Deep River Outfall Sewer  
High Point, NC

PROJECT OVERVIEW AND CHALLENGES

This project involved the utilization of two tunneling methods: hand mine drill & blast, and a TBM capable of mining through hard rock conditions. For the most part the 1,000’ TBM run was self-supporting, but some of the weaker zones required rock bolts, roof channels, and even liner-plates for a short reach. Two drill and blast road crossings totaling 400’ were completed on this job. Both drill and blast tunnels used horseshoe rib and board supports, with a 96” vertical ID. The TBM launch shaft was 30’ in diameter & 50-feet deep and excavation support consisted of rib & board. The lower half of the shaft was drilled and blasted. The final lining consisted of 60” of Hobas pipe which was blocked in place and backfilled with fly-ash cement grout. Ground conditions primarily consisted of hard, crystalline metamorphic and igneous rock (gneiss and granite).