

APS Design and Testing, LLC

“Building a Better World”

GEOTECHNICAL ENGINEERING SERVICES REPORT

**LAKEVIEW STREET RECONSTRUCTIONS
VICKSBURG STREET
NEW ORLEANS, LOUISIANA
APS-1211-G043-28**

Presented to

**DEPARTMENT OF PUBLIC WORKS
CITY OF NEW ORLEANS
1300 PERDIDO STREET
NEW ORLEANS LA 70112**

Prepared by

**APS DESIGN AND TESTING, LLC
8000 GSRI AVENUE, BUILDING 3100, ROOM 250
BATON ROUGE, LA 70820**

JULY 9, 2013



APS Design and Testing, LLC

“Building a Better World”

July 9, 2013

Department of Public Works
City of New Orleans
1300 Perdido Street
New Orleans LA 70112

Attention: Mr. James R. Kapesis
Asst. FEMA Program Manager/Construction Coordinator
Department of Public Works

Re: Geotechnical Engineering Report
Lakeview Street Reconstructions-
Vicksburg Street
New Orleans, Louisiana
APS File No. 1211-G043-28

Dear Mr. Kapesis:

APS Design and Testing, LLC is pleased to submit our Geotechnical Subsurface Exploration Report for the above referenced project. This report provides asphalt pavement recommendations and general site preparation as related to onsite soils based on the field exploration and laboratory test data obtained for the *Vicksburg Street* as part of The Lakeview Street Reconstructions.

PROJECT INFORMATION

Project Authorization

Our geotechnical engineering services were performed in general accordance with our Proposal No: APS1206-G036R2 dated September 17, 2012. Authorization to proceed with this work was received from Mr. James Kapesis with City of New Orleans on October 26, 2012.

Project Description

The proposed Lakeview Street Reconstructions include rehabilitation of several existing streets. This report provides recommendations for the rehabilitation of Vicksburg Street as part of The Lakeview Street Reconstructions in New Orleans, Louisiana. Based on the information provided by the client, design Average Daily Traffic (ADT) of 1,000 was used for Vicksburg Street.

PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to explore the subsurface conditions underneath the existing pavement and provide geotechnical recommendations for the existing pavement rehabilitation that includes full reconstruction or overlay of Vicksburg Street in New Orleans, Louisiana. For this purpose, six (6) asphalt pavement borings were drilled on Vicksburg Street to a depth of six (6) feet from the bottom of existing asphalt (and base material) pavement. A total of eight (8) concrete pavement borings were performed on Vicksburg Street below the bottom of existing concrete pavement. One (1) asphalt and one (1) concrete pavement borings (A-1 and C-1) terminated early due to the presence of an Obstruction. These borings were performed in the damaged areas of Vicksburg Street. The scope of services also included conducting laboratory tests on selected samples recovered from the soil borings. These tests included visual description and classification, moisture content, atterberg limits and unconfined compressive strength. Both field and laboratory testing procedures are briefly discussed in this report.

This report includes a site description, discusses the conditions of the existing subsoil materials at the site, and presents recommendations on the following:

- Site Development Recommendations;
- Asphalt and Concrete Pavement Recommendations for Vicksburg Street; and
- Comments regarding factors that will impact construction and performance of the proposed project.

The scope of geotechnical services did not include an environmental site assessment for determining the presence or absence of wetlands, hazardous or toxic materials in the soil, surface water, groundwater, or air on, below, or around the site. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

SITE LOCATION AND DESCRIPTION

The proposed Lakeview Street Rehabilitation includes rehabilitation of several existing streets. This report provides recommendations for *Vicksburg Street* of *Lakeview Sub-division* in *New Orleans, Louisiana*. During our field exploration, we observed that Vicksburg Street has deteriorated and have some asphalt patches on the existing pavement.

FIELD EXPLORATION

The field exploration, performed to evaluate the engineering characteristics of the foundation materials, included a reconnaissance visit to the project site by an APS representative, drilling the soil borings and recovering soil samples.

Field and laboratory test data obtained has been used for the preparation of this geotechnical report. The locations and depths of borings were as proposed and located by APS. The Boring Location Plan, included in the Appendix, presents the approximate location of the borings performed for Vicksburg Street

DRILLING AND SAMPLING PROCEDURES

The borings were drilled with a truck-mounted Simco 2800 drill rig, using rotary head wash drilling techniques to advance the boreholes. Undisturbed samples were continuously obtained from the ground surface to a depth of six (6) feet. They were obtained using thin-walled tube sampling procedures in general accordance with ASTM D-1587 *Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes*. These samples were extruded in the field with a hydraulic ram, and were identified according to project number, boring number and depth, wrapped in aluminum foil and placed in plastic bags to preserve the natural moisture condition and transported to the laboratory in special containers to prevent disturbance.

For Cohesionless and semi-cohesive soils, Standard Penetration Tests (SPT) were performed at intervals to obtain standard penetration values of the soil. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling 30 inches, required to advance the split-barrel sampler 18 inches into the soil. To perform the test and obtain a sample, the sampler is lowered to the bottom of the previously cleaned drill rig and advanced by blows from the hammer. The number of blows is recorded for each of three successive increments of six inches penetration. The “N” value is obtained by adding the second and third incremental numbers. The results of the SPT indicate the relative density of cohesionless soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components. Soil samples were obtained utilizing a two inch O.D. split-barrel sampler in general accordance with procedures for “Penetration Test and Split-Barrel Sampling of Soils” (ASTM D1586).

