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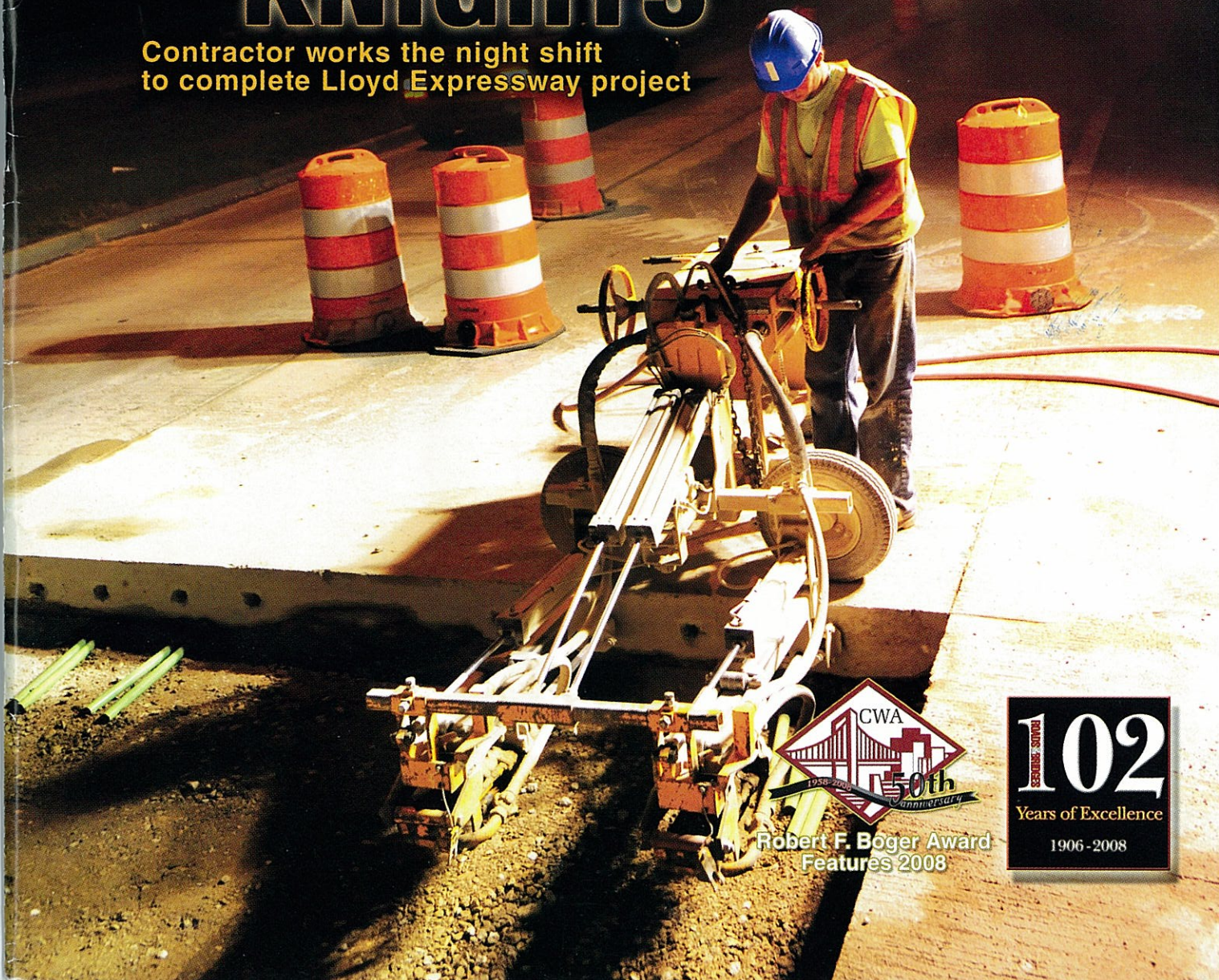
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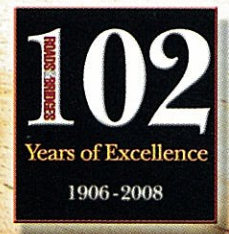
DECEMBER 2008

DARK KNIGHTS

Contractor works the night shift to complete Lloyd Expressway project



Robert F. Boger Award
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CONCRETE REPAIR

There's a popular saying in the Midwest about the seemingly small number of seasonal changes in this part of the country: "We have only two seasons: winter and road construction."


