Geotechnical Report
For
Corner Loop and Belladonna Court

SUMMIT
ENGINEERING • LABORATORY • TESTING

June 12, 2020

Mr. Matt Hines
Dennis Corporation
1800 Huger Street
Columbia, SC 29201

Reference: **Report of Geotechnical Exploration**
Corner Loop and Belladonna Court
Georgetown County, South Carolina
SUMMIT Project No. 1359.G0002

Matt:

SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) is pleased to submit this report for the geotechnical exploration for the roadway development for Corner Loop and Belladonna Court in Georgetown County, South Carolina.

Project Information

This project will begin from the end of the paved SCDOT portion of Corner Loop at its intersection with Pennicine Court until reaching its intersection with Belladonna Court and then continue to the end of Belladonna Court for a total of approximately 4,300 linear feet. The roads are currently unpaved and the pavement design for Corner Loop will be based on a residential collector road and the pavement design for Belladonna Court will be based on residential local serving less than 50 dwelling units.

The field work consisted of hand augers and dynamic cone penetrometer testing to depths of 3 feet at approximate intervals of 500 feet along both roads. Six hand auger tests were performed on Corner Loop and three tests on Belladonna Court. Laboratory testing on selected samples consisted of classification testing, along with a modified Proctor and CBR testing on a bulk sample from each road.

This report includes the Dynamic Cone Penetrometer boring logs, a description of the soil conditions that have been encountered, and general site preparation and pavement design recommendations. Enclosed with this report is the Boring Location Plan as well as our soil test boring records.

Subsurface Exploration

Corner Loop

A layer of compacted stone base was encountered at the surface of the road to an average depth of 2 inches. Beneath the gravel, the soils at the hand auger locations mainly consisted of loose to medium dense brown and tan fine SAND (SP), silty SAND (SM) and slightly clayey to clayey SAND (SC). The sands were fairly dry throughout the hand augers. Average DCP values ranged from 5 to in excess of 15 blows per increment (bpi), with the majority of DCP values less than 10 bpi.

Belladonna Court

A layer of compacted stone base was encountered at the surface of the road to an average depth of 4 inches. Beneath the gravel, the soils at the hand auger locations mainly consisted of a thin layer of medium dense tan fine SAND (SP) underlain by loose to medium dense brown and orange clayey SAND (SC) and stiff sandy CLAY (CL). The deeper clayey SANDS and sandy CLAYS were moist to wet, however the surface soils were mainly dry. Average DCP values ranged from 8 to 13 blows per increment.

During DCP testing, the conical point of the DCP is first seated to penetrate loose cuttings, and then driven into the soil in additional increments of 1-3/4 inches with blows from a 15 pound hammer falling 20 inches. The number of hammer blows required to achieve this penetration is recorded, and is an index to the soil strength and density. The strength readings are recorded and subjected to engineering review.

Groundwater was not encountered in any of the hand auger borings. Some moist to wet samples were obtained in the deeper hand auger samples on Belladonna Court, however, groundwater was not observed in the hand augers at the time of drilling. The borings were backfilled with soil cuttings following completion of drilling.

It should be noted that regional groundwater levels will fluctuate with seasonal and climatic changes and may be different at other times. Based on the information obtained in our hand auger borings, we do not anticipate that groundwater will be encountered during any grading or other work at the site. Please note that the near surface soils can be conducive to the

development of a temporarily high groundwater condition (water ponding at the surface) following periods of inclement weather.

Laboratory Testing

A representative portion of the soil was obtained from each hand auger boring, sealed, labeled and transported to our laboratory for classification and analysis by a geotechnical engineer. The soil samples were visually classified in general accordance with the Unified Soil Classification System (USCS), using visual-manual identification procedures (ASTM D-2488). Classification tests consisting of Atterberg Limits (ASTM D-4318), percent fines (ASTM D-1140) and natural moisture contents were performed on three samples from Corner Loop and three samples from Belladonna Court. A bulk sample of the subgrade soils was obtained from each road for Modified Proctor (ASTM D-1557) and California Bearing Ratio (ASTM D-1883) testing.

The results of the classification testing are presented below.

Boring No.	Depth (ft.)	Classification	LL	PL	PI	% Fines	Water Content (%)
HA-2	2”-1’	SM	28	25	3	43.0	12.0
HA-3	1’-1.5’	SC	31	22	9	43.9	12.0
HA-5	2’-3’	SM	NP	NP	NP	15.8	9.2
HA-7	4”-2’	SM	NP	NP	NP	13.5	7.7
HA-8	1’-2’	SC	33	21	12	43.7	19.9
HA-9	2’-3’	CL	45	19	26	69.4	20.4

Site Geology

According to the Generalized Geologic Map of South Carolina (1997), the project site is located within the lower Atlantic Coastal Plain Physiographic Province of South Carolina. This province is characterized by sedimentary deposits of varying age and thickness. Generally, the deposits in this province consist of interceded mixtures of sands, silts, and clays. These materials were laid down in layers during successive advances and retreats of the ocean and generally dip gently toward the sea at a rate of a few feet per mile. However,

during previous periods of low ocean levels, they were partially eroded by streams.

Site Preparation Recommendations

We recommend that the subgrade for the roads be proof-rolled with a loaded tandem axle dump truck or other similar heavy construction equipment to confirm the stability of the subgrade soils and detect the presence of soft or unstable areas. Our geotechnical engineer or his representative should observe the proof-rolling operations. If proof-rolling reveals unstable conditions, the method of repair should be as directed by the project geotechnical engineer, but will likely consist of several options, such as undercutting the unsuitable soils and replacement with adequately compacted structural fill, scarifying and reconditioning, or the use of geotextiles for ground stabilization. Based on the results of the hand auger borings, it appears that the subgrade soils should be suitable for support of the new roads. Some loose soils were encountered on Corner Loop, especially at depths from 1 to 3 feet, and there is a possibility that some undercutting or stabilization may be required depending on the condition of these soils at the time of construction. There could also be some isolated areas of soft soils between the hand auger locations on both roads. The existing gravel at the surface can be left in place depending on final grades and pending a successful proofroll.

During grading operations hidden features in the substratum may be encountered within the proposed construction area. Details regarding removal of deleterious material must be determined on a case-by-case basis, and, therefore, contract documents should include a contingency cost for the removal of subsurface features. Excavated areas should be backfilled in general accordance with the compacted fill recommendations presented herein. Site preparation monitoring by SUMMIT personnel is recommended.

Structural Fill Placement

Soils imported from an off-site borrow source may be used as structural fill, provided they meet the following criteria:

- Soils should be free of deleterious and organic material;
- Have low plasticity, containing no more than 20% fines (material passing the No. 200 sieve) by weight;
- Should have particle sizes of less than two (2) inches in diameter and should not have a maximum dry density of less than 100 pounds per cubic foot as determined by a laboratory modified Proctor compaction test (ASTM D-1557).

Samples of structural fill material should be tested by SUMMIT for compliance with the above criteria prior to placement. Soils that do not meet the structural fill requirements in addition to any undercut surficial organic soil may be used in non-structural or landscaped areas. The on-site SANDS and slightly silty and slightly clayey SANDS should be suitable for reuse as structural fill. The clayey SANDS could potentially be reused as structural fill depending on the amount of clay and condition of the material. The sandy CLAYS are not suitable for use as structural fill if encountered and can be used in landscaped areas.

Following the above site preparation recommendations, all structural fill and backfill material should be placed in approximate eight to ten (8-10) inch thick loose lifts and compacted to at least 95 percent of the modified Proctor maximum dry density and to within (+/-) 3 percent of the fill's optimum moisture content as determined by ASTM D-1557.

Some moisture conditioning of the soils (such as wetting and drying) will likely be required during the filling operation to obtain the required degree of compaction. Field density tests should be performed by SUMMIT on each lift of structural fill placed and at a frequency determined by the Geotechnical Engineer to verify compliance with project compaction specifications.

The contractor should exercise care after these soils have been compacted. If water is allowed to stand on the surface, these soils may become saturated. Therefore, the fill surface should be sloped to achieve positive drainage and to minimize water from ponding on the surface. If the surface becomes excessively wet, fill operations should be halted and our geotechnical engineer consulted for guidance. Testing of the fill material and compaction monitoring by our engineering technician is recommended during fill placement operations.