LABORATORY TESTING PROGRAM

A laboratory testing program was conducted on selected samples to determine pertinent engineering characteristics of the subsurface materials. This program included visual description and classification, determination of the natural moisture content (ASTM D2216), Atterberg Limits (ASTM D4318), and Unconfined Compressive Strength (ASTM D2116). The results of these tests are found in the accompanying boring logs located in the Appendix.

SUBSURFACE CONDITIONS

Subsurface Materials

Vicksburg Street

In borings (A-1 to A-6) performed on existing asphalt pavement consisted of approximately five (5) to seven (7) inches of asphalt followed by 8 to 12 inches thick base material. Generally beneath the base material, loose/medium dense poorly graded sands (SP) followed by organic clays (OH) were encountered to the termination depth of the borings.

Borings (C-1 to C-8) performed on concrete pavement consisted of approximately six (6) to seven (7) inches of concrete patched in some areas with approximately two (2) to four (4) inches of asphalt. In general, soft/very soft organic clays (OH) followed by silts (ML) to the termination depth of the borings.

The above subsurface description is generalized in nature to highlight the major subsurface materials features and characteristics. The boring logs included in the Appendix, present specific information at the individual soil test boring locations. Variations may occur and should be expected between boring locations. The stratification represents the approximate boundary between subsurface materials and the actual transition may be gradual.

Groundwater

Ground water was not encountered in any of the borings performed on Vicksburg Street. However, it should be noted that the groundwater conditions are likely to change due to topography, permeability, weather, and other soil and terrain properties. Therefore, we recommend that the contractor determine the actual groundwater levels at the site at the time of the construction activities.

DISCUSSION

Upon review of the existing subsoil conditions and laboratory tests results, we consider that the proposed project is feasible from a geotechnical point of view, if and when the included recommendations are correctly interpreted and applied.

Subsurface materials encountered below the existing asphalt pavement at the project site have poor to medium strength parameters. The presence of soft loose sands with organics and shells and organic clays (OH) in the upper two (2) feet beneath the existing asphalt and concrete pavements respectively, could be the major reason for the deterioration of the pavements. The moisture content in relation to the Liquid Limit and the Plastic Limit is an important correlation to the material's consistency and strength. The consistency/strength is very dependent on the amount of water in the soils' as measured by the moisture content. *When the water content approaches the liquid limit, the fine-grained soils are typically wet, very soft to soft, and are very difficult to construct upon.* Likewise, when the water content is at or below the plastic limit, the fine-grained soils are typically stiff to hard and provide a good base for construction.

At Vicksburg Street, moisture contents of soft and very soft organic clays are high in some borings. Therefore, APS recommends complete removal of existing soft organic clay/clay material where full reconstruction is performed. Asphalt and Concrete Pavement recommendations are provided in the following sections.

GEOTECHNICAL RECOMMENDATIONS

Site Development Recommendations

Site Preparation

Prior to the development of any structure or fill deposit, the complete earthwork area must be properly cleaned. The cleaning activities shall include the removal of existing asphalt pavement and base material where full reconstruction is performed. The removal should also consist of all surface debris, soft organic clays (OH), soft fat and lean clays or any soft material and any foreign matter present under the pavement until a medium subgrade material is reached.

After stripping all the objectionable material, the excavated ground surface should be properly leveled. Actual depth of removal shall be determined in the field by the Geotechnical Engineer or a representative. Please note that the stripped materials cannot be used at any structural area.

Proof Rolling

Upon completion of the stripping activities, the exposed areas shall be properly proof rolled in order to prepare the natural terrain to receive the design structural fill and traffic loads, if applicable. The proof roll consists of compacting the exposed surface with a 20- to 25-ton loaded dump truck. Surface soils that are observed to rut or deflect excessively under the truck load should be undercut and replaced with the proper structural fill. These activities should be performed during a period of dry weather and should be supervised by a Geotechnical Engineer or a representative.

Structural Fill Materials

After subgrade preparation and observation has been completed, structural fill placement, if necessary, may begin. The first layer of structural fill should be placed in a relatively uniform horizontal lift and be adequately keyed into the properly prepared subgrade soils.

The structural fill material could consist of “clean” sand or pumped sand having less than 10 percent fines passing the No. 200 Sieve. It should be compacted to at least 95 percent of Maximum Dry Density at Optimum Moisture Content according to ASTM D-698. In place density measurements should be taken to assure that this degree of compaction is achieved.

This material must be certified and approved by the Geotechnical Engineer prior to its use.

Structural Fill Deposit Construction

The structural fill activities must be performed in a sequential order where lower elevations must be worked before higher ones. The structural fill shall be deposited in lifts of eight (8) inches of loose material. Each lift shall be compacted and certified by the Geotechnical Engineer or a representative prior to placement of other lifts. The passing criteria shall be a 95% of the maximum dry density as determined by ASTM D-698, *Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort* (12,400 ft-lbf/ft³ (600 kN-m/m³)), and a moisture content between one (1) below and three (3) above percentages of the optimum moisture content. If water must be added, it should be uniformly applied and thoroughly mixed into the soil by disking or scarifying. As a guideline, it is recommended that field density tests be performed at a frequency of not less than one test per 2,500 square feet.

