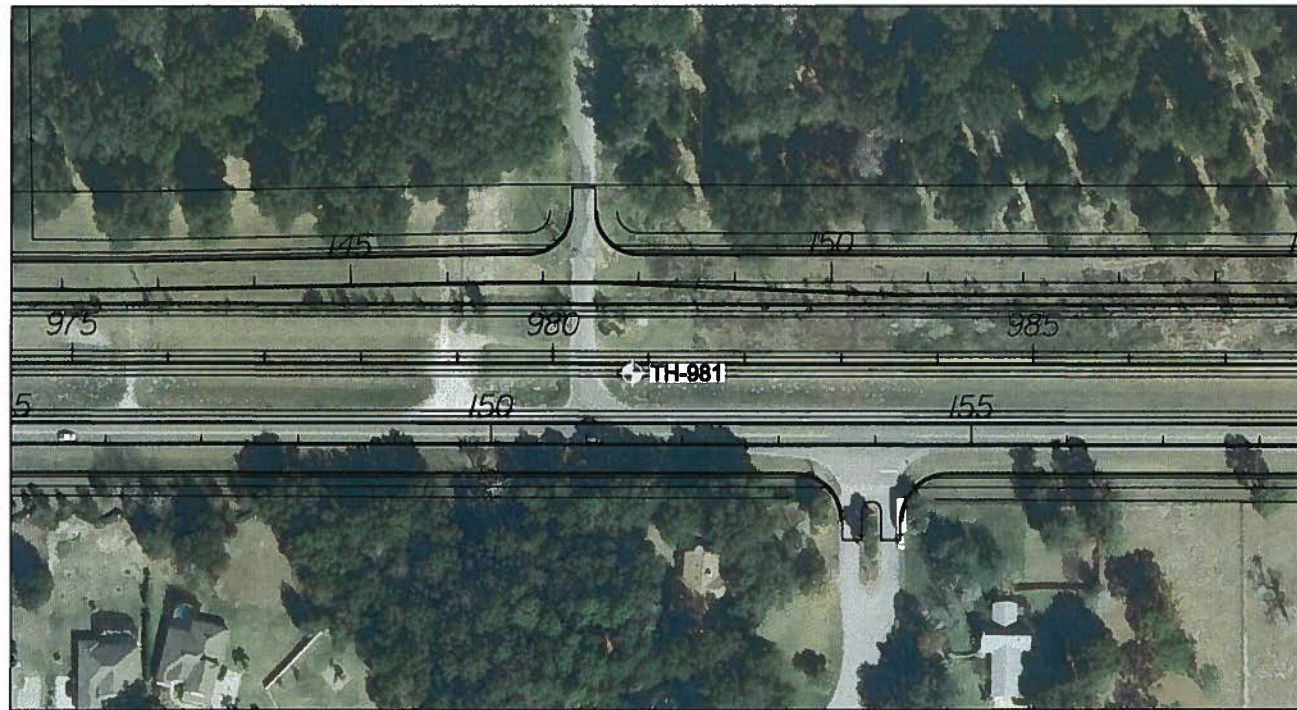
GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



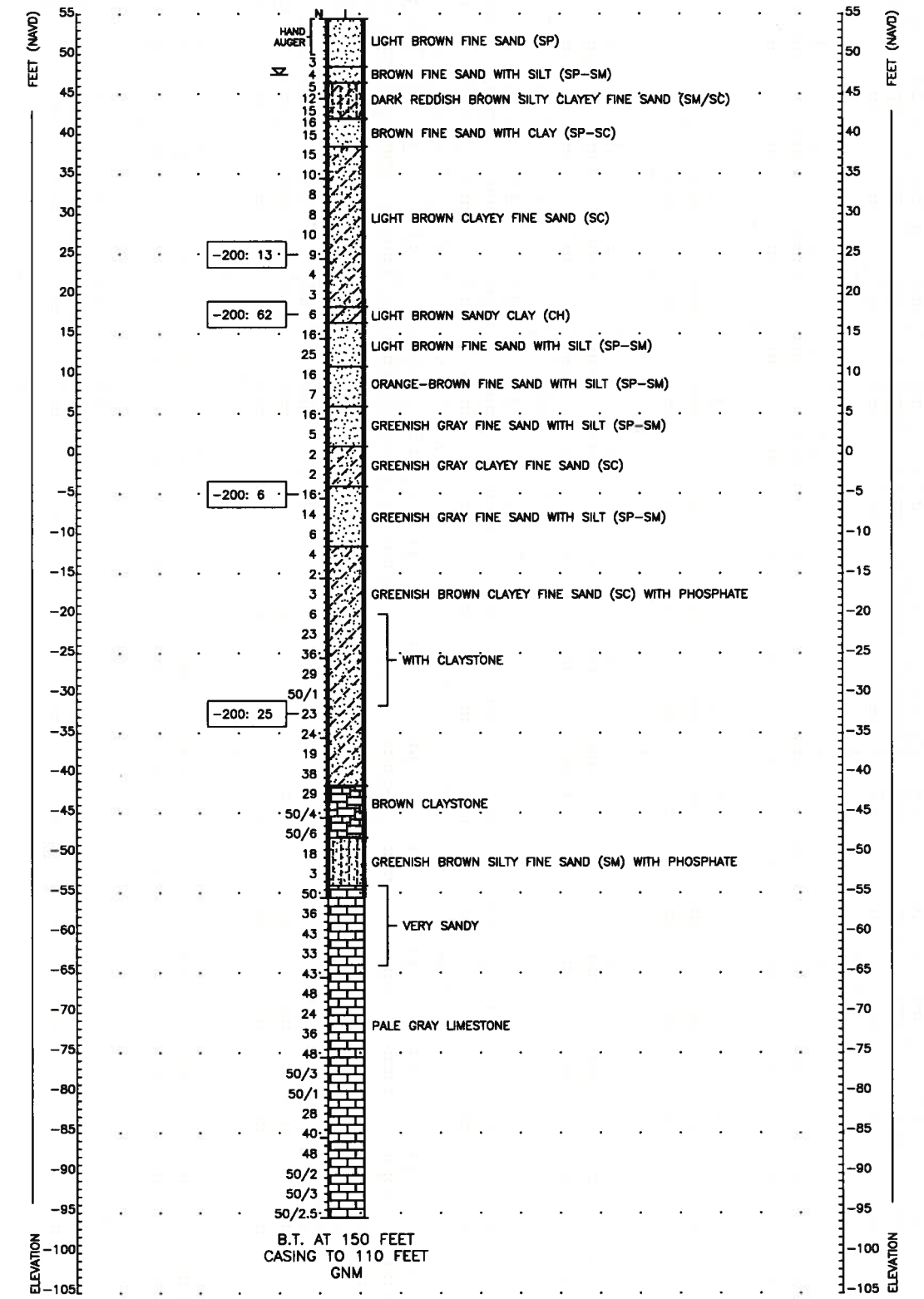
SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

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REVISIONS						ENGINEER OF RECORD:		LOGO:	SEAL:	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE	
Date	By	Description	Date	By	Description	Name	Date			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.
						Colin T. Jewsbury	04/12			SR 429	SEMINOLE	431081-4-32-01	REPORT OF SPT BORING FOR STRUCTURE WEKIVA PARKWAY	
						C.T. JEWSBURY		Ardaman & Associates, Inc. 8008 S. ORANGE AVENUE P.O. BOX 583003 ORLANDO, FL 32809-3003 CERTIFICATE OF AUTHORIZATION: 5950						



TH-981
06/19/12
GSE=54.4
STA: 980+83
OFFSET: 10R
LATITUDE: 28.81478
LONGITUDE: -81.400979



LEGEND



STANDARD PENETRATION TEST DATA:
SPOON I.D. = 1.375"
SPOON O.D. = 2.0"
HAMMER DROP = 30"
HAMMER WEIGHT = 140 lbs.
HAMMER TYPE = SAFETY TO 15', AUTOMATIC BELOW

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

SHELL FRAGMENTS: TRACE <5%
FEW 5 TO 10%
LITTLE 15 TO 25%
SOME 30 TO 45%
MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

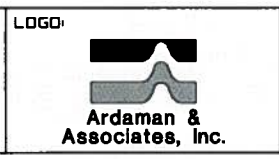
WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- GNM GROUNDWATER NOT MEASURED (NOT ENCOUNTERED IN THE TOP 10 FEET AND NOT MEASURED BELOW 10 FEET DUE TO THE MUDDIED CONDITION OF THE BOREHOLES)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

ENGINEER OF RECORD:
COLIN T. JEWSBURY
FL. REG. NO. 58074
Ardaman & Associates, Inc.
8008 S. ORANGE AVENUE
P.O. BOX 583003
ORLANDO, FL 32859-3003
CERTIFICATE OF AUTHORIZATION: 5950

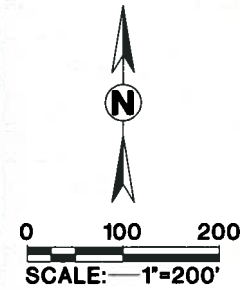
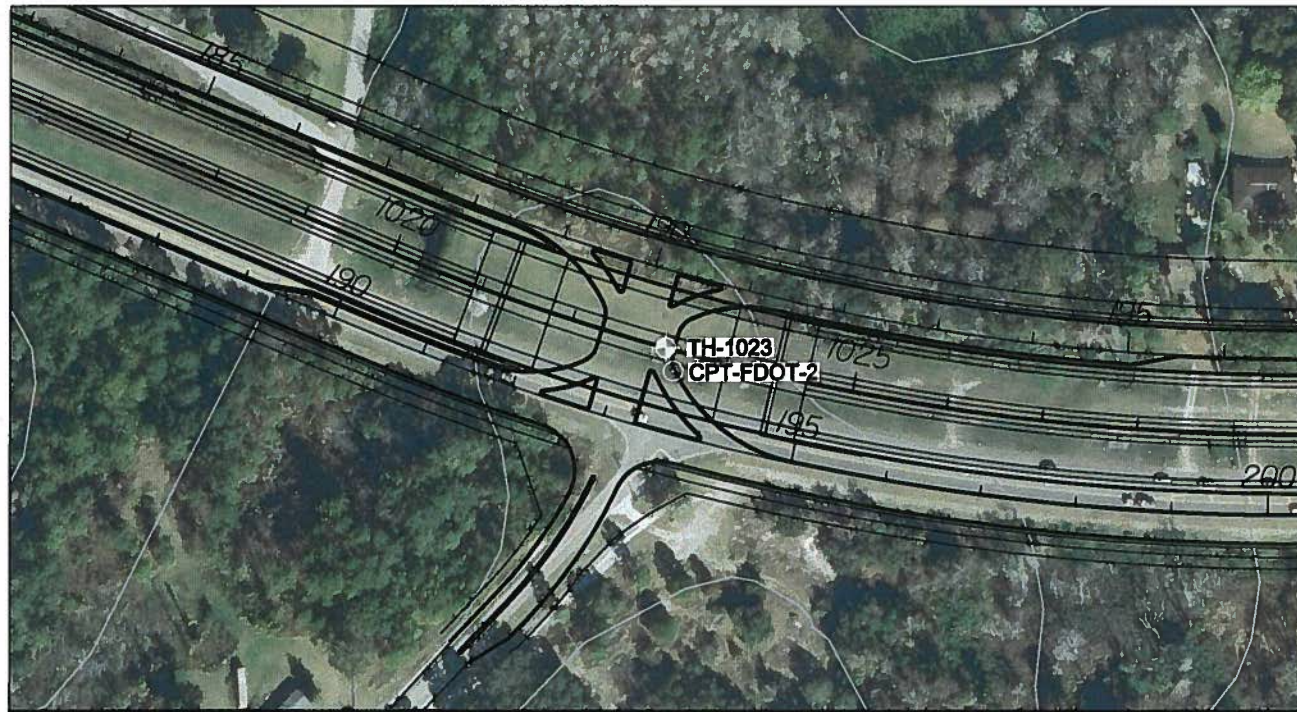


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SEAL:

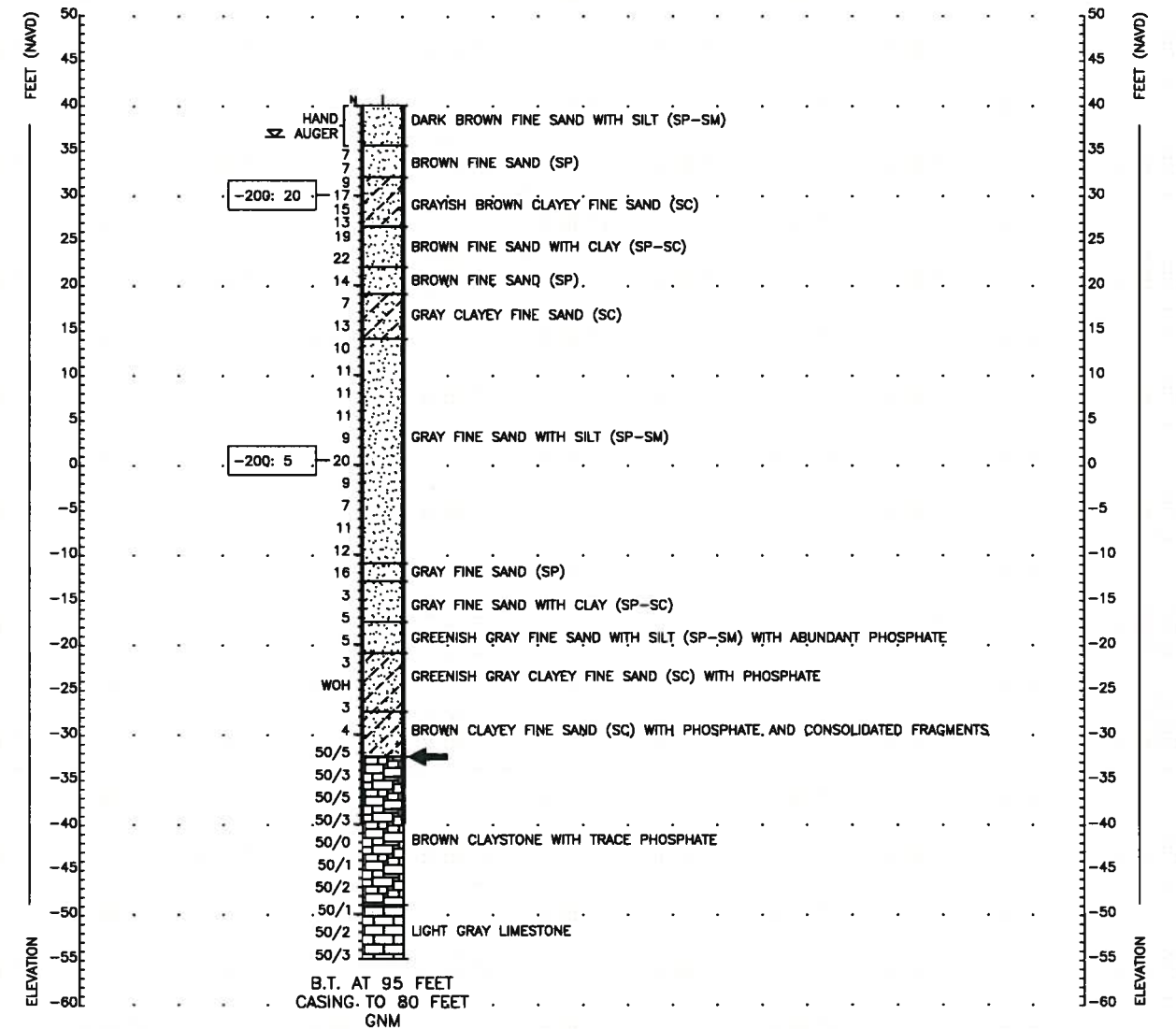
FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

E:\Orlando\111-6501\11650143.dwg 7/05/2012 9:23:11 AM, Chris.Drew



TH-1023
 01/03/12
 GSE=40.1
 STA: 1023+06
 OFFSET: 6R
 LATITUDE: 28.813127
 LONGITUDE: -81.38814



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- CONE PENETRATION TEST SOUNDING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- GNM** GROUND WATER NOT MEASURED
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- COMPLETE LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.5)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

REVISIONS

Date	By	Description

Name	Date
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850

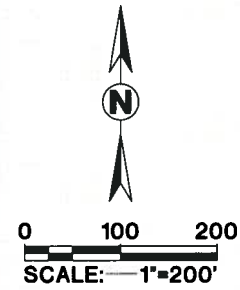
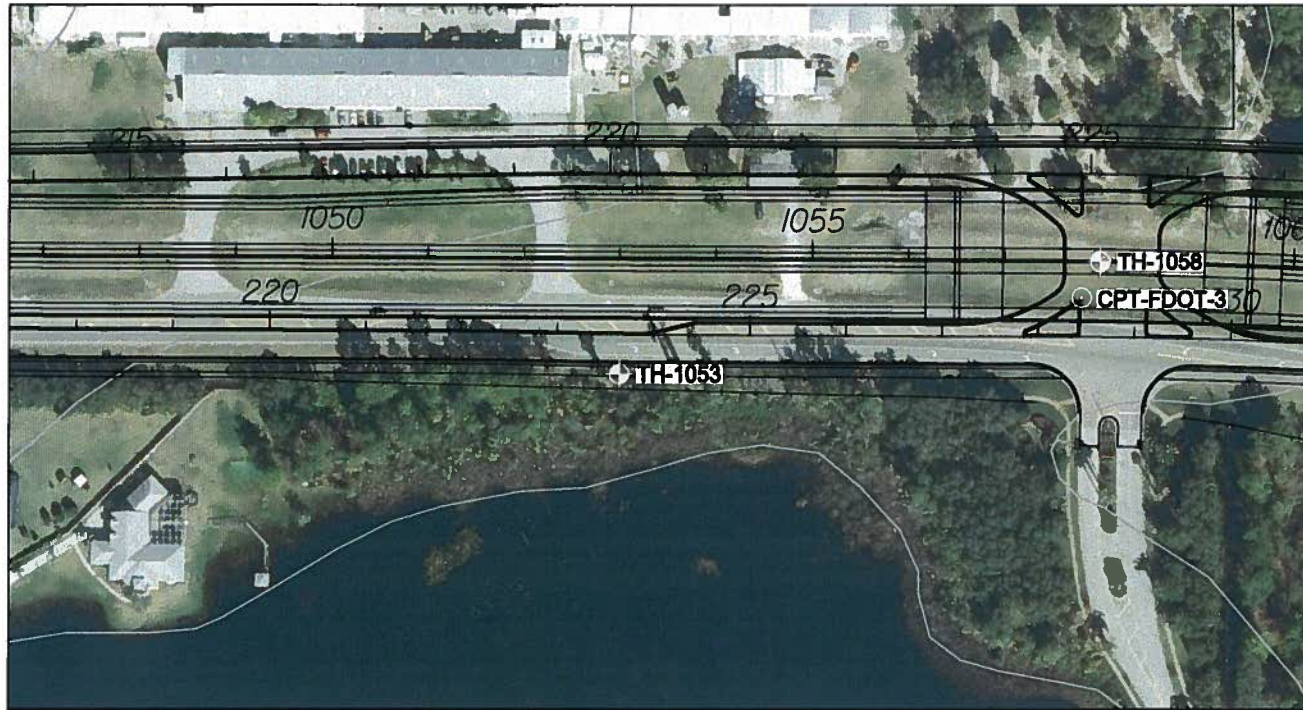


SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:	
REPORT OF SPT BORING FOR STRUCTURE	
PROJECT NAME:	WEKIVA PARKWAY
SHEET NO.	

T:\Orlando\11\11-650\11650104.dwg 6/26/2012 4:19:25 PM, Chris.Drew



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

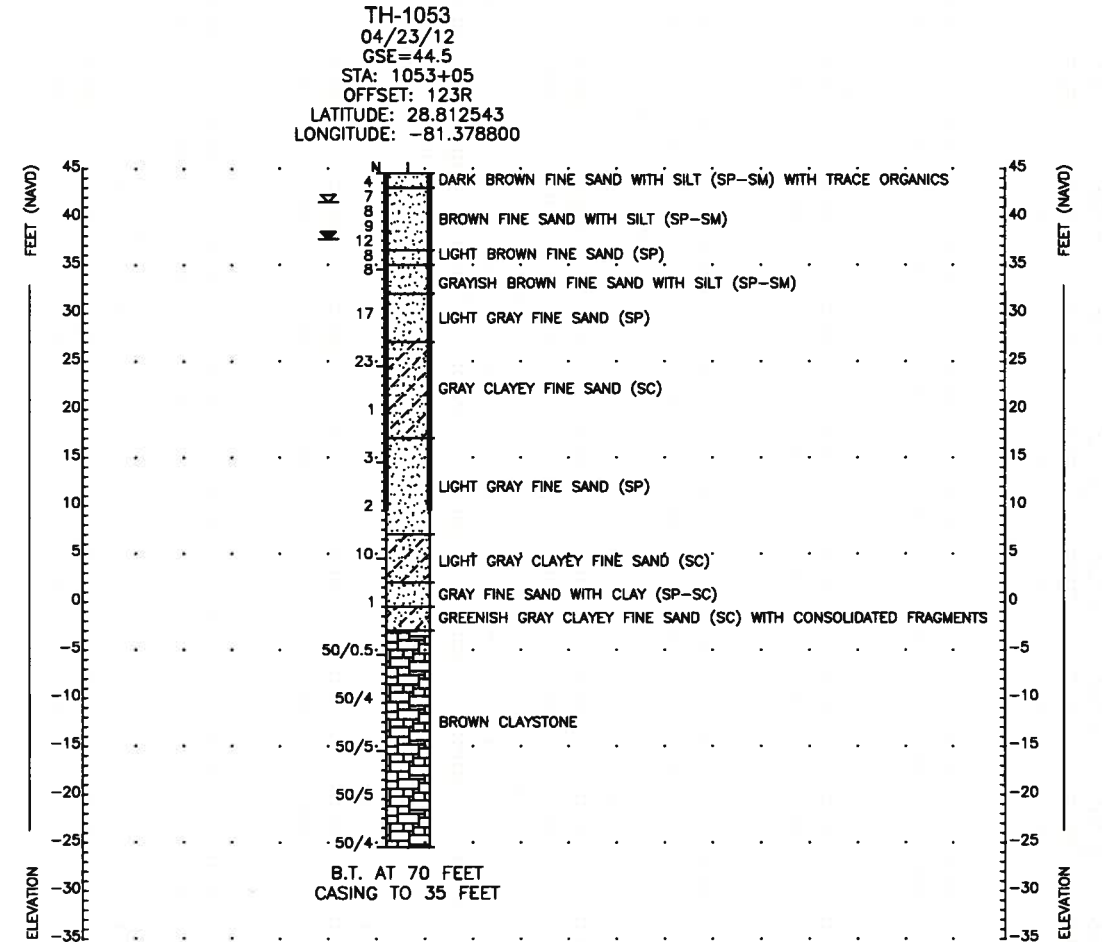
STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

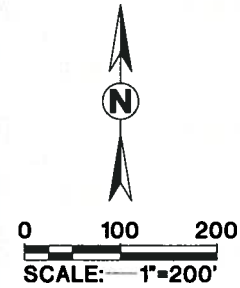
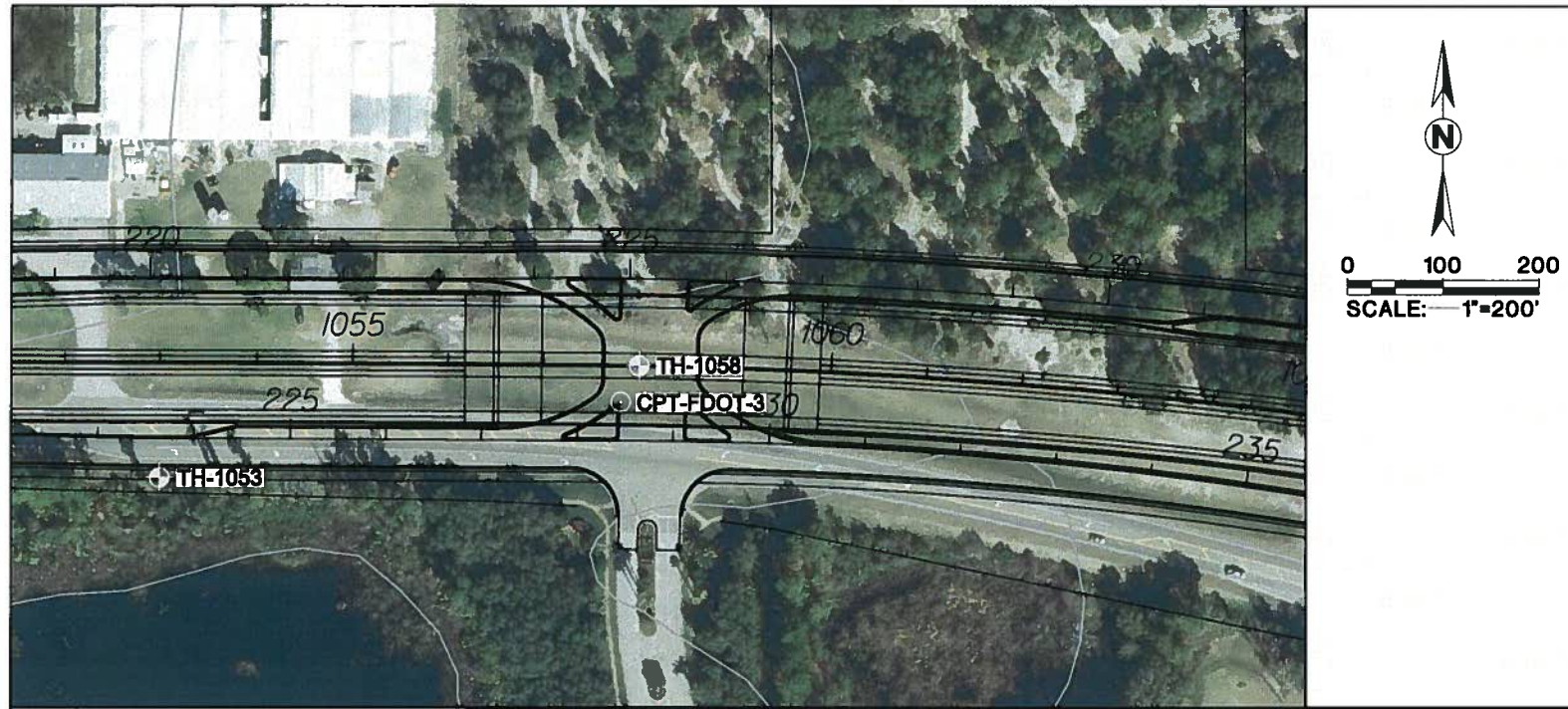
I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	
II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
 GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



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REVISIONS						ENGINEER OF RECORD:		LOGO:	SEAL:	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE			
Date	By	Description	Date	By	Description	Name	Dates			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.		
						COLIN T. JEWSBURY	04/12			Ardaman & Associates, Inc. 8008 S. ORANGE AVENUE P.O. BOX 583003 ORLANDO, FL 32859-3003 CERTIFICATE OF AUTHORIZATION: 5950	SR 429	SEMINOLE	431081-4-32-01	WEKIVA PARKWAY		
						Checked by	04/12									
						Designed by										
						Checked by										
						Approved by	C.T. JEWSBURY									



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
 - 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
 - 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
 - 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
 - 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.
- STANDARD PENETRATION TEST (SPT) BORING LOCATION
 - CONE PENETRATION TEST SOUNDING LOCATION
 - N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
 - ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
 - GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
 - 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
 - COMPLETE LOSS OF DRILLING FLUID CIRCULATION
 - 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.4)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

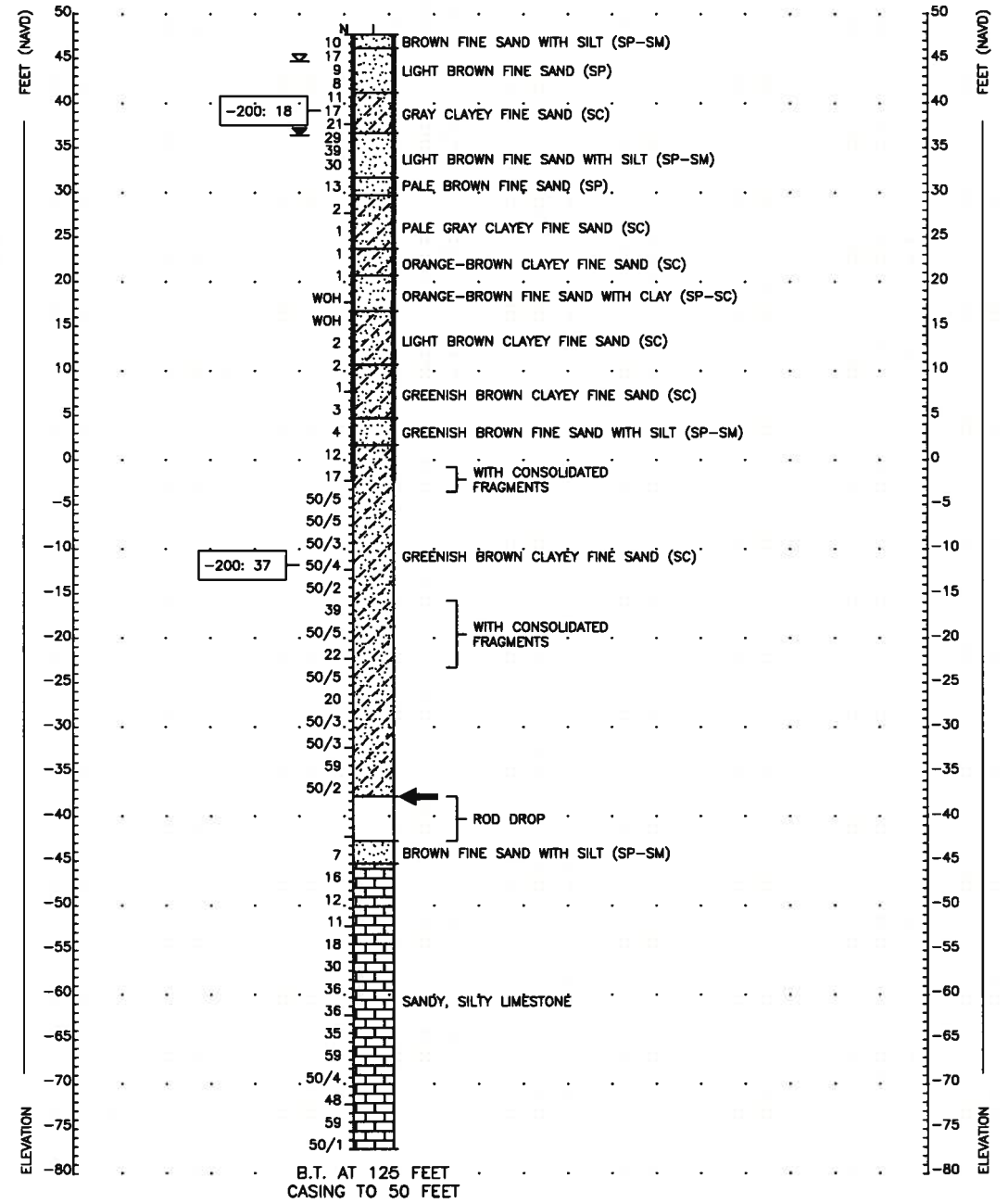
I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-1058
 01/12/12
 GSE=47.7
 STA: 1058+04
 OFFSET: 4R
 LATITUDE: 28.81287
 LONGITUDE: -81.37724



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REVISIONS

Date	By	Description

Notes	Dates
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWBSURY	

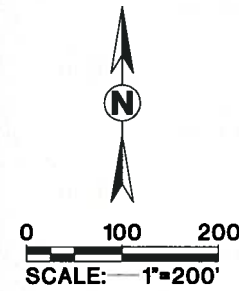
ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL REG. NO. 58074
 Ardaman & Associates, Inc.
 8006 S. ORANGE AVENUE
 P.O. BOX 993003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME		
WEKIVA PARKWAY		



TH-1083
 01/19/12
 GSE=61.8
 STA: 1083+06
 OFFSET: 4R
 LATITUDE: 28.81145
 LONGITUDE: -81.36965

LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.2)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

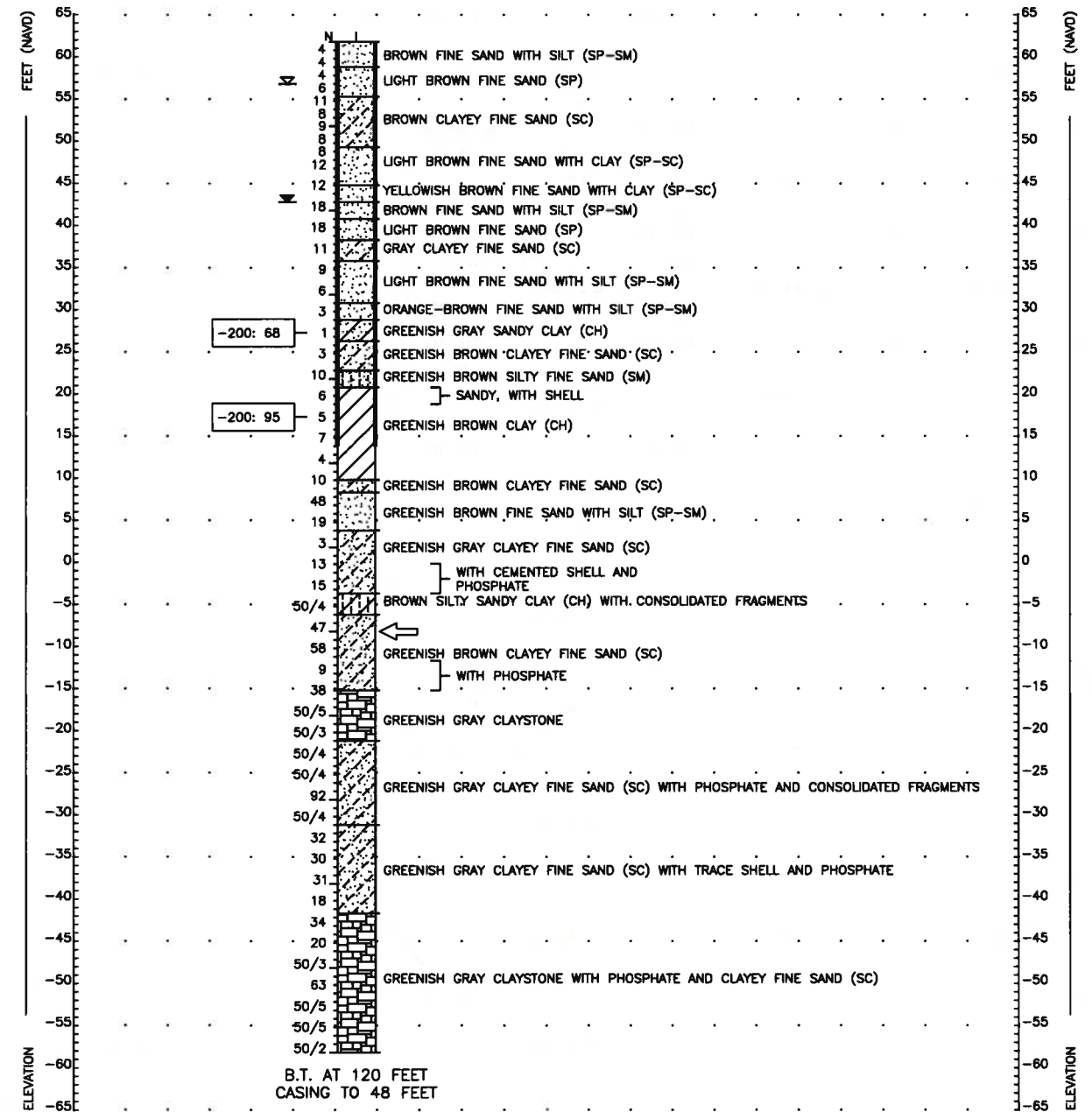
ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

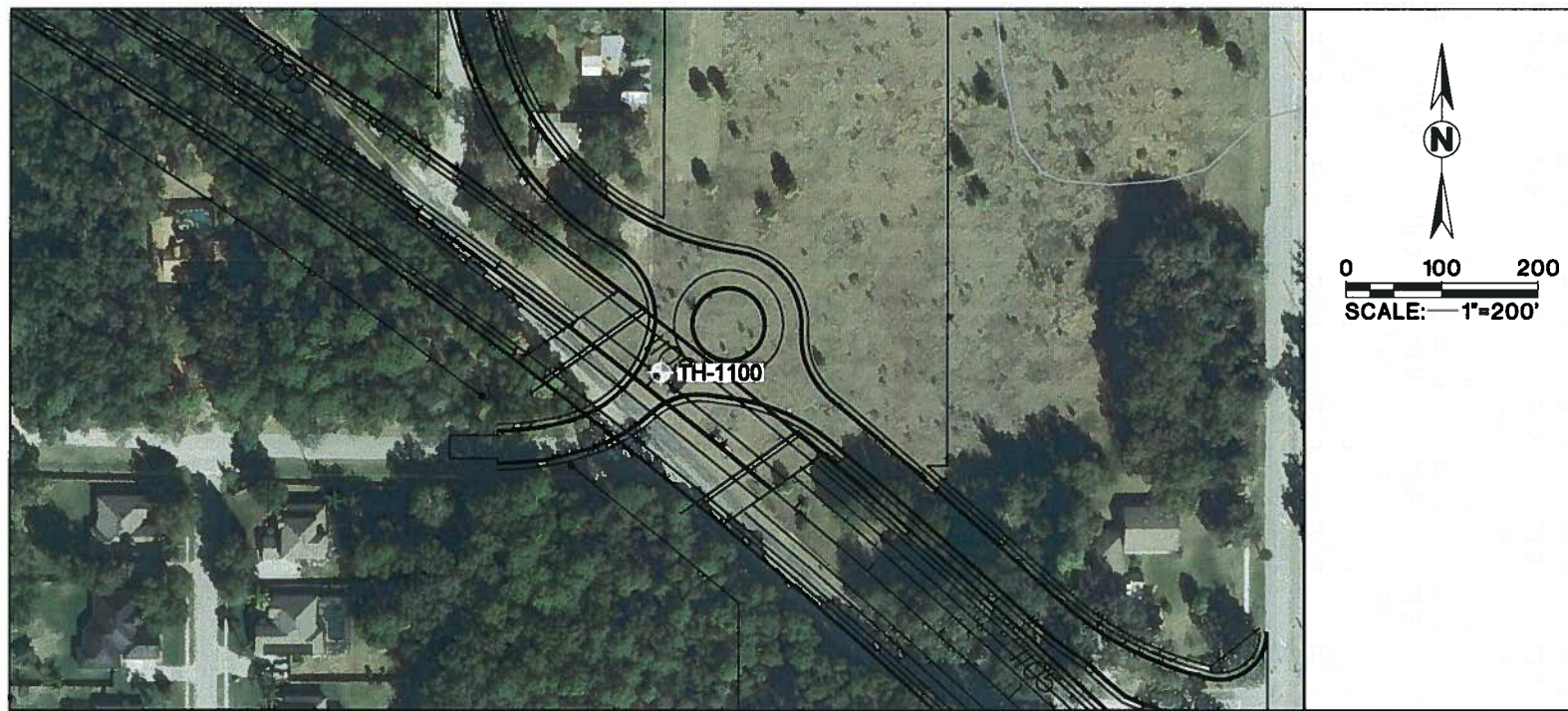
GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