Pavement Considerations

Based on our analysis of the hand auger borings and our understanding of the proposed site grades, we anticipate that the soils at the assumed pavement subgrade elevations will likely consist of clayey SANDS and SANDS, or newly placed structural fill soils overlying the same. The upper 12 inches of subgrade soils are considered acceptable for pavement support when prepared to a dense and uniform consistency of at least 95% of the modified Proctor maximum dry density and within +/- 2% of the soil's optimum moisture content.

Corner Loop

Based on the laboratory CBR testing, we recommend a CBR value of ten (10) be used in design of project pavements. Based on the Georgetown County Roadway Design and Construction Manual, residential collector roads should have an equivalent daily load application (EDLA) of 30. A serviceability index of 2.5 has been used based on the Design Manual. Utilizing a CBR value of ten (10), an EDLA of 30 and the Design Nomograph for Flexible Pavements with a SI of 2.5, a structural number of 2.2 was obtained. Based on this structural number and strength coefficients in the Design Manual, the following pavement recommendations are provided.

Composite Section:

Asphalt Surface Course – 3.0”
Aggregate Base Course – 8”

Full Depth Asphalt:

Asphalt Surface Course – 2.0”
Asphalt Binder Course – 3.5”

Belladonna Court

Based on the laboratory CBR testing, we recommend a CBR value of seven (7) be used in design of project pavements. Based on the Georgetown County Roadway Design and Construction Manual, residential local roads should have an equivalent daily load application (EDLA) of 8 for roads serving less than 50 dwelling units. A serviceability index of 2.0 has been used based on the Design Manual. Utilizing a CBR value of seven (7), an EDLA of 8 and the Design Nomograph for Flexible Pavements with a SI of 2.0, a structural number of 1.9 was obtained. Based on this structural number and strength coefficients in the Design Manual, the following pavement recommendations are provided.

Composite Section:

Asphalt Surface Course – 3.0” (alternative – 1.5” surface course & 1.5” binder course)
Aggregate Base Course – 6”

Full Depth Asphalt:

Asphalt Surface Course – 2.0”
Asphalt Binder Course – 3.0”

The typical pavement sections are based on the assumption that all pavements will be constructed on properly prepared, proofrolled and stable soil subgrades approved by SUMMIT's geotechnical personnel. Different combinations of materials and depths, varied to provide roughly equivalent strengths, can achieve serviceable flexible pavements.

We do not anticipate that highly plastic soils will be exposed at design subgrade, although some sandy clays were encountered at depths of 2 to 3 feet on Belladonna Court. However, the subgrades should be carefully examined by an experienced geotechnical engineer following rough grading to evaluate whether or not any highly plastic soils or soft wet soils are present. If highly plastic soils are exposed in pavement subgrades, they should be undercut in accordance with the Georgetown County Roadway Design and Construction Manual and be replaced with adequately compacted low plasticity soils or can be treated with lime to reduce their objectionable behavior when wet. It is critical that a thorough proofrolling be performed on the subgrade soils prior to fill or stone base placement. Any soft or loose materials encountered should be evaluated by a SUMMIT geotechnical engineer and if necessary removed and backfilled with properly placed and compacted structural fill.

The long-term performance of any pavement section is directly related to drainage of the base and subgrade. We emphasize the good base course and subgrade drainage is absolutely essential for successful pavement performance. Water buildup in the base course will result in premature pavement failures. The subgrade and pavement should be graded to provide rapid runoff to either the outer limits of the paved area or to catch basins so that standing water will not accumulate on the subgrade or pavement surfaces. Any areas that allow water or groundwater to enter the pavement system will require sub drains (i.e. French drains) installed to prevent water entry into the pavement base and subgrades.

The majority of pavement sections incur their heaviest loads during the construction process. The construction loads are generally in excess of the design traffic loads. For this reason, we recommend that construction be staged to allow final preparation of the base course and paving to be performed near the end of the project when heavy construction equipment is not present.

Flexible asphalt pavements and bases should be constructed in accordance with the guidelines of the latest applicable South Carolina Department of Transportation Specifications. Materials, weather limitations, placement and compaction are specified under appropriate sections of this publication.

LIMITATIONS

This summary report has been prepared for the exclusive use of Dennis Corporation for specific application to the referenced project in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. Please note that our summary of observations reflects the condition of near-surface bearing soils at the locations of our soil borings and assumes that conditions are equivalent or better at depth. There is the possibility that actual conditions at other locations across the site may differ from those encountered at the test locations. These recommendations do not reflect variations in subsurface conditions that could exist intermediate of the boring locations or in unexplored areas of the site. Should such variations become apparent during construction, we reserve the right to re-evaluate our recommendations based upon the available data. In the event changes are made in the proposed construction plans, the recommendations presented in this report shall not be considered valid unless reviewed by our firm and the recommendations of this report modified or verified in writing.

There are important limitations to this and all geotechnical studies. Regardless of the thoroughness of the subsurface exploration, there is the possibility that conditions between borings will differ from those at the boring locations, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, an experienced staff professional working under the supervision of a geotechnical engineer should evaluate the subgrade soils to verify that the conditions anticipated in design actually exist.

CLOSING

SUMMIT appreciates the opportunity to provide our professional services to you on this project. If you have any questions concerning the information in this report or if we can be of further service, please contact us.

Sincerely,
SUMMIT ENGINEERING, LABORATORY & TESTING, P.C.

Ross R. Deaver, P.E.
SC Regional Manager

APPENDIX I

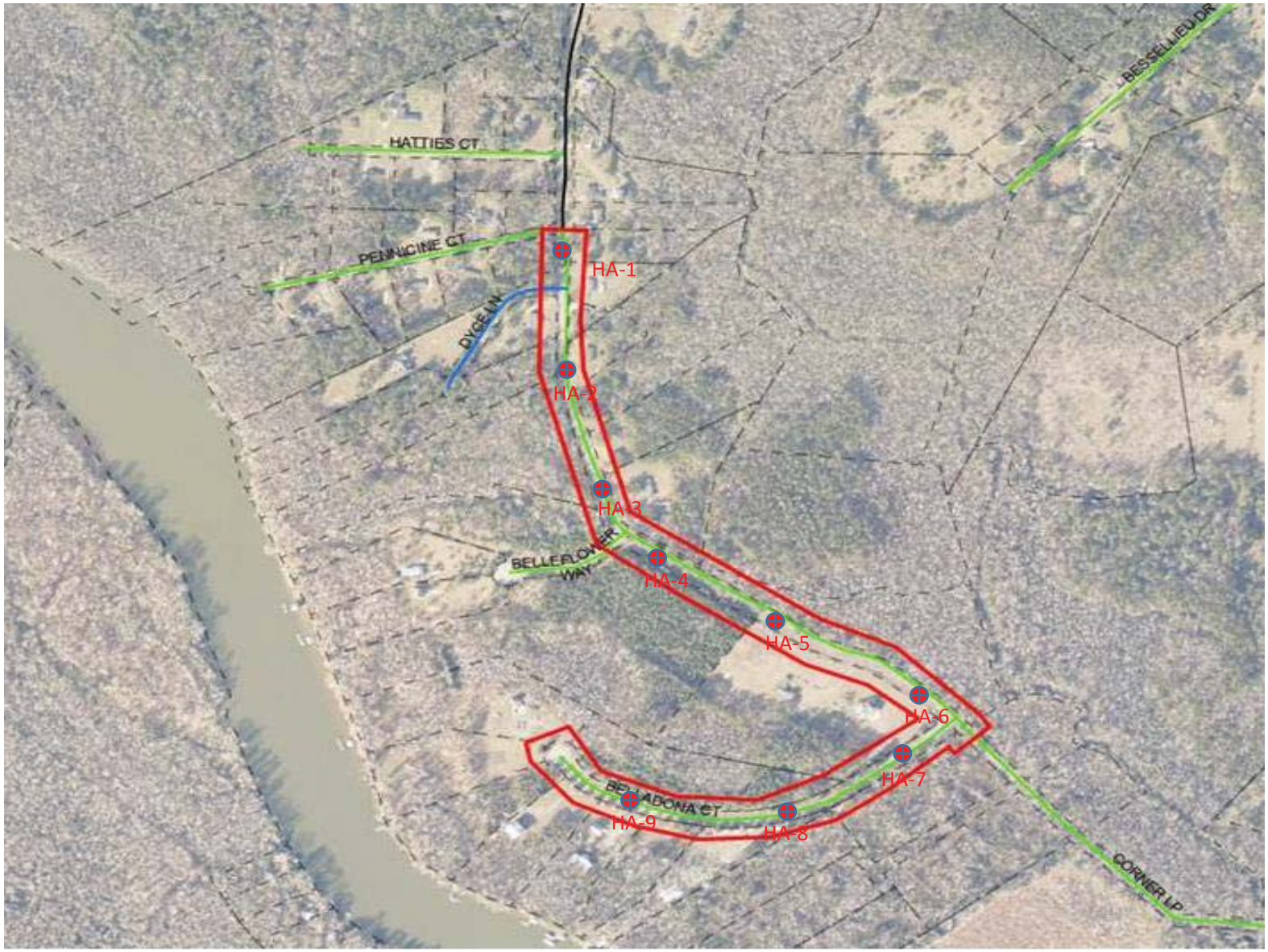
Site Vicinity Map (Figure 1)
Test Location Plan (Figure 2)

