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CAUTION ADVISED: CROSSING THE OHIO RIVER

ON THE COVER

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THE PRECARIOUS INSTALLATION OF MAST CLIMBING WORK PLATFORMS BY HYDRO MOBILE REQUIRED A SKILLED AND EXPERIENCED TEAM.

BY KEVIN O'SHEA

The Louisville-Southern Indiana Ohio River Bridges Project included two crossings – one in the downtown area and one eight miles upstream in the metro area's growing East End. The Lewis and Clark Bridge, formerly known as the East End Crossing, opened to the public on Dec. 18, 2016. The bridge connects the east end of Louisville, Kentucky to southern Indiana just east of Jeffersonville.

The massive infrastructure project required Hydro Mobile, Inc. to provide a practical solution for accessing the Lewis and Clark main bridge stanchions, which rose up hundreds of feet at an angle. Among many challenges on the job, the bases of the mast climber units had to be mounted on custom-designed cantilever bases. When masts are built on an angled structure the forces are very different and have the effect of increasing the difficulty factor of the installation. The fact that the job was taking place in an exposed geographical area, at excess height, provided the added challenge of high and unpredictable winds.

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The gestation period for this type of project is lengthy. After nearly 18 months of preparation and planning with the customer, the final contract was received in November 2014. The equipment arrived on site in December 2015, and the equipment came off the project in December 2016.

Numerous obstacles had to be overcome.

The project presented a daunting series of obstacles for the Hydro Mobile design and installation teams:

1. The mast climbing work platforms (MCWP's) had to be loaded onto barges and taken out to floating staging positions.

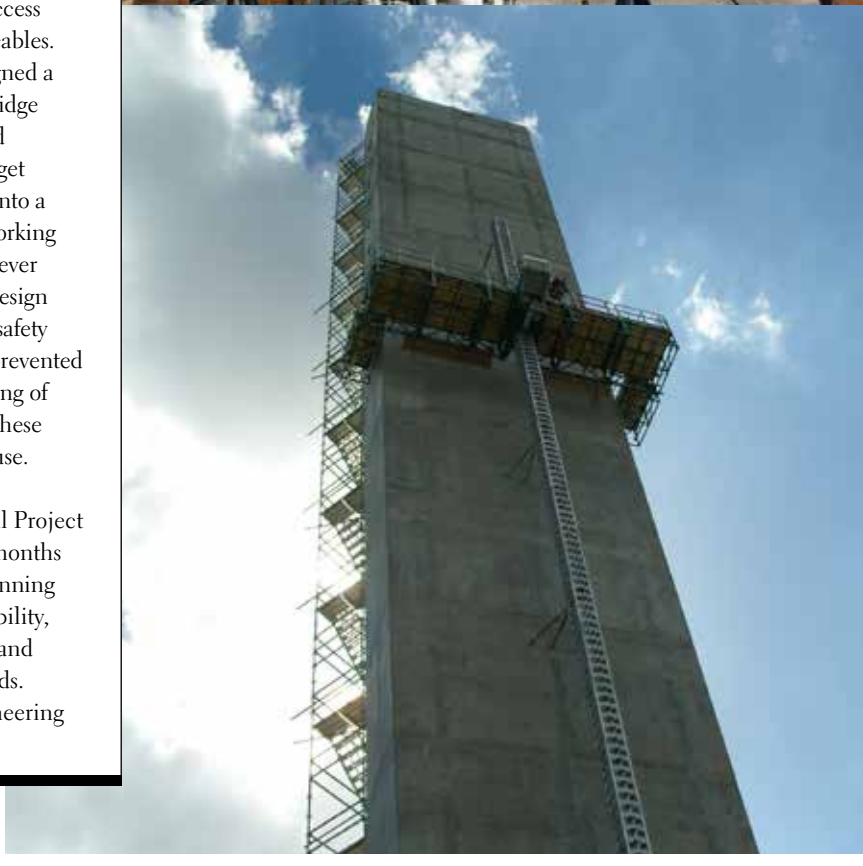
2. The MCWPs were transferred onto the bridge structure by tower crane as partially assembled units.

3 The units had to be mounted on specially built support structures that were positioned 100 feet above the river.

4. The units then had to be erected at an angle, for a further 300 feet.

5 In addition to 1350-pounds capacity on the main deck to facilitate the weight of personnel and tools and materials, there was a requirement for platform extensions that could slide forward and backward and sideways so that the work crews could access the bridge support cables. Hydro Mobile designed a sliding cantilever bridge system that provided enough capacity to get the bridge workers into a safe, comfortable working position. The cantilever decks took a lot of design work and included safety limit switches that prevented the lowering or raising of the platform when these extensions were in use.

The company's Special Project Division spent many months in preparation and planning to address issues of stability, excess wind, logistics, and excess tie and base loads. Special Projects Engineering



and Development (E&D) Lead Joe Stamper, in conjunction with project safety staff, had to consider and abate all possible risks and obstacles to erecting equipment safely by carrying out exhaustive risk analyses, which included using tower crane assistance in especially precarious conditions.

The logistics of pre-assembling sections, moving them on a barge out to the floating staging area, mounting the units on pre-erected cantilever support brackets, and then craning them into position created major challenges for engineering calculations, methodology, risk management, and fall protection. The resulting installation set examples for the MCWP industry in detailed planning, intricate logistics, engineering performance, and the ability to get the job done safely and on time.

The Ohio River Crossing project won the "Project of the Year" award at the 2016 Access, Lift & Handlers (ALH) Conference & Awards held in November. The judges said, "This is a very cool jobsite. Any time you have a work platform and you don't have a plumb line that you're going to be setting up on, you have an engineering issue. When you look at how high they were going and it not being a vertical load, we thought this was a great engineering solution." •

About the Author

Kevin O'Shea is director of safety and training at Hydro Mobile, Inc. and serves as Chair of the Scaffold & Access Industry Assocation (SAIA) Mast Climbing Council.