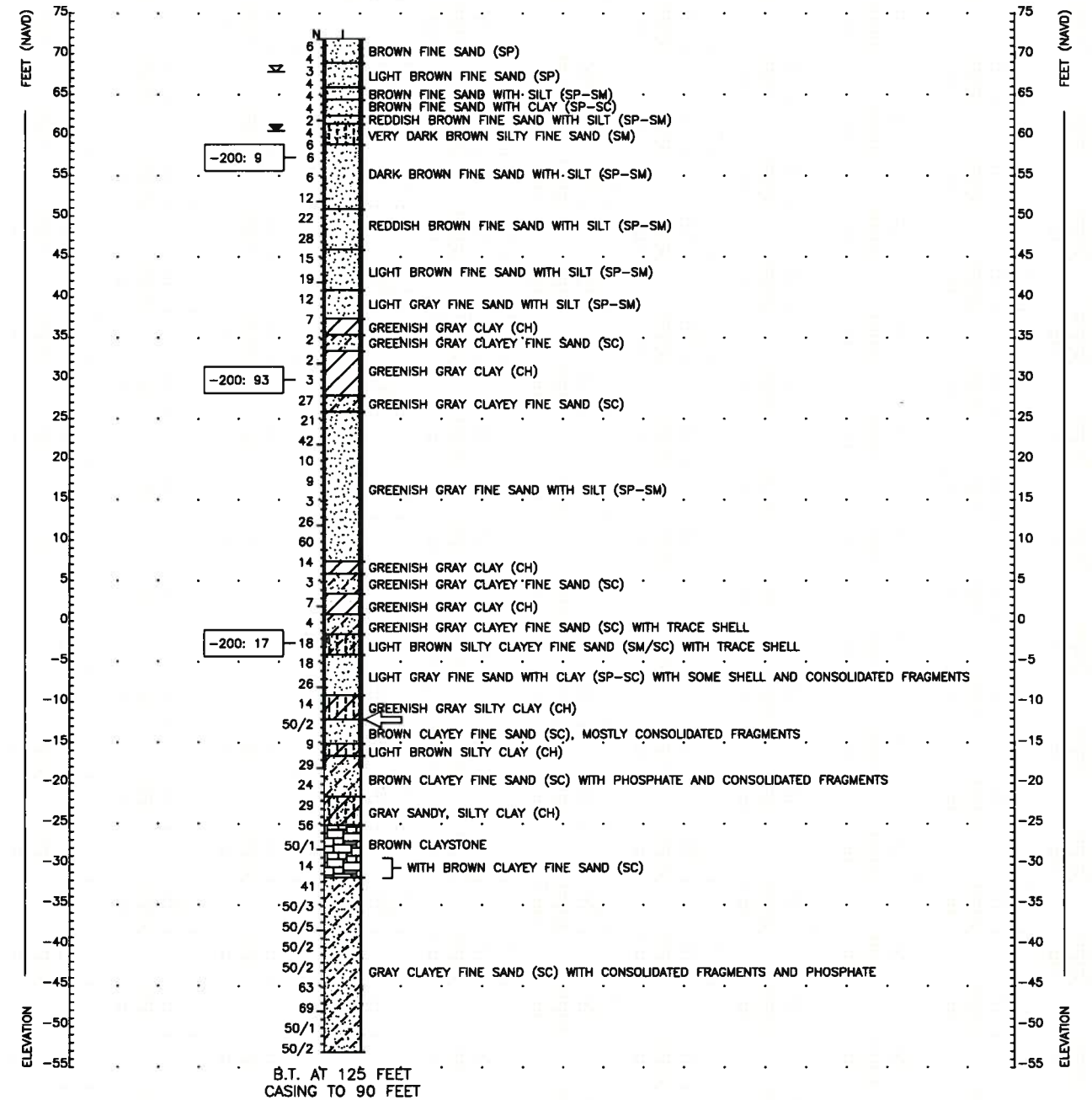
B.T. AT 120 FEET CASING TO 48 FEET

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REVISIONS						ENGINEER OF RECORD		LOGO	SEAL	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE	
Date	By	Description	Date	By	Description	Name	Date			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.
						Drawn by	CD	04/12			SR 429	SEMINOLE	431081-4-32-01	REPORT OF SPT BORING FOR STRUCTURE
					Checked by	CTJ	04/12							
					Designed by									
					Checked by									
					Approved by	C.T. JEWSBURY			Ardaman & Associates, Inc. 8008 S. ORANGE AVENUE P.O. BOX 593003 ORLANDO, FL 32859-3003 CERTIFICATE OF AUTHORIZATION: 5850					



TH-1100
01/16/12
GSE=71.7
STA: 1100+06
OFFSET: 17L
LATITUDE: 28.80912
LONGITUDE: -81.36505



LEGEND

	FINE SAND		CLAYEY FINE SAND
	SILTY SAND		CLAY
	SILTY CLAY		CLAYSTONE

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
SPOON O.D.= 2.0"
HAMMER DROP= 30"
HAMMER WEIGHT= 140 lbs.
HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: MODERATELY AGGRESSIVE
STEEL: EXTREMELY AGGRESSIVE (pH=5.2)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
FEW 5 TO 10%
LITTLE 15 TO 25%
SOME 30 TO 45%
MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWsbury	

ENGINEER OF RECORD:
COLIN T. JEWsbury
FL REG. NO. 58074

Ardaman & Associates, Inc.
8008 S. ORANGE AVENUE
P.O. BOX 583003
ORLANDO, FL 32859-3003
CERTIFICATE OF AUTHORIZATION: 5850



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

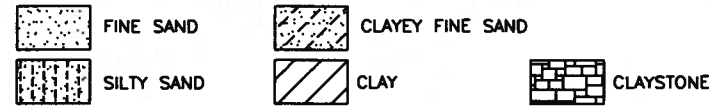
SHEET TITLE:	
REPORT OF SPT BORING FOR STRUCTURE	
PROJECT NAME:	WEKIVA PARKWAY
SHEET NO.:	

T:\Orlando\11650105.dwg 6/26/2012 4:20:44 PM, Chris.Drew



TH-1110
 01/17/12
 GSE=74.8
 STA: 1109+99
 OFFSET: 39L
 LATITUDE: 28.80729
 LONGITUDE: -81.36271

LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH** SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- LL** LIQUID LIMIT IN PERCENT (ASTM D-4318)
- PI** PLASTICITY INDEX IN PERCENT (ASTM D-4318)

3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE
 SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

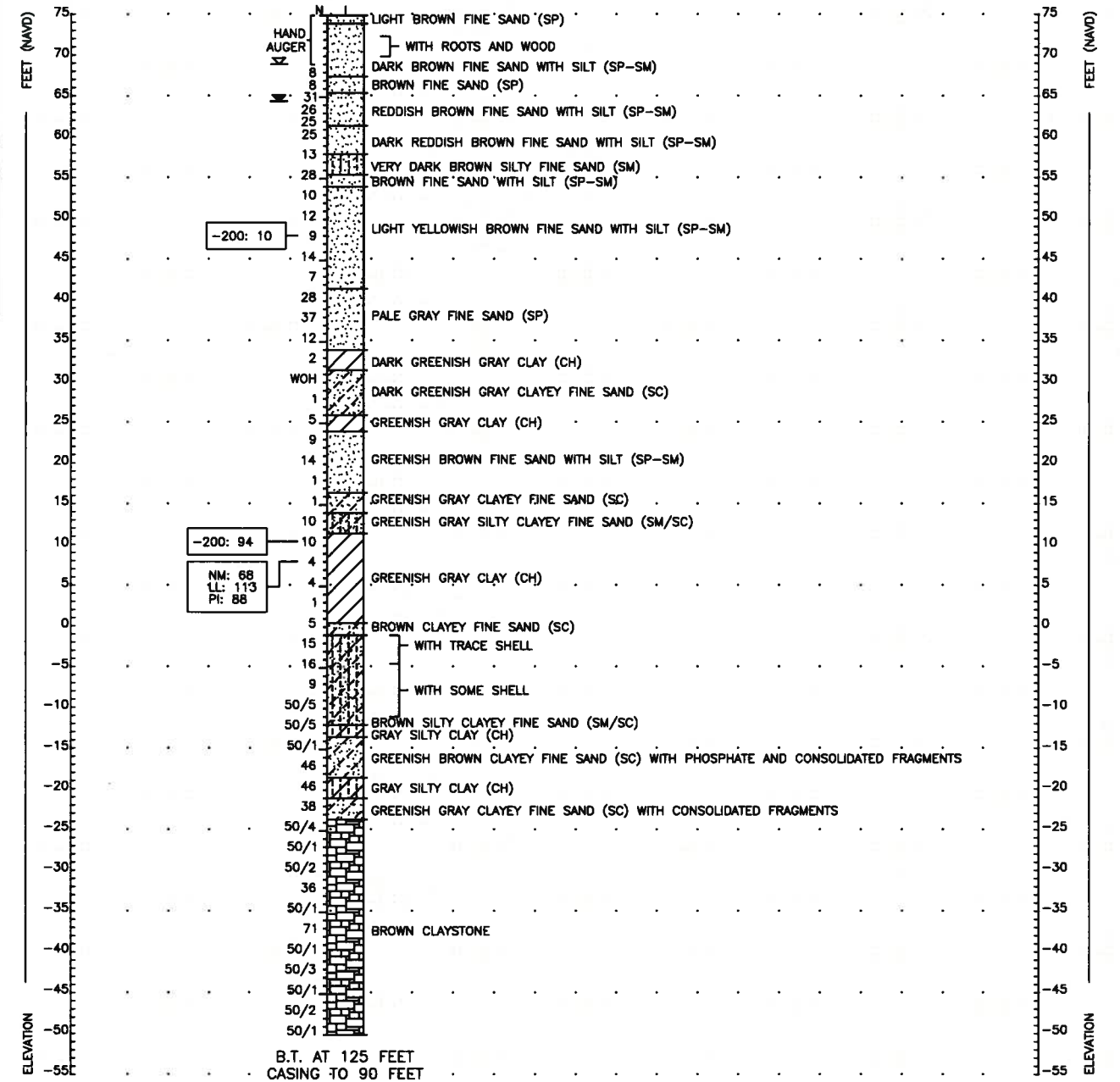
SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	
II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



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REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWsbury	

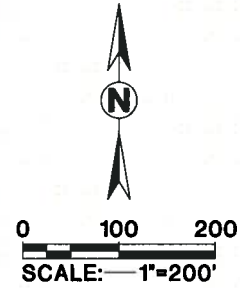
ENGINEER OF RECORD:
 COLIN T. JEWsbury
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 593003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 9850



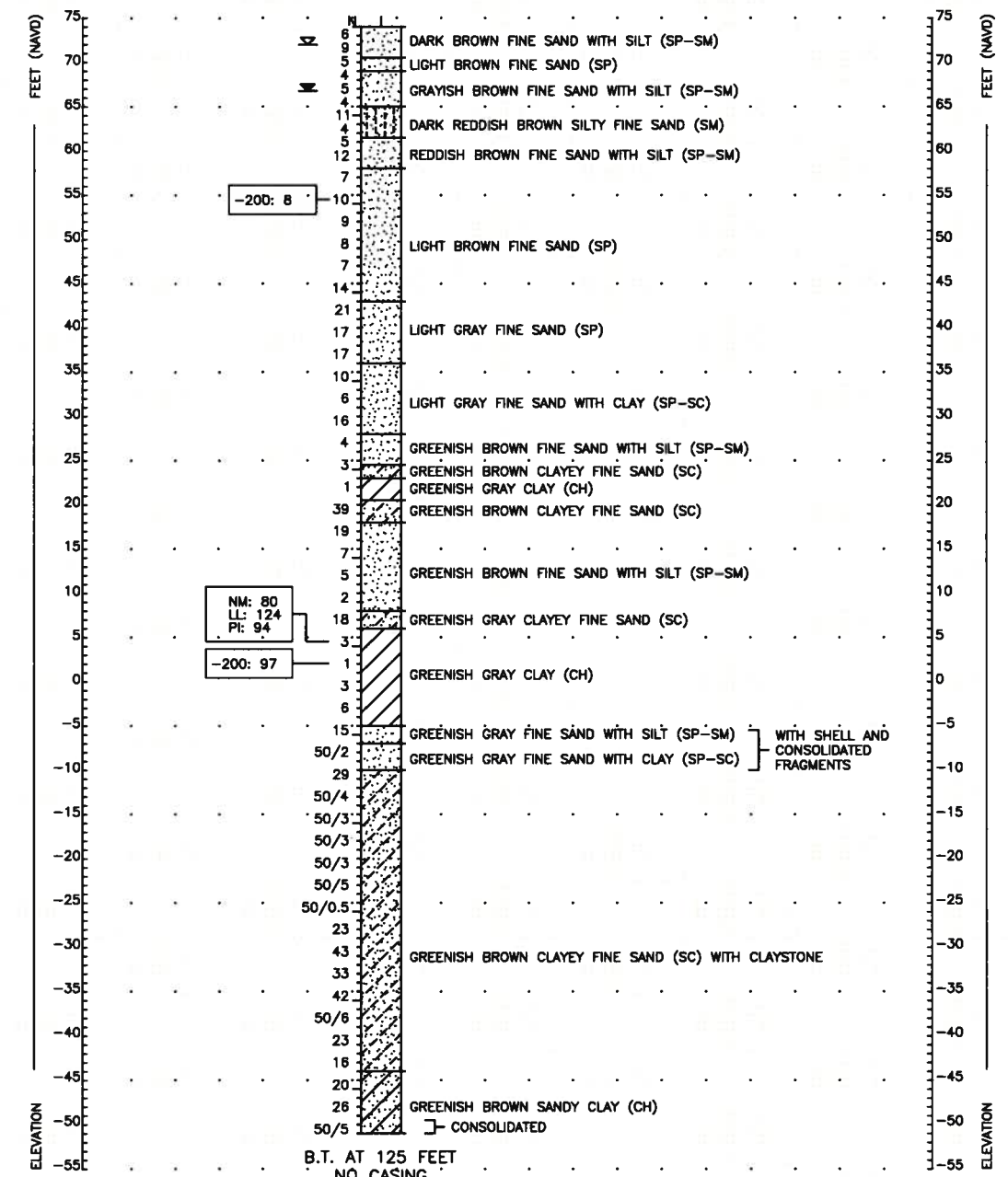
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		



TH-1140
01/17/12
GSE=74
STA: 1140+61
OFFSET: 45R
LATITUDE: 28.80086
LONGITUDE: -81.35657



LEGEND

	FINE SAND		CLAYEY FINE SAND
	SILTY SAND		CLAY

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
- LL** LIQUID LIMIT IN PERCENT (ASTM D-4318)
- PI** PLASTICITY INDEX IN PERCENT (ASTM D-4318)

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
SPOON O.D.= 2.0"
HAMMER DROP= 30"
HAMMER WEIGHT= 140 lbs.
HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: SLIGHTLY AGGRESSIVE
STEEL: MODERATELY AGGRESSIVE

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
FEW 5 TO 10%
LITTLE 15 TO 25%
SOME 30 TO 45%
MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

REVISIONS

Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWsbury	

ENGINEER OF RECORD:
COLIN T. JEWsbury
FL. REG. NO. 58074

Ardaman & Associates, Inc.
8008 S. ORANGE AVENUE
P.O. BOX 583003
ORLANDO, FL 32859-3003
CERTIFICATE OF AUTHORIZATION: 5850



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

T:\Orlando\11\11-6501\11650110.dwg 6/26/2012 4:21:24 PM, Chris.Drew



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D. = 1.375"
 SPOON O.D. = 2.0"
 HAMMER DROP = 30"
 HAMMER WEIGHT = 140 lbs.
 HAMMER TYPE = SAFETY

ENVIRONMENTAL CLASSIFICATION

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

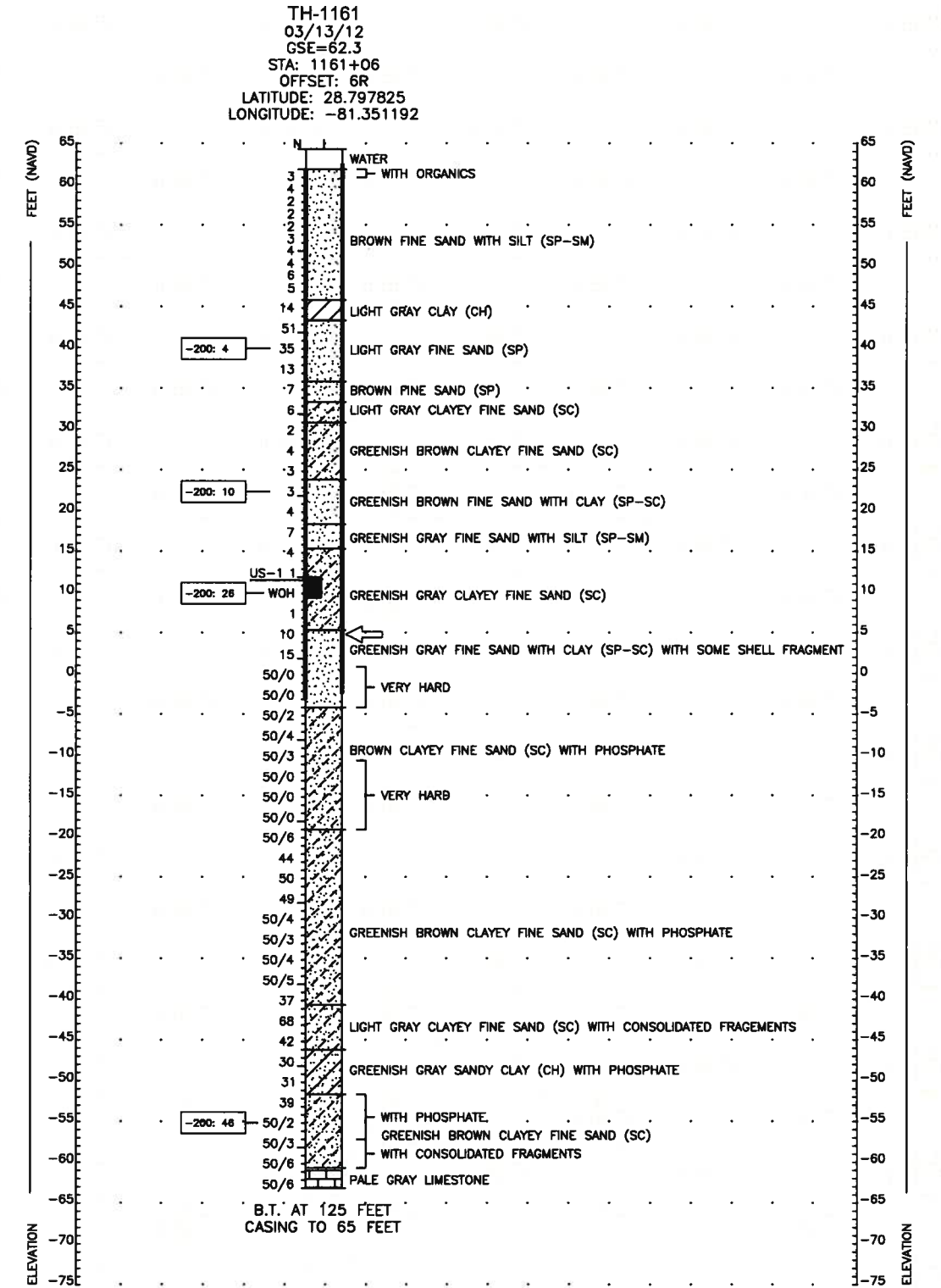
I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
 GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM
- US-1 UNDISTURBED SAMPLE OBTAINED WITH A 3-INCH DIA. SHELBY TUBE

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950



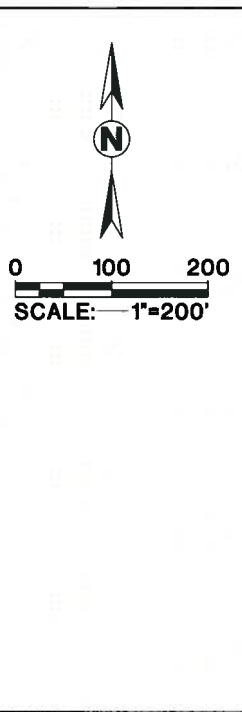
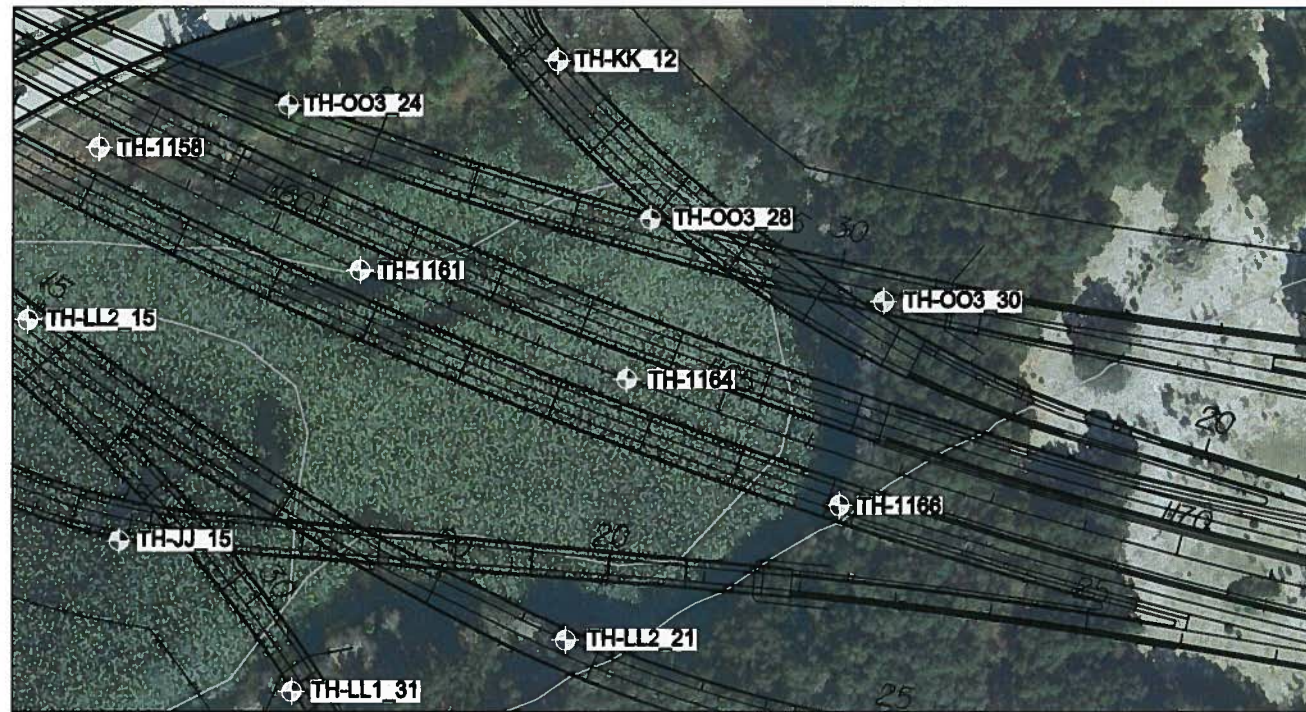
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FLORIDA DEPARTMENT OF TRANSPORTATION

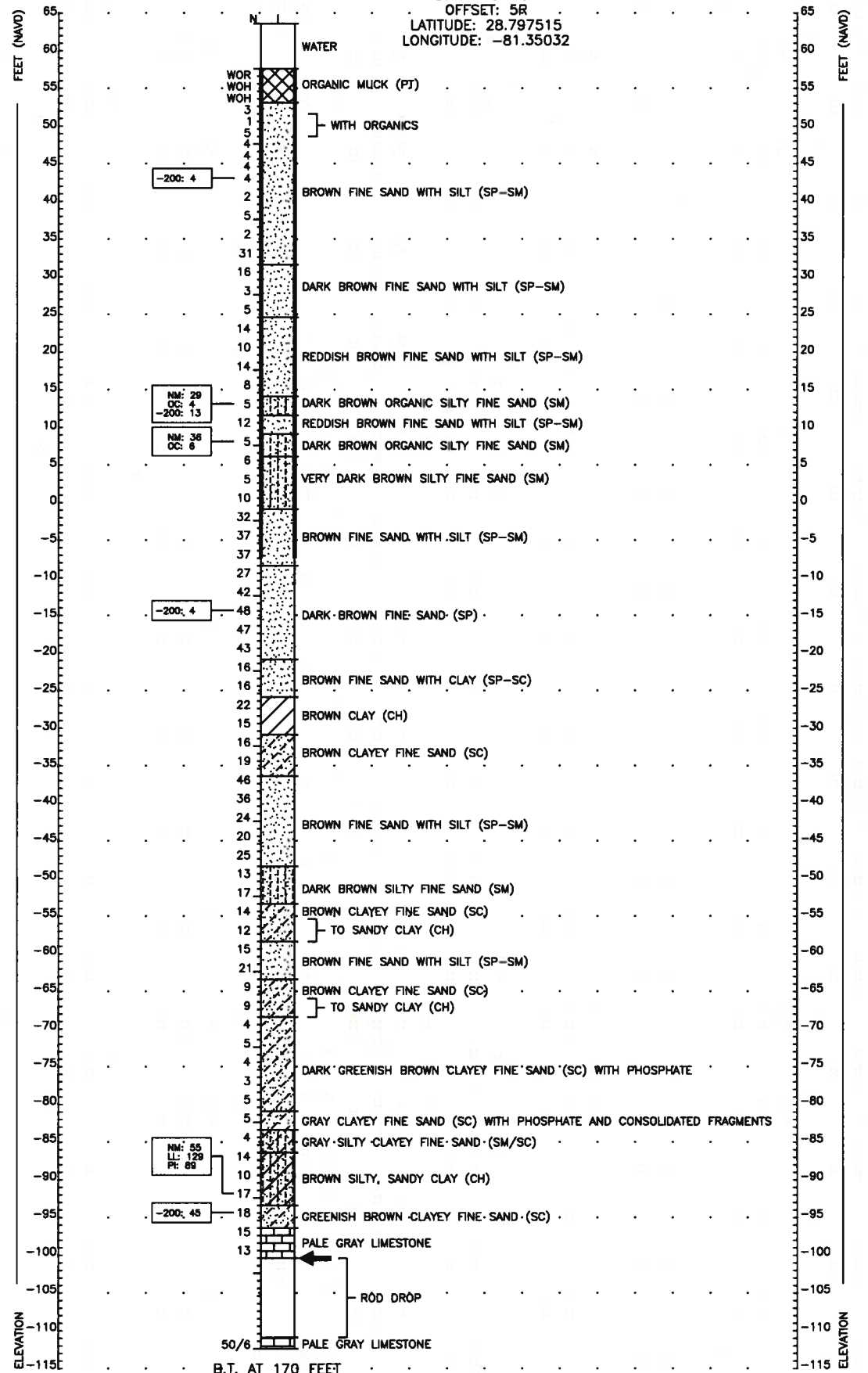
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME		SHEET NO.
WEKIVA PARKWAY		

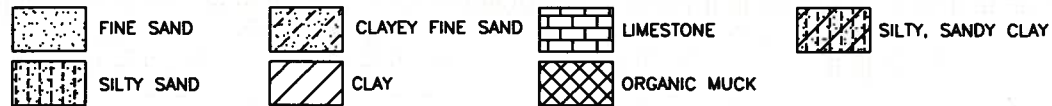
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TH-1164
03/06/12
GSE=57.6
STA: 1164+06
OFFSET: 5R
LATITUDE: 28.797515
LONGITUDE: -81.35032



LEGEND



STANDARD PENETRATION TEST DATA:
SPOON I.D.= 1.375"
SPOON O.D.= 2.0"
HAMMER DROP= 30"
HAMMER WEIGHT= 140 lbs.
HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
FEW 5 TO 10%
LITTLE 15 TO 25%
SOME 30 TO 45%
MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- LL LIQUID LIMIT IN PERCENT (ASTM D-4318)
- PI PLASTICITY INDEX IN PERCENT (ASTM D-4318)
- OC ORGANIC CONTENT IN PERCENT (ASTM D-2974)
- WOH SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- WOR SAMPLER ADVANCED BY STATIC WEIGHT OF RODS ONLY
- COMPLETE LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
COLIN T. JEWSBURY
FL REG. NO. 58074
Ardaman & Associates, Inc.
8008 S. ORANGE AVENUE
P.O. BOX 583003
ORLANDO, FL 32859-3003
CERTIFICATE OF AUTHORIZATION: 5950

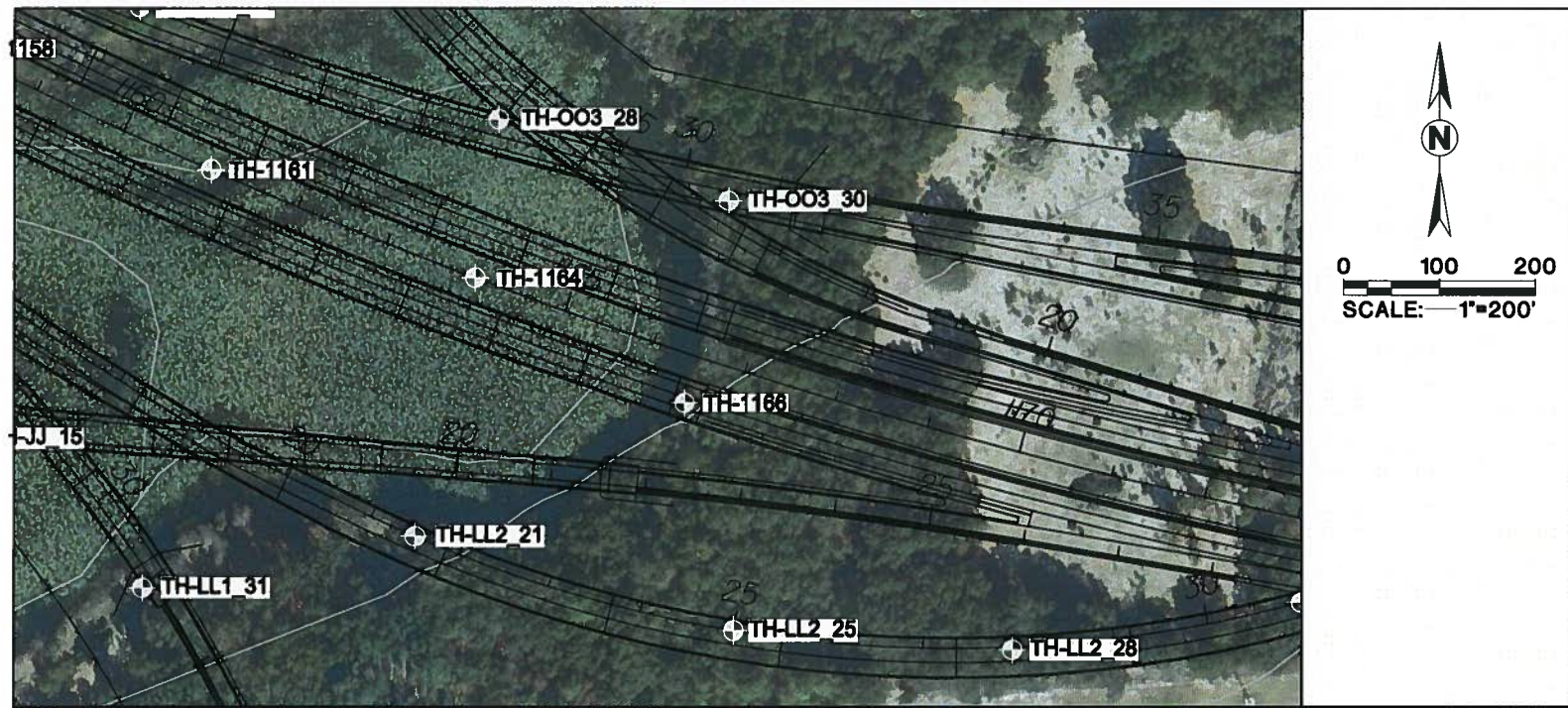


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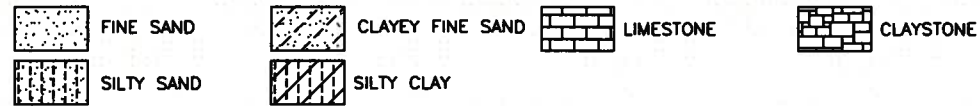
FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

T:\Orlando\111-6501\11-6501\11650136.dwg 6/26/2012 4:22:24 PM, Chris.Drew



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.
- *BORING LOCATION AND ELEVATION ESTIMATED ONLY.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

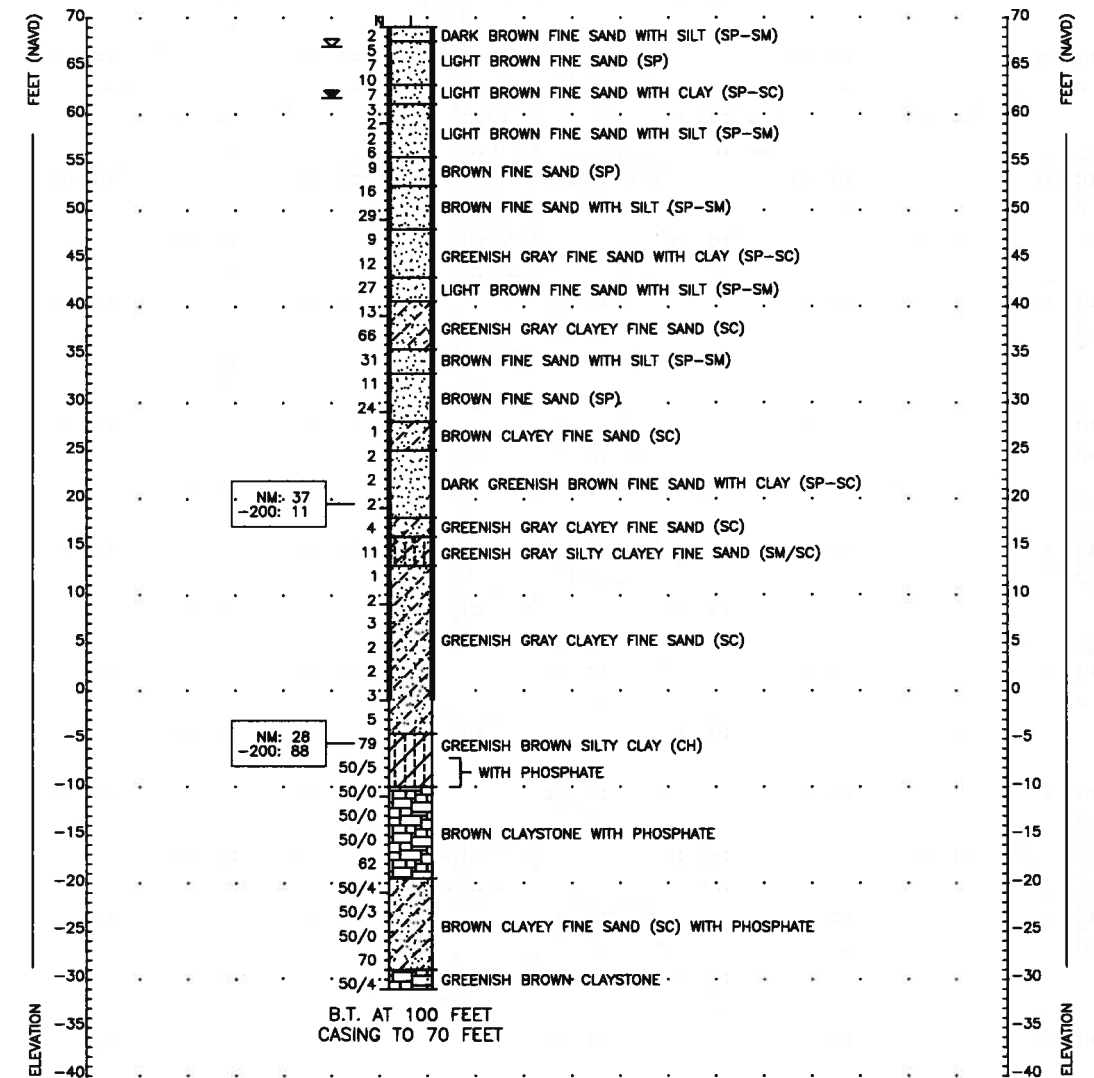
II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-1166*
 04/30/12
 GSE=69.0
 STA: 1166+50
 OFFSET: 50R
 LATITUDE: 28.79715
 LONGITUDE: -81.34963



REVISIONS

Date	By	Description	Date	By	Description

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074

Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32858-3003
 CERTIFICATE OF AUTHORIZATION: 5850

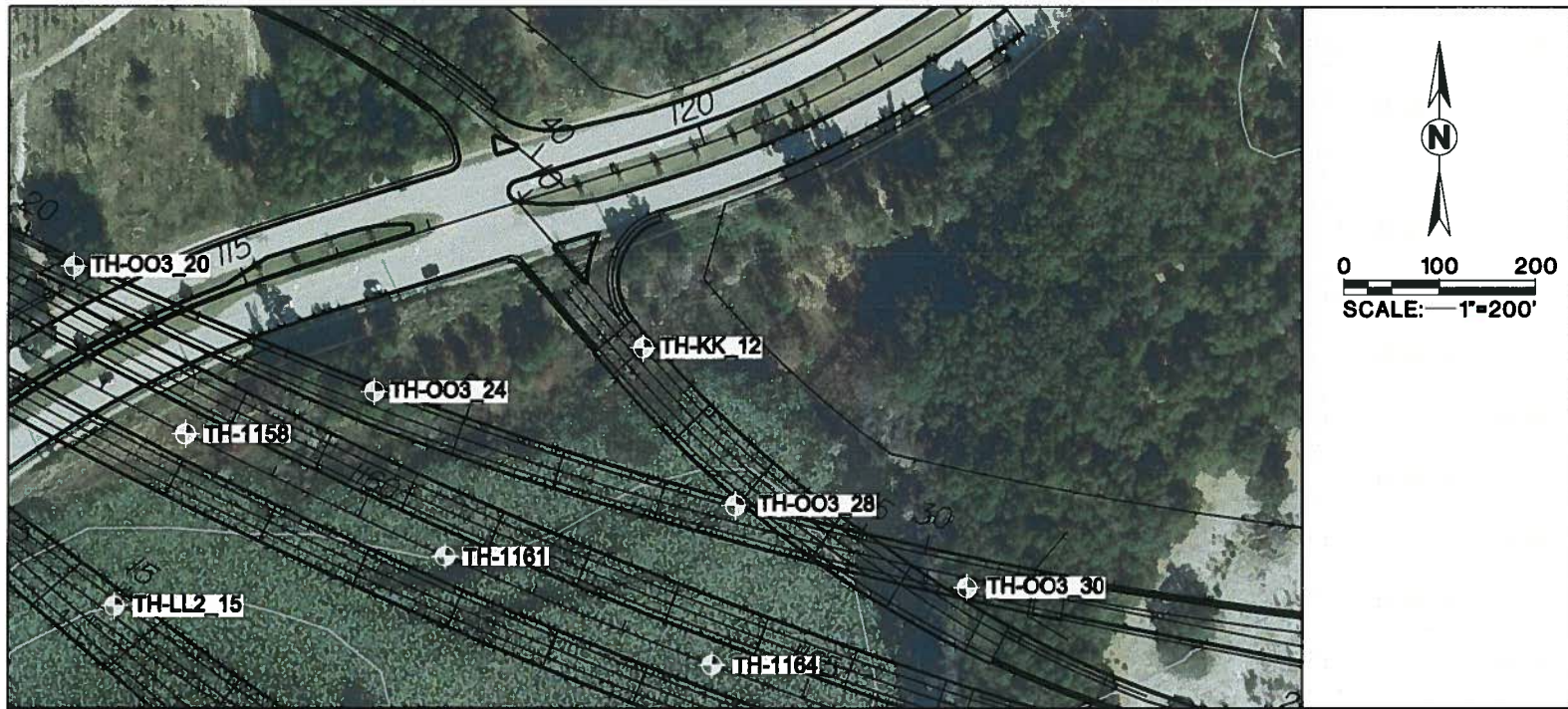


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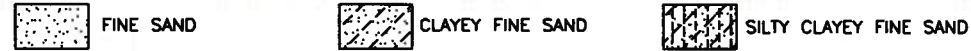
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		-
PROJECT NAME:		SHEET NO.
WEKIVA PARKWAY		-



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

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SUBSTRUCTURE:
 CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

