Geotechnical and Environmental Consultants, Inc.
At the very foundation of our community

DRAFT LETTER OF PRELIMINARY GEOTECHNICAL ENGINEERING EXPLORATION

Date: March 17, 2020

From: Daniel C. Stanfill, P.E.
Kevin Baboolall, E.I.

To: Mr. Donald L. Hammack, P.E.
Vice President

Subject: DRAFT Letter of Preliminary Geotechnical Engineering Exploration
Widen Florida's Turnpike from Kissimmee Park Road to South U.S. 192
Osceola County, Florida
FPID No. 441224-2-32-01
GEC Project No. 4282G

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this DRAFT Letter of Preliminary Geotechnical Engineering Exploration for the above-referenced project. GEC conducted a limited geotechnical exploration to evaluate soil and groundwater conditions along the SR 91 corridor from south of the Kissimmee Park Interchange (sta. 4500+00) to south of U.S. 192 (sta. 4685+00) to assist in the line and grade process. The limited geotechnical data contained herein should be considered preliminary in nature and will require further exploration as project plans develop.

USGS Quadrangle Map Review

According to the USGS St. Cloud North and St. Cloud South, Florida Quadrangle maps, the existing natural ground surface elevation along the project alignment ranges from approximately +56 feet to +75 feet NGVD. Low-lying marsh and swamp features are shown scattered along either sides of the SR 91 project corridor. The South Florida Water Management District (SFWMD) C-31 canal is located near approximate station 4640+00 and connects the East Lake Tohopekaliga and Lake Tohopekaliga waterbodies. An excerpt of the USGS Quadrangle maps is shown on **Figure 1**.

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NRCS Soil Survey Map Review

The Natural Resources Conservation Service (NRCS) Soil Survey of Osceola County was reviewed to obtain near-surface soils along the project corridor.

The site soils along the project corridor generally consist of poorly drained to depressional, nearly level to gently sloping fine sands with variable silt content fines (A-3, A-2-4). These soil types may contain near surface to buried layers of organic (muck/A-8) soils. Loamy/clayey soils are also identified by the NRCS between approximate stations 4580+00 to 4650+00. The NRCS estimated seasonal high groundwater levels generally range from 0.5 to 3.3 feet below the natural ground surface. Ponded groundwater conditions (+2.0 feet) are estimated by the NRCS to exist in areas of depressional and loamy soil types at approximate station limits of 4520+40 to 4530+00 and 4580+00 to 4650+00. The NRCS Soil Survey of the respective soil types are shown on **Figure 1**.

Information contained in the NRCS Soil Survey is very general and may be outdated. It may not therefore be reflective of actual soil and groundwater conditions, particularly if recent development in the site vicinity has modified soil conditions or surface/subsurface drainage. The information obtained from the soil borings provides a better characterization of actual site conditions.

Preliminary Subsurface Exploration

In addition to consulting published sources, GEC conducted a preliminary exploration along the project alignment to evaluate subsurface conditions. Our field exploration included 25 auger borings to depths ranging from 5 to 10 feet and 19 Standard Penetration Test (SPT) borings performed to a depth of 20 feet below the existing grade.

The locations of the soil borings are indicated on the Boring Location Plan shown on **Figures 2A** through **2O**. These locations were not surveyed; they were estimated by using aerial imagery and handheld sub-meter accuracy GPS unit. The approximate method used to locate them is sufficient to meet the intent of our study. However, if greater accuracy is desired a licensed Professional Land Surveyor should survey the locations.

Laboratory Testing

Selected soil samples retrieved from the boring locations were tested in general accordance with Florida Standard Testing Methods (FM), AASHTO and ASTM testing methods. The GEC laboratory is reviewed annually by the Construction Materials Engineering Council, Inc. (CMEC)

to verify compliance with FM, AASHTO, and ASTM. The results of our laboratory testing are summarized the Roadway Soil Survey sheet (**Figure 3**) and shown adjacent to the boring profiles (**Figures 4 to 5**).

Subsurface Conditions

The soil and groundwater conditions encountered are summarized in this section. *The borings indicate subsurface conditions only at the specific boring locations at the time of our field exploration.* Subsurface conditions, including groundwater levels, at other locations of the subject site may differ from conditions we encountered at the boring locations. Moreover, conditions at the boring locations can change over time.

