

FDR with cement was used to reconstruct subdivision roads that were built without an aggregate base. The cost savings compared to full reconstruction of these roads allowed the majority of the subdivision roads constructed with aggregate base to be resurfaced.

**BACKSTORY:**

Country Lake Estates is located in Fayette County, GA. The majority of the subdivision roads are curb and gutter. The subdivision roads consisted of hot mix asphalt on either on graded aggregate base or placed directly on a clay subgrade. The roads without graded aggregate base were in a poor condition. The remaining roads in the subdivision were in need of a maintenance treatment. Fayette County Road Department (FCRD) has jurisdiction over the subdivision roads.

**PROBLEM:**

While the FCRD was repairing a median island on the main entrance road to the subdivision (Bayberry Road) they noticed the road was in poor condition. An investigation by FCRD showed the HMA was placed directly on a soft clay subgrade. Based on the condition of Bayberry Road a thorough investigation of the remainder of the subdivision roads was undertaken by FCRD and Contour Engineering. Approximately half of the subdivision roads were found to have no graded aggregate base and were in need of extensive rehabilitation or reconstruction. The remainder of the subdivision roads were in need of a maintenance treatment.

**SOLUTION:**

Based on the thorough evaluation of the subdivision roads, FDR with cement was selected to stabilize the roads built without graded aggregate base. The cement stabilizer modified the soft clay subgrade providing a stable platform to place an HMA overlay.

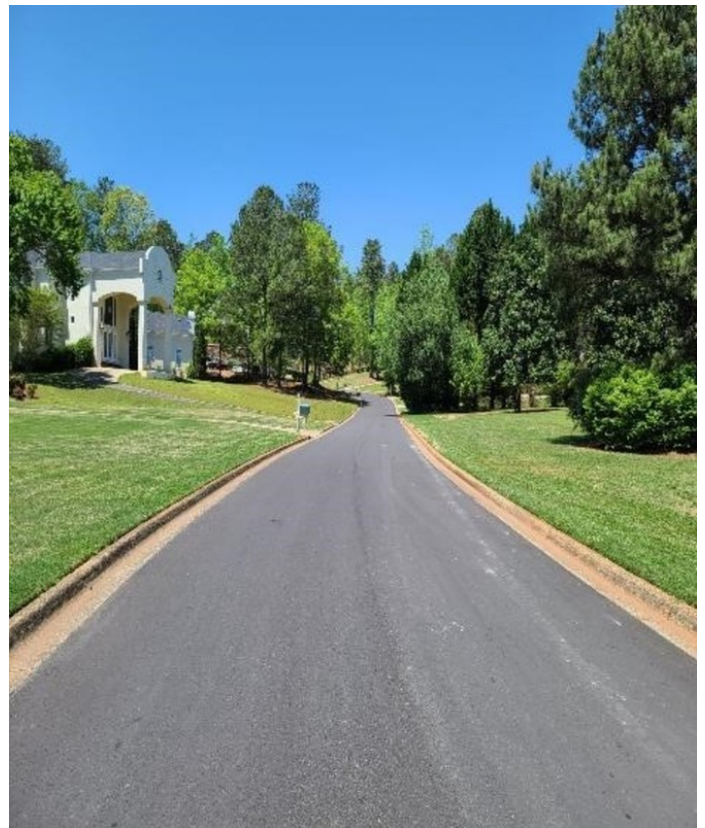
Atlanta Paving & Concrete was the contractor for the project. The roads were bordered by curb and gutter so the first pass with the reclaimer was 10-inches deep without cement. Approximately 3.5-inches of the blended material was removed to accommodate the 3.5 inch HMA final wearing surface. The discarded material was stockpiled by the contractor for later use by the FCRD. A second pass of the reclaimer mixed the cement into the reclaimed material and the mixture bladed to grade and compacted. After an initial cure, two lifts of HMA totaling 3.5 inches was placed as the final wearing surface.

Cost savings by using FDR with cement allowed FCRD to resurface all but one of the remaining roads within the subdivision. Using FDR allowed easy access to homeowners throughout the entire process from start to finish.

**PHOTOS:**



Performing FDR with Cement



Completed FDR subdivision road.



Compaction and final blading of FDR mix.





FDR with Cement