Full-Depth Reclamation (FDR) with Portland Cement Revitalizes Nichol Street in Greenville, South Carolina

On February 10-11, the Portland Cement Association, Southeast Region, in partnership with Clemson University, held its first Full-Depth Reclamation (FDR) Symposium at the Greenville, SC. There were close to 300 attendees from city/county/state departments of transportation, FDR contractors, consultants, and cement company representatives from Georgia, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia. FDR presentations ranged from basic concepts, pavement performance, and local/state/airport case studies. The Symposium was developed corroboratively with The Miller Group, Blount Construction Company, and Slurry Pavers, as well our entire PCA Southeast Promotion team of Stan Bland (Carolinas/Virginia), Andy Johnson (Pavement Design Engineer), Bob Nickelson (Georgia), Barry Wilder (Tennessee/Kentucky) and David Avant (Alabama) and Clemson University’s Local Technical Assistance Program (LTAP) center.

In the afternoon on the second day, attendees visited a live field demonstration to observe first-hand the FDR process with cement in action on a local city street, Nichol Street, in Greenville, SC. The field demonstration was conducted cooperatively by Blount Construction and The Miller Group, the reclaimer was provided by the Wirtgen Group, the grading equipment was provided by Linder Industrial Machinery, and the material testing for the mix design, as well as field compaction monitoring was provided by Summit Engineering.

Southeastern Emulsions provided the prime coat. Credit also goes to The City of Greenville who provided the site, worked with the construction crew by lowering manholes/valves prior to the event, and provided traffic control and mix water during construction. This close coordination allowed the complete reclamation of a 900-foot city block in less than one day with minimal disruption.

The existing pavement and base were reclaimed to a depth of 8 inches using 40 pounds of portland cement per square yard. The reclaimed base was designed to achieve 450 psi unconfined compressive strength in eight days and should provide many decades of maintenance-free service. The base was primed, sanded, and reopened to traffic the same day.

Overall, the symposium was regarded a huge success with several who commented it was “one of the best conferences they ever attended” and gave everyone a thorough understanding and tools to utilize FDR in their projects.
Large crowd at demo

Initial compaction begins while mixing continues

Mixing and final compaction

Compaction and spread rate monitored to ensure quality

Demo completed in one day

Primed, sanded, and ready for final surfacing