It is important to maintain the structural fill thickness as uniform as possible. Uneven fill thicknesses under a structure may cause differential soil responses to the applied loads which can produce cracking, settling, or tilting of the structure. Uniform fill areas shall consider the footprint of the structure plus a five (5) feet strip around its perimeter.

Fill slopes shall be maintained at a maximum 2 Horizontal: 1 Vertical steepness. The runoff of water across the faces of the slopes shall be avoided by appropriate drainage ways. In addition, appropriate drainage ways shall be maintained at all earthwork surface areas in order to not affect compaction.

Pavement Recommendations

Based on the information provided by the client, design Average Daily Traffic (ADT) is 1,000 for Vicksburg Street. Our scope of work did not include extensive sampling and CBR testing of the existing subgrade or potential sources of imported fill for the specific purpose of a detailed pavement analysis. Instead, we have assumed pavement-related design parameters are considered to be typical for the area soil types.

After preparing the pavement subgrade as discussed in Site Preparation Section, 6 oz NW geotextile fabric should be placed followed by *Tensar® TX140* geogrid. Then, well compacted (minimum of 95% compacted) aggregate base course consisting of crushed stone should be placed on top of *Tensar® TX140* geogrid. The recommended pavement thicknesses presented below are considered typical and minimum for the assumed parameters at the site. We understand that budgetary considerations sometimes warrant thinner pavement sections than those presented. However, the client, the owner and the project designers should be aware that thinner pavement sections may result in increased maintenance costs and lower than anticipated pavement life.

Vicksburg Street

A CBR of 1 and a Modulus of Subgrade Reaction (k) of 30 pci should be assigned to the near surface soils at Vicksburg Street.

Based on our analysis both flexible and rigid pavement sections at Vicksburg Street shall consist of the following minimum thicknesses:

FLEXIBLE PAVEMENT	
Pavement Materials	Minimum Thickness (Inches)
Asphaltic Concrete Wearing Course	5.5
Compacted Aggregate Base Course	12

RIGID PAVEMENT	
Pavement Materials	Minimum thickness (Inches)
Portland Cement Concrete	8.0
Compacted Aggregate Base Course	8.0

Asphaltic concrete should meet the requirements of Part V of the latest edition of the latest edition of the Louisiana Standard Specifications for Roads and Bridges Manual (LSSRB). The aggregate base course should meet the requirements of Sub-Section 1003 of the latest edition of the Louisiana Standard Specifications for Roads and Bridges Manual (LSSRB) and should be compacted to at least 95 percent of the maximum dry density near the optimum moisture content in accordance with ASTM D698.

Proper finishing of concrete pavement requires the use of appropriate construction joints to reduce cracking. Construction joints shall be designed in accordance with the current Portland Cement Association and the American Concrete Institute guidelines. Joints should be sealed to reduce the potential for water infiltration into the supporting soils. The design of steel reinforcement should be in accordance with current accepted codes.

At Vicksburg Street, for an overlay on the existing asphalt and concrete pavements mill a minimum of two (2) inches of existing asphalt/concrete and then place a minimum of five (5) inches asphalt/concrete and ensure that the total pavement thickness is a minimum of 15 inches.

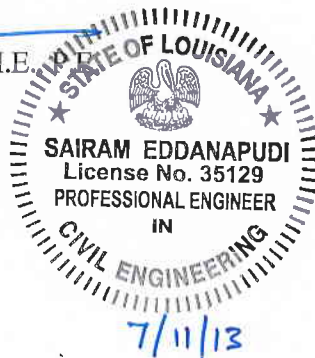
Water should not be allowed to pond behind curbs and saturate the base. In down-graded areas, the aggregate base shall extend through the slope to provide an exit path for any water accumulating under the pavement.

This report has been prepared for the exclusive use of **Department of Public Works, City of New Orleans** and their design/construction team associated to this specific project. We appreciate the given opportunity to perform this Geotechnical Study and look forward to continue participating during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted,
APS DESIGN AND TESTING, LLC

