

Virginia Paving Handles the Wait

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The Virginia Paving crew stayed cool, calm and collected when a nearby false alarm shut down paving for 90 minutes April 25. A project originally slated for hot mix asphalt (HMA) had the crew sitting mid-pave across the parking lot from an elementary school on Balls Hill Road in Fairfax County when the fire alarm went off. Of course the crew stopped working for emergency personnel to get in and take care of business. Ninety minutes later, seven trucks of material that hadn't gotten the "stop production" message sat with warm-mix asphalt (WMA) cooling from 250 to 200 degrees F.

No problem.

Quality control manager for Virginia Paving, Herndon, Va., Josh Thompson admitted to being surprised by the fire alarm and emergency response, but he wasn't concerned about the paving to be done. He's worked on too many WMA projects to count at this point in his career, and he spoke with confidence about the job to be done. With about 418 tons of mix for the job, the superintendent merely had to let the plant manager, Rob McKeever, know to hold mix in the silos until the crew was cleared to continue paving.

"For us, it's not a big deal to stop the trucks," Thompson said. "We can keep the mix in the silo so nothing's going to hurt it."

Once the team started paving again, the cooler temperatures of the mix behind the paver proved no problem. "We got density all night long."

Here's how they did it.

Virginia Department of Transportation (VDOT) requested an SM 9.5 A/HR mix with 5.4 percent 64-22 AC with a touch of additive from Akzo Nobel (0.2 percent) and a touch from MeadWestVaco (another 0.2 percent). When Lane

Construction's Virginia Paving division won the bid for the project, they had the option to make some changes based on their experience.

"We can use whatever's approved by VDOT," Thompson said. "We're allowed to use warm-mix on any job we want for VDOT. We use water to foam."



The asphalt cement came to Virginia Paving's tanks already blended with the SonneWarmix and ready to mix for the Balls Hill Road project.

The system they use is the AQUABlack Solutions system from Maxam Equipment, Inc., Kansas City, Mo. The binder they purchased from Bitumar USA came already mixed with SonneWarmix™ from Sonneborn Refined Products, Mahwah, N.J. Sonneborn Market Manager Chris Strack explained that SonneWarmix is an organic additive that can be used as a compaction aid. It's designed to reduce production temperatures from 50 to 70 degrees F, which offers the typical benefits of WMA mixes, such as:

- * decreased fuel consumption and cost;
- * decreased greenhouse gas emissions;
- * increased time for transportation, placement and compaction when needed;
- * extension of the paving season;
- * cooler mat temperatures; and
- * less worker fatigue.

The additive also allows for increased RAP content in the mix design, according to Strack. "Our additive can be used with RAP or RAS, and can be used in polymer modified asphalts and ground tire rubber mix designs...to start the season early or extend your season."

He explained that the design VDOT accepted from Virginia Paving included a PG64-28 with 30 percent RAP and included 1 percent SonneWarmix. The team produced the mix at 250 degrees F, which falls easily into the range that defines a WMA.

The paving crew started work around 8:30 p.m., milling the roadway to alleviate the deteriorating condition. They put down a tack coat of CRS-1 from Nustar Asphalt, Dumfries, Va., with the SM 9.5 over that. They dumped the mix straight into the Roatec RP 195 tracked paver without a material transfer vehicle and achieved compaction with some Caterpillar rollers behind the Carlson screed.



The Virginia Paving crew achieved 92 and 93 percent densities on the mat with temperatures of 200 degrees F behind the screed.

Before the team could use all 20+ loads of mix, a fire alarm sounded from the school next to the job site. After 90 minutes of emergency vehicles in and out of the area, seven trucks of mix sat cooling in front of the paving train. By the time they laid the mix, the mat temperature read 200 degrees.

As Thompson said before, they had no trouble hitting density with those temperatures. The stats Strack has show 92 to 93 on the nuclear density gauge.

“I thought it went very well out there [that] night,” Thompson said. “I have been involved in a lot of warm-mix projects from the very start when I was with FHWA, and [that] night I was impressed when I saw 200 on the temperature gun and we still didn’t have any issues at all with density. I’ve never seen that low of a temperature with no issues.”