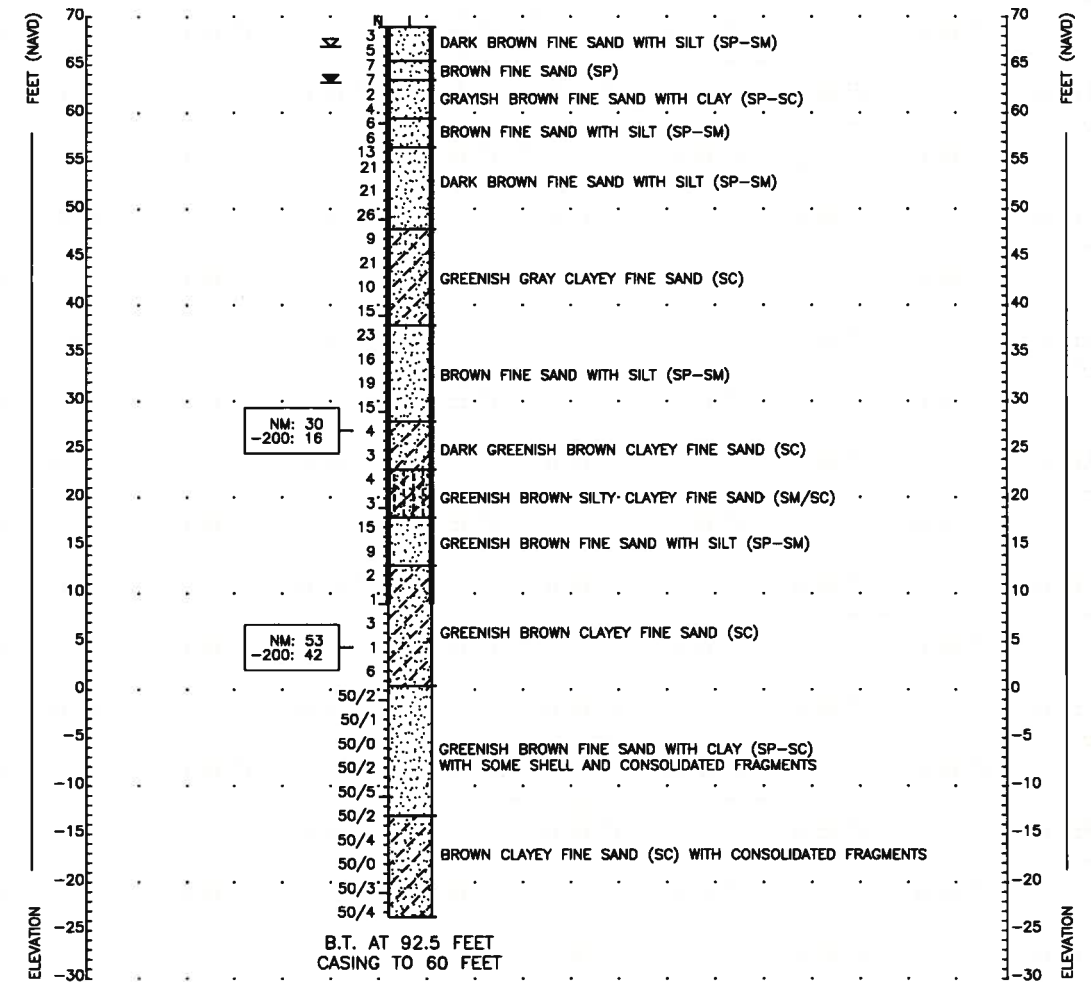
II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-KK_12
 04/26/12
 GSE=68.9
 STA: 11+41
 OFFSET: 41R
 LATITUDE: 28.798425
 LONGITUDE: -81.350550



T:\Orlando\111-6501\116501.dwg 6/26/2012 4:23:08 PM, Chris.Drew

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWBSURY	

ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. GRANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950

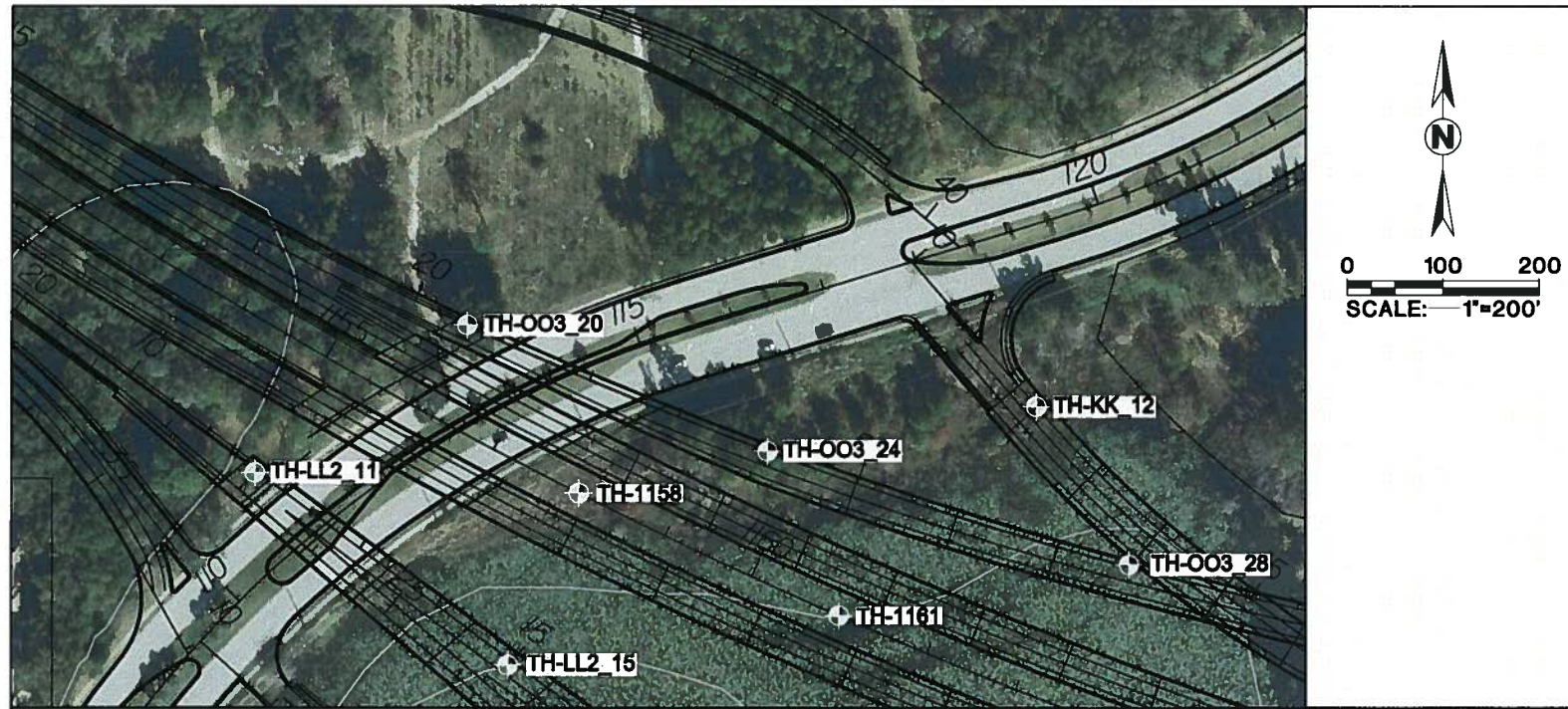


SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:	WEKIVA PARKWAY	



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- Water level symbol WATER LEVEL MEASURED ON DATE BORING INITIATED
- Estimated Normal Seasonal High Groundwater Level symbol ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- OC ORGANIC CONTENT IN PERCENT (ASTM D-2974)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING symbol
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: EXTREMELY AGGRESSIVE (pH=4.8)
 STEEL: EXTREMELY AGGRESSIVE (pH=4.8)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

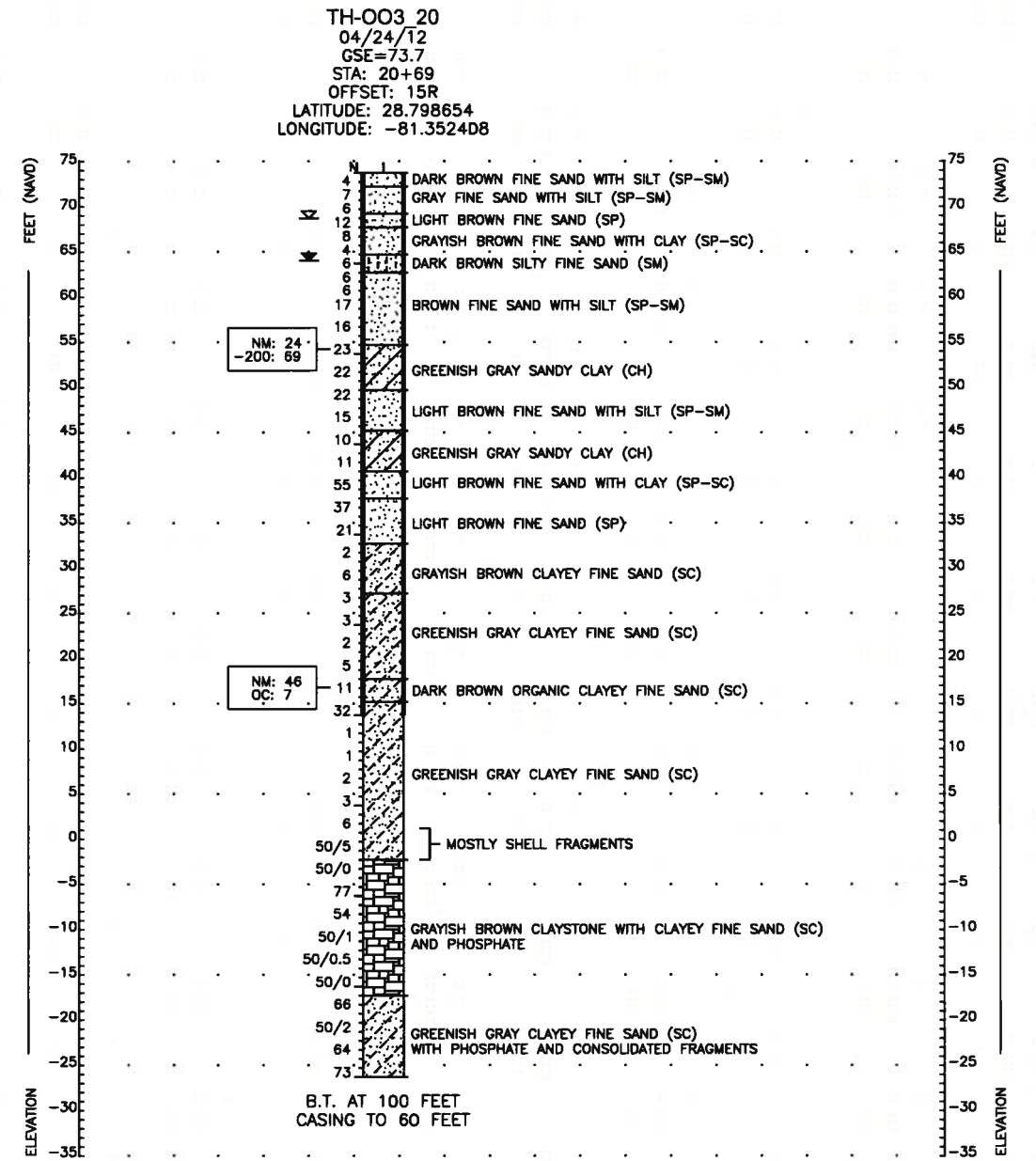
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



T:\Orlando\11\11-6501\11650146.dwg 6/26/2012 4:23:29 PM, Chris.Drew

REVISIONS

Date	By	Description	Date	By	Description

Names	Dates
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWBSURY	

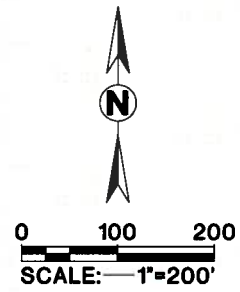
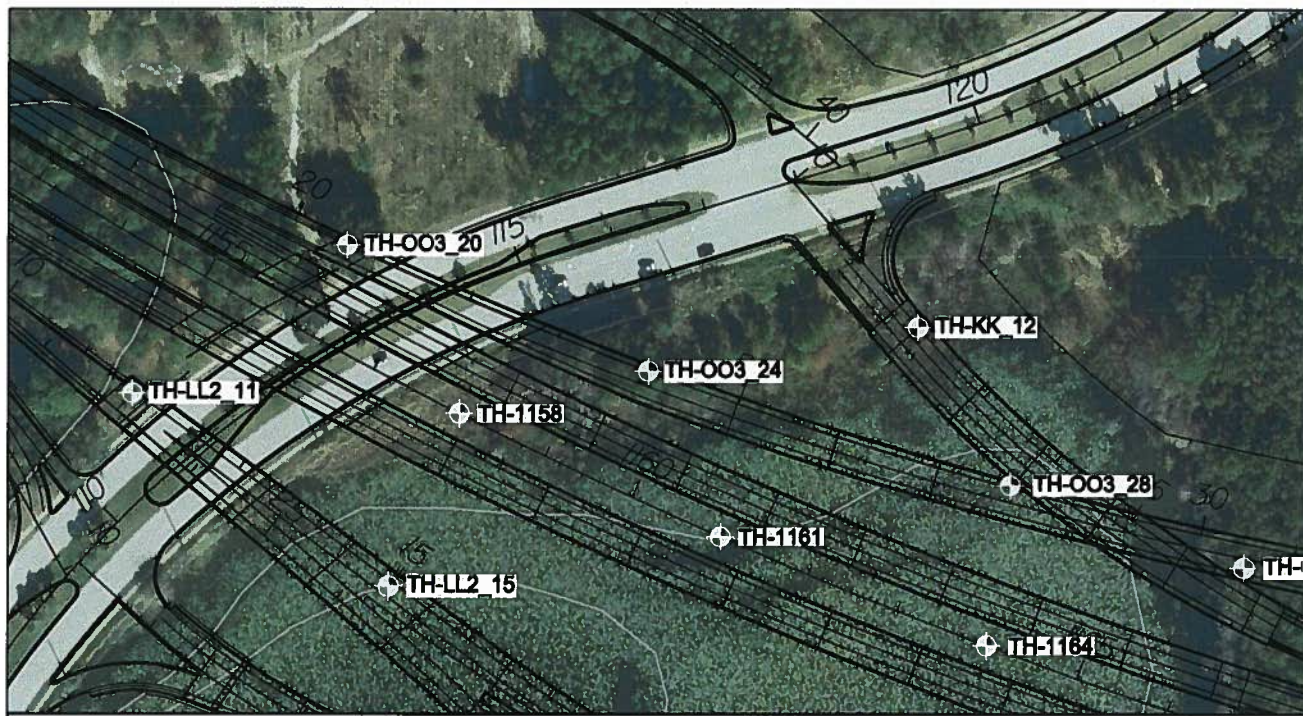
ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 593003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850



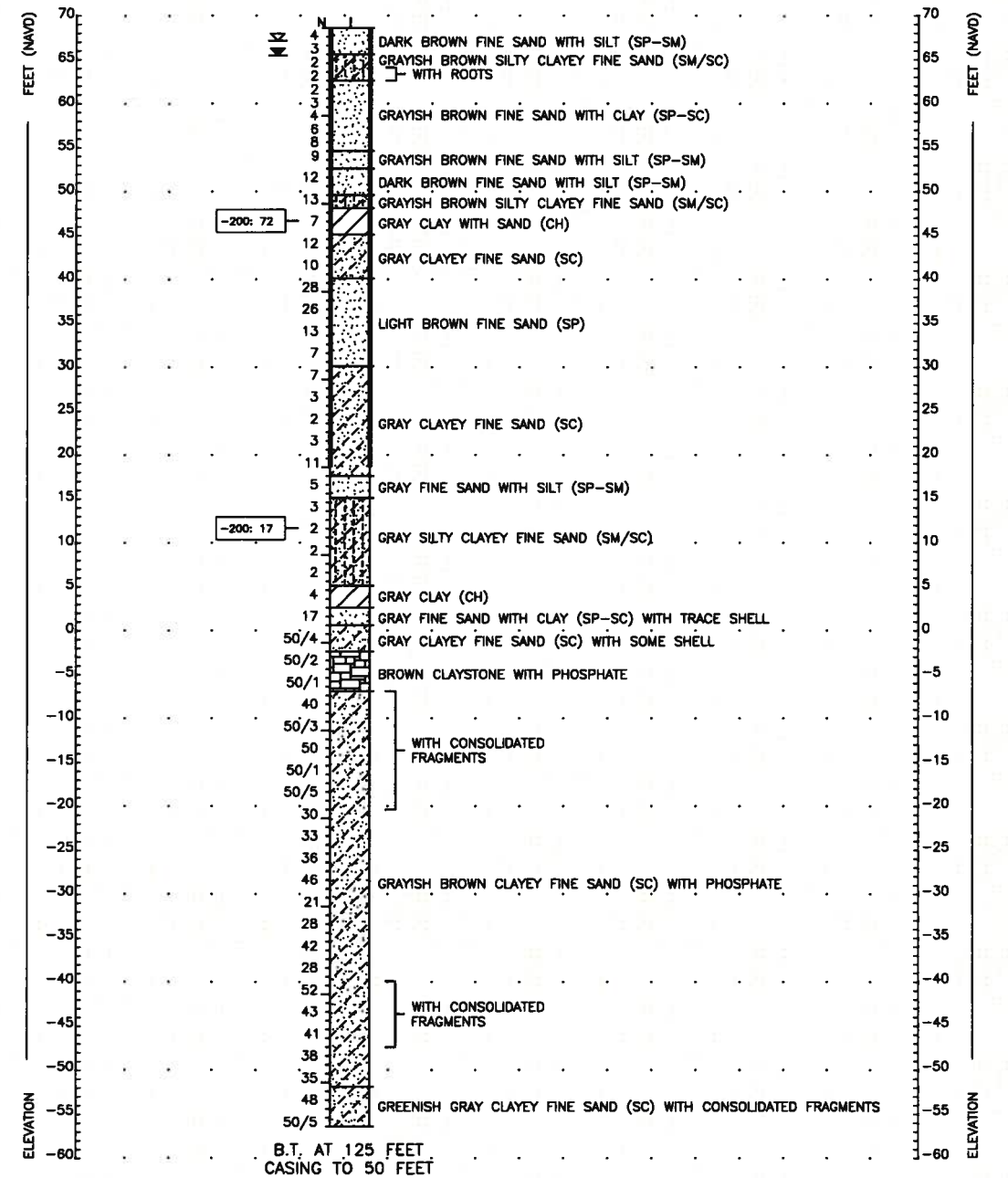
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

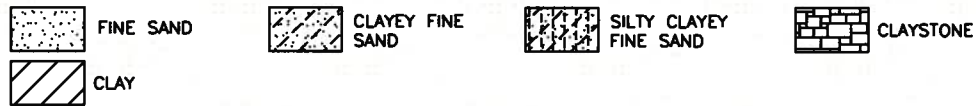
SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME		
WEKIVA PARKWAY		



TH-OO3_24
 03/01/12
 GSE=68.6
 STA: 24+11
 OFFSET: 10R
 LATITUDE: 28.798296
 LONGITUDE: -81.351428



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE
 SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS:
 TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
 GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

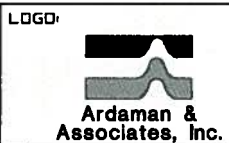
- ⊕ STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- ⊖ WATER LEVEL MEASURED ON DATE BORING INITIATED
- ⊗ ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- ||| 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description

Name	Date
CD	04/12
CTJ	04/12
C.T. JEWBSURY	

ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950



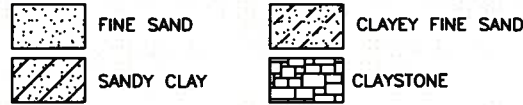
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		PROJECT NAME	SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE			



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.6)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

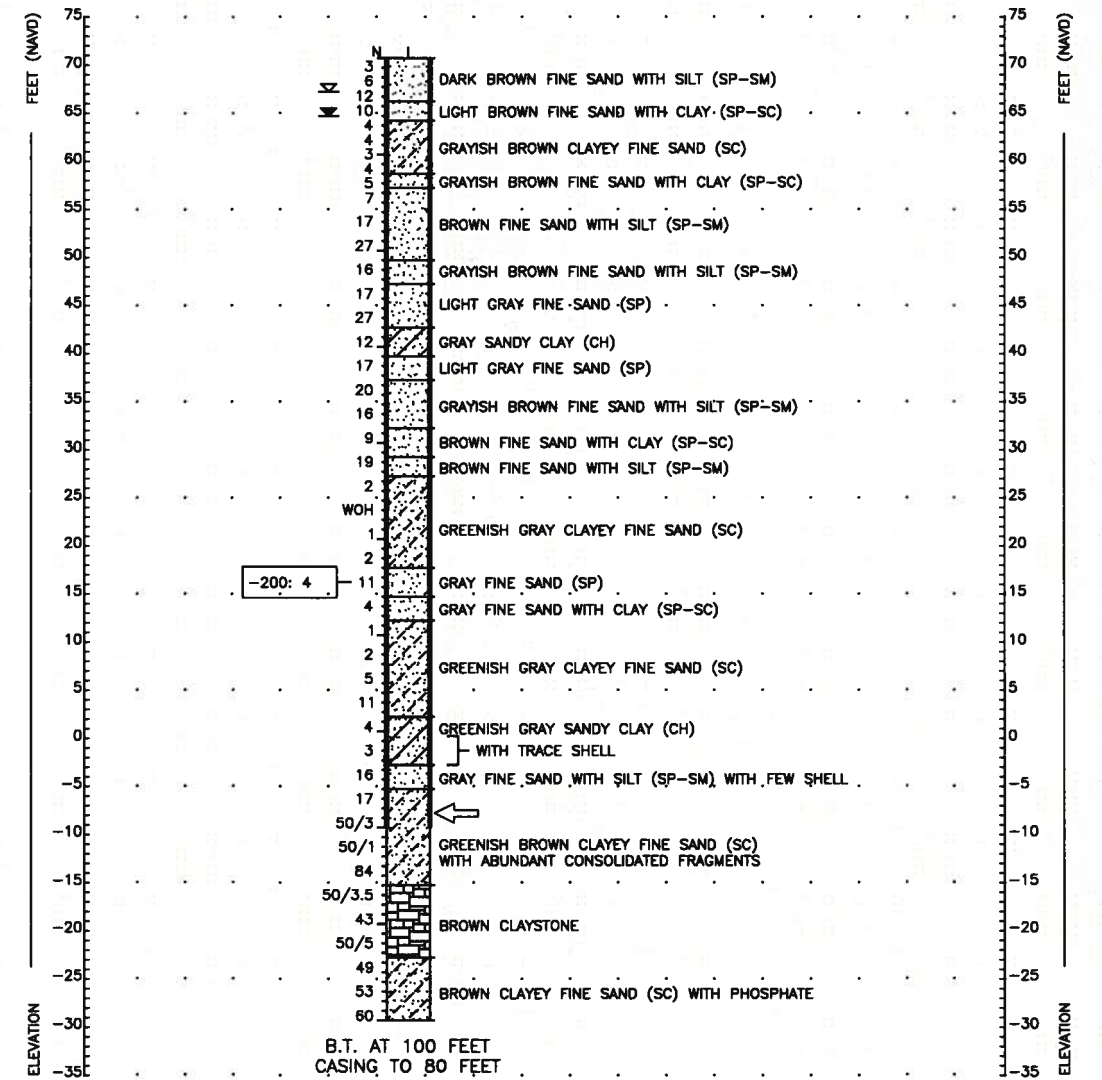
II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-003 30
 03/12/12
 GSE=70.7
 STA: 30+44
 OFFSET: 34R
 LATITUDE: 28.797740
 LONGITUDE: -81.349493



T:\Orlando\1111-6501\11650144.dwg 6/26/2012 4:24:29 PM, Chris.Drew

REVISIONS

Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

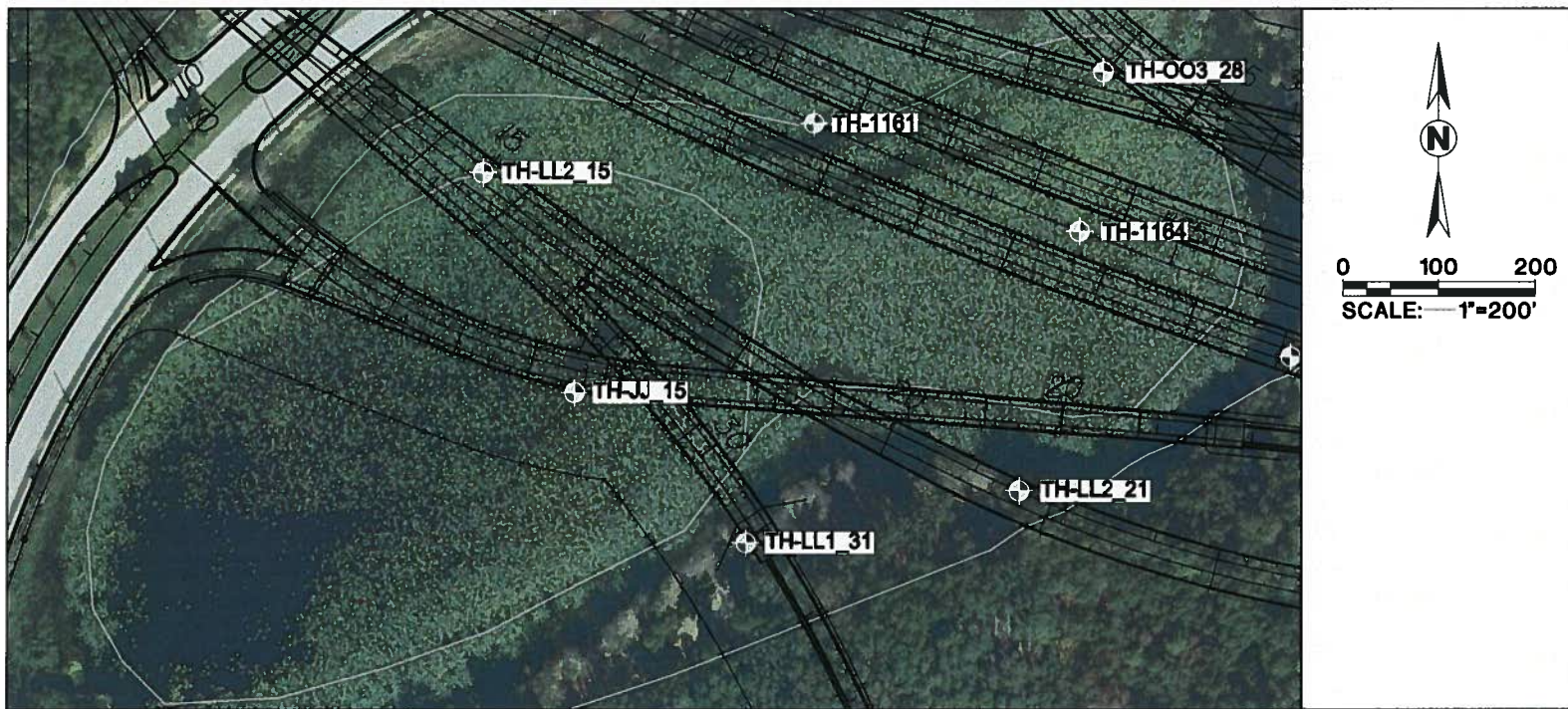
ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 593003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		



TH-JJ_15
 02/28/12
 GSE=51.5
 STA: 14+98
 OFFSET: 10R
 LATITUDE: 28.79705
 LONGITUDE: -81.35197

LEGEND

	FINE SAND		CLAYEY FINE SAND		ORGANIC MUCK/PEAT
	SILTY SAND		CLAY		

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 5D/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- GNM GROUNDWATER NOT MEASURED
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- LL LIQUID LIMIT IN PERCENT (ASTM D-4318)
- OC ORGANIC CONTENT IN PERCENT (ASTM D-2974)
- PI PLASTICITY INDEX IN PERCENT (ASTM D-4318)
- WOR SAMPLER ADVANCED BY STATIC WEIGHT OF RODS ONLY
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- US-1 UNDISTURBED SAMPLE OBTAINED WITH A 3-INCH DIA. SHELBY TUBE
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

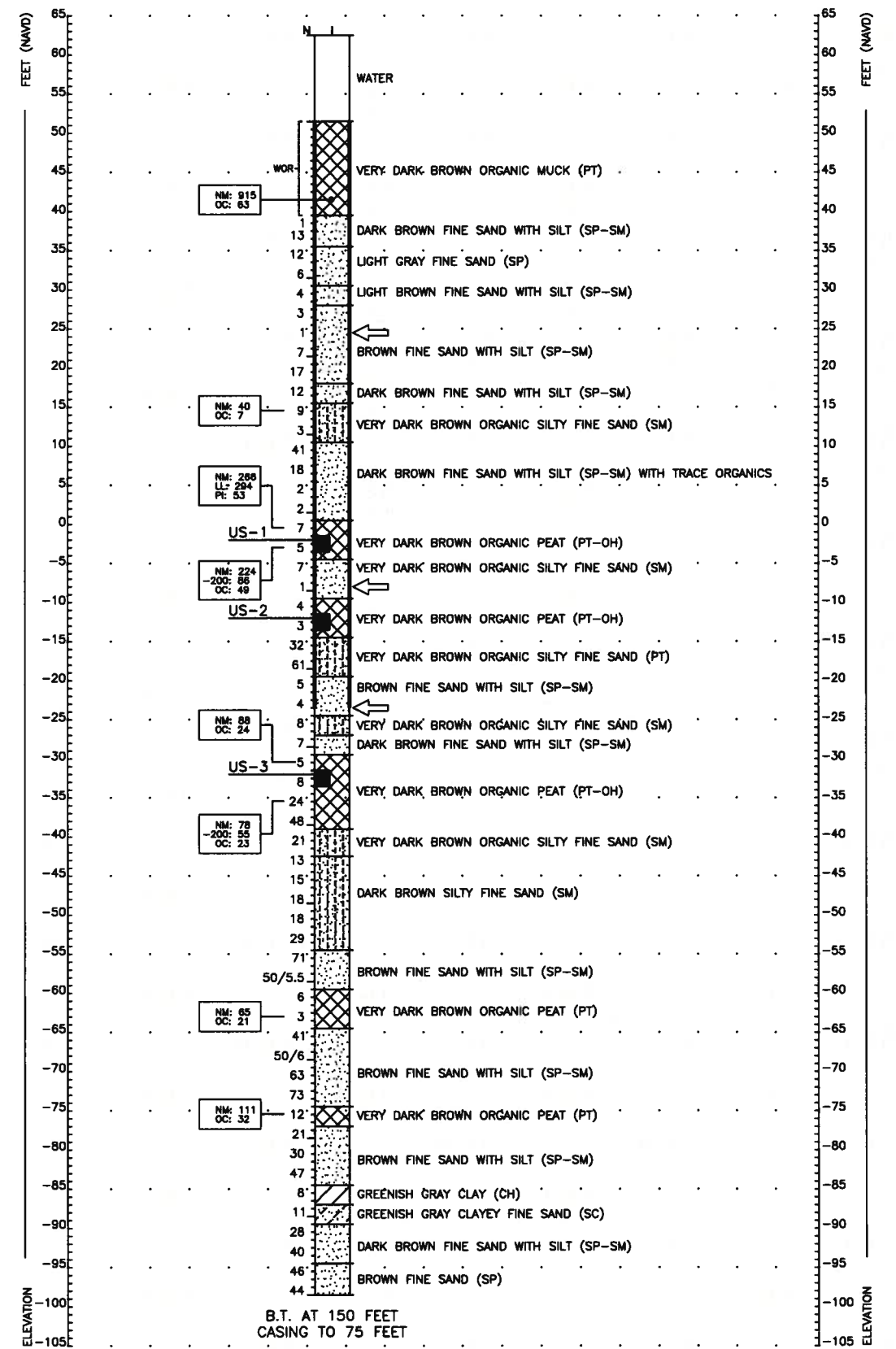
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



B.T. AT 150 FEET CASING TO 75 FEET

T:\Orlando\11-6501\11650134.dwg 7/02/2012 10:09:36 AM, Chris.Drew

REVISIONS

Date	By	Description

Name	Date
CD	04/12
CTJ	04/12
C.T. JEWsbury	

ENGINEER OF RECORD:
 COLIN T. JEWsbury
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850

LOGO:

 Ardaman & Associates, Inc.

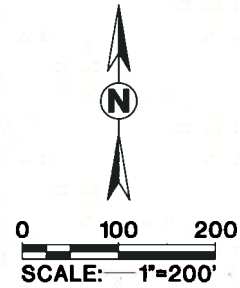
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

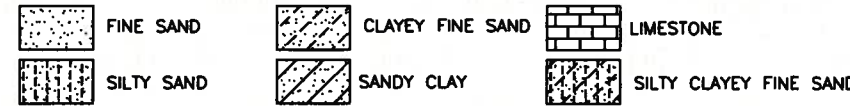
SHEET TITLE:
 REPORT OF SPT BORING FOR STRUCTURE

PROJECT NAME	SHEET NO.
WEKIVA PARKWAY	



TH-LL1_31
 03/07/12
 GSE=70.8
 STA: 31+05
 OFFSET: 8R
 LATITUDE: 28.79662
 LONGITUDE: -81.35141

LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D. = 1.375"
 SPOON O.D. = 2.0"
 HAMMER DROP = 30"
 HAMMER WEIGHT = 140 lbs.
 HAMMER TYPE = SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.4)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

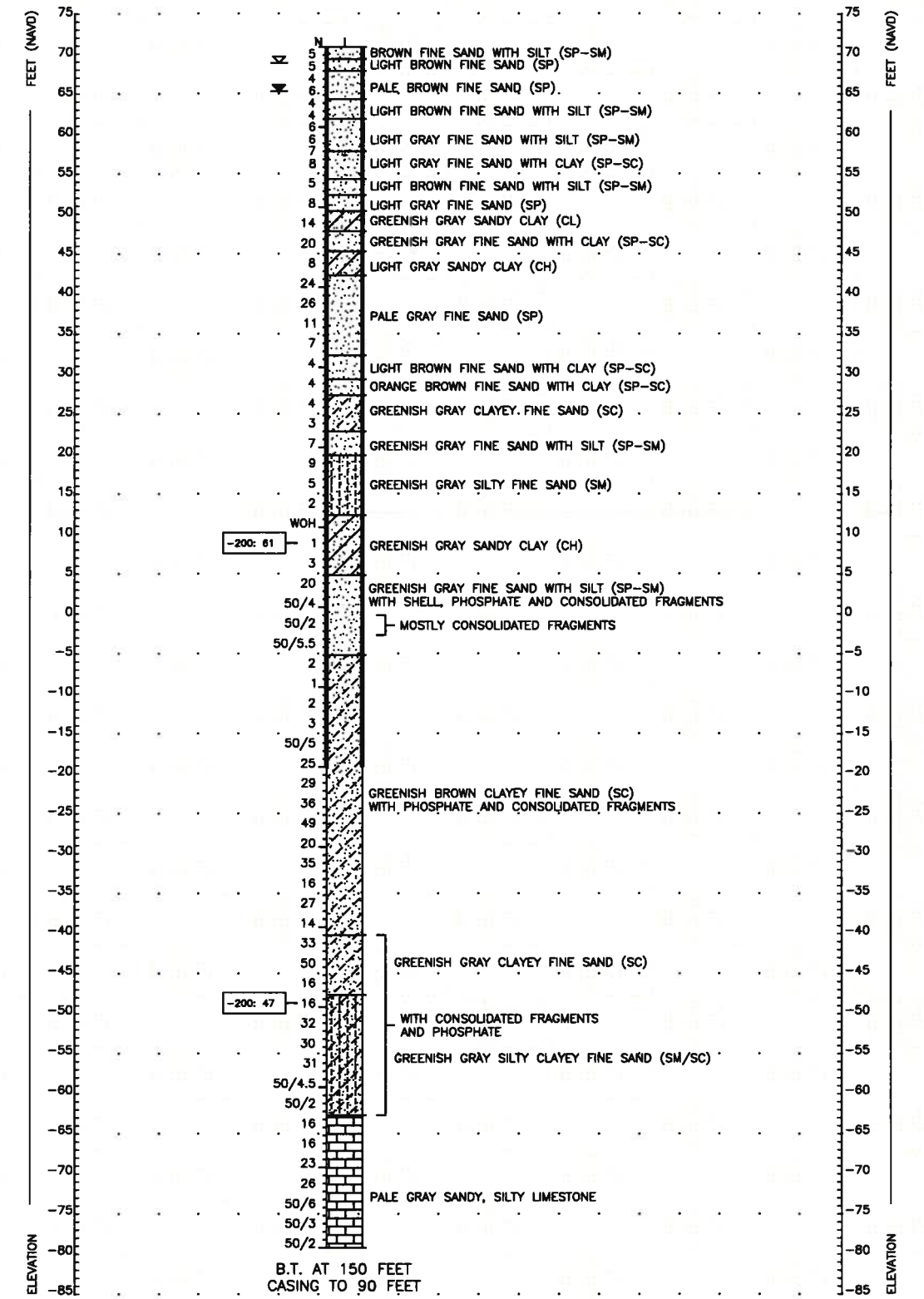
I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	
II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

- NOTES:**
- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
 - BORING TERMINATION DEPTH BELOW GROUND SURFACE
 - ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
 - BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
 - BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

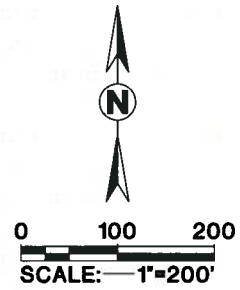
- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM



B.T. AT 150 FEET CASING TO 90 FEET

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REVISIONS						ENGINEER OF RECORD:		LOGO:	SEAL:	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:		
Date	By	Description	Date	By	Description	Name	Date			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.	
						Drawn by	CD	04/12	 Ardaman & Associates, Inc. 8008 S. ORANGE AVENUE P.O. BOX 583003 ORLANDO, FL 32859-3003 CERTIFICATE OF AUTHORIZATION: 5950		SR 429	SEMINOLE	431081-4-32-01	REPORT OF SPT BORING FOR STRUCTURE	
					Checked by	CTJ	04/12						WEKIVA PARKWAY		
					Designed by										
					Checked by										
					Approved by	C.T. JEWSBURY									



LEGEND



STANDARD PENETRATION TEST DATA:

SPOON I.D. = 1.375"
 SPOON O.D. = 2.0"
 HAMMER DROP = 30"
 HAMMER WEIGHT = 14D lbs.
 HAMMER TYPE = SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.2)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

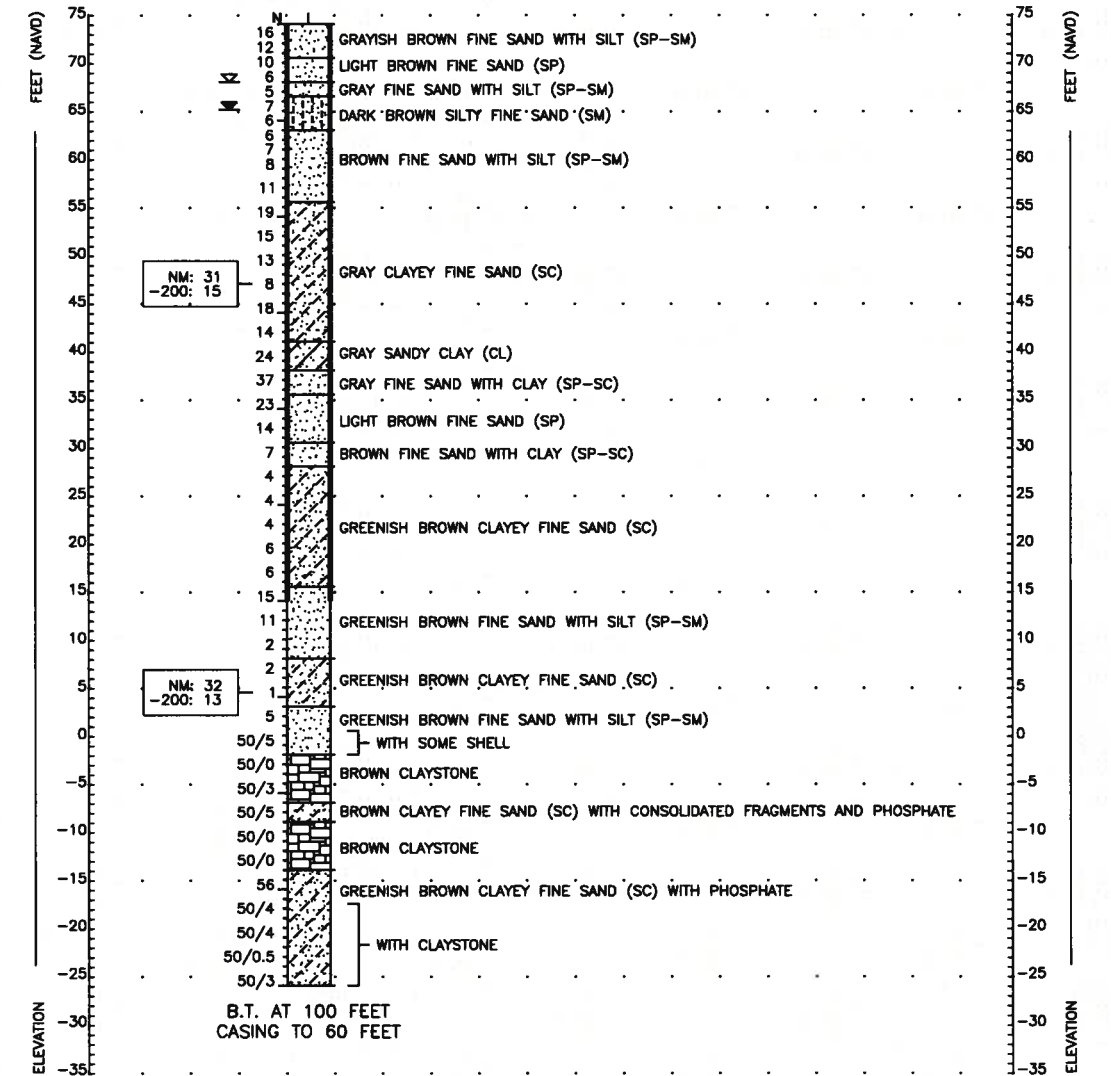
II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-LL2 11
 04/17/12
 GSE=74.1
 STA: 11+48
 OFFSET: 15R
 LATITUDE: 28.79823
 LONGITUDE: -81.35310