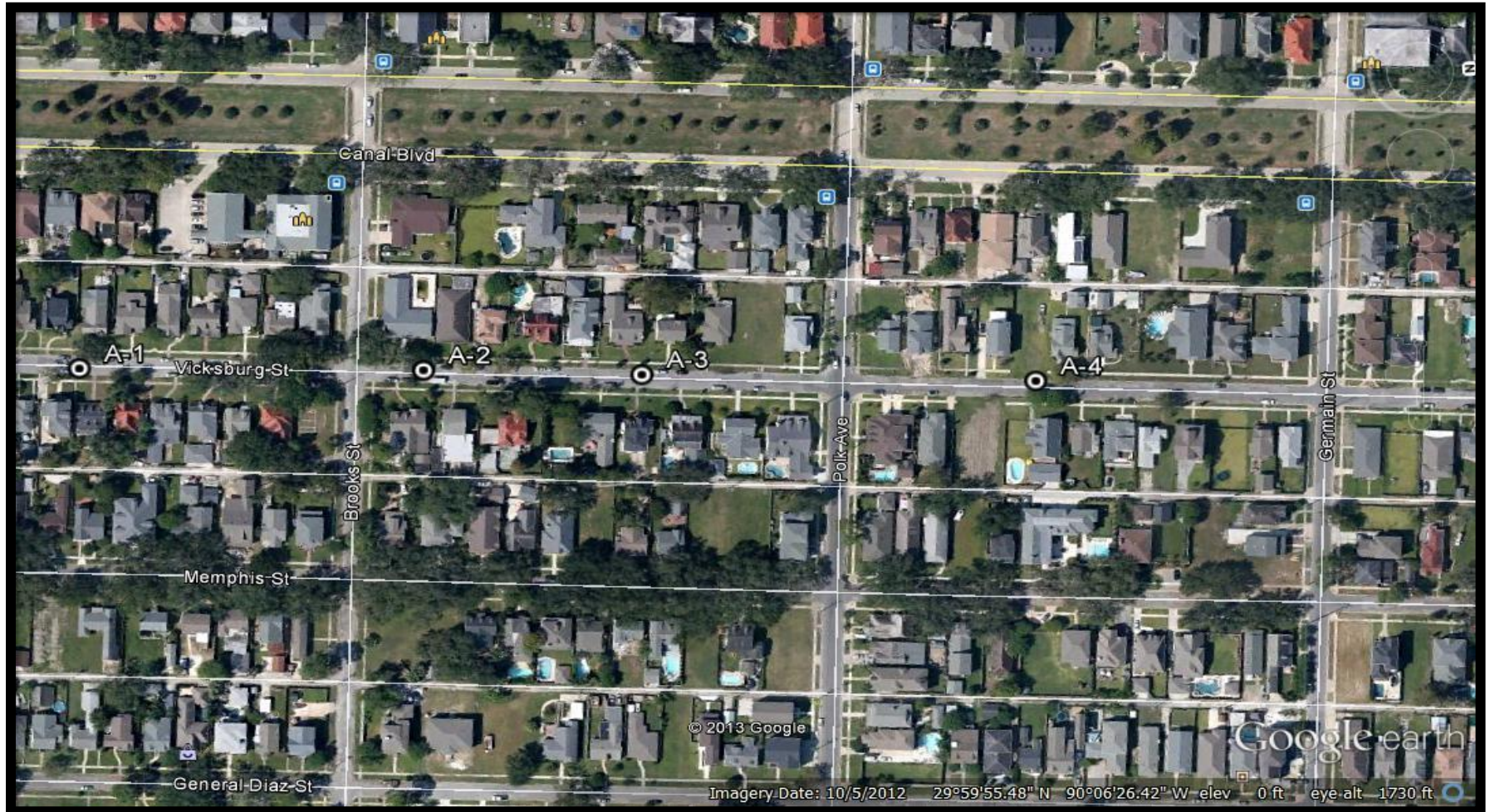
EVS ad

Sairam Eddanapudi, M.E.
Project Manager



Sergio Aviles, P.E., M.ASCE
President

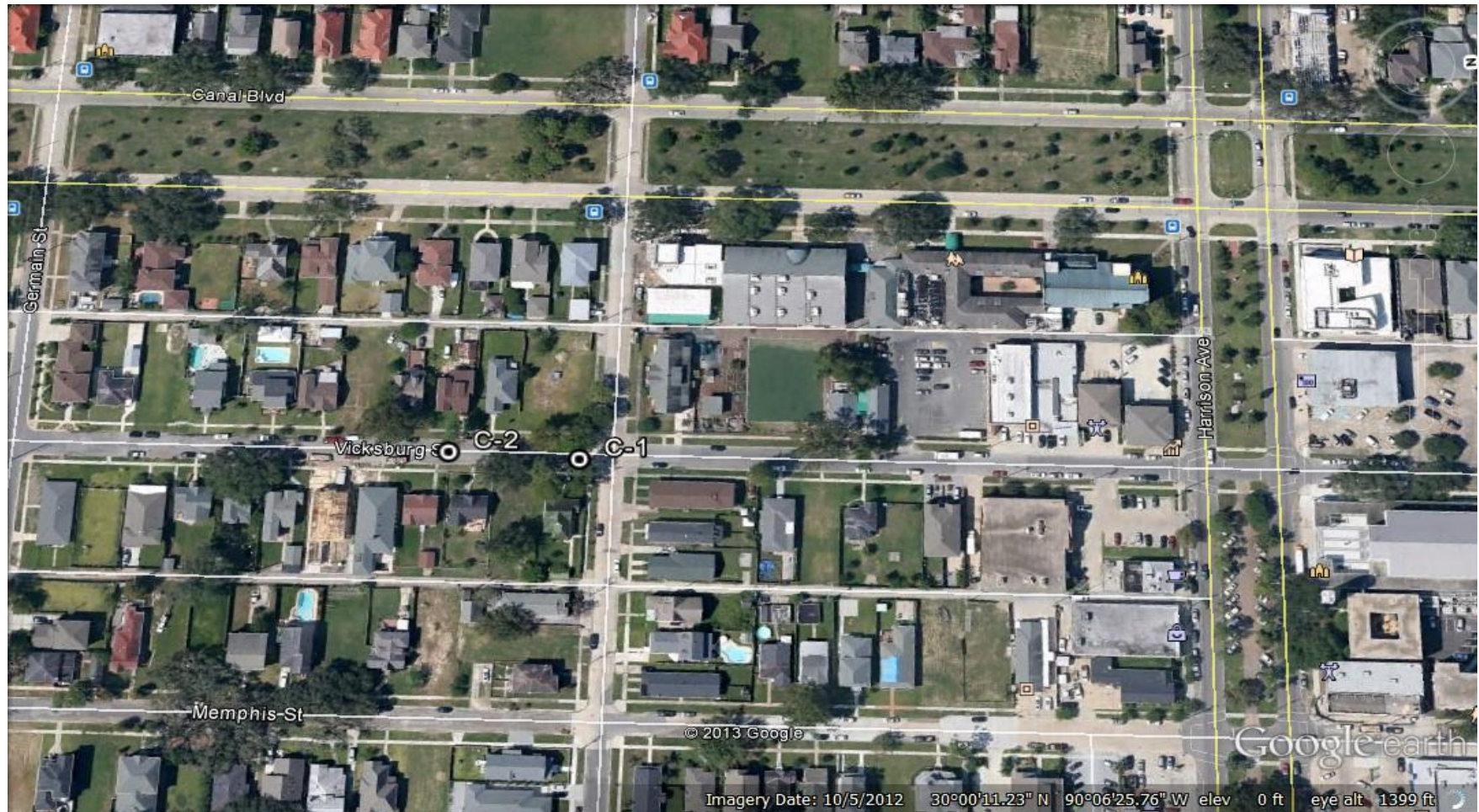
APPENDIX



Lakeview Street Reconstructions
Vicksburg Street-1
New Orleans, Louisiana

APS Design and Testing, LLC
Geotechnical, Environmental, & Construction Materials Testing