The depths and thicknesses of the subsurface strata indicated on the boring logs were interpolated between samples obtained at different depths in the borings. The actual transition between soil layers may be different than indicated. *These stratification lines were used for our analytical purposes. Earthwork quantity estimates based on the results of the borings will vary from the actual quantities measured during construction.*

The soil borings generally encountered fine sands with varying amounts of silt content (SP, SP-SM, SM/A-3, A-2-4) with occasional trace organic material, roots, limerock and hardpan to the maximum boring depth of 20 feet. Intermittent layers of clayey fine sand (SC/A-2-6, A-6, A-7-6) to sandy clay (CH/ A-7-6) were encountered at depths ranging from 3 to 20 feet along the project alignment. Surficial to buried layers of mucky fine sand to sandy muck (PT/A-8) were encountered from the ground surface and extended to a depth of about 6 feet below grade between approximate stations 4605+00 to 4635+00.

Groundwater levels were typically encountered at depths of 2.4 to 6.5 feet below the existing ground surface. Deeper groundwater levels that ranged from 7.1 to 11.4 feet below grade were encountered at some locations. Groundwater was not encountered (GNE) in 9 of the 42 borings performed along the alignment. The borings that did not encounter groundwater were performed to a depth of 5 feet.

Groundwater levels can vary seasonally and with changes in subsurface conditions between boring locations. Alterations in surface and/or subsurface drainage brought about by site development can also affect groundwater levels. *Therefore, groundwater depths measured at different times or at different locations on the site can be expected to vary from those measured by GEC during this investigation.*

For purposes of this letter, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season during a "normal rainfall" year under current site conditions. We define a "normal rainfall" year as a year in which rainfall quantity and distribution were at or near historical averages. Groundwater levels are also dependent on adjacent wetland levels. Preliminary seasonal high groundwater levels are estimated to be about 1 foot above the encountered groundwater tables shown on Figures 4 to 5.

Preliminary seasonal high groundwater levels from the limited line and grade borings were provided to Dewberry to assist in the preliminary development of the profile grade. Initial review of the roadway have located areas where the 3-foot base clearance may not be achieved. Profile adjustments will be performed accordingly as project plans progress and will be used in conjunction with design level roadway boring data. These locations will be clearly identified as the design progresses for the next submittal.

Use Of This Letter

GEC has prepared this DRAFT letter for the exclusive use of our client, Dewberry, and Florida's Turnpike Enterprise and for specific application to our client's project. GEC will not be held responsible for any other party's interpretation or use of this letter's subsurface data or engineering analysis without our written authorization.

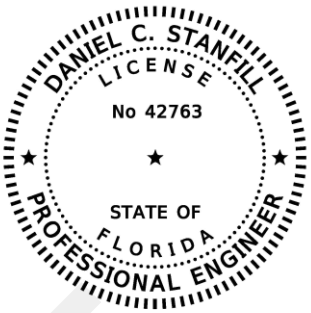
The sole purpose of the limited borings performed by GEC at this site was to obtain indications of preliminary subsurface conditions as part of a geotechnical exploration program. GEC has submitted a DRAFT Contamination Screening Evaluation Report (CSER) – dated November 2019 under separate cover.

GEC has strived to provide the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

GEC appreciates the opportunity to work with you on this project. If you should have any questions regarding the contents of this letter, or if we may be of further assistance, please contact us.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
Certificate of Authorization No. 5882



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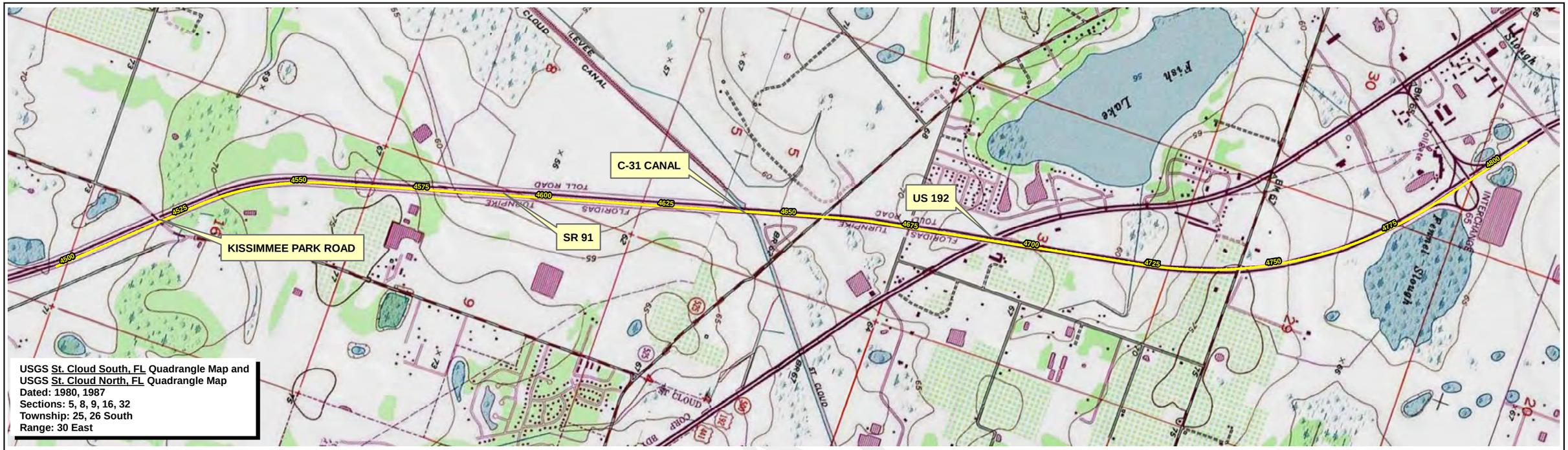

