

REFERENCE: U-6058

PROJECT: 47482

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY CARTERET
PROJECT DESCRIPTION ROUNDABOUT AT
THE INTERSECTION OF US 70 (LIVE OAK STREET)
AND NC 101

PAVEMENT AND SUBGRADE INVESTIGATION

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------------|-----------|--------------|
| N.C. | U-6058 | 1 | 11 |

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT, AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

| |
|-------------------|
| PERSONNEL |
| <u>K. PLUMMER</u> |
| <u>S. JOHNSON</u> |
| <u>S. HARDEE</u> |

| | |
|-----------------|----------------------------|
| INVESTIGATED BY | <u>WOOD E&IS, INC.</u> |
| DRAWN BY | <u>R. RAHIE</u> |
| CHECKED BY | <u>S. JOHNSON</u> |
| SUBMITTED BY | <u>K. PLUMMER</u> |
| DATE | <u>NOVEMBER, 2019</u> |

WOOD E&IS, INC.
4021 STIRRUP CREEK DRIVE, SUITE 100
DURHAM, NORTH CAROLINA 27703
(919) 381-9900

NC Engineering F-1253 NC Geology C-247



DocuSigned by:
Kelly R. Plummer 1/7/2020
6AC15130-8A04-40E0-8000-000000000000 DATE

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

DATE: 8-15-14

8/17/19

07-JAN-2020 10:45
S:\Projects\Road\NC-DOT\201\201-0001\201-0001.dwg

SEPI
ENGINEERING &
CONSTRUCTION

1025 Wade Avenue
Raleigh, NC 27605
Tel: 919-789-9977
Fax: 919-789-9591
License: C-2197

PROJECT REFERENCE NO. SHEET NO.

U-6058

3

R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**



PAVEMENT INVESTIGATION DATA SHEET

| | |
|----------|-----------|
| Project: | 47482.1.1 |
| TIP: | U-6058 |

| | |
|---------|-----------------|
| Route: | US-70 and NC101 |
| County: | CARTERET |

| | |
|-----------|------------|
| Date: | 04/16/19 |
| Notes By: | K. PLUMMER |

| | | Width | | | | Thickness | | | | | | | Subgrade | | | | | | | | GPS Coordinates | |
|-----------------------------|--------------------------------|-------------------------|-------------------------|----------------------------------|------------------------|---------------------------|--------------|---------------|----------|----------|-----------|--------------------------------------|--|----------------|---------------------------|-----------------|-------|-------------------|---|----------|-----------------|--|
| Position (Sta.,Lane,Shldr.) | Cut/Fill (Est. of Amount) (ft) | Lane(s) (ft) | Shoulder(s) (ft) | Offset Distance (See Notes) (ft) | Crown "C" or Super "S" | Gross to Top of Soil (in) | Asphalt (in) | CONCRETE (in) | RAP (in) | ABC (in) | STBC (in) | Pavement Layering | Description | Sample Number | AASHTO Classification | Soil Moisture % | Probe | Boring Depth (ft) | Asphalt Notes | Northing | Easting | |
| L 11+95 WB OSL | 0 | OSL - 10.3 | OSS - 0.8 ISS - 11.3 | 8.6 FW | C | 12.0 | 12.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 1.0 - 5.5 ft: CPU: Brown, fine sandy SILT | BK-1 | A-4(0) | M / W | N/A | 5.5 | Minor fatigue cracking with polished aggregate. Water at 4.0 feet. No DCP test was performed at this location. | 362,928 | 2,706,683 | |
| L 12+00 WB OSL | 0 | OSL - 10.3 | OSS - 0.8 ISS - 11.3 | 7.2 FW | C | 12.0 | 12.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 1.0 - 2.5 ft: CPU: Gray, Silty CLAY 2.5 - 5.5 ft: CPU: Gray, Silty Fine SAND | R-108 | A-6 A-2-4 | W W | DCP | 5.5 | Minor fatigue cracking with polished aggregate. Water at 4.9 feet. | 362,934 | 2,706,681 | |
| L 12+00 WB ISS | 0 | OSL - 10.3 ISL - 9.8 | ISS - 11.3 | 5.7 FW | C | 18.0 | 14.0 | N/A | N/A | N/A | 4.0 | Asphalt STBC Soil Subgrade | 1.2 - 1.5 ft: STBC: Gray, Silty fine SAND with shells 1.5 - 3.5 ft: CPU: Tan, Clayey SILT 3.5 - 5.5 ft: CPU: Gray, Silty fine SAND | S-102 | A-2-4 A-4(4) A-2-4 | M 21 W | DCP | 5.5 | Minor fatigue cracking with polished aggregate. Water at 5.0 feet. | 362,928 | 2,706,689 | |