B.T. AT 100 FEET
 CASING TO 60 FEET

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 58950



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

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LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D. = 1.375"
 SPOON O.D. = 2.0"
 HAMMER DROP = 30"
 HAMMER WEIGHT = 140 lbs.
 HAMMER TYPE = SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

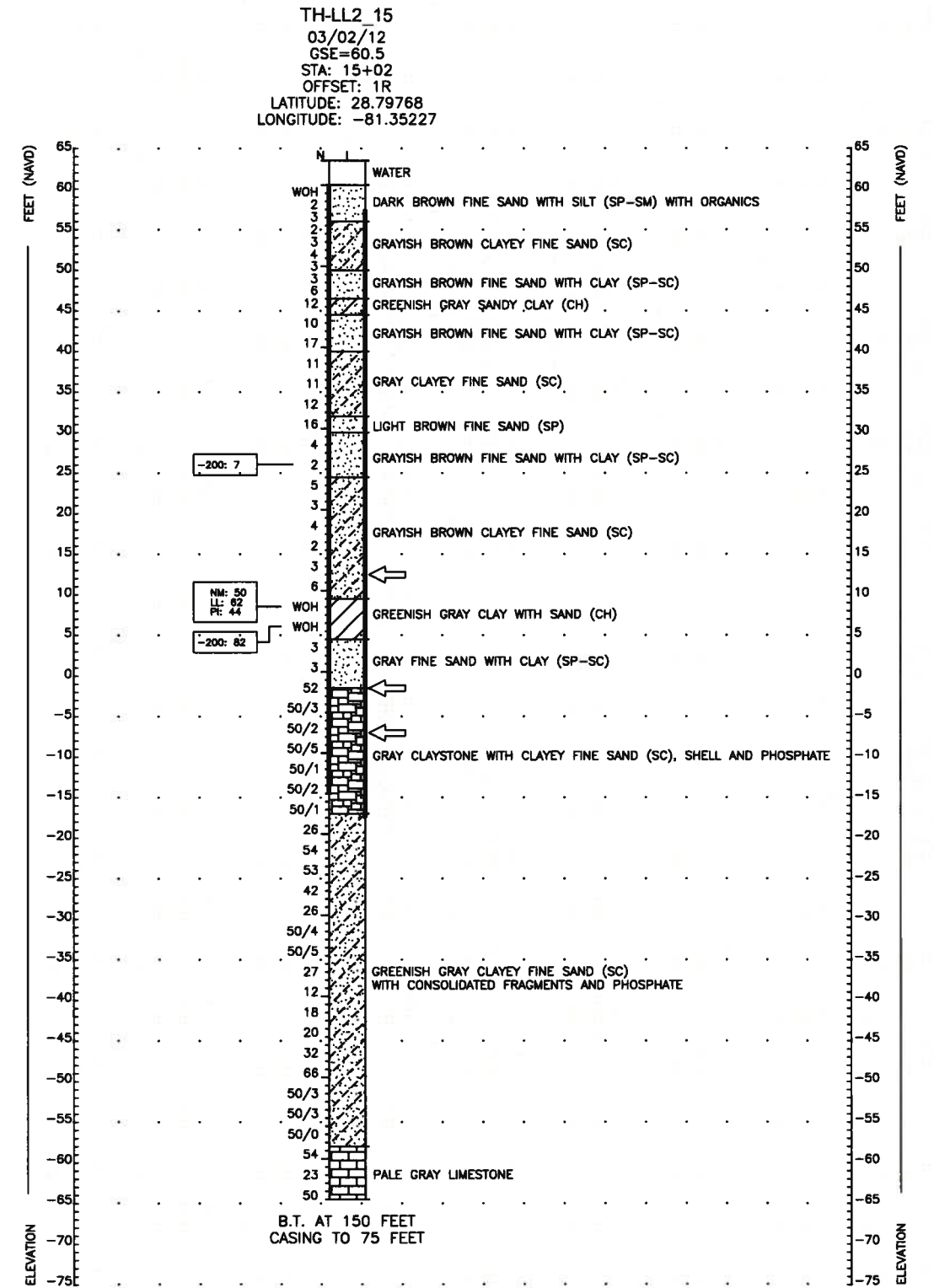
WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

NOTES:

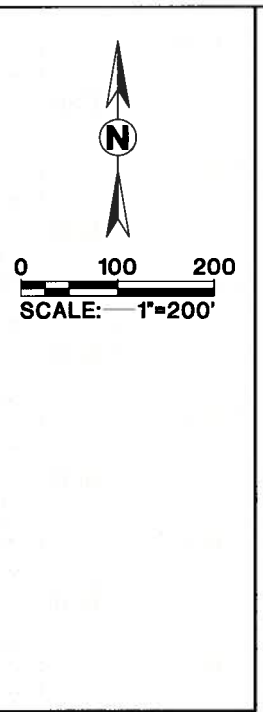
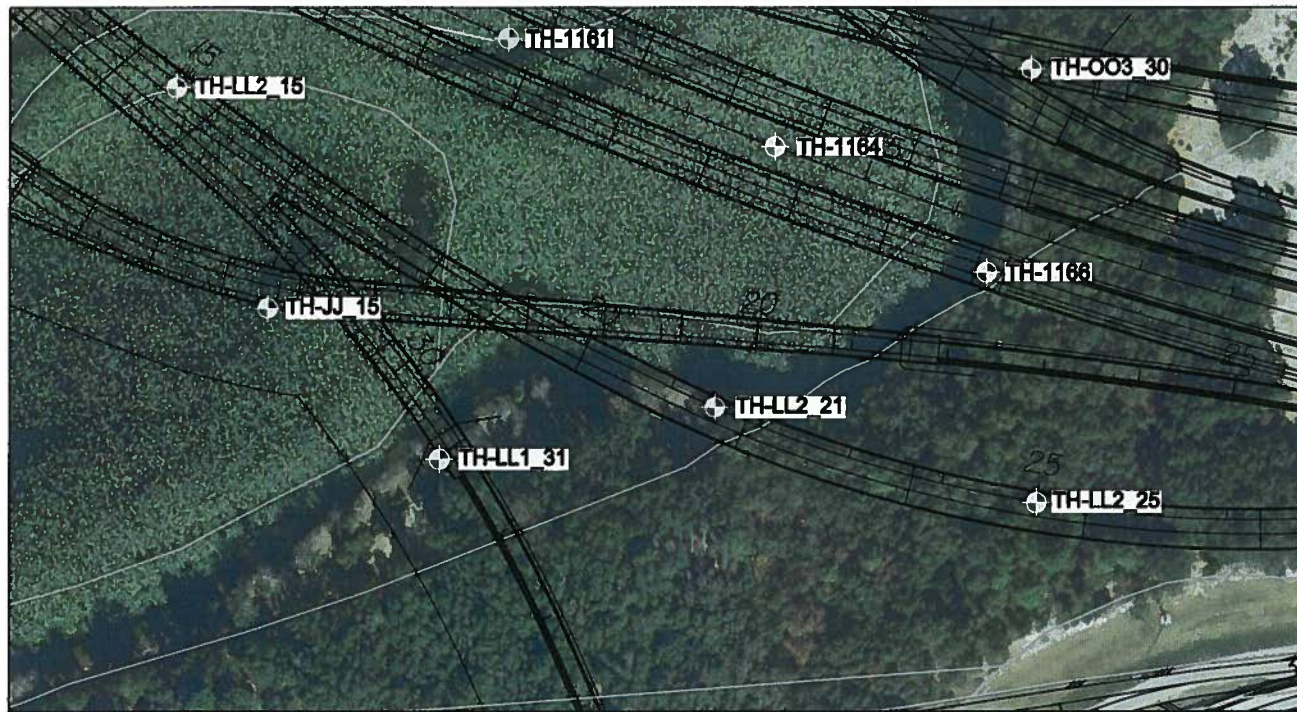
- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- GNM** GROUNDWATER NOT MEASURED
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- LL** LIQUID LIMIT IN PERCENT (ASTM D-4318)
- PI** PLASTICITY INDEX IN PERCENT (ASTM D-4318)
- WOH** SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

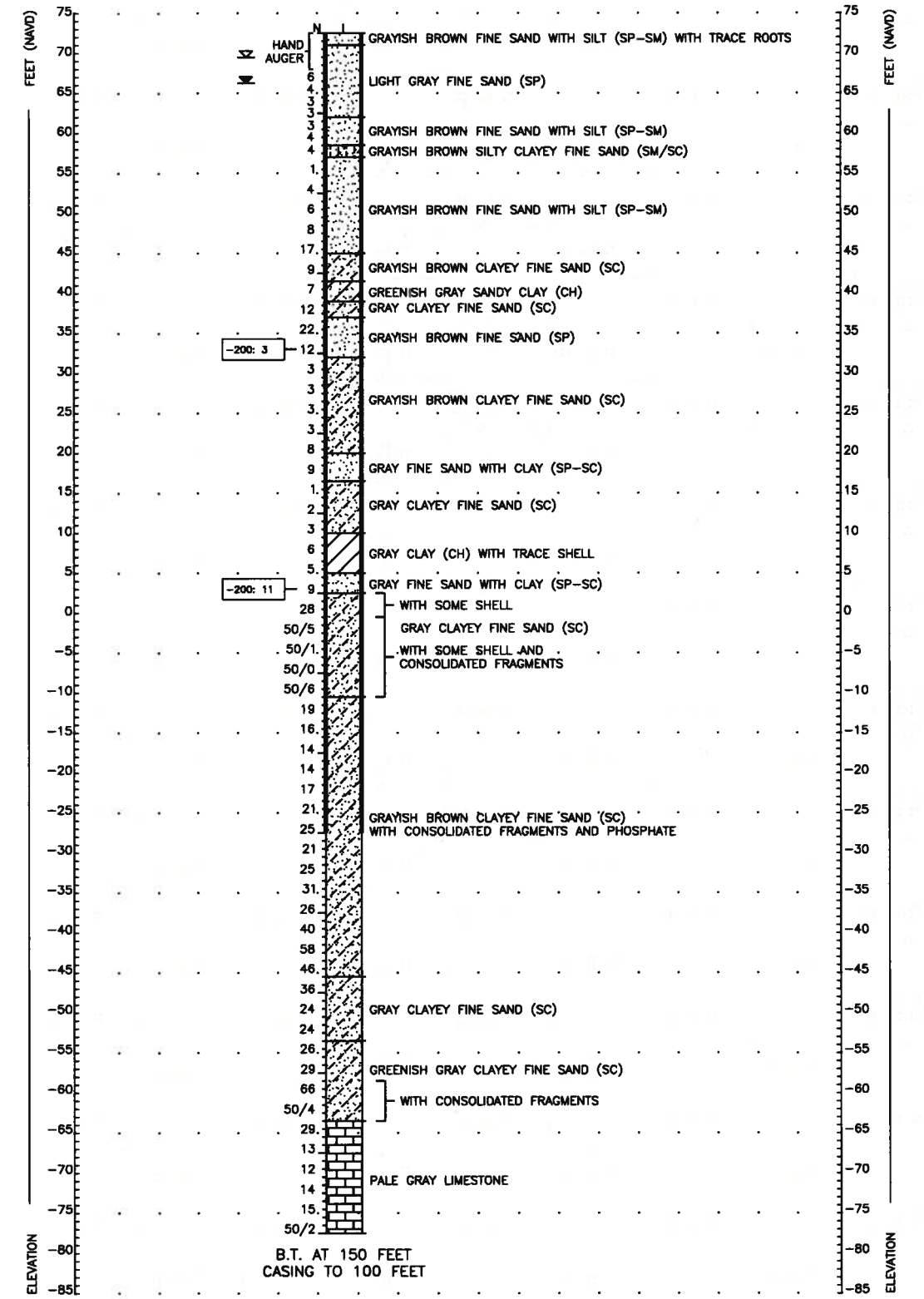


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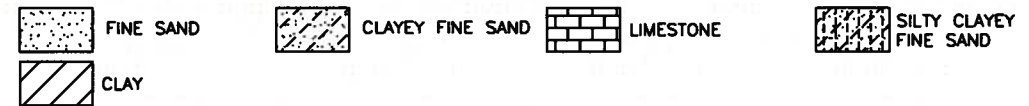
REVISIONS					Names		Dates		ENGINEER OF RECORD:		LOGO:		SEAL:		FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:			
Date	By	Description	Date	By	Description	Drawn by	CD	04/12	Checked by	CTJ	04/12	Ardaman & Associates, Inc.		SR 429		SEMINOLE		431081-4-32-01		REPORT OF SPT BORING FOR STRUCTURE	
						Designed by			Checked by			Ardaman & Associates, Inc.		SR 429		SEMINOLE		431081-4-32-01		WEKIVA PARKWAY	
						Approved by	C.T. JEWESBURY					Ardaman & Associates, Inc.		SR 429		SEMINOLE		431081-4-32-01		WEKIVA PARKWAY	



TH-LL2 21
 02/28/12
 GSE=72.5
 STA: 21+46
 OFFSET: 8R
 LATITUDE: 28.796770
 LONGITUDE: -81.350518



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074

Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850

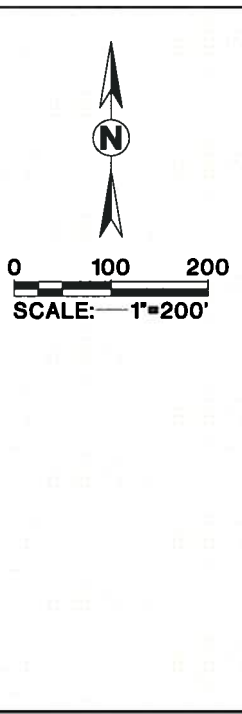


SEAL:

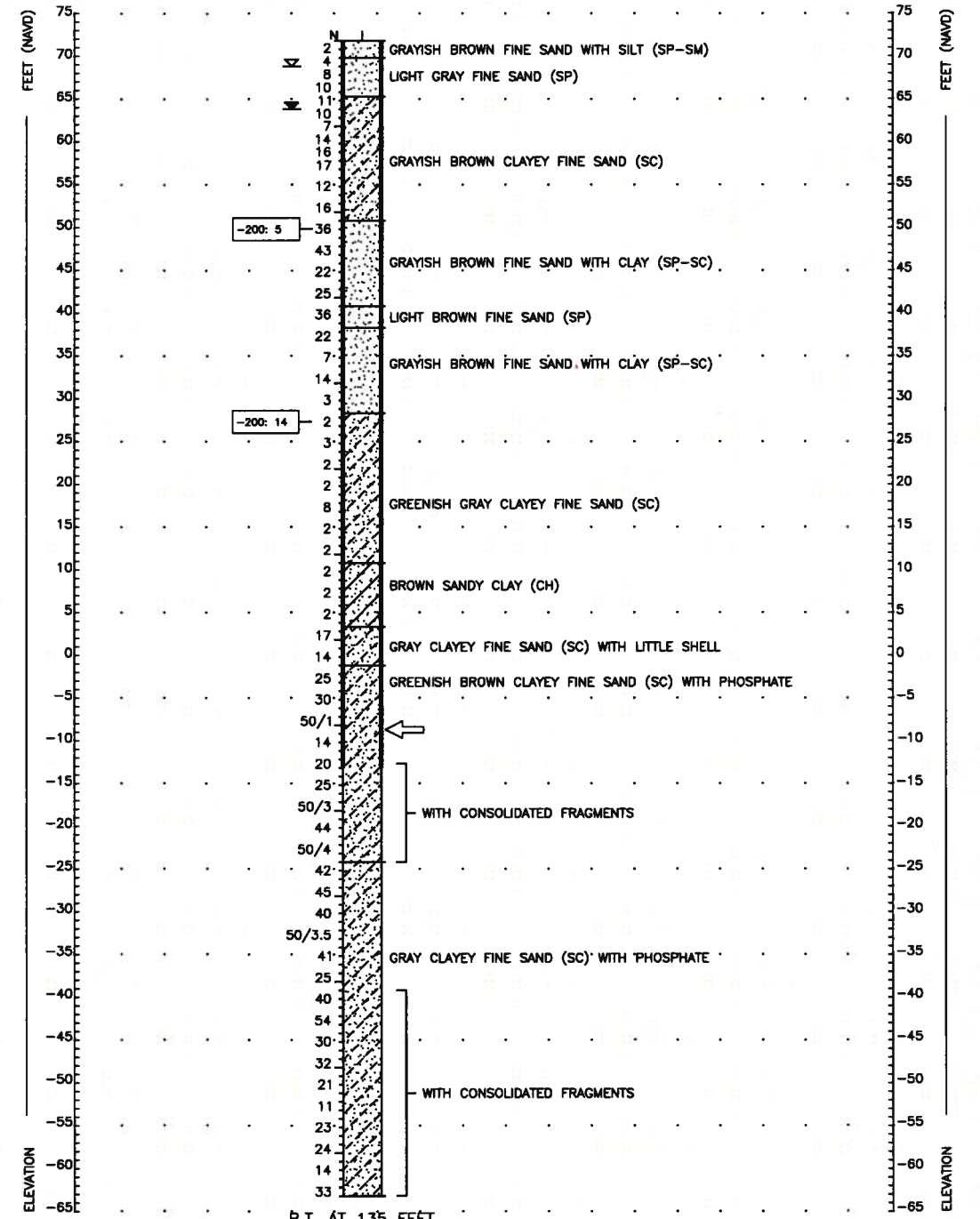
FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

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TH-LL2_25
 03/19/12
 GSE=71.8
 STA: 24+94
 OFFSET: 23R
 LATITUDE: 28.796502
 LONGITUDE: -81.349471



LEGEND

- FINE SAND
- CLAYEY FINE SAND
- SANDY CLAY

NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
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- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: EXTREMELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=4.6)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

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REVISIONS

Date	By	Description	Date	By	Description

Names	Dates
Drawn by: CB	04/12
Checked by: CTJ	04/12
Designed by:	
Checked by:	
Approved by: C.T. JEWBSURY	

ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950

LOGO:

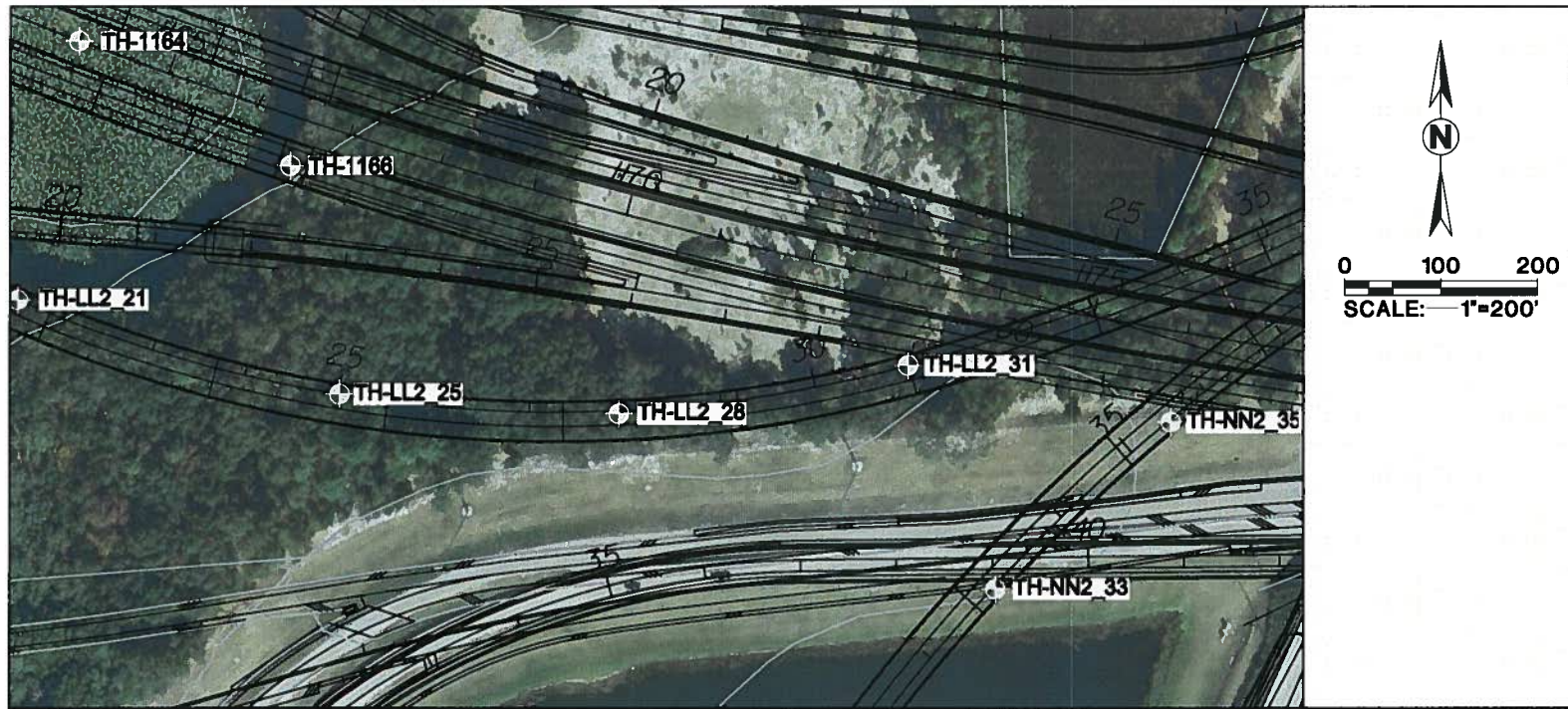
 Ardaman & Associates, Inc.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

T:\Orlando\1111-6501\11650141.dwg 6/26/2012 4:26:29 PM, Chris.Drew



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: EXTREMELY AGGRESSIVE (pH=4.5)
 STEEL: EXTREMELY AGGRESSIVE (pH=4.5)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

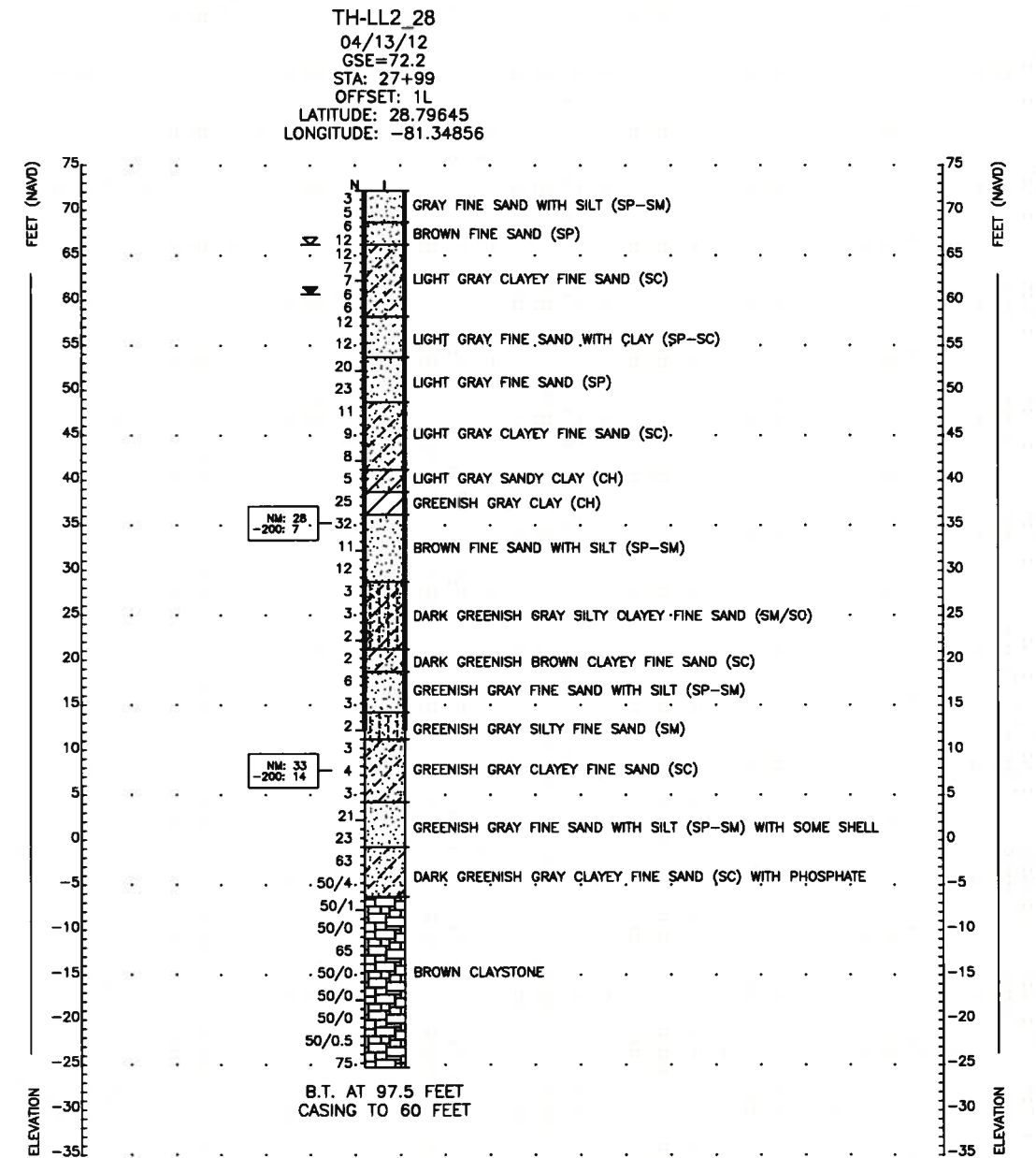
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



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REVISIONS

Date	By	Description	Date	By	Description

Drawn by	CD	Dates	04/12
Checked by	CTJ	04/12	
Designed by			
Checked by			
Approved by	C.T. JEWBSURY		

ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850



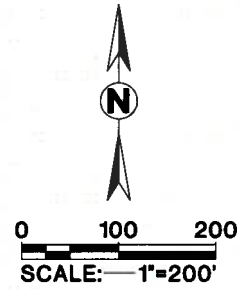
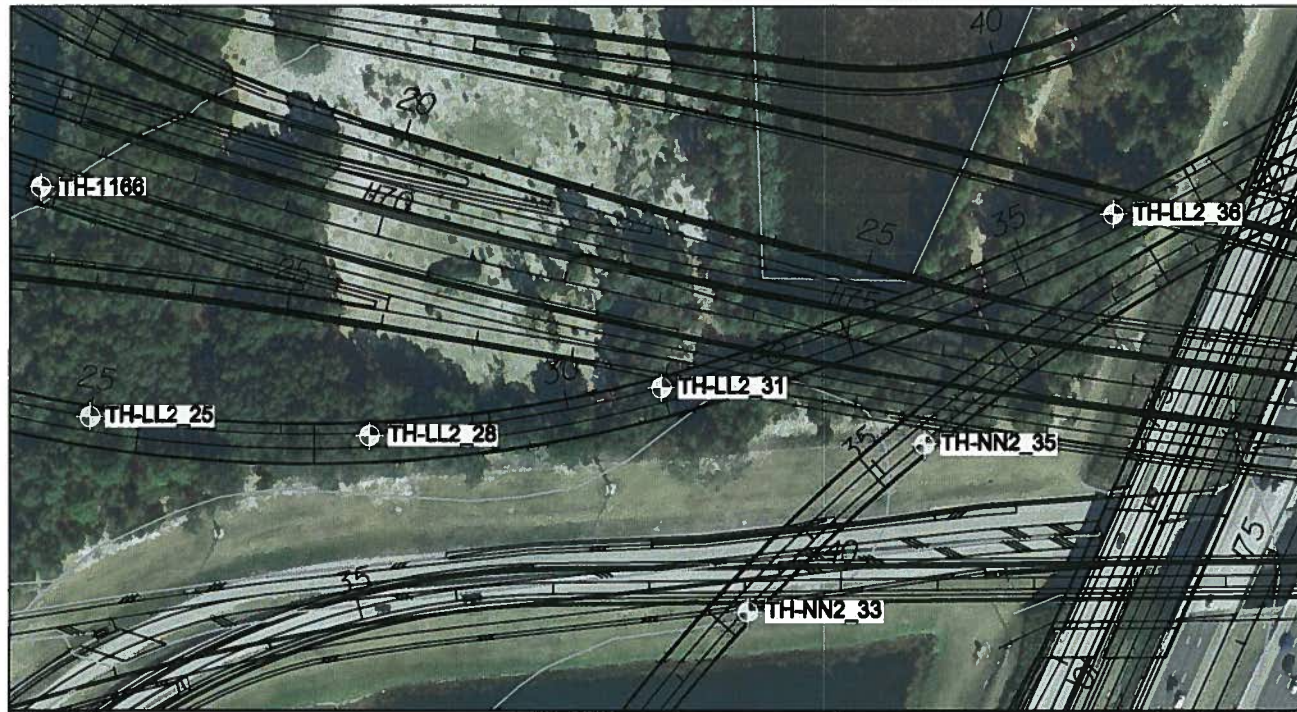
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

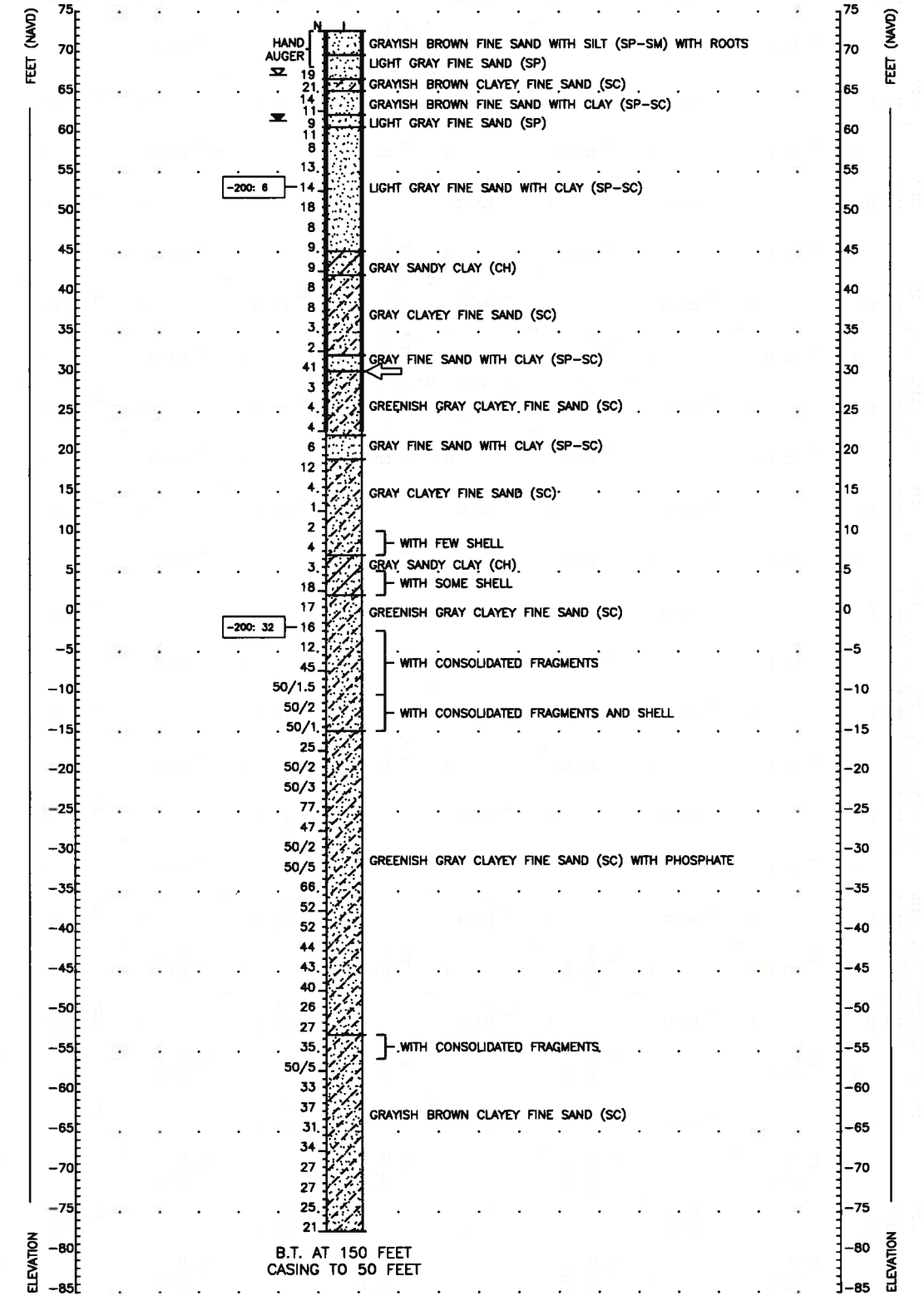
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:
 REPORT OF SPT BORING FOR STRUCTURE

PROJECT NAME	SHEET NO.
WEKIVA PARKWAY	



TH-LL2 31
03/12/12
GSE=72.6
STA: 30+94
OFFSET: 8R
LATITUDE: 28.796589
LONGITUDE: -81.347615



LEGEND



STANDARD PENETRATION TEST DATA:
SPOON I.D.= 1.375"
SPOON O.D.= 2.0"
HAMMER DROP= 30"
HAMMER WEIGHT= 140 lbs.
HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
CONCRETE: MODERATELY AGGRESSIVE
STEEL: EXTREMELY AGGRESSIVE (pH=5.2)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
FEW 5 TO 10%
LITTLE 15 TO 25%
SOME 30 TO 45%
MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
CD	04/12
CTJ	04/12
C.T. JEWSBURY	

ENGINEER OF RECORD:
COLIN T. JEWSBURY
FL. REG. NO. 58074
Ardaman & Associates, Inc.
8008 S. ORANGE AVENUE
P.O. BOX 583003
ORLANDO, FL 32859-3003
CERTIFICATE OF AUTHORIZATION: 5850



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:
REPORT OF SPT BORING FOR STRUCTURE

PROJECT NAME	SHEET NO.
WEKIVA PARKWAY	

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LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GNM** GROUND WATER NOT MEASURED
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH** SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: EXTREMELY AGGRESSIVE (pH=4.8)
 STEEL: EXTREMELY AGGRESSIVE (pH=4.8)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

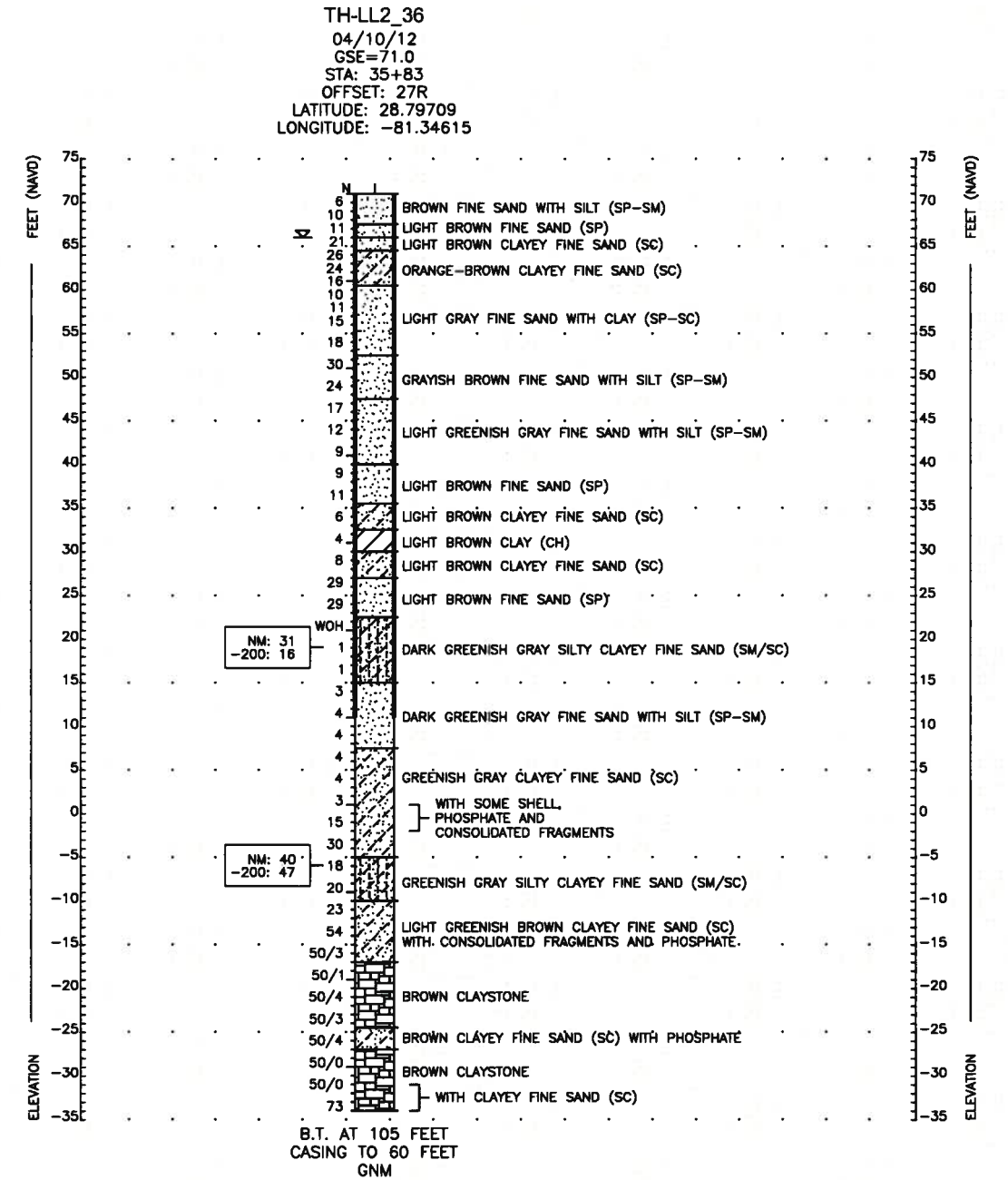
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