FIGURE 1

0 1,000 2,000
Feet

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STATE OF FLORIDA
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ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 91	OSCEOLA	441224-2-32-01

USGS QUADRANGLE AND NRCS SOIL SURVEY MAPS

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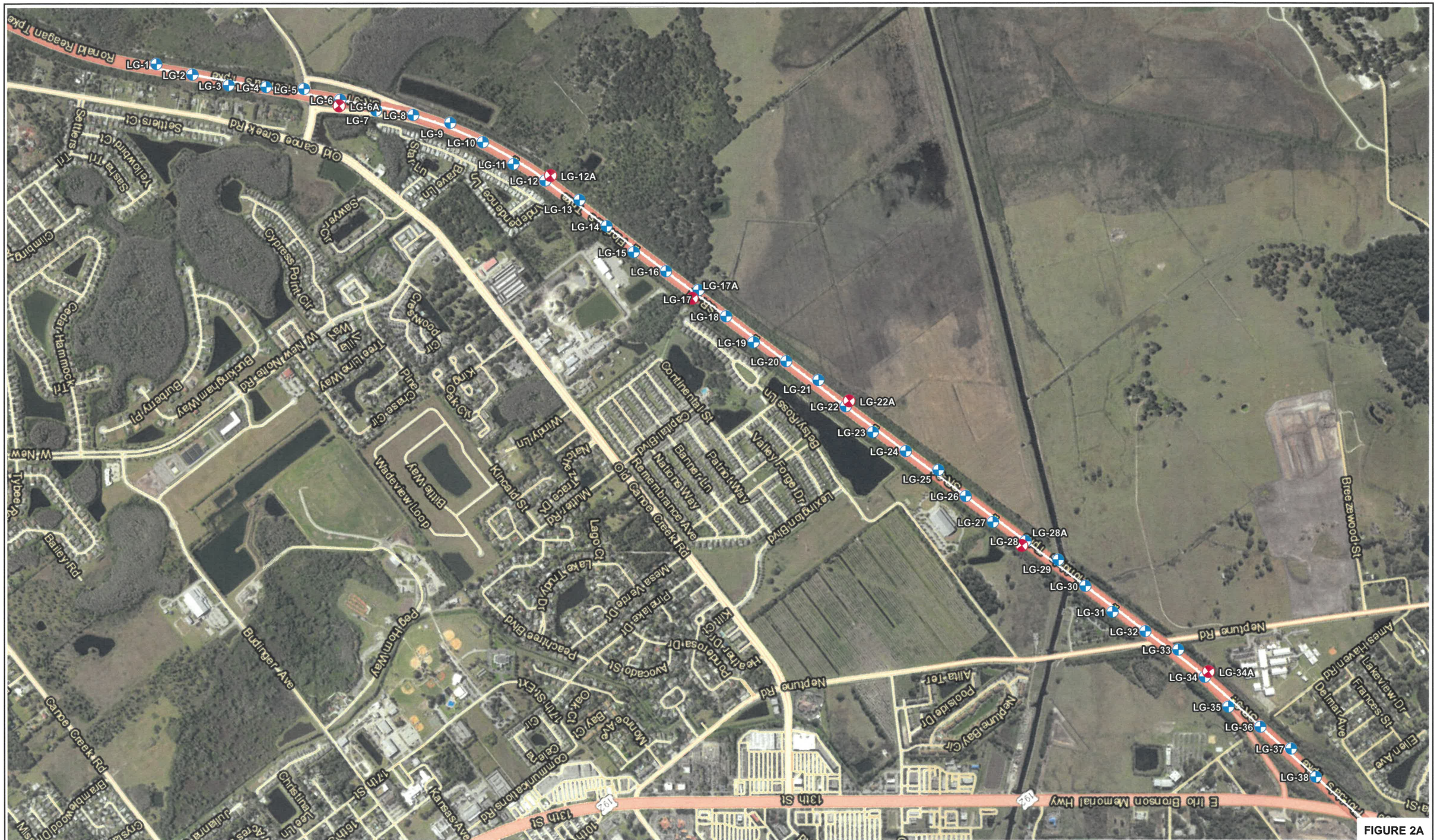