| L 12+00 WB ISL | 0 | ISL - 9.8 | ISS - 11.3 | 3.8 FW | C | 14.0 | 14.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 1.2 - 5.5 ft: CPU: Dark gray, Silty fine SAND | | A-2-4 | W | DCP | 5.5 | Some polished aggregate. | 362,922 | 2,706,697 | |
| L 12+00 EB LTL | 0 | LTL - 9.8 | OSS - 1.9 | 3.6 FY | C | 10.0 | 10.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 0.8 - 3.5 ft: CPU: Gray, Clayey fine SAND 3.5 - 5.5 ft: CPU: Tan, Silty fine SAND | S-105 | A-4(2) A-2-4 | 23 W | DCP | 5.5 | Some polished aggregate. Water at 4.9 feet. | 362,915 | 2,706,706 | |
| L 12+00 EB OSL | 0 | OSL - 10.0 | OSS - 1.9 | 1.6 F Curb | C | 13.0 | 6.0 | N/A | N/A | N/A | 7.0 | Asphalt STBC Soil Subgrade | 0.5 - 1.1 ft: STBC: Tan, Silty Fine SAND 1.2 - 3.5 ft: CPU: Tan, Silty fine SAND 3.5 - 5.5 ft: CPU: Tan and gray, Silty CLAY | S-108 | A-2-4 A-2-4 A-6(12) | M 22 | DCP | 5.5 | Moderate fatigue cracking and longitudinal cracking. Polished aggregate | 362,906 | 2,706,717 | |
| L 16+35 EB | 0 | EB - 10.2 | OSS - 1.3 | 1.6 FW | C | 10.0 | 10.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 0.9 - 3.5 ft: CPU: Gray, Fine sandy CLAY 3.5 - 5.5 ft: CPU: Gray, Silty fine SAND | S-109 | A-6(5) A-2-4 | 20 W | DCP | 5.5 | Moderate tranverse and logitudinal cracking. Polished aggreate. Water at 4.9 feet | 363,178 | 2,707,032 | |
| L 16+35 CTL | 0 | CTL - 10.1 | OSS - 1.3 | 6.3 LT 4.9 RT | C | 14.0 | 14.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 1.2 - 5.5 ft: CPU: Gray, Silty fine SAND with trace clay | | A-2-4 | W | DCP | 5.5 | Polished aggregate. Water at 5.4 feet | 363,191 | 2,707,019 | |
| L 16+35 WB | 0 | WB - 10.3 | OSS - 5.0 | 6.4 FW | C | 10.5 | 10.5 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 0.8 - 2.0 ft: CPU: Tan, Fine sandy CLAY 3.5 - 5.5 ft: CPU: Gray, Silty fine SAND | S-112 | A-6(9) A-2-4 | 21 W | DCP | 5.5 | Moderate to severe fatigue, longitudinal, and transverse cracking. Polished aggregate. Water at 4.4 feet. | 363,202 | 2,707,019 | |
| Y 11+70 NB | 0 | NB - 12.5 | N/A | 7.5 FY | C | 12.5 | 6.5 | 6.0 | N/A | N/A | N/A | Asphalt Concrete Soil Subgrade | CPU: Tan, Silty fine SAND | N/A | N/A | N/A | DCP | N/A | Moderate to severe fatigue, longitudinal and transverse cracking. A one inch layer of stripped asphalt observed at a depth of approximately 0.5 feet within the pavement structure. Boring not augered due to possible utility. | 363,255 | 2,706,772 | |
| Y 11+70 SB | 0 | SB - 9.7 | OSS - 1.0 | 3.0 FW | C | 11.0 | 11.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 0.9 - 2.0 ft: CPU: Gray, Silty CLAY 2.0 - 5.5 ft: CPU: Tan, gray, Fine sandy CLAY | S-116 S-117 | A-6(6) A-6(6) | 19 26 | DCP | 5.5 | Moderate transverse cracking. Polished aggregate. Water at 4.0 feet. | 363,256 | 2,706,758 | |
| L 13+20 (Concrete Island) | 0 | N/A | N/A | N/A | N/A | 9.5 | N/A | 3.5 | N/A | N/A | 6.0 | Concrete STBC Soil Subgrade | 0.8 - 2.5 ft: CPU: Tan to Brown, Silty, SAND 2.5 - 7.0 ft: CPU: Brown and Gray, Silty CLAY 7.0 - 10.0 ft: CPU: Tan, Silty, SAND | | A-2-4 A-6 A-2-4 | N/A | N/A | 10 | Performed as SPT boring for previous roadway investigation. | 363,001 | 2,706,733 | |
| RND 11+50 | 0 | N/A | N/A | N/A | C | 13.0 | 13.0 | N/A | N/A | N/A | N/A | Asphalt Soil Subgrade | 1.1 - 3.0 ft: CPU: Black, Sandy SILT 3.0 - 7.0 ft: CPU: Gray, Silty CLAY 7.0 - 10.0 ft: CPU: Tan, Silty, SAND | | A-4 A-6 A-2-4 | N/A | N/A | 10 | Performed as SPT boring for previous roadway investigation. | 363,128 | 2,706,812 | |
| RND 12+00 | 0 | N/A | N/A | N/A | C | 14.0 | 8.0 | N/A | N/A | N/A | 6.0 | Asphalt STBC Soil Subgrade | 1.2 - 3.0 ft: CPU: Gray, Sandy SILT 3.0 - 7.0 ft: CPU: Gray and Orange, Silty CLAY 7.0 - 10.0 ft: CPU: Tan, Silty, SAND | SS-6 | A-4 A-6(10) A-2-4 | 21 | N/A | 10 | Performed as SPT boring for previous roadway investigation. | 363,124 | 2,706,782 | |

