STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

November 18, 2013

STATE PROJECT:	38465.1.2 (B-4681)
F.A. PROJECT:	BRZ-1531(5)
COUNTY:	Wilson
DESCRIPTION:	Bridge No. 119 on SR 1531 over Little Contentnea Creek
SUBJECT:	Geotechnical Inventory

Project Description

This project is located in Wilson County on SR 1531 (Eagle Cross Rd.) approximately ½ mile south of the intersection with Highway 222. Proposed construction consists of widening and lowering the grade of SR 1531 to accommodate the bridge replacement over Little Contentnea Creek. This geotechnical investigation was confined to the areas of proposed construction.

Fieldwork for this project was conducted in September of 2013. Hand auger borings were completed and representative soil samples were collected for visual classification in the field and for laboratory analysis by the Materials and Tests Unit.

The following alignment was investigated. Subsurface profile and selected cross sections of this alignment are included in this report.

Line	Station(±)
-L-	13+00 to 18+50

Areas of Special Geotechnical Interest

1) The following section contains cohesive soils which have the potential to cause embankment stability and/or long term settlement problems:

Line	Station(±)
-L-	15+27 to 18+50

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LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

2) The following section contains organic soils which have the potential for embankment stability and/or subgrade problems during construction.

Line	Station(±)
-L-	13+75 to 16+04

3) The entire project was found to exhibit seasonal high ground water.

Physiography and Geology

This project corridor is located within the Coastal Plain Physiographic Province. Topography along the project is nearly flat to gently sloping. Natural ground elevations range from 74± feet above sea level along the bed of Little Contentnea Creek to 86± feet above sea level along the existing SR 1531 embankment.

Surficial soils in this area are generally classified as alluvial sediments.

Ground Water

Ground water data was collected in September of 2013, during a time of normal precipitation. Ground water elevations ranged from 80± to 82± feet above sea level.

Soils

Soils within this project area have been divided into two categories: roadway embankment and alluvial.

Roadway Embankment soils were encountered along existing SR 1531. These soils are comprised of 1± to 6 or more feet of loose sand (A-2-4) and 2± feet of soft sandy silt (A-4).

Alluvial soils were encountered beneath the embankment and within the floodplain of Little Contentnea Creek. They are comprised of 2± to 5± feet of stiff brown muck and clay (A-6, A-7-6) with little to moderate organic material, 2± to 4± feet of soft sandy silt and sandy silt with trace organic material, and 1± foot of loose sand. Laboratory analysis of these soils show organic percentages varying from 2.8 to 21.6 percent and moisture contents varying from 27 to 86 percent.

Respectfully Submitted,

Tyler C. Bottoms, L.G.
Project Engineering Geologist