FIGURE 2A

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S M E N

0 0.125 0.25
Miles

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BORING LOCATION PLAN

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FIGURE 2B

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100
Feet

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FIGURE 2C

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S W E N

0 50 100
Feet

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FIGURE 2D

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S W N E

0 50 100
Feet

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FIGURE 2E

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S W N E

0 50 100
Feet

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FIGURE 2F

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S W N E

0 50 100
Feet

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BORING LOCATION PLAN

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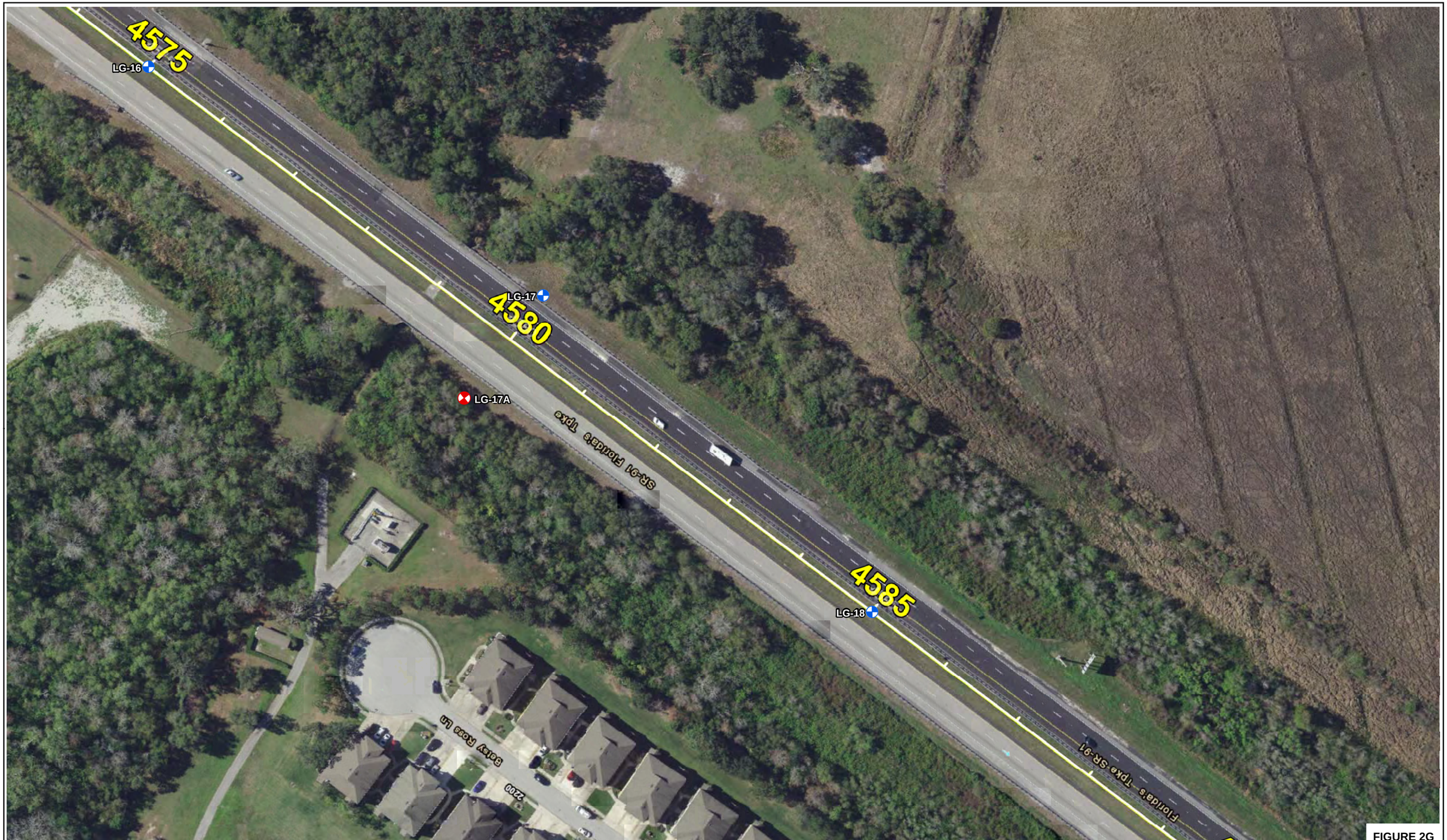

