



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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STATE PROJECT: 8.1631801 (R-2911C)
F.A. PROJECT: STP-70(39)
COUNTY: Rowan
DESCRIPTION: US 70 from West of SR 1001 (Main St.) to SR 1739 (Hildebrand Rd.)
SUBJECT: Geotechnical Report - Inventory

This Geotechnical Inventory Report presents the findings of the Geotechnical Investigation for section C of US 70 from West of SR 1001 (Main St) to SR 1739 (Hildebrand Rd.). This project is a widening job along existing US 70 and encompasses stations from -L- 7+57.54 to 228+00. The project proceeds in an easterly direction from beginning to end.

The geotechnical field investigation for this project was conducted between June and July of 2002. An ATV mounted drill machine with automatic hammer was utilized for this investigation.

The following survey lines were investigated:

Line	Station
-L1-	7+57.54 – 56+89.77
-L2-	56+89.77 – 228+00
-Y1-	12+25 – 13+52.39
-Y2-	10+33.48 – 12+25
-Y3-	10+50 – 12+58.99
-Y4-	10+25 – 12+25.93
-Y5-	10+00 – 16+50
-Y6-	10+34.94 – 11+80
-Y7-	10+30.00 – 11+84.68
-Y8-	12+60 – 14+32.83
-Y9-	10+00 – 12+25
-Y10-	10+47 – 13+52
-Y11-	10+00 – 13+40.44
-Y11A-	10+48.35 – 11+00

Line	Station
-Y12-	10+47 – 13+50
-Y13-	14+50 – 26+00
-Y15-	10+47 – 15+31.41

Areas of Special Geotechnical Interest:

1. Alluvial Soils:

There are several areas containing alluvial soils throughout the project corridor. Alluvial areas are confined to areas adjacent to streams, or low lying drainage areas adjacent to existing US 70. One alluvial area of special interest was noted on the outlet side of the existing culvert right of -L2- station 193+70. The soft soils adjacent to the creek in this area occupies a narrow region and are comprised of very soft to medium stiff sandy clay (A-6) and sandy silt (A-4).

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

High PI soils were encountered in several areas along the project corridor during the course of this investigation. Residual clay soils (A-7-5, A-7-6) right of -L1- stations 33+00 to 52+50 contain PI's ranging up to 62. These soils begin at the ground surface and extend down between 5 and 11 feet in depth. They encounter proposed grade at approximate station 52+00.

The next instance of high PI residual clay soil (A-7-6) occurs right of -L2- stations 117+00 to 124+00. This soil layer extends from the ground surface to approximately 8 feet in depth. Plasticity indexes up to 44 were encountered along this section of the project.

An area right of -L2- station 130+00 to 133+25 contains up to 7 feet of residual clay (A-7-5) with a plasticity index of 39. This soil begins at the ground surface and is at or below proposed grade.

Right of -L2- station 170+50 to 174+75 a residual clay soil (A-7-5) with a PI of 44 was encountered between a depth of 6 to 10 feet. This subsurface stratum is well below proposed grade.

The alluvial soil between -L2- station 205+00 to 209+00 contains up to 7 feet of clay (A-7-6) with a plasticity index of 37. This soil is well below proposed grade.

3. Rock:

Hard rock was encountered only in one instance during the course of this investigation. The boring right of -L2- station 188+10 encountered hard rock at 18.2 feet, which is well below proposed grade.

Physiography/Geology:

The project corridor is located in the piedmont region of North Carolina in Rowan County west of the city of Salisbury. A portion of this project is within the city limits of Cleveland. Geologically this site