

Ponds:

Permanent ponds were located within the project corridor at the following locations:

<u>Line</u>	<u>Station</u>
-L-	541+50 to 545+00 (Right Side)
-L-	546+00 to 547+25 (Center)
-LPB-	(Right – middle of loop)
-LPC-	2+00 to 2+50 (Left)

Water Wells

The following wells were identified within the project corridor:

<u>Well Type</u>	<u>Line</u>	<u>Station</u>	<u>Offset</u>	<u>Status</u>
6" drilled	-L-	515+70	365 Lt.	Active
6" drilled	-L-	517+30	310 Lt.	Active
24" bored	-L-	517+95	95 Lt.	Active
6" drilled	-L-	518+80	230 Lt.	Active
24" bored	-L-	519+92	7 Lt.	Active
24" bored	-L-	528+65	182 Rt.	Active
6" drilled	-L-	543+87	452 Rt.	Active
6" drilled	-L-	546+86	335 Lt.	Active
24" bored	-L-	549+91	275 Lt.	Out-of-service
6" drilled	-L-	547+48	484 Lt.	Active
6" drilled	-L-	547+50	412 Rt.	Active
6" drilled	-L-	547+84	222 Rt.	Active
6" drilled	-L-	549+28	617 Lt.	Active
6" drilled	-L-	559+82	309 Rt.	Out-of-service
6" drilled	-L-	563+84	130 Rt.	Active
24" bored	-L-	567+69	318 Rt.	Out-of-service
6" drilled	-Y3-	19+85	48 Rt.	Out-of-service
Unknown	-Y3-	21+17	125 Rt.	Unknown
Unknown	-Y3-	21+29	127 Rt.	Active
6" drilled	-Y3-	21+82	181 Lt.	Active
6" drilled	-Y3-	37+74	84 Lt.	Active

Physiography and Geology

The project corridor is located in Lee County near the boundary (fall line) of the Piedmont Physiographic Province and the Coastal Plain Physiographic Province. The Piedmont soil and rock is located east of the Jonesboro fault and are part of the Raleigh Geologic Belt. The terrain consists of broad rolling hills underlain by deeply weathered residual soils derived from the mica-quartz-gneiss parent rock.

Coastal Plain deposits are first encountered as a thin surficial silty-fine to coarse sand layer on a ridge located between -L- Station 514+65 and -L- Station 530+30. After being interrupted at a small stream crossing at -L- Station 533+70, the Coastal Plains sediments become thicker toward the south and generally include unconsolidated sands (A-2-4, A-2-6 and A-2-7), and sandy-clays (A-6). The clays have high percentages of sand, often greater than 40%.

The project corridor is generally a rural area with a large percentage of the land wooded. At or near -Y- line crossings, residential areas are encountered. Several in-service and out-of-service water wells are associated with these residential dwellings. A small percentage of the project corridor is presently used for crops or pasture. All existing natural slopes show no signs of instability or erosional degradation other than typical topsoil runoff associated with agricultural cultivation.

Drainage within the Piedmont portion of the project corridor is good and generally toward two (2) small streams that cross the site.

Soil Properties

Residual soils along the project are derived from the mica-quartz-gneiss source rocks. These soils, with few exceptions, typically consist of an upper layer of reddish-brown, soft to very stiff sandy-clay. Plastic indices of the clays typically range from 11 to 20; however, one (1) sample tested (S-40) was highly plastic with a P.I. of 44. The cap clays are underlain by subsoils with less clay minerals (A-4 and A-5). Both the clays and the silts showed a high sand content subjective to the high quartz content of the parent bedrock. Soils that will be encountered as unclassified excavation have moisture contents ranging from 10 to 25 and are generally at or slightly above optimum moisture. The upland residual soils are deeply weathered and grade to weathered rock at depths typically greater than thirty (30) feet. The weathered rock is medium to coarse grained and maintains the fabric of the underlying mica-quartz-gneiss bedrock. No groundwater was encountered within six (6) feet of proposed grade throughout the project.