



FROEHLING & ROBERTSON, INC.

Engineering • Environmental • Geotechnical

18 Woods Lake Road
Greenville, South Carolina 29607 | USA
T 864.271.2840 | F 864.271.8124

October 22, 2015

Mr. Trapp Harris, PE
South Carolina Department of Transportation
Design-Build Section
955 Park Street
Columbia, South Carolina 29201

Reference: Preliminary Geotechnical Subsurface Data Report
Richland County Emergency Bridge Package
SC 769 Congaree Road over Cedar Creek
Richland County, South Carolina
F&R Project No. 65T-0191
SCDOT Project ID: 029341

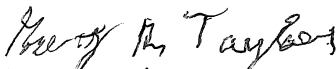
Dear Mr. Harris:

The purpose of this geotechnical subsurface data report is to present the results of the subsurface investigation program undertaken by Froehling & Robertson, Inc. (F&R) in connection with the Richland County Emergency Bridge Package at State Route S-40-7 Congaree Road over Cedar Creek in Richland County, South Carolina. Our services were performed in general accordance with your work order request emailed to F&R on October 16, 2015, and as authorized by your office per our On-Call Contract with SCDOT. The attached report presents our understanding of the project, reviews our investigation procedures, describes existing site and general subsurface conditions, and presents the results of our soil laboratory tests.



We have enjoyed working with you on this project. Please contact us if you have any questions regarding this report or if we may be of further service.

Sincerely,
FROEHLING & ROBERTSON, INC.


Gary R. Taylor, PE
Senior Geotechnical Engineer
Registered SC No. 27330



Benedictus K. Azumah, PE
Geotechnical Engineer
Registered VA No. 052166





TABLE OF CONTENTS

| <u>SECTION</u> | <u>PAGE</u> |
|--|-------------|
| 1.0 PURPOSE & SCOPE OF SERVICES | 4 |
| 2.0 PROJECT INFORMATION | 4 |
| 2.1 SITE DESCRIPTION | 4 |
| 2.2 PROJECT DESCRIPTION | 5 |
| 3.0 SUBSURFACE INVESTIGATION | 5 |
| 3.1 SUBSURFACE INVESTIGATION PROGRAM | 5 |
| 3.2 LOCATION CONTROL | 5 |
| 3.3 SUBSURFACE INVESTIGATION PROCEDURE | 6 |
| 3.4 GROUNDWATER..... | 7 |
| 4.0 LABORATORY TESTING..... | 7 |
| 6.0 LIMITATIONS | 9 |

APPENDICES

APPENDIX I

- Figure No. 1: Site Location Plan
- Figure No. 2: Boring Location Plan
- Figure No. 3: Photograph of Boring B-01 Being Drilled
- Figure No. 4: Photograph of Boring B-02 Being Drilled

APPENDIX II

- Key to Soil Classification
- Unified Soil Classification Chart
- SCDOT Soil Test Boring Logs – Borings B-01 and B-02

APPENDIX III

- Laboratory Tests Summary

APPENDIX IV

- Soil Laboratory Tests Data Sheets



1.0 PURPOSE & SCOPE OF SERVICES

The purpose of this Geotechnical Investigation was to explore the subsurface conditions at the site and perform soil laboratory tests on selected soil samples obtained from the investigation. F&R's scope of services included the following:

- Completion of two soil test borings to a depth of approximately 100 feet below the existing ground surface and as close as possible to each previous bridge abutment location.
- Preparation of typed SCDOT Soil Boring Logs;
- Performing soil laboratory tests including natural moisture contents, Atterberg Limits and Wash No. 200 Gradation tests;
- Preparation of this geotechnical subsurface data report by professional engineers.

This report was prepared in general accordance with the 2010 SCDOT Geotechnical Design Manual (GDM), Version 1.1.

Our scope of services did not include identification and evaluation of appropriate foundation systems for the proposed bridge, design capacities and other environmental aspects of the project site.

2.0 PROJECT INFORMATION

2.1 Site Description

The project site is on Congaree Road (State Route S-40-7) located about 2,200 ft southeast from the intersection with Air Base Road in Richland County, South Carolina. Cedar Creek flows in a north-south direction and crosses below the road at the site. The area around the creek and the road is generally wooded. A railroad runs parallel to the roadway and crosses the creek on the north Congaree Road. Project surroundings are shown on the attached Site Vicinity Map in Appendix I, Figure No. 1.



2.2 Project Description

Recent flooding in the region has caused extensive erosion around the bridge and resulted in a complete loss of the bridge. Emergency replacement of the roadway and bridge is planned. For this purpose, the geotechnical subsurface investigation and laboratory testing is required by SCDOT and will form part of a preliminary investigation of the site.

3.0 SUBSURFACE INVESTIGATION

3.1 Subsurface Investigation Program

The subsurface investigation program consisted of two soil test borings (STB). The borings, designated as B-01 and B-02 were advanced to a termination depth of 100 ft below the existing ground surface on the approaches adjacent to the previous location of the bridge. Approximate boring locations are identified on the Boring Location Plan included in Appendix I as Figure No. 2. Photographs of Borings B-01 and B-02 being drilled are also included in Appendix I as Figure No. 3 and No. 4, respectively.

3.2 Location Control

The STB locations were staked in the field by personnel from our office following instructions from your office. The borings were drilled in the centerline of the existing alignment a few feet from the remaining edge of the bridge approach closest to the creek. The ground surface elevation at the borings locations were not provided to us at the time of this writing. However, we have assumed the ground surface at the borings location is at Elevation 100 ft (above MSL). GPS coordinates of Borings B-01 (Latitude 33.913438 / Longitude -80.818005) and B-02 (Latitude 33.913348 and Longitude -80.817691) were obtained with a portable hand-held GPS and are recorded on the soil boring logs included in Appendix II of this report. Locations and elevations should be considered no more accurate than the methods and plans used to obtain them.



3.3 Subsurface Investigation Procedure

Subsurface investigation was performed on October 17, 2015 using an ATV-mounted CME/550X drill rig used for this project equipped with an automatic hammer and the drilling method used was the wash rotary boring. The energy ratio of this hammer reported to us indicates 81%. SPT tests at boring locations were performed continuously from the existing ground surface to a depth of 10 feet. Thereafter, boreholes were advanced and SPT performed at approximate 5-foot intervals to their termination depths. The Standard Penetration Test (SPT) was performed at the boring locations in general accordance with ASTM D1586.

Soil samples were obtained with a long split-spoon sampler with each SPT being driven with a 140-lb automatic hammer falling 30 inches. The number of blows required to drive the sampler each 6-inch increment of penetration was recorded and are shown on the boring logs. The first six-inch increment is used to seat the sampler with the sum of the second and third penetration increments being termed the SPT value, "N". A representative portion of each disturbed split-spoon sample was collected with each SPT, placed in a glass jar, and returned to our laboratory for review and testing.

The recovered split-spoon samples were visually classified by F&R engineers in general accordance with the ASTM D2488. The boring logs provided in Appendix II show the subsurface conditions encountered on the dates and at the approximate locations indicated.

By the nature of the work performed, the drilling activities result in disturbances to the site. The completed boreholes performed were backfilled upon completion. The borehole backfill may subside at some time following our work. F&R assumes no responsibility for borehole subsidence after completion of the field investigation and departing the site.



3.4 Groundwater

Groundwater was encountered in all borings at a depth of approximately 13 feet. The test borings were backfilled after completion of drilling for safety. The depth at which groundwater was encountered in each individual boring is indicated on the attached soil boring logs in Appendix II.

The groundwater levels at the boring locations were determined based on our observation of free water in the split-spoon soil samples following removal of the sampler. Upon completion of drilling, the boreholes were backfilled for safety, hence the absence of 24-hour water level readings on the boring logs.

The groundwater levels on the soil boring logs indicate our estimate of the hydrostatic water table at the time of our investigation. The final design should anticipate the fluctuation of the hydrostatic water table depending on variations in precipitation, surface runoff, evaporation, creek levels and similar factors.

4.0 LABORATORY TESTING

Laboratory testing consisted of Atterberg Limits Tests, No. 200 Sieve Cut grain size analyses (Wash #200), and Natural Moisture Content tests performed on specific soil samples. The specific tests performed on the selected samples are listed in Table No. 1 below.



Table No. 1: Soil Laboratory Tests Performed on Selected Soil Samples

| Item | Boring | Depth (ft) | Atterberg Limits | Percent Fines Wash # 200 | Natural Moisture Content |
|------|--------|------------|------------------|--------------------------|--------------------------|
| 1 | B-01 | 13.5-15 | yes | yes | yes |
| 2 | B-01 | 18.5-20 | - | yes | yes |
| 3 | B-01 | 23.5-25 | - | yes | yes |
| 4 | B-01 | 28.5-30 | yes | yes | yes |
| 5 | B-01 | 33.5-35 | - | yes | yes |
| 6 | B-01 | 43.5-45 | - | yes | yes |
| 7 | B-01 | 58.5-60 | yes | yes | yes |
| 8 | B-01 | 63.5-65 | - | yes | yes |
| 9 | B-02 | 13.5-15 | - | yes | yes |
| 10 | B-02 | 23.5-25 | yes | yes | yes |
| 11 | B-02 | 28.5-30 | - | yes | yes |
| 12 | B-02 | 33.5-35 | - | yes | yes |
| 13 | B-02 | 38.5-40 | - | yes | yes |
| 14 | B-02 | 58.5-60 | yes | yes | yes |
| 15 | B-02 | 68.5-70 | yes | yes | yes |
| 16 | B-02 | 53.5-55 | yes | yes | yes |

The laboratory testing results are presented in Appendix III and the laboratory test data sheets are presented in Appendix IV.

F&R greatly appreciates the opportunity to work with you on this project. If there are any questions concerning this report or if any additional information is required, please do not hesitate to contact us.