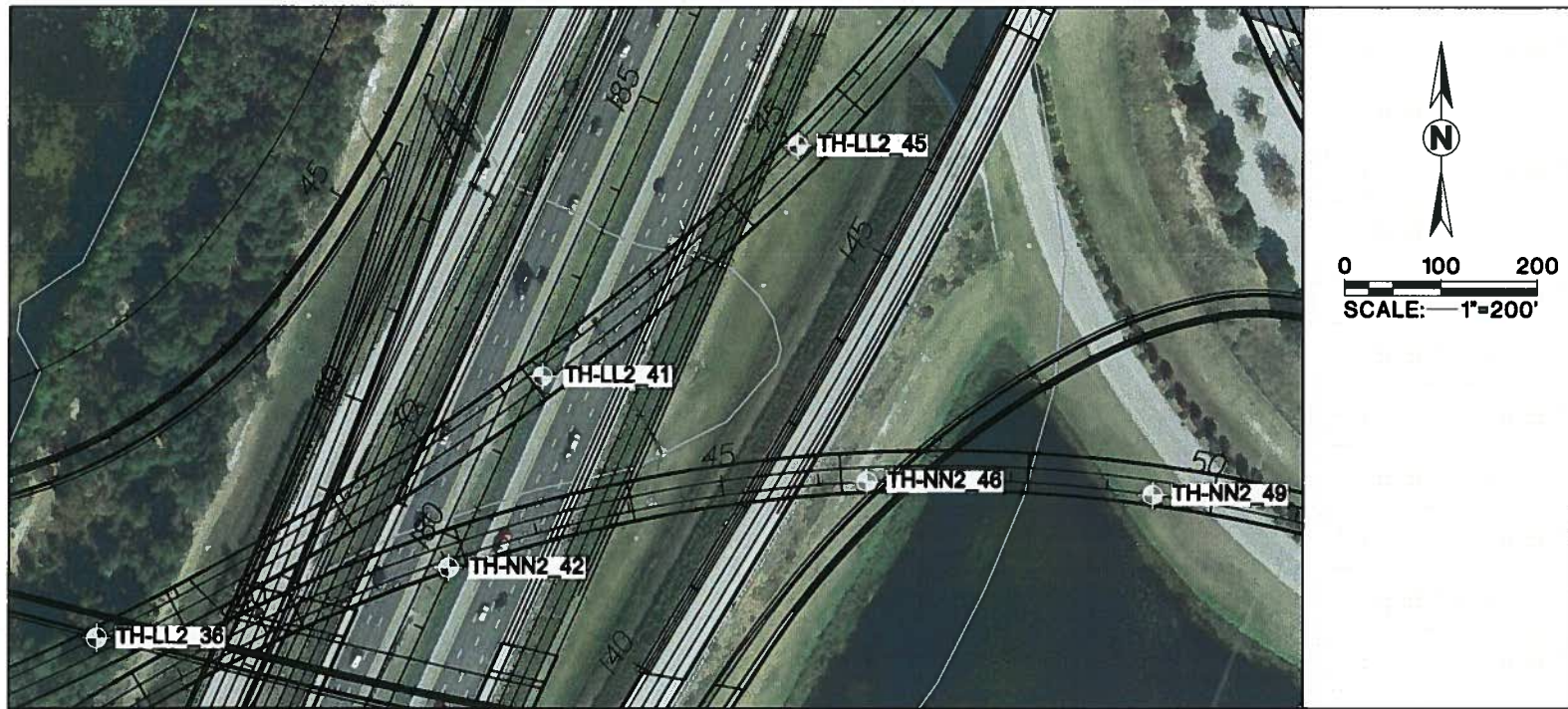
WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



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REVISIONS						ENGINEER OF RECORD:		LOGO:	SEAL:	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE		
Date	By	Description	Date	By	Description	Name	Date			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.	
						COLIN T. JEWELRY	04/12			SR 429	SEMINOLE	431081-4-32-01	REPORT OF SPT BORING FOR STRUCTURE		
					Checked by	CTJ	04/12						WEKIVA PARKWAY		
					Designed by										
					Checked by										
					Approved by	C.T. JEWELRY		CERTIFICATE OF AUTHORIZATION: 5950							



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D. = 1.375"
 SPOON O.D. = 2.0"
 HAMMER DROP = 30"
 HAMMER WEIGHT = 140 lbs.
 HAMMER TYPE = SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

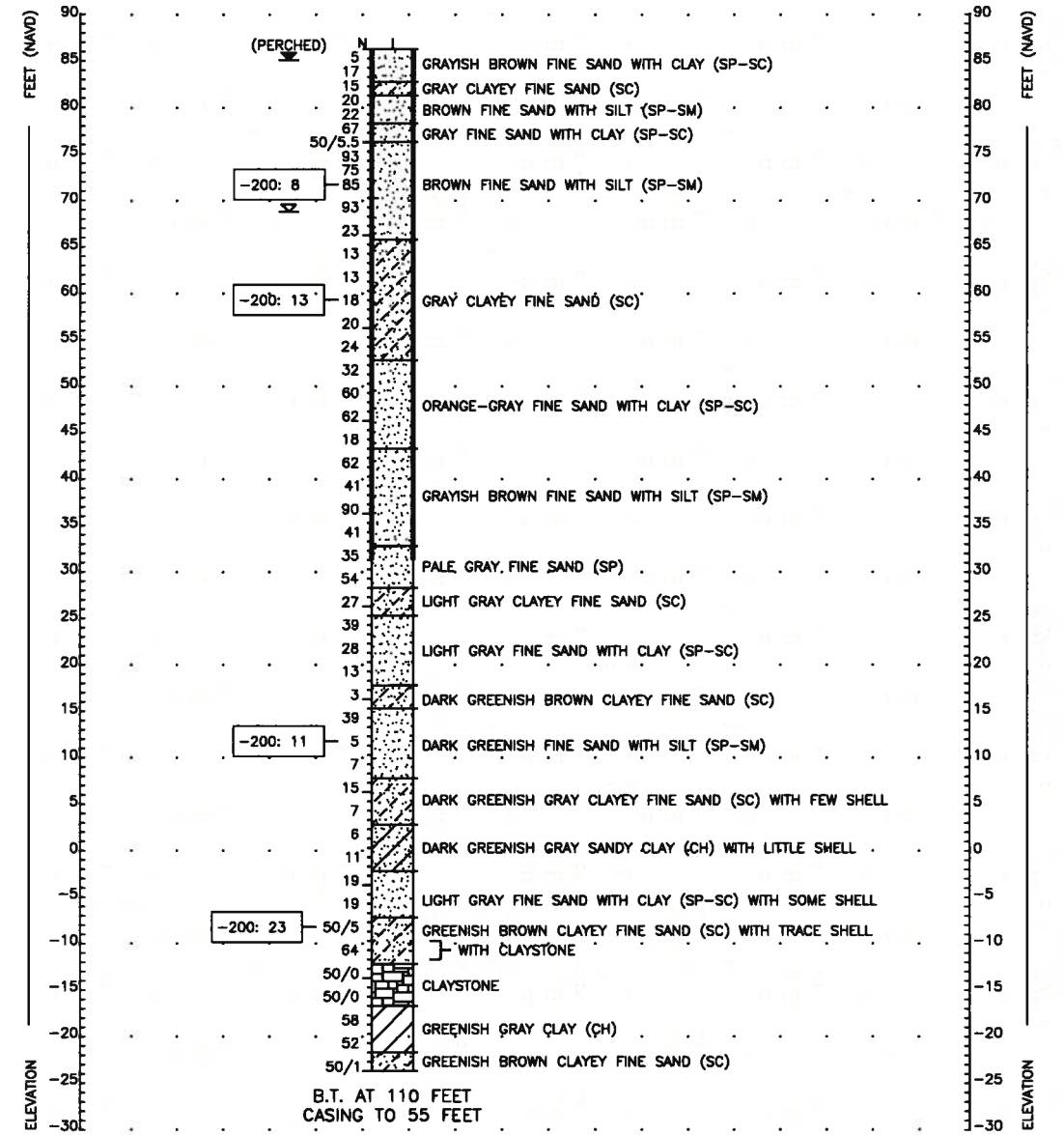
ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	
II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-LL2 41
 06/13/12
 GSE=86.3
 STA: 41+43
 OFFSET: 9R
 LATITUDE: 28.797844
 LONGITUDE: -81.344701



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

ENGINEER OF RECORD:
 COLIN T. JEWELRY
 FL. REG. NO. 58074

LOGO:

 Ardaman & Associates, Inc.
 8008 S. GRANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

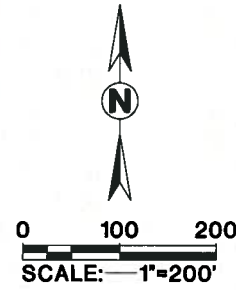
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:
 REPORT OF SPT BORING FOR STRUCTURE

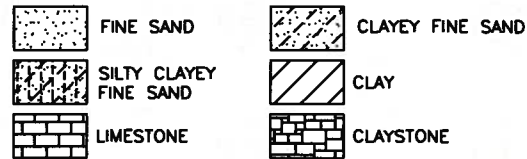
PROJECT NAME:
 WEKIVA PARKWAY

SHEET NO.:

T:\Orlando\1116501\54.dwg 7/02/2012 10:11:21 AM, Chris.Drew



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.0)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

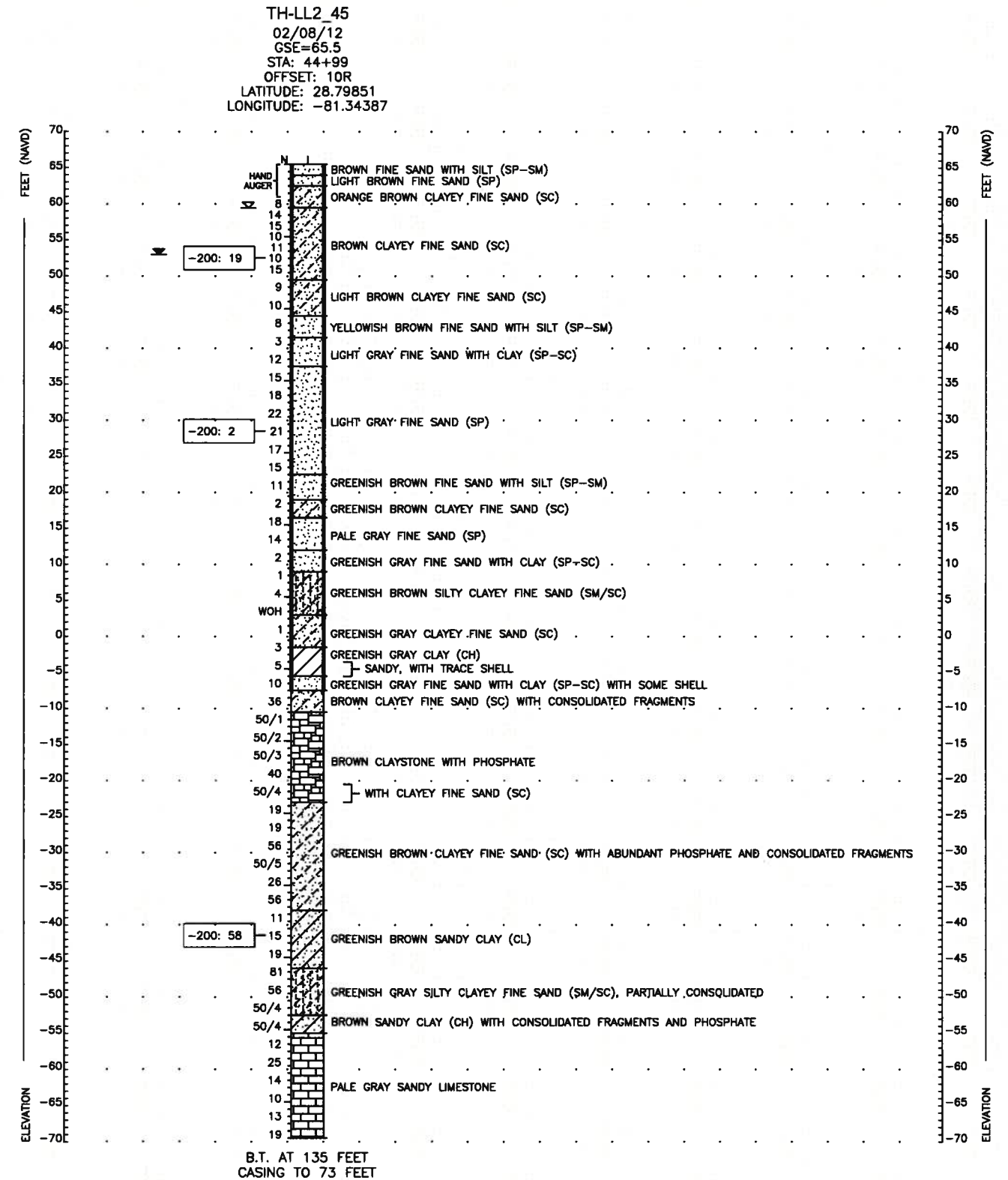
ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



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REVISIONS

Date	By	Description	Date	By	Description

Name	Date
CD	04/12
CTJ	04/12
C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL REG. NO. 58074

Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32858-3003
 CERTIFICATE OF AUTHORIZATION: 5850

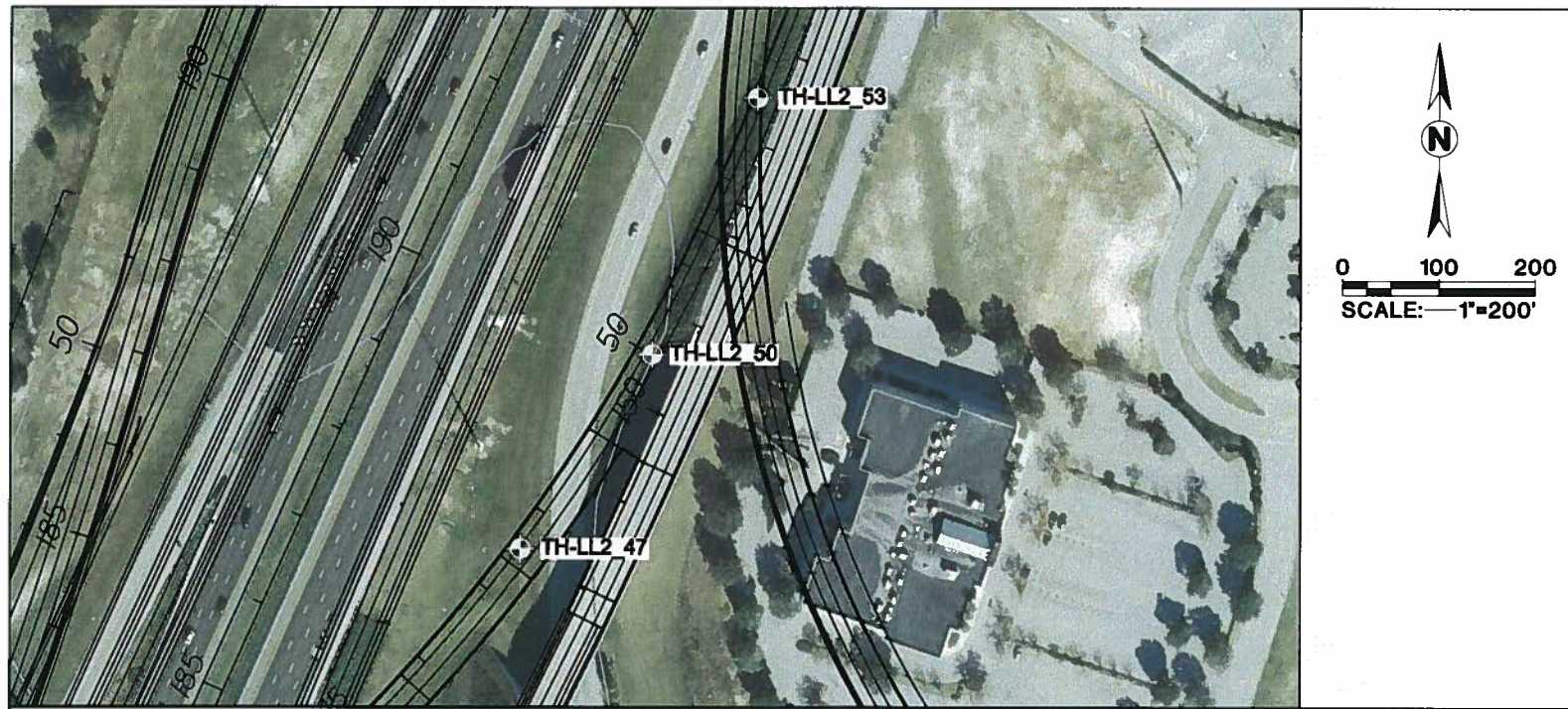


SEAL:

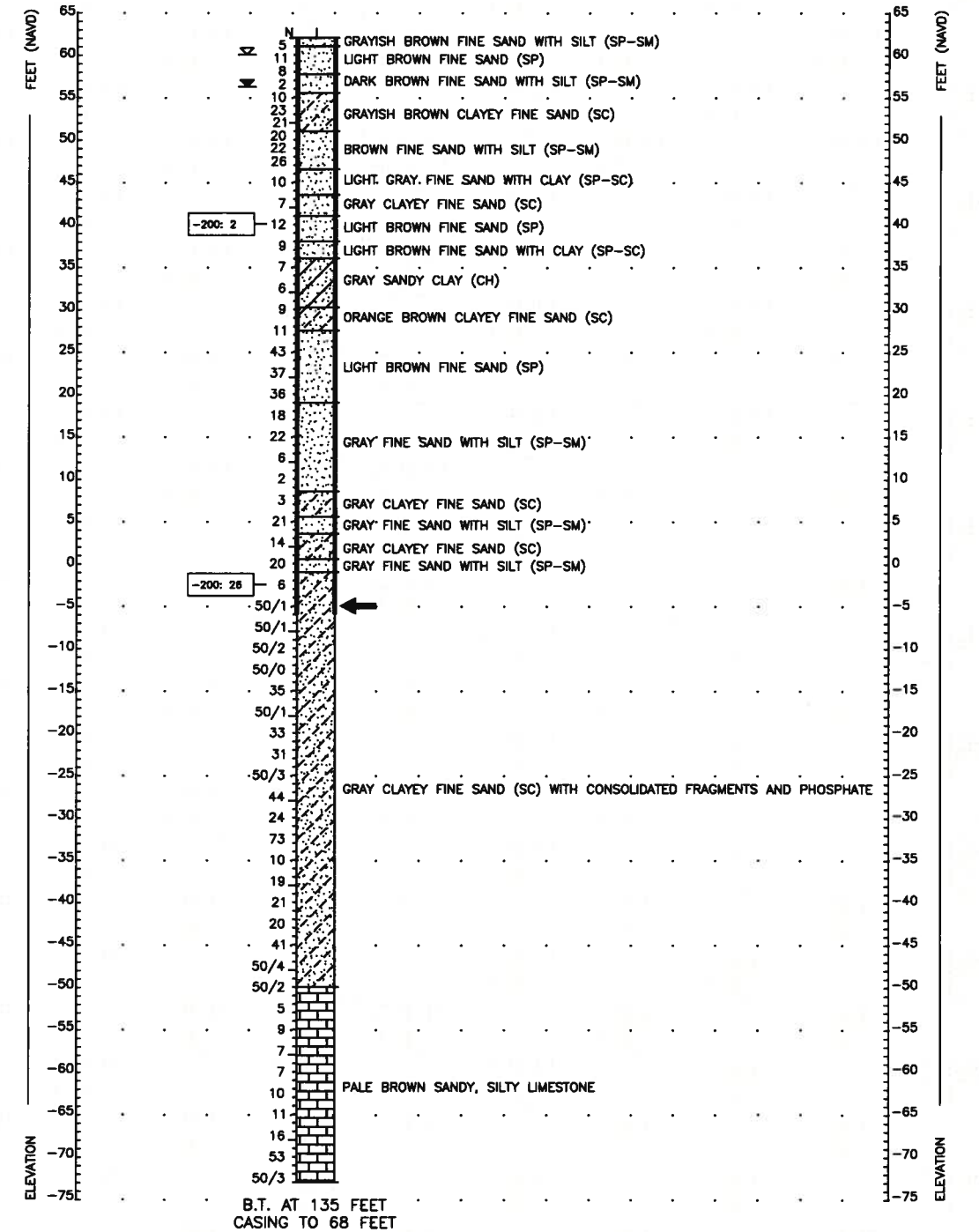
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		



TH-LL2 50
 02/15/12
 GSE=62.1
 STA: 49+96
 OFFSET: 8R
 LATITUDE: 28.79960
 LONGITUDE: -81.34293



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: MODERATELY AGGRESSIVE
 SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- COMPLETE LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 98074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 983003
 ORLANDO, FL 32898-3003
 CERTIFICATE OF AUTHORIZATION: 5850

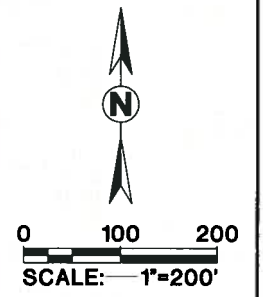
LOGO:

 Ardaman & Associates, Inc.

SEAL:
 FLORIDA DEPARTMENT OF TRANSPORTATION
 ROAD NO. SR 429
 COUNTY SEMINOLE
 FINANCIAL PROJECT ID 431081-4-32-01

SHEET TITLE:
 REPORT OF SPT BORING FOR STRUCTURE
 PROJECT NAME: WEKIVA PARKWAY
 SHEET NO. -

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LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- LL** LIQUID LIMIT IN PERCENT (ASTM D-4318)
- PI** PLASTICITY INDEX IN PERCENT (ASTM D-4318)
- WOH** SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- COMPLETE LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.3)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

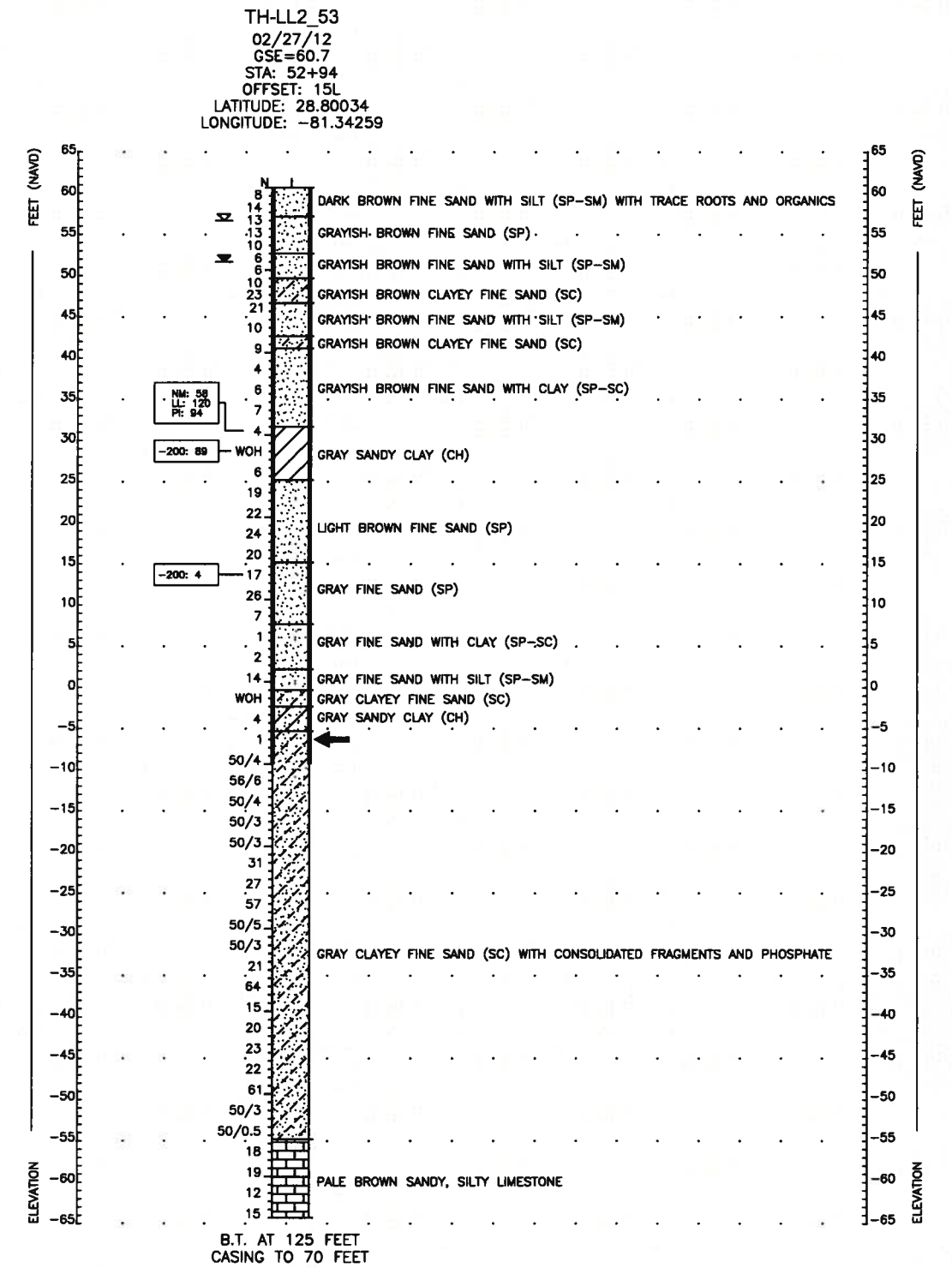
ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



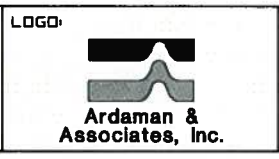
T:\Orlando\11-6501\11650130.dwg 7/02/2012 10:11:40 AM, Chris.Drew

REVISIONS

Date	By	Description	Date	By	Description

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074

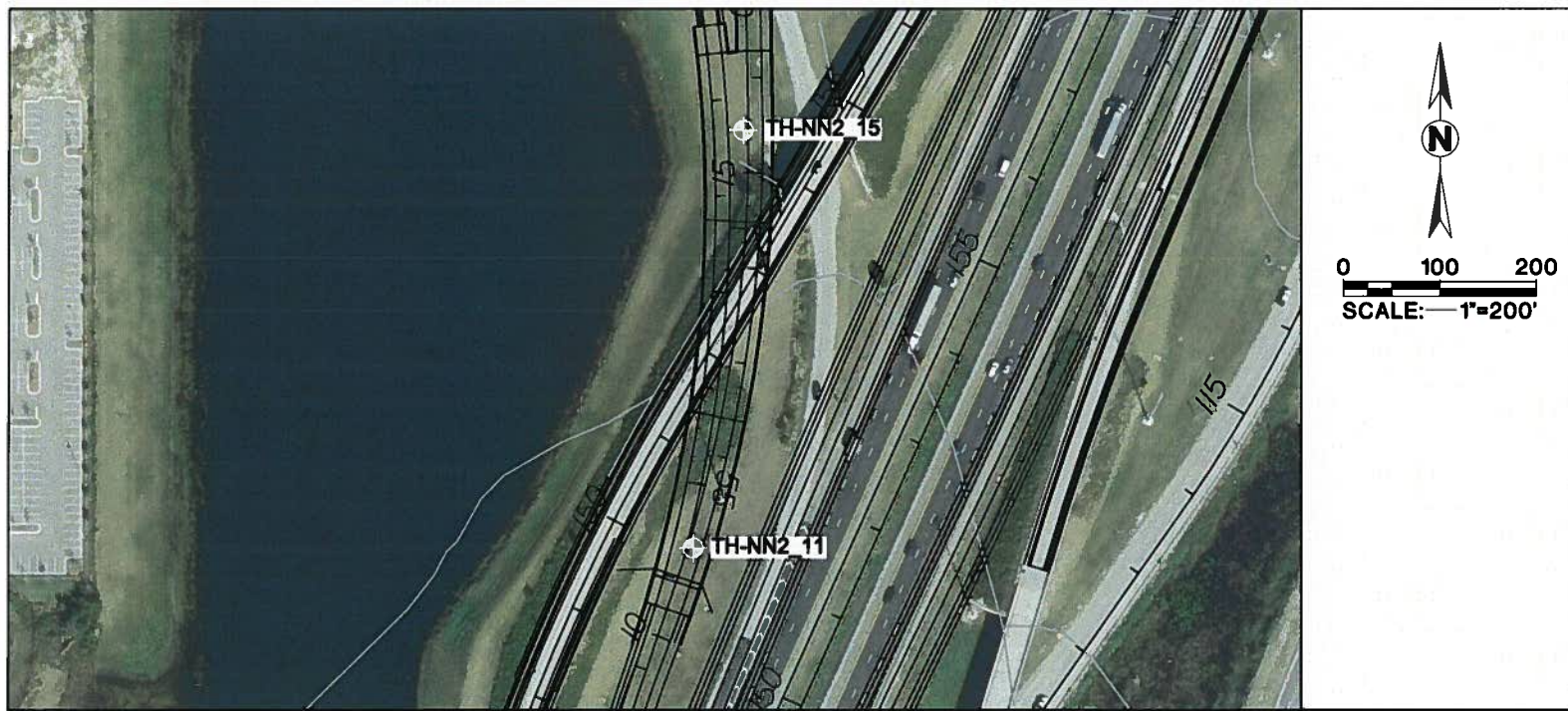
Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850



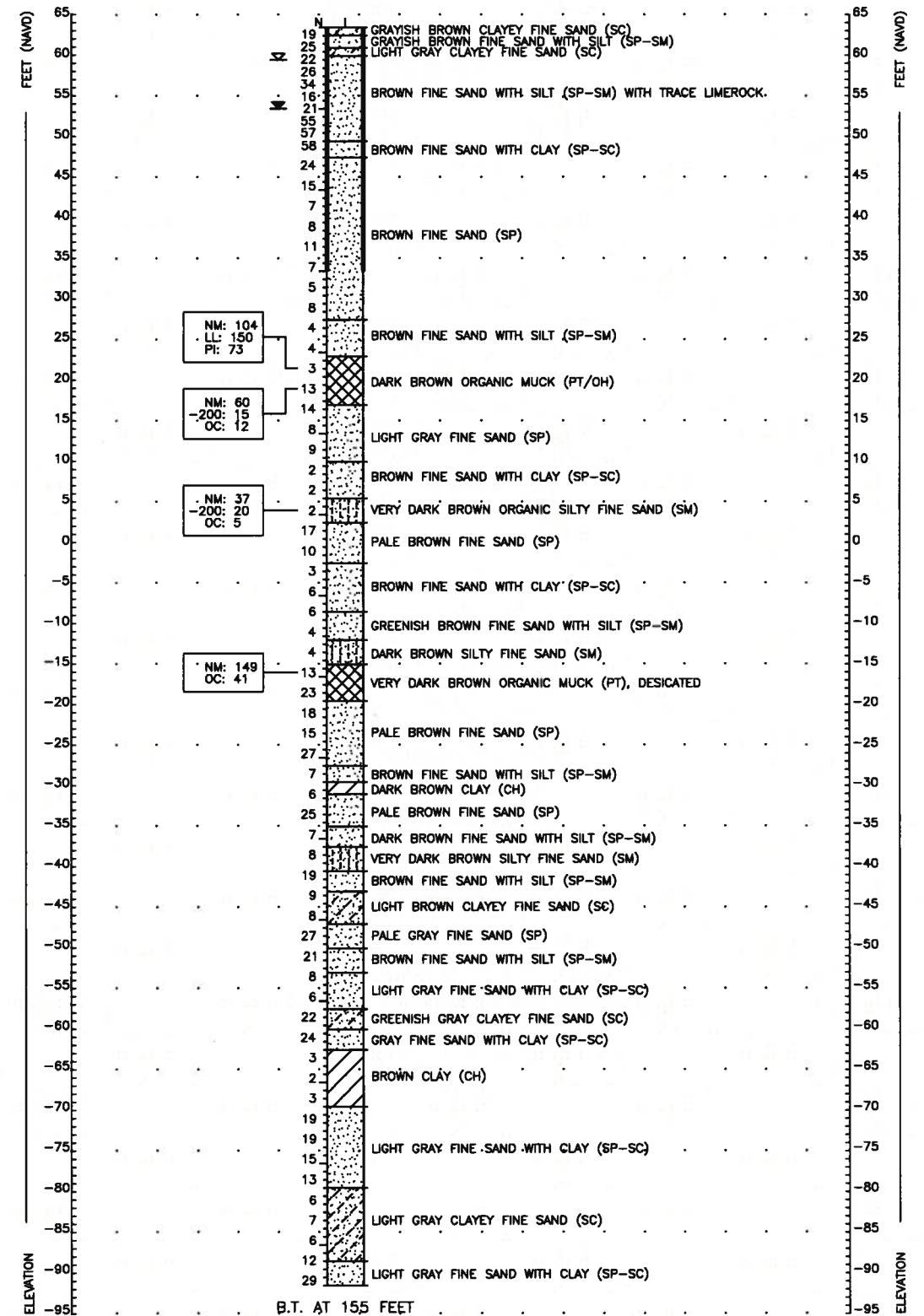
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

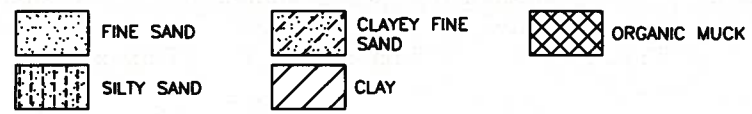
SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		



TH-NN2_11
 01/24/12
 GSE=63.4
 STA: 10+92
 OFFSET: 9L
 LATITUDE: 28.79028
 LONGITUDE: -81.34911



LEGEND



STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: SLIGHTLY AGGRESSIVE
 STEEL: SLIGHTLY AGGRESSIVE

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
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HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
 GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
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- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

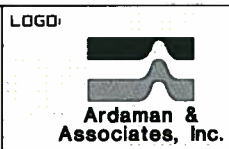
- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- OC ORGANIC CONTENT IN PERCENT (ASTM D-2974)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description

Name	Date
CD	04/12
CTJ	04/12
C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32858-3003
 CERTIFICATE OF AUTHORIZATION: 5850



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
 ROAD NO. SR 429
 COUNTY SEMINOLE
 FINANCIAL PROJECT ID 431081-4-32-01

SHEET TITLE: REPORT OF SPT BORING FOR STRUCTURE
 PROJECT NAME: WEKIVA PARKWAY
 SHEET NO.:

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LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.1)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

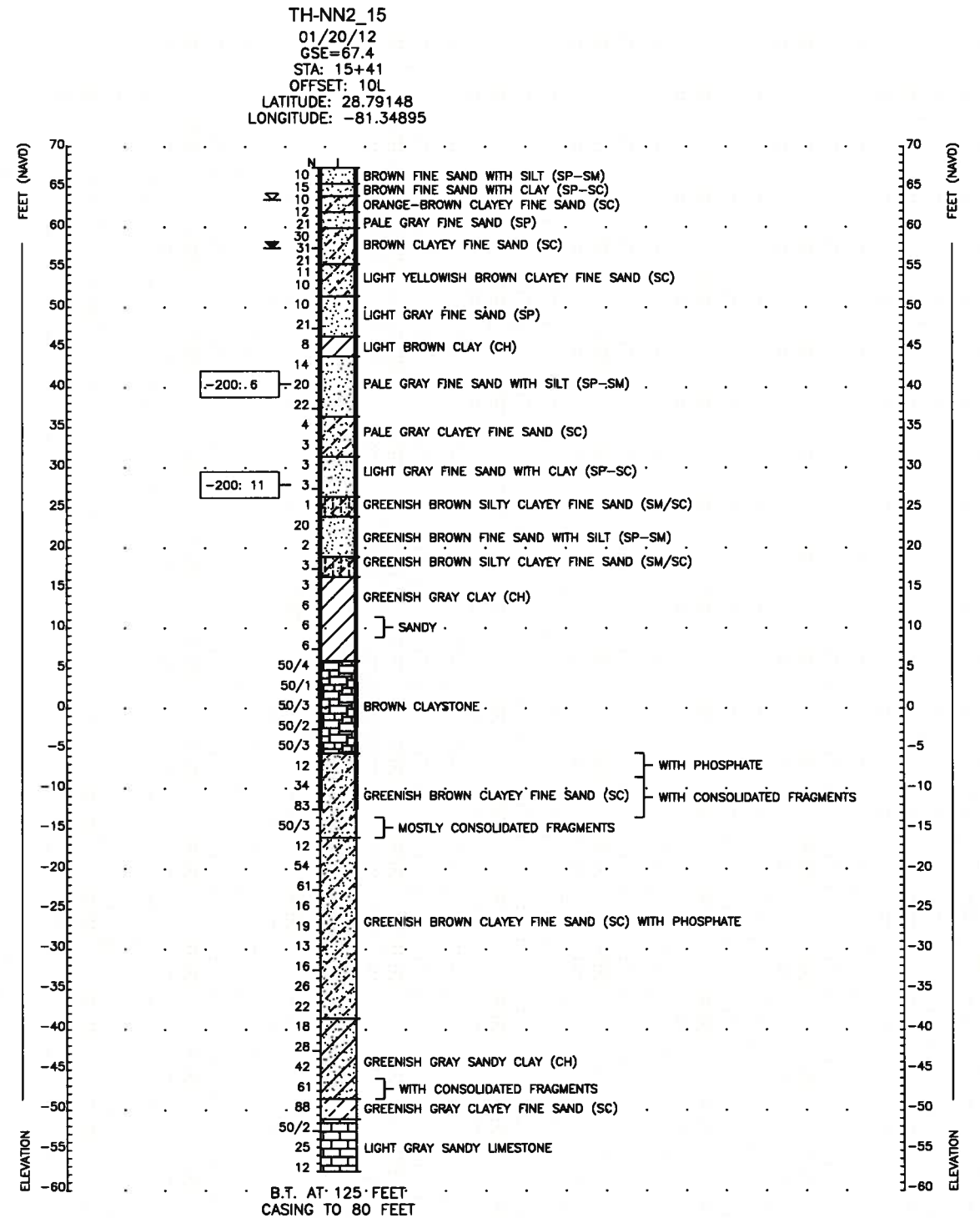
ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



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REVISIONS						ENGINEER OF RECORD:		LOGO:		SEAL:		SHEET TITLE:	
Date	By	Description	Date	By	Description	Name	Dates	FLORIDA DEPARTMENT OF TRANSPORTATION		ROAD NO. COUNTY FINANCIAL PROJECT ID		PROJECT NAME SHEET NO.	
						COLIN T. JEWELRY	04/12	Ardaman & Associates, Inc.		SR 429 SEMINOLE 431081-4-32-01		REPORT OF SPT BORING FOR STRUCTURE WEKIVA PARKWAY	
						Checked by: CTJ	04/12	8008 S. ORANGE AVENUE					
						Designed by:		P.O. BOX 583003					
						Checked by:		ORLANDO, FL 32809-3003					
						Approved by: C.T. JEWELRY		CERTIFICATE OF AUTHORIZATION: 5950					



LEGEND

	FINE SAND		CLAYEY FINE SAND
	SILTY SAND		CLAY
	SILTY CLAYEY FINE SAND		CLAYSTONE

NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
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- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
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- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)

3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.5)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

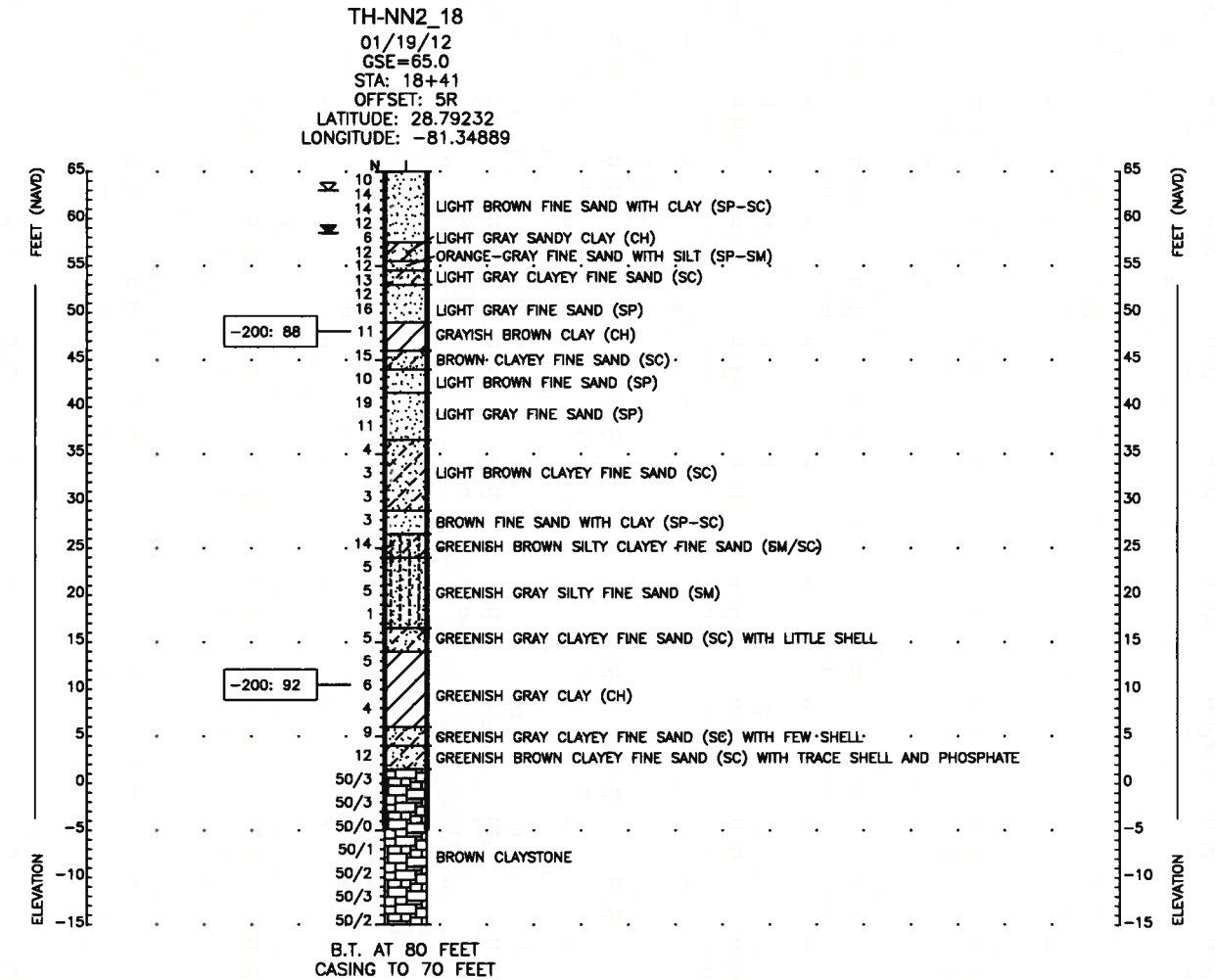
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
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B.T. AT 80 FEET CASING TO 70 FEET

