STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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September 25, 2002

STATE PROJECT: 8.1811201 (U-2408)
FEDERAL PROJECT: STPNHF-274(1)
COUNTY: Gaston
DESCRIPTION: NC 274 (Bessemer City Rd.) from NC 275 to (Dallas-Bessemer City Rd.) to US 29-74 (Franklin Boulevard).

SUBJECT: Geotechnical Report - Inventory

This project is located in western Gaston County near the town of Bessemer City. The project begins at a point approximately 2.30-km west-northwest of the I-85 and existing NC 274 interchange. From there the –L- line proceeds in an eastern-southeastern direction. This project is essentially a widening of an already existing highway. Transcontinental gas lines, high traffic volumes, a wide variety of businesses, and a myriad of other utilities are prevalent throughout the project corridor. Crew safety was as much a consideration as the Roadway Design in selecting our boring locations. Total length of lines investigated is 6.34 km.

The Geotechnical field investigation was conducted primarily in March of 2002. Field data was primarily collected with a CME 550-power auger machine equipped with an automatic hammer for Standard Penetration tests. In addition, we utilized a variety of hand tools (probes, hand augers) combined with visual reconnaissance to aid in developing our soil profiles. The attached plans show only areas of special interest or borings and are not complete roadway plans.

Geologically, the project corridor is mapped as being underlain predominantly by sericite schist and sericite quartzite of the Kings Mountain Geological Belt. Topography consists of gently rolling hills with relief of about 35.00 meters between the upland and lowland portions of the project.

The following baselines were investigated either by actual soil testing or visual reconnaissance:

Line	Stations
-L-	10+00 to 290+00
-Y1-	10+00.00 to 10+11.00
-Y2A-	10+00.00 to 11+04.00
-Y2B-	10+24.00 to 11+35.00
-Y3-	10+30.00 to 11+15.00
-Y4-	10+00.00 to 10+09.00
-Y5-	10+00.00 to 10+63.00
-Y9-	10+00.00 to 10+60.00
-Y10-	10+09.00 to 10+43.00
-Y12-	10+09.00 to 10+44.00
-Y14-	10+09.00 to 10+41.00
-Y15-	10+00.00 to 11+47.00
-Y15A-	10+20.00 to 10+48.00
-Y16-	10+00.00 to 10+38.00
-Y17-	10+00.00 to 11+88.00
-Y18-	10+07.00 to 10+72.00
-Y19-	10+08.00 to 10+53.00
-Y21-	10+00.00 to 10+50.00
-Y23-	10+09.00 to 10+60.00
-Y24-	10+32.00 to 10+67.00
-Y25-	10+09.00 to 10+65.00
-Y26-	10+27.00 to 10+82.00
-Y27-	10+32.00 to 10+61.00
-Y28-	10+36.00 to 10+68.00
-Y29-	10+93.00 to 11+21.00
-SR1-	10+09.00 to 10+35.00
-SR2-	10+00.00 to 12+75.00

Items of Special Geotechnical Interest

1. Groundwater
   Groundwater was not encountered within 1.83 meters of proposed grade within the project corridor.

2. Hard Rock
   Hard rock was not encountered above or within 3.00 meters of proposed grade within the project corridor.

3. Water Wells
   While there are no water wells that fall within the construction limits, there is one well that falls within 3.0 meters of the proposed construction limits. Its location is as follows:

Station	Offset
11+83 –L-	18.50m Left