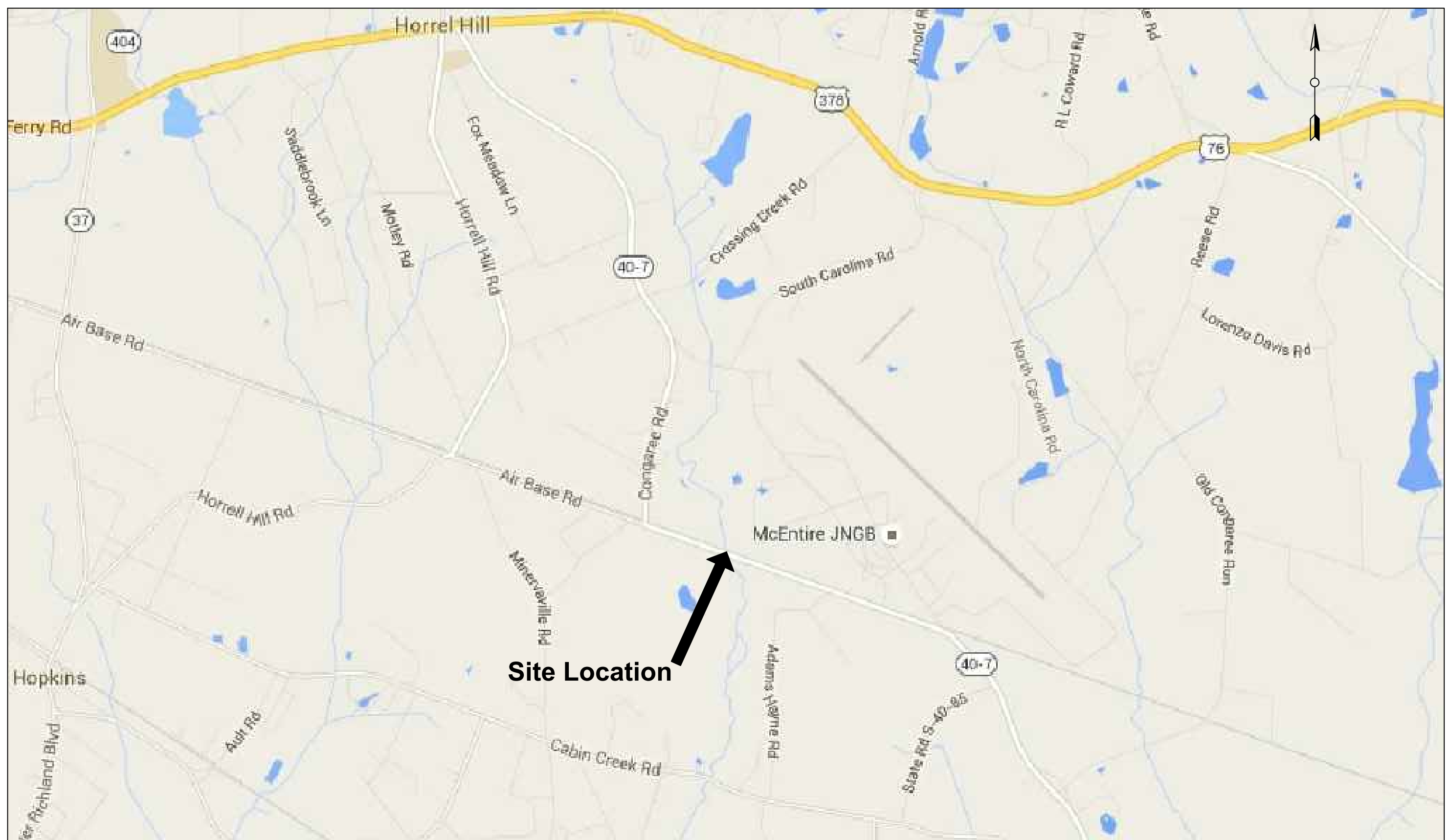


6.0 LIMITATIONS

This report has been prepared for the exclusive use of South Carolina Department of Transportation or their agent, for specific application to the referenced site in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. Our investigation is based on site location information furnished to us; and generally accepted geotechnical engineering practice. The subsurface investigation logs included herein, do not reflect variations in subsurface conditions which could exist intermediate of the boring locations or in unexplored areas of the site. Should such variations become apparent during construction, it will be necessary to perform additional subsurface exploration based upon on-site observations of the conditions.



APPENDIX I



Site Location

Drawing Scale:

Not to Scale



FROEHLING & ROBERTSON, INC.
 GEOTECHNICAL • ENGINEERS • MATERIALS

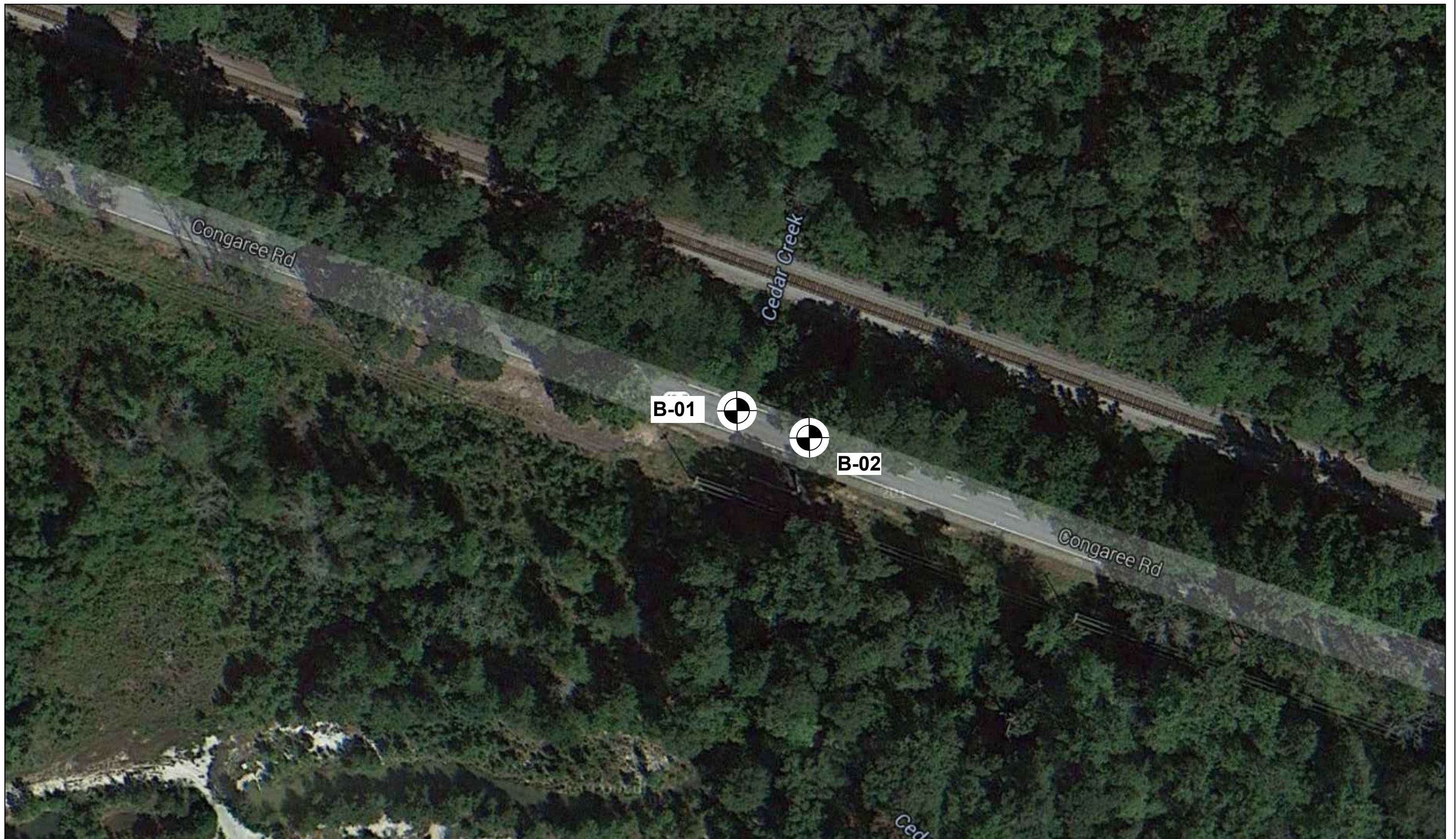
DATE: 10/22/2015

CLIENT: SCDOT

PROJECT NO.: 65T-0191

Site Vicinity Map
Emergency Bridge Job
Congaree Road, Richland County, South Carolina

Figure No. 1



| | | | |
|---|--|---|---|
| <p>Drawing Legend:</p>  SPT Boring | <p>Drawing Scale:</p> <p style="text-align: center;">NTS</p> | <p style="text-align: center;"> <small>SINCE</small>  <small>1881</small> </p> <p style="text-align: center;"> FROEHLING & ROBERTSON, INC. GEOTECHNICAL • ENGINEERS • MATERIALS </p> | <p>DATE: 10/20/2015</p> <p>CLIENT: SCDOT</p> <p>PROJECT NO.: 65T-0191</p> |
| <p>Boring Location Map Emergency Bridge Job Congaree Road, Richland County, South Carolina</p> | | | <p>Figure No. 2</p> |



Figure No.3: Photograph of Boring B-01 Being Drilled



Figure No. 4: Photograph of Boring B-02 Being Drilled



APPENDIX II



KEY TO SOIL CLASSIFICATION
Correlation of Penetration Resistance with
Relative Density and Consistency

| <u>Sands and Gravels</u> | | <u>Silts and Clays</u> | |
|--------------------------|-------------------------|------------------------|--------------------|
| <u>No. of Blows, N</u> | <u>Relative Density</u> | <u>No. of Blows, N</u> | <u>Consistency</u> |
| 0 - 4 | Very loose | 0 - 2 | Very soft |
| 5 - 10 | Loose | 3 - 4 | Soft |
| 11 - 30 | Medium dense | 5 - 8 | Firm |
| 31 - 50 | Dense | 9 - 15 | Stiff |
| Over 50 | Very dense | 16 - 30 | Very stiff |
| | | 31 - 50 | Hard |
| | | Over 50 | Very hard |