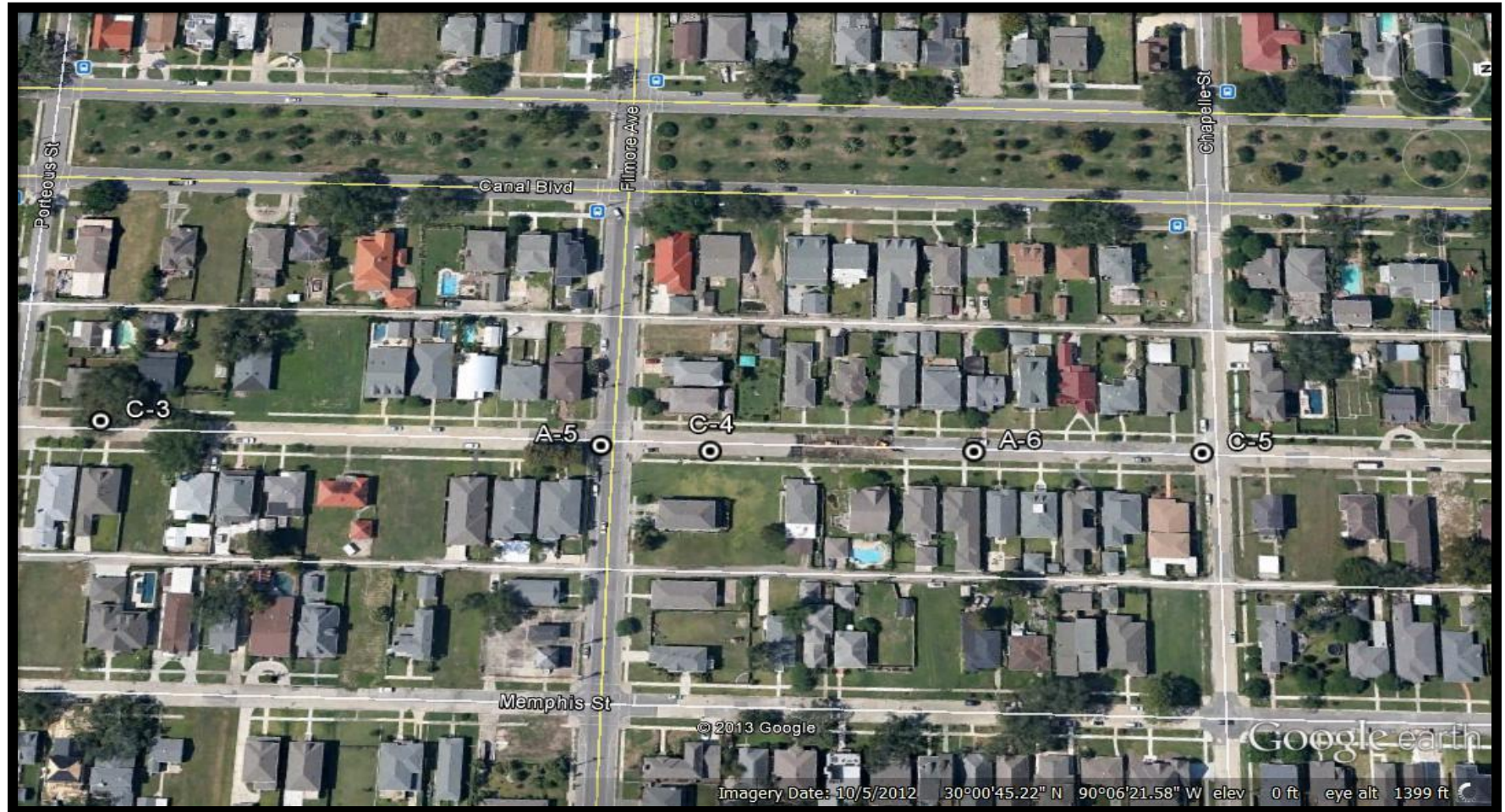
Figure 1
Boring Location Plan



Lakeview Street Reconstructions
Vicksburg Street-2
New Orleans, Louisiana

APS Design and Testing, LLC
Geotechnical, Environmental, & Construction Materials Testing

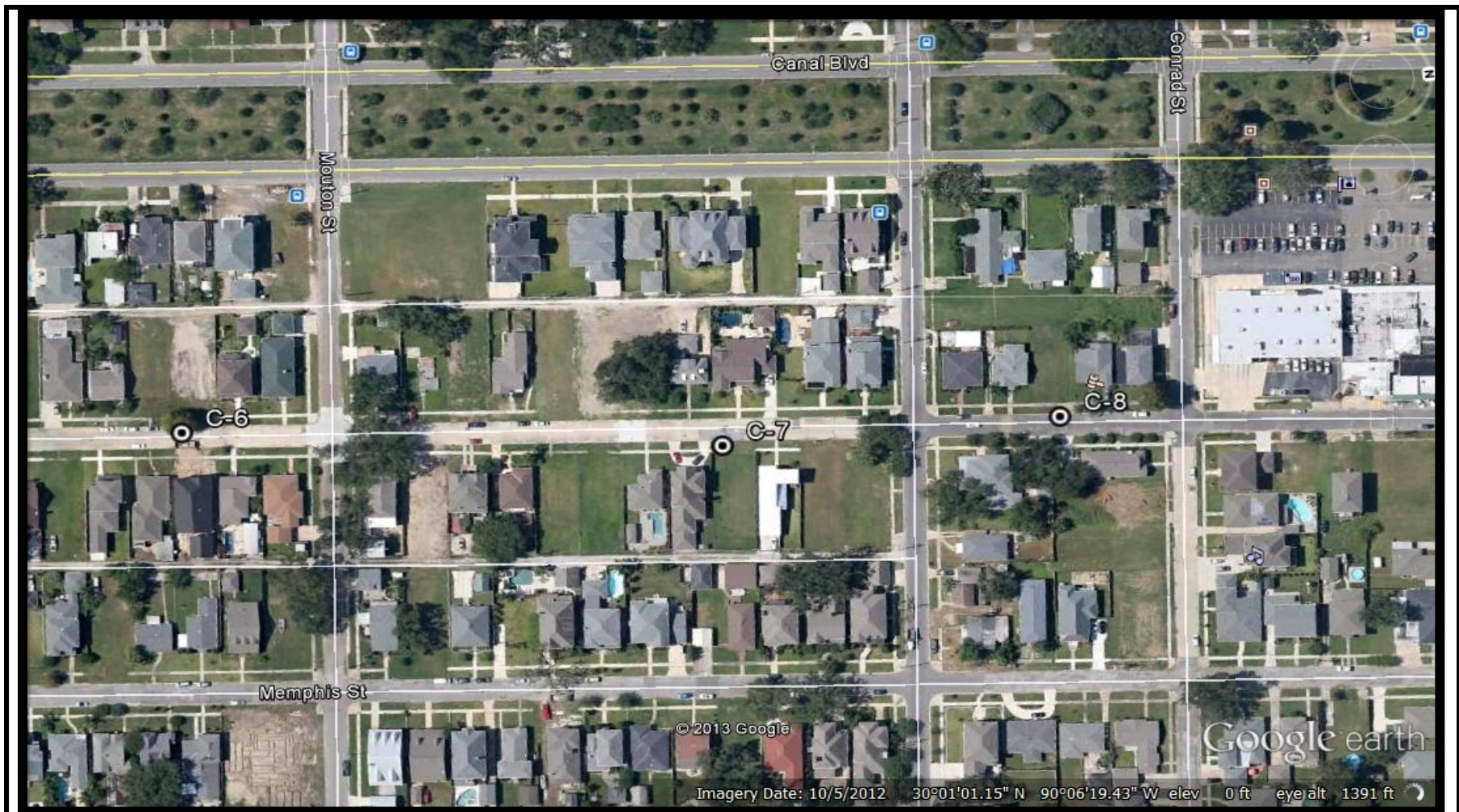
Figure 1
Boring Location Plan



Lakeview Street Reconstructions
Vicksburg Street-3
New Orleans, Louisiana

APS Design and Testing, LLC
Geotechnical, Environmental, & Construction Materials Testing

Figure 1
Boring Location Plan



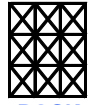
Lakeview Street Reconstructions
Vicksburg Street-4
New Orleans, Louisiana

