“Whitetopping” thin concrete overlays use Blast Furnace Slag in Wayne County

Southeast Michigan: Two innovative projects help rehabilitate the road network with long-term benefits

Wayne County, Michigan engineers have turned to “whitetopping,” a thin concrete overlay on an existing paved surface, to provide a concrete fix for the County highway system. And Blast Furnace Slag is in the mix every step of the way.

Rather than resort to time-consuming and costly total reconstruction, a concrete overlay was constructed on Outer Drive in 2000 to evaluate the whitetopping process.

“To date, the ride out there is excellent and the pavement is performing as well as we had hoped. There is very little distress, if at all,” reported Mike Darga, Director of Engineering for Wayne County.

With the knowledge and success gained from the Outer Drive project – and after several years of use – Wayne County is pursuing additional locations to apply the innovative fix.

After determining that concrete overlays are a cost-effective alternative to total reconstruction a second overlay project was constructed on Merriman Road in the early summer of 2003.

Darga stated, “We did the
research and determined that a concrete overlay will give us better service and lower cost when compared to a traditional asphalt overlay.”

Both the Outer Drive and Merriman Road projects utilized MDOT 6AA (ASTM #57) Blast Furnace Slag as the coarse aggregate in the concrete. “The slag aggregate provides the right consistency, durability and price to construct these projects adhering to the high-quality requirements of the County,” explained John Wood, Operations Manager for Six-S Construction, the contractors on the project.

“In addition to the concrete coarse aggregate, we used slag cement on the Merriman Road project. At approximately 125 lbs. per cubic yard, or 25% replacement by weight, it really helps to make a good mix, especially for paving in the heat of summer,” Wood added.

To be sure, cost-effective whitetopping with Blast Furnace Slag is tops with both Wayne County engineers and taxpayers alike.

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