Particle Size Identification

(Unified Classification System)

| | |
|----------------|---|
| Boulders: | Diameter exceeds 12-in. (300-mm) |
| Cobbles: | 3-in. (75-mm) to 12-in. (300-mm) diameter |
| Gravel: | Coarse - $\frac{3}{4}$ -in. (19-mm) to 3 in. (75-mm) diameter Fine - No. 4 (4.75-mm) sieve to $\frac{3}{4}$ -in. (19-mm) diameter |
| Sand: | Coarse – No. 10 (2.0-mm) to No. 4 (4.76 mm) sieve Medium – No. 40 (0.425-mm) to No. 10 (2.0-mm) sieve Fine - No. 200 (0.075-mm) to No. 40 (0.425-mm) sieve |
| Silt and Clay: | Less than No. 200 (0.075-mm) sieve |



Modifiers

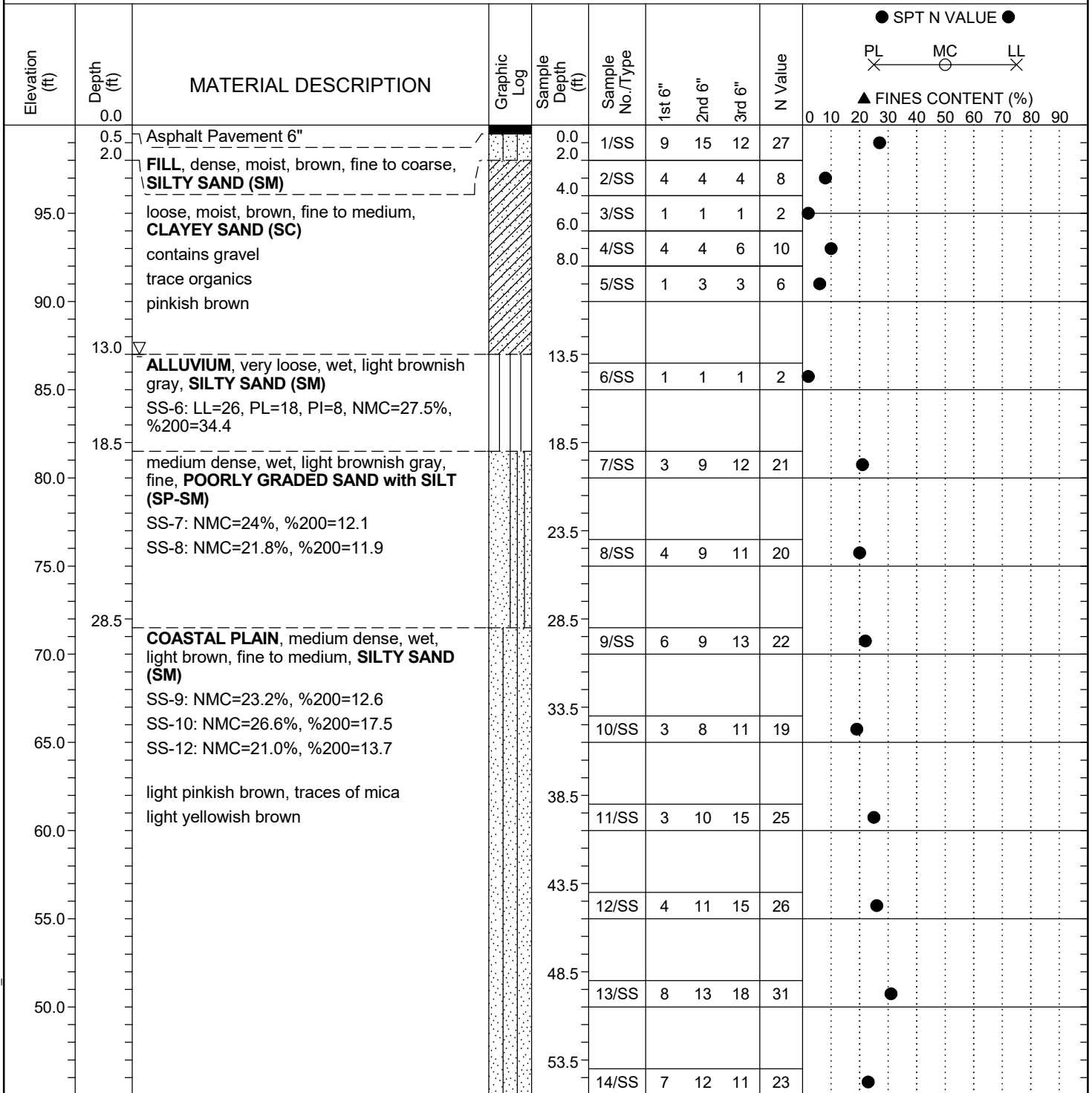
The modifiers provide our estimate of the amount of silt, clay or sand size particles in the soil sample.

| Approximate Content | Modifiers |
|----------------------------|------------------|
| ≤ 5%: | Trace |
| 5 to 10%: | Few |
| 15 to 25%: | Little |
| 30 to 45%: | Some |
| 50 to 100% | Mostly |

| Field Moisture Description | |
|-----------------------------------|---|
| Dry | Absence of moisture, dusty, dry to touch |
| Moist | Damp but no visible water |
| Wet | Visible free water, usually soil is below water table |

SCDOT Soil Test Boring Log

| | | | | | | | | |
|---------------------------------|----------|------------------------------|-------------|---------------------|------------------------|--|--------------------|--------|
| File No.: | 65T-0191 | Project No. (PIN): | P029341 | County: | Richland | Eng./Geo.: | SCI | |
| Site Description: | | | | | | SCDOT - Emergency Bridge Package 1 - Congaree Road | Route: | SC 769 |
| Boring No.: | B-01 | Boring Location: | | | Offset: | Alignment: | Existing | |
| Elev.: | 100.0 ft | Latitude: | -80.818005 | Longitude: | 33.913438 | Date Started: | 10/17/15 | |
| Total Depth: | 100 ft | Soil Depth: | 100 ft | Core Depth: | 0 ft | Date Completed: | 10/17/2015 | |
| Bore Hole Diameter (in): | | Sampler Configuration | | | Liner Required: | Y (N) | Liner Used: | Y (N) |
| Drill Machine: | CME-550X | Drill Method: | Rotary Wash | Hammer Type: | Automatic | Energy Ratio: | 86% | |
| Core Size: | | Driller: | SCI | Groundwater: | TOB | 13 ft | 24HR | N/A |



LEGEND

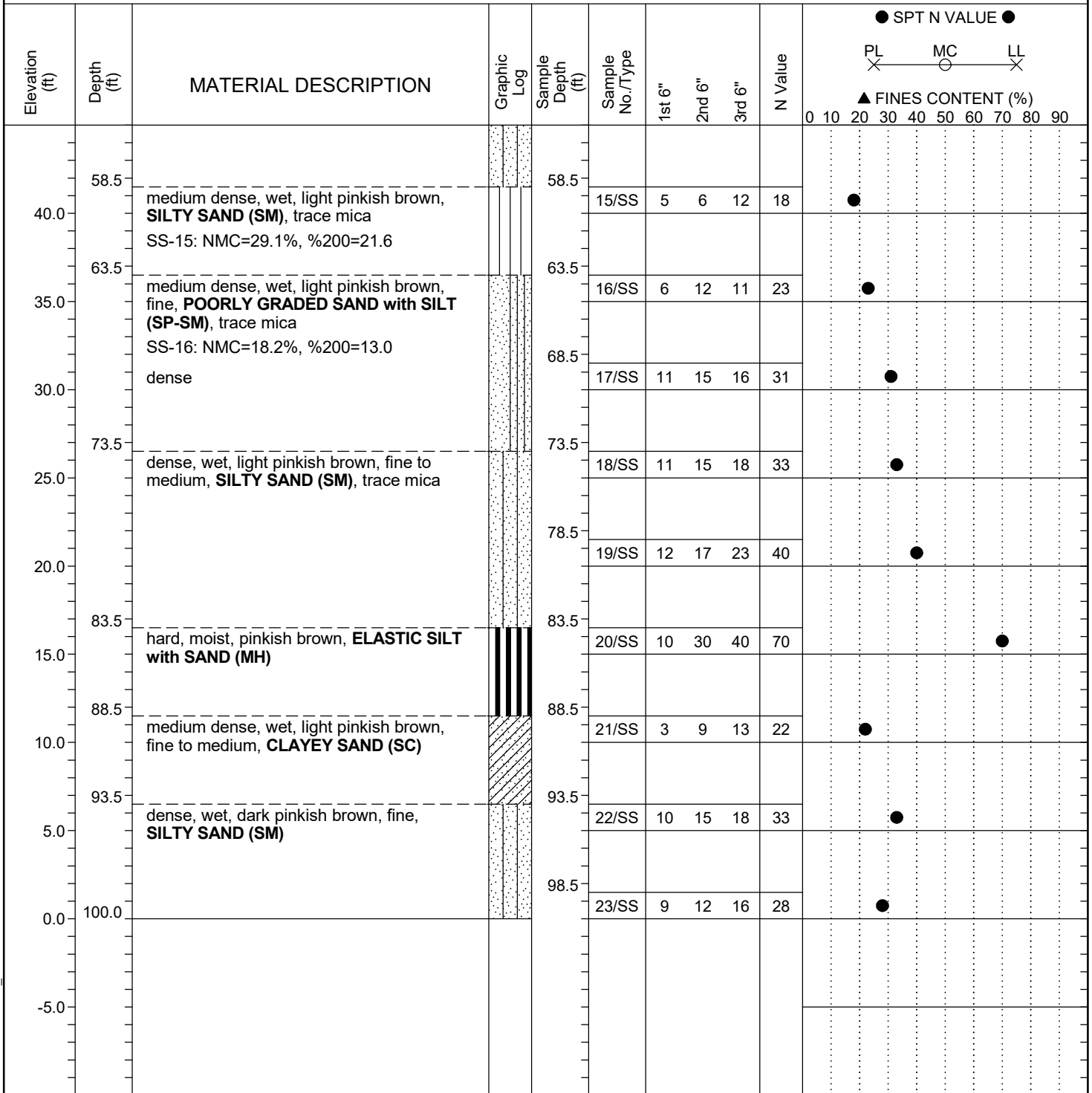
Continued Next Page

| SAMPLER TYPE | | DRILLING METHOD | |
|-------------------------|------------------------|--------------------------------|------------------|
| SS - Split Spoon | NQ - Rock Core, 1-7/8" | HSA - Hollow Stem Auger | RW - Rotary Wash |
| ST - Shelby Tube | CU - Cuttings | CFA - Continuous Flight Augers | RC - Rock Core |
| AWG - Rock Core, 1-1/8" | CT - Continuous Tube | DC - Driving Casing | |