While this old joke still holds more than enough truth to remain funny, it is no laughing matter for drivers when it comes time to actually hit the road and contend with the real-life ramifications of the annual summer construction binge.

With states, counties and cities combining to let hundreds of highway, road and street contracts every year—and with the Midwest climate essentially forcing most of this work to occur during the summer months—motorists are bound to feel the slowing effects of construction on various roadways multiple times daily. The challenge for contractors bidding these jobs then becomes not only finding a way to complete work quickly, but also to do it in a way that somehow minimizes the disruption to traffic flow.

The city of Evansville, Ind., is one such metro area feeling the pinch. Among the long list of projects on deck was a concrete patching job beginning in April 2008 on one of the busiest roads in the region: Indiana Highway 66, better known as the Lloyd Expressway. The patching was intended

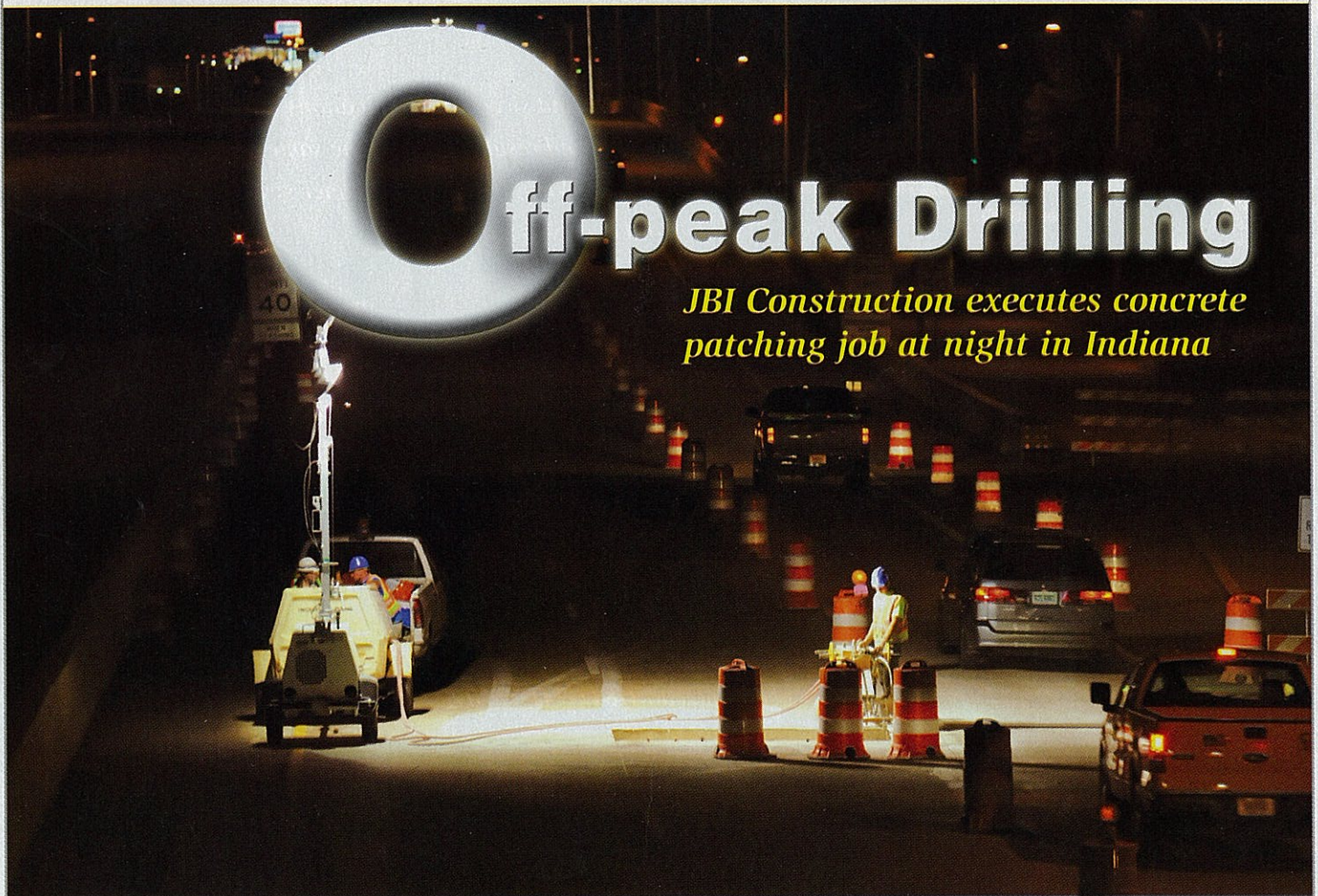
to solve some road issues currently considered minor before they could get worse, with the hope being to extend the overall life of the road.