FIGURE 2G

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100
Feet

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FIGURE 2H

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100
Feet

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FIGURE 2I

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100
Feet

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FIGURE 2J

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S W E N

0 50 100
Feet

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FIGURE 2K

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100
Feet

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FIGURE 2L

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100
Feet

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BORING LOCATION PLAN

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FIGURE 2M

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100 Feet

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FIGURE 2N

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

S W E N

0 50 100
Feet

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BORING LOCATION PLAN

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FIGURE 2O

APPROXIMATE SPT BORING LOCATION

APPROXIMATE PREVIOUS LINE AND GRADE BORING LOCATIONS (NOVEMBER - DECEMBER 2018)

0 50 100 Feet

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BORING LOCATION PLAN

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DATE OF SURVEY: NOVEMBER, DECEMBER 2018 AND APRIL 2019
SURVEY MADE BY: GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
SUBMITTED BY: DANIEL C. STANFILL, P.E.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
MATERIALS AND RESEARCH

DISTRICT: FLORIDA'S TURNPIKE ENTERPRISE
ROAD NO.: SR 91
COUNTY: OSCEOLA

FINANCIAL PROJECT ID: 441224-2-32-01
PROJECT NAME: WIDEN FLORIDA'S TURNPIKE FROM KISSIMMEE PARK ROAD TO SOUTH U.S. 192

CROSS SECTION SOIL SURVEY FOR THE DESIGN OF ROADS

SR 91 APPROXIMATE BEGIN STA.: 4497+80 APPROXIMATE END STA.: 4690+00

STATIONS REFERENCE CENTERLINE OF CONSTRUCTION

	ORGANIC CONTENT		MOISTURE CONTENT		SIEVE ANALYSIS RESULTS PERCENT PASS (%)						ATTERBERG LIMITS (%)					CORROSION TEST RESULTS				
STRATUM NO.	NO. OF TESTS	% ORGANIC	NO. OF TESTS	MOISTURE CONTENT	NO. OF TESTS	10 MESH	40 MESH	60 MESH	100 MESH	200 MESH	NO. OF TESTS	LIQUID LIMIT	PLASTIC INDEX	AASHTO GROUP	DESCRIPTION	NO. OF TESTS	RESISTIVITY ohm-cm	CHLORIDE ppm	SULFATES ppm	pH
1	0	-	0	-	4(FULL) 4(-200)	100	98-99	92-96	58-72	6-9	0	-	-	A-3	BROWN TO LIGHT BROWN TO LIGHT GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE ORGANIC MATERIAL, ROOTS, LIMEROCK AND HARDPAN	0	-	-	-	-
2	1	4	1	33	6(FULL) 5(-200)	79-100	65-99	58-97	43-79	10-18	0	-	-	A-2-4	DARK BROWN TO BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL, ROOTS AND TRACE TO SOME LIMEROCK	0	-	-	-	-
3	2	2-3	3	14-24	2(FULL) 2(-200)	100	100	98	79-81	20-28	1	-	NP	A-2-4	LIGHT BROWN TO BROWN TO GRAY SILTY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL AND CLAY	0	-	-	-	-
4	1	4	4	20-29	4(-200)	-	-	-	-	24-48	3	26-35	8-22	A-2-6, A-6, A-7-6	LIGHT BROWN TO BROWN TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL AND ROOTS	0	-	-	-	-
5	1	3	4	29-46	1(FULL) 3(-200)	100	100	99	88	48-67	4	52-83	37-65	A-7-6	DARK BROWN TO BROWN CLAYEY FINE SAND TO SANDY CLAY, OCCASIONAL TRACE ORGANIC MATERIAL	0	-	-	-	-
6	6	7-59	6	45-195	3(FULL) 3(-200)	100	100	98	80-89	26-69	0	-	-	A-8	DARK BROWN MUCKY FINE SAND TO SANDY MUCK	0	-	-	-	-