APS Design and Testing, LLC
Geotechnical, Environmental, & Construction Materials Testing

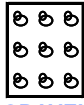
Figure 1
Boring Location Plan

KEY TO TERMS AND SYMBOLS USED ON LOGS

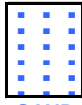
SOIL TYPE



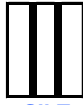
ROCK



GRAVEL



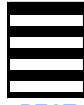
SAND



SILT

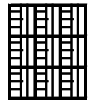


FAT CLAY

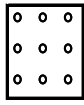


PEAT

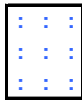
MODIFIERS



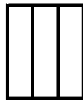
STONE
or CONCRETE



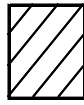
GRAVELY



SANDY



SILTY

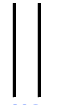


LEAN CLAY

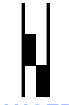


FILL

SAMPLER TYPE



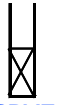
NO
SAMPLE



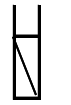
AUGER
SAMPLE



SHELBY
TUBE



SPLIT
SPOON



NO
RECOVERY



ROCK
CORE



2" SHELBY
TUBE



TxDOT
CONE

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D 2487 (1980)

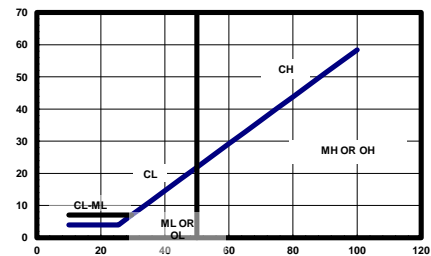
MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS LESS THAN 50% PASSING NO. 200 SIEVE	GRAVEL & GRAVELLY SOILS LESS THAN 50% PASSING NO. 4 SIEVE	CLEAN GRAVEL (LITTLE OR NO FINES)	GW	WELL GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			GP	POORLY GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		W/ APPRECIABLE FINES	GM	SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN 50% PASSING NO. 4 SIEVE	CLEAN SANDS LITTLE FINES	SW	WELL GRADED SAND, GRAVELY SAND (LITTLE FINES)
			SP	POORLY GRADED SANDS, GRAVELY SAND (L.FINES)
		SANDS WITH APPRECIABLE FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS,SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS & VERY FINE SANDS,ROCK FLOUR SILTY OR CLAYEY FINE SANDS OR CLAYEY SILT W/ LOW PI
			CL	INORGANIC CLAY OF LOW TO MEDIUM PI LEAN CLAY GRAVELY CLAYS, SANDY CLAYS, SILTY CLAYS
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PI
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS
			OH	ORGANIC CLAYS OF MED TO HIGH PI, ORGANIC SILT
HIGHLY ORGANIC SOIL			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS
UNCLASSIFIED FILL MATERIALS			ARTIFICIALLY DEPOSITED AND OTHER UNCLASSIFIED SOILS AND MAN-MADE SOIL MIXTURES	

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH IN TONS/FT ²
VERY SOFT	0.0 TO 0.25
SOFT	0.25 TO 0.50
MEDIUM	0.50 TO 1.0
STIFF	1.0 TO 2.0
VERY STIFF	2.0 TO 4.0
HARD	> 4.0 OR 4.0+

RELATIVE DENSITY - GRANULAR SOILS

CONSISTENCY	N-VALUE (BLOWS/FOOT)
VERY LOOSE	0-4
LOOSE	4-9
MEDIUM DENSE	10-29
DENSE	30-49
VERY DENSE	> 50 OR 50+



ABBREVIATIONS

HP - HAND PENETROMETER

TV - TORVANE

MV - MINIATURE VANE

UC - UNCONFINED COMPRESSION TEST

UU - UNCONSOLIDATED UNDRAINED TRIAXIAL

CU - CONSOLIDATED UNDRAINED

▼ GROUNDWATER FIRST ENCOUNTERED
▽ 24-HOUR GROUNDWATER READING

CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)

6"	3"	3/4"	4	10	40	200	
BOUL- -DERS	COBBLES	GRAVEL		SAND			
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT OR CLAY
152	76.2	19.1	4.76	2.0	0.42	0.074	CLAY
GRAIN SIZE IN MM							

VICKBURG STREET – ASPHALT BORINGS

BORING LOG

Page 1 of 1

BORING NO.: A-1

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N545931.67 E3668787

DATE DRILLED: 01/28/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 01/28/2013


WATER LEVEL DATE:

DRILLER: CM

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Symbol	MATERIAL CLASSIFICATION
					8 Inches of Asphalt
		4	14		Gray Lean Clay (CL) with Shells and Gravel
					-Boring terminated due to the presence of Sewer line.
5					
10					
15					
20					

COMMENTS:

 Rock Core

 Split Spoon

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: A-2

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N546679.53 E3668814.17

DATE DRILLED: 01/28/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed

DATE COMPLETED: 01/28/2013

WATER LEVEL DATE:

