

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

- A. The area between -L- stations 159+60 to 160+40 contains A-7-6 clay with a Plasticity Index of 32. This medium stiff silty clay extends from ground surface to approximately 3 meters in depth.
- B. The area between -L- stations 171+70 to 172+30 contains A-7-6 clay with a Plasticity Index of 34. This medium stiff silty clay extends from ground surface to approximately 2 meters in depth.
- C. The area between -Y12- stations 18+30 to 19+68 contains A-7-5 clay with a Plasticity Index of 46. This very stiff micaceous silty clay extends from the ground surface to approximately 2 meters.

3. Rock:

Hard rock was encountered sporadically throughout the proposed project corridor. The only instances of hard rock encountered at or above proposed grade occurred between -L- stations 129+30 to 131+00 and -L- stations 135+90 to 136+15.

Physiography/Geology:

The project area is located in Lincoln County in the western piedmont region of North Carolina. The topography consists of gently rolling hills and gently sloping interstream areas. The proposed project corridor is generally well drained and is bisected by several small streams and wet weather drainage features. The project is surrounded primarily by densely wooded areas and open fields. Elevations within the project area range from approximately 200 to 250 meters.

Geologically this site is part of the Charlotte Belt and is underlain by metamorphosed quartz diorite and granitic rock.

Soil Properties:

1. Residual Soils:

These 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.

Clays are found consistently throughout the project corridor as both near surface soils and subsoils. They consist primarily of medium stiff to stiff red-brown, brown and tan micaceous silty clay, and sandy silty clay (A-6, A-7-5, A-7-6) 0.5 to 11 meters thick. These soils are typically well drained and possess Atterburg Limits in the intermediate range. Soil test results for these soils indicate a plasticity index range of 11 to 46 and a liquid limit range of 28 to 80.

Silts encountered on the project were of both the A-4 and A-5 AASHTO Classifications and occur as both near surface soils and subsoils. They generally consist of medium stiff to stiff red-brown and brown sandy silt with depths ranging from 0.5 to 13 meters thick.

Sands encountered on the project were of the A-1-b, A-2-4, A-2-5, and A-2-7 AASHTO Classifications and occur as both surface soils and subsoils with a thickness of up to 10 meters. They consist primarily of medium dense to dense red-brown and tan-brown silty sand.

2. Alluvial Soils:

Alluvial soils originate from water transportation and deposition in a floodplain environment. These deposits are usually shallow, but range up to 4.0 meters in thickness. Alluvial soils consist of very soft to medium stiff tan-brown sandy silt (A-4), very soft to medium stiff silty clay (A-6, A-7-5, A-7-6), and very loose to loose silty sand (A-2-4).

3. Fill Soils:

An area of artificial fill soil exists between -L- stations 112+90 to 113+20. The soils are the result of a deep ravine being filled by the current property owner with material such as wood debris, asphalt, trash, limbs and silty clay soils. Depth of the fill material is approximately 5 meters with an estimated quantity of 3900 cubic meters.

Rock Properties:

Rock is defined as that material which refuses penetration of power augers. Hard rock was encountered along various segments of the project corridor.

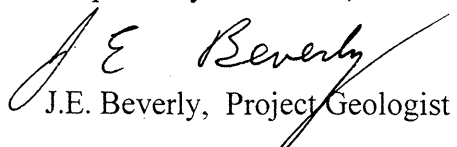
Groundwater:

Groundwater was encountered sporadically throughout the project corridor. The only instance of groundwater encountered above or slightly below grade was between -L- stations 129+80 to 130+20.

Special Samples:

Sample #	Location	Depth Interval (meters)
ST-1	-L- 162+60, 25 LT	4.50 – 5.10
ST-2	-L- 162+60, 25 LT	9.00 – 9.60
ST-3	-L- 163+70, 30 LT	5.86 – 6.46
ST-4	-L- 164+60, 20 RT	4.23 – 4.93
ST-5	-L- 160+80, 30 RT	4.50 – 5.10
ST-7	LOOP C @ -Y9- 11+20, 10LT	1.31 – 1.91
ST-8	-L- 119+20, 15 LT	1.10 – 1.70

Respectfully Submitted,


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