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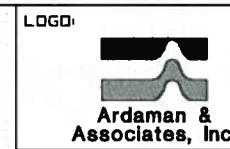
REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWBSURY	

ENGINEER OF RECORD:
 COLIN T. JEWBSURY
 FL. REG. NO. 58074

Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32889-3003
 CERTIFICATE OF AUTHORIZATION: 5850

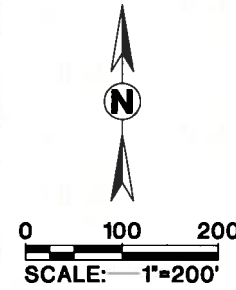


SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		PROJECT NAME		SHEET NO.	
REPORT OF SPT BORING FOR STRUCTURE		WEKIVA PARKWAY		-	



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D. = 1.375"
 SPOON O.D. = 2.0"
 HAMMER DROP = 30"
 HAMMER WEIGHT = 140 lbs.
 HAMMER TYPE = SAFETY TO 15', AUTOMATIC BELOW

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 STEEL: SLIGHTLY AGGRESSIVE

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ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

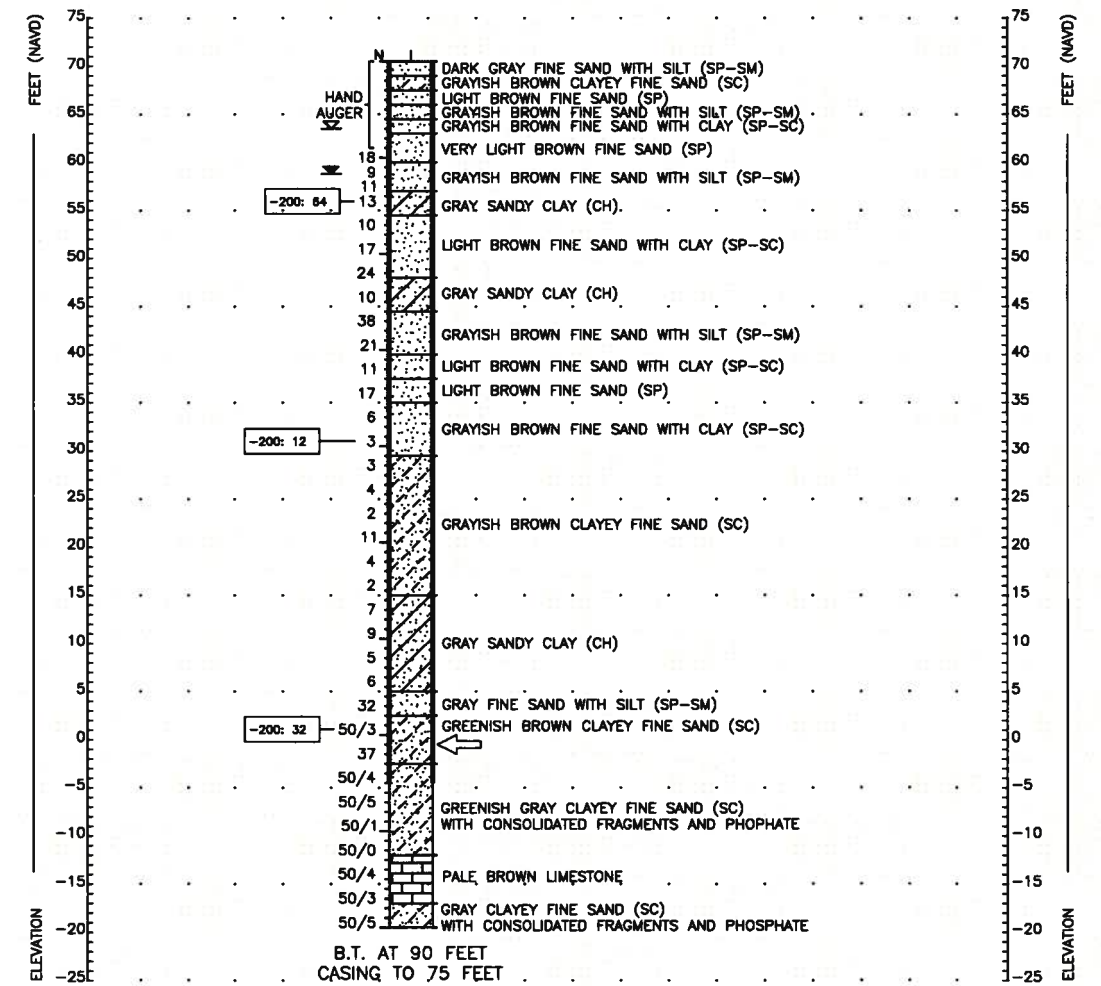
II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-NN2 22
 02/20/12
 GSE=70.5
 STA: 22+43
 OFFSET: 6R
 LATITUDE: 28.793412
 LONGITUDE: -81.348789



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description

Drawn by	CD	04/12
Checked by	CTJ	04/12
Designed by		
Checked by		
Approved by	C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. GRANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 6850



SEAL:

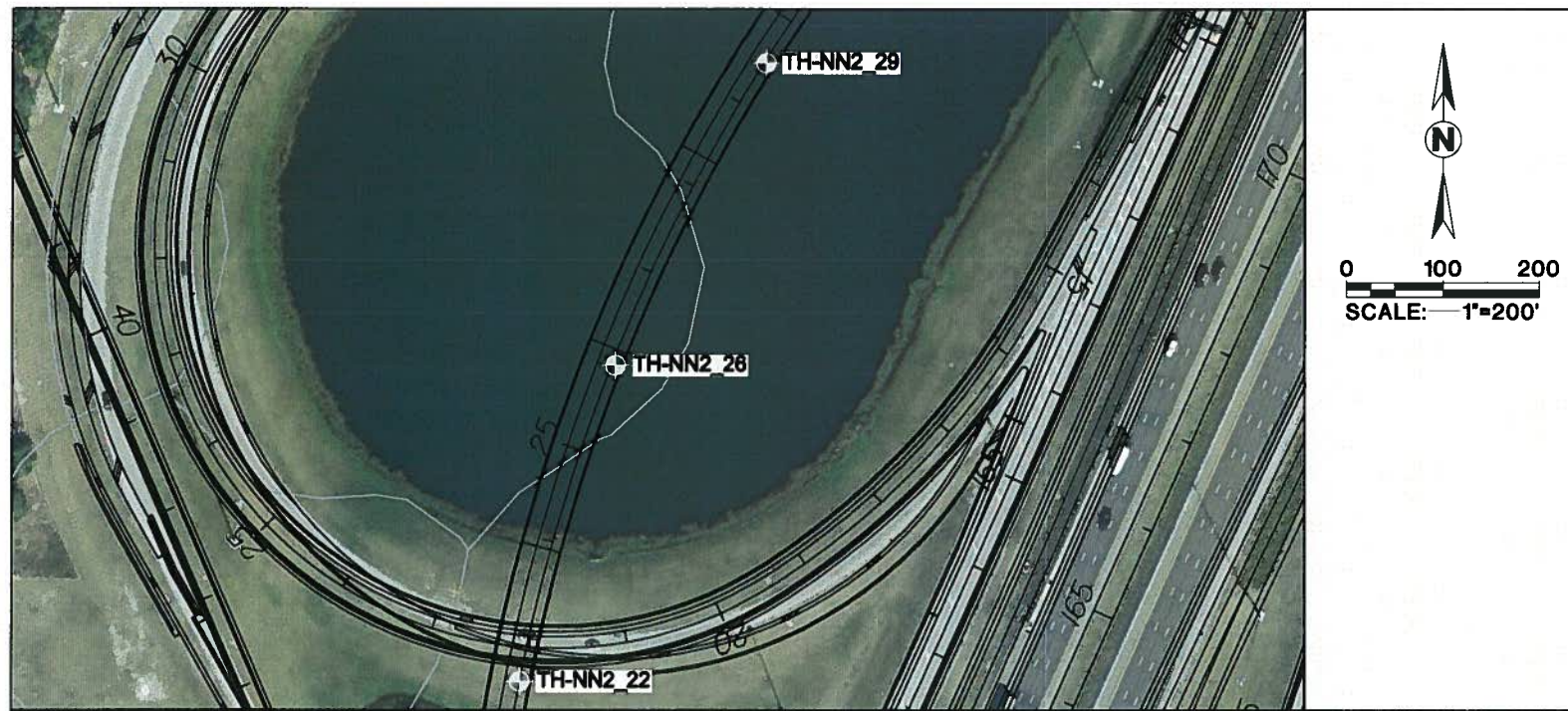
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

REPORT OF SPT BORING FOR STRUCTURE

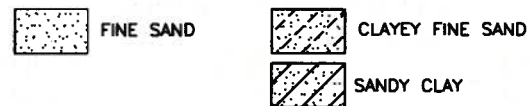
PROJECT NAME	SHEET NO.
WEKIVA PARKWAY	

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TH-NN2_26
 02/21/12
 GSE=43.1
 STA: 26+01
 OFFSET: 4R
 LATITUDE: 28.79432
 LONGITUDE: -81.34848

LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

⊙ STANDARD PENETRATION TEST (SPT) BORING LOCATION
 N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT

50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
 GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
 -200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)

⊙ 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

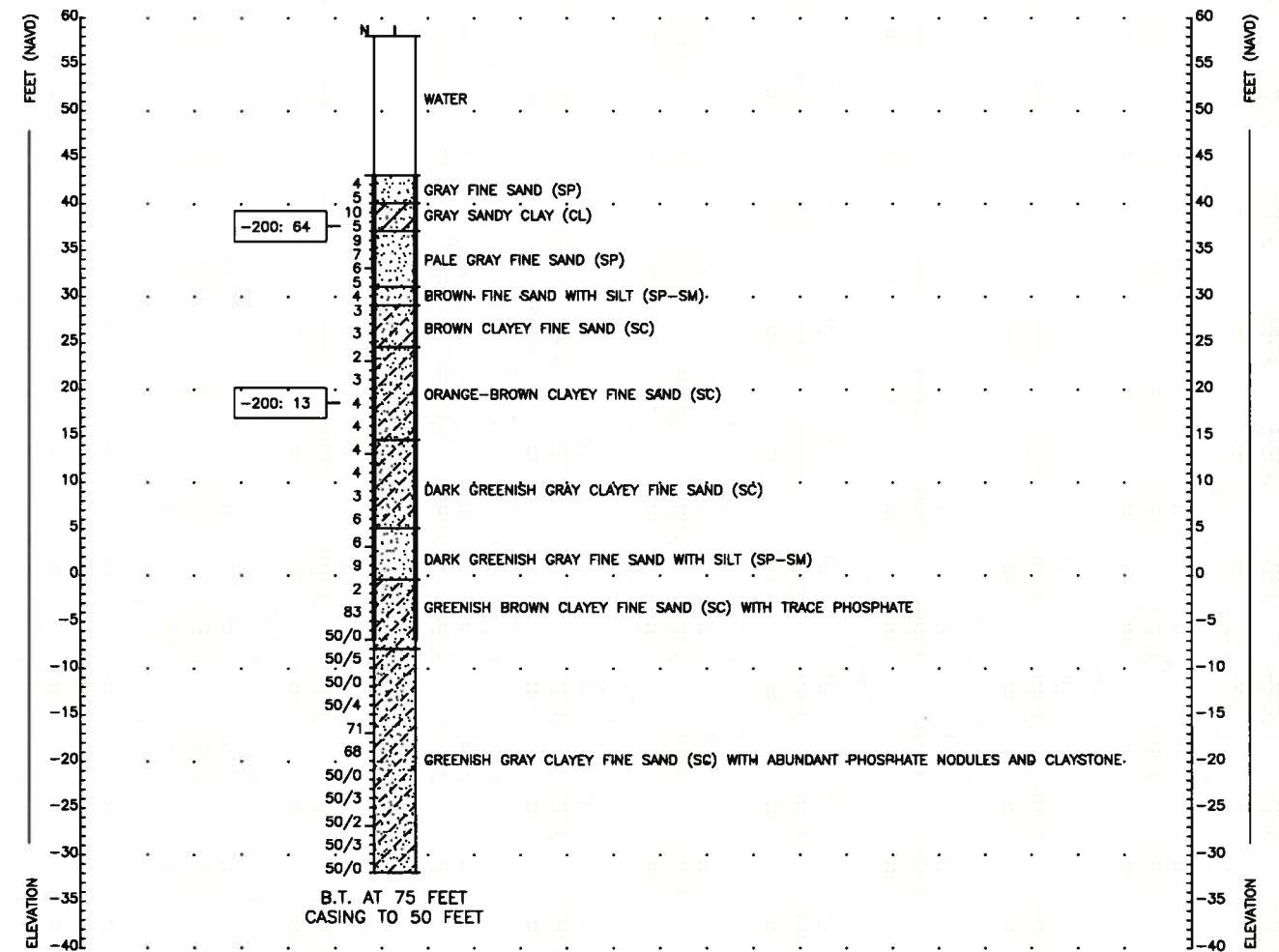
SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	
II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



B.T. AT 75 FEET CASING TO 50 FEET

REVISIONS

Date	By	Description	Date	By	Description

Names	Dates
Drawn by CB	04/12
Checked by CTJ	04/12
Designed by	
Approved by C.T. JEWsbury	

ENGINEER OF RECORD:
 COLIN T. JEWsbury
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950

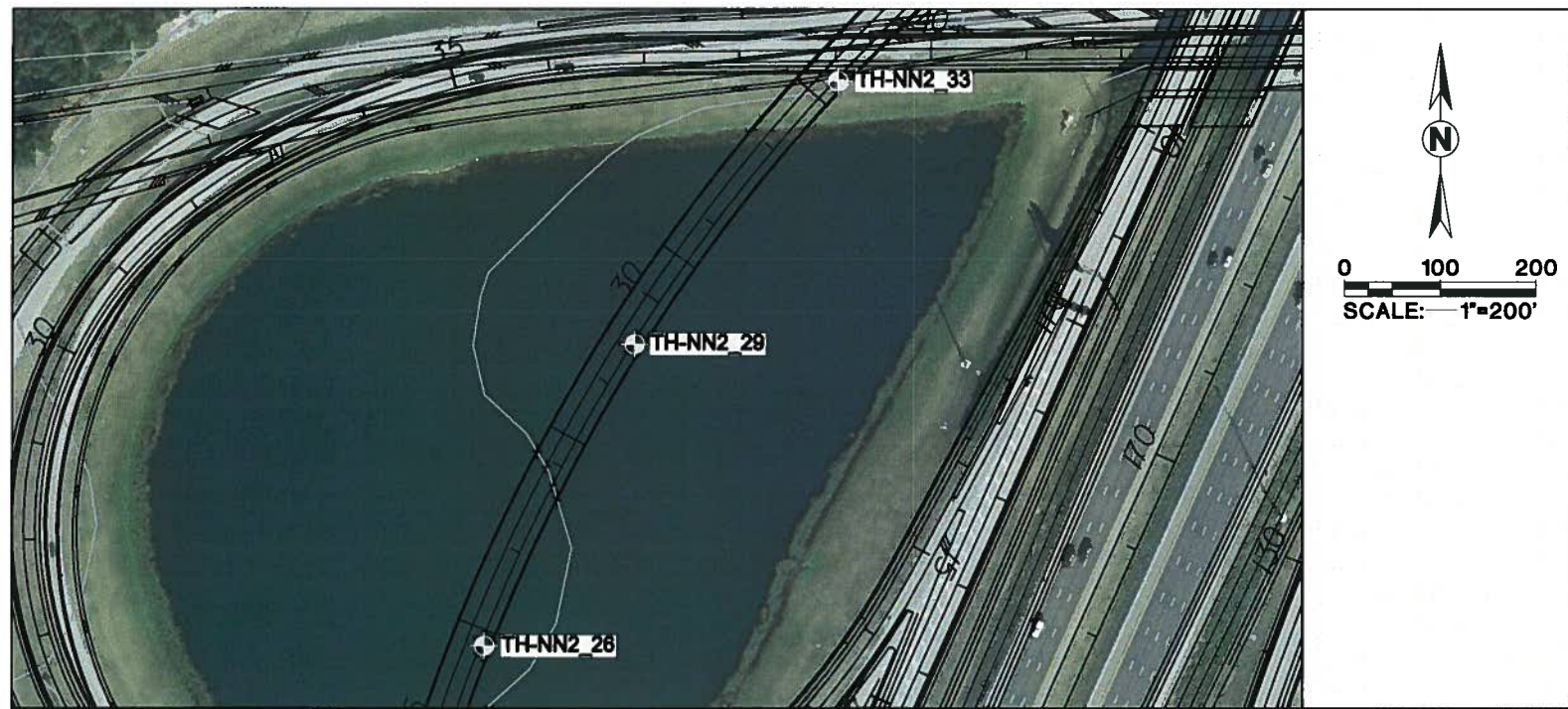


SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

T:\Orlando\11-6501\11-6501-17.dwg 7/02/2012 10:12:40 AM, Chris.Drew



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

STANDARD PENETRATION TEST (SPT) BORING LOCATION
 N STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT

50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL

GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)

-200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)

WOH SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY

PARTIAL LOSS OF DRILLING FLUID CIRCULATION

3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

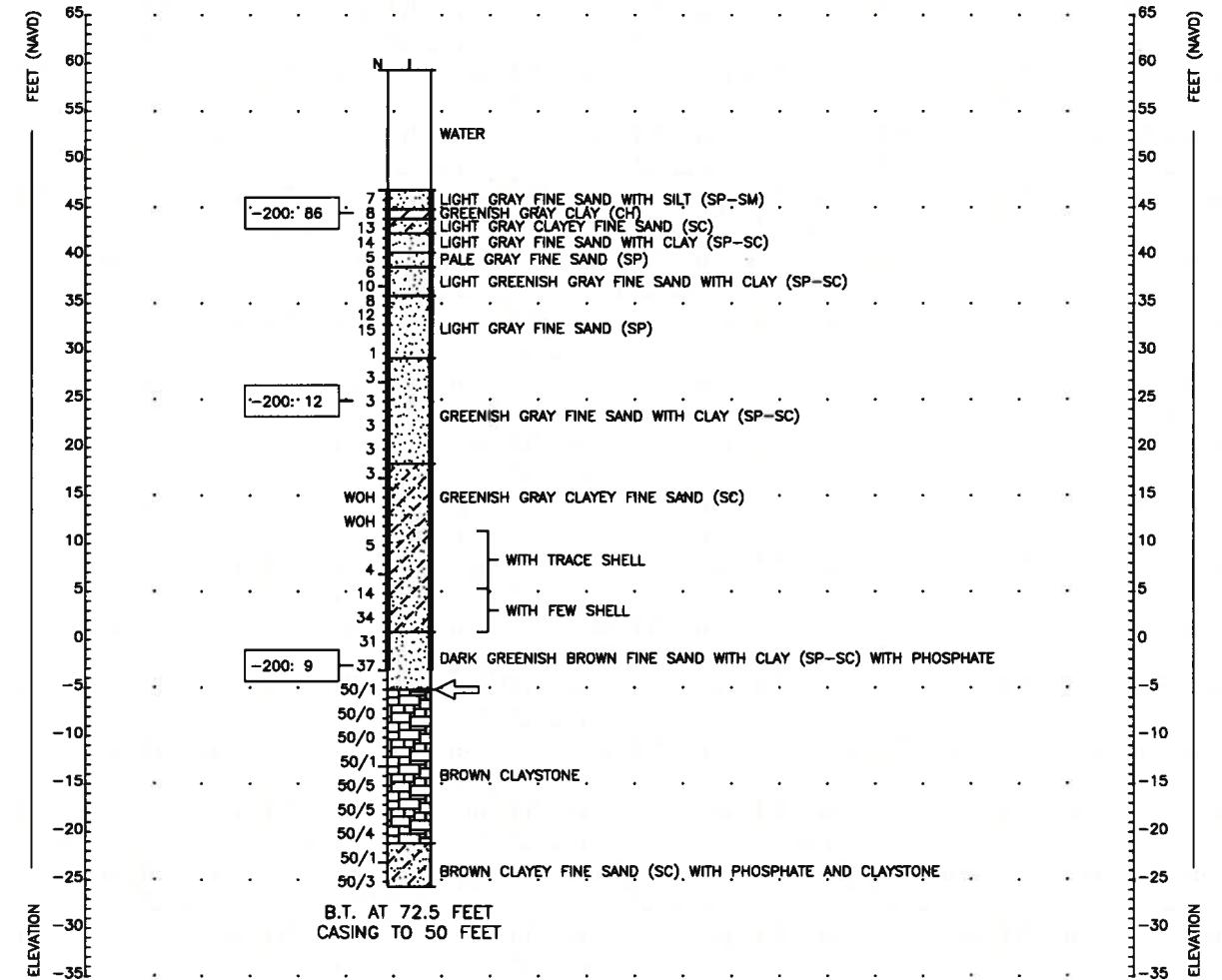
I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-NN2_29
 02/14/12
 GSE=46.8
 STA: 29+55
 OFFSET: 20R
 LATITUDE: 28.79519
 LONGITUDE: -81.34799



B.T. AT 72.5 FEET CASING TO 50 FEET

REVISIONS

Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074

 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850

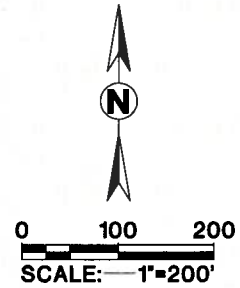


SEAL:
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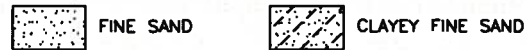
FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE	
REPORT OF SPT BORING FOR STRUCTURE	
PROJECT NAME	SHEET NO.
WEKIVA PARKWAY	-

T:\Orlando\11-6501\11-650119.dwg 7/02/2012 10:13:00 AM, Chris.Drew



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)
- GNM** GROUNDWATER NOT MEASURED (NOT ENCOUNTERED IN THE TOP 10 FEET AND NOT MEASURED BELOW 10 FEET DUE TO THE MUDDIED CONDITION OF THE BOREHOLES)

COMPLETE LOSS OF DRILLING FLUID CIRCULATION

3 1/2-INCH DIAMETER TEMPORARY STEEL CASING

SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.7)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

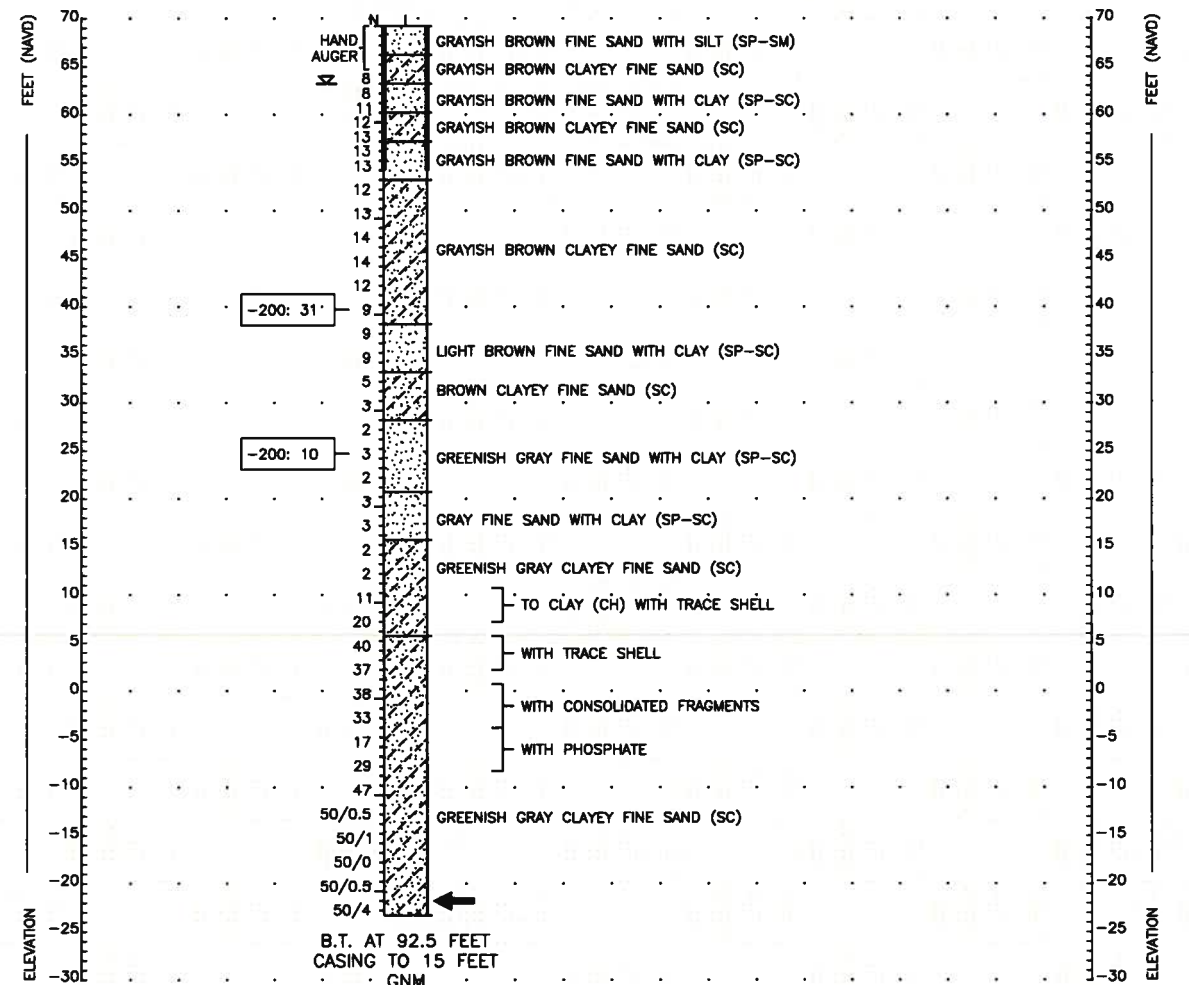
I COHESIONLESS SOILS	
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

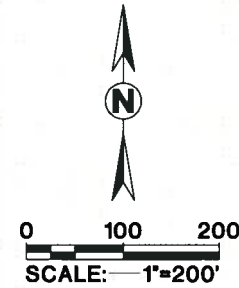
GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

TH-NN2_33
 02/16/12
 GSE=69.2
 STA: 32+99
 OFFSET: 7R
 LATITUDE: 28.79595
 LONGITUDE: -81.34733

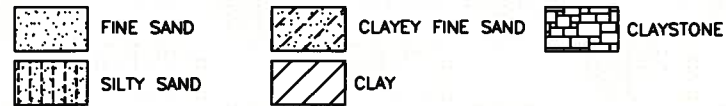


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REVISIONS					Drawn by		Checked by		Designed by		Checked by		Approved by		ENGINEER OF RECORD:		LOGO:		SEAL:		FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:	
Date	By	Description	Date	By	Description	Date	By	Description	Date	By	Description	Date	By	Description	Date	By	Description	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.			
																		SR 429	SEMINOLE	431081-4-32-01	WEKIVA PARKWAY	-			



LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- LL** LIQUID LIMIT IN PERCENT (ASTM D-4318)
- PI** PLASTICITY INDEX IN PERCENT (ASTM D-4318)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.2)

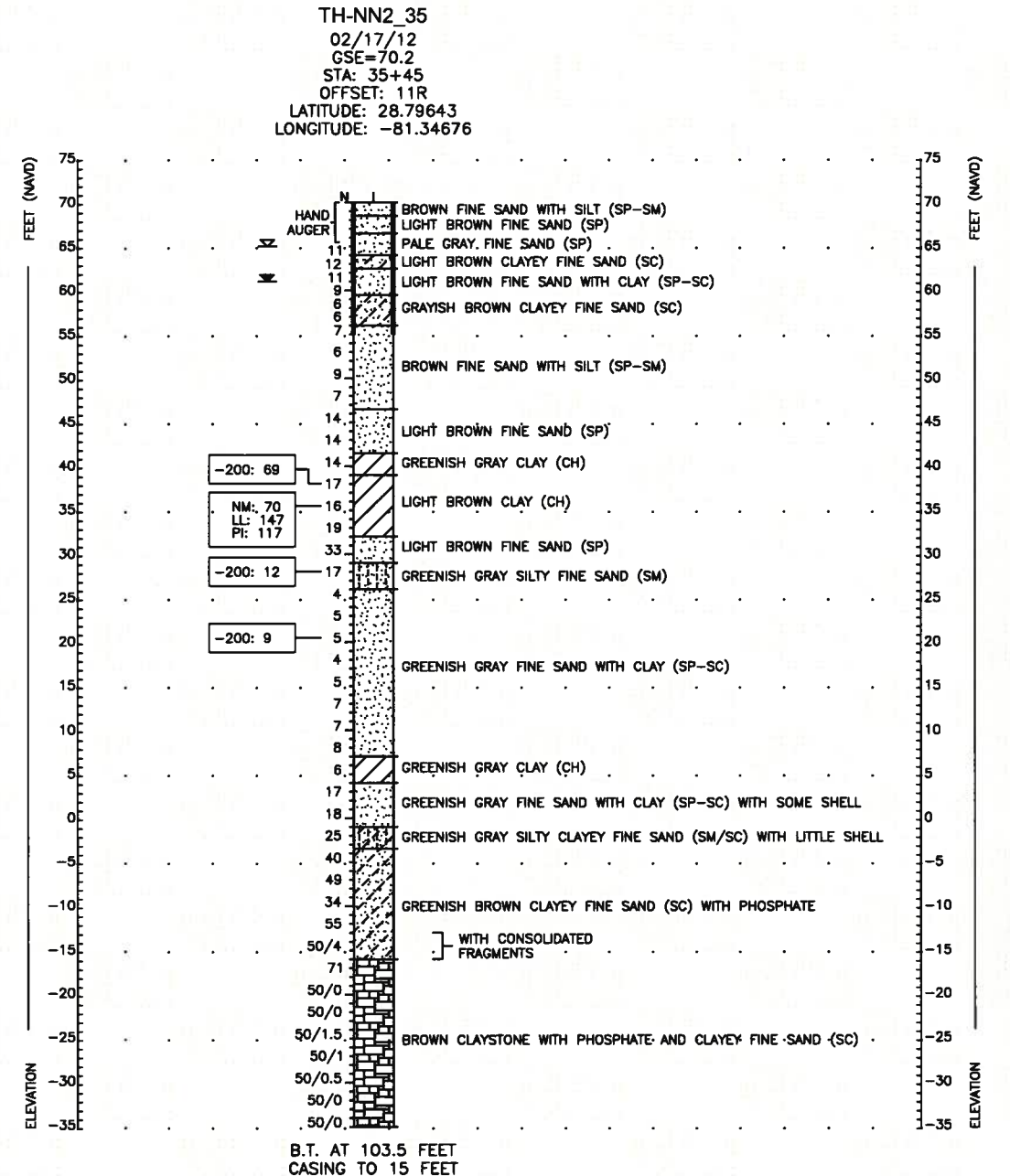
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	
II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
 GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



T:\Orlando\11\11-6501\11650118.dwg 7/02/2012 10:13:20 AM, Chris.Drew

REVISIONS

Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

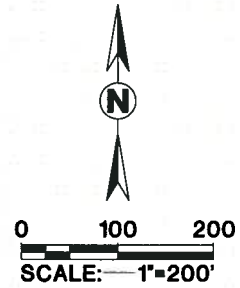
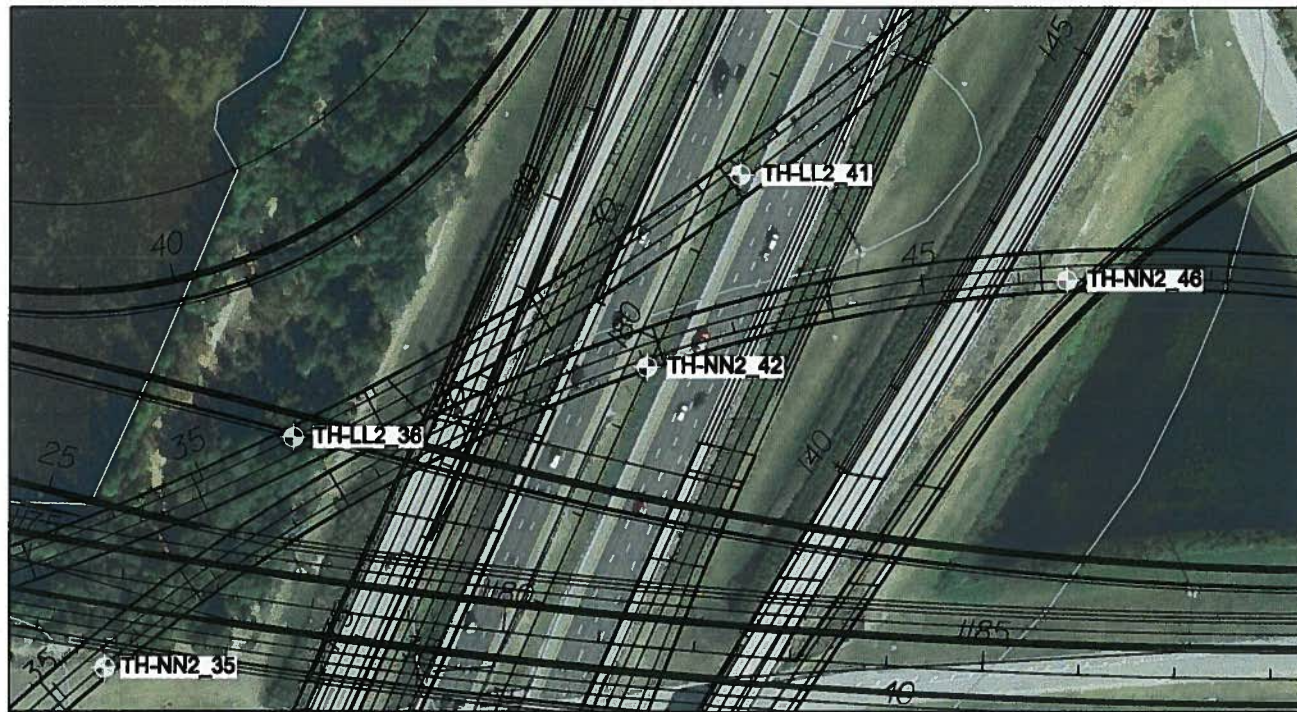
ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850



SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		



TH-NN2 42
 06/08/12
 GSE=91.4
 STA: 42+02
 OFFSET: 8R
 LATITUDE: 28.797293
 LONGITUDE: -81.345001

LEGEND



NOTES:

- 1) UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- 2) BORING TERMINATION DEPTH BELOW GROUND SURFACE
- 3) ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- 4) BORING STATION AND OFFSET IS SURVEYED RELATIVE TO CENTERLINE OF CONSTRUCTION.
- 5) BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

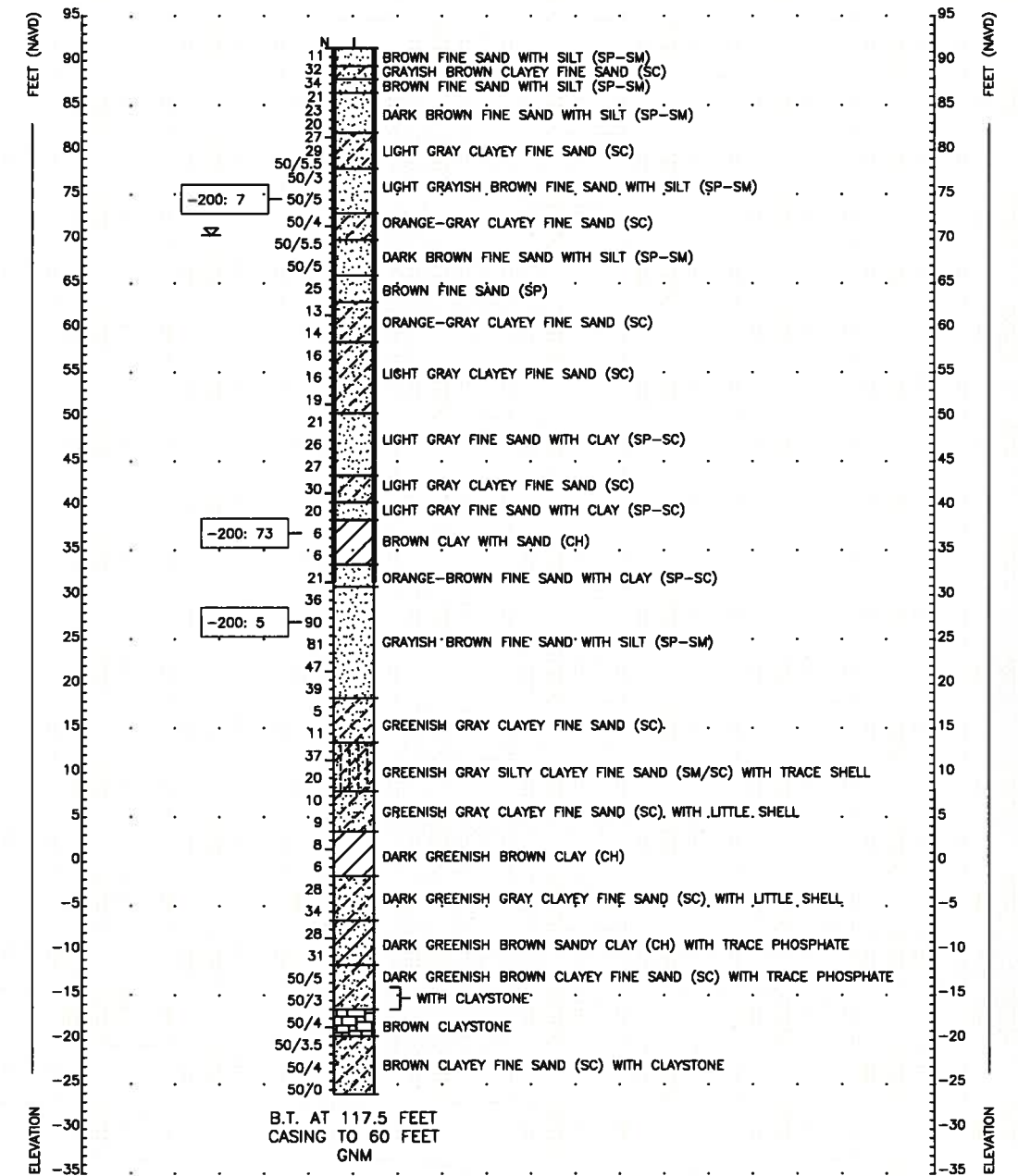
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



