

Liberty Memorial Bridge

Bismark, ND



The original Bridge across the Missouri River in Bismarck North Dakota was constructed in 1922 at a cost of \$1.374 million. This bridge was christened the Liberty Memorial Bridge in honor of the North Dakota World War I soldiers.

In 2006, work commenced on a replacement bridge. The bridge design incorporates a 10-foot wide pedestrian walkway and five overlooks or concrete walkouts as a tribute to each branch of the military: Army, Navy, Air Force, Marines, and Coast Guard.

In 2008 a new \$62 million bridge was opened consisting of 14 spans with 6 piers located in the Missouri River. The new bridge spans 2370 feet and provides a 285 foot of vertical clearance for tall ships. It carries approximately 15000 vehicles per day. Concrete used for the structure included 5000 psi concrete with fly ash in conjunction with epoxy-coated reinforcing steel. Epoxy-coated reinforcing steel (ECR rebar) was used in the deck construction to provide corrosion protection to the reinforcing steel.

Team

Owner:

North Dakota Department of Transportation

General Contractor:

Lunda Construction Company of Black River Falls

Design Criteria:

- Provide appropriate memorial for each branch of the military.
- Improve tall ship access along Missouri River.
- The existing Memorial Bridge is part of Bismarck-Mandan's social, recreational, and transportation history. The new bridge must be able to fill the same role for future generations by being affordable, safe, functional, and beautiful.

Total Project Cost: \$5 million

Total Size:

LENGTH: 2369 ft (abutment to abutment)
1658 ft (main span)

WIDTH: 84 ft - 4 in

Epoxy-coated Reinforcing Steel:

5,471 tons (reinforcement & structural)

Photography:

North Dakota Department of Transportation