



PROJECT UPDATE

Bridge and Approach

Crews have been drilling in the Mississippi River to gather some basic data on the location of bedrock (see story on Page 2). So far, results from the drilling has been good and the geologists are discovering high quality rock. Crews are also doing survey work on the Missouri and Illinois banks of the river.

Engineers are also looking at options for the piers and the foundations for the piers. Design is progressing well, and the contractors are looking at alternatives as part of finalizing the preliminary designs.

Missouri Interchange

Survey work continues on the Missouri Interchange. The topography work for the project will be completed soon. Crews have also completed some aerial photography of the proposed interchange area and have done some surveying for right-of-way.

Structural engineers are working with a local developer to create some options for connecting the bridge interchange to Cass Avenue and Howard Street.

Illinois I-64 connector and Tri-level Interchange

Design has started on the Exchange Avenue extension, the pedestrian bridge and 15th Street bridge contracts in the Tri-Level interchange. Surveyors are completing supplementary work, while designers are reviewing alignments and making refinements. Traffic experts are conducting maintenance of traffic studies for Tri-Level reconstruction work.

Meeting with industry

MRB Team talks to contractors, suppliers Sept. 24

More than 150 people gathered in the St. Louis Engineers Club on Sept. 24 to discuss the bidding process on the Mississippi River Bridge construction project.

Attendees from the Mississippi River Bridge Team, as well as construction contractors and suppliers had the opportunity to hear and discuss the upcoming project. Additionally, the attendees discussed some of the innovative elements of the project, including contractor involvement in the design of the project.

“This industry meeting was a great opportunity for the bridge team to get together with the people who could be involved in constructing or providing services for the Mississippi River Bridge project,” said Greg Horn, P.E., Mississippi River Bridge project director. “It was also a great



Contractors talk with Greg Horn, Mississippi River Bridge project director about plans for contractor involvement.

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Illinois graduates 12 trainees

In September 2008, the Illinois Department of Transportation (IDOT) in collaboration and partnership with Southern Illinois University at Edwardsville (SIUE), Southwestern Illinois College (SWIC), and the Metro-East Black Contractors Organization (MEBCO) launched its first highway construction training program for the Metro East.

This program was designed to help ensure that a diversified, properly trained, highway construction workforce was available for future road construction projects including the New Mississippi River Bridge (MRB) project. It was an outgrowth of a 2005 agreement between IDOT, MEBCO, MoKAN and the U.S. Department of

Justice to fund and develop a construction training program in East St. Louis, Illinois that will target residents of St. Clair and Madison counties.

This program is supported by both Illinois Senator James Clayborne (D-East St. Louis) and Illinois State Representative Jay Hoffman (D-Collinsville). It is administered by SIUE. The training classes are conducted by SWIC. MEBCO provides marketing, recruitment, mentoring, and placement for program participants.

Over the next five years, IDOT will dedicate a total of \$2 million for this program. According to Senator Clayborne

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Geology crews drill into river bedrock

Geology experts are now taking the first visible steps to design the new Mississippi River Bridge project.

From a 5,000 square foot barge floating on the river, crews are working around the clock to take samples of the river bottom and the underlying rock by drilling just off both banks of the river.

By analyzing the data from the drilling, the design team can accurately model the river bed of the river, and then design the river piers – the portions of the bridge’s foundations in the river that support the driver surface.

“Although we have a pretty good idea what we will find as we drill, we need to make sure we have extremely precise information to design the piers,” said Greg Horn, Mississippi River Bridge project director. “We need to know exactly where bedrock is, how deep it is and exactly what type of stone is at the river bottom. When we know that, we use that information to design the piers to make sure they are solid.”

Crews on the barge in the river started Sept. 8, and are expected to drill for about four weeks. Rising river waters from the remnants of Hurricane Ike moving through Missouri forced the drilling teams to postpone drilling for a week until water receded to normal levels.

Crews will drill five holes at each pier location – one on the Missouri bank of the river and one on the Illinois bank. Each hole takes about 48 hours to drill.

“We are going through about 20 feet of water and then drill through about 50 to 70 feet of mud and silt,” said John Szturo, a design team member of the MRB project. “After that, we drill about 85 feet into the limestone bedrock of the river.”



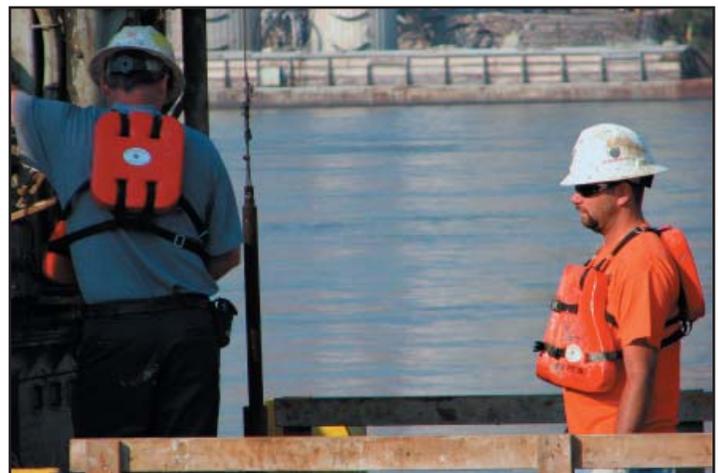
Crews took samples from the Missouri bank of the Mississippi River first.

As they drill through the mud, the drillers stop about every five feet and take a sample of the material at the bottom of the hole. To do this, they slide a special device on the end of their drilling rig and send it to the bottom of the current hole. Then, a pneumatic “hammer” slams into the top end of the drilling rig, driving the drill a set distance into the mud and silt. Drillers count and record how many times the “hammer” has to hit the rig to drive it through the mud. Then, the drillers bring up the sample, record analytical data and continue until they reach bedrock.

