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Submission Category

Leadership in sustainability policy
Homes & residential building projects
Non-residential building projects
 Infrastructure projects

Supporting Materials

Project description or leadership activities: Jsmith_RBeyer_summary.pdf
Jsmith_RBeyer_nomination.pdf
Photography: Jsmith_RBeyer_TheMachine.jpg
Jsmith_RBeyer_ModifiedChipSpreader.jpg
Jsmith_RBeyer_AsphaltZipper.jpg
Other Supporting materials: Jsmith_RBeyer_supportingmaterial_award.pdf

Jsmith_RBeyer_summary.pdf

Richie Beyer's innovative time-saving process for maximizing limited resources while addressing a major need in Elmore County provides sustainability for county roads.

Jsmith_RBeyer_nomination.pdf

Elmore County, the third-fastest growing county in the State of Alabama, encompasses approximately 620 square miles in Central Alabama with 750-plus miles of paved roads. In 2005, Elmore County began experimenting with full-depth reclamation (FDR) to meet its growing need to address base failures on a maintenance level rather than by rehabilitating long stretches of roadway.

Unlike other counties across the state, Elmore focused on modifying the process of road reclamation to address problems on a smaller scale, in lieu of reclaiming the entire road. In search of a process that utilized smaller equipment in a timelier fashion, Richie Beyer sought a process to minimize resources and labor by recycling materials in place while limiting the outlay for equipment and providing more flexibility in its use.

The county purchased a 30-inch-wide road reclaiming/milling attachment that operates in association with a loader. Selected for its flexibility and compatibility with the county's existing equipment, the AZ 300 Asphalt Zipper functions as an attachment to the loader rather than as a stand-alone piece of equipment. This enables crews to shift from base work and FDR to other tasks in a matter of minutes.

The county also experimented with different types of road reclamation processes and materials to use to stabilize the roadway. After many months of experimenting and monitoring performance, the county decided that the addition of portland cement into the reclamation process provided the most effective and cost-efficient sustainable results.

Beyer also refined the method of distributing cement on the pavement. Initially, workers manually distributed bags from the back of a dump truck. Through trial and error, the county retrofitted a dump truck with a modified chip spreader to distribute an even amount of cement over the roadway. The process resulted in only minimal dusting and required no heavy lifting. Cement is now loaded into dump trucks at a local ready mix plant and distributed as needed.

The process meets Beyer's goal of maximizing the use of limited resources while addressing a major need in the county in a minimal amount of time. The county has established a procedure for FDR that utilizes a three-man crew, a loader, the Asphalt Zipper milling attachment, a single axle dump truck and a vibratory smooth drum roller.

The process, which was awarded the John F. Courson Excellence in County Engineering Award from the Association of County Engineers of Alabama, also minimizes road closings and inconvenience to the driving public as the work can be performed in a single lane, reclaiming a 100-foot-long stretch of road in a few hours. The work zone is small and contained, allowing the county crew to complete its work and move to the next site or road.

Photography

Jsmith_RBeyer_TheMachine.jpg



The road reclaiming/milling attachment (10/2003)
Elmore County, AL | *Elmore County Engineers*

Jsmith_RBeyer_ModifiedChipSpreader.jpg



Cement is distributed evenly over the roadway with a modified chip spreader (10/2003)
Elmore County, AL | *Elmore County Engineers*

Jsmith_RBeyer_AsphaltZipper.jpg



The Asphalt Zipper pulverizes the failed asphalt roadway and mixes it with cement (10/2003)
Elmore County, AL | *Elmore County Engineers*

Jsmith_RBeyer_supportingmaterial_award.pdf (Other Supporting Material)

John F. Courson Excellence in County Engineering Award from the Association of County Engineers of Alabama, AL