

Building the Eads Bridge

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Abstract: James B. Eads, a self-taught engineer who had never designed or built a bridge proposed a radical steel arch design to span the river with spans over 500 feet in length and clearance of 88 feet above the river. Completed in 1874, the Eads plan required river piers be constructed using a new technique known as pneumatic caissons. These caissons pre-date those of the famous Brooklyn Bridge (1883). The superstructure was constructed from steel; a relatively new material for bridges using the cantilever erection method. Eads desire to use steel for a major bridge drove innovation in the manufacturing and quality control of steel. Eads and his engineering team had to develop many innovative solutions to overcome numerous obstacles during the course of construction. The Eads Bridge is an important chapter in the history of bridge design and construction. This presentation will bring the story of the Eads Bridge to life, providing a unique learning opportunity. Upon attending this seminar you will be able to understand: (1) The contributions of James Eads and his team to the civil engineering profession; (2) The challenges of building the Eads Bridge; (3) The means and methods used to build the Eads Bridge; (4) The importance of the Eads Bridge to growth and development of St. Louis.

Bio: Raymond “Paul” Giroux received his BS in Construction Engineering from Iowa State University in 1979. For the past four decades, he has been with Kiewit Corporation, working on a wide variety of heavy civil engineering mega projects throughout the United States. Paul played a key role in notable projects such as the Fort McHenry Tunnel in Baltimore, several projects on the Big Dig in Boston including the new Zakim/Bunker Hill Bridge, the new San Francisco Oakland Bay Bridge East Span, and many other projects. Paul serves on the Iowa State University Civil Engineering Advisory Board, the Transportation Research Board, and several American Society of Civil Engineering (ASCE) committees. Paul was the recipient of the American Society of Civil Engineers’ Civil Engineering History and Heritage Award for 2013 and the G. Brooks Earnest Award in 2015. In 2016 he received the Norm Augustine Award from the American Association of Engineering Societies and was elected a Distinguished Member of ASCE. In 2017, Paul was the recipient of the ASCE Roebling Award for Construction Engineering, and was inducted into the Iowa State University Construction Engineering Hall of Fame in 2018.

Friday, November 16th, 12:30-1:30pm
3310 Yeh Student Center