



Lock & Dam 5A

(Fountain City, Wisconsin)
Mississippi River

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG.

Construction: 1934-1938

General Contractors:

Lock: McCarthy Improvement Co., Davenport, Iowa

Dam: United Construction Co. Winona, Minn.

Congressional District: MN-1: WI-3

Description

Lock and Dam No. 5A is located at Mississippi River Mile 728.5 below Fountain City, Wisconsin, three miles above Winona, Minnesota.

The main lock is located along the right-descending bank and consists of a single lock chamber 110 feet wide by 600 feet long with an upper pool elevation of 651.0 feet, a tailwater elevation of 645.5 feet, and a vertical lift of 5.5 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.



The concrete, 682-foot-long movable dam has five roller gates (20 feet high by 80 feet long) and five non-submersible Tainter gates (15 feet high by 35 feet long), located between the main lock and the railroad line along the left-descending bank. Completing the dam system is an earthen embankment approximately 22,000 feet long, between the main lock and high ground on the Minnesota side, with a 1,000-foot-long concrete overflow spillway.

The site has no public facilities.

History/Significance

The lock was put in operation in 1936. At the time of construction, the site consisted of low, swampy ground separated by three sloughs: Blackbird, Straight and Crooked sloughs. Many small lakes were in the area, interrupted by sections of relatively high ground. The site, located in the middle of the river channel, incorporated a number of islands into its earth dike system. The location of the complex in a slough in the left side of Islands 67 and 68 allowed for the main channel to serve an exclusive spillway function.

The original plan for the 9-foot channel system did not include this installation. However, due to pooling problems projected as a result of the construction of Lock and Dam No. 6 in conjunction with the City of Winona, this installation was designed and given a "B" priority.

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>
2017	11,388,295	2012	7,660,368	2007	8,534,287	2002	11,764,068
2016	11,194,783	2011	7,546,428	2006	8,845,481	2001	9,482,382
2015	8,054,837	2010	7,981,410	2005	8,495,316	2000	12,109,247
2014	7,370,962	2009	7,995,081	2004	9,056,299	1999	12,760,903
2013	6,781,454	2008	5,720,567	2003	10,098,734	1998	11,895,991

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

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Commodity Tonnage (2017)

All Units (Ferried Autos, Passengers, Railway Cars)	-
Coal, Lignite, and Coal Coke	15,800
Petroleum and Petroleum Products	252,505
Chemicals and Related Products	2,088,924
Crude Materials, Inedible, Except Fuels	1,426,210
Primary Manufactured Goods	862,296
Food and Farm Products	6,706,100
Manufactured Equipment & Machinery	33,260
Waste Material	-
Unknown or Not Elsewhere Classified	3,200

Vessel & Lockage Data (2017)

Average Delay - Tows (Hours)	0.93
Average Processing Time (Hours)	0.38
Barges Empty	3,108
Barges Loaded	7,450
Commercial Vessels	1,534
Commercial Flotillas	1,523
Commercial Lockages/Cuts	2,053
Non-Vessel Lockages	-
Non-Commercial Vessels	78
Non-Commercial Flotillas	78
Non-Commercial Lockages/Cuts	78
Percent Vessels Delayed (%)	32
Recreational Vessels	3,640
Recreational Lockages	1,327
Total Vessels	5,252
Total Lockages/Cuts	3,458

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 2016, the 9-foot channel project generated an estimated \$2 billion of transportation cost savings compared to its approximately \$246 million operation and maintenance cost.

UPDATE: August 2018