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**Contract works the night shift
to resurface interstate, fix underlying pcc pavement**



Crews from Kubricky Construction Corp., Queensbury, N.Y., pave a 5.5-mile stretch of New York's Interstate 87 (I-87). The majority of the project work was completed at night. As a part of the resurfacing project, Kubricky crews had to repair the deteriorating 9-inch pcc pavement underneath the 6-inch asphalt pavement.

When signs of deterioration began to surface along New York's Interstate 87 (I-87), the New York State Department of Transportation (NYSDOT) decided to resurface the aging pavement. The three-lane interstate, which runs north and south across New York, was made up of a pcc base and an asphalt overlay, which was showing signs of reflective cracking. "The joints in the concrete needed repair," says Richard Westfall, an NYSDOT assistant engineer. "They were beginning to reflect through to the asphalt overlay."

I-87 also had rust and potholes in some areas. To fix these problems, and stop the reflective cracking, NYSDOT decided to resurface the interstate. The state divided the work into three separate projects. Kubricky Construction Corp., Queensbury, N.Y., won the bid for the first project, completed in 1999. Kubricky also won the bid for the second project, which began last April. This project involved a 5.5-mile (8.9-km) stretch of I-87 that runs between exits 9 and 11. Kubricky, along with milling subcontractor, Palette Stone Co., Saratoga Springs, N.Y., milled off the 6-inch (150-mm) asphalt overlay, repaired the 9-inch (225 mm) failing pcc pavement and resurfaced the interstate with Superpave mix.

The job required much teamwork from the contractor and NYSDOT officials, including Lenny Ball, the engineer for the second phase of the project. Westfall, who was project engineer for the first phase, says that, overall, the I-87 job also brought many challenges. Traffic was one of them. I-87 boasts an average daily traffic (ADT) load of 80,000 vehicles. To combat the traffic issue, NYSDOT specified the majority of the work to be completed at night when traffic volumes were lighter. And to lessen the impact to the motoring public, NYSDOT specified lane closures only during off-peak traffic hours, with at least one lane open at all times. Also, nighttime crews had to be packed up and cleared out of the work zone by 6 a.m. each day.



Kubricky crews used the notched wedge joint construction to match lanes on the I-87 project.

Crews work through the night to repair pcc

Repairing the I-87's underlying pcc pavement was the first item on the project agenda. To get to the pcc pavement, crews had, of course, to mill off the existing asphalt surface. NYSDOT specified that the pcc had to be resurfaced within 14 days of the repairs. This meant crews had to mill and repair the pavements in the same night to prepare for the next day's traffic – yet another challenge to the job. Crews met the challenge, however, by dividing the work into 0.5-mile (0.8-km) sections. There's how a typical night went.

First, Palette Stone crews milled off the existing asphalt surface using milling machines from Wirtgen America Inc., Nashville, Tenn. Next, NYSDOT materials engineers assessed the pcc pavement to determine whether the slabs needed to be removed or repaired. Finally, Kubricky crews ended the night's work by repairing or replacing the pcc pavement.

Repairing the joints was a relatively straightforward process, according to Michael Speshock, project manager. "We milled 3 inches (75mm) into the joints and filled them with blacktop," he says.

In areas where the pcc slabs were deteriorated beyond repair, however, the process was more involved. These slabs had to be completely removed and repoured. Kubricky crews used a rock saw to saw-cut the slabs out of the ground. "Then, we removed them with a backhoe and put in new transverse joints and dowel bars," explains Speshock.

Finally, crews poured the pcc, which took between two to four hours to set. "We had to use a special quick-setting concrete that would be able to get its strength in that time," says Westfall. "That's why they (Kubricky crews) could only do so much work in one night."

In all, crews poured 1,961 cubic yards (1,500 cum) of pcc material. Speshock says that crews had to work swiftly, but efficiently to ensure the pcc pavement was ready for the next day's traffic.