T:\Orlando\11-6501\11650155.dwg 7/02/2012 10:13:46 AM, Chris.Drew

REVISIONS

Date	By	Description	Date	By	Description

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074

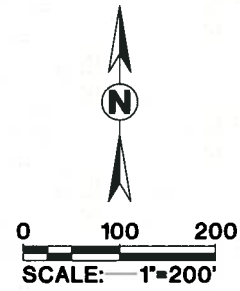
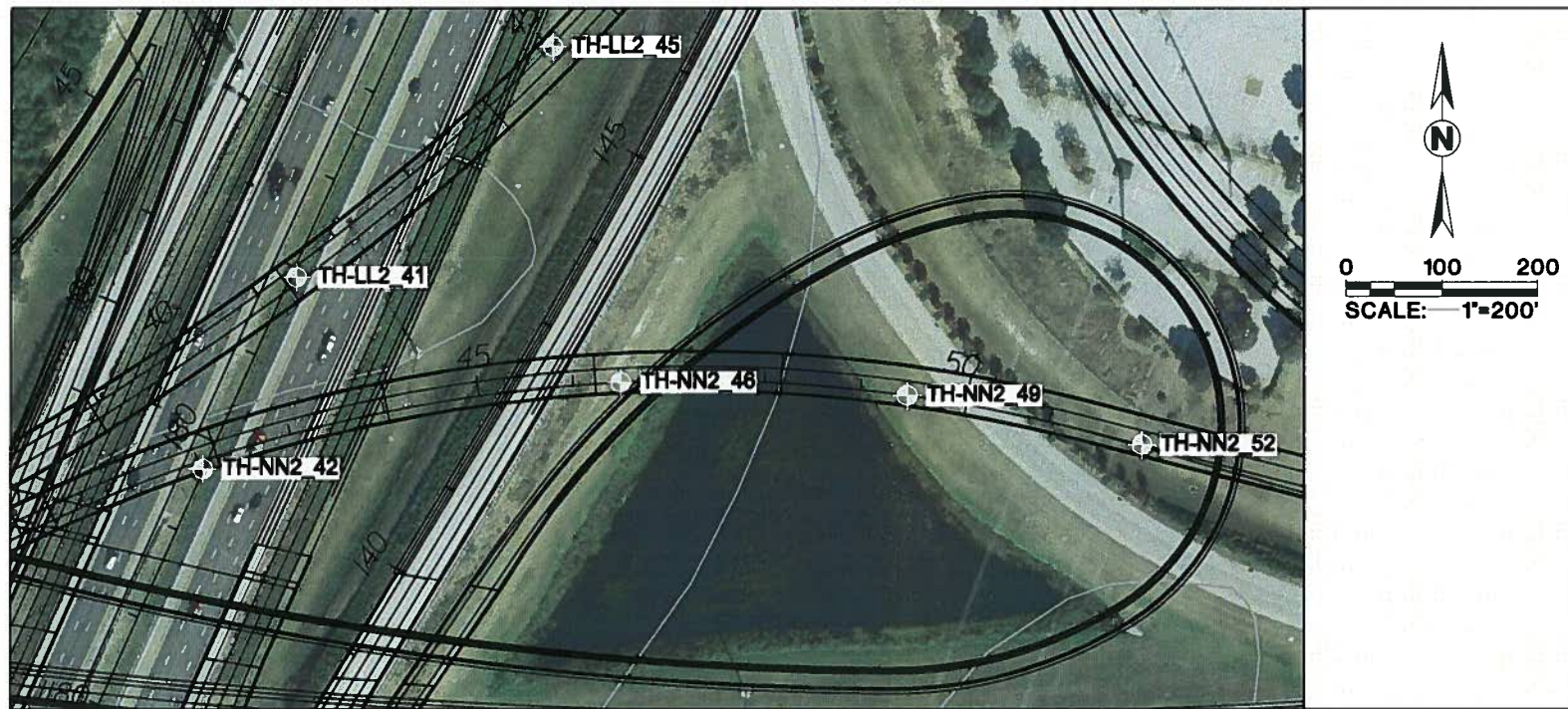
Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5850



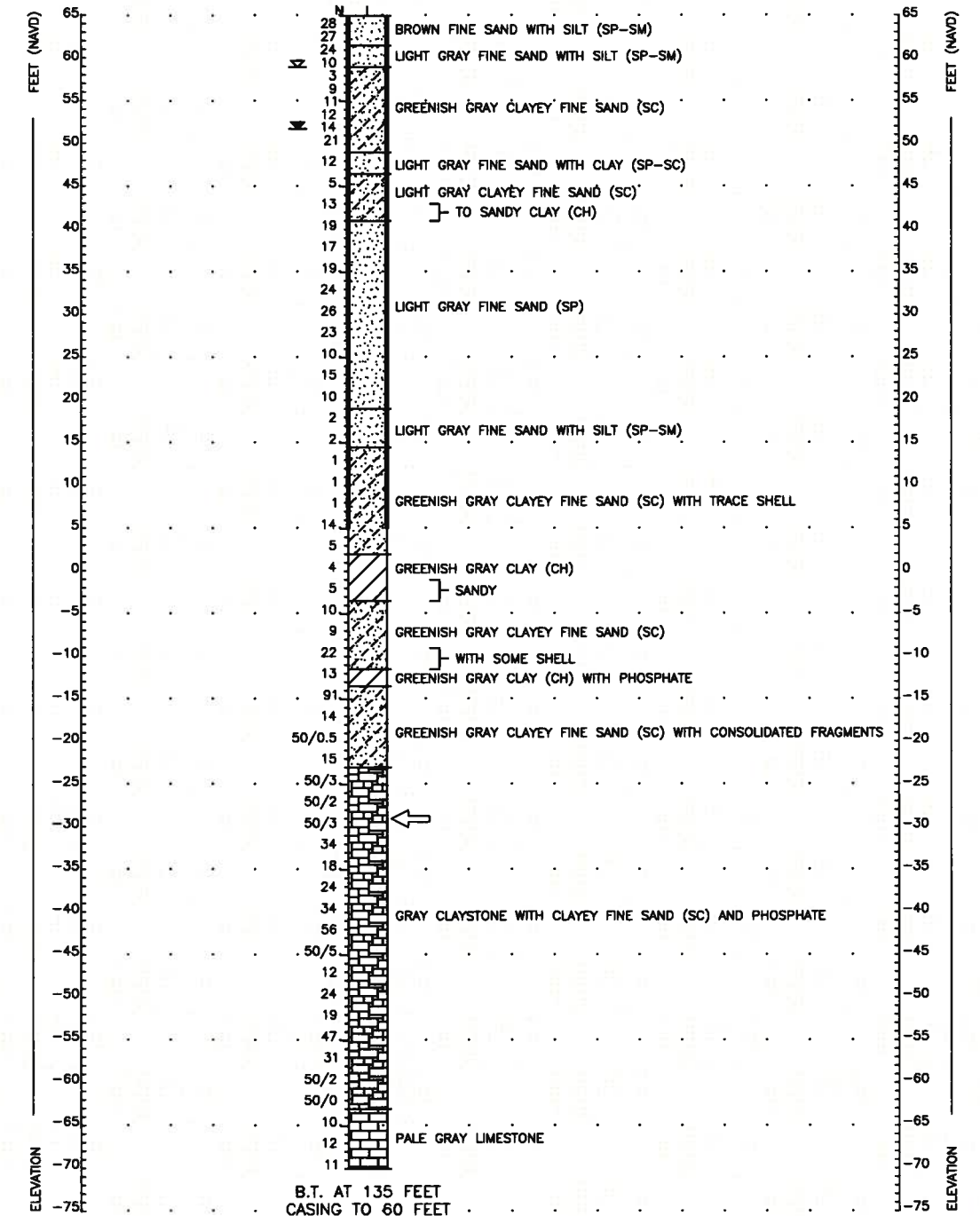
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE:		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		



TH-NN2_46
 01/30/12
 GSE=64.9
 STA: 46+67
 OFFSET: 8R
 LATITUDE: 28.797545
 LONGITUDE: -81.343640



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- PARTIAL LOSS OF DRILLING FLUID CIRCULATION
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: NOT TESTED
 STEEL: NOT TESTED

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

REVISIONS

Date	By	Description

Names	Dates
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWsbury	

ENGINEER OF RECORD:
 COLIN T. JEWsbury
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 5950

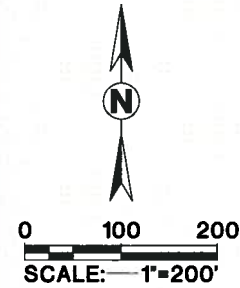
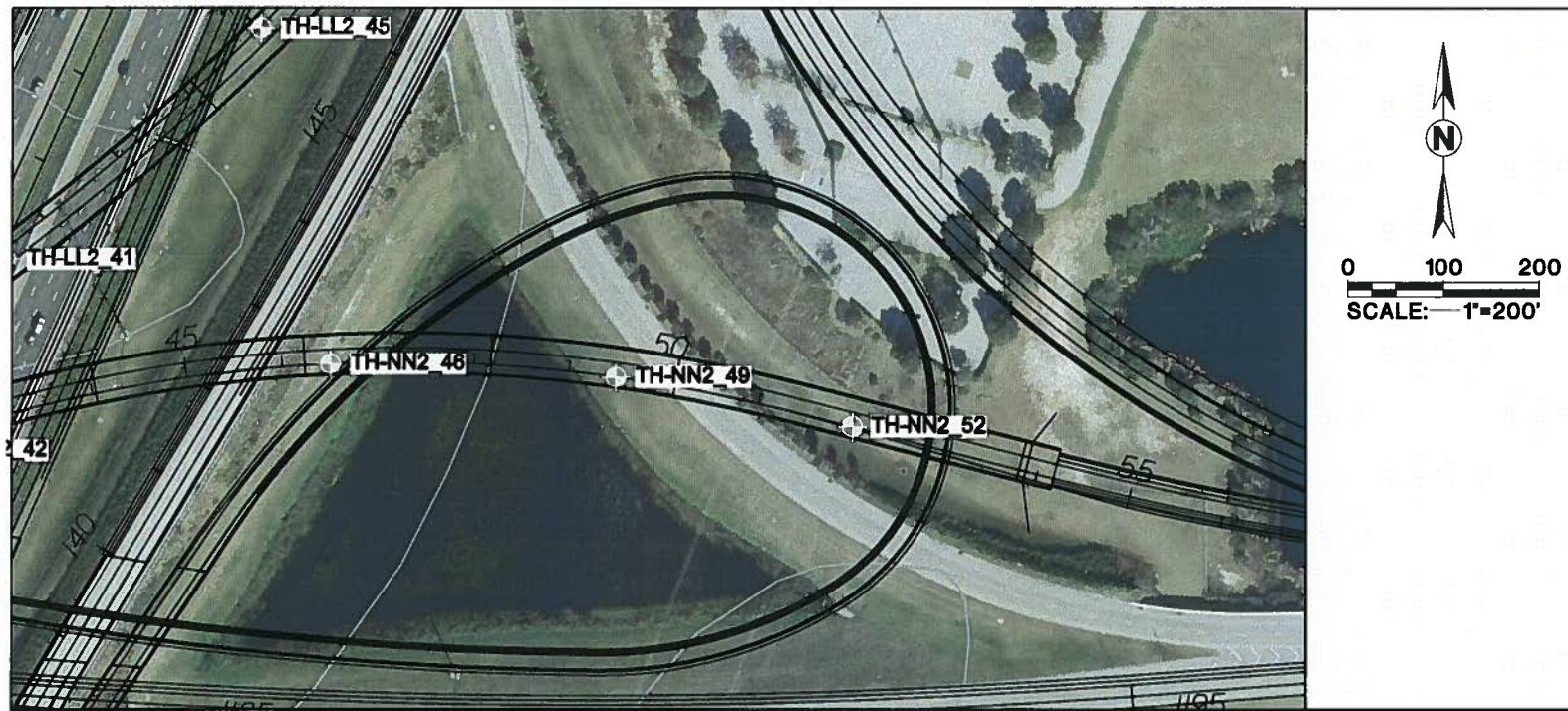


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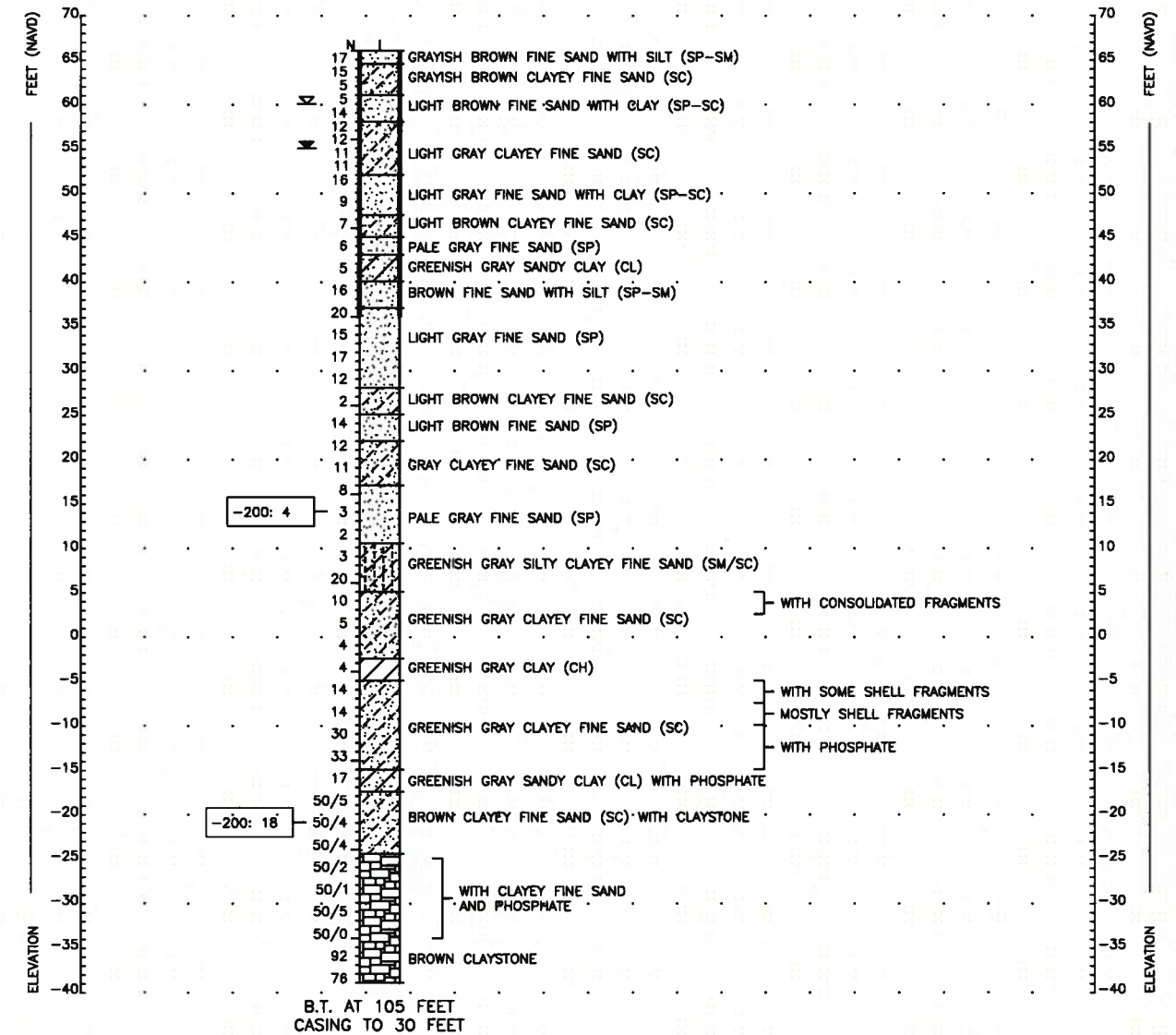
FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
-	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME		
WEKIVA PARKWAY		

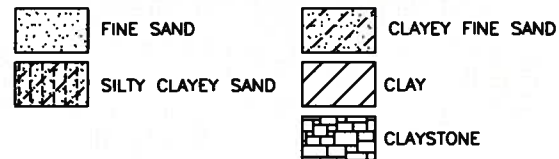
T:\Orlando\11\11-6501\11650114.dwg 7/02/2012 10:14:10 AM, Chris.Drew



TH-NN2 49
 02/02/12
 GSE=66.1
 STA: 49+55
 OFFSET: 7R
 LATITUDE: 28.79751
 LONGITUDE: -81.34271



LEGEND



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- 200 PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES) (FM 1-T 88)

- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH UNIFIED SOIL CLASSIFICATION SYSTEM

STANDARD PENETRATION TEST DATA:

SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15', AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.7)
 SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

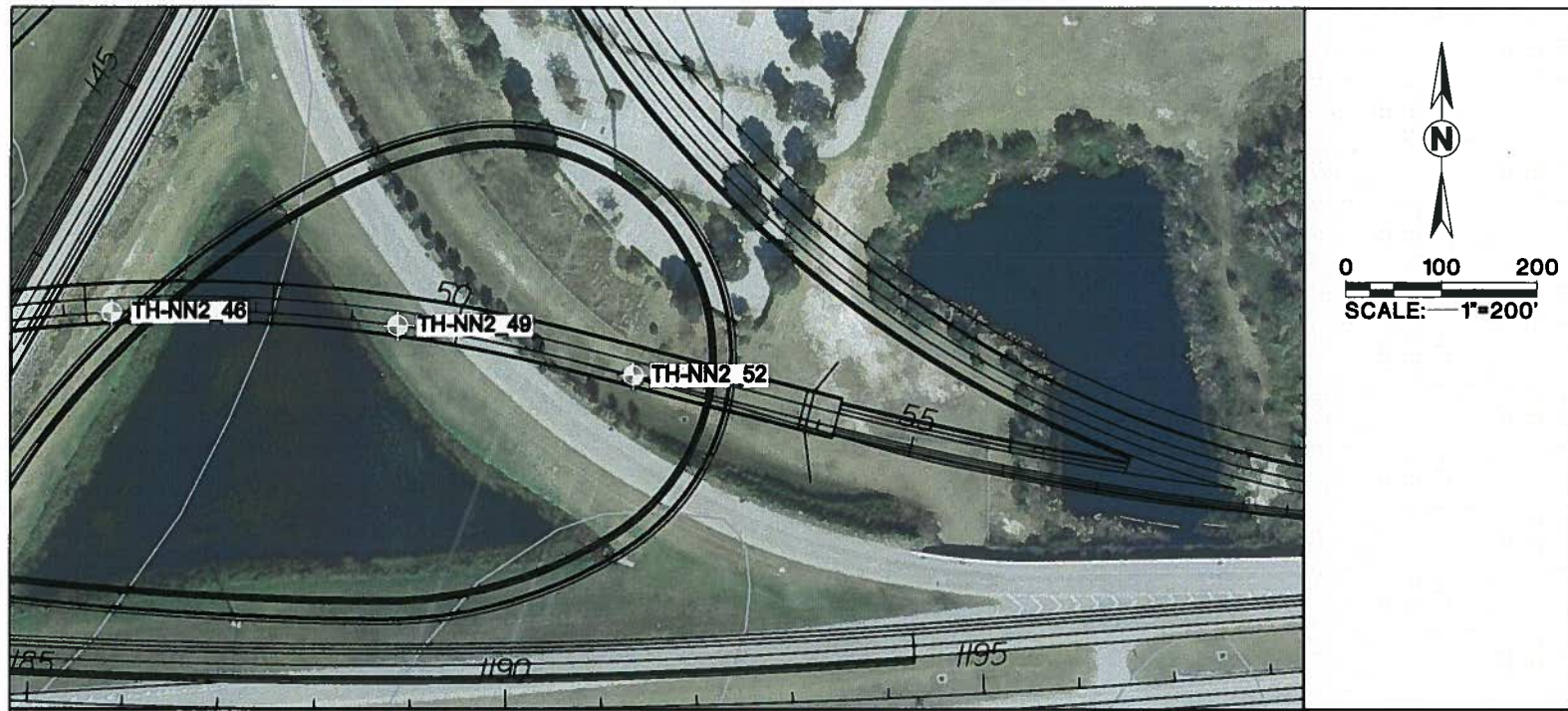
I COHESIONLESS SOILS		
DESCRIPTION	BLOW COUNT "N"	
VERY LOOSE	0 TO 4	
LOOSE	4 TO 10	
MEDIUM DENSE	10 TO 30	
DENSE	30 TO 50	
VERY DENSE	>50	

II COHESIVE SOILS		
DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

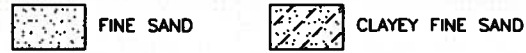
WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.
 GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.

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REVISIONS						ENGINEER OF RECORD		LOGO	SEAL	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE	
Date	By	Description	Date	By	Description	Drawn by	Dates			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME	SHEET NO.
						CD	04/12	SR 429	SEMINOLE	431081-4-32-01	WEKIVA PARKWAY			
						CTJ	04/12							
						C.T. JEWSBURY								



LEGEND



STANDARD PENETRATION TEST DATA:
 SPOON I.D.= 1.375"
 SPOON O.D.= 2.0"
 HAMMER DROP= 30"
 HAMMER WEIGHT= 140 lbs.
 HAMMER TYPE= SAFETY TO 15' AUTOMATIC BELOW

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE:
 CONCRETE: MODERATELY AGGRESSIVE
 STEEL: EXTREMELY AGGRESSIVE (pH=5.1)

SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

SHELL FRAGMENTS: TRACE <5%
 FEW 5 TO 10%
 LITTLE 15 TO 25%
 SOME 30 TO 45%
 MOSTLY 50 TO 100%

ENGINEERING CLASSIFICATION

I COHESIONLESS SOILS

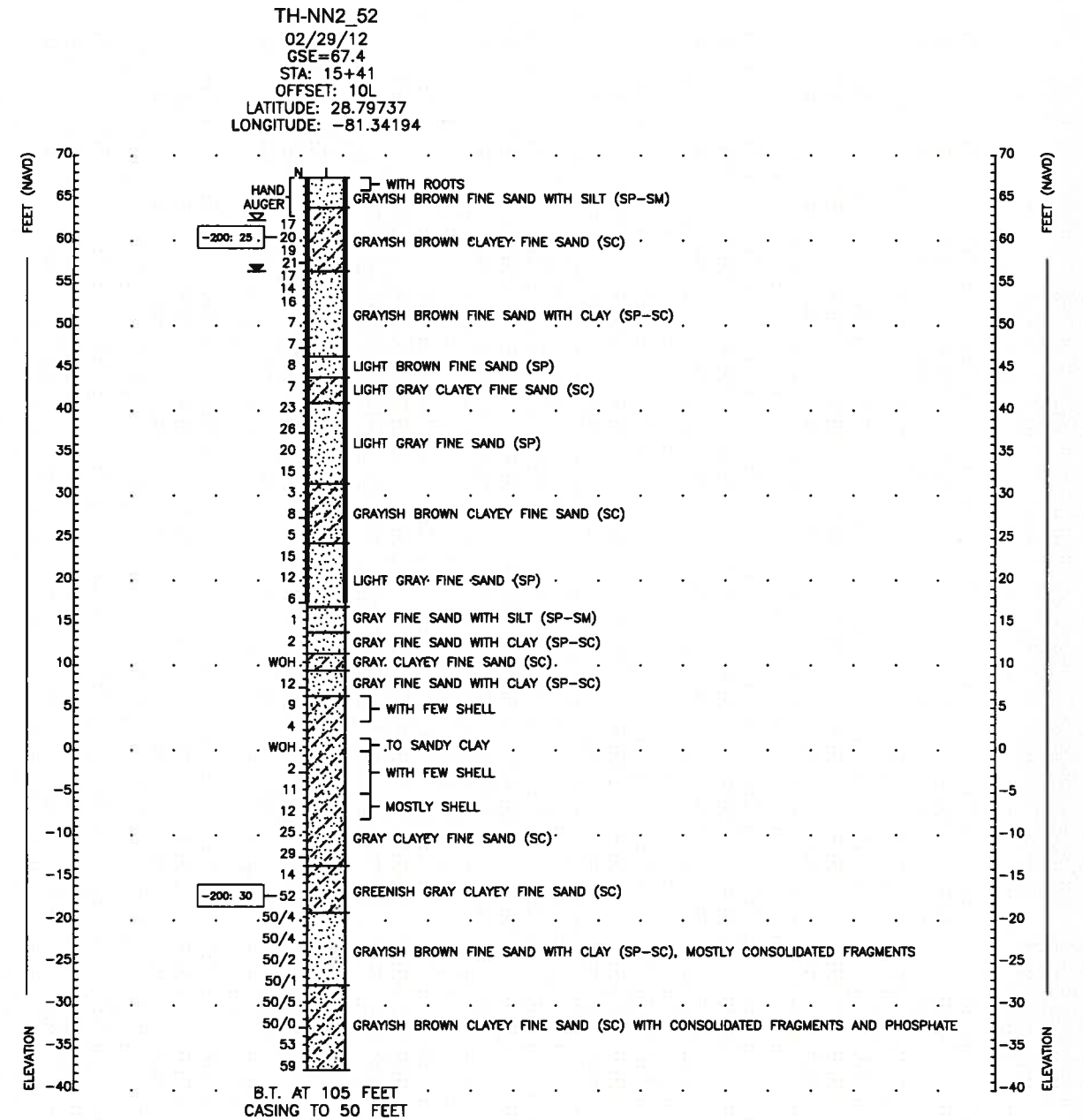
DESCRIPTION	BLOW COUNT "N"
VERY LOOSE	0 TO 4
LOOSE	4 TO 10
MEDIUM DENSE	10 TO 30
DENSE	30 TO 50
VERY DENSE	>50

II COHESIVE SOILS

DESCRIPTION	UNCONFINED COMPRESSIVE STRENGTH, QU, TSF	BLOW COUNT "N"
VERY SOFT	<1/4	0 TO 2
SOFT	1/4 TO 1/2	2 TO 4
MEDIUM STIFF	1/2 TO 1	4 TO 8
STIFF	1 TO 2	8 TO 15
VERY STIFF	2 TO 4	15 TO 30
HARD	>4	>30

WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIR RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND MAY BE ENCOUNTERED. THE BORING LOGS AND RELATED INFORMATION ARE BASED ON THE DRILLER'S LOGS AND VISUAL EXAMINATION OF SELECTED SAMPLES IN THE LABORATORY. THE DELINEATION BETWEEN SOIL TYPES SHOWN ON THE LOGS IS APPROXIMATE AND THE DESCRIPTION REPRESENTS OUR INTERPRETATION OF SUBSURFACE CONDITIONS AT THE DESIGNATED BORING LOCATIONS ON THE PARTICULAR DATE DRILLED.

GROUNDWATER ELEVATIONS SHOWN ON THE BORING LOGS REPRESENT GROUNDWATER SURFACES ENCOUNTERED ON THE DATES SHOWN. FLUCTUATIONS IN WATER TABLE LEVELS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.



NOTES:

- UPON COMPLETION OF THE BORING, THE BOREHOLE WAS GROUTED WITH PORTLAND CEMENT GROUT.
- BORING TERMINATION DEPTH BELOW GROUND SURFACE
- ARTESIAN CONDITIONS WERE NOT NOTED BY THE DRILLERS DURING BOREHOLE DRILLING. HOWEVER, BASED ON REVIEW OF THE POTENTIOMETRIC MAPS OF THE AREA, IF THE CONTRACTOR SHOULD ENCOUNTERED ARTESIAN CONDITIONS DURING CONSTRUCTION, THE ESTIMATED ELEVATION OF THE ARTESIAN HEAD IS APPROXIMATELY +30 FEET NAVD. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN WATER LEVELS UP TO +30 FEET NAVD.
- BORING STATION AND OFFSET IS SURVEYED RELATIVE TO RAMP CENTERLINE OF CONSTRUCTION.
- BORING LATITUDE AND LONGITUDE OBTAINED USING HANDHELD GPS.

- STANDARD PENETRATION TEST (SPT) BORING LOCATION
- N** STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT
- 50/3** 50 BLOWS FOR 3-INCHES PENETRATION INTO SOIL
- WATER LEVEL MEASURED ON DATE BORING INITIATED
- ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER LEVEL
- GSE** SURVEYED GROUND SURFACE ELEVATION (FEET NAVD)
- NM** NATURAL MOISTURE CONTENT IN PERCENT (FM 1-T 265)
- 200** PERCENT PASSING NO. 200 SIEVE SIZE (PERCENT FINES)(FM 1-T 88)
- WOH** SAMPLER ADVANCED BY STATIC WEIGHT OF HAMMER AND RODS ONLY
- 3 1/2-INCH DIAMETER TEMPORARY STEEL CASING
- SM,SC,CH** UNIFIED SOIL CLASSIFICATION SYSTEM

REVISIONS

Date	By	Description	Date	By	Description

Name	Date
Drawn by CD	04/12
Checked by CTJ	04/12
Designed by	
Checked by	
Approved by C.T. JEWSBURY	

ENGINEER OF RECORD:
 COLIN T. JEWSBURY
 FL. REG. NO. 58074
 Ardaman & Associates, Inc.
 8008 S. ORANGE AVENUE
 P.O. BOX 583003
 ORLANDO, FL 32859-3003
 CERTIFICATE OF AUTHORIZATION: 58950

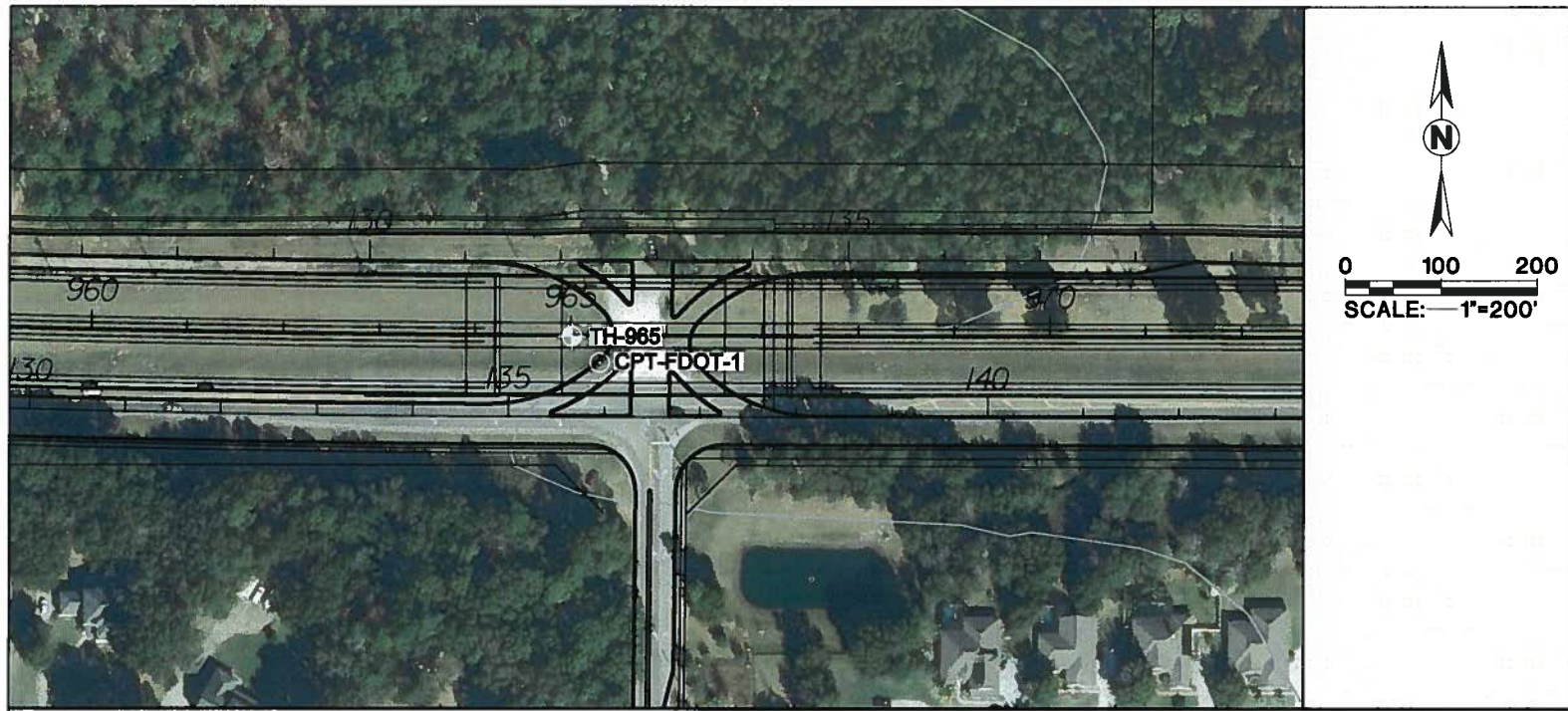


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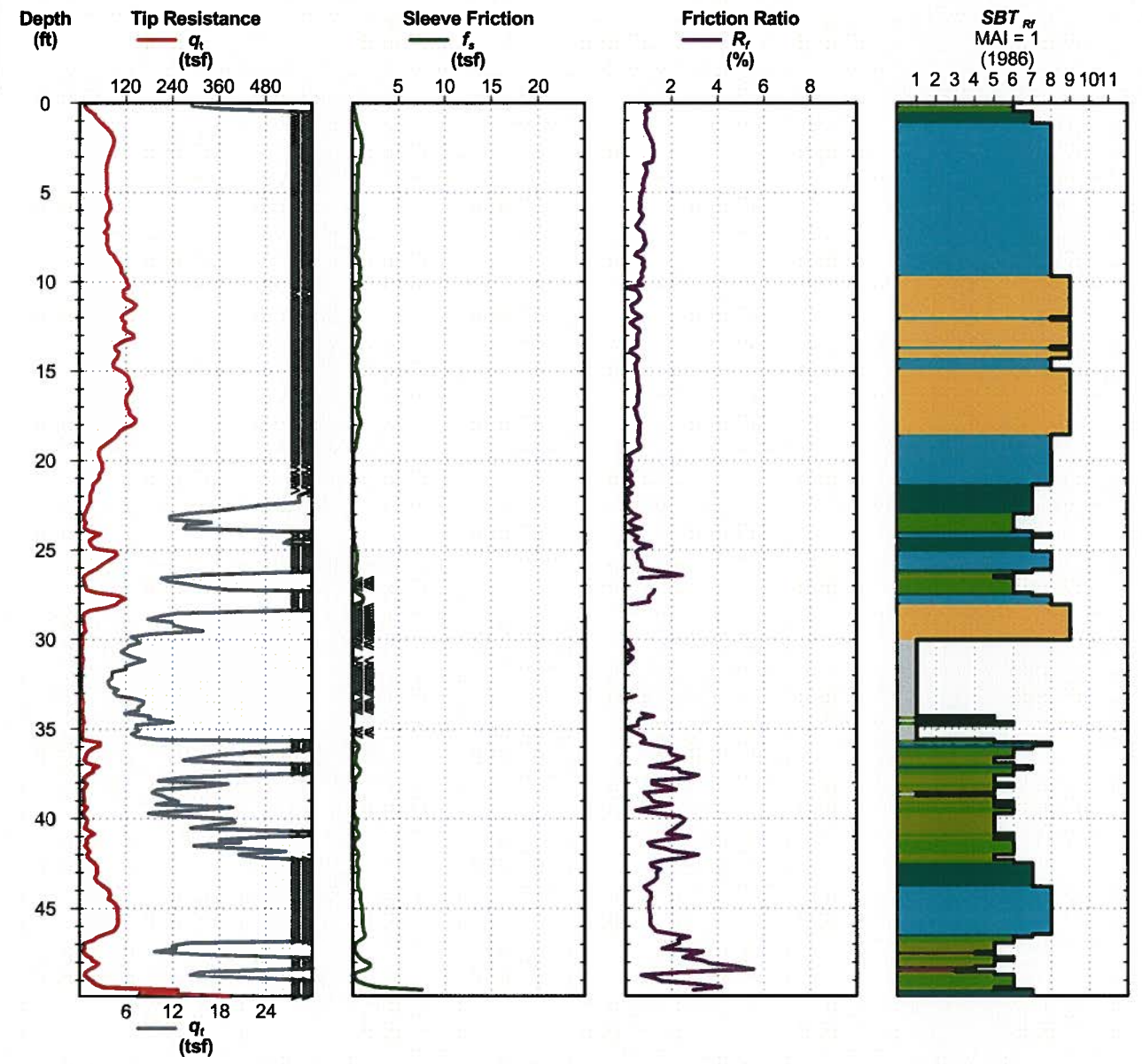
FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 429	SEMINOLE	431081-4-32-01

SHEET TITLE		SHEET NO.
REPORT OF SPT BORING FOR STRUCTURE		
PROJECT NAME:		
WEKIVA PARKWAY		

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CPT-FDOT-1
 12/06/11
 LATITUDE: 28° 48' 53.1612"
 LONGITUDE: -81° 24' 21.1788"



LEGEND

SBT Material Graphics

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

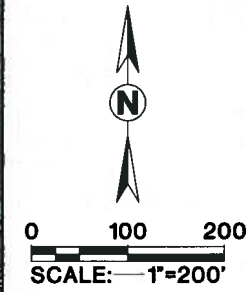
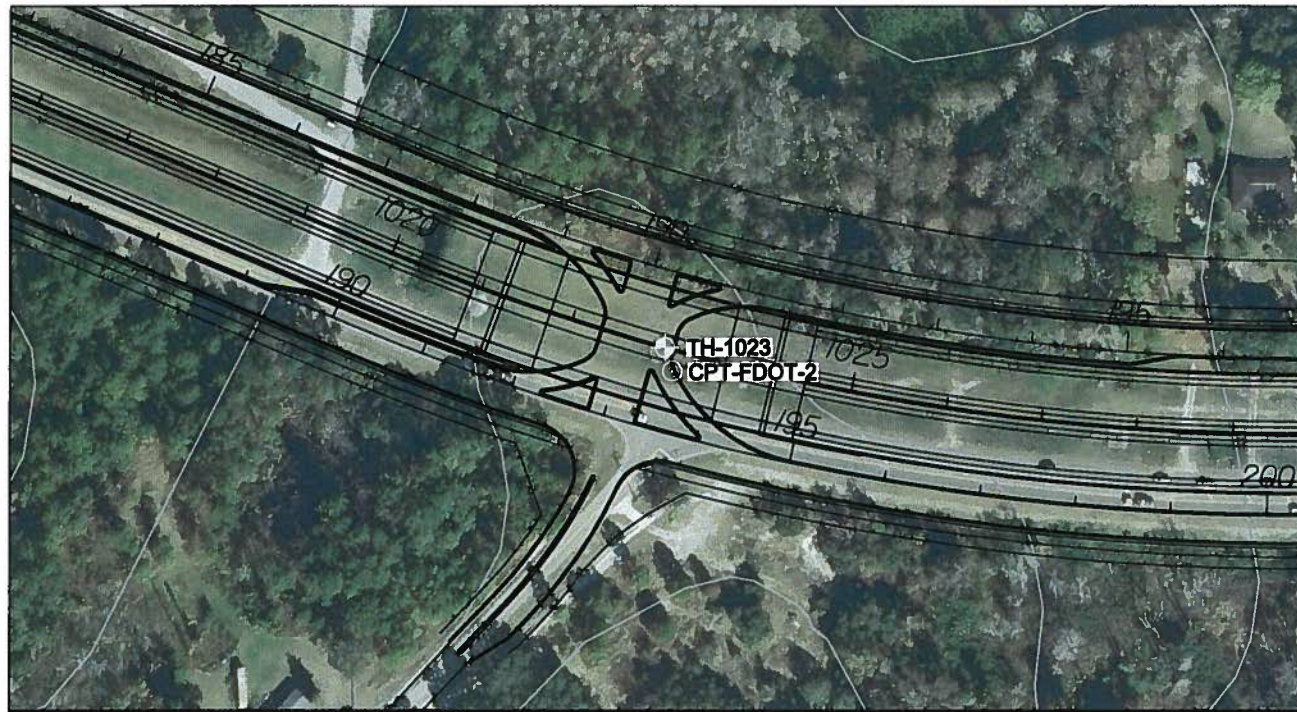
*overconsolidated or cemented

NOTES:

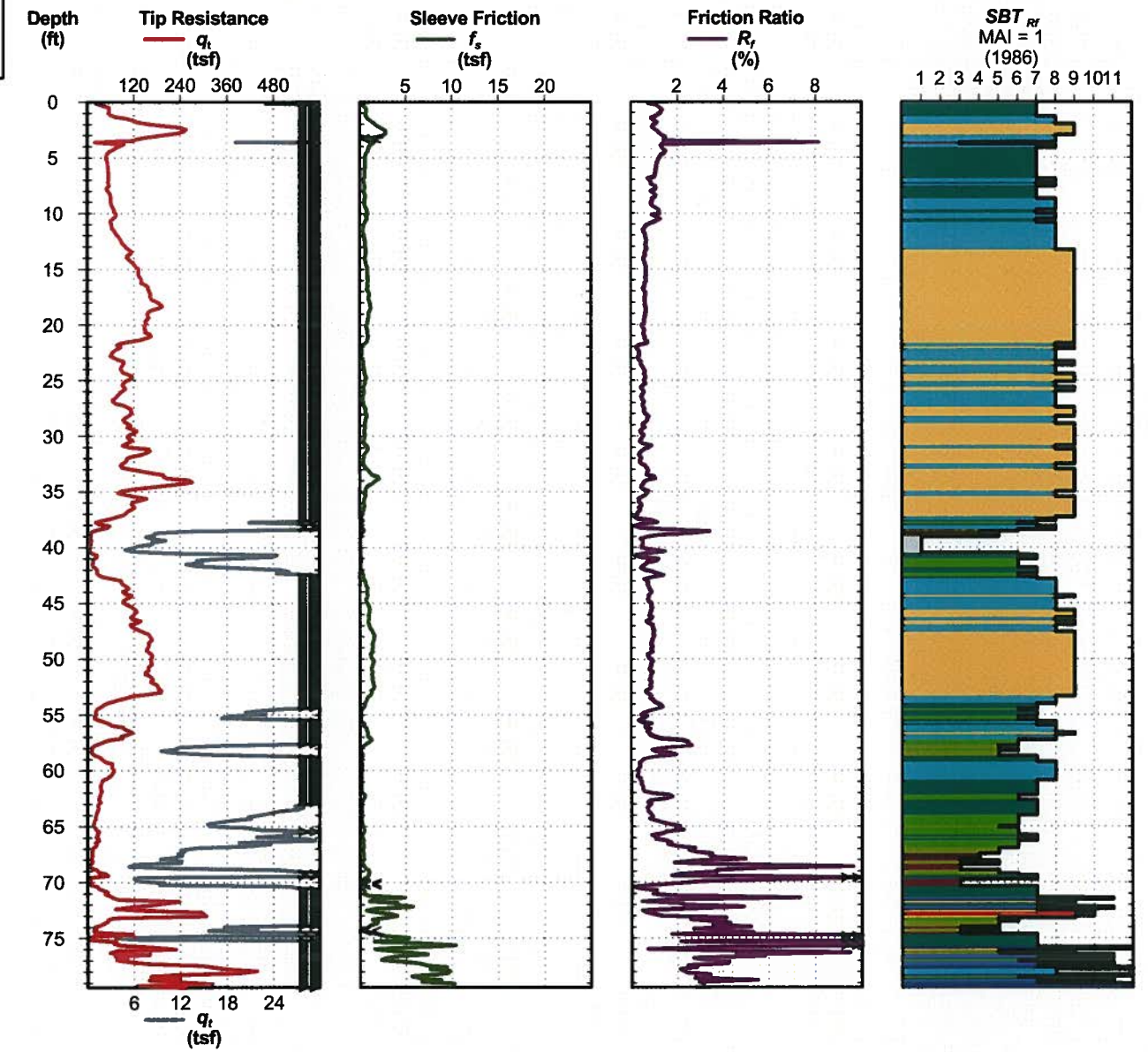
- 1) SOUNDINGS PERFORMED BY FDOT.
- 2) SBT MATERIAL TYPES BASED ON PUBLISHED CORRELATIONS AND SHOULD BE CONSIDERED ROUGH APPROXIMATIONS ONLY.

