



# Lock & Dam 6

(Trempealeau, Wisconsin)  
Mississippi River

**U.S. ARMY CORPS OF ENGINEERS**

**BUILDING STRONG®**

**Construction:** 1933-1938

**General Contractors:**

Lock and Dam: Spencer, White & Prentix, Inc., NY, NY

**Congressional District:** MN-1; WI-3

## Description

Lock and Dam 6 is located at Mississippi River Mile 714.1 at Trempealeau, Wisconsin, 139 miles below Minneapolis.

The main lock is located along the left descending bank and consists of one lock chamber 110 feet wide by 600 feet long with an upper pool elevation of 645.5 feet, a tailwater elevation of 639.0 feet, and a vertical lift of 6.5 feet. Miter gates are at each end of the lock chamber. A partial auxiliary lock consists of an upstream set of miter gates and a short concrete riverwall section.



The movable dam consists of an 893-foot-long concrete structure with five roller gates (20 feet high by 80 feet long) and 10 non-submersible Tainter gates (15 feet high by 35 feet long), and is located adjacent to the auxiliary lock. Completing the dam system is an earthen embankment approximately 1,600 feet long, located between the movable dam and high ground on the Minnesota side of the river, with a 1,000-foot-long concrete overflow spillway.

The site has a public observation platform and restrooms open from dawn to dusk from April to November.

## History/Significance

The lock was put in operation in June of 1936. The Tainter gates in Dam 6 were the first in the St. Paul District to employ independent operating machinery instead of hoist car systems. During construction, the frozen river was sometimes used as a work base, as the ice was often 12 to 18 inches thick. Piles were dragged over the ice by teams of draft animals. The construction of Lock and Dam 6 also resulted in innovations in pile driving. Timber pilings – elm, maple, hickory, ash, oak, yellow birch, and pine – were driven by new, skid-type, pile drivers built on the job site by a contractor. A new method of keeping the pile drivers level was also developed by the contractor.

## Annual Tonnage (20-Year Historical)

<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>	<u>Year</u>	<u>Tons</u>
2016	13,502,558	2011	9,466,577	2006	10,965,857	2001	11,956,278
2015	9,809,195	2010	9,674,907	2005	10,381,229	2000	14,877,036
2014	9,089,319	2009	9,484,567	2004	10,754,999	1999	15,793,578
2013	8,064,999	2008	7,240,756	2003	12,232,401	1998	14,468,324
2012	9,397,600	2007	10,409,260	2002	14,449,692	1997	13,444,320

**U.S. ARMY CORPS OF ENGINEERS – ST. PAUL DISTRICT**

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## Commodity Tonnage (2016)

All Units (Ferried Autos, Passengers, Railway Cars)	-
Coal, Lignite, and Coal Coke	-
Petroleum and Petroleum Products	31,200
Chemicals and Related Products	205,100
Crude Materials, Inedible, Except Fuels	2,455,000
Primary Manufactured Goods	1,590,032
Food and Farm Products	895,962
Manufactured Equipment & Machinery	8,302,960
Waste Material	22,279
Unknown or Not Elsewhere Classified	

## Vessel & Lockage Data (2016)

Average Delay - Tows (Hours)	1.02
Average Processing Time (Hours)	0.43
Barges Empty	3,735
Barges Loaded	8,660
Commercial Vessels	1,550
Commercial Flotillas	1,521
Commercial Lockages/Cuts	2,233
Non-Vessel Lockages	-
Non-Commercial Vessels	45
Non-Commercial Flotillas	44
Non-Commercial Lockages/Cuts	44
Percent Vessels Delayed (%)	31
Recreational Vessels	2,792
Recreational Lockages	1,275
Total Vessels	4,387
Total Lockages/Cuts	3,552

## The 9-foot Channel Navigation Project

The 9-foot Channel Navigation Project includes 37 lock and dam sites (42 locks) on 1,200 river miles in Illinois, Iowa, Minnesota, Missouri and Wisconsin. Constructed largely in the 1930s, it extends from Minneapolis-St. Paul on the Upper Mississippi River to its confluence with the Ohio River and up the Illinois Waterway to the T.J. O'Brien Lock in Chicago.

The maintenance needs of this aging infrastructure have surpassed annual operations and maintenance funding. This limited funding has adversely affected reliability of the system and has primarily resulted in a fix-as-fail strategy, with repairs sometimes requiring days, weeks or months. Depending on the nature of a failure and extent of repairs, shippers, manufacturers, consumers and commodity investors can experience major financial consequences. Additionally, today's 1,200'-long tows must split and lock through in two operations within the Project's 600' chambers. This procedure doubles and triples lockage times, increases costs and wear to lock machinery, and exposes deckhands to higher accident rates.

More than 580 facilities ship and receive commodities within the Project. Grains (corn and soybeans) dominate traffic; cement and concrete products are the second largest group. A modern 15-barge tow transports the equivalent of 1,050 semi-trucks (26,250 tons, 937,387 bushels of corn, or 240 rail cars). In 2015, the 9-foot channel project generated an estimated \$3 billion of transportation cost savings compared to its approximately \$246 million operation and maintenance cost.

UPDATE: April 2017