From that point, the geology experts exchange the drilling head one with a round, grinding bit to go through the limestone. The drill shaft has an external “sleeve” that helps guide the drill. This sleeve also rides over an internal metal shaft that holds a core – a continuous cylindrical sample of the rock, so geologists can look at the



A sampling of Mississippi River bottom silt.



Crews remove the boring apparatus to take a sample.

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Crews remove a sample of limestone from the drill to package for analysis.

Crews drill in river

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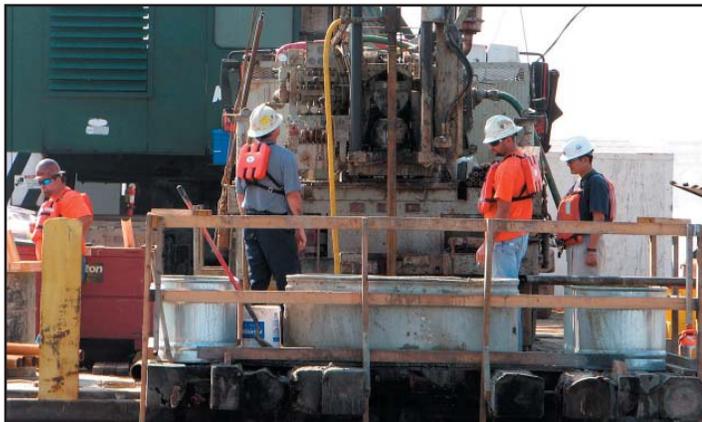
layers, or strata, in the rock. The drillers can get through about five feet of limestone per hour, and bring the cores up for further geologic analysis. During the course of drilling the experts can also use other new technology to “photograph” images of the rock surrounding the drill hole, to give them a better understanding of the bedrock’s stability. After drilling about 85 to 100 feet, they move to the next hole.

“This is vital to the process of understanding what we are facing during the design process,” said Horn. “The more data we have on the river’s profile – what the river looks like under the water and silt



Geology crews attach this drill ‘bit’ to the drill to cut through the limestone bedrock of the river.

– the better we can anticipate all the design requirements for the bridge. This will help us construct a high quality bridge that will provide service for the region well into the 22nd century.”



Crews operate in close quarters on the barge.



A selection of limestone samples from the Missouri side of the River, from about 160 feet below the water’s surface.

Construction Prep

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this program provides an “opportunity for young people to learn skills necessary to gain access to apprenticeship positions within the construction industry. The Mississippi River Bridge project, and the expected shortage of skilled labor needed to complete the project, holds great hope that students enrolling in this program will help meet this workforce need.”

Students participating in this new construction training program must complete an intense 8 week (160-hour), hands-on, performance-based training that includes a mandatory reading and basic mathematics primer. The first 12 graduates were honored by IDOT in ceremony that was held in October 17th at the SWIC Campus in East St. Louis, Illinois.

To learn more about this program, contact Lee Coleman, Contract Compliance Coordinator of the Illinois Department of Transportation at (618) 346-3100 or (618) 582-2213.



Graduates from the Illinois Construction Prep Program display their diplomas.

MRB team meets with construction contractors

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opportunity for suppliers to talk to some of the contractors at the meeting and let them know what capabilities they can offer. Although contractors won't bid on the bridge until next year, this is a great chance for suppliers to get their foot in the door with the potential construction teams.”

After a brief presentation on the history of the bridge project, attendees heard about the biggest difference between the MRB project and most other design-bid-build construction projects. As a part of design, the bridge team will be encouraging the bridge contractors to submit ideas to reduce costs of the bridge by incorporating alternate methods of constructing the project.

Initially, companies with major river bridge construction

experience will be asked to prequalify for the bidding process. “We sent out requests for qualifications in October,” said Steve Hague, P.E., HNTB. “Those qualifications included a number of items, including the contractor's availability, bonding capabilities and key personnel.” HNTB is overseeing the contractor involvement process for the MRB team.

The prequalification is pass-fail – in other words, if the company has the ability to construct the bridge, they will qualify.

The contractor involvement process allows contractors to work confidentially with the engineers designing the bridge to incorporate other methods of construction, or other materials, to build contractor-specific bid packages for the project.

“Our objective is to reduce the risk for our construction

contractors,” said Randy Hitt, P.E., MRB deputy director. “Contractors have great suggestions for construction methods to reduce costs of building a project. Often, they invest time and money into the suggestion and then risk having that suggestion rejected. With this process, we will pre-approve those suggestions, and work with the contractors to incorporate them into a ‘personalized’ bid package.”

While working with contractors, the bridge team will also develop a base set of plans, using standard construction techniques. In August 2009, contractors will have a second opportunity to pre-qualify to bid on the project, although they don't have to qualify again to bid if they have previously qualified, said Hague.

In fall 2009, those major bridge construction contractors

who have prequalified will get a copy of the bid package. The MRB team will personalize packages for contractors in the contractor involvement process. Remaining contractors will get a package with the base plans.

Based on those plans, the MRB team will take the lowest bid and will award the contract in late 2009, with construction on the \$640 million bridge project starting in 2010. Involving the contractors early in the construction process is a new technique for design-bid-build projects, said Pete Clogston, the Federal Highway Administration project manager on the MRB team.

“The FHWA will be looking to Missouri and Illinois, as well as the participating contractors, to give us feedback on how well this works, as well as some lessons learned to improve the overall process,” he said.



For additional information on the Mississippi River Bridge, surf to <http://www.newriverbridge.org>. If you have questions, call us at (314) 236-2930, or e-mail andrew.gates@modot.mo.gov.