SC_DOT CONGAREE ROAD.GPJ SC_DOT.GDT 10/22/15

SCDOT Soil Test Boring Log

| | | | | | | | |
|---------------------------------|----------|--|-------------|------------------------|-----------|------------------------|------------|
| File No.: | 65T-0191 | Project No. (PIN): | P029341 | County: | Richland | Eng./Geo.: | SCI |
| Site Description: | | SCDOT - Emergency Bridge Package 1 - Congaree Road | | | | Route: | SC 769 |
| Boring No.: | B-01 | Boring Location: | | Offset: | | Alignment: | Existing |
| Elev.: | 100.0 ft | Latitude: | -80.818005 | Longitude: | 33.913438 | Date Started: | 10/17/15 |
| Total Depth: | 100 ft | Soil Depth: | 100 ft | Core Depth: | 0 ft | Date Completed: | 10/17/2015 |
| Bore Hole Diameter (in): | | Sampler Configuration | | Liner Required: | Y (N) | Liner Used: | Y (N) |
| Drill Machine: | CME-550X | Drill Method: | Rotary Wash | Hammer Type: | Automatic | Energy Ratio: | 86% |
| Core Size: | | Driller: | SCI | Groundwater: | TOB 13 ft | 24HR | N/A |



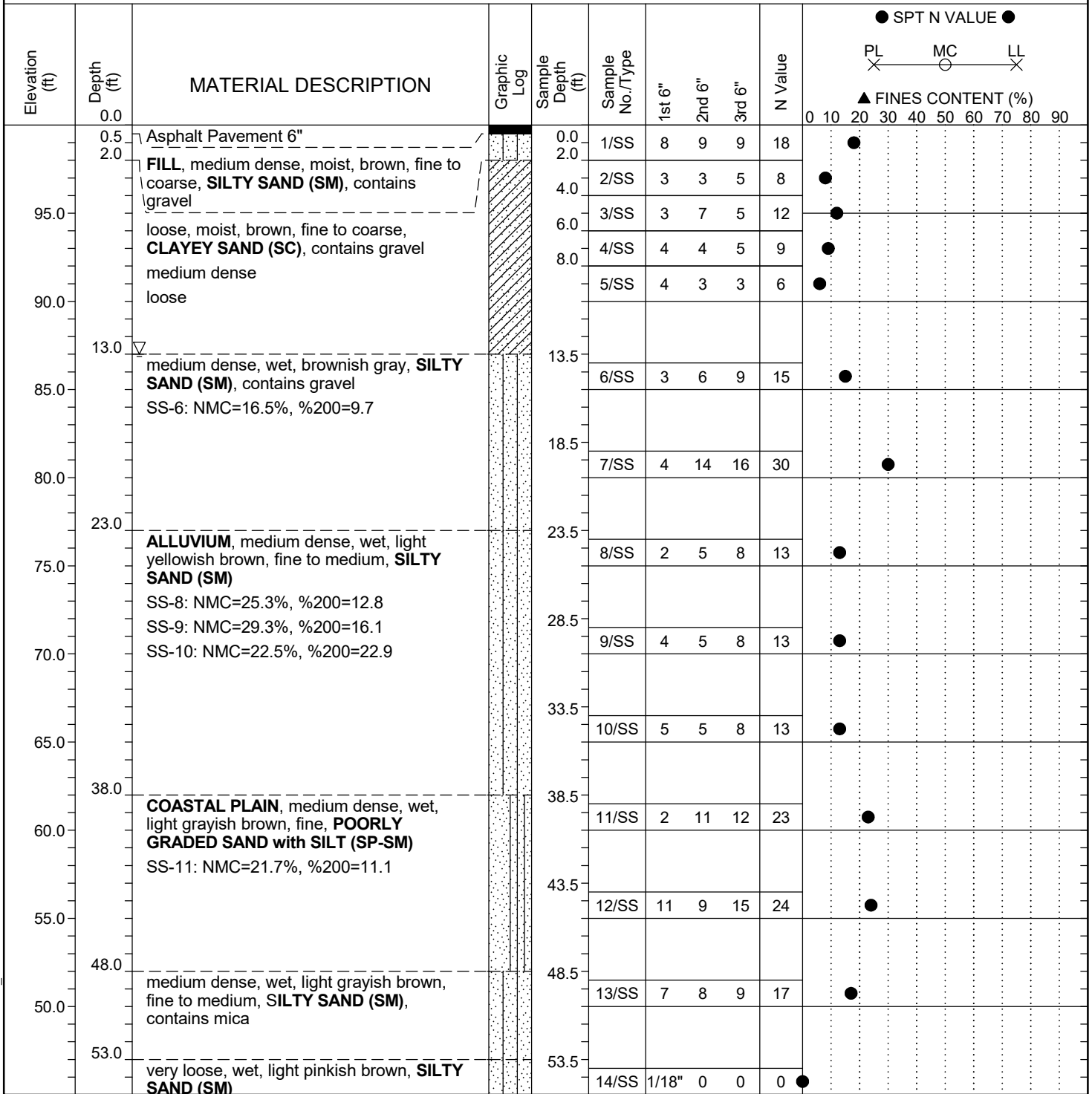
LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|-------------------------|------------------------|--------------------------------|------------------|
| SS - Split Spoon | NQ - Rock Core, 1-7/8" | HSA - Hollow Stem Auger | RW - Rotary Wash |
| ST - Shelby Tube | CU - Cuttings | CFA - Continuous Flight Augers | RC - Rock Core |
| AWG - Rock Core, 1-1/8" | CT - Continuous Tube | DC - Driving Casing | |

SC_DOT CONGAREE ROAD.GPJ SC_DOT.GDT 10/22/15

SCDOT Soil Test Boring Log

| | | | | | | | | |
|---------------------------------|----------|------------------------------|-------------|------------------------|-----------|--|---------------|--------|
| File No.: | 65T-0191 | Project No. (PIN): | P029341 | County: | Richland | Eng./Geo.: | SCI | |
| Site Description: | | | | | | SCDOT - Emergency Bridge Package 1 - Congaree Road | Route: | SC 769 |
| Boring No.: | B-02 | Boring Location: | | Offset: | | Alignment: | Existing | |
| Elev.: | 100.0 ft | Latitude: | -80.817691 | Longitude: | 33.913348 | Date Started: | 10/18/15 | |
| Total Depth: | 100 ft | Soil Depth: | 100 ft | Core Depth: | 0 ft | Date Completed: | 10/18/2015 | |
| Bore Hole Diameter (in): | | Sampler Configuration | | Liner Required: | Y (N) | Liner Used: | Y (N) | |
| Drill Machine: | CME-550X | Drill Method: | Rotary Wash | Hammer Type: | Automatic | Energy Ratio: | 86% | |
| Core Size: | | Driller: | SCI | Groundwater: | TOB 13 ft | 24HR | N/A | |