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REVISIONS						Names		Dates		ENGINEER OF RECORD:			LOGO:	SEAL:	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:			
Date	By	Description	Date	By	Description	Drawn by	CD	04/12	Checked by	CTJ	04/12	COLIN T. JEWSBURY FL. REG. NO. 58074					ROAD NO.	COUNTY	FINANCIAL PROJECT ID	REPORT OF CPT SOUNDING FOR STRUCTURE	
						Designed by			Checked by			Ardaman & Associates, Inc. 8008 S. GRANGE AVENUE P.O. BOX 583003 ORLANDO, FL. 32859-3003 CERTIFICATE OF AUTHORIZATION: 5950					SR 429	SEMINOLE	431081-4-32-01	PROJECT NAME:	WEKIVA PARKWAY



CPT-FDOT-2
 12/06/11
 LATITUDE: 28° 48' 47.1492"
 LONGITUDE: -81° 23' 17.3184"



LEGEND

SBT Material Graphics

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

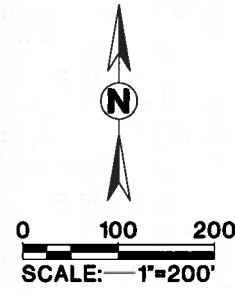
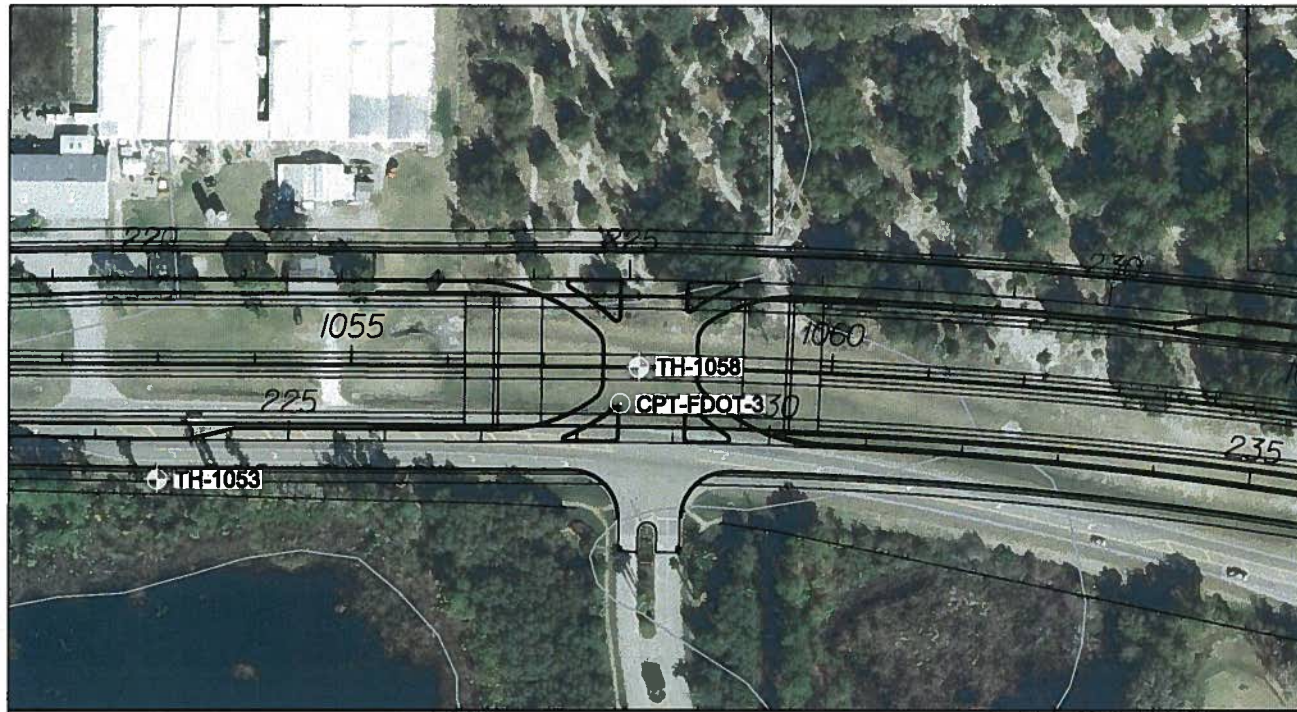
*overconsolidated or cemented

NOTES:

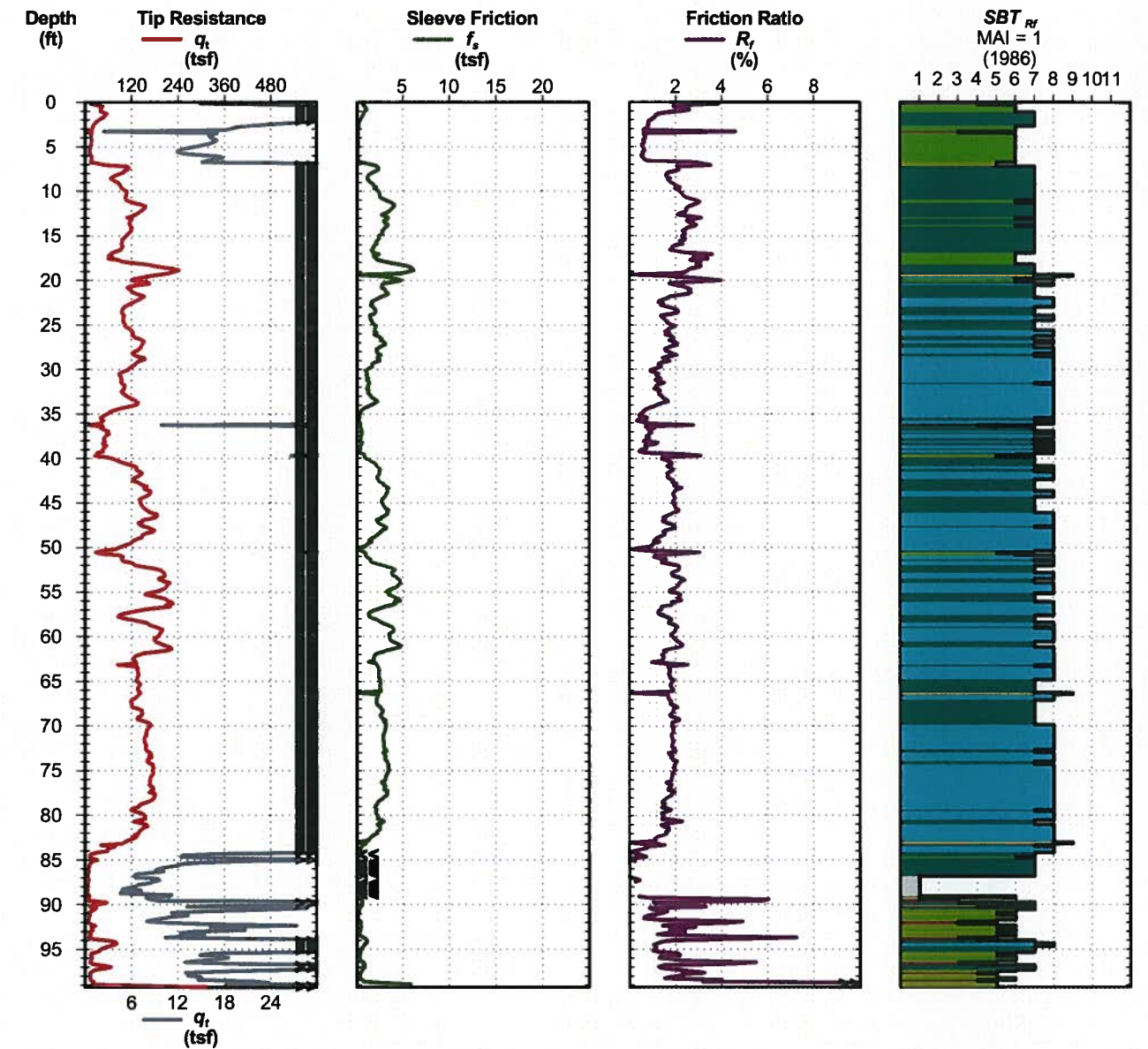
- 1) SOUNDINGS PERFORMED BY FDOT.
- 2) SBT MATERIAL TYPES BASED ON PUBLISHED CORRELATIONS AND SHOULD BE CONSIDERED ROUGH APPROXIMATIONS ONLY.

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REVISIONS						Names		Dates		ENGINEER OF RECORD:		LOGO:		SEAL:		FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE:							
Date	By	Description	Date	By	Description	Drawn by	Checked by	Designed by	Checked by	Approved by	COLIN T. JEWSBURY	FL. REG. NO. 58074	Ardaman & Associates, Inc.		ROAD NO.		COUNTY	FINANCIAL PROJECT ID	REPORT OF CPT SOUNDING FOR STRUCTURE							
						CB	CTJ			C.T. JEWSBURY			Ardaman & Associates, Inc. 8008 S. ORANGE AVENUE P.O. BOX 593003 ORLANDO, FL 32809-3003 CERTIFICATE OF AUTHORIZATION: 5950		SR 429		SEMINOLE	431081-4-32-01	WEKIVA PARKWAY							
																			PROJECT NAME:		WEKIVA PARKWAY		SHEET NO.:		-	



CPT-FDOT-3
 12/06/11
 LATITUDE: 28° 48' 46.0692"
 LONGITUDE: -81° 22' 38.2008"



LEGEND

SBT Material Graphics

- 1 - sensitive fine grained
- 2 - organic material
- 3 - clay
- 4 - silty clay to clay
- 5 - clayey silt to silty clay
- 6 - sandy silt to clayey silt
- 7 - silty sand to sandy silt
- 8 - sand to silty sand
- 9 - sand
- 10 - gravelly sand to sand
- 11 - very stiff fine grained (*)
- 12 - sand to clayey sand (*)

*overconsolidated or cemented

NOTES:

- 1) SOUNDINGS PERFORMED BY FDOT.
- 2) SBT MATERIAL TYPES BASED ON PUBLISHED CORRELATIONS AND SHOULD BE CONSIDERED ROUGH APPROXIMATIONS ONLY.

T:\Orlando\111\1-6501\11650153.dwg 6/26/2012 4:34:53 PM, Chris.Drew

REVISIONS						ENGINEER OF RECORD:		LOGO:	SEAL:	FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE			
Date	By	Description	Date	By	Description	Name	Date			ROAD NO.	COUNTY	FINANCIAL PROJECT ID	REPORT OF CPT SOUNDING FOR STRUCTURE			
						Drawn by	CB	04/12	<p>Ardaman & Associates, Inc.</p>	SR 429	SEMINOLE	431081-4-32-01	PROJECT NAME		WEKIVA PARKWAY	SHEET NO.
					Checked by	CTJ	04/12									
					Designed by											
					Checked by											
					Approved by	C.T. JEWsbury										
						COLIN T. JEWsbury FL. REG. NO. 58074 Ardaman & Associates, Inc. 8008 S. ORANGE AVENUE P.O. BOX 583003 ORLANDO, FL 32859-3003 CERTIFICATE OF AUTHORIZATION: 5950										

APPENDIX I

Standard Penetration Test (SPT) Boring and Cone Penetration Test (CPT) Sounding Procedures

STANDARD PENETRATION TEST

The standard penetration test is a widely accepted test method of *in situ* testing of foundation soils (ASTM D 1586). A 2-foot long, 2-inch O.D. split-barrel sampler attached to the end of a string of drilling rods is driven 18 inches into the ground by successive blows of a 140-pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The sum of the blows required for penetration of the second and third 6-inch increments of penetration constitutes the test result or N-value. After the test, the sampler is extracted from the ground and opened to allow visual examination and classification of the retained soil sample. The N-value has been empirically correlated with various soil properties allowing a conservative estimate of the behavior of soils under load.

The tests are usually performed at 5-foot intervals. However, more frequent or continuous testing is done by our firm through depths where a more accurate definition of the soils is required. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is a bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly highly pervious ones, NX-size flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or prevent the loss of circulating fluid.

Representative split-spoon samples from the soils at every 5 feet of drilled depth and from every different stratum are brought to our laboratory in air-tight jars for further evaluation and testing, if necessary. Samples not used in testing are stored for 30 days prior to being discarded. After completion of a test boring, the hole is kept open until a steady state groundwater level is recorded. The hole is then sealed, if necessary, and backfilled.

ELECTRIC CONE PENETROMETER TESTS

The Electric Cone Penetrometer is an in situ deep-testing device similar to the mechanical Dutch Cone Penetrometer, but utilizes electrical transducers rather than analog gauges to obtain a nearly continuous profile of point resistance and sleeve friction with depth. This data is then used to evaluate in situ soil properties, such as soil strength and compressibility, versus depth.

The electric cone employs a 60 degree, hardened steel cone point with a projected area of 10 square centimeters and a friction sleeve, located immediately behind the point, having a surface area of 150 square centimeters. The electric cone is typically advanced in one-meter increments at a relatively constant rate of 2 centimeters per second using the hydraulic press of a specialized cone truck.

During penetration, semiconductor strain gauge-type load transducers located within the device housing are monitored at the surface. Electrical signals from the point and sleeve load cells are transmitted to the surface through a cable housed within the cone rod string. Specialized data acquisition hardware and software is used to record readings from the transducers. These electrical signal readings are then converted to engineering units of stress using device-specific calibration factors.

APPENDIX II

Incremental Load Consolidation Test Results

ARDAMAN & ASSOCIATES, INC. GEOTECHNICAL TESTING LABORATORY

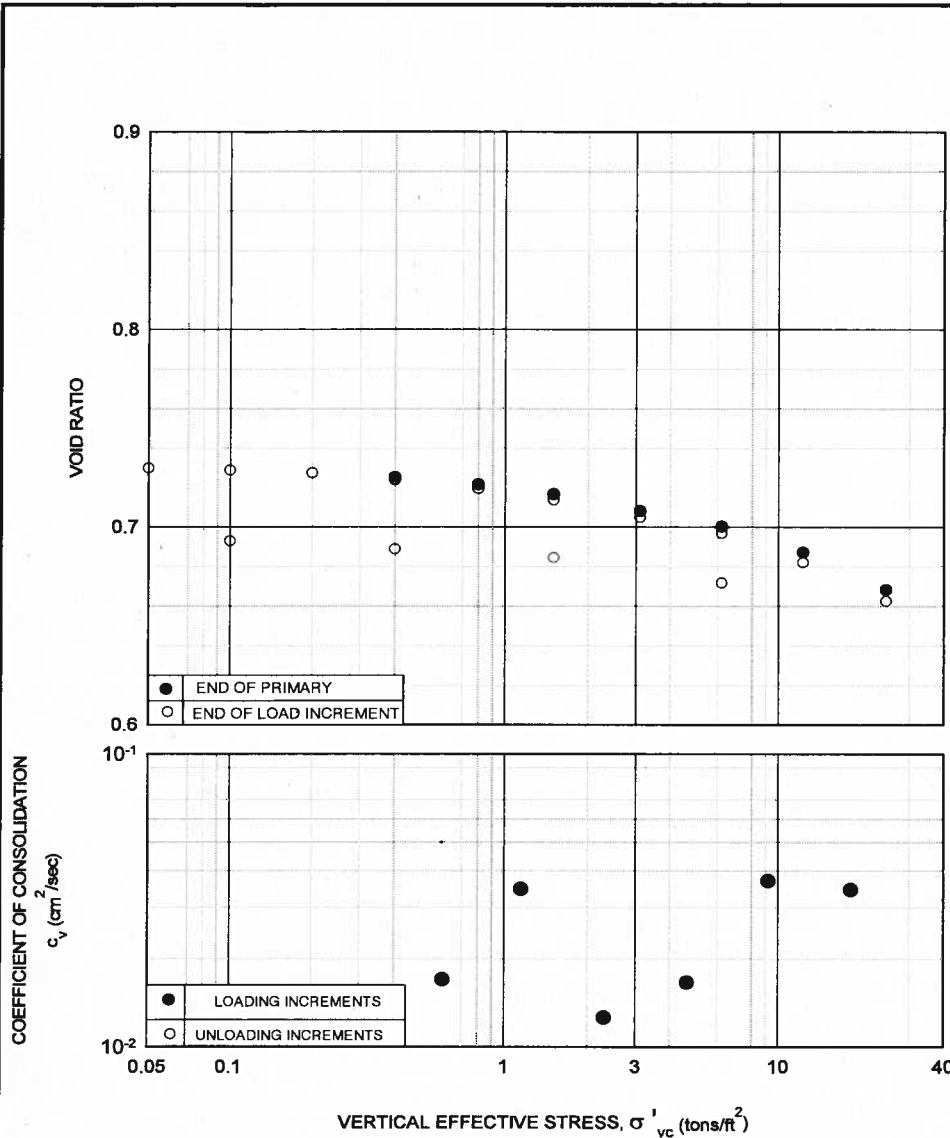
ONE-DIMENSIONAL INCREMENTAL LOADING CONSOLIDATION TEST REPORT

CLIENT: FDOT
 PROJECT: WEKIVA L&G. SEMINOLE Co.
 FILE NO.: 11-60-6501

INCOMING SAMPLE NO.: _____
 BORING: TH-1161 SAMPLE: US1
 DEPTH: 50-52 ft; m

DATE SAMPLE RECEIVED: _____
 DATE SAMPLE SET-UP: 03/26/12
 DATE REPORTED: 04/27/12

LAB IDENTIFICATION NO.: 116501/1161001
 SAMPLE DESCRIPTION: Gray sand with silt



Test Methods & Procedures		
ASTM Standard D 2435		
<input type="checkbox"/> Method A		
<input checked="" type="checkbox"/> Method B		
C _v Interpretation Method		
<input type="checkbox"/> C _v [Log Time]		
<input checked="" type="checkbox"/> C _v [Sq. Root Time]		
Trimming Method		
<input checked="" type="checkbox"/> cutting shoe		
<input type="checkbox"/> other _____		
Initial Sample Diameter	<u>7.3</u>	(cm)
Test Conditions		
<input type="checkbox"/> Tested at Natural Moisture Content		
<input checked="" type="checkbox"/> Specimen Tested Inundated		
Inundated at σ'_{vc} <u>0.05</u> (tsf)		
Inundation Fluid:		
<input checked="" type="checkbox"/> tap water		
<input type="checkbox"/> other _____		
Specimen Conditions		
Parameter	Initial	Final
D (cm)	5.000	5.000
H (cm)	1.909	1.866
w _c (%)	27.3	25.8
γ_d (pcf)	96.6	98.8
e	0.732	0.693
S (%)	100	100
G _s : <u>2.68</u>	<input type="checkbox"/> Assumed <input checked="" type="checkbox"/> Measured	
Index Properties		
LL	-	
PL	-	
PI	-	

Particle-Size Analysis	U.S. Standard Sieve Size	Gravel			Coarse Sand	Medium Sand		Fine Sand			
		3/4"	3/8"	No. 4	No. 10	No. 20	No. 40	No. 60	No. 100	No. 140	No. 200
<input checked="" type="checkbox"/> ASTM D422 <input type="checkbox"/> ASTM D1140-Method	Soil Passing (%, dry mass basis)	100	100	100	100	100	99.7	89.4	52.4	24.4	10.9

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H=Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; e = Void ratio; S = Saturation; G_s = Specific gravity; c_v = Coefficient of consolidation; and C_{αs} = Secondary compression index.

ARDAMAN & ASSOCIATES, INC. GEOTECHNICAL TESTING LABORATORY

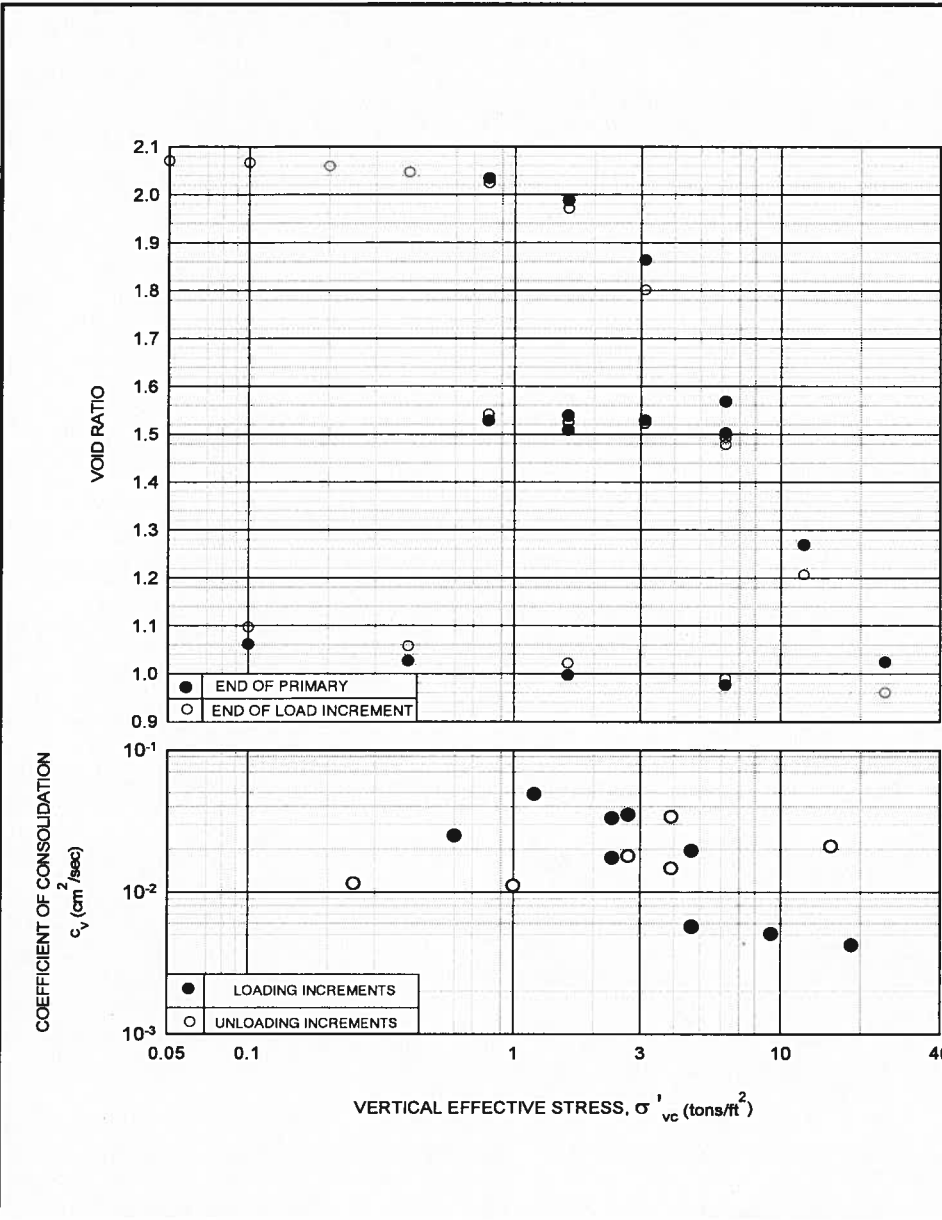
ONE-DIMENSIONAL INCREMENTAL LOADING CONSOLIDATION TEST REPORT

CLIENT: FDOT
 PROJECT: WEKIVA L&G. SEMINOLE Co.
 FILE NO.: 11-60-6501

INCOMING SAMPLE NO.: _____
 BORING: THJJ 15 SAMPLE: US-1
 DEPTH: 53.0-55.0 ft m

DATE SAMPLE RECEIVED: ---
 DATE SAMPLE SET-UP: 03/26/12
 DATE REPORTED: 04/30/12

LAB IDENTIFICATION NO.: 11606501/jj1500
 SAMPLE DESCRIPTION: Organic Peat (PT)



Test Methods & Procedures		
ASTM Standard D 2435 <input type="checkbox"/> Method A <input checked="" type="checkbox"/> Method B c_v Interpretation Method <input type="checkbox"/> c_v [Log Time] <input checked="" type="checkbox"/> c_v [Sq. Root Time] Trimming Method <input checked="" type="checkbox"/> cutting shoe <input type="checkbox"/> other _____ Initial Sample Diameter <u>7.3</u> (cm)		
Test Conditions		
<input type="checkbox"/> Tested at Natural Moisture Content <input checked="" type="checkbox"/> Specimen Tested Inundated Inundated at σ'_{vc} <u>0.05</u> (tsf) Inundation Fluid: <input checked="" type="checkbox"/> tap water <input type="checkbox"/> other _____		
Specimen Conditions		
Parameter	Initial	Final
D (cm)	5.000	5.000
H (cm)	1.905	1.322
w_c (%)	91.5	52.5
γ_d (pcf)	43.8	63.2
e	2.076	1.134
S (%)	95	100
G_s : <u>2.16</u> <input type="checkbox"/> Assumed <input checked="" type="checkbox"/> Measured		
Index Properties		
LL		
PL		
PI		

Particle-Size Analysis	U.S. Standard Sieve Size	Gravel			Coarse Sand	Medium Sand		Fine Sand			
		3/4"	3/8"	No. 4	No. 10	No. 20	No. 40	No. 60	No. 100	No. 140	No. 200
<input type="checkbox"/> ASTM D422 <input checked="" type="checkbox"/> ASTM D1140-Method	Soil Passing (% dry mass basis)	---	---	---	---	---	---	---	---	---	34.6

The test data and all associated project information presented hereon shall be held in confidence and disclosed to other parties only with the authorization of the Client. Physical and electronic records of each project are kept for a minimum of 7 years. Test samples are kept in storage for at least 10 working days after mailing of the test report, prior to being discarded, unless a longer storage period is requested in writing and accepted by Ardaman & Associates, Inc.

Where: H=Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; e = Void ratio; S = Saturation; G_s = Specific gravity; c_v = Coefficient of consolidation; and $C_{\alpha\alpha}$ = Secondary compression index.

ARDAMAN & ASSOCIATES, INC. GEOTECHNICAL TESTING LABORATORY

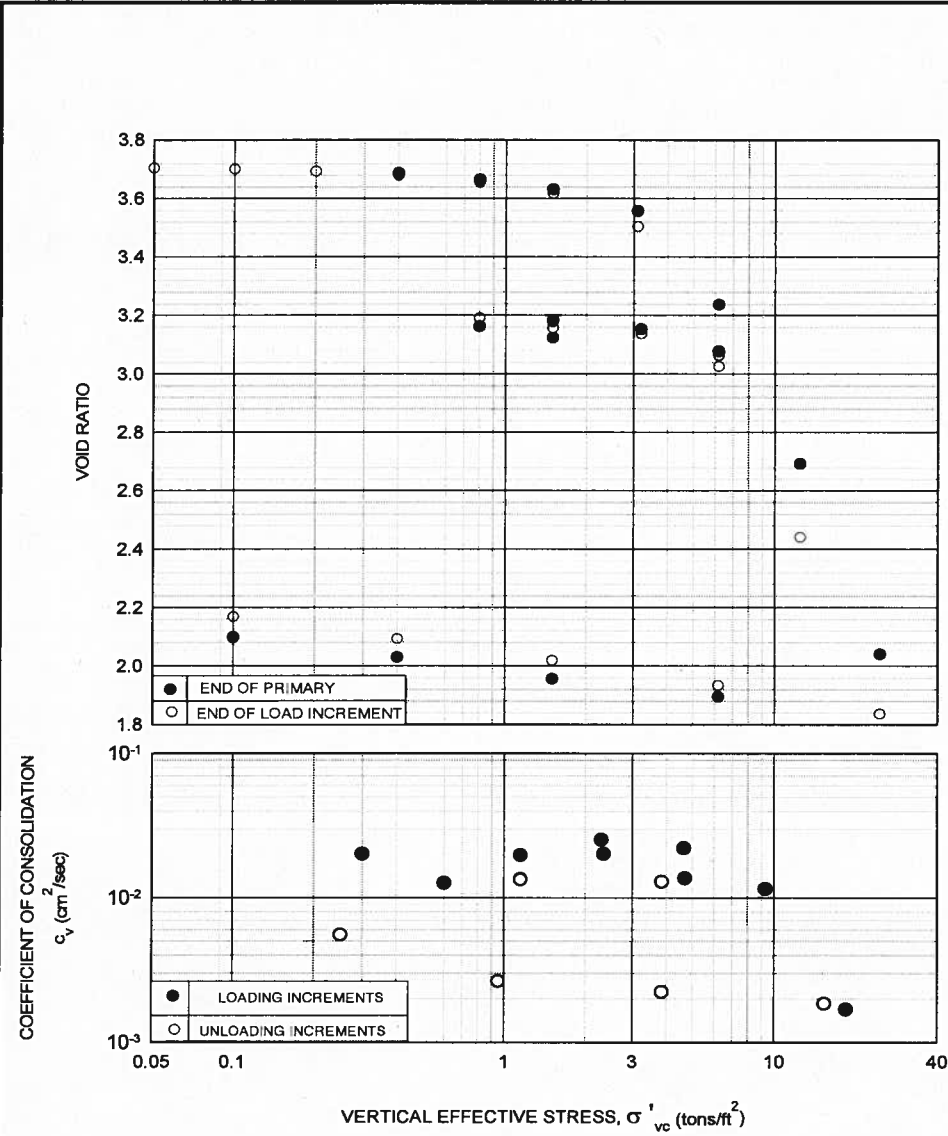
ONE-DIMENSIONAL INCREMENTAL LOADING CONSOLIDATION TEST REPORT

CLIENT: FDOT
 PROJECT: WEKIVA L&G, SEMINOLE Co.
 FILE NO.: 11-60-6501

INCOMING SAMPLE NO.: _____
 BORING: TH-JJ 15 SAMPLE: US-2
 DEPTH: 63.0-65.0 ft; m

DATE SAMPLE RECEIVED: —
 DATE SAMPLE SET-UP: 03/26/12
 DATE REPORTED: 04/30/12

LAB IDENTIFICATION NO.: 116501/JJ1500-2
 SAMPLE DESCRIPTION.: Organic Peat (PT)



Test Methods & Procedures		
ASTM Standard D 2435		
<input type="checkbox"/> Method A		
<input checked="" type="checkbox"/> Method B		
C _v Interpretation Method		
<input type="checkbox"/> C _v [Log Time]		
<input checked="" type="checkbox"/> C _v [Sq. Root Time]		
Trimming Method		
<input checked="" type="checkbox"/> cutting shoe		
<input type="checkbox"/> other _____		
Initial Sample Diameter <u>7.3</u> (cm)		
Test Conditions		
<input type="checkbox"/> Tested at Natural Moisture Content		
<input checked="" type="checkbox"/> Specimen Tested Inundated		
Inundated at σ'_{vc} <u>0.05</u> (tsf)		
Inundation Fluid:		
<input checked="" type="checkbox"/> tap water		
<input type="checkbox"/> other _____		
Specimen Conditions		
Parameter	Initial	Final
D (cm)	5.000	5.000
H (cm)	1.905	1.282
w _c (%)	215.6	137.
γ_d (pcf)	20.8	30.9
e	3.706	2.168
S (%)	91	100
G _s : <u>1.57</u> <input type="checkbox"/> Assumed <input checked="" type="checkbox"/> Measured		
Index Properties		
LL		
PL		
PI		

Particle-Size Analysis	U.S. Standard Sieve Size	Gravel			Coarse Sand	Medium Sand		Fine Sand			
		3/4"	3/8"	No. 4	No. 10	No. 20	No. 40	No. 60	No. 100	No. 140	No. 200
<input type="checkbox"/> ASTM D422 <input checked="" type="checkbox"/> ASTM D1140-Method	Soil Passing (% dry mass basis)	—	—	—	—	—	—	—	—	—	83.9

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Where: H=Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; e = Void ratio; S = Saturation; G_s = Specific gravity; c_v = Coefficient of consolidation; and C_{αs} = Secondary compression index.

ARDAMAN & ASSOCIATES, INC. GEOTECHNICAL TESTING LABORATORY

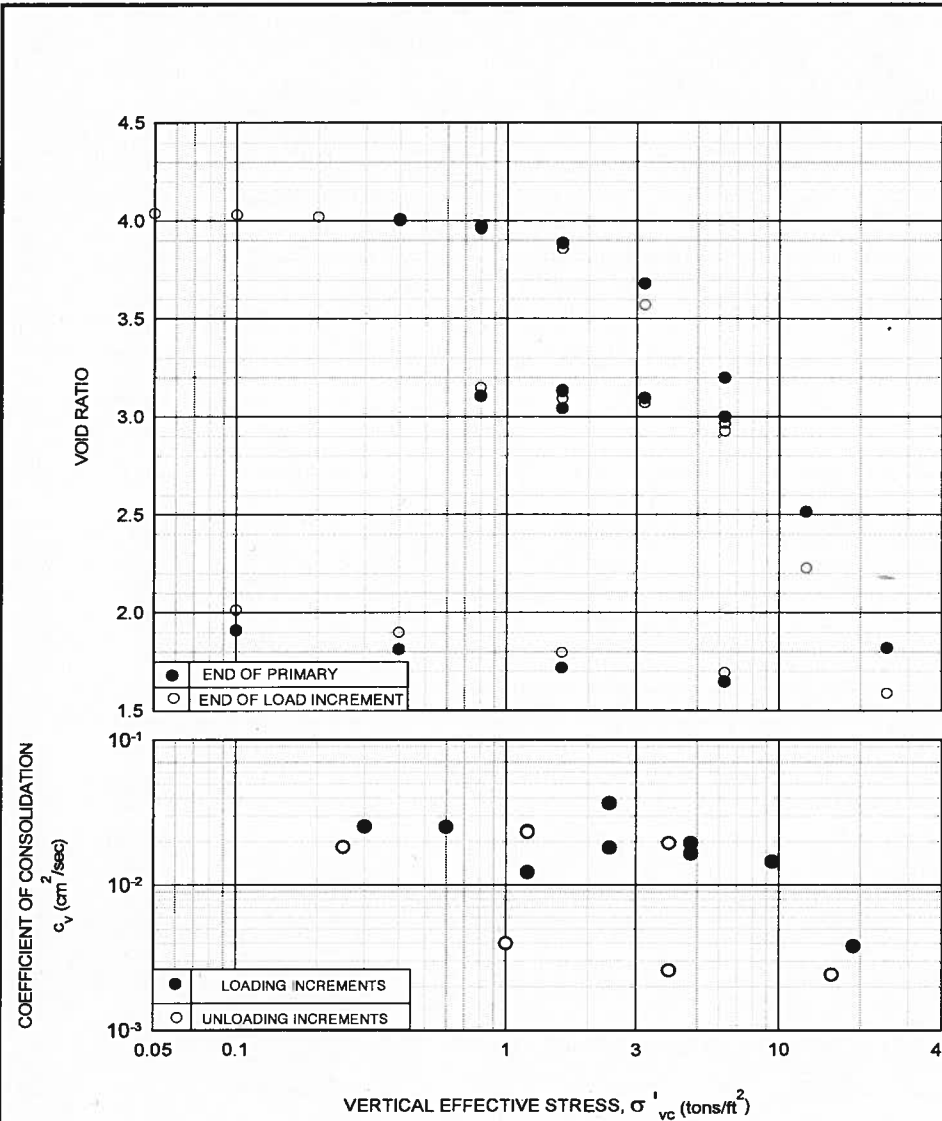
ONE-DIMENSIONAL INCREMENTAL LOADING CONSOLIDATION TEST REPORT

CLIENT: FDOT
 PROJECT: WEKIVA L&G. SEMINOLE Co.
 FILE NO.: 11-60-6501

INCOMING SAMPLE NO.: _____
 BORING: TH-JJ 15 SAMPLE: US-3
 DEPTH: 83.0-85.0 ft; m

DATE SAMPLE RECEIVED: _____
 DATE SAMPLE SET-UP: 03/26/12
 DATE REPORTED: 05/01/12

LAB IDENTIFICATION NO.: 116501/jj1500-3
 SAMPLE DESCRIPTION: Organic Peat (PT)



Test Methods & Procedures		
ASTM Standard D 2435		
<input type="checkbox"/> Method A		
<input checked="" type="checkbox"/> Method B		
C _v Interpretation Method		
<input type="checkbox"/> C _v [Log Time]		
<input checked="" type="checkbox"/> C _v [Sq. Root Time]		
Trimming Method		
<input checked="" type="checkbox"/> cutting shoe		
<input type="checkbox"/> other _____		
Initial Sample Diameter	<u>7.3</u>	(cm)
Test Conditions		
<input type="checkbox"/> Tested at Natural Moisture Content		
<input checked="" type="checkbox"/> Specimen Tested Inundated		
Inundated at σ'_{vc} <u>0.05</u> (tsf)		
Inundation Fluid:		
<input checked="" type="checkbox"/> tap water		
<input type="checkbox"/> other _____		
Specimen Conditions		
Parameter	Initial	Final
D (cm)	5.000	5.000
H (cm)	1.905	1.212
w _c (%)	255.4	147.
γ_d (pcf)	18.6	29.2
e	4.041	2.206
S (%)	95	100
G _s : <u>1.50</u>	<input type="checkbox"/> Assumed <input checked="" type="checkbox"/> Measured	
Index Properties		
LL		
PL		
PI		

Particle-Size Analysis	U.S. Standard Sieve Size	Gravel			Coarse Sand	Medium Sand		Fine Sand				
		3/4"	3/8"	No. 4	No. 10	No. 20	No. 40	No. 60	No. 100	No. 140	No. 200	
<input type="checkbox"/> ASTM D422 <input checked="" type="checkbox"/> ASTM D1140-Method												
Dry Mass(g): <u>6.82</u>	Soil Passing (% dry mass basis)											56.7

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Where: H=Specimen height; D = Specimen diameter; w_c = Water content (ASTM D2216); γ_d = Dry density; e = Void ratio; S = Saturation; G_s = Specific gravity; c_v = Coefficient of consolidation; and C_{cs} = Secondary compression index.