NOTES

1. STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH BORING LOCATION ONLY. ANY SUBSOIL CONNECTING LINES THAT ARE SHOWN ARE FOR ESTIMATING EARTHWORK ONLY AND DO NOT INDICATE ACTUAL STRATUM LIMITS. SUBSURFACE VARIATIONS BETWEEN BORINGS SHOULD BE ANTICIPATED IN SECTION 2-4. FOR FURTHER DETAILS SEE SECTION 120-3 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. GROUNDWATER LEVEL SHOWN AS ▼ WHERE ENCOUNTERED AT TIME OF SURVEY. GROUNDWATER NOT ENCOUNTERED SHOWN AS "GNE".
3. REMOVAL OF MUCK AND PLASTIC MATERIAL OCCURRING WITHIN ROADWAY SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE FDOT STANDARD PLANS, INDEX 120-002 UNLESS OTHERWISE SHOWN ON PLANS. THE MATERIAL USED IN EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS, INDEX 120-001.
4. SOIL TEST RESULTS INCLUDE DATA FROM LINE AND GRADE ROADWAY BORINGS.
5. THE SYMBOL "-" REPRESENTS AN UNMEASURED PARAMETER.
6. THE SYMBOL "NP" REPRESENTS NON-PLASTIC.
7. STRATA 1, 2 AND 3 SHALL BE TREATED AS SELECT (S) MATERIAL IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-001.
8. STRATUM 4 SHALL BE TREATED AS PLASTIC (P) MATERIAL IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-001 AND SHALL BE REMOVED IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-002.
9. STRATUM 5 SHALL BE TREATED AS HIGH PLASTIC (H) MATERIAL IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-001 AND SHALL BE REMOVED IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-002.
10. STRATUM 6 SHALL BE TREATED AS MUCK (M) MATERIAL IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-001 AND SHALL BE REMOVED IN ACCORDANCE WITH STANDARD PLANS, INDEX 120-002.
11. STRATUM 2 MAY RETAIN EXCESS MOISTURE AND MAY BE DIFFICULT TO DRY AND COMPACT. IT SHOULD BE USED IN THE EMBANKMENT ABOVE THE WATER LEVEL EXISTING AT THE TIME OF CONSTRUCTION.
12. STRATUM 3 WILL RETAIN EXCESS MOISTURE AND WILL BE DIFFICULT TO DRY AND COMPACT.
13. THE HARDPAN MATERIAL FROM STRATUM 1 MAY REQUIRE SPECIAL TOOLS AND EQUIPMENT TO EXCAVATE AND/OR DEWATER.

FIGURE 3

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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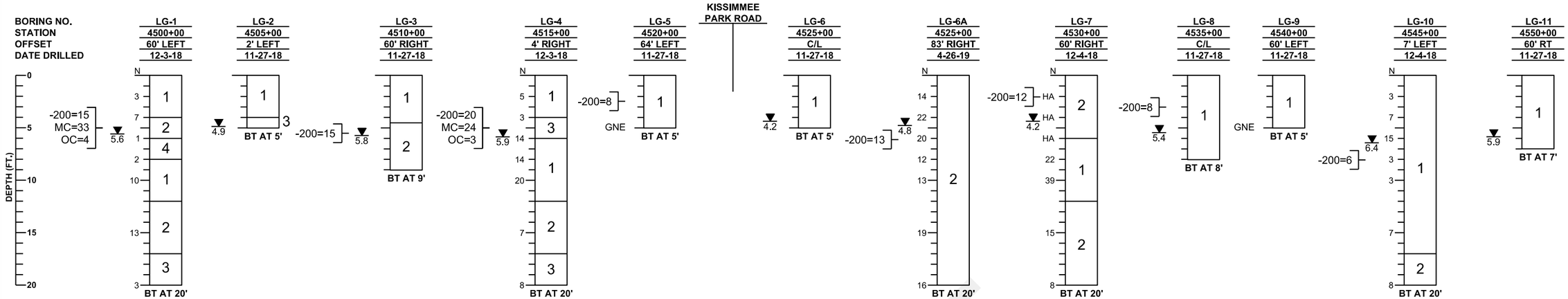
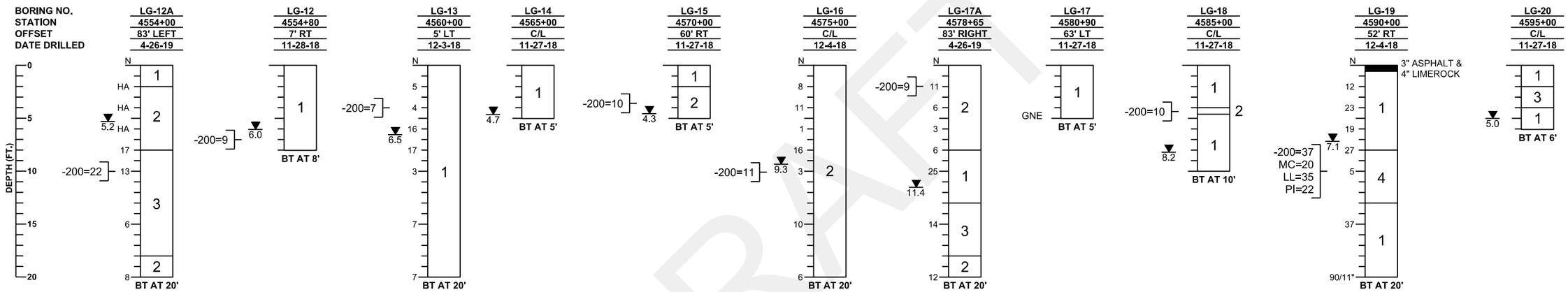
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 91	OSCEOLA	441224-2-32-01