LEGEND

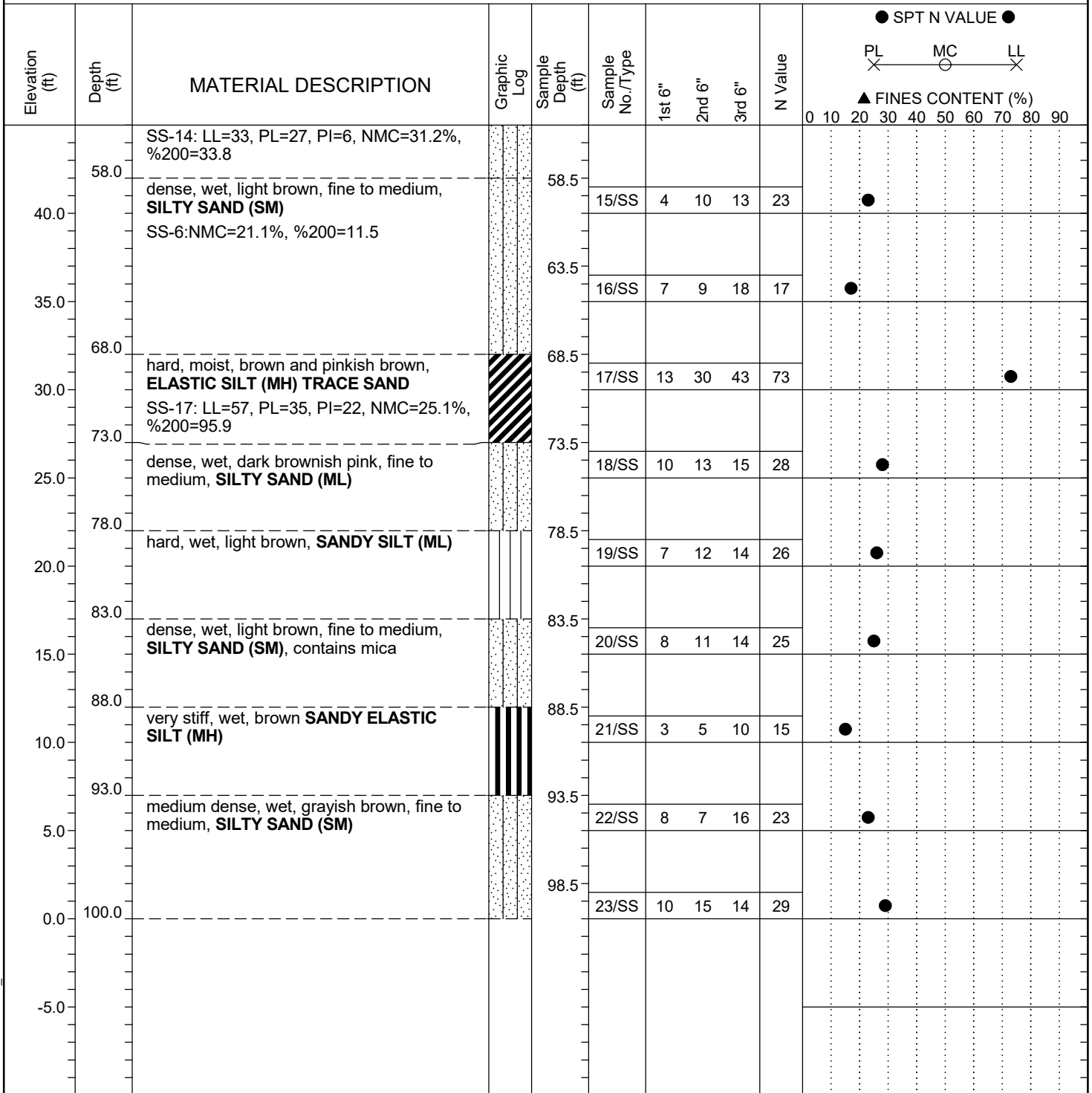
Continued Next Page

| SAMPLER TYPE | | DRILLING METHOD | |
|-------------------------|------------------------|--------------------------------|------------------|
| SS - Split Spoon | NQ - Rock Core, 1-7/8" | HSA - Hollow Stem Auger | RW - Rotary Wash |
| ST - Shelby Tube | CU - Cuttings | CFA - Continuous Flight Augers | RC - Rock Core |
| AWG - Rock Core, 1-1/8" | CT - Continuous Tube | DC - Driving Casing | |

SC_DOT CONGAREE ROAD.GPJ SC_DOT.GDT 10/22/15

SCDOT Soil Test Boring Log

| | | | | | | | | |
|---------------------------------|----------|------------------------------|-------------|------------------------|-----------|--|---------------|--------|
| File No.: | 65T-0191 | Project No. (PIN): | P029341 | County: | Richland | Eng./Geo.: | SCI | |
| Site Description: | | | | | | SCDOT - Emergency Bridge Package 1 - Congaree Road | Route: | SC 769 |
| Boring No.: | B-02 | Boring Location: | | Offset: | | Alignment: | Existing | |
| Elev.: | 100.0 ft | Latitude: | -80.817691 | Longitude: | 33.913348 | Date Started: | 10/18/15 | |
| Total Depth: | 100 ft | Soil Depth: | 100 ft | Core Depth: | 0 ft | Date Completed: | 10/18/2015 | |
| Bore Hole Diameter (in): | | Sampler Configuration | | Liner Required: | Y (N) | Liner Used: | Y (N) | |
| Drill Machine: | CME-550X | Drill Method: | Rotary Wash | Hammer Type: | Automatic | Energy Ratio: | 86% | |
| Core Size: | | Driller: | SCI | Groundwater: | TOB 13 ft | 24HR | N/A | |



LEGEND

| SAMPLER TYPE | | DRILLING METHOD | |
|-------------------------|------------------------|--------------------------------|------------------|
| SS - Split Spoon | NQ - Rock Core, 1-7/8" | HSA - Hollow Stem Auger | RW - Rotary Wash |
| ST - Shelby Tube | CU - Cuttings | CFA - Continuous Flight Augers | RC - Rock Core |
| AWG - Rock Core, 1-1/8" | CT - Continuous Tube | DC - Driving Casing | |

SC_DOT CONGAREE ROAD.GPJ SC_DOT.GDT 10/22/15



APPENDIX III



FROEHLING & ROBERTSON, INC.

LABORATORY TEST SUMMARY SHEET

F&R Project No: 65T-0191
Client: South Carolina Department of Transportation
Project: SC 769 Congaree Road Bridge over Cedar Creek
SCDOT Proj ID P029341
City/State: Richland County, SC

| Boring/Sample No. | Depth (ft) | LL | PL | PI | USCS Classification | Water Content (%) | Percent Passing No. 200 Sieve |
|-------------------|-------------|----|----|----|---------------------|-------------------|-------------------------------|
| B-01 | 13.5 - 15.0 | 26 | 18 | 8 | SM | 27.5 | 34.4 |
| B-01 | 18.5 - 20.0 | | | | | 24.0 | 12.1 |
| B-01 | 23.5 - 25.0 | | | | | 21.8 | 11.9 |
| B-01 | 28.5 - 30.0 | NP | NP | | SM | 23.2 | 12.6 |
| B-01 | 33.5 - 35.0 | | | | | 26.6 | 17.5 |
| B-01 | 43.5 - 45.0 | | | | | 21.0 | 13.7 |
| B-01 | 58.5 - 60.0 | NP | NP | | SM | 29.1 | 21.6 |
| B-01 | 63.5 - 65.0 | | | | | 18.2 | 13.0 |
| B-02 | 13.5 - 15.0 | | | | | 16.5 | 9.7 |
| B-02 | 23.5 - 25.0 | NP | NP | | SM | 25.3 | 12.8 |
| B-02 | 28.5 - 30.0 | | | | | 29.3 | 16.1 |
| B-02 | 33.5 - 35.0 | | | | | 22.5 | 22.9 |
| B-02 | 38.5 - 40.0 | | | | | 21.7 | 11.1 |
| B-02 | 53.5 - 55.0 | 33 | 27 | 6 | SM | 21.1 | 33.8 |
| B-02 | 58.5 - 60.0 | NP | NP | | SM | 25.1 | 11.5 |
| B-02 | 68.5-70.0 | 57 | 35 | 22 | MH | 31.2 | 95.9 |

NP: non-plastic

Date: 10/22/15



APPENDIX IV

CONGAREE RD.

SS
6

B-1
13.5-15

MOIST.
27.5%

- 200
34.4%

7

B-1
18.5-20

24.0%

12.1%

8

B-1
23.5-25

21.8%

11.9%

9

B-1
28.5-30

23.2%

12.6%

10

B-1
33.5-35

26.6%

17.5%

12

B-1
43.5-45.0

21.0%

13.7%

15

B-1
58.5-60

29.1%

21.6%

16

B-1
63.5-65.0

18.2%

13.0%



FROEHLING & ROBERTSON, INC.
FULL SERVICE LABORATORIES • ENGINEERS & CHEMISTS

DATE: 10-21-15

SCALE:

DRWN:

SC-769 Congaree Road bridge over Cedar Creek
Moisture Content and Wash, 200, B-01

DWG. NO.

CONGAREE RD

Moist.

- 200

SS
6

B-2

13.5-15

16.5%

9.7%

8

B-2

23.5-25

25.3%

12.8%

9

B-2

28.5-30

29.3%

16.1%

10

B-2

33.5-35.0

22.5%

22.9%

11

B-2

38.5-40

21.7%

11.1%

14

B-2

53.5-55

31.2%

33.8%

15

B-2

58.5-60

21.1%

11.5%

17

B-2

68.5-70

25.1%

95.9%



FROEHLING & ROBERTSON, INC.
FULL SERVICE LABORATORIES • ENGINEERS & CHEMISTS

DATE:

SCALE:

DRWN:

SC 769 Congaree Poud bridge over Cedar Creek
Moisture Content and Wash 200, B-02

DWG. NO.

CONGAREE RD.

REC'D 10/19/15

MOISTURE CONTENT (%)

*

*

| | #1 | #2 | #3 | #4 | #5 | #6 | #7 |
|---------------------|------------|----|------------|----|------------|----|------------|
| Sample I.D. | B-1 135-15 | | B-1 185-20 | | B-1 235-25 | | B-1 285-30 |
| Wet Soil + Tare | 345.90 | | 523.58 | | 503.74 | | 430.50 |
| Dry Soils + Tare | 303.55 | | 461.74 | | 439.62 | | 377.25 |
| Tare # & Weight | J 149.39 | | L 204.25 | | B 146.05 | | SB 147.85 |
| Weight of Water | 42.35 | | 61.84 | | 64.12 | | 53.25 |
| Weight of Dry Soils | 154.16 | | 257.49 | | 293.57 | | 229.4 |
| Moisture Content | 0.275 | | 0.240 | | 0.218 | | 0.232 |

*

| | #8 | #9 | #10 | #11 | #12 | #13 | #14 |
|---------------------|------------|----|------------|-----|-------------|-----|------------|
| Sample I.D. | B-1 335-35 | | B-1 435-45 | | B-1 585-60 | | B-1 635-65 |
| Wet Soil + Tare | 557.30 | | 583.34 | | 526.01 | | 551.51 |
| Dry Soils + Tare | 471.40 | | 517.61 | | 440.63 | | 489.32 |
| Tare # & Weight | S9 148.73 | | AE 204.26 | | S123 147.60 | | S21 147.73 |
| Weight of Water | 85.9 | | 65.73 | | 85.38 | | 62.19 |
| Weight of Dry Soils | 322.67 | | 313.35 | | 293.03 | | 341.59 |
| Moisture Content | 0.266 | | 0.210 | | 0.291 | | 0.182 |

| | #15 | #16 | #17 | #18 | #19 | #20 | #21 |
|---------------------|-----|-----|-----|-----|-----|-----|-----|
| Sample I.D. | | | | | | | |
| Wet Soil + Tare | | | | | | | |
| Dry Soils + Tare | | | | | | | |
| Tare # & Weight | | | | | | | |
| Weight of Water | | | | | | | |
| Weight of Dry Soils | | | | | | | |
| Moisture Content | | | | | | | |

| | #22 | #23 | #24 | #25 | #26 | #27 | #28 |
|---------------------|-----|-----|-----|-----|-----|-----|-----|
| Sample I.D. | | | | | | | |
| Wet Soil + Tare | | | | | | | |
| Dry Soils + Tare | | | | | | | |
| Tare # & Weight | | | | | | | |
| Weight of Water | | | | | | | |
| Weight of Dry Soils | | | | | | | |
| Moisture Content | | | | | | | |

CONGAREE RD.

