



## New Mississippi River Bridge

St. Louis, Missouri

Owner: Missouri DOT

Designer: HNTB

Contractor Joint Venture:  
Massman Construction Company  
Traylor Brothers  
Alberici Enterprises

Years of Project (DBA): 2009—2010

Bridge Project Cost: \$229 Million

Owner Reference:  
Randy Potts, P.E. (573-526-0515)

Client Reference:  
Bill Praderio (Massman — 816-523-1000)

### Project Highlights:

The New Mississippi River Bridge is located just north of downtown St. Louis, Missouri. Upon completion, the bridge will carry I-70 across the river. The cable-stayed bridge features two delta towers in the river, one near each bank. DBA, working for MTA in the pre-bid phase, developed an Alternate Technical Concept (ATC) to re-design the drilled shaft foundations utilizing 11-foot diameter drilled shafts socketed into the limestone below the river. The ATC resulted in fewer, larger diameter drilled shafts with significantly shorter rock sockets that counted on both side and base resistance. A full-scale construction phase O-cell load test on a non-production shaft was included in the ATC. The load test was performed by Loadtest, Inc. and set the world record for an axial load test at 36,000 tons.

### Technical Publications:

- Axtell, P.J. and Brown, D.A. (2011). "Case History – Foundations for the New Mississippi River Bridge – St. Louis", DFI Journal Volume 5, Number 2, December 2011, Deep Foundations Institute, pp3-15. 2010.
- Brown, D.A., Axtell, P.J., and Kelley, J. (2011). "The Alternate Technical Concept Process for the Foundations at the New Mississippi River Bridge, St. Louis", Proceedings of the 36th Annual Conference on Deep Foundations, 2011, Boston, MA, USA, pp171-177.
- Axtell, P.J. (2010). "Mississippi River Bridge Project Includes Record Load Test: A Three Part Story", Foundation Drilling, Vol. 31, No. 7 September/October 2010.



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