



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

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November 2, 2004

STATE PROJECT: 33312.1.1 B-3866
FEDERAL PROJECT: BRSTP-58(6)
COUNTY: Lenoir/Greene
DESCRIPTION: Bridge No. 59 over Wheat Swamp Creek on NC 58

SUBJECT: Geotechnical Report - Bridge Foundation Investigation for
NC 58 over Wheat Swamp Creek at -L- Station 19+21.5

Site Description

The proposed bridge site is located at the existing NC 58 bridge over Wheat Swamp Creek approximately 8± miles north of Kinston. The replacement structure will be constructed along the existing alignment. Based on the proposed design, the new structure will have one span with a length of 75 feet. The bents will have a skew of 90 degrees.

One Standard Penetration Test (SPT) boring was made at or near each proposed bent location to provide subsurface information relative to foundation design. The borings were made with a truck mounted Mobile B-47 and ATV mounted CME 45C drill machines and were advanced by rotary drill methods using bentonite drilling fluid.

The project is primarily located on upland terrain where the natural topography is nearly flat. Elevations at the site range from 45± feet along the creek bed to 57± feet along the existing NC 58 embankment. During this investigation, water levels within the boreholes and the surface of Wheat Swamp Creek were measured at an elevation of 51± feet.

Soil Description

Subsurface conditions at the site are relatively uniform. Surficial alluvial soils generally consist of 10± feet of very loose to loose fine to coarse sand (A-2-4, A-3). Soils belonging to the Cretaceous age Peedee Formation underlie the alluvial deposits at an elevation of 43± feet. Soils of the Peedee formation generally consist of very loose to very dense phosphatic fine to coarse sand (A-1-b, A-2-4, A-3). Boring EB2-B was extended to an elevation of -11.7 feet with no significant change in stratigraphy.

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

Based on the proposed design, the existing grade will be raised 2± feet at the bridge site. The existing roadway embankment at the end bents consists of 3 to 4 feet of very loose to loose fine to coarse sand (A-2-4). The proposed end bent slopes will be mainly constructed within the existing embankment. Some additional fill will be required for construction of the end bent and side slopes. Borrow meeting Coastal Plain criteria is available in nearby areas.

The Geotechnical foundation report is based on the bridge survey and hydraulic design report dated September 22, 2003. If significant changes are made in the design or location of the proposed structure, the subsurface information should be reviewed and modified as necessary.

Prepared By:

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