A phrase like "patching job" might give the inaccurate impression that such a project would be completed within mere hours or days. But considering the job includes repairing 6 miles of a major thoroughfare in both directions

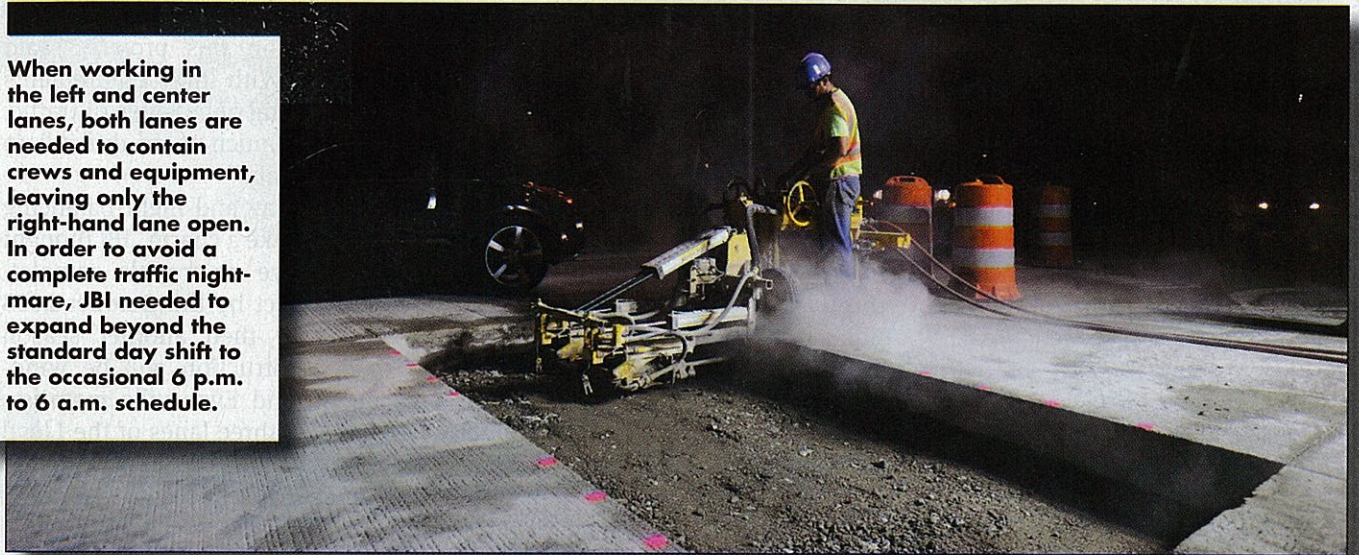


ff-peak Drilling

JBK Construction executes concrete patching job at night in Indiana



When working in the left and center lanes, both lanes are needed to contain crews and equipment, leaving only the right-hand lane open. In order to avoid a complete traffic nightmare, JBI needed to expand beyond the standard day shift to the occasional 6 p.m. to 6 a.m. schedule.



while keeping traffic flowing at all hours of the day, it lends perspective to how the task carried a six-month timetable for completion.

Must work for the state

The \$1.9 million contract for the job was awarded to JBI Construction Inc., a local company that handles all types of concrete construction projects, including residential curb and gutter, street, driveway and sidewalk paving. However, with the economy in its current state, JBI has seen a bit of a shift in its project portfolio.

"With the housing market down and fewer subdivisions being built, we're doing a lot more state work," said John Stuteville, JBI's shop foreman.

That is not to say that JBI has not been doing state road jobs all along. The company handles about three large patching projects a year, with the average job's overall size and cost being just a little smaller than the Lloyd Expressway assignment.