MOISTURE CONTENT (%)

*

| | #1 | #2 | #3 | #4 | #5 | #6 | #7 |
|---------------------|------------------------|----|--------------------------|----|------------------------|----|--------------------------|
| Sample I.D. | B-2 ^{13.5-15} | | B-2 ^{23.5-25.0} | | B-2 ^{28.5-30} | | B-2 ^{33.5-35.0} |
| Wet Soil + Tare | 560.64 | | 412.90 | | 568.35 | | 634.44 |
| Dry Soils + Tare | 502.01 | | 359.75 | | 472.63 | | 555.51 |
| Tare # & Weight | SG 146.61 | | G 149.70 | | K 145.12 | | AD 204.36 |
| Weight of Water | 58.63 | | 53.15 | | 95.72 | | 78.93 |
| Weight of Dry Soils | 355.40 | | 210.05 | | 327.21 | | 351.15 |
| Moisture Content | 0.165 | | 0.253 | | 0.293 | | 0.225 |

*

*

*

| | #8 | #9 | #10 | #11 | #12 | #13 | #14 |
|---------------------|------------------------|----|------------------------|-----|------------------------|-----|------------------------|
| Sample I.D. | B-2 ^{38.5-40} | | B-2 ^{58.5-60} | | B-2 ^{68.5-70} | | B-2 ^{53.5-55} |
| Wet Soil + Tare | 603.81 | | 451.10 | | 546.69 | | 469.11 |
| Dry Soils + Tare | 522.48 | | 398.56 | | 466.32 | | 392.73 |
| Tare # & Weight | S-7 147.14 | | S3 149.20 | | L 146.29 | | S10 148.28 |
| Weight of Water | 81.33 | | 52.54 | | 80.37 | | 76.38 |
| Weight of Dry Soils | 375.34 | | 249.36 | | 320.03 | | 244.45 |
| Moisture Content | 0.217 | | 0.211 | | 0.251 | | 0.312 |

| | #15 | #16 | #17 | #18 | #19 | #20 | #21 |
|---------------------|-----|-----|-----|-----|-----|-----|-----|
| Sample I.D. | | | | | | | |
| Wet Soil + Tare | | | | | | | |
| Dry Soils + Tare | | | | | | | |
| Tare # & Weight | | | | | | | |
| Weight of Water | | | | | | | |
| Weight of Dry Soils | | | | | | | |
| Moisture Content | | | | | | | |

| | #22 | #23 | #24 | #25 | #26 | #27 | #28 |
|---------------------|-----|-----|-----|-----|-----|-----|-----|
| Sample I.D. | | | | | | | |
| Wet Soil + Tare | | | | | | | |
| Dry Soils + Tare | | | | | | | |
| Tare # & Weight | | | | | | | |
| Weight of Water | | | | | | | |
| Weight of Dry Soils | | | | | | | |
| Moisture Content | | | | | | | |

SP2 FF

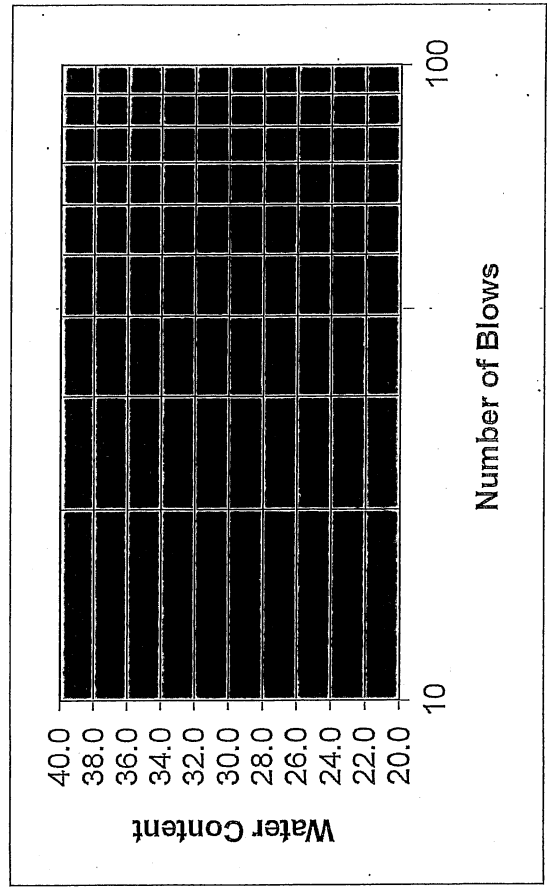
Froehling & Robertson, Inc.
Laboratory Sample Analyses

Client: SCDOT
 Project: CONGAREE RD.
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No.: 60
 Location: B-1 13.5-15.0
 Source: _____

Date Received: 10/20/15
 Date Processed: _____

| Liquid Limit | |
|----------------|-------------------|
| Tare No. | D10 51 |
| Cup & Wet Soil | 37.94 37.89 37.26 |
| Cup & Dry Soil | 35.11 34.84 34.18 |
| Moisture Loss | 2.83 3.05 3.08 |
| Cup Weight | 23.15 23.04 23.05 |
| Dry Soil | 11.96 11.80 11.13 |
| Blows | 34 24 16 |
| Moisture % | 0.237 0.258 0.277 |
| Plastic Limit | |
| Tare No. | WZ 82 |
| Cup & Wet Soil | 30.20 30.70 |
| Cup & Dry Soil | 29.14 29.55 |
| Moisture Loss | 1.06 1.15 |
| Cup Weight | 23.28 23.27 |
| Dry Soil | 5.86 6.28 |
| Moisture % | 0.181 0.183 |



Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator

0.182

$$LL = 25.8 \left(\frac{24}{25} \right)^{0.121} = 25.6$$

LL = _____
 PL = _____
 PI = _____
 USCS = _____

SP 4 X4

Froehling & Robertson, Inc.
Laboratory Sample Analyses

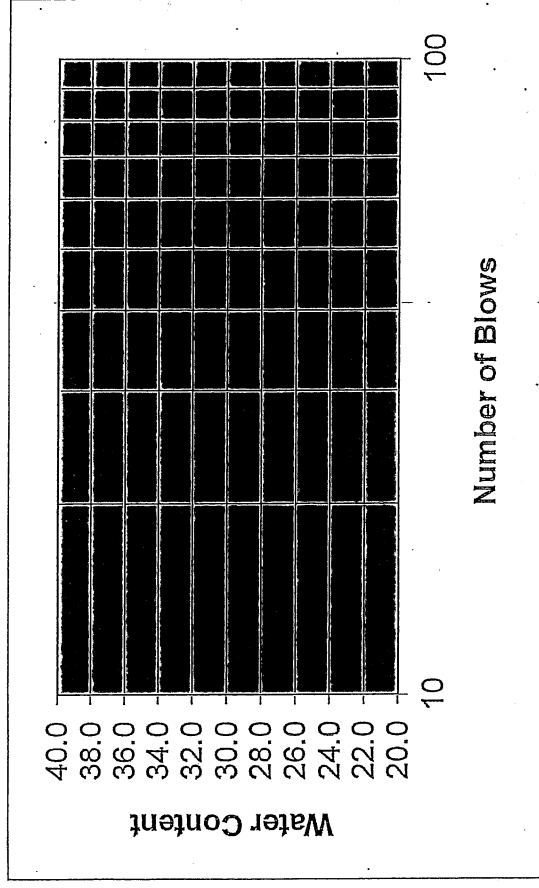
Client: SCD&T
 Project: CONGAREE RD.
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No.: 9
 Location: B-1 28.5-30
 Source: _____

Date Received: 10/29/15
 Date Processed: _____

| | |
|----------------|--|
| Liquid Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Blows | |
| Moisture % | |
| Plastic Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Moisture % | |

NON-PLASTIC



LL = _____
 PL = _____
 PI = _____
 USCS = _____

Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator

SPS 3

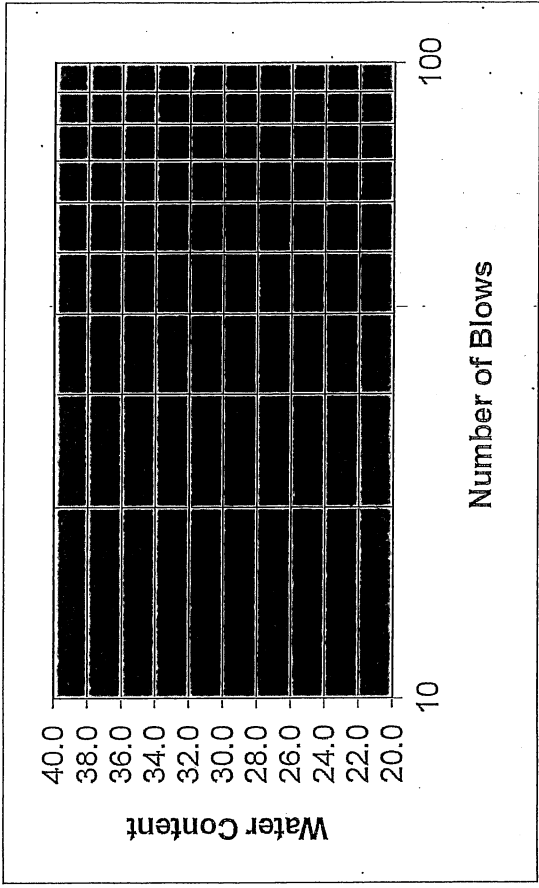
Froehling & Robertson, Inc.
Laboratory Sample Analyses

Client: SCDOT
 Project: CONGAREE RD.
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No: 15
 Location: B-1 58.5-60.0
 Source: _____

Date Received: 10/20/15
 Date Processed: _____

| | |
|----------------|--|
| Liquid Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Blows | |
| Moisture % | |
| Plastic Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Moisture % | |