HMA top it off

Once crews completed the pcc repairs, they moved on to the asphalt paving portion of the job. They used a PF-5510 paver and an MC-30 mobile conveyor, both from Blaw-Knox, Mattoon, Ill., to lay the mix. Palette Stone produced the mix, a total of 110,000 tons (99,770 Mg), at a stationary plant from Gencor Industries Inc., Orlando, Fla. The plant was located approximately 10 miles (16 km) from the jobsite.

Under the supervision of Kubricky's nighttime paving foreman, Jamie Flynn, crews first laid a 2-inch (50-mm) thick traveling and leveling (T&L) course followed by a 2-inch (50-mm) thick binder course. A 1.5-inch (37.5-mm) thick surface course topped the pavement. To match joints, crews used a Wedge Joint Maker™ from TransTech Systems Inc., Schenectady, N.Y.

For compaction, Kubricky crews used a steel-drum roller from Dynapac Compaction and Paving, Schertz, Texas, in the breakdown position. After



"To match joints, crews used a Wedge Joint Maker™ from TransTech Systems Inc., Schenectady, N.Y."

allowing the mix to cool below the tender zone, crews used two DD-130 rollers, both from Ingersoll-Rand (IR), Shippensburg, Pa., in the intermediate positions and an IR DD-110 in the finish position.

At times, compaction was tricky for Kubricky crews due to evening's cooler ambient temperatures. The key for compacting in cooler ambient temperatures is to monitor the temperature of the

mix, according to Rory Rottella, nighttime superintendent. He advises other contractors to do the same. "You have to constantly monitor your mix," he says adding that it also helps to be flexible. "You may also have to do a different rolling pattern. For instance, ask yourself, 'Do I need to have the finish roller way back instead of close?'"

Visibility, safety take precedence

Of course, nighttime paving brings more than compaction challenges. Visibility is always a key issue. NYSDOT takes nighttime work very seriously and employs stringent specs for such work, according to Speshock. He adds that Kubricky also takes nighttime paving seriously and worked hard on the I-87 project to keep the workers and work zone lit. "Crew members wore reflective vests and reflective tape on their hard hats," says Speshock. "By no means was anyone allowed out of a vehicle, on the ground or anywhere there was an unlit area. We even lit the crossovers. We'd tell crew members, 'If you're in a crossover doing something, even if it's starting up a piece of equipment, the light tower gets lit first.'"

Speshock says that at least 60, and often 70 light towers, most of which were from Ingersoll-Rand, Bethlehem, Pa., were used each night. Crews also used heavy signage. "Plus, we had lights on the equipment," he says. "It almost turned night into day."

Speshock says that visibility in nighttime paving is important because its key to staying safe. And safety, he adds, should always be the most important element of the job. "Kubricky's motto is safety, quality then productivity," says Speshock. "Safety comes first, and we have zero tolerance when it comes to a person doing a dangerous act."

During the project, Kubricky, which has a full-time safety staff, showed its commitment to safety through daily safety meetings to discuss issues such as the potential dangers of that night's work and getting the proper amount of a sleep. Safety was also enhanced through the use of state police officers, who were on-site each night for 10-12 hours.

Thanks to extensive safety measures, crews made it through the I-87 project injury-free. Speshock is proud of that fact. "Having a safe project is the most important thing," he says "What I'm most proud of is getting out of there with everybody we started with."

Future looks bright for I-87

Not only did Kubricky crews finish the job safely, they also finished on schedule, earning bonuses for paving and compaction. Kubricky also earned the praise of NYSDOT. "They (Kubricky crews) were excellent," says NYSDOT's Westfall. "They completed the project on schedule, and they did an excellent job with the paving."

Speshock credits his crews, included daytime superintendent, Kevin Hammond, with the company's success on the job and ability to coordinate the daytime and nighttime work. "Having great personnel – that's how we managed," he says.

The paving in the last phase of the I-87 job is scheduled to be completed November of this year. Kubricky recently won the bid for that job as well. The project will involve the same process of repairing and resurfacing the underlying pcc pavement. And if the second phase of the project is any indication of how the third will wrap up, New York motorists will be driving on a smooth asphalt surface for years to come.

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