DRILLER: CM

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Symbol	MATERIAL CLASSIFICATION
					6 Inches of Asphalt
					12 Inches of Base Material
		2	11		Very Loose Poorly Graded Sand (SP) with silt Passing #200 Sieve @ 0'-2' 6.6 %
5			10		Passing #200 Sieve @ 2'-4' 6.5%
		8	13		-Loose
10					
15					
20					

COMMENTS:

Rock Core
Shelby Tube

Split Spoon

Vicksburg Street

APS Design and Testing, LLC

DRILLER: CM

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: A-4

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N547508.67 E3668884.44

DATE DRILLED: 01/28/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 01/28/2013


WATER LEVEL DATE:

DRILLER: CM

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Symbol	MATERIAL CLASSIFICATION
					7 Inches of Asphalt
					10 Inches of Base Material
		3	10		Very Loose Tan and Gray Poorly Graded Sand (SP) -with Shells
5		6	18		-Loose; with Organics
		9	10		-Loose; with Organics
10					
15					
20					

COMMENTS:

 Rock Core

 Split Spoon

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: A-5

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N552039.26 E3669328.32

DATE DRILLED: 01/28/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed



DATE COMPLETED: 01/28/2013


WATER LEVEL DATE:

DRILLER: CM

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Qu (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
									7 Inches of Asphalt
									11 Inches of Base Material
		12		10					Medium Dense Poorly Graded Sand (SP)
5			0.39	22	76	210	103		Soft Organic Clay (OH) -with silt
				259		359	198		
10									
15									
20									

COMMENTS:

 Rock Core
 Shelby Tube

 Split Spoon

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: A-6

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N552372.88 E3669351.12

DATE DRILLED: 01/28/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 01/28/2013


WATER LEVEL DATE:

DRILLER: CM

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Moisture Content (%)	Symbol	MATERIAL CLASSIFICATION
					5 Inches of Asphalt
					8 Inches of Base Material
		4	8		Loose Poorly Graded Sand (SP) Passing #200 Sieve @ 0'-2' 4.7 %
5		6	46		-with silt Passing #200 Sieve @ 2'-4' 6.8 %
		7	43		
10					
15					
20					

COMMENTS:

 Rock Core

 Split Spoon

Vicksburg Street

APS Design and Testing, LLC

VICKBURG STREET – CONCRETE BORINGS

BORING LOG

Page 1 of 1

BORING NO.: C-1

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N548479.88 E3669014.73

DATE DRILLED: 04/17/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 04/17/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Moisture Content (%)	Symbol	MATERIAL CLASSIFICATION
				7 Inches of Asphalt
				Black and Gray Muck
		84		-Boring terminated due to the presence of an Obstruction.
5				
10				
15				
20				

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: C-2

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N548378.49 E3668980.65

DATE DRILLED: 03/27/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 03/27/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Qu (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
								3.5 Inches of Asphalt
			214		143	66		Black organic Clay (OH)
		0.30	109	42				-Soft
5			51					--traces of silt
10								
15								
20								

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC

DRILLER: VG

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: C-4

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N552018.86 E3669310.95

DATE DRILLED: 03/26/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 03/26/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Qu (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
								7 Inches of Concrete
		0.33	124	35	137	63		Soft Black Organic Clay (OH)
			31					Black and Gray Silt (ML) with clay
5			31					
10								
15								
20								

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: C-5

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N552625.59 E3669366

DATE DRILLED: 03/28/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 03/28/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Qu (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
								6 Inches of Concrete
		0.14	161	32	132	59		Soft Black Organic Clay (OH)
			65					
5			32					Gray Silt (ML) with clay
10								
15								
20								

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: C-6

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N553131.12 E3669404.54

DATE DRILLED: 03/26/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 03/26/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Moisture Content (%)	LL	PI	Symbol	MATERIAL CLASSIFICATION
						7 Inches of Concrete
		74	156	82		Black Organic Clay (OH)
		35				Black Silt (ML) with clay
5		30				
10						
15						
20						

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: C-7

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N553738.14 E3669485.95

DATE DRILLED: 03/26/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 03/26/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Qu (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
								7 Inches of Concrete
		0.48	133	36	91	44		Soft Black and Brown Organic Clay (OH) -traces of bricks
			99		127	77		-with clay
5			32					Gray Silt (ML) with clay
10								
15								
20								

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC

BORING LOG

Page 1 of 1

BORING NO.: C-8

PROJECT: Lakeview Street Re-constructions

PROJECT LOCATION: Lakeview LA

BORING LOCATION: N554122.07 E3669490.63

DATE DRILLED: 03/26/2013

WATER LEVEL: Not Encountered

GEOL/ENGR: SE/SA

PROJECT NO.: APS-1211-G043

METHOD: AUGER

BORING ELEVATION: Not Surveyed


DATE COMPLETED: 03/26/2013


WATER LEVEL DATE:

DRILLER: VG

DEPTH (FEET)	SAMPLE	Qu (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI	Symbol	MATERIAL CLASSIFICATION
								2 Inches of Asphalt
								6 Inches of Concrete
			137					Black Organic Clay (OH)
		0.48	196	27	193	124		-Medium
5			42					Gray Silt (ML) with clay
10								
15								
20								

COMMENTS:

 Rock Core

 Shelby Tube

Vicksburg Street

APS Design and Testing, LLC