I-77 bridges replaced in emergency contract

By Bob Kudelka

When a routine inspection uncovered cracks in main-span girders in two bridges over Interstate 77, Transportation Secretary H.B. Limehouse Jr. took decisive action.

Rather than piecemeal repairs that would not have fixed the problem, Limehouse ordered that the main spans of both bridges be replaced. This avoided more costly repairs in the long run and would ensure safety for the motoring public.

"Any project that involves the safety of the public is important no matter how large or small," Limehouse said. "Repairing two bridges on an interstate highway with high traffic volumes is both a major safety priority, and needs to be completed as quickly as possible to keep traffic moving."

Limehouse issued an emergency contract and work began on June 7 to replace the 12 steel girders in both main spans of the bridges.

Even though the interstate would typically have to be shut down for the repairs, District 4 engineers devised a way to keep traffic moving.

The District's Traffic, Construction and Maintenance forces worked together to modify the exit ramps into two-lane roads to carry traffic around the work zone. Ramps were re-built by maintenance forces and a local contractor was hired for the asphalt paving.

District employees did things such as clearing and grubbing, drainage work and preparing the site.

"We had to do a whole lot in a short period of time," said new District 4 DEA John McCarter, who also commended the work of the asphalt contractors, Rea Contracting and Granite Contracting, and bridge contractor, United Contractors. "There was a lot of opportunity for someone to let us down but everybody made it a top priority and it got done."

The temporary two-lane roads converted from the exit ramps allowed motorists to simply drive around the work zone.

The speed limit was 45 mph approaching the ramps and then 30 mph. After the brief slow down, motorists were back on I-77 with little inconvenience and likely not realizing that a major interstate had been closed.

"It was an ideal way to go," said Stan Bland, who oversaw the work as one of his last functions before retiring as District 4 DEA. "In most states, construction like that would back up traffic for long periods of time."

On June 30 - just 23 days after the bridge replacement began and less than two months after the routine inspection revealed the cracks – the new bridges were completed and interstate traffic was returned to normal.

"It turned out real well," McCarter said.

SCDOT officials appreciated the SC Highway Patrol for helping ensure safety at the work zone by enforcing the speed limit.

"SCDOT would like to thank the Federal Highway Administration (FHWA) for their cooperation in expediting this emergency project. The project could not have been done so quickly without FHWA's help in securing permits and streamlining other processes to get this job started," said Limehouse.

Bland said there were only two minor incidents during the project including one involving a beer truck tipped over. There were no injuries but all the beer was lost.

"It was a smelly mess," Bland said.

PHOTOGRAPHS BY ROB THOMPSON/THE CONNECTOR

Before the traffic was detoured, barges were stacked underneath the I-77 bridges to give them extra spport.

Bridge inspectors noticed several cracks in the steel girders.

During the construction process, north- and south-bound traffic was detoured from the bridges via reconstructed exit ramps. The traffic would exit, cross SC Highway 56 and re-enter I-77.

New girders were put into place on June 9-11.

On June 10, United Contractors employees place the second of four girders. A total of 12 girders were replaced.

Workers place a diaphragm between two girders.

I-77 at SC 901

Cracked girders were also found on I-77 bridges at exit 73. Additional lanes were added to the outside of SC 901 to make room for shoring under the center of the bridges. The photos here show SCDOT employees Dwight Turner, Jason Johnston, John McCarter, Perry Crocker, Carl Smith, Clint Beaver and Lewis Brazell working extra hours to get the widening done.