STATE OF NORTH CAROLINA
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STATE PROJECT: 8.2561301 (B-3875)
F.A. PROJECT: BRZ-1456(5)
COUNTY: Moore
DESCRIPTION: Bridge No. 78 Over Grassy Creek on SR 1456 (North Howard Mill Rd.)

SUBJECT: Geotechnical Report - Inventory

This Geotechnical Inventory Report presents the findings of the Geotechnical Investigation for the bridge approaches at Bridge No. 28 over Grassy Creek on SR 1456. The project is located between NC 705 and the town of Bennett on SR 1456, and generally trends in a northerly direction from beginning to end.

The geotechnical field investigation for this project was conducted in October of 2002. Hand auger holes were performed in the Grassy Creek Floodplain and corresponding soil samples from these holes were sent to the NCDOT Materials and Tests Unit for analysis.

The following survey lines were investigated:

Line	**Station**
-L-	11+50 to 21+50

Areas of Special Geotechnical Interest:

1. *Alluvial Soils:*

Alluvial areas are confined to the floodplain associated with Grassy Creek. Floodplain sediments encountered from hand auger holes on the south side of Grassy Creek are no deeper than 5 feet and should not pose any specific construction problems for the proposed bridge approach fill.

2. *High PI Soils:* (PI's Greater than 30)

No high PI soils were encountered during our investigation.

3. *Rock:*

No rock was observed or encountered during the course of our investigation.

Physiography/Geology:

The project corridor is located in the coastal plain region of North Carolina in Moore County. Geologically the location of this site places it in the Eastern Slate Belt with underlying rock types likely to be metavolcanic. The topography consists of gently rolling hills and gently sloping interstream areas ranging in elevation from approximately 350 to 420 feet. Grassy Creek is the main drainage feature along the project.

Soil Properties:

1. *Residual Soils:*

Residual soils are derived from in place weathering of parent materials. They occur in a variety of consistencies, classifications, and stratigraphic sequences. Residual soils are further subdivided into clays, silts, and sands.

Residual soils were briefly encountered below alluvium in hand auger holes performed in the Grassy Creek Floodplain. These soils were too stiff to penetrate with hand tools thus no samples could be obtained for visual and laboratory analysis.

2. *Alluvial Soils:*

Alluvial soils originate from water transportation and deposition in a floodplain environment. The Grassy Creek Floodplain has sediment deposits that are at least 5 feet deep in places. Alluvial soils consist of soft to medium stiff sandy clayey silt and clayey sandy silt (A-4) in addition to soft to medium stiff sandy silty clay (A-7-6, A-6).

3. *Fill Soils:*

Fill soils encountered on the project are existing roadway fill soils associated with SR 1456 (North Howard Mill Rd.).

Rock Properties:

No rock was encountered during the scope of this investigation.