LL = _____
 PL = _____
 PI = _____
 USCS = _____

Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator

SP3
A2

Froehling & Robertson, Inc.
Laboratory Sample Analyses

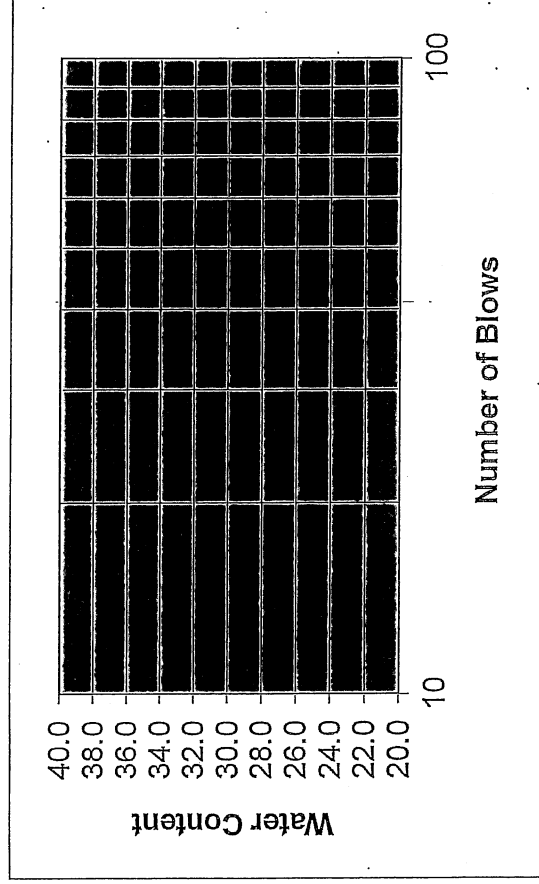
Client: SCD&T
 Project: CONCAREE RD.
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No.: 8
 Location: B-2 23.5-25.0
 Source: _____

Date Received: 10/20/15
 Date Processed: _____

| | |
|----------------|--|
| Liquid Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Blows | |
| Moisture % | |
| Plastic Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Moisture % | |

NON-PLASTIC



LL = _____
 PL = _____
 PI = _____
 USCS = _____

Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator

Froehling & Robertson, Inc.
Laboratory Sample Analyses

XX 123

Client: SCDOT
 Project: CONGAREE RD
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No: 14
 Location: B-2 53.5-55
 Source: _____

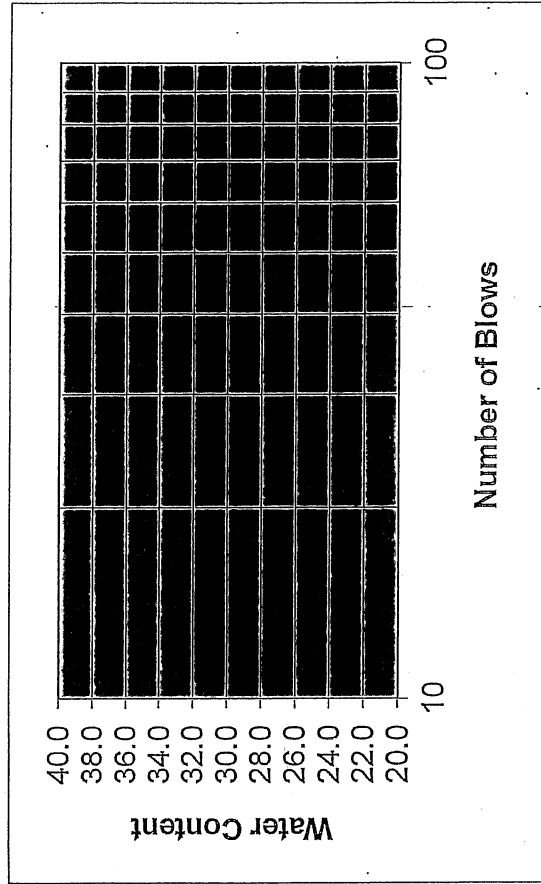
Date Received: 10/20/15

Date Processed: _____

| Liquid Limit | | | |
|----------------|----------------|----------------|-----------------|
| Tare No. | G ₀ | L ₂ | D ₆₀ |
| Cup & Wet Soil | 36.03 | 37.73 | 38.75 |
| Cup & Dry Soil | 32.97 | 34.01 | 34.55 |
| Moisture Loss | 3.06 | 3.72 | 1.20 |
| Cup Weight | 23.14 | 23.06 | 23.02 |
| Dry Soil | 9.83 | 10.95 | 11.53 |
| Blows | 29 | 22 | 17 |
| Moisture % | 0.311 | 0.340 | 0.364 |
| Plastic Limit | | | |
| Tare No. | G ₀ | L ₂ | D ₆₀ |
| Cup & Wet Soil | 31.49 | 29.87 | |
| Cup & Dry Soil | 29.63 | 28.48 | |
| Moisture Loss | 1.86 | 1.39 | |
| Cup Weight | 22.79 | 23.10 | |
| Dry Soil | 6.84 | 5.38 | |
| Moisture % | 0.272 | 0.258 | |

0.265 AVG

Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator



LL = _____
 PL = _____
 PI = _____
 USCS = _____

$$LL = 34 \left(\frac{22}{29} \right)^{0.121} = 33$$

Froehling & Robertson, Inc.
Laboratory Sample Analyses

T-1

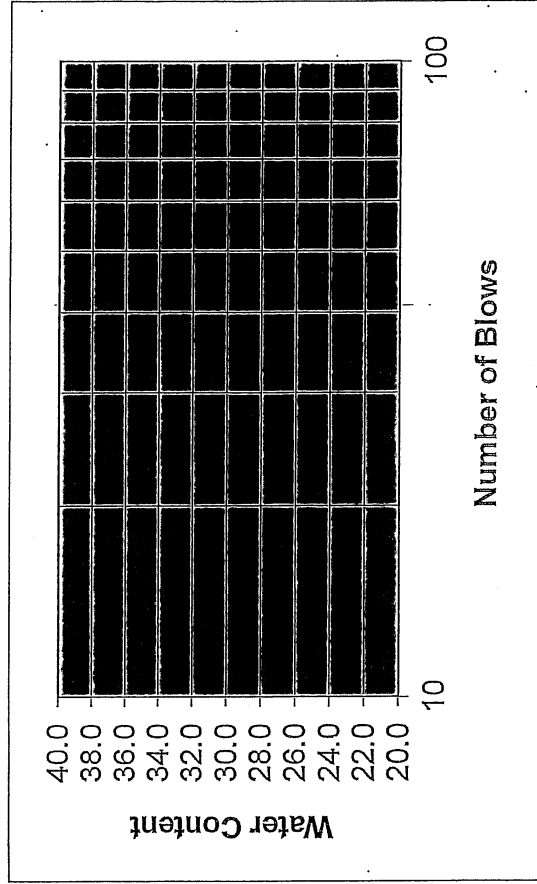
DD

Client: SCDOT
 Project: CONGAREE RD.
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No: 15
 Location: B-2 SB.5-60
 Source: _____

Date Received: 10/20/15
 Date Processed: _____

| | |
|----------------|--|
| Liquid Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Blows | |
| Moisture % | |
| Plastic Limit | |
| Tare No. | |
| Cup & Wet Soil | |
| Cup & Dry Soil | |
| Moisture Loss | |
| Cup Weight | |
| Dry Soil | |
| Moisture % | |



LL = _____
 PL = _____
 PI = _____
 USCS = _____

Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator

SPI TP

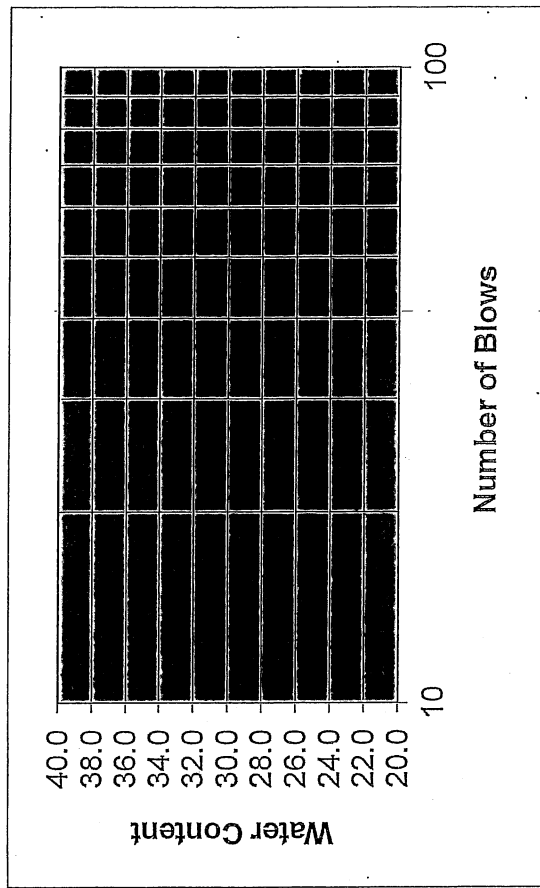
Froehling & Robertson, Inc.
Laboratory Sample Analyses

Client: SCDOT
 Project: CONGAREE RD.
 F&R Project No.: _____
 Item Code/Use: _____

Material: _____
 Sample No: 17
 Location: B-2 68.5-70
 Source: _____

Date Received: 10/29/15
 Date Processed: _____

| Liquid Limit | |
|----------------|-------------------|
| Tare No. | D1 42 D5 35.15 |
| Cup & Wet Soil | 35.53 35.30 35.15 |
| Cup & Dry Soil | 31.19 30.84 30.63 |
| Moisture Loss | 4.34 4.46 4.52 |
| Cup Weight | 23.02 22.95 23.29 |
| Dry Soil | 8.17 7.89 7.34 |
| Blows | 34 26 17 |
| Moisture % | 0.531 0.565 0.616 |
| Plastic Limit | |
| Tare No. | 108 C3 |
| Cup & Wet Soil | 30.46 29.87 |
| Cup & Dry Soil | 28.58 28.11 |
| Moisture Loss | 1.88 1.76 |
| Cup Weight | 23.22 23.05 |
| Dry Soil | 5.36 5.06 |
| Moisture % | 0.351 0.348 |



