

Feature Story

TWO BRIDGES BECOME ONE ABOVE ALABAMA RIVER

Concrete Cutters Help Improve Transportation Network

The state of Alabama has been experiencing strong statewide employment, new industry announcements and expansions as well as an overall healthy business investment climate. As industry continues to expand in Alabama and as new residents arrive, the Department of Transportation (DOT) has turned its attention to the quality of the transportation network throughout the state. The quality of a state's roads, highways and bridges is an important factor in continuing economic growth and the DOT has allocated almost \$2 billion for road and bridge projects throughout the state. Interstate 65 has received some long neglected attention thanks to this state transportation renovation effort.

Interstate 65 not only provides interstate connections for Alabama residents but it is a main connector for the South with the Midwest, from the ports of the Gulf of Mexico to the ports of the Great Lakes. Commonly called Alabama's main street, it begins in Mobile, Alabama and ends in Gary, Indiana, serving many major cities along the way, including Montgomery, the capital of Alabama, with a population of more than 200,000 people.



Bridge rails were cut into 50-foot sections to be removed by crane.

Just north of Montgomery, Interstate 65 crosses the Alabama River. As traffic moves towards the river, the Interstate actually becomes two bridges, one northbound and one southbound with three lanes in each direction. This portion of Interstate 65 has been a site of heavy traffic congestion and as part of the state transportation renovation plan, the Alabama DOT decided it needed to be upgraded. By closing the gap between these two bridges to make one, wider bridge with multiple lanes on each side, traffic flow could increase and provide easier travel for people between Montgomery and Prattville.

The Alabama River Bridge Widening Project was awarded to general contractor R.R. Dawson Bridge Co. of Bessemer, Alabama. This project involves the removal of the existing bridge rails from the northbound and southbound lanes. As the

bridge rails are completely removed, a new bridge deck is being constructed between the two existing ones to provide one wide and seamless bridge with northbound and southbound lanes. The general contractor and the DOT knew they needed a company with experience working with space constraints, limited access and the ability to reduce noise, dust and debris. In May 2006, CSDA

member ABC Cutting Contractors of Alabama won the bid for the removal of the existing 9-inch-thick concrete bridge rails using diamond-cutting technology.

Operators began pre-cutting the bridge deck with a Core Cut, 61 Hp, Deutz Turbo Diesel flat saw, leaving 10 feet of bridge deck uncut every 50 feet. The next step would be to cut the rails off the portions of the bridge over land. Cutting the rails off bridge sections over the river will be done later. When they originally bid the job, ABC felt that flat sawing would be the better cutting method for the bridge rails. They soon found out that the slab saws would not work because there was only four feet of space between the temporary barrier rails and the face of the curb. The decision was made to switch to wire sawing, but they had to devise a system to move the water, the core drill equipment and the wire saw along the bridge. By mounting a 50-gallon water tank to the front of a lift jockey, they were able to attach a core drill rig to the side of the water tank. The lift jockey was then fitted with a hitch to pull the wire saw unit behind it like a mini-train as operators moved across the bridge.

Once the rails were pre-cut, ABC operators core drilled holes to run the wire. With the SB Hydrostress wire saw hooked onto the mini-train, they began cutting to divide the bridge rails into 50-foot-long sections. Operators wire cut the rails, which were four feet high and approximately nine inches thick. Ten feet of bridge deck was left uncut on each section to hold the bridge rails in place. When the cranes were in place, ABC operators went back with the flat saw to finish cutting the 10-foot sections. As each section was cut, each 50-foot-long bridge rail section was released from the bridge. The crane holding it would then lower it to the ground.

There were numerous constraints that ABC operators had to contend with while on the job. With the limited amount of space they had to work in, ABC operators had to work close to the wire saw unit. It was necessary to put up a 4 foot x 8-foot protective wire screen between the operator and the wire saw unit. This would help to protect the workers from any potential flying hazards or if the diamond wire broke during cutting. Getting water to this equipment was also an issue for ABC Cutting but they found a creative

ABC Cutting operators set up the wire saw unit behind a protective screen.



solution by modifying the equipment so all equipment could be mounted on a mini-trailer system to be pulled along in the confined space between the bridge rail and the temporary traffic barriers.

ABC operators wore the necessary Personal Protective Equipment during sawing and drilling and were tied off at all required times for fall protection. Heat was also a major issue for workers as temperatures soared into the 100s with high humidity and no shade. Workers were supplied with plenty of water and sports drinks to keep hydrated and took breaks when needed.

The Alabama River Bridge project is still underway for ABC Cutting Contractors. The total amount for the project is 4,908 lineal feet. So far, they have cut a total of 4,611 lineal feet of bridge deck and core drilled approximately 84 holes, 1.5 inches in diameter and 9 inches deep. Roughly half of the rails from each side of the bridge have been removed. The portion of the bridge over the river has been pre-cut but ABC operators need to wait for cranes to arrive by barge to complete the rail removal for that section.

“Despite the challenges this project brought, by working with the R. R. Dawson Bridge Co., we were able to overcome the obstacles,” said Ricky Drinkard, area manager. Jason Hines was the

senior operator for this project and helped with the coordination of the cutting on site. Although ABC Cutting Contractors are nearing the end of their part of the project cutting the rails, Dawson will be completing the new lanes before ABC returns to groove the new bridge deck at the end of this project. ●

COMPANY PROFILE

ABC Cutting Contractors in Montgomery, Alabama have been in business for 20 years and a member of CSDA since 2004. Their focus is on customer service with safety as their top priority. The company offers services in core drilling, slab sawing, hand sawing, wall sawing, wire sawing, slab grinding, concrete bursting, concrete crushing, diamond chain sawing, bridge and safety grooving and road and bridge grinding.

RESOURCES:

General Contractor:

**R.R. Dawson Bridge Co.
Bessemer, AL**

Sawing and Drilling Contractor:

**ABC Cutting Contractors - Montgomery
Montgomery, AL**

Methods Used: Flat Sawing, Wire Sawing, Core Drilling

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The bridge deck of the Alabama River Bridge was pre-cut, leaving 10 feet of every 50 uncut.



The bridge rails, secured to the crane, separated from the bridge as an operator flat sawed through the remaining bridge deck portions.



As the bridge rails are removed, a new bridge deck is being constructed between the two existing ones to provide one seamless bridge with northbound and southbound lanes.