SUMMIT
ENGINEERING • LABORATORY • TESTING

Summit Engineering, Laboratory & Testing, P.C.
1539 Meeting Street, Suite A
Charleston, SC 29405
(843) 606-6268

Corner Loop and Belladonna Court
Georgetown, South Carolina
SUMMIT Project No. 1359.G0002

Figure 1
Site Vicinity Map



SUMMIT ENGINEERING • LABORATORY • TESTING	Summit Engineering, Laboratory & Testing, P.C. 1539 Meeting Street, Suite A Charleston, SC 29405 (843) 606-6268	Corner Loop/Belladonna Court Georgetown, South Carolina SUMMIT Project No. 1359.G0002	Figure 2 Test Location Plan

APPENDIX II

Hand-Auger Boring Logs

SUMMIT
ENGINEERING • LABORATORY • TESTING

HAND AUGER BORING & DCP TESTING SHEET

Project Name: Corner Loop | **5/21/2020**

Project Number : 1359.G0002 | **Lot # : N/A**

Performed by : D. Watson | **County : Georgetown**

Location of Test	Depth (from)	Depth (to)	Soil Description	Depth* (feet)	DCP Blows Per 1 3/4-inch			
					1st	2nd	3rd	Avg.
HA-1 (Station 1+00)	0	2"	Grey Stone Base	0				
	2"	1'	Brown and grey slightly clayey SAND	0.5	7	9	11	10
	1'	2'	Brown and light orange slightly clayey SAND	2	6	5	5	5
	2'	3'	Brown clayey SAND	3	4	6	4	5
HA-2 (Station 6+00)	0	2"	Grey Stone Base	0				
	2"	1'	Brown silty SAND	0.5	7	15	18	17
	1'	2'	Tan and orange, slightly silty clayey SAND	2	5	8	11	10
	2'	3'	Same	3	6	9	14	12
HA-3 (Station 11+00)	0	2"	Grey Stone Base	0				
	2"	1'	Brown slightly clayey SAND	0.5	7	13	13	13
	1'	2'	Brown and tan clayey SAND	2	4	7	11	9
	2'	3'	Brown and orange clayey SAND	3	9	14	16	15
HA-4 (Station 16+00)	0	2"	Grey Stone Base	0				
	2"	1'	Brown and tan fine SAND	0.5	13	14	18	16
	1'	2'	Brown and tan slightly clayey SAND	2	4	5	4	5
	2'	3'	Same	3	4	7	8	8

Notes :

* Depth from existing ground surface
HAR - Hand Auger Refusal
BOF - Bottom of Footing

SUMMIT
ENGINEERING • LABORATORY • TESTING

HAND AUGER BORING & DCP TESTING SHEET

Project Name: Corner Loop **5/21/2020**

Project Number : 1359.G0002 **Lot # : N/A**

Performed by : D. Watson **County : Georgetown**

Location of Test	Depth (from)	Depth (to)	Soil Description	Depth* (feet)	DCP Blows Per 1 3/4-inch			
					1st	2nd	3rd	Avg.
HA-5 (Station 21+00)	0	2"	Grey Stone Base	0				
	2"	1'	Tan and brown fine SAND	0.5	10	14	17	16
	1'	2'	Brown slightly silty SAND	2	6	8	12	10
	2'	3'	Tan silty SAND	3	6	9	11	10
HA-6 (Station 26+00)	0	2"	Grey Stone Base	0				
	2"	1'	Tan fine SAND	0.5	10	11	15	13
	1'	2'	Tan and brown silty SAND	2	5	10	11	11
	2'	3'	Orange and brown, slightly clayey, silty SAND	3	8	10	12	11

Notes :

* Depth from existing ground surface
HAR - Hand Auger Refusal
BOF - Bottom of Footing

HAND AUGER BORING & DCP TESTING SHEET

Belladonna Court — **5/21/2020**

Project Number : 1359.G0002 — **Lot # : N/A**

Performed by : D. Watson — **County : Georgetown**

Location of Test	Depth (from)	Depth (to)	Soil Description	Depth* (feet)	DCP Blows Per 1 3/4-inch			
					1st	2nd	3rd	Avg.
HA-7 (Station 2+00)	0	2"	Grey Stone Base	0				
	2"	1'	Tan and brown silty SAND	0.5	9	10	12	11
	1'	2'	Same	2	6	8	10	9
	2'	3'	Orange, silty, clayey SAND	3	12	13	13	13
HA-8 (Station 7+00)	0	2"	Grey Stone Base	0				
	2"	1'	Brown slightly clayey SAND	0.5	8	9	11	10
	1'	2'	Tan and light brown clayey SAND	2	9	12	14	13
	2'	3'	Tan and brown sandy CLAY	3	12	12	14	13
HA-9 (Station 12+00)	0	2"	Grey Stone Base	0				
	2"	1'	Tan slightly clayey SAND	0.5	8	12	14	13
	1'	2'	Orange and brown clayey SAND	2	8	8	11	10
	2'	3'	Orange and brown sandy CLAY	3	6	7	9	8

Notes :

* Depth from existing ground surface
HAR - Hand Auger Refusal
BOF - Bottom of Footing

APPENDIX III

Results of Lab Testing

SUMMIT
ENGINEERING • LABORATORY • TESTING

Percent Finer Than # 200 Sieve
ASTM D1140

Project Name : Corner Loop & Belladonna Ct.
Job Number: 1359.G0002
Date: 8-Jun-2020

