



The Pelican Report

News and Updates on the John James Audubon Bridge • Volume 2, Issue 2

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Pier construction progresses

Audubon Bridge Constructors, the Design-Build team, is working around the clock in the Mississippi River to construct both the east and west pier footings. The installation of test shafts is nearing completion and permanent production shafts are being installed to support the bridge’s two towers.

“Once the shafts are installed for the footings, the towers will quickly begin to rise out of the river,” said Bryan Jones, project spokesman.

The Design-Builder is utilizing a unique construction method in the cable-stayed bridge construction.

“Each pier footing is held by 21 concrete-filled drilled shafts that are each eight feet in diameter, a first for the lower reaches of the Mississippi River,” Jones said.

“Caisson foundations, by contrast, have historically been used in

bridge construction on the lower reaches of the river.”

Pile driving activities on three of the conventional bridges on the east bank continue. Piles are being driven on Bridge 8, Bridge 7 and Bridge 6. Bridge 8 is the nearest bridge to the U.S. 61 access south of St. Francisville.

Test piles for Bridge 2 across the Big Cajun II railroad spur are being driven. Bridge 2 will be the longest conventional bridge along the roadway alignment at 3,847 feet.

Construction of the temporary west work trestle continues and is expected to be complete within the next few months. The east work trestle is complete.

“With river levels fluctuating on a weekly basis, the work trestles will allow the Design-Build team to work regardless of river level year round,” Jones said.

The Pelican Report on the John James Audubon Bridge is a service of Louisiana TIMED Managers
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Audubon Bridge in the news

From "Work Trestles Near Completion; Oscillator Used To Drill Shafts;

Pilings For Smaller Bridges Along New Roadway Are Driven," Construction News Magazine, July 2, 2007

Work continues on the John James Audubon Bridge in St. Francisville and New Roads, La. The east side work trestle is now complete and the west side work trestle nears completion. Pilings for smaller bridges along the east side of the project are also being driven. Casing for the first permanent shaft in the Mississippi has been placed on the west side of the project, where the contractor uses a Leffer oscillator instead of the traditional auger method to excavate for the shafts.

The John James Audubon bridge will be 12,883 feet long, with a 1,583-foot main span. It will sit 65 feet high over the Mississippi to facilitate river navigation. When completed in 2010, it will be the longest cable-stay span in North America.

The west side of the project yields to much gentler landscape. Roadwork here required fill. Design for the roadway on the west side also took into account a local endangered species, the Louisiana Black Bear.

"The approach structure for the main bridge on the east side of the river is fairly long. In addition five bridges along the roadway east of the river that give the bears plenty of opportunity to cross," says Chuck Duggar, project manager,

Louisiana TIMED Managers (LTM.) "Along the approach roadway west of the river which is predominately at-grade we're adding 8-foot by 10-foot box culverts in several areas to provide



Leffer oscillator

them with plenty of opportunities for crossing."

The west side of the project also consists of 3,847-foot-long bridge structure which will provide a railroad grade separation. Boh Brothers Construction Co., LLC, is subcontracted for this portion of the project.

Permanent 8-foot-diameter casings are used with 7.5-foot diameter

temporary casings to construct the foundation shafts which are approximately 200 feet long. Test shafts for both the western pier foundation and the eastern pier foundation have been installed.

Additional Test shafts are being installed on the west side to assure shaft capacities are adequate.

A Leffer oscillator is being used instead of more traditional auger methods to install the casings and excavate the shafts. The machine rotates the casing 15 degrees either way, in addition to pushing up and down to sink the casing and to remove the temporary casing as the concrete is being placed. A variety of excavation methods are being used including a hammer-grab type bucket, a TOYO Pump and traditional air-lift.

"They're trying to clean the shaft bottom area out so that it is as level and flat as possible without excavating below the bottom of the casing," says Duggar. "Toward the end of the excavation it's almost like dental work to get the bottom cleaned adequately. A mini shaft inspection device (mini SID) is being used to confirm the conditions of the shaft bottom before placing the rebar cage and pouring concrete."

by Lisa Doyle, Editor

Audubon Bridge by the numbers

32
SEGMENTS
per tower

1583
feet mainspan

100 year service life

7
conventional
bridges

TOWERS
WILL EXTEND **500** FT.

\$347
MILLION
total cost

136
CABLES
75
PER TOWER

2010
COMPLETION

12 miles of roadway
approaches

each cable made of
up to **75**
strands

21 drilled shafts per foundation: **185** feet in length

65 feet
above high water

420 FT. EAST TRESTLE

1100 FT. WEST TRESTLE

TIMED Program overview

The Audubon Bridge project is one of sixteen projects included in the Louisiana TIMED Program.

The \$4.7 billion TIMED (Transportation Infrastructure Model for Economic Development) Program is the single largest transportation program in state history and is designed to stimulate economic growth across Louisiana through an investment in transportation infrastructure.

In November 2006, the state of Louisiana sold \$1.1 billion in gasoline and fuels tax bonds to aid in the accelerated completion of the TIMED Program. This

bond sale follows the April 2005 bond sale, which netted \$548 million in additional financing for the TIMED Program.

The Program, funded by a \$0.04 per gallon dedicated gasoline and motor fuels tax, was originally constructed on a pay-as-you-go system. This system ultimately proved to be slow and delayed the original completion schedule.

As a result, the TIMED Program was converted to a bond-financed program in 2002. This allows for an influx of funding which is repaid with gasoline and motor fuels tax



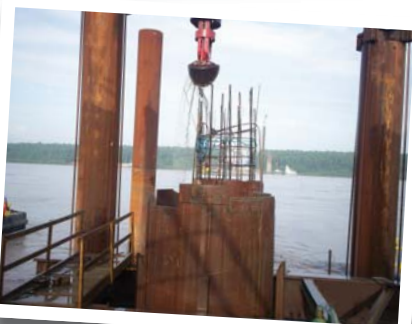
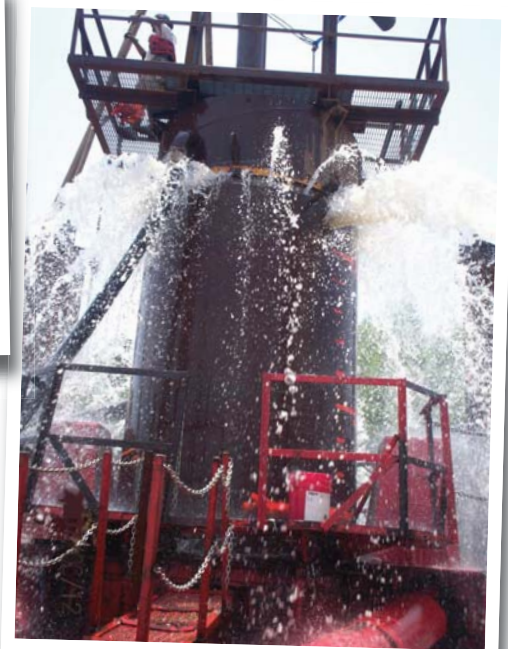
revenue as it is collected.

The TIMED Program has completed the four-laning of 215 miles of roadway to date; six of 16 projects have also been completed.

For more information on the TIMED Program, please visit www.timedla.com or call (866) 846-3352.



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Clockwise from top left:
Foundation shaft reinforcing cage equipped with grout plate; western pier foundation construction is underway; excavation of a test shaft for the western pier foundation; excavation of a production shaft for the eastern pier foundation