ROADWAY SOIL SURVEY

SHEET NO.





LEGEND

N	STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
HA	HAND AUGERED FOR UTILITY CLEARANCE
▼ 5.6	ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
GNE	GROUNDWATER NOT ENCOUNTERED
BT	BORING TERMINATED AT DEPTH INDICATED
-200=	PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
MC=	PERCENT NATURAL MOISTURE CONTENT
LL=	LIQUID LIMIT
PI=	PLASTICITY INDEX
OC=	PERCENT ORGANIC CONTENT

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

GRANULAR SOILS	AUTOMATIC HAMMER N VALUE (blows per foot)	RELATIVE DENSITY
SANDS	0-3	VERY LOOSE
	3-8	LOOSE
	8-24	MEDIUM DENSE
	24-40	DENSE
	OVER 40	VERY DENSE

NON-GRANULAR SOILS	AUTOMATIC HAMMER N VALUE (blows per foot)	CONSISTENCY
SILTS, CLAYS, MUCK, PEAT	0-1	VERY SOFT
	1-3	SOFT
	3-6	FIRM
	6-12	STIFF
	12-24	VERY STIFF
	OVER 24	HARD

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED AND AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

BORING LOCATIONS WERE ESTABLISHED IN THE FIELD USING PROJECT PLANS AND A HANDHELD SUB-METER ACCURACY GPS UNIT. BORING LOCATIONS REFERENCE THE SR 91 CENTERLINE.

SPLIT SPOON SAMPLER:

INSIDE DIAMETER: 1.375 IN. AVERAGE HAMMER DROP: 30 IN.
OUTSIDE DIAMETER: 2.0 IN. HAMMER WEIGHT: 140 LBS.

STRATUM NO.	AASHTO CLASSIFICATION	UNIFIED CLASSIFICATION	SOIL DESCRIPTION
1	A-3	SP	BROWN TO LIGHT BROWN TO LIGHT GRAY FINE SAND TO FINE SAND WITH SILT, OCCASIONAL TRACE ORGANIC MATERIAL, ROOTS, LIMEROCK AND HARDPAN
2	A-2-4	SP-SM, SM	DARK BROWN TO BROWN FINE SAND WITH SILT TO SILTY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL, ROOTS AND TRACE TO SOME LIMEROCK
3	A-2-4	SM	LIGHT BROWN TO BROWN TO GRAY SILTY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL AND CLAY
4	A-2-6, A-6, A-7-6	SC	LIGHT BROWN TO BROWN TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL AND ROOTS
5	A-7-6	SC, CH	DARK BROWN TO BROWN CLAYEY FINE SAND TO SANDY CLAY, OCCASIONAL TRACE ORGANIC MATERIAL
6	A-8	PT	DARK BROWN MUCKY FINE SAND TO SANDY MUCK

FIGURE 4

REVISIONS			
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CERTIFICATE OF AUTHORIZATION 00005882