Laboratory ID: _____

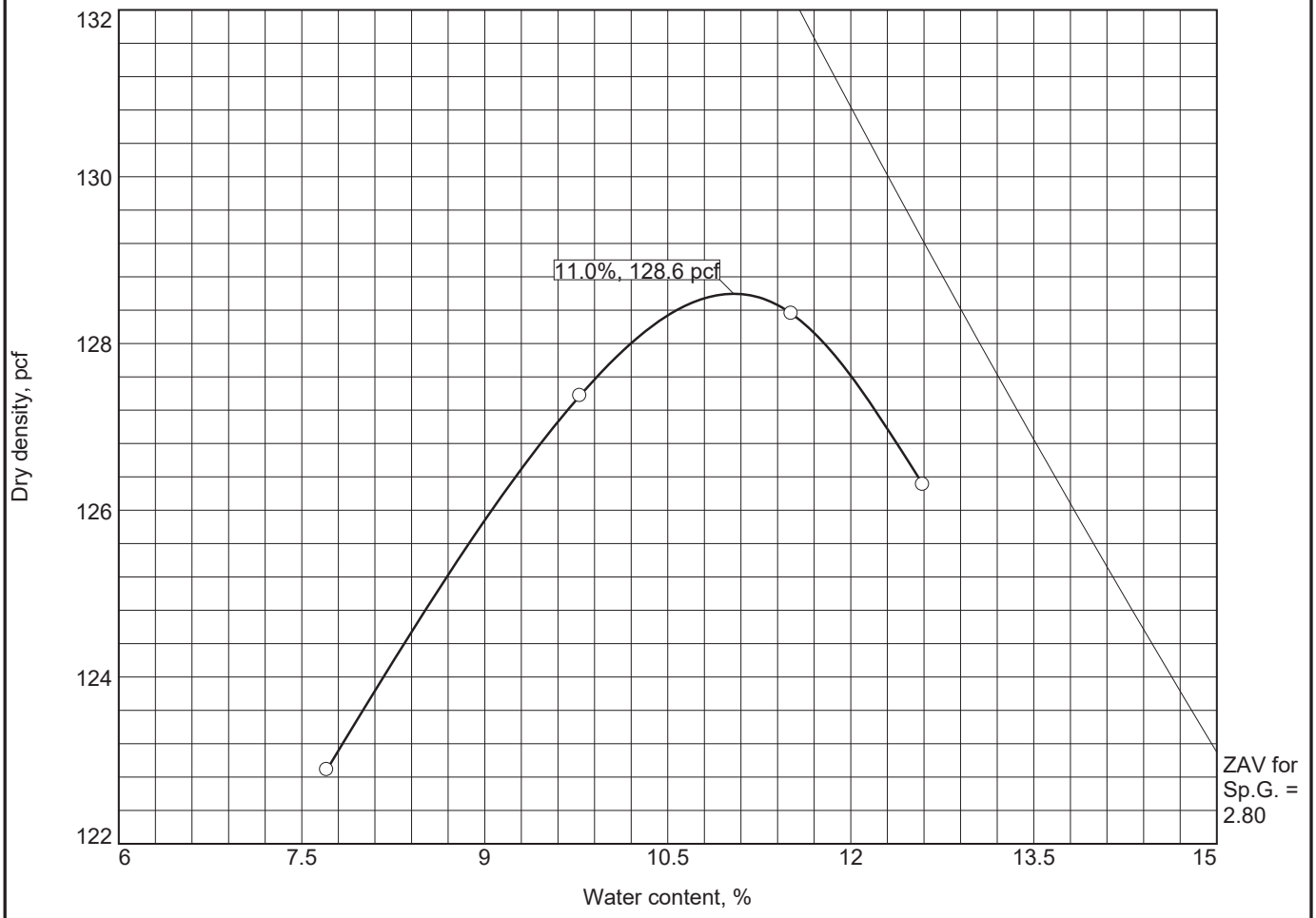
1	2	3	4	5	6	7	8	9
Boring Number	Sample Number	Sample Depth (ft.)	Weight of Pan (grams)	Initial Weight Soil+Pan (grams)	Final Weight Pan + Soil (grams)	(7-5) Weight Retained (grams)	(6-[8+5]) Weight Passing (grams)	(9/[6-5])*100 Percent Passing (%)
Corner Loop	HA-2	2"-1'	151.4	592.2	402.7	251.30	189.50	43.0%
Corner Loop	HA-3	1'-1'6"	144.90	524.40	357.80	212.90	166.60	43.9%
Corner Loop	HA-5	2'-3'	147.60	548.00	484.80	337.20	63.20	15.8%
Belladonna Ct.	HA-1	4"-2'	146.80	511.60	462.50	315.70	49.10	13.5%
Belladonna Ct.	HA-2	1'-2'	146.5	438.5	310.8	164.30	127.70	43.7%
Belladonna Ct.	HA-3	1'-3'	145.5	411.6	226.8	81.30	184.80	69.4%

SUMMIT
ENGINEERING • LABORATORY • TESTING

Moisture Content of Soil
ASTM D2216

Project Name : Corner Loop & Belladonna Ct.
Job Number: 1359.G0002
Laboratory ID:
Date: Monday, June 08, 2020

1	2	3	5	6	7	8	9	10
Boring Number	Sample Number	Sample Depth (ft.)	Weight of Pan (grams)	Weight of Pan Plus Wet Soil (grams)	Weight of Pan Plus Dry Soil (grams)	(7-5) Weight of Dry Soil (grams)	(6-7) Weight of Water (grams)	(9/8)*100 Moisture Content (%)
Corner Loop	HA-2	2"-1'	151.40	644.90	592.20	440.80	52.70	12.0
Corner Loop	HA-3	1'-1'6"	144.90	569.80	524.40	379.50	45.40	12.0
Corner Loop	HA-5	2'-3'	147.60	584.70	548.00	400.40	36.70	9.2
Belladonna Ct.	HA-1	4"-2'	146.80	539.60	511.60	364.80	28.00	7.7
Belladonna Ct.	HA-2	1'-2'	146.50	496.70	438.50	292.00	58.20	19.9
Belladonna Ct.	HA-3	1'-3'	145.50	472.40	416.90	271.40	55.50	20.4



Test specification: ASTM D 1557-91 Procedure A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
0-4'							0	28.8

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 128.6 pcf Optimum moisture = 11.0 %	Brown to Tan Slightly Clayey to Clayey Silty Sand

Project No. 1359.G0002 **Client:** Dennis Corporation

Project: Corner Loop and Belladonna Court

Date: 5-23-2020

○ **Location:** Corner Loop, Georgetown, SC **Sample Number:** 1

Summit Engineering

Ft. Mill, South Carolina

Remarks:

Figure

Tested By: CC **Checked By:** DW

REPORT OF CBR FINDINGS

PROJECT : Corner Loop
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0002

SAMPLE INFORMATION	
SAMPLE #	1
Sample location:	Bulk Sample
Sample Description:	Tan and brown slightly clayey silty SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	128.6	Optimum Moisture Content:	11.0
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SM
% Passing #200	28.8	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	10
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	117.7
% COMPACTION	91.5
AVG. MOISTURE CONTENT (DURING COMPACTION)	10.5
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	11.9
SWELL (%)	0.00
CBR VALUE	4.5

Comments:
Tests performed in accordance with ASTM D-1883.

REPORT OF CBR FINDINGS

PROJECT : Corner Loop
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0002

SAMPLE INFORMATION	
SAMPLE #	1
Sample location:	Bulk Sample
Sample Description:	Tan and brown slightly clayey silty SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	128.6	Optimum Moisture Content:	11.0
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SM
% Passing #200	28.8	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	25
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	122.3
% COMPACTION	95.1
AVG. MOISTURE CONTENT (DURING COMPACTION)	10.5
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	11.4
SWELL (%)	0.00
CBR VALUE	14.3

Comments:
Tests performed in accordance with ASTM D-1883.