The project estimate called for the replacement of 8,200 sq yd of 10-in.-thick concrete, although the exact areas for patching along the Lloyd were not exactly known until a state inspector identified sections in need of repair as the job progressed.

"We're dealing with many different patch sizes," said Greg Ficker, crew foreman and operator for JBI.

"The smallest patches are 6 by 12 ft. The biggest patch we've done on this job was 250 by 16 ft."

JBI's 12-person crew has been tasked with completing the necessary patching while keeping two of the Lloyd Expressway's three lanes open between the hours of 6 a.m. and 6 p.m. Easier said than done, considering that several pieces of equipment are required for patchwork. Finding enough room for equipment has been a manageable issue for work being performed in the right-hand lane, where the crew is able to utilize the additional space provided by the shoulder. But when working in the left and center lanes, both lanes are needed to contain crews and equipment, leaving only the right-hand lane open. In order to avoid a complete traffic nightmare, JBI needed to expand beyond the standard day shift to the occasional 6 p.m. to 6 a.m. schedule.

"The projects we're doing don't typically require nighttime hours," said Ficker. "But this is a very busy road, and working at night obviously lessens the effect on traffic flow and enables us to complete the job more quickly. Originally we planned to have 50 nights of work on this project," said Ficker. "That number has come down, but we're still putting in a fair number of nights. We're pretty much working every day and

every night we can as the weather allows."

Sectioned off

The patching work itself starts by cutting out a designated section using a 65-hp concrete saw. A hydraulic breaker mounted on a skid steer is then used to break up the concrete within the patch area. JBI then uses its Samsung rubber-tired excavator to dig out the broken concrete, which is later recycled. At that point a concrete drill is brought in to drill holes where dowel bars are to be placed before new concrete is poured.

JBI owns three E-Z Drill concrete drills, two of which are at work on the Lloyd Expressway job. The primary drill being used is the Model 210-2 SRA, a two-gang slab rider unit that rests up on the existing concrete while drilling two holes at a time in the patch.

"We're drilling 16 dowel holes per patch, eight on each end," said Ficker.

The holes are being drilled to a diameter of 1 $\frac{3}{8}$ in. and a depth of 10 in., while the dowel bars going into them are 1 $\frac{1}{8}$ in. in diameter and 18 in. long. Crew members coat the bars in epoxy and insert them into the holes. The epoxy sets in about 10 minutes, at which point the patch is ready for a fresh concrete pour.

"We've had very good luck with

[the drill]," said Stuteville. "You're talking about a relatively small piece of equipment that has to basically hammer its way through concrete. They take a lot of abuse with the vibration and everything, but we just do some basic maintenance and keep putting them back out there."

Despite tackling some harsh job environments, JBI's concrete drill has been a part of the company's equipment fleet for eight years now and is still going strong. In fact, Ficker has been with the company for the same length of time and has not used another brand.

"Drilling is obviously a critical aspect of our jobs, so it's important to have equipment we can rely on," said Ficker.

"It's an efficient piece of equipment," added Stuteville. "The [drills] are very user-friendly. An operator can easily adjust and position the drills, and you're able to drill holes

much quicker than you can while lying down on your belly with a handheld drill. And they're accurate. Wherever you set them up, that's exactly where they drill."

While the concrete drill is handling the drilling of dowel-bar holes in the direction of vehicle travel along the transverse slab joints, JBI Construction is using another E-Z Drill unit—a Model 210B the company just purchased this past winter—for drilling tie-bar holes along the longitudinal joints on patches that are larger than 12 ft by 12 ft. Unlike the other drill, the 210B actually sits on the grade inside the patch while in use.

"Per the job specifications, we need to drill 1-in. holes for tie bars every 3 ft in the larger patches," said Ficker. "In many cases, using the slab rider unit would mean having the machine hanging out in traffic, so instead we use the on-grade unit."

"[Drill] maneuverability has been

a big plus on this project," said Stuteville. "With the requirements for maintaining open lanes of traffic, it would be much more difficult to pull off this job."

With the day and night balancing act working like a charm, JBI thought it would have no trouble completing the project by the October 2008 deadline. By then another season of road construction will be winding down, and Evansville motorists will have all three lanes of the Lloyd Expressway available just in time for that other Midwest season: winter. **RB**

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