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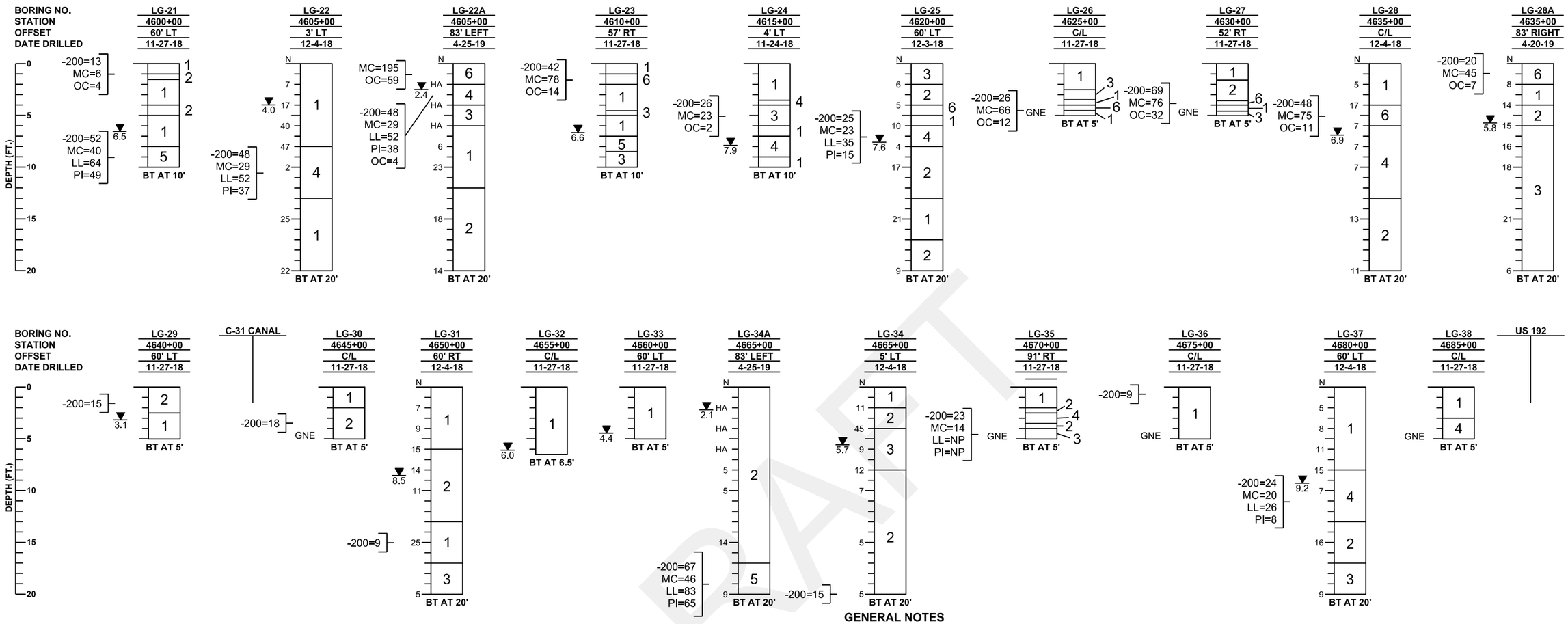
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 91	OSCEOLA	441224-2-32-01

LINE AND GRADE ROADWAY BORING RESULTS

SHEET NO.



LEGEND

N	STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
HA	HAND AUGERED FOR UTILITY CLEARANCE
▼ 6.5	ENCOUNTERED GROUNDWATER DEPTH (FT.) 24 HRS. AFTER DATE DRILLED
GNE	GROUNDWATER NOT ENCOUNTERED
BT	BORING TERMINATED AT DEPTH INDICATED
-200=	PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
MC=	PERCENT NATURAL MOISTURE CONTENT
LL=	LIQUID LIMIT
PI=	PLASTICITY INDEX
OC=	PERCENT ORGANIC CONTENT
NP=	NON-PLASTIC

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

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	1-3	SOFT
	3-6	FIRM
	6-12	STIFF
	12-24	VERY STIFF
	OVER 24	HARD

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED AND AASHTO SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

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3	A-2-4	SM	LIGHT BROWN TO BROWN TO GRAY SILTY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL AND CLAY
4	A-2-6, A-6, A-7-6	SC	LIGHT BROWN TO BROWN TO DARK GRAY CLAYEY FINE SAND, OCCASIONAL TRACE ORGANIC MATERIAL AND ROOTS
5	A-7-6	SC, CH	DARK BROWN TO BROWN CLAYEY FINE SAND TO SANDY CLAY, OCCASIONAL TRACE ORGANIC MATERIAL
6	A-8	PT	DARK BROWN MUCKY FINE SAND TO SANDY MUCK

FIGURE 5

REVISIONS			
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LINE AND GRADE ROADWAY BORING RESULTS

SHEET NO.