

## Grand and Bates Relief Sewer Phase II Tunnel

Metropolitan St. Louis Sewer District (MSD)

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*Location*

St. Louis, Missouri

*Construction Completion*

2005

*Construction Cost*

\$32 million

*DMA Services Provided*

Structural Engineering

Civil Engineering



This construction project was aimed at correcting on-going flooding problems in the Grand Avenue and Bates Avenue combined sewer system, which date back to the 1930's and were exacerbated by severe flooding in 1995. This stormwater project consisted of a 6,600 feet, 14-foot bore 132-inch RCP tunnel at an average depth of 110-feet with 11 drop access shafts.

David Mason & Associates was a consultant to Affholder, Inc. DMA services included plan revisions for value engineering and constructability for the Contractor and the owner. Revisions included increased tunnel bore and pipe size diameter by about 2-feet, relocation and redesign of drop shafts, pump station structure, outlet structure, and, horizontal and vertical alignments.

This redesign reduced the overall project cost for both the contractor and the owner. In addition, the revised design allowed for more efficient flows and pumping.