Notes:

OSL = Outside Lane
ISL = Inside Lane
RTL = Right Turn Lane

CTL = Center Turn Lane
LTL = Left Turn Lane
PS = Paved Shoulder

OSS = Outside Shoulder
ISS = Inside Shoulder
ACCEL = Acceleration Lane

DECEL = Deceleration Lane
IGM = Inside Grass Median
OGS = Outside Grass Shoulder

COL = Collector Lane
FW = From White
FY = From Yellow

RT = Right
LT = Left
O = Outside

I = Inside
EB = East Bound
WB = West Bound

RAP = Reclaimed Asphalt Pavement
NM = Not Measured
STBC = Soil Type Base Course

CPU = Undivided Coastal Plain
AC = Asphalt Concrete

| CONE PENEROMETER DATA CODE SHEET | | | | | | | WBS No. | PROJECT TIP I.D. | | | ROUTE | | | |
|----------------------------------|------------------------|--------|----------------------------|--|--|--|-----------|--------------------------------|--------|-------------------------------|--------------------------------|--|-----------|--|
| | | | | | | | 47482.1.1 | U-6058 | | | Roundabout at US 70 and NC 101 | | | |
| | | | | | | | COUNTY | FIELD PROFESSIONAL | | | DRILLER | | | |
| | | | | | | | Carteret | K. Plummer | | | Carteret | | | |
| Station (Location) Information | | | | | | | DATE | Station (Location) Information | | | | | DATE | |
| L 12+00 WB OSL | | | | | | | 4/16/2019 | L 12+00 WB ISS | | | | | 4/16/2019 | |
| Type | Test Interval | | Datum or Reference Surface | | | | Type | Test Interval | | Datum or Reference Subsurface | | | | |
| DCP | Cumulative cm per blow | | Soil Subgrade | | | | DCP | Cumulative CM per blow | | STBC | | | | |
| 0.00 | | 98.60 | | | | | 0.00 | | 66.75 | | | | | |
| 1.30 | | 100.30 | | | | | 1.92 | | 69.54 | | | | | |
| 2.10 | | 101.80 | | | | | 2.50 | | 71.94 | | | | | |
| 2.90 | | 103.50 | | | | | 2.98 | | 74.34 | | | | | |
| 4.20 | | | | | | | 3.72 | | 76.31 | | | | | |
| 4.80 | | | | | | | 4.16 | | 78.29 | | | | | |
| 5.50 | | | | | | | 4.67 | | 80.22 | | | | | |
| 6.40 | | | | | | | 5.11 | | 82.27 | | | | | |
| 7.50 | | | | | | | 5.56 | | 84.02 | | | | | |
| 8.70 | | | | | | | 5.99 | | 85.73 | | | | | |
| 10.00 | | | | | | | 6.39 | | 87.22 | | | | | |
| 11.40 | | | | | | | 6.71 | | 88.8 | | | | | |
| 12.40 | | | | | | | 7.03 | | 90.35 | | | | | |
| 13.70 | | | | | | | 7.34 | | 91.99 | | | | | |
| 14.50 | | | | | | | 7.66 | | 93.55 | | | | | |
| 15.50 | | | | | | | 7.97 | | 95.04 | | | | | |
| 16.40 | | | | | | | 8.29 | | 96.31 | | | | | |
| 17.40 | | | | | | | 8.53 | | 97.68 | | | | | |
| 18.30 | | | | | | | 8.77 | | 98.89 | | | | | |
| 19.30 | | | | | | | 9.01 | | 100.17 | | | | | |
| 20.50 | | | | | | | 9.25 | | 101.5 | | | | | |
| 21.50 | | | | | | | 9.49 | | 102.92 | | | | | |
| 23.00 | | | | | | | 9.84 | | 104.36 | | | | | |
| 24.50 | | | | | | | 10.19 | | 105.64 | | | | | |
| 25.70 | | | | | | | 10.54 | | 106.91 | | | | | |
| 26.70 | | | | | | | 10.89 | | 107.99 | | | | | |
| 27.80 | | | | | | | 11.24 | | 109.35 | | | | | |
| 28.80 | | | | | | | 11.65 | | 110.56 | | | | | |
| 29.80 | | | | | | | 12.06 | | 111.73 | | | | | |
| 30.90 | | | | | | | 12.47 | | 112.82 | | | | | |
| 31.80 | | | | | | | 12.88 | | | | | | | |
| 33.10 | | | | | | | 13.29 | | | | | | | |
| 34.80 | | | | | | | 13.93 | | | | | | | |
| 37.00 | | | | | | | 14.57 | | | | | | | |
| 39.50 | | | | | | | 15.21 | | | | | | | |
| 44.20 | | | | | | | 15.85 | | | | | | | |
| 50.60 | | | | | | | 16.49 | | | | | | | |
| 55.90 | | | | | | | 17.30 | | | | | | | |
| 59.70 | | | | | | | 18.07 | | | | | | | |
| 63.00 | | | | | | | 18.92 | | | | | | | |
| 66.70 | | | | | | | 19.63 | | | | | | | |
| 70.00 | | | | | | | 20.35 | | | | | | | |
| 73.20 | | | | | | | 21.05 | | | | | | | |
| 75.80 | | | | | | | 21.80 | | | | | | | |
| 77.50 | | | | | | | 22.81 | | | | | | | |
| 79.40 | | | | | | | 23.74 | | | | | | | |
| 81.10 | | | | | | | 24.60 | | | | | | | |
| 82.80 | | | | | | | 26.12 | | | | | | | |
| 84.70 | | | | | | | 27.72 | | | | | | | |
| 86.40 | | | | | | | 29.89 | | | | | | | |
| 87.80 | | | | | | | 31.65 | | | | | | | |
| 89.20 | | | | | | | 35.56 | | | | | | | |
| 90.60 | | | | | | | 42.32 | | | | | | | |
| 91.70 | | | | | | | 46.34 | | | | | | | |
| 93.00 | | | | | | | 51.21 | | | | | | | |
| 94.40 | | | | | | | 55.90 | | | | | | | |
| 95.70 | | | | | | | 59.89 | | | | | | | |
| 97.20 | | | | | | | 63.41 | | | | | | | |

| CONE PENEROMETER DATA CODE SHEET | | | | | | | | WBS No. | PROJECT TIP I.D. | | | | ROUTE | | | |
|----------------------------------|------------------------|--|--|----------------------------|--|--|--|-----------|--------------------------------|--|--|-------------------------------|--------------------------------|--|-----------|--|
| | | | | | | | | 47482.1.1 | U-6058 | | | | Roundabout at US 70 and NC 101 | | | |
| | | | | | | | | COUNTY | FIELD PROFESSIONAL | | | | DRILLER | | | |
| | | | | | | | | Carteret | K. Plummer | | | | S. Hardee | | | |
| Station (Location) Information | | | | | | | | DATE | Station (Location) Information | | | | | | DATE | |
| L 12+00 WB ISL | | | | | | | | 4/16/2019 | L 12+00 EB LTL | | | | | | 4/16/2019 | |
| Type | Test Interval | | | Datum or Reference Surface | | | | Type | Test Interval | | | Datum or Reference Subsurface | | | | |
| DCP | Cumulative cm per blow | | | Soil Subgrade | | | | DCP | Cumulative CM per blow | | | Soil Subgrade | | | | |
| 0.00 | | | | | | | | 0.00 | | | | | | | | |
| 1.20 | | | | | | | | 1.10 | | | | | | | | |
| 2.30 | | | | | | | | 2.10 | | | | | | | | |
| 3.10 | | | | | | | | 2.80 | | | | | | | | |
| 4.00 | | | | | | | | 3.40 | | | | | | | | |
| 4.80 | | | | | | | | 3.90 | | | | | | | | |
| 5.50 | | | | | | | | 4.40 | | | | | | | | |
| 6.00 | | | | | | | | 4.90 | | | | | | | | |
| 6.80 | | | | | | | | 5.40 | | | | | | | | |
| 7.50 | | | | | | | | 5.80 | | | | | | | | |
| 8.30 | | | | | | | | 6.40 | | | | | | | | |
| 9.20 | | | | | | | | 6.70 | | | | | | | | |
| 10.00 | | | | | | | | 7.00 | | | | | | | | |
| 11.00 | | | | | | | | 7.20 | | | | | | | | |
| 12.50 | | | | | | | | 7.54 | | | | | | | | |
| 14.40 | | | | | | | | 7.88 | | | | | | | | |
| 16.60 | | | | | | | | 8.22 | | | | | | | | |
| 18.50 | | | | | | | | 8.56 | | | | | | | | |
| 20.10 | | | | | | | | 8.90 | | | | | | | | |
| 21.80 | | | | | | | | 9.24 | | | | | | | | |
| 23.70 | | | | | | | | 9.58 | | | | | | | | |
| 25.50 | | | | | | | | 9.92 | | | | | | | | |
| 27.50 | | | | | | | | 10.26 | | | | | | | | |
| 30.20 | | | | | | | | 10.60 | | | | | | | | |
| 34.10 | | | | | | | | 11.08 | | | | | | | | |
| 38.00 | | | | | | | | 11.56 | | | | | | | | |
| 41.10 | | | | | | | | 12.04 | | | | | | | | |
| 44.40 | | | | | | | | 12.52 | | | | | | | | |
| 51.90 | | | | | | | | 13.00 | | | | | | | | |
| 60.10 | | | | | | | | 13.66 | | | | | | | | |
| 69.90 | | | | | | | | 14.32 | | | | | | | | |
| 76.20 | | | | | | | | 14.98 | | | | | | | | |
| 83.70 | | | | | | | | 15.64 | | | | | | | | |
| 90.80 | | | | | | | | 16.60 | | | | | | | | |
| 98.90 | | | | | | | | 17.70 | | | | | | | | |
| 107.40 | | | | | | | | 18.90 | | | | | | | | |
| 112.90 | | | | | | | | 20.40 | | | | | | | | |
| 116.90 | | | | | | | | 22.00 | | | | | | | | |
| | | | | | | | | 23.90 | | | | | | | | |
| | | | | | | | | 26.50 | | | | | | | | |
| | | | | | | | | 30.00 | | | | | | | | |
| | | | | | | | | 34.00 | | | | | | | | |
| | | | | | | | | 40.20 | | | | | | | | |
| | | | | | | | | 54.30 | | | | | | | | |
| | | | | | | | | 88.90 | | | | | | | | |
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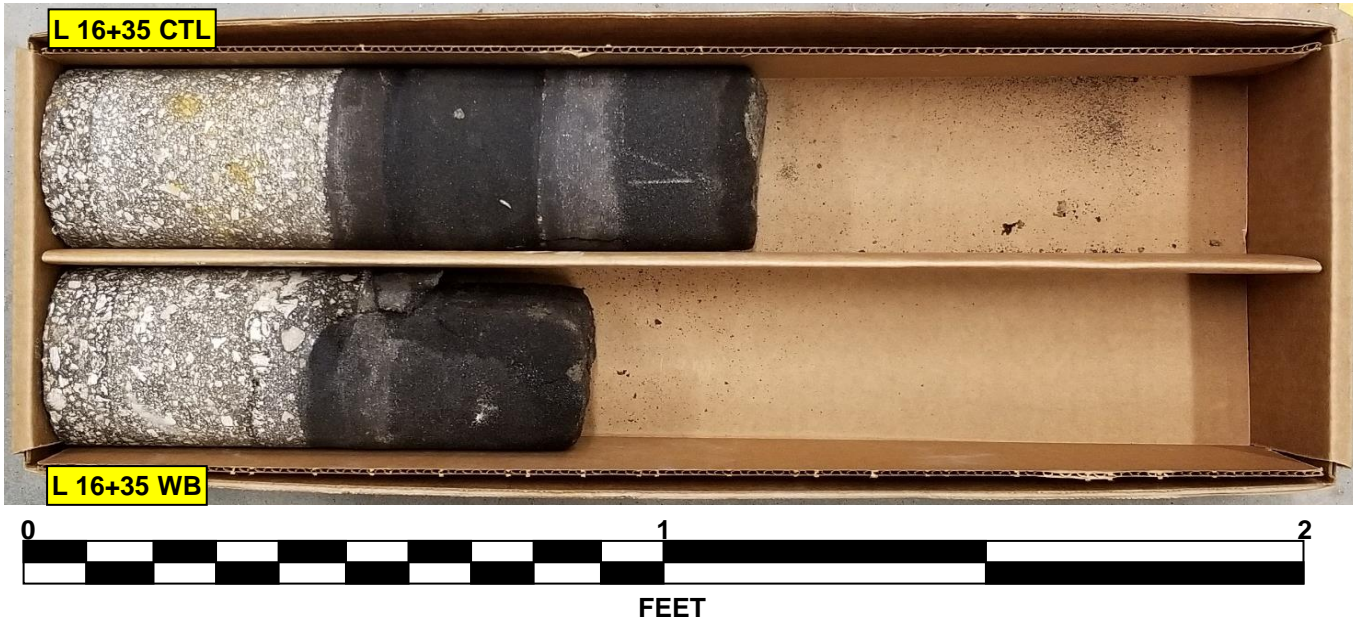
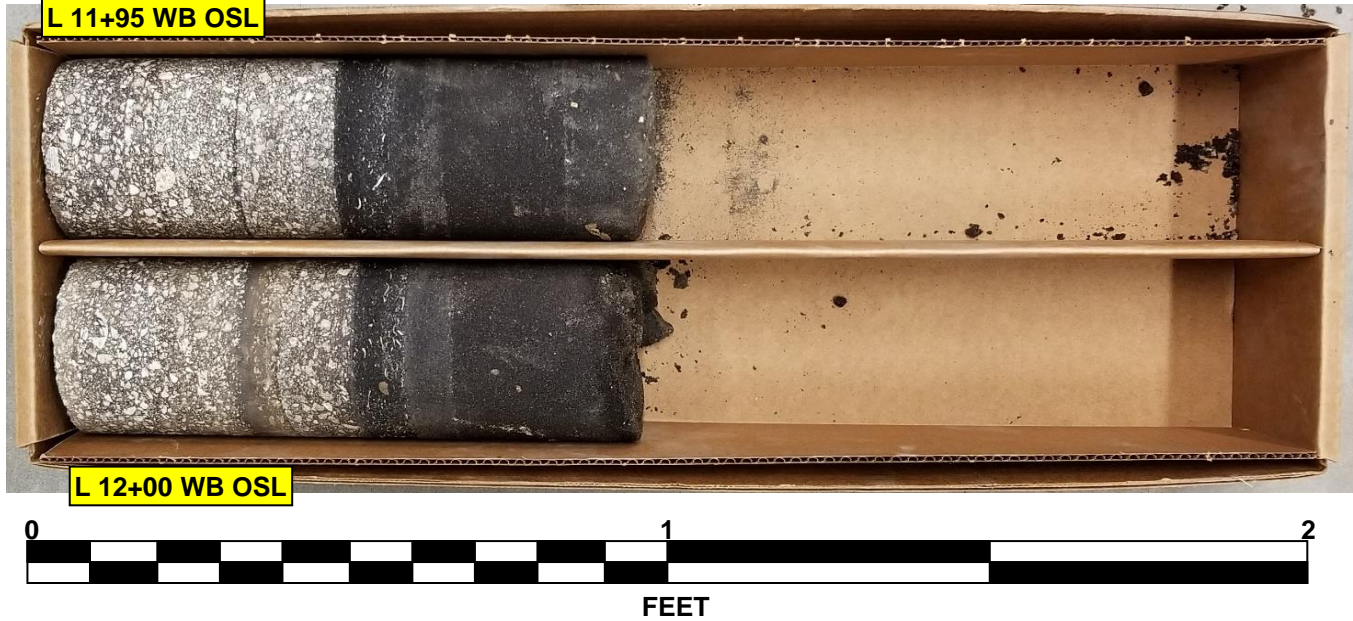
| CONE PENEROMETER DATA CODE SHEET | | | | | | | | WBS No. | PROJECT TIP I.D. | | | ROUTE | | | |
|----------------------------------|------------------------|--------|--|----------------------------|--|--|--|-----------|--------------------------------|--|--|--------------------------------|--|--|-----------|
| | | | | | | | | 47482.1.1 | U-6058 | | | Roundabout at US 70 and NC 101 | | | |
| | | | | | | | | COUNTY | FIELD PROFESSIONAL | | | DRILLER | | | |
| | | | | | | | | Carteret | K. Plummer | | | Carteret | | | |
| Station (Location) Information | | | | | | | | DATE | Station (Location) Information | | | | | | DATE |
| L 12+00 EB OSL | | | | | | | | 4/16/2019 | L 16+35 EB | | | | | | 4/17/2019 |
| Type | Test Interval | | | Datum or Reference Surface | | | | Type | Test Interval | | | Datum or Reference Subsurface | | | |
| DCP | Cumulative cm per blow | | | STBC | | | | DCP | Cumulative CM per blow | | | Soil Subgrade | | | |
| 0.00 | | 35.60 | | | | | | 0.00 | | | | | | | |
| 1.40 | | 37.50 | | | | | | 2.80 | | | | | | | |
| 1.80 | | 39.60 | | | | | | 4.00 | | | | | | | |
| 2.40 | | 42.00 | | | | | | 4.80 | | | | | | | |
| 3.20 | | 44.70 | | | | | | 5.70 | | | | | | | |
| 3.80 | | 48.50 | | | | | | 6.50 | | | | | | | |
| 4.40 | | 56.80 | | | | | | 7.50 | | | | | | | |
| 4.90 | | 62.70 | | | | | | 8.40 | | | | | | | |
| 5.50 | | 67.40 | | | | | | 9.50 | | | | | | | |
| 6.00 | | 71.50 | | | | | | 10.80 | | | | | | | |
| 6.80 | | 75.80 | | | | | | 12.70 | | | | | | | |
| 7.50 | | 79.40 | | | | | | 16.70 | | | | | | | |
| 8.10 | | 82.80 | | | | | | 21.70 | | | | | | | |
| 9.00 | | 85.80 | | | | | | 26.00 | | | | | | | |
| 9.50 | | 88.70 | | | | | | 29.50 | | | | | | | |
| 10.20 | | 91.30 | | | | | | 32.60 | | | | | | | |
| 10.70 | | 93.80 | | | | | | 35.30 | | | | | | | |
| 11.20 | | 96.30 | | | | | | 37.60 | | | | | | | |
| 11.60 | | 98.70 | | | | | | 39.70 | | | | | | | |
| 12.10 | | 101.00 | | | | | | 41.60 | | | | | | | |
| 12.60 | | | | | | | | 43.50 | | | | | | | |
| 13.00 | | | | | | | | 45.20 | | | | | | | |
| 13.50 | | | | | | | | 46.70 | | | | | | | |
| 14.00 | | | | | | | | 48.30 | | | | | | | |
| 15.10 | | | | | | | | 49.80 | | | | | | | |
| 15.50 | | | | | | | | 51.20 | | | | | | | |
| 16.00 | | | | | | | | 52.70 | | | | | | | |
| 16.60 | | | | | | | | 54.00 | | | | | | | |
| 17.30 | | | | | | | | 55.50 | | | | | | | |
| 17.80 | | | | | | | | 56.90 | | | | | | | |
| 18.50 | | | | | | | | 58.20 | | | | | | | |
| 19.00 | | | | | | | | 59.70 | | | | | | | |
| 19.60 | | | | | | | | 61.00 | | | | | | | |
| 20.10 | | | | | | | | 62.50 | | | | | | | |
| 20.60 | | | | | | | | 64.00 | | | | | | | |
| 21.00 | | | | | | | | 65.50 | | | | | | | |
| 21.50 | | | | | | | | 67.10 | | | | | | | |
| 21.90 | | | | | | | | 68.80 | | | | | | | |
| 22.40 | | | | | | | | 70.30 | | | | | | | |
| 22.80 | | | | | | | | 71.70 | | | | | | | |
| 23.40 | | | | | | | | 73.40 | | | | | | | |
| 24.00 | | | | | | | | 74.80 | | | | | | | |
| 24.50 | | | | | | | | 76.20 | | | | | | | |
| 24.90 | | | | | | | | 77.70 | | | | | | | |
| 25.50 | | | | | | | | 78.80 | | | | | | | |
| 26.00 | | | | | | | | 80.40 | | | | | | | |
| 26.50 | | | | | | | | 81.80 | | | | | | | |
| 26.90 | | | | | | | | 83.20 | | | | | | | |
| 27.50 | | | | | | | | 84.60 | | | | | | | |
| 28.10 | | | | | | | | 86.10 | | | | | | | |
| 28.60 | | | | | | | | 87.50 | | | | | | | |
| 29.30 | | | | | | | | 89.00 | | | | | | | |
| 30.00 | | | | | | | | 90.10 | | | | | | | |
| 30.90 | | | | | | | | 91.40 | | | | | | | |
| 31.60 | | | | | | | | 92.40 | | | | | | | |
| 32.60 | | | | | | | | 93.40 | | | | | | | |
| 33.50 | | | | | | | | | | | | | | | |
| 34.50 | | | | | | | | | | | | | | | |

| CONE PENEROMETER DATA CODE SHEET | | | | | | | WBS No. | PROJECT TIP I.D. | | | ROUTE | | | | |
|----------------------------------|------------------------|--------|--|----------------------------|--|--|-----------|--------------------------------|------------------------|--------|--------------------------------|-------------------------------|-----------|--|--|
| | | | | | | | 47482.1.1 | U-6058 | | | Roundabout at US 70 and NC 101 | | | | |
| | | | | | | | COUNTY | FIELD PROFESSIONAL | | | DRILLER | | | | |
| | | | | | | | Carteret | K. Plummer | | | S. Hardee | | | | |
| Station (Location) Information | | | | | | | DATE | Station (Location) Information | | | | | DATE | | |
| L 16+35 CTL | | | | | | | 4/17/2019 | L 16+35 WB | | | | | 4/17/2019 | | |
| Type | Test Interval | | | Datum or Reference Surface | | | | Type | Test Interval | | | Datum or Reference Subsurface | | | |
| DCP | Cumulative cm per blow | | | Soil Subgrade | | | | DCP | Cumulative CM per blow | | | Soil Subgrade | | | |
| 0.00 | | 72.20 | | | | | | 0.00 | | 68.00 | | | | | |
| 1.00 | | 73.30 | | | | | | 5.20 | | 70.00 | | | | | |
| 2.00 | | 74.40 | | | | | | 6.20 | | 71.60 | | | | | |
| 3.00 | | 75.60 | | | | | | 6.80 | | 73.00 | | | | | |
| 3.50 | | 76.70 | | | | | | 7.30 | | 74.50 | | | | | |
| 4.20 | | 77.70 | | | | | | 7.80 | | 76.00 | | | | | |
| 4.70 | | 78.80 | | | | | | 8.40 | | 77.60 | | | | | |
| 5.10 | | 79.90 | | | | | | 8.80 | | 79.00 | | | | | |
| 5.80 | | 81.00 | | | | | | 9.00 | | 80.60 | | | | | |
| 6.40 | | 82.20 | | | | | | 9.30 | | 82.10 | | | | | |
| 7.00 | | 83.50 | | | | | | 9.60 | | 83.50 | | | | | |
| 7.80 | | 84.70 | | | | | | 9.90 | | 84.70 | | | | | |
| 8.30 | | 85.90 | | | | | | 10.20 | | 86.00 | | | | | |
| 8.90 | | 87.30 | | | | | | 10.50 | | 87.20 | | | | | |
| 9.40 | | 88.50 | | | | | | 10.86 | | 88.40 | | | | | |
| 10.20 | | 89.80 | | | | | | 11.22 | | 89.70 | | | | | |
| 11.00 | | 91.00 | | | | | | 11.58 | | 90.80 | | | | | |
| 11.90 | | 92.20 | | | | | | 11.94 | | 92.00 | | | | | |
| 12.00 | | 93.40 | | | | | | 12.30 | | 93.00 | | | | | |
| 12.50 | | 94.70 | | | | | | 12.70 | | 94.00 | | | | | |
| 13.00 | | 96.20 | | | | | | 13.10 | | 95.40 | | | | | |
| 14.40 | | 97.50 | | | | | | 13.50 | | 96.80 | | | | | |
| 15.80 | | 99.00 | | | | | | 13.90 | | 97.80 | | | | | |
| 18.30 | | 100.40 | | | | | | 14.30 | | 98.90 | | | | | |
| 21.80 | | 101.80 | | | | | | 14.64 | | 100.00 | | | | | |
| 25.10 | | 103.20 | | | | | | 14.98 | | 101.00 | | | | | |
| 27.90 | | 104.50 | | | | | | 15.32 | | 102.30 | | | | | |
| 30.20 | | | | | | | | 15.66 | | 103.40 | | | | | |
| 32.30 | | | | | | | | 16.00 | | 104.40 | | | | | |
| 34.30 | | | | | | | | 16.48 | | 105.40 | | | | | |
| 36.20 | | | | | | | | 16.96 | | 106.20 | | | | | |
| 37.80 | | | | | | | | 17.44 | | 107.00 | | | | | |
| 39.50 | | | | | | | | 17.92 | | 107.90 | | | | | |
| 41.00 | | | | | | | | 18.40 | | 108.80 | | | | | |
| 42.60 | | | | | | | | 19.36 | | 109.70 | | | | | |
| 44.00 | | | | | | | | 20.32 | | | | | | | |
| 45.70 | | | | | | | | 21.28 | | | | | | | |
| 47.10 | | | | | | | | 22.24 | | | | | | | |
| 48.60 | | | | | | | | 23.20 | | | | | | | |
| 49.90 | | | | | | | | 25.40 | | | | | | | |
| 51.20 | | | | | | | | 29.00 | | | | | | | |
| 52.30 | | | | | | | | 32.40 | | | | | | | |
| 53.50 | | | | | | | | 35.40 | | | | | | | |
| 54.70 | | | | | | | | 38.30 | | | | | | | |
| 55.80 | | | | | | | | 40.90 | | | | | | | |
| 57.10 | | | | | | | | 43.40 | | | | | | | |
| 58.20 | | | | | | | | 45.90 | | | | | | | |
| 59.40 | | | | | | | | 47.90 | | | | | | | |
| 60.60 | | | | | | | | 49.80 | | | | | | | |
| 61.90 | | | | | | | | 51.80 | | | | | | | |
| 63.00 | | | | | | | | 53.70 | | | | | | | |
| 64.20 | | | | | | | | 55.60 | | | | | | | |
| 65.40 | | | | | | | | 57.30 | | | | | | | |
| 66.70 | | | | | | | | 59.10 | | | | | | | |
| 67.80 | | | | | | | | 60.90 | | | | | | | |
| 68.90 | | | | | | | | 62.70 | | | | | | | |
| 70.00 | | | | | | | | 64.70 | | | | | | | |
| 71.10 | | | | | | | | 66.50 | | | | | | | |

| CONE PENEROMETER DATA CODE SHEET | | | | | | | WBS No. | PROJECT TIP I.D. | | | ROUTE | | | |
|----------------------------------|------------------------|--|--|----------------------------|--|--|-----------|--------------------------------|------------------------|-------|--------------------------------|--------|-----------|--|
| | | | | | | | 47482.1.1 | U-6058 | | | Roundabout at US 70 and NC 101 | | | |
| | | | | | | | COUNTY | FIELD PROFESSIONAL | | | DRILLER | | | |
| | | | | | | | Carteret | K. Plummer | | | Carteret | | | |
| Station (Location) Information | | | | | | | DATE | Station (Location) Information | | | | | DATE | |
| Y 11+70 NB | | | | | | | 4/17/2019 | Y 11+70 SB | | | | | 4/17/2019 | |
| Type | Test Interval | | | Datum or Reference Surface | | | | Type | Test Interval | | Datum or Reference Subsurface | | | |
| DCP | Cumulative cm per blow | | | Soil Subgrade | | | | DCP | Cumulative CM per blow | | Soil Subgrade | | | |
| 0.00 | | | | | | | | 0.00 | | 19.14 | | 92.80 | | |
| 7.02 | | | | | | | | 1.00 | | 19.48 | | 94.00 | | |
| 11.52 | | | | | | | | 1.50 | | 19.82 | | 95.30 | | |
| 16.49 | | | | | | | | 2.00 | | 20.16 | | 96.40 | | |
| 19.85 | | | | | | | | 2.60 | | 20.50 | | 97.50 | | |
| 22.88 | | | | | | | | 2.90 | | 20.80 | | 98.50 | | |
| 27.22 | | | | | | | | 3.50 | | 21.10 | | 99.50 | | |
| 31.85 | | | | | | | | 3.70 | | 21.40 | | 100.50 | | |
| 34.47 | | | | | | | | 4.20 | | 21.70 | | 101.50 | | |
| 37.41 | | | | | | | | 4.70 | | 22.00 | | 102.50 | | |
| 40.25 | | | | | | | | 5.00 | | 22.40 | | 103.40 | | |
| 43.22 | | | | | | | | 5.30 | | 22.80 | | 104.30 | | |
| 45.97 | | | | | | | | 5.50 | | 23.20 | | 105.20 | | |
| 47.95 | | | | | | | | 5.88 | | 23.60 | | 106.00 | | |
| 49.81 | | | | | | | | 6.26 | | 24.00 | | 106.80 | | |
| 51.91 | | | | | | | | 6.64 | | 24.62 | | 107.60 | | |
| 54.19 | | | | | | | | 7.02 | | 25.24 | | 108.30 | | |
| 56.73 | | | | | | | | 7.40 | | 25.86 | | 109.10 | | |
| 58.72 | | | | | | | | 7.68 | | 26.48 | | 109.80 | | |
| 60.14 | | | | | | | | 7.96 | | 27.10 | | | | |
| 61.46 | | | | | | | | 8.24 | | 28.50 | | | | |
| 63.18 | | | | | | | | 8.52 | | 30.20 | | | | |
| 64.70 | | | | | | | | 8.80 | | 33.10 | | | | |
| 66.44 | | | | | | | | 9.12 | | 36.00 | | | | |
| 68.00 | | | | | | | | 9.44 | | 39.00 | | | | |
| 69.59 | | | | | | | | 9.76 | | 41.90 | | | | |
| 71.05 | | | | | | | | 10.08 | | 44.60 | | | | |
| 72.39 | | | | | | | | 10.40 | | 47.00 | | | | |
| 73.71 | | | | | | | | 10.70 | | 49.10 | | | | |
| 75.37 | | | | | | | | 11.00 | | 51.20 | | | | |
| 77.15 | | | | | | | | 11.30 | | 53.20 | | | | |
| 78.92 | | | | | | | | 11.60 | | 55.00 | | | | |
| 81.07 | | | | | | | | 11.90 | | 56.80 | | | | |
| 81.95 | | | | | | | | 12.16 | | 58.50 | | | | |
| 82.39 | | | | | | | | 12.42 | | 60.20 | | | | |
| 82.59 | | | | | | | | 12.68 | | 61.90 | | | | |
| 82.95 | | | | | | | | 12.94 | | 63.50 | | | | |
| 83.10 | | | | | | | | 13.20 | | 65.10 | | | | |
| 83.48 | | | | | | | | 13.46 | | 66.70 | | | | |
| 83.85 | | | | | | | | 13.72 | | 68.30 | | | | |
| 84.13 | | | | | | | | 13.98 | | 69.60 | | | | |
| 84.46 | | | | | | | | 14.24 | | 71.10 | | | | |
| 84.69 | | | | | | | | 14.50 | | 72.50 | | | | |
| | | | | | | | | 14.80 | | 73.90 | | | | |
| | | | | | | | | 15.10 | | 75.10 | | | | |
| | | | | | | | | 15.40 | | 76.50 | | | | |
| | | | | | | | | 15.70 | | 77.70 | | | | |
| | | | | | | | | 16.00 | | 79.00 | | | | |
| | | | | | | | | 16.28 | | 80.10 | | | | |
| | | | | | | | | 16.56 | | 81.60 | | | | |
| | | | | | | | | 16.84 | | 82.90 | | | | |
| | | | | | | | | 17.12 | | 84.10 | | | | |
| | | | | | | | | 17.40 | | 85.50 | | | | |
| | | | | | | | | 17.68 | | 86.70 | | | | |
| | | | | | | | | 17.96 | | 88.00 | | | | |
| | | | | | | | | 18.24 | | 89.20 | | | | |
| | | | | | | | | 18.52 | | 90.50 | | | | |
| | | | | | | | | 18.80 | | 91.60 | | | | |

[illegible]

PAVEMENT CORE PHOTOGRAPHS



PAVEMENT CORE PHOTOGRAPHS



U-6058 - ROUNDABOUT AT THE INTERSECTION OF US 70 (LIVE OAK STREET) AND NC 101

| SOIL TEST RESULTS | | | | | | | | | | | | | | | | | |
|-------------------|---------|----------|----------------------|------|---------------------|---------------|------|------|-------------|---------|------|------|------------------|------|------|------------|-----------|
| SAMPLE NO. | STATION | POSITION | OFFSET DISTANCE (ft) | LINE | DEPTH INTERVAL (ft) | AASHTO CLASS. | L.L. | P.I. | % BY WEIGHT | | | | % PASSING SIEVES | | | % Moisture | % ORGANIC |
| | | | | | | | | | C. SAND | F. SAND | SILT | CLAY | 10 | 40 | 200 | | |
| BK-1 | 11+95 | WB OSL | 8.6 FW | L | 1.0-5.0 | A-4(0) | 18 | 5 | 20.4 | 32.1 | 27.1 | 18.5 | 98.1 | 89.6 | 46.4 | - | - |
| S-108 | 12+00 | EB OSL | 1.6 FC | L | 1.2-3.5 | A-6(12) | 18 | 6 | 5.2 | 18.7 | 45.4 | 30.6 | 99.9 | 97.7 | 76.8 | 21.8 | - |
| S-102 | 12+00 | WB ISS | 5.7 FW | L | 1.5-3.5 | A-4(4) | 30 | 17 | 8.3 | 29.9 | 32.1 | 29.7 | 100.0 | 97.6 | 62.6 | 20.9 | - |
| S-105 | 12+00 | EB LTL | 3.6 FY | L | 0.8-3.5 | A-4(2) | 19 | 12 | 10.2 | 36.2 | 28.3 | 25.3 | 100.0 | 97.3 | 54.6 | 23.1 | - |
| S-109 | 16+35 | EB | 1.6 FW | L | 0.9-3.5 | A-6(5) | 17 | 4 | 3.6 | 34.8 | 37.8 | 23.7 | 99.9 | 99.3 | 62.6 | 20.1 | - |
| S-112 | 16+35 | WB | 6.4 FW | L | 0.8-2.0 | A-6(9) | 26 | 13 | 3.2 | 31.7 | 39.5 | 25.6 | 100.0 | 99.5 | 66.4 | 20.9 | - |
| S-116 | 11+70 | SB | 3.0 FW | Y | 0.9-2.0 | A-6(6) | 32 | 18 | 10.2 | 27.9 | 31.4 | 30.5 | 100.0 | 96.7 | 62.8 | 18.5 | - |
| S-117 | 11+70 | SB | 3.0 FW | Y | 2.0-5.5 | A-6(6) | 32 | 19 | 4.0 | 36.3 | 43.9 | 15.8 | 100.0 | 99.1 | 62.0 | 25.5 | - |

AAHTO T99 AS NCDOT MODIFIED

Curve No. 19/060

Dry density, pcf

Water content, %

120

118

116

114

112

110

4

6

8

10

12

14

16

11%, 117 pcf

Preparation Method

Rammer: Wt. 5.5 lb. Drop 12 in.

Type

Layers: No. three Blows per 25

Mold Size 0.03333 cu. ft.

Test Performed on Material

Passing #4 Sieve

%>#4 0.1 %<No.200 46.4

Atterberg (D 4318): LL 18 PI 5

NM (D 2216) Sp.G. (D 854)

USCS (D 2487) SC-SM

AASHTO (M 145) A-4(0)

Date: Sampled ND

Received

Tested 2019-05-01

Tested By ASR

COMPACTION TESTING DATA

AASHTO T 99-15 Method A Standard

| | | | | | | |
|-----------|--------|--------|--------|--------|--------|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| WM + WS | 5881.0 | 5964.0 | 6036.0 | 6072.0 | 6050.0 | |
| WM | 4101.0 | 4101.0 | 4101.0 | 4101.0 | 4101.0 | |
| WW + T #1 | 797.8 | 867.4 | 876.9 | 794.1 | 788.4 | |
| WD + T #1 | 767.7 | 824.0 | 824.1 | 741.7 | 729.5 | |
| TARE #1 | 293.4 | 290.7 | 293.9 | 288.7 | 284.1 | |
| WW + T #2 | | | | | | |
| WD + T #2 | | | | | | |
| TARE #2 | | | | | | |
| MOIST. | 6.3 | 8.1 | 10.0 | 11.6 | 13.2 | |
| DRY DENS. | 110.7 | 114.0 | 116.4 | 116.9 | 113.9 | |

SIEVE TEST RESULTS

| | | |
|--------------|-----------|--------|
| Opening Size | % Passing | Specs. |
| .375 | 100.0 | |
| #4 | 99.9 | |
| #10 | 98.1 | |
| #20 | 95.8 | |
| #40 | 89.6 | |
| #60 | 77.7 | |
| #200 | 46.4 | |
| 0.0574 mm. | 47.1 | |
| #270 | 45.6 | |
| 0.0062 mm. | 18.5 | |

TEST RESULTS

Maximum dry density = 117 pcf

Optimum moisture = 11 %

Project No. 6468199026 Client: NCDOT

Project: U-6058 US 70 & US 101 Beaufort Roundabout

Source: L 11+95 Depth: 1.0 -5.0 Sample No.: BK-1

wood.

Material Description

Brown SILT with Sand

Remarks:

Checked by:

Title:

Figure

BEARING RATIO TEST REPORT

AASHTO T 193-13

Penetration Resistance (psi)

Penetration Depth (in.)

750

600

450

300

150

0

0

0.1

0.2

0.3

0.4

0.5

Swell (%)

Elapsed Time (hrs)

10

8

6

4

2

0

0

24

48

72

96

| | Molded | | | Soaked | | | CBR (%) | | Linearity Correction (in.) | Surcharge (lbs.) | Max. Swell (%) |
|-----|---------------|-----------------------|--------------|---------------|-----------------------|--------------|----------|----------|----------------------------|------------------|----------------|
| | Density (pcf) | Percent of Max. Dens. | Moisture (%) | Density (pcf) | Percent of Max. Dens. | Moisture (%) | 0.10 in. | 0.20 in. | | | |
| 1 ○ | 117.5 | 100.4 | 11.1 | 110.3 | 94.3 | 12.2 | 0.7 | 8.5 | 0.000 | 10.016 | 6.4 |
| 2 △ | | | | | | | | | | | |
| 3 □ | | | | | | | | | | | |

| Material Description | | | | | | | USCS | Max. Dens. (pcf) | Optimum Moisture (%) | LL | PI |
|----------------------|--|--|--|--|--|--|-------|------------------|----------------------|----|----|
| Brown SILT with Sand | | | | | | | SC-SM | 117 | 11 | 18 | 5 |

Project No: 6468199026

Project: U-6058 US 70 & US 101 Beaufort Roundabout

Source of Sample: L 11+95 Depth: 1.0 -5.0

Sample Number: BK-1

Date: ND

Test Description/Remarks:

NCDOT Modified

Figure

wood.