SUMMIT

REPORT OF CBR FINDINGS

PROJECT : Corner Loop
CBR Testing

CLIENT: Dennis Corporation

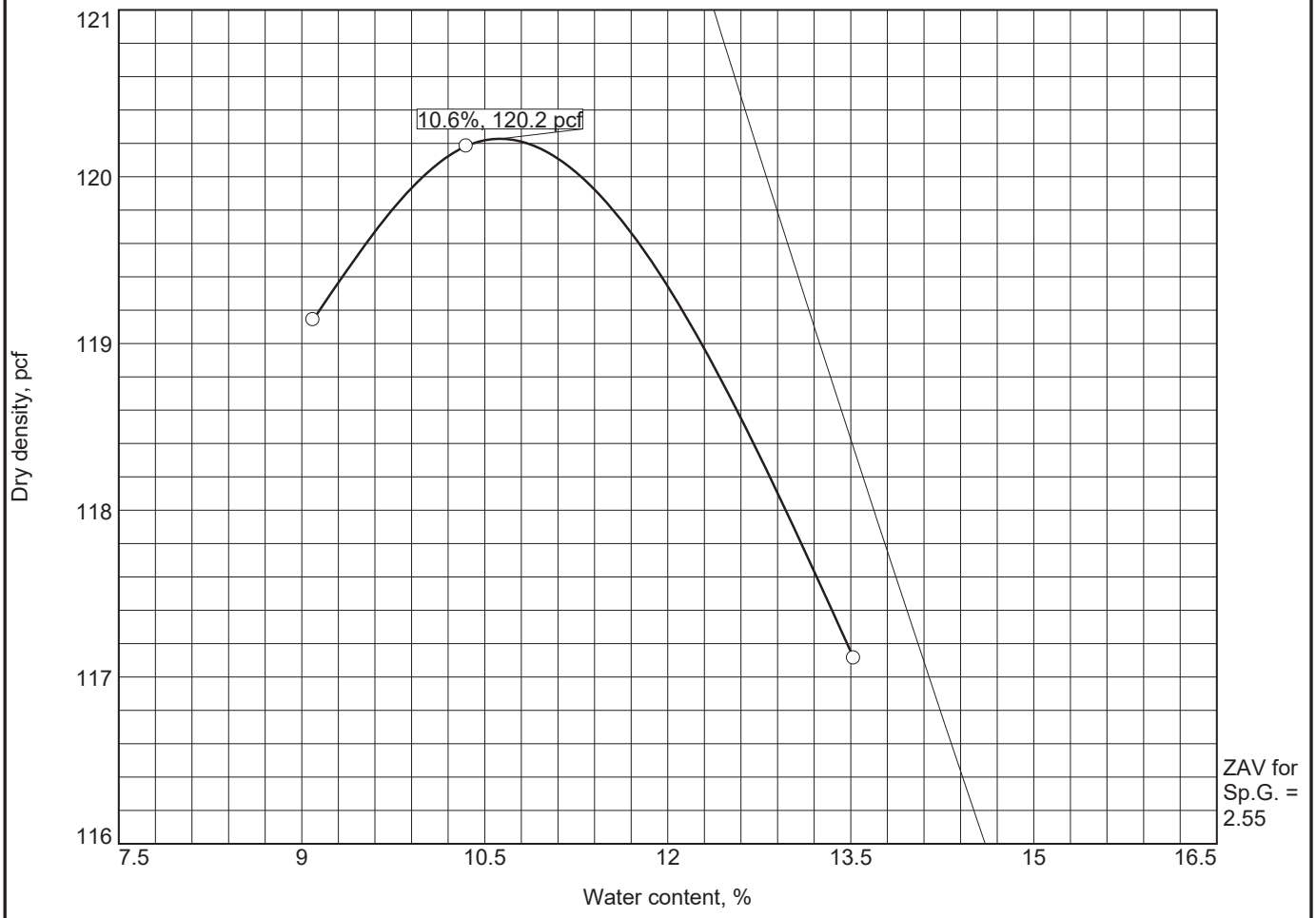
PROJECT #: 1359.G0002

SAMPLE INFORMATION	
SAMPLE #	1
Sample location:	Bulk Sample
Sample Description:	Tan and brown slightly clayey silty SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	128.6	Optimum Moisture Content:	11.0
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SM
% Passing #200	28.8	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	56
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	127.1
% COMPACTION	98.8
AVG. MOISTURE CONTENT (DURING COMPACTION)	10.5
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	11.0
SWELL (%)	0.00
CBR VALUE	24.5

Comments:
Tests performed in accordance with ASTM D-1883.



Test specification: ASTM D 1557-91 Procedure A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
3"-2'	SC				31	10	0	39.1

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 120.2 pcf Optimum moisture = 10.6 %	Brown with Orange Clayey SAND

Project No. 1359.G0002 **Client:** Dennis Corporation

Project: Corner Loop & Belladonna Ct.

Date: 6-2-2020

○ **Location:** Belladonna Ct., Georgetown, SC **Sample Number:** 2

Remarks:

Summit Engineering

Ft. Mill, South Carolina

Figure

Tested By: DW

REPORT OF CBR FINDINGS

PROJECT : Belladonna Court
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0002

SAMPLE INFORMATION	
SAMPLE #	2
Sample location:	Bulk Sample
Sample Description:	Brown and orange clayey SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	120.2	Optimum Moisture Content:	10.6
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SC
% Passing #200	39.1	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	10
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	109.9
% COMPACTION	91.4
AVG. MOISTURE CONTENT (DURING COMPACTION)	11.6
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	15.9
SWELL (%)	0.50
CBR VALUE	5

Comments:

Tests performed in accordance with ASTM D-1883.

REPORT OF CBR FINDINGS

PROJECT : Belladonna Court
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0002

SAMPLE INFORMATION	
SAMPLE #	2
Sample location:	Bulk Sample
Sample Description:	Brown and orange clayey SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	120.2	Optimum Moisture Content:	10.6
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SC
% Passing #200	39.1	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	25
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	112.6
% COMPACTION	93.7
AVG. MOISTURE CONTENT (DURING COMPACTION)	11.6
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	15.5
SWELL (%)	0.40
CBR VALUE	8.4

Comments:
Tests performed in accordance with ASTM D-1883.

REPORT OF CBR FINDINGS

PROJECT : Belladonna Court
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0002

SAMPLE INFORMATION	
SAMPLE #	2
Sample location:	Bulk Sample
Sample Description:	Brown and orange clayey SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	120.2	Optimum Moisture Content:	10.6
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SC
% Passing #200	39.1	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	56
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	117.4
% COMPACTION	97.7
AVG. MOISTURE CONTENT (DURING COMPACTION)	10.7
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	13.5
SWELL (%)	0.20
CBR VALUE	14.5

Comments:
Tests performed in accordance with ASTM D-1883.

Geotechnical Report
For
Kidneywood Way and Soldierwood Lane

SUMMIT
ENGINEERING • LABORATORY • TESTING

June 12, 2020

Mr. Matt Hines
Dennis Corporation
1800 Huger Street
Columbia, SC 29201

Reference: **Report of Geotechnical Exploration**
Kidneywood Way and Soldierwood Lane
Georgetown County, South Carolina
SUMMIT Project No. 1359.G0003

Matt:

SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) is pleased to submit this report for the geotechnical exploration for the roadway development for Kidneywood Way and Soldierwood Lane in Georgetown County, South Carolina.

Project Information

This project will consist of an approximate 600 foot section of Kidneywood Way starting at the intersection with Carvers Bay Road and the total length of Soldierwood Lane, which is approximately 300 feet. The total length of the roads is approximately 900 feet. The roads are currently unpaved and pavement designs will be provided based on local residential roads serving less than 50 dwelling units.

The field work consisted of hand augers and dynamic cone penetrometer testing to depths of 3 feet at approximate intervals of 250 feet along the roads. Two hand auger tests were performed on Kidneywood Way and one test on Soldierwood Lane. Laboratory testing on selected samples consisted of classification testing, along with a modified Proctor and CBR testing on a composite bulk sample.

This report includes the Dynamic Cone Penetrometer boring logs, a description of the soil conditions that have been encountered, and general site preparation and pavement design recommendations. Enclosed with this report is the Boring Location Plan as well as our soil test boring records.

Subsurface Exploration

A layer of compacted stone base was encountered at the surface of the roads to an average depth of 2 inches. Beneath the gravel, the soils at the hand auger locations mainly consisted of medium dense brown and tan silty SAND (SM), SAND with silt (SP-SM) and coarse SAND (SP). The sands were moist to wet in HA-3 at depths of 1 to 3 feet. Average DCP values ranged from 8 to in excess of 15 blows per increment (bpi), with the majority of DCP values between 10 and 15 bpi.

During DCP testing, the conical point of the DCP is first seated to penetrate loose cuttings, and then driven into the soil in additional increments of 1-3/4 inches with blows from a 15 pound hammer falling 20 inches. The number of hammer blows required to achieve this penetration is recorded, and is an index to the soil strength and density. The strength readings are recorded and subjected to engineering review.

Groundwater was not encountered in any of the hand auger borings. Some moist to wet samples were obtained in Hand Auger HA-3 at depths of 1 to 3 feet, however, groundwater was not observed in the hand augers at the time of drilling. The borings were backfilled with soil cuttings following completion of drilling.

It should be noted that regional groundwater levels will fluctuate with seasonal and climatic changes and may be different at other times. Based on the information obtained in our hand auger borings, we do not anticipate that groundwater will be encountered during any grading or other work at the site. Please note that the near surface soils can be conducive to the development of a temporarily high groundwater condition (water ponding at the surface) following periods of inclement weather.

Laboratory Testing

A representative portion of the soil was obtained from each hand auger boring, sealed, labeled and transported to our laboratory for classification and analysis by a geotechnical engineer. The soil samples were visually classified in general accordance with the Unified Soil Classification System (USCS), using visual-manual identification procedures (ASTM D-2488). Classification tests consisting of Atterberg Limits (ASTM D-4318), percent fines

(ASTM D-1140) and natural moisture contents were performed on three samples from Kidneywood Way and two samples from Soldierwood Lane. A composite bulk sample of the subgrade soils was obtained for Modified Proctor (ASTM D-1557) and California Bearing Ratio (ASTM D-1883) testing.

The results of the classification testing are presented below.

Boring No.	Depth (ft.)	Classification	LL	PL	PI	% Fines	Water Content (%)
HA-1	2'-3'	SP-SM	NP	NP	NP	8.4	14.3
HA-2	6"-1'	SM	NP	NP	NP	13.4	11.9
HA-2	1.5'-2'	SP-SM	NP	NP	NP	8.7	13.9
HA-3	1.5'-2.5'	SP-SM	NP	NP	NP	6.5	16.9
HA-3	2.5'-3'	SP	NP	NP	NP	3.2	17.4

Site Geology

According to the Generalized Geologic Map of South Carolina (1997), the project site is located within the lower Atlantic Coastal Plain Physiographic Province of South Carolina. This province is characterized by sedimentary deposits of varying age and thickness. Generally, the deposits in this province consist of interceded mixtures of sands, silts, and clays. These materials were laid down in layers during successive advances and retreats of the ocean and generally dip gently toward the sea at a rate of a few feet per mile. However, during previous periods of low ocean levels, they were partially eroded by streams.

Site Preparation Recommendations

We recommend that the subgrade for the roads be proof-rolled with a loaded tandem axle dump truck or other similar heavy construction equipment to confirm the stability of the subgrade soils and detect the presence of soft or unstable areas. Our geotechnical engineer or his representative should observe the proof-rolling operations. If proof-rolling reveals unstable conditions, the method of repair should be as directed by the project geotechnical engineer, but will likely consist of several options, such as undercutting the unsuitable soils and replacement with adequately compacted structural fill, scarifying and reconditioning, or the use of geotextiles for ground stabilization. Based on the results of the hand auger

borings, it appears that the subgrade soils should be suitable for support of the new roads. There could be some isolated areas of soft soils between the hand auger locations, but it should be very minor and isolated based on the hand auger borings and our observations. The existing gravel at the surface can be left in place depending on final grades and pending a successful proofroll.

During grading operations hidden features in the substratum may be encountered within the proposed construction area. Details regarding removal of deleterious material must be determined on a case-by-case basis, and, therefore, contract documents should include a contingency cost for the removal of subsurface features. Excavated areas should be backfilled in general accordance with the compacted fill recommendations presented herein. Site preparation monitoring by SUMMIT personnel is recommended.

Structural Fill Placement

Soils imported from an off-site borrow source may be used as structural fill, provided they meet the following criteria:

- Soils should be free of deleterious and organic material;
- Have low plasticity, containing no more than 20% fines (material passing the No. 200 sieve) by weight;
- Should have particle sizes of less than two (2) inches in diameter and should not have a maximum dry density of less than 100 pounds per cubic foot as determined by a laboratory modified Proctor compaction test (ASTM D-1557).

Samples of structural fill material should be tested by SUMMIT for compliance with the above criteria prior to placement. Soils that do not meet the structural fill requirements in addition to any undercut surficial organic soil may be used in non-structural or landscaped areas. The on-site soils should be suitable for reuse as structural fill.

Following the above site preparation recommendations, all structural fill and backfill material should be placed in approximate eight to ten (8-10) inch thick loose lifts and compacted to at least 95 percent of the modified Proctor maximum dry density and to within (+/-) 3 percent of the fill's optimum moisture content as determined by ASTM D-1557.

Some moisture conditioning of the soils (such as wetting and drying) will likely be required during the filling operation to obtain the required degree of compaction. Field density tests should be performed by SUMMIT on each lift of structural fill placed and at a frequency determined by the Geotechnical Engineer to verify compliance with project compaction specifications.

The contractor should exercise care after these soils have been compacted. If water is allowed to stand on the surface, these soils may become saturated. Therefore, the fill surface should be sloped to achieve positive drainage and to minimize water from ponding on the surface. If the surface becomes excessively wet, fill operations should be halted and our geotechnical engineer consulted for guidance. Testing of the fill material and compaction monitoring by our engineering technician is recommended during fill placement operations.

Pavement Considerations

Based on our analysis of the hand auger borings and our understanding of the proposed site grades, we anticipate that the soils at the assumed pavement subgrade elevations will likely consist of slightly silty SANDS and SANDS with silt, or newly placed structural fill soils overlying the same. The upper 12 inches of subgrade soils are considered acceptable for pavement support when prepared to a dense and uniform consistency of at least 95% of the modified Proctor maximum dry density and within +/- 2% of the soil's optimum moisture content.

Based on the laboratory CBR testing, we recommend a CBR value of eighteen (18) be used in design of project pavements. Based on the Georgetown County Roadway Design and Construction Manual, local residential roads with less than 50 dwelling units should have an equivalent daily load application (EDLA) of 8. A serviceability index of 2.0 has been used based on the Design Manual. Utilizing a CBR value of eighteen (18), an EDLA of 8 and the Design Nomograph for Flexible Pavements with a SI of 2.0, a structural number of 1.45 was obtained. Based on this structural number and strength coefficients in the Design Manual, the following pavement recommendations are provided. The pavement recommendations are also based on the minimum standards for local residential roads as required by Georgetown County.

Composite Section:

Asphalt Surface Course – 2.0"
Aggregate Base Course – 6"

Full Depth Asphalt:

Asphalt Surface Course – 2.0"
Asphalt Binder Course – 3.0"

The typical pavement sections are based on the assumption that all pavements will be constructed on properly prepared, proofrolled and stable soil subgrades approved by SUMMIT's geotechnical personnel. Different combinations of materials and depths, varied to provide roughly equivalent strengths, can achieve serviceable flexible pavements.

We do not anticipate that highly plastic soils will be exposed at design subgrade. However, the subgrades should be carefully examined by an experienced geotechnical engineer following rough grading to evaluate whether or not any highly plastic soils or soft wet soils are present. If highly plastic soils are exposed in pavement subgrades, they should be undercut in accordance with the Georgetown County Roadway Design and Construction Manual and be replaced with adequately compacted low plasticity soils or can be treated with lime to reduce their objectionable behavior when wet. It is critical that a thorough proofrolling be performed on the subgrade soils prior to fill or stone base placement. Any soft or loose materials encountered should be evaluated by a SUMMIT geotechnical engineer and if necessary removed and backfilled with properly placed and compacted structural fill.

The long-term performance of any pavement section is directly related to drainage of the base and subgrade. We emphasize the good base course and subgrade drainage is absolutely essential for successful pavement performance. Water buildup in the base course will result in premature pavement failures. The subgrade and pavement should be graded to provide rapid runoff to either the outer limits of the paved area or to catch basins so that standing water will not accumulate on the subgrade or pavement surfaces. Any areas that allow water or groundwater to enter the pavement system will require sub drains (i.e. French drains) installed to prevent water entry into the pavement base and subgrades.

The majority of pavement sections incur their heaviest loads during the construction process. The construction loads are generally in excess of the design traffic loads. For this reason, we recommend that construction be staged to allow final preparation of the base course and paving to be performed near the end of the project when heavy construction equipment is not present.

Flexible asphalt pavements and bases should be constructed in accordance with the guidelines of the latest applicable South Carolina Department of Transportation Specifications. Materials, weather limitations, placement and compaction are specified under appropriate sections of this publication.

LIMITATIONS

This summary report has been prepared for the exclusive use of Dennis Corporation for specific application to the referenced project in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. Please note that our summary of observations reflects the condition of near-surface bearing soils at the locations of our soil borings and assumes that conditions are equivalent or better at depth. There is the possibility that actual conditions at other locations across the site may differ from those encountered at the test locations. These recommendations do not reflect variations in subsurface conditions that could exist intermediate of the boring locations or in unexplored areas of the site. Should such variations become apparent during construction, we reserve the right to re-evaluate our recommendations based upon the available data. In the event changes are made in the proposed construction plans, the recommendations presented in this report shall not be considered valid unless reviewed by our firm and the recommendations of this report modified or verified in writing.

There are important limitations to this and all geotechnical studies. Regardless of the thoroughness of the subsurface exploration, there is the possibility that conditions between borings will differ from those at the boring locations, that conditions are not as anticipated by the designers, or that the construction process has altered the soil conditions. Therefore, an experienced staff professional working under the supervision of a geotechnical engineer should evaluate the subgrade soils to verify that the conditions anticipated in design actually exist.

CLOSING

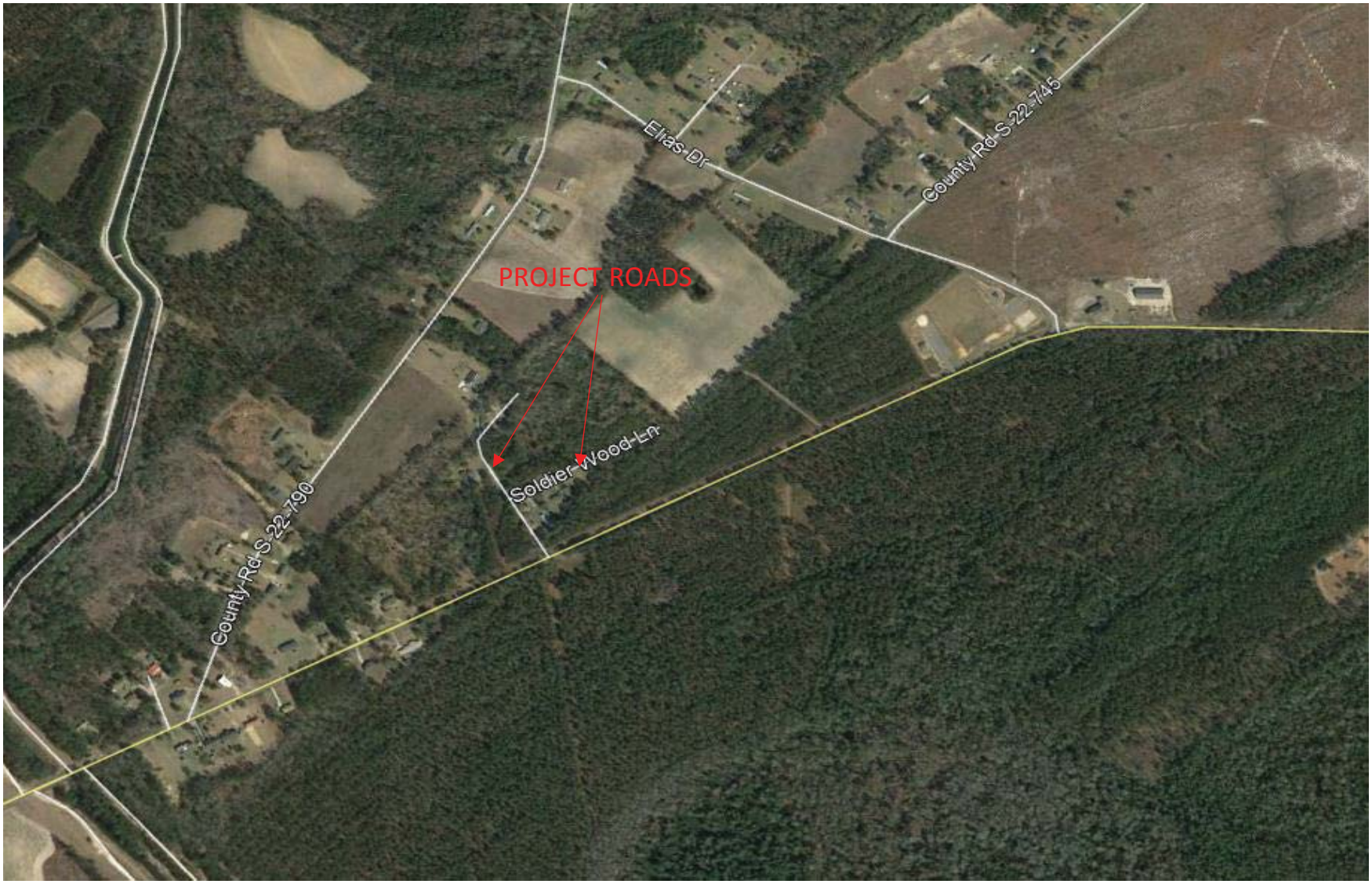
SUMMIT appreciates the opportunity to provide our professional services to you on this project. If you have any questions concerning the information in this report or if we can be of further service, please contact us.

Sincerely,
SUMMIT ENGINEERING, LABORATORY & TESTING, P.C.

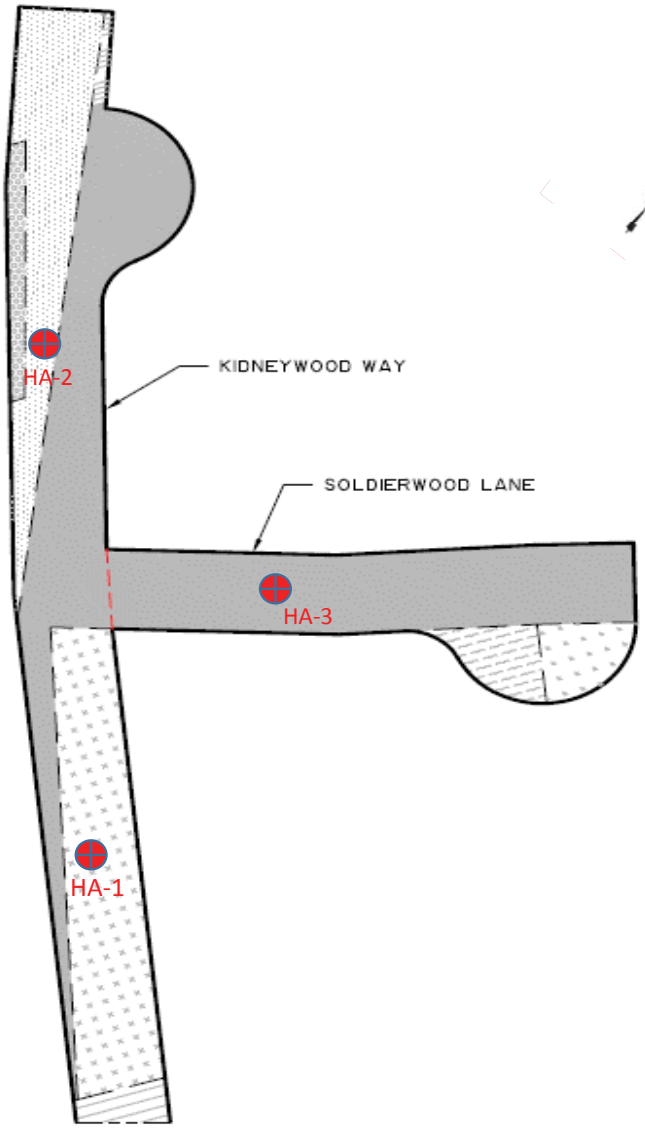
Ross R. Deaver, P.E.
SC Regional Manager

APPENDIX I

Site Vicinity Map (Figure 1)
Test Location Plan (Figure 2)



SUMMIT ENGINEERING • LABORATORY • TESTING	Summit Engineering, Laboratory & Testing, P.C. 1539 Meeting Street, Suite A Charleston, SC 29405 (843) 606-6268	Kidneywood Way and Soldierwood Lane Georgetown, South Carolina SUMMIT Project No. 1359.G0003	Figure 1 Site Vicinity Map



SUMMIT ENGINEERING • LABORATORY • TESTING	Summit Engineering, Laboratory & Testing, P.C. 1539 Meeting Street, Suite A Charleston, SC 29405 (843) 606-6268	Kidneywood Way/Soldierwood Ln. Georgetown, South Carolina SUMMIT Project No. 1359.G0003	Figure 2 Test Location Plan

APPENDIX II

Hand-Auger Boring Logs

SUMMIT
ENGINEERING • LABORATORY • TESTING

HAND AUGER BORING & DCP TESTING SHEET

Project Name: Kidneywood Way and Soldierwood Ln. **5/21/2020**

Project Number : 1359.G0003 **Lot # : N/A**

Performed by : D. Watson **County : Georgetown**

Location of Test	Depth (from)	Depth (to)	Soil Description	Depth* (feet)	DCP Blows Per 1 3/4-inch			
					1st	2nd	3rd	Avg.
HA-1 (Station 2+50) Kidneywood Way	0	2"	Grey Stone Base	0				
	2"	1'	Brown and tan slightly silty SAND	0.5	15	16	16	16
	1'	2'	Tan slightly silty SAND	2	11	15	18	17
	2'	3'	Same	3	8	14	15	15
HA-2 (Station 5+00) Kidneywood Way	0	2"	Grey Stone Base	0				
	2"	1'	Dark brown to grey silty SAND	0.5	11	13	16	15
	1'	2'	Grey and brown slightly silty SAND	2	9	14	18	16
	2'	3'	Grey and brown fine SAND	3	6	8	9	9
HA-3 (Station 1+00) Soldierwood Lane	0	2"	Grey Stone Base	0				
	2"	1'	Dark brown and tan SAND with silt	0.5	15	10	12	11
	1'	2'	Tan coarse SAND with silt - moist	2	8	9	12	11
	2'	3'	Tan and beige coarse SAND - moist	3	7	8	8	8

Notes :

* Depth from existing ground surface
HAR - Hand Auger Refusal
BOF - Bottom of Footing

APPENDIX III

Results of Lab Testing

SUMMIT
ENGINEERING • LABORATORY • TESTING

Percent Finer Than # 200 Sieve
ASTM D1140

Project Name : Kidneywood Way & Soldierwood Lane

Job Number: 1359.G0003

Date: 8-Jun-2020

Laboratory ID:

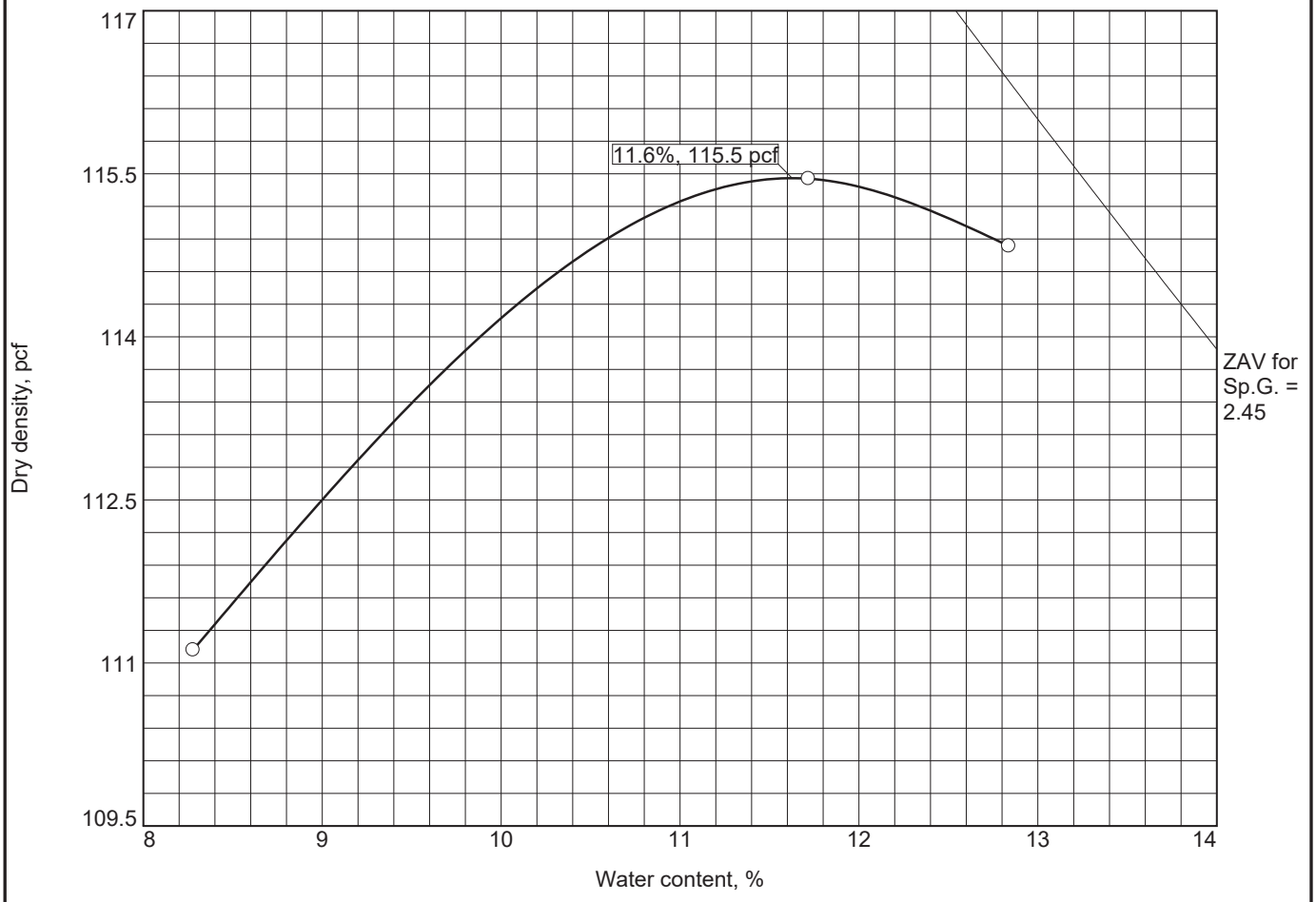
1	2	3	4	5	6	7	8	9
Boring Number	Sample Number	Sample Depth (ft.)	Weight of Pan (grams)	Initial Weight Soil+Pan (grams)	Final Weight Pan + Soil (grams)	(7-5) Weight Retained (grams)	(6-[8+5]) Weight Passing (grams)	(9/[6-5])*100 Percent Passing (%)
Kidneywood Way	HA-1	2'-3'	147.80	589.50	552.40	404.60	37.10	8.4%
Kidneywood Way	HA-2	6"-1'	145.70	376.80	345.80	200.10	31.00	13.4%
Kidneywood Way	HA-2	1'6"-2'	146.40	548.50	513.50	367.10	35.00	8.7%
Soldierwood	HA-3	1'6"-2'6"	149.7	528.1	50..6	353.90	24.50	6.5%
Soldierwood	HA-3	2'6"-3'	148	610.1	595.4	447.40	14.70	3.2%

SUMMIT
ENGINEERING • LABORATORY • TESTING

Moisture Content of Soil
ASTM D2216

Project Name : Kidneywood Way & Soldierwood Lane
Job Number: 1359.G0003
Laboratory ID:
Date: Monday, June 08, 2020

1	2	3	4	5	6	7	8	9
Boring Number	Sample Number	Sample Depth (ft.)	Weight of Pan (grams)	Weight of Pan Plus Wet Soil (grams)	Weight of Pan Plus Dry Soil (grams)	(7-5) Weight of Dry Soil (grams)	(6-7) Weight of Water (grams)	(9/8)*100 Moisture Content (%)
Kidneywood Way	HA-1	2'-3'	147.80	662.90	598.50	450.70	64.40	14.3
Kidneywood Way	HA-2	6"-1'	145.70	404.30	376.80	231.10	27.50	11.9
Kidneywood Way	HA-2	1'6"-2'	146.40	604.20	548.50	402.10	55.70	13.9
Soldierwood	HA-3	1'6"-2'6"	149.70	592.10	528.10	378.40	64.00	16.9
Soldierwood	HA-3	2'6"-3'	148.00	711.70	628.20	480.20	83.50	17.4



Test specification: ASTM D 1557-91 Procedure A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
							0	12.3

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 115.5 pcf Optimum moisture = 11.6 %	Dark Brown Silty Fine Sand

Project No. 1359.G0003 **Client:** Dennis Corporation
Project: Kidneywood Way & Soldierwood
Date: 5-22-2020
○ **Location:** Georgetown County **Sample Number:** 1

Summit Engineering

Ft. Mill, South Carolina

Remarks:

Figure

Tested By: CC **Checked By:** DW

SUMMIT

REPORT OF CBR FINDINGS

PROJECT : Kidneywood Way
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0003

SAMPLE INFORMATION	
SAMPLE #	1
Sample location:	Bulk Sample
Sample Description:	Dark brown silty SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	115.5	Optimum Moisture Content:	11.6
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SP
% Passing #200	12.3	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	10
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	106.5
% COMPACTION	92.2
AVG. MOISTURE CONTENT (DURING COMPACTION)	11.0
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	14.5
SWELL (%)	0.00
CBR VALUE	14.1

Comments:
Tests performed in accordance with ASTM D-1883.

SUMMIT

REPORT OF CBR FINDINGS

PROJECT : Kidneywood Way
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0003

SAMPLE INFORMATION	
SAMPLE #	1
Sample location:	Bulk Sample
Sample Description:	Dark brown silty SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	115.5	Optimum Moisture Content:	11.6
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SP
% Passing #200	12.3	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	25
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	109.1
% COMPACTION	94.5
AVG. MOISTURE CONTENT (DURING COMPACTION)	11.0
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	14.4
SWELL (%)	0.00
CBR VALUE	22.4

Comments:
Tests performed in accordance with ASTM D-1883.

SUMMIT

REPORT OF CBR FINDINGS

PROJECT : Kidneywood Way
CBR Testing

CLIENT: Dennis Corporation

PROJECT #: 1359.G0003

SAMPLE INFORMATION	
SAMPLE #	1
Sample location:	Bulk Sample
Sample Description:	Dark brown silty SAND

INDEX PROPERTIES			
MAXIMUM DRY DENSITY:	115.5	Optimum Moisture Content:	11.6
% Passing 3/4"		LL: n/a PI:	
% Passing #4		USCS Classification:	SP
% Passing #200	12.3	AASHTO Classification:	

TESTING INFORMATION	
COMPACTION METHOD:	ASTM D-1557
NUMBER OF BLOWS	56
CONDITION OF SAMPLE:	Soaked
SURCHARGE AMOUNT:	10
DRY DENSITY PRIOR TO SOAKING	112.4
% COMPACTION	97.3
AVG. MOISTURE CONTENT (DURING COMPACTION)	11.1
AVERAGE MOISTURE CONTENT (AFTER SOAKING)	13.4
SWELL (%)	0.00
CBR VALUE	37.8

Comments:
Tests performed in accordance with ASTM D-1883.