0.3495

Laboratory Technician: _____
 Reviewed By: _____
 Program Administrator

LL = _____
 PL = _____
 PI = _____
 USCS = _____

$$LL = 56.5 \left(\frac{26}{25} \right)^{0.121} = 57$$



WASH 200 (C 117)

CLIENT SCDOT

B-2

TECHNICIAN D. Durham

PROJECT CONGARFE

13.5-15.0

TEST DATE 10-21-15

RECORD NO. 65T-0191

SOIL CLASSIFICATION _____

TARE # B

TARE WEIGHT 397.87

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>753.90</u> |
| B | Dry Soil | (A-Tare) | <u>356.03</u> |
| C | Tare and Dry Soil After Wash | | <u>719.33</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>321.46</u> |
| E | Material Lost | (B-D) | <u>34.57</u> |

Percent Passing #200 (B-D)/B x 100= 9.7%



WASH 200 (C 117)

CLIENT SCDOT

B-2

TECHNICIAN _____

PROJECT CONGAREE

23.5-25.0

TEST DATE _____

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # D3

TARE WEIGHT 250.10

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>460.55</u> |
| B | Dry Soil | (A-Tare) | <u>210.45</u> |
| C | Tare and Dry Soil After Wash | | <u>433.64</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>183.54</u> |
| E | Material Lost | (B-D) | <u>26.91</u> |

Percent Passing #200

(B-D)/B x 100=

12.8%



WASH 200 (C 117)

CLIENT SCDOT B-2 TECHNICIAN _____
PROJECT CONGAREE 28.5-30 TEST DATE _____
RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # A

TARE WEIGHT 388.44

| | | |
|--------------------------------|----------|---------------|
| A Tare and Dry Soil | | <u>716.22</u> |
| B Dry Soil | (A-Tare) | <u>327.78</u> |
| C Tare and Dry Soil After Wash | | <u>663.37</u> |
| D Dry Soil After Wash | (C-Tare) | <u>274.93</u> |
| E Material Lost | (B-D) | <u>52.85</u> |

Percent Passing #200 (B-D)/B x 100= 16.1%



WASH 200 (C 117)

CLIENT SCDOT B-2 TECHNICIAN _____
PROJECT CONGAREE 33.5-35.0 TEST DATE _____
RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # R TARE WEIGHT 442.44

| | | |
|--------------------------------|----------|---------------|
| A Tare and Dry Soil | | <u>793.99</u> |
| B Dry Soil | (A-Tare) | <u>351.55</u> |
| C Tare and Dry Soil After Wash | | <u>713.61</u> |
| D Dry Soil After Wash | (C-Tare) | <u>271.17</u> |
| E Material Lost | (B-D) | <u>80.38</u> |

Percent Passing #200 (B-D)/B x 100= 22.9%



WASH 200 (C 117)

CLIENT SCDOT

B-2

TECHNICIAN _____

PROJECT CONGAREE

38.5-40.0

TEST DATE _____

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # 1.18

TARE WEIGHT 536.28

A Tare and Dry Soil

911.94

B Dry Soil

(A-Tare)

375.66

C Tare and Dry Soil After Wash

870.28

D Dry Soil After Wash

(C-Tare)

334.0

E Material Lost

(B-D)

41.66

Percent Passing #200

(B-D)/B x 100=

11.1%



WASH 200 (C 117)

CLIENT SCDOT

B-2

TECHNICIAN _____

PROJECT CONGAREE

53.5-55

TEST DATE _____

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # E

TARE WEIGHT 248.05

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>493.15</u> |
| B | Dry Soil | (A-Tare) | <u>245.10</u> |
| C | Tare and Dry Soil After Wash | | <u>410.37</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>162.32</u> |
| E | Material Lost | (B-D) | <u>82.78</u> |

Percent Passing #200

(B-D)/B x 100=

33.8%



WASH 200 (C 117)

CLIENT SCOTT B-2 TECHNICIAN _____
PROJECT CONGAREE 585-60 TEST DATE _____
RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # Acc TARE WEIGHT 255.11

| | | |
|--------------------------------|----------|---------------|
| A Tare and Dry Soil | | <u>504.74</u> |
| B Dry Soil | (A-Tare) | <u>249.63</u> |
| C Tare and Dry Soil After Wash | | <u>475.97</u> |
| D Dry Soil After Wash | (C-Tare) | <u>220.86</u> |
| E Material Lost | (B-D) | <u>28.77</u> |

Percent Passing #200 (B-D)/B x 100= 11.5%



WASH 200 (C 117)

CLIENT SCDOT B-2 TECHNICIAN _____
PROJECT CONGAREE 68.5-70 TEST DATE _____
RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # C TARE WEIGHT 394.26

| | | |
|--------------------------------|----------|---------------|
| A Tare and Dry Soil | | <u>715.63</u> |
| B Dry Soil | (A-Tare) | <u>321.37</u> |
| C Tare and Dry Soil After Wash | | <u>407.38</u> |
| D Dry Soil After Wash | (C-Tare) | <u>13.12</u> |
| E Material Lost | (B-D) | <u>308.25</u> |

Percent Passing #200 (B-D)/B x 100= 95.9%



WASH 200 (C 117)

CLIENT SCDOT

B-1

TECHNICIAN D. Durham

PROJECT CONGAREE RD.

13.5-15.0

TEST DATE 10-21-15

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # A3

TARE WEIGHT 249.97

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>404.17</u> |
| B | Dry Soil | (A-Tare) | <u>154.2</u> |
| C | Tare and Dry Soil After Wash | | <u>351.17</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>101.2</u> |
| E | Material Lost | (B-D) | <u>53.0</u> |

Percent Passing #200 (B-D)/B x 100= 34.4%



WASH 200 (C 117)

CLIENT SCDOT B-1 TECHNICIAN _____
PROJECT CONGAREE 18.5-20.0 TEST DATE _____
RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # XD TARE WEIGHT 306.19

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>562.99</u> |
| B | Dry Soil | (A-Tare) | <u>256.80</u> |
| C | Tare and Dry Soil After Wash | | <u>531.92</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>225.73</u> |
| E | Material Lost | (B-D) | <u>31.07</u> |

Percent Passing #200 (B-D)/B x 100= 12.1%



WASH 200 (C 117)

CLIENT SCDOT B-1 TECHNICIAN _____
PROJECT CONGAREE TEST DATE _____
RECORD NO. _____ 23.5-25.0

SOIL CLASSIFICATION _____

TARE # N4 TARE WEIGHT 330.51

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>624.15</u> |
| B | Dry Soil | (A-Tare) | <u>293.64</u> |
| C | Tare and Dry Soil After Wash | | <u>589.33</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>258.82</u> |
| E | Material Lost | (B-D) | <u>34.82</u> |

Percent Passing #200 (B-D)/B x 100= 11.9%



WASH 200 (C 117)

CLIENT SCDOT

PROJECT CONGAREE RD

RECORD NO. _____

B-1

28.5-30.0

TECHNICIAN _____

TEST DATE _____

SOIL CLASSIFICATION _____

TARE # D

TARE WEIGHT 304.24

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>533.73</u> |
| B | Dry Soil | (A-Tare) | <u>229.49</u> |
| C | Tare and Dry Soil After Wash | | <u>504.70</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>200.46</u> |
| E | Material Lost | (B-D) | <u>29.03</u> |

Percent Passing #200

(B-D)/B x 100=

12.6%



WASH 200 (C 117)

CLIENT SCOTT

B-1

TECHNICIAN _____

PROJECT CONGAREE

33.5-35

TEST DATE _____

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # N2

TARE WEIGHT 319.93

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>642.82</u> |
| B | Dry Soil | (A-Tare) | <u>322.89</u> |
| C | Tare and Dry Soil After Wash | | <u>586.18</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>266.25</u> |
| E | Material Lost | (B-D) | <u>56.64</u> |

Percent Passing #200

(B-D)/B x 100=

17.5%



WASH 200 (C 117)

CLIENT SCDOT

B-1

TECHNICIAN _____

PROJECT CONGAREE RD

13.5-45.0

TEST DATE _____

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # 8A

TARE WEIGHT 337.70

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>651.05</u> |
| B | Dry Soil | (A-Tare) | <u>313.35</u> |
| C | Tare and Dry Soil After Wash | | <u>608.18</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>270.48</u> |
| E | Material Lost | (B-D) | <u>42.87</u> |

Percent Passing #200

(B-D)/B x 100=

13.7%



WASH 200 (C 117)

CLIENT SCDOT B-1 TECHNICIAN _____
PROJECT CONGAREE 58.5-60 TEST DATE _____
RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # NI

TARE WEIGHT 327.23

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>620.50</u> |
| B | Dry Soil | (A-Tare) | <u>293.27</u> |
| C | Tare and Dry Soil After Wash | | <u>557.08</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>229.85</u> |
| E | Material Lost | (B-D) | <u>63.42</u> |

Percent Passing #200 (B-D)/B x 100= 21.6%



WASH 200 (C 117)

CLIENT SCDOT

B-1

TECHNICIAN _____

PROJECT CONGAREE RD.

63.5-65.0

TEST DATE _____

RECORD NO. _____

SOIL CLASSIFICATION _____

TARE # KC

TARE WEIGHT 374.60

| | | | |
|---|------------------------------|----------|---------------|
| A | Tare and Dry Soil | | <u>716.44</u> |
| B | Dry Soil | (A-Tare) | <u>341.84</u> |
| C | Tare and Dry Soil After Wash | | <u>672.06</u> |
| D | Dry Soil After Wash | (C-Tare) | <u>297.46</u> |
| E | Material Lost | (B-D) | <u>44.38</u> |

Percent Passing #200